

## = Avon Gorge =

The Avon Gorge ( grid reference ST560743 ) is a 1 @. @ 5 @- @ mile ( 2 @. @ 5 @- @ kilometre ) long gorge on the River Avon in Bristol , England . The gorge runs south to north through a limestone ridge 1 @. @ 5 miles ( 2 @. @ 4 km ) west of Bristol city centre , and about 3 miles ( 5 km ) from the mouth of the river at Avonmouth . The gorge forms the boundary between the unitary authorities of North Somerset and Bristol , with the boundary running along the south bank . As Bristol was an important port , the gorge formed a defensive gateway to the city .

On the east of the gorge is the Bristol suburb of Clifton , and The Downs , a large public park . To the west of the gorge is Leigh Woods , the name of both a village and the National Trust forest it is situated in . There are three Iron Age hill forts overlooking the gorge , as well as an observatory . The Clifton Suspension Bridge , an icon of Bristol , crosses the gorge .

## = = Geology and formation = =

The gorge cuts through a ridge mainly of limestone , with some sandstone . This particular ridge runs from Clifton to Clevedon , 10 miles ( 16 km ) away on the Bristol Channel coast , although limestone is found throughout the Bristol area . The fossil shells and corals indicate that the limestone formed in shallow tropical seas in the Carboniferous , 350 million years ago . For a long time it was unclear what caused the Avon to cut through the limestone ridge , rather than run south west through the Ashton Vale towards Weston @- @ super @- @ Mare . However , Bristol was at the southern edge of glaciation during the last ice age , and it has been suggested that ice blocked the river 's natural route through Ashton Vale to the west . At the Clifton Suspension Bridge the Gorge is more than 700 feet ( 213 m ) wide and 300 feet ( 91 m ) deep .

In the 18th century the gorge was quarried to produce building stone for the city . Stone was taken by boat into the floating harbour . In the 19th century celestine was discovered in Leigh Court estate and the Miles family authorised quarrying . Between 1880 and 1920 Bristol was producing 90 % of the world 's Celestine , but the enterprise did not last long into the 20th century . Bristol Diamonds , brilliant quartz crystals found in geodes in dolomitic conglomerate in the gorge , were popular souvenirs for visitors to the Hotwells spa in the eighteenth and nineteenth centuries . Quarries on the Bristol side of the gorge are now popular with climbers and are a habitat for Peregrine falcons and other wildlife .

## = = Ecology = =

The steep walls of the gorge support some rare fauna and flora , including species unique to the gorge . There are a total of 24 rare plant species and two unique trees : the Bristol and Wilmotts 's whitebeams . Other notable plants include Bristol rock cress , Bristol onion , spiked speedwell , Autumn squill and honewort . Because of its steep sides , there are many parts of the gorge on which trees cannot grow , making way for smaller plants . The gorge is also home to rare invertebrate species . The gorge has a microclimate around 1 degree warmer than the surrounding land . The steep south @- @ west facing sides receive the afternoon sunlight , but are partially sheltered from the prevailing winds . When winds come from the Bristol Channel in the north west they may be funnelled into the gorge , creating harsh and wet conditions .

The steep gorge walls make an ideal habitat for peregrine falcons , with a plentiful supply of food nearby in the form of pigeons and sea gulls . Peregrines have a history of nesting in the gorge , but having become rare in the British Isles they did not breed and were rarely seen in the gorge after the 1930s . In 1990 Peregrines returned to the gorge , and have successfully bred in most of the following years . On warm days a strong uplift forms in the gorge , on which birds of prey soar while hunting . The gorge also houses large populations of Jackdaw and horseshoe bats , both of which find homes in the caves and bridge buttresses .

Due to its geology and ecology , an area of 155 @. @ 4 hectares ( 384 @. @ 0 acres ) of the gorge and surrounding woodland has been protected as a biological and geological Site of Special

Scientific Interest ( SSSI ) , the original notification taking place in 1952 . The site may in future be protected as a Special Area of Conservation under the European Commission Habitats Directive ( 92 / 43 / EEC ) . The Leigh Woods side of the gorge is largely owned by the National Trust . The Downs on the city side of the gorge are owned by Bristol City Council and managed as a large public park . The gorge side is protected in partnership with Bristol Zoo , WWF and English Nature . The council 's management of the gorge involves balancing the need to protect its ecology with recreational uses such as rock climbing .

Green @-@ flowered helleborine is found on the western side of the gorge , in a wooded area next to the towpath below Leigh Woods. lady orchid was discovered here in 1990 , in Nightingale Valley on the west side of the Gorge ; there is some doubt as to whether this was a wild plant or an introduction. fly orchid and bee orchid are found in the gorge , along with their hybrid . A single plant of lesser meadow @-@ rue is present in the gorge . Bristol rock @-@ cress occurs here , and at nearby Penpole Point ; in the gorge , there are about 3 @,@ 000 plants on the Bristol side , and about 2 @,@ 000 below Leigh Woods . Hutchinsia is found on both sides of the gorge . Bloody crane 's @-@ bill grows on the Bristol side of the gorge , where it is believed to be native . Little robin occurs on both sides of the gorge . Spiked speedwell grows on both sides of the gorge : the first British record of this plant was from the gorge , in 1641 .

= = History of human use = =

The gorge area was inhabited at least as early as the Iron Age , probably by the Dobunni tribe . In Leigh Woods above Nightingale Valley , a steep dry valley beside the suspension bridge , is Stokeleigh Camp , one of three Iron Age hill forts in the area . Stokeleigh was occupied from 3BCE to 1CE , and was also used in the Middle Ages . The camp was protected on two sides by the cliff faces of the gorge and Nightingale Valley , and was also protected by earthworks , and is now a scheduled ancient monument . A second hill fort was situated across Nightingale Valley , but has since been built on , and bridge road cuts through it . The third hill fort was situated on the opposite side of the gorge , in what is now observatory green . Archaeology , plus the configuration of the three forts , suggest they played a role in defending the gorge .

During the Middle Ages and industrial revolution the area which now forms The Downs was used as common grazing land . It was mined for lead , calamine , iron and limestone , and became home to a windmill which produced snuff from the tobacco which had become one of the city 's principal imports . In 1777 the windmill burnt out in a storm , and the building was converted into the observatory , which houses a camera obscura . In the 18th and 19th centuries Bristol 's economy boomed and Clifton became a desirable place to live . Mansion houses were built overlooking the gorge , but after grazing was stopped , trees grew and obscured the view from these mansions . In the Victorian era , with houses creeping further onto the Downs , an Act of Parliament was passed to protect them as a park for the people of Bristol . In 1754 a bridge to span the gorge was proposed , but it was nearly 80 years before work began on Isambard Kingdom Brunel 's Clifton Suspension Bridge , and a further 30 years before it was completed . Today the bridge is perhaps the best known landmark in Bristol .

Throughout Bristol 's history the gorge has been an important transport route , carrying the River Avon , major roads and two railways . It is the gateway to Bristol Harbour , and provided protection against storms or attack . The Bristol Channel and Avon estuary have a very high tidal range of 15 metres ( 49 ft ) , second only to Bay of Fundy in Eastern Canada ; and the gorge is relatively narrow and meandering , making it notoriously difficult to navigate . Several vessels have grounded in the gorge including the SS Demerara soon after her launch in 1851 , the schooner Gipsy in 1878 , the steam tug Black Eagle in 1861 and the Llandaff City . The phrase " ship shape and Bristol fashion " arises from when the main harbour in Bristol was tidal , the bottom of which was rocky . If ships were not of stout construction then they would simply break up as the tide receded , hence the phrase .

A railway , the Bristol Port Railway , was built through the gorge on the east side from Hotwells to Avonmouth between 1863 and 1865 . The Portishead Railway was opened on the west side in 1867 . The section of the Bristol Port Railway between Hotwells and Sneyd Park junction was closed in

1922 , when construction of a major road through the gorge , the Portway , was started . The Portway was opened in 1926 . The road is now part of the A4 road , linking Bristol city centre to the M5 motorway , which bypasses the city near Avonmouth .

Two railways still run through the gorge . On the east side the Severn Beach Line to Avonmouth and Severn Beach uses the remaining part of the Bristol Port Railway through part of the gorge , and through a tunnel under the Downs . On the west side the Portishead Railway was closed by the Beeching Axe in the 1960s , but has now been reopened for freight traffic as far as Royal Portbury Dock , 2 @. @ 5 miles ( 4 km ) downstream . Between 1893 and 1934 , the Clifton Rocks Railway linked the passenger steamer pier at Hotwells with Clifton on the rim of the gorge .

A footpath and National Cycle Network cycleway run alongside the Portishead Railway and along the old towpath .

= = Mythology = =

The formation of the Avon Gorge is the subject of mediaeval mythology . The myths tell tales of two giant brothers , Goram and Vincent , who constructed the gorge . One variation holds that Vincent and Goram were constructing the gorge together and Goram fell asleep , to be accidentally killed by Vincent 's pickaxe . Another variation tells of the brothers falling for Avona , a girl from Wiltshire , who instructs the giants to drain a lake which stretches from Rownham Hill to Bradford @-@ on @-@ Avon ( i.e. the Avon valley ) . Goram began digging the nearby Hazel Brook Gorge in Blaise Castle estate , but consumed too much beer and fell asleep . Vincent dug the Avon Gorge and drained the lake , winning the affection of Avona . Upon waking Goram stamped his foot , creating " The Giant 's Footprint " in the Blaise Castle estate , and threw himself into the Bristol Channel , turning to stone and leaving his head and shoulder above water as the islands of Flat Holm and Steep Holm .