Coordinates: 38°13′18″N 80°05′39″W

Greenbrier River Trail

The **Greenbrier River Trail (GRT)**,[1] is a lineal state park comprising a 77.1-mile (124.1 km) rail trail between North Caldwell and Cass in eastern West Virginia.[2]

The GRT route and its contours were originally engineered by the Chesapeake and Ohio Railway, serving as a passenger and freight line before becoming unviable after the Great Depression. The right of way was gifted to the State of West Virginia in the late 1970s and the former railbed reopened in 1980[3] as a recreational multi-use trail.

The wheelchair-accessible trail features a hard-packed crushed-limestone surface[4] accommodating hiking, bicycling, ski-touring and horseback-riding. Access is provided at 14 trailheads.[4] The route features 16 primitive campsites (several with three-sided camping shelters),[5] 50 to 60 picnic tables,[6] and passes three state parks and two state forests.[5] As it follows the Greenbrier River, the trail drops 732 feet (223 m)[4] (north to south) along its route, crossing 35 trestles and traversing two tunnels – Droop Mountain Tunnel with a length of 409 feet (125 m) and Sharps Tunnel with a length of 500 feet (150 m).[7]

In 1999, the GRT was one of 50 trails in the United States designated a *Millennium Legacy Trail*.[8] In 2012, the trail was elected to the National Rail Trail Hall of Fame[6] and was named by Backpacker magazine as "one of the Top 10 hiking trails in the United States."[4]

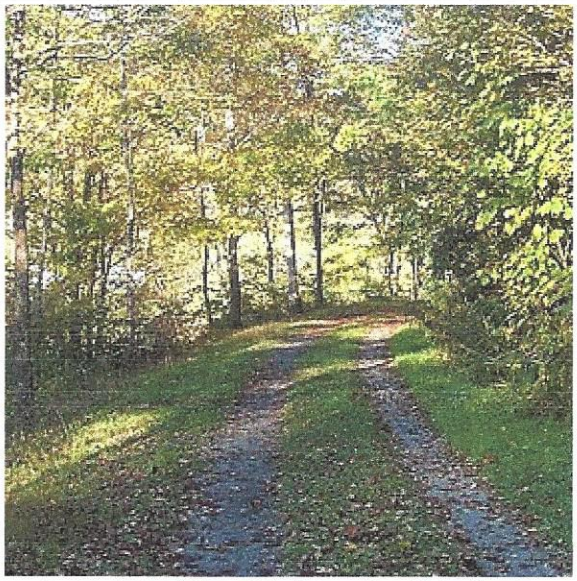
Contents

- Background
- Trailheads
- See also
- References
- External links

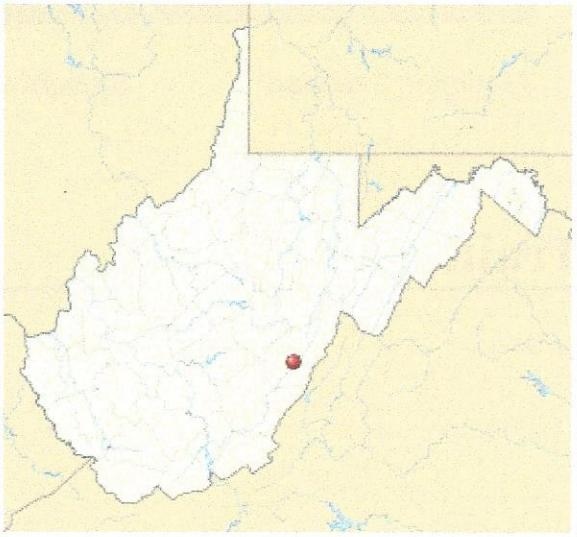
Background

The GRT follows portions of the Chesapeake and Ohio Railway's former Greenbrier Division constructed between North Caldwell and Cass in 1899 and 1900. The route was

Greenbrier River Rail Trail State Park



Greenbrier River Trail south of Marlinton



Location of Greenbrier River Trail's Marlinton Depot in West Virginia

Location	Greenbrier County, West Virginia and Pocahontas County, West Virginia
Nearest town	Marlinton, West Virginia
Coordinates	38°13′18″N 80°05′39″W
Elevation	2,116 ft (645 m)
Established	1980
Named for	Greenbrier River

used heavily in the 1920s for through traffic via its connection with the Western Maryland Railway at Durbin, serving quarries, sawmills and tanneries[9] as well as agricultural and livestock operations.[9] The line hit its peak peacetime tonnage in 1926.[9]

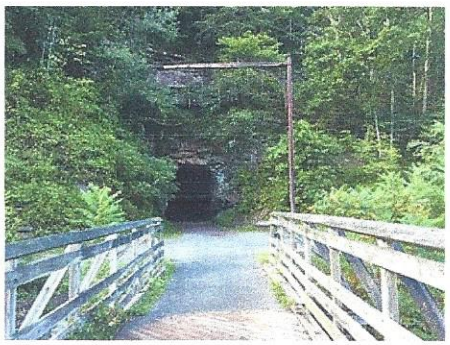
Governing body	West Virginia Division of Natural Resources
Website	wvstateparks.com/park/greenbrier-river-trail/ (https://wvstateparks.com/park/greenbrier-river-trail/)

By the 1930s rail traffic waned, with the coming of improved roads[10] and the depletion of timber tracts.[9] Passenger service ended January 8, 1958,[9] and freight service ended in December 1978,[11] with the line being officially abandoned December 29, 1978.[10]

The Chesapeake and Ohio donated most of its right-of-way south of Durbin, including the land that became the Greenbrier River Trail, to the State of West Virginia on June 20, 1980.[10] A contractor for the railroad removed the track south of Cass in 1979–1980 and the state purchased the track from Cass to Durbin for its scrap value to be used by the Cass Scenic Railroad.[10]

Marlinton trailhead

Straight shady section of trail



Southern entrance to Sharps Tunnel

Trailheads

Greenbrier River Trail Trailheads with Parking[12]

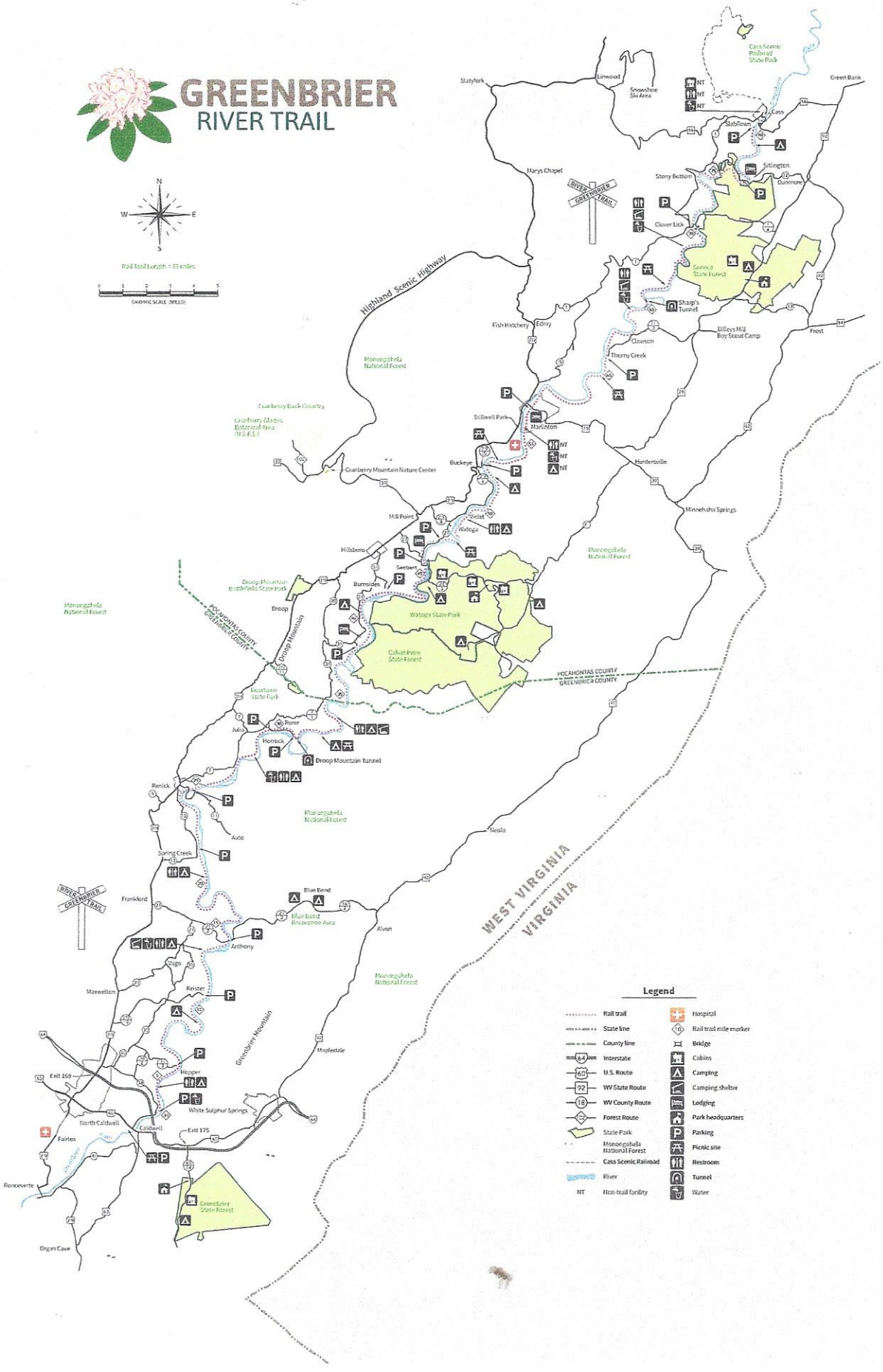
Trailhead	Milepost	Directions	Map Coordinates
North Caldwell	3.0	1.3 mi (2.1 km) N of US 60 on Stone House Road	37°47′37″N 80°22′50″W
Harper	5.8	On CR 30/3	
Keister	11.1	On CR 30/1	
Anthony	14.4	On CR 21/2	
Spring Creek	21.4	On CR 13, 3.5 mi (5.6 km) east of US 219	
Renick	24.5	On Auto Road (CR 11), 0.4 mi (0.64 km) east of US 219	
Horrock	29.6	On Rorer Road (CR 7/2)	
Beard	38.5	On Beard Post Office Road (CR 31/8)	
Burnsides	41.7	On Workman Road (CR 31/3)	
Seebert	45.8	at Seebert on Seebert Road (CR 27), about 2 miles (3.2 km) east of US 219	38°07′36″N 80°10′33″W
Marlinton	56.0	at Marlinton on WV 39	38°13′18″N 80°05′39″W
Cass	80.4	at Slabtown, 0.5 mi (0.80 km) S of Cass on WV 66 at Deer Creek Road	38°23′27″N 79°55′20″W

See also

- Cycling infrastructure
- Greenbrier County
- Pocahontas County
- High Bridge Trail State Park
- New River Trail State Park
- Virginia Capital Trail
- Virginia Creeper Trail
- Washington & Old Dominion Trail

References

1. "Flood damage closes part of Greenbrier River Trail; all other West Virginia state parks fully operational" (http://www.wvdnr.gov/2016news/16news105.shtm). West Virginia Department of Natural Resources.
2. Greenbrier River Trail State Park web site, accessed April 19 2008 (http://www.greenbrierrailtrailstatepark.com/)
3. "Greenbrier River Trail at WVencyclopedia" (https://www.wvencyclopedia.org/articles/34). WVencyclopedia.
4. Bob Downing (June 7, 2012). "Greenbrier River Trail great for W.Va. bikers, hikers" (http://www.charlotteobserver.com/living/travel/article9081020.html). Charlotte Observer.
5. Karen M. Laski (August 1, 1997). "The Trails Less Traveled" (https://www.washingtonpost.com/archive/lifestyle/1997/08/01/the-trails-less-traveled/11411665-7cfd-4171-8b0b-4dff1e6e0d09/). *Washington Post*.


GREENBRIER
RIVER TRAIL
Rail trail length = 78 miles
GRAPHIC SCALE (MILES)
Cass Scenic Railroad State Park
Slatyfork
Linwood
Snowshoe Ski Area
Green Bank
Cass
Stabtown
Marys Chapel
Stony Bottom
Sitlington
Dunmore
Clover Lick
Seneca State Forest
Sharp's Tunnel
Highland Scenic Highway
Fish Hatchery
Edray
Bilieys Mill Boy Scout Camp
Frost
Clawson
Thorny Creek
Monongahela National Forest
Cranberry Back Country
Cranberry Glades Botanical Area (U.S.F.S.)
Stillwell Park
Marlinton
Buckeye
Cranberry Mountain Nature Center
Hunterville
Minnehaha Springs
Mill Point
Violet
Watoga
Hillsboro
Seebert
Burnsides
Droop Mountain Battlefield State Park
Droop
Droop Mountain
Watoga State Park
Calvin Price State Forest
POCAHONTAS COUNTY
GREENBRIER COUNTY
Beartown State Park
Julia
Rorer
Hornrock
Droop Mountain Tunnel
Renick
Auto
Spring Creek
Frankford
Blue Bend
Blue Bend Recreation Area
Alvon
Neola
WEST VIRGINIA
VIRGINIA
Anthony
Hugo
Maxwelton
Keister
Hopper
Exit 169
White Sulphur Springs
North Caldwell
Caldwell
Exit 175
Fairlea
Ronceverte
Organ Cave
Greenbrier Mountain
Mapledale
Legend
Rail trail
State line
County line
Interstate
U.S. Route
WV State Route
WV County Route
Forest Route
State Park
Monongahela National Forest
Cass Scenic Railroad
River
NT
Non-trail facility
Hospital
Rail trail mile marker
Bridge
Cabins
Camping
Camping shelter
Lodging
Park headquarters
Parking
Picnic site
Restroom
Tunnel
Water

Coordinates: 38°25′59″N 79°50′23″W

Green Bank Telescope

The **Robert C. Byrd Green Bank Telescope** (**GBT**) in Green Bank, West Virginia, US is the world's largest fully steerable radio telescope, [1] surpassing the Effelsberg 100-m Radio Telescope in Germany. [2] The Green Bank site was part of the National Radio Astronomy Observatory (NRAO) until September 30, 2016. Since October 1, 2016, the telescope has been operated by the independent Green Bank Observatory.[3] The telescope's name honors the late Senator Robert C. Byrd who represented West Virginia and who pushed the funding of the telescope through Congress.

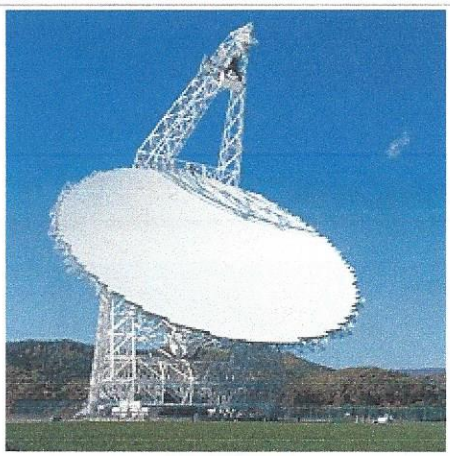
The Green Bank Telescope operates at meter to millimeter wavelengths. Its 100-meter diameter collecting area, unblocked aperture, and good surface accuracy provide superb sensitivity across the telescope's full 0.1–116 GHz operating range. The GBT is fully steerable, and 85 percent of the local celestial hemisphere is accessible. It is used for astronomy about 6500 hours every year, with 2000–3000 hours per year going to high-frequency science. Part of the scientific strength of the GBT is its flexibility and ease of use, allowing for rapid response to new scientific ideas. It is scheduled dynamically to match project needs to the available weather. The GBT is also readily reconfigured with new and experimental hardware. The high-sensitivity mapping capability of the GBT makes it a vital complement to the Atacama Large Millimeter Array, the Expanded Very Large Array, the Very Long Baseline Array, and other high-angular resolution interferometers. Facilities of the Green Bank Observatory are also used for other scientific research, for many programs in education and public outreach, and for training students and teachers.

The telescope began regular science operations in 2001, making it one of the newest astronomical facilities of the US National Science Foundation (NSF). It was constructed following the collapse of a previous telescope at Green Bank, a 90.44 m paraboloid that began observations in October 1961.[4] The previous telescope collapsed on 15 November 1988 due to the sudden loss of a gusset plate in the box girder assembly, which was a key component for the structural integrity of the telescope.[5][6]

Contents

Location

Green Bank Telescope



The Green Bank Telescope

Alternative names	GBT
Named after	Robert Byrd
Part of	Green Bank Observatory National Radio Astronomy Observatory
Location(s)	Green Bank, United States National Radio Quiet Zone, Pocahontas County, US
Coordinates	38°25′59″N 79°50′23″W
Organization	Green Bank Observatory National Radio Astronomy Observatory
Observatory code	256
Observing time	365 nights per year
Built	1990–2000
First light	23 August 2000
Telescope style	Gregorian telescope radio telescope

Description
Discoveries
Funding threatened
Relation to Breakthrough Listen
See also
References
External links

Diameter	100 m (328 ft 1 in)
Collecting area	2.34 acres (102,000 sq ft)
Focal length	60 m (196 ft 10 in)
Website	greenbankobservatory.org/science/telescopes/gbt/ (https://greenbankobservatory.org/science/telescopes/gbt/)

Location of Green Bank Telescope

Related media on Wikimedia Commons

Location

The Robert C. Byrd Green Bank Radio Telescope (GBT) has a collecting area of 2.3 acres (0.93 ha) which focuses the radio waves falling on it onto sensitive receivers at the top of the boom attached to the side.

The telescope sits near the heart of the United States National Radio Quiet Zone, a unique area located in the town of Green Bank, West Virginia, where authorities limit all radio transmissions to avoid emissions toward the GBT and the Sugar Grove Station. The location of the telescope within the Radio Quiet Zone allows for the detection of faint radio-frequency signals which man-made signals might otherwise mask. The observatory borders National Forest land, and the Allegheny Mountains shield it from some radio interference.

The telescope's location has been the site of important radio astronomy telescopes since 1957.[7] It currently houses seven additional telescopes, and in spite of its somewhat remote location, receives about 40,000 visitors each year.[8]

Description

The structure weighs 7,600 metric tons (8,400 short tons) and is 485-foot (148 m) tall. The surface area of the GBT is a 100 by 110 meter active surface with 2,209 actuators (small motors used to adjust the position) for the 2,004 surface panels, making the total collecting area of 2.3 acres (9,300 m^2).[9][10] The panels are made from aluminium manufactured to a surface accuracy of better than 50 micrometres (0.0020 in) RMS.[11] The actuators adjust the panel positions to compensate for sagging, or bending under its own weight, which changes as the telescope moves. Without this so-called "active surface", observations at frequencies above 4 GHz would not be as efficient.[12]

Unusually for a radio telescope, the primary reflector is an off-axis segment of a paraboloid. This is the same design used in familiar home satellite television (e.g., DirecTV) dishes. The asymmetric reflector allows the telescope's focal point and feed horn to be located at the side of the dish, so that it and its retractable support boom do not obstruct the incoming radio waves, as occurs in conventional radio telescope designs with the feed located on the telescope's beam axis.

Coordinates: 38°24′35″N 80°0′51″W

Snowshoe, West Virginia

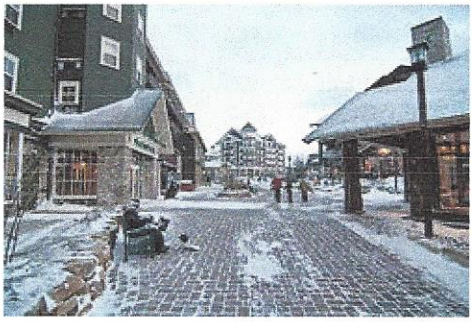
Snowshoe is an unincorporated community in Pocahontas County, West Virginia, United States, centering on the Snowshoe Mountain ski resort. It is situated in the Allegheny Mountains at a bowl shaped convergence of two high mountain ridges — Cheat and Back Allegheny Mountains — at the head of the Shavers Fork of the Cheat River. Snowshoe is site of the second highest point in the state and the peak elevation for Cheat Mountain, at Thorny Flat, which reaches 4,848 feet (1,478 m) above sea level.

Snowshoe has several commercial areas, with the most prominent being The Village at Snowshoe, located at the summit of the mountain (rather than at its base). While the area is still best known for winter activities, today the resort has extensive mountain biking trails, a popular golf course, wedding and convention areas, a number of summer outdoor activities, and also hosts a Grand National Cross Country racing event. About 480,000 skiers visit the area each year, primarily from West Virginia and the larger cities of the Mid-Atlantic and Southeast.

Snowshoe Mountain's large property includes several developed resort areas, a conservation area, and expansive backcountry that covers 10,950 acres (44.31 km^2) in total. Ski slopes make up 244 acres (0.99 km^2) of the resort, which include the Snowshoe Basin, Western Territory, and Silver Creek areas.

Snowshoe, West Virginia

Unincorporated community



the Village at Snowshoe Mountain

Motto(s): Forever wild.

Coordinates: 38°24′35″N 80°0′51″W

Country	United States
State	West Virginia
County	Pocahontas
Founded	1974
Elevation	4,848 ft (1,478 m)
Population (2000)	
• **Total**	163 [1] (http://factfinder.census.gov/servlet/SAFFFacts?_event=&geo_id=86,000US26,209&_geoContext=01,000US%7C86,000US26,209&_street=&_county=&_cityTown=&_state=&_zip=26,209)
Time zone	UTC-5 (EST)
• **Summer (DST)**	UTC-4 (EDT)
ZIP Code	26209
Area code	304
Exchange	572
Website	snowshoemtn.com (http://snowshoemtn.com/)

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- History
- Climate
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- External links

History

The area, then indistinct from Slatyfork, had been logged from about 1905 to 1960, after which it was abandoned. Thomas "Doc" Brigham discovered the mountain and believed it would be a good location to build a new ski resort. Brigham, a dentist from North Carolina, had previously opened the Sugar Mountain and Beech Mountain ski areas. Snowshoe Mountain opened to skiing on December 13, 1974.

Climate

With a mean temperature of 21 °F (−6 °C) (as seen in the climate box below) in January and 64 °F (18 °C) in July, Snowshoe can be considerably cooler than nearby areas at lower elevations. The average winter season is just slightly more than 130 days each year, while the spring, summer, and fall seasons typically include a series

of sports, recreation, and cultural events.

The resort's altitude at almost a mile high provides for weather conditions that more closely resemble the rigorous winters of Northern New England than the milder climate of the Upland South. The massive horseshoe formed by the Cheat Mountain Range creates its own micro-climate, frequently affected by orographic lift of mid-level Great Lake moisture-laden fronts, resulting in massive snowfalls. Snowshoe averages over 13 feet of natural snow per year.

Climate data for Snowshoe, West Virginia

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Record high °F (°C)	57 (14)	63 (17)	76 (24)	79 (26)	82 (28)	82 (28)	86 (30)	85 (29)	79 (26)	74 (23)	70 (21)	64 (18)	86 (30)
Average high °F (°C)	29.3 (−1.5)	32.4 (0.2)	40.6 (4.8)	51.1 (10.6)	60.6 (15.9)	67.7 (19.8)	70.7 (21.5)	70.3 (21.3)	64.0 (17.8)	53.0 (11.7)	43.5 (6.4)	33.8 (1.0)	51.4 (10.8)
Average low °F (°C)	13.5 (−10.3)	16.4 (−8.7)	23.8 (−4.6)	32.8 (0.4)	43.1 (6.2)	51.6 (10.9)	55.8 (13.2)	55.2 (12.9)	48.9 (9.4)	37.1 (2.8)	28.3 (−2.1)	18.6 (−7.4)	35.4 (1.9)
Record low °F (°C)	−36 (−38)	−20 (−29)	−8 (−22)	1 (−17)	19 (−7)	29 (−2)	36 (2)	33 (1)	25 (−4)	11 (−12)	−4 (−20)	−26 (−32)	−36 (−38)
Average precipitation inches (mm)	5.96 (151)	4.67 (119)	6.04 (153)	4.73 (120)	5.21 (132)	5.06 (129)	5.32 (135)	4.63 (118)	4.28 (109)	4.09 (104)	4.83 (123)	5.54 (141)	60.36 (1,534)
Average snowfall inches (cm)	41.9 (106)	35.0 (89)	27.3 (69)	10.3 (26)	0.6 (1.5)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	3.4 (8.6)	12.6 (32)	30.0 (76)	161.1 (408.1)
Average precipitation days (≥ 0.01 in)	22	18	18	15	17	16	17	15	14	14	16	20	202

Source: Western Regional Climate Center[2]

References

1. "US Board on Geographic Names" (http://geonames.usgs.gov). United States Geological Survey. 2007-10-25. Retrieved 2008-01-31.
2. "Snowshoe, West Virginia - Climate Summary" (http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?wv8308). Western Regional Climate Center. Retrieved June 21, 2012.

External links

- Official website (http://snowshoemtn.com)

Coordinates: 38°23′48″N 79°54′53″W

Cass Scenic Railroad State Park

Cass Scenic Railroad State Park is a state park and heritage railroad located in Cass, Pocahontas County, West Virginia.

It consists of the Cass Scenic Railroad, an 11-mile (18 km) long heritage railway that is owned by the West Virginia State Rail Authority and operated by the Durbin and Greenbrier Valley Railroad. The park also includes the former company town of Cass and a portion of the summit of Bald Knob, highest point on Back Allegheny Mountain.

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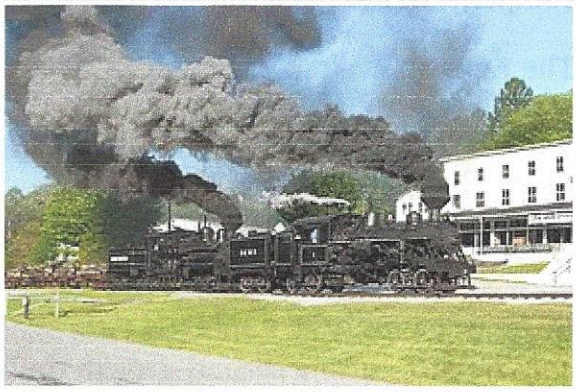
- History
- Current operations
  - 2015 transfer of operations
- Locomotives
- See also
- References
  - Citations
  - Other sources
- External links

History

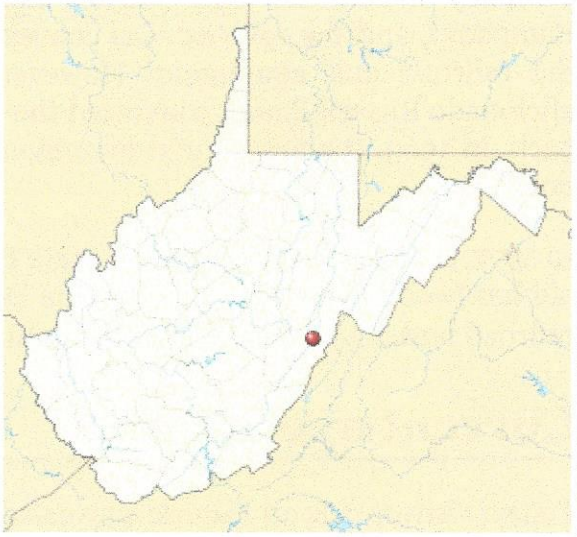
Founded in 1901 by the West Virginia Pulp and Paper Company (now WestRock), Cass was built as a company town to serve the needs of the men who worked in the nearby mountains cutting spruce and hemlock for the West Virginia Spruce Lumber Company, a subsidiary of WVP&P. At one time, the sawmill at Cass was the largest double-band sawmill in the world. It processed an estimated 1.25 billion board feet (104,000,000 cu ft; 2,950,000 m^3) of lumber during its lifetime. In 1901 work started on the 4 ft 8½ in (1,435 mm) standard gauge railroad, which climbs Back Allegheny Mountain. The railroad eventually reached a meadow area, now known as Whittaker Station, where a logging camp was established for the immigrants who were building the railroad. The railroad soon reached to the top of Gobblers Knob, and then a location on top of the mountain known as 'Spruce'. The railroad built a small town at that

Cass Scenic Railroad State Park

IUCN category III (natural monument or feature)[1]



Cass Scenic Railroad Heisler #6 along with Shay #11 lead a loaded log train down the former C&O Greenbrier Division mainline.



Location of Cass Scenic Railroad State Park in West Virginia

Location	Pocahontas County, West Virginia, United States
Nearest town	Cass, West Virginia
Coordinates	38°23′48″N 79°54′53″W
Area	940 acres (380 ha)[2]
Elevation	2,438 ft (743 m)
Established	March 7, 1961[3]
Named for	Former logging railroad at Cass, West Virginia

location, complete with a company store, houses, a hotel, and a doctor's office. Work soon commenced on logging the red spruce trees, which grew in the higher elevations.

Governing body	West Virginia Division of Natural Resources
Website	wvstateparks.com/park/cass-scenic-railroad-state-park/ (https://wvstateparks.com/park/cass-scenic-railroad-state-park/)

The WVP&P originally had only been interested in the red spruce for the purpose of making pulp, which would be turned into paper. It was not until several years later that the company realized that the mountain held a fortune in hardwoods, such as maple, cherry, birch and oak. The company decided that it would build a mill in the town of Cass, which could process the hardwoods.

The railroad eventually extended its track to the top of Bald Knob, the third-highest mountain peak in West Virginia. The red spruce in that area was logged out, and the track was torn up in the early 1910s. The track was also extended to a valley near the town of Spruce, at a bend in the Shavers Fork of the Cheat River. The WVP&P set up a new town there, with about 30 company houses, a large company store, a school, and a pulp mill, where the red spruce trees could be processed on the spot. The new town was also named Spruce, and the former town received its current name of Old Spruce.

In June 1942, WVP&P sold the Cass operation to Mower Lumber Company, which operated the line until July 1, 1960, cutting second-growth timber off Cheat Mountain. The mill and railroad were shut down by Mower in 1960, due to the rapid decline of the timber industry in the region.

Following the 1960 closure, the rail line, land, and all equipment and rolling stock, were sold to a holding company named the Don Mower Lumber Company (no relation to the former Mower Lumber Company), and the railroad was conveyed to the Midwest Raleigh Corporation, which started to scrap the railroad and equipment. However, a group of local businessmen, led by Pennsylvania train aficionado Russell Baum, convinced the West Virginia state legislature to make the Cass Railroad a state park. In 1963, the first tourist excursion train left the Cass depot for Whittaker Station, 4 miles (6 km) north.

In 1977, the Cass Scenic Railroad State Park took possession of the entire company town of Cass and the old hardwood mill there. In 2015, the Durbin and Greenbrier Valley Railroad assumed operation of the railroad under a lease agreement with the State of West Virginia.[4]

Current operations

Today, visitors ride on historic converted log cars (similar to flatcars), pushed along by a powerful geared logging locomotive. Traveling on 11 miles (18 km) of standard gauge track laid in 1901 by immigrant workers, the line traverses the steep grades of Back Allegheny Mountain.

The railroad owns eight Shay locomotives, one Heisler locomotive, and one Climax locomotive, which is being restored by volunteers of the Mountain State Railroad and Logging Historical Association. The Heisler and the Climax, both made in Pennsylvania, were competition to Shay's geared locomotive design.

Three trips are available: a two-hour round trip to Whittaker Station, a five-hour round trip to the abandoned site of the ghost town of Spruce (no current trains to Spruce for now) (once the coldest and highest town east of the Rockies), and a five-hour round trip to Bald Knob, the third highest point in the state.

Former company houses have been refurbished and are available for rent through Cass Scenic Railroad State Park. A small cabin on Bald Knob is also available for rent, and cabooses can be reserved for private use as well.

Town and shop tours are available daily to visitors who would like to learn more about the town and its lumber industry, and see how the rare geared locomotives are maintained by the Cass shop crew. A tour of a recreated logging camp is available at Whittaker.

2015 transfer of operations

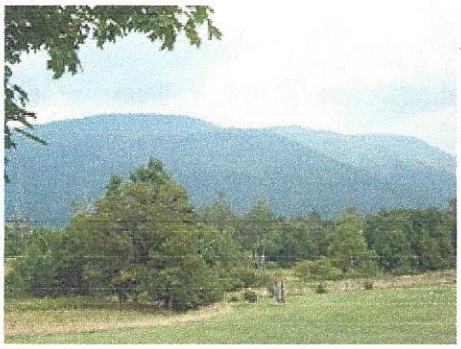
In October 2014, it was announced that the West Virginia Division of Natural Resources (WVDNR) was transferring their administrative responsibilities to another state agency, the West Virginia State Rail Authority (WVSRA). Under the new arrangement, the Durbin and Greenbrier Valley Railroad (D&GV) will assume day-to-day operations of the line as part of their existing contract with the WVSRA. D&GV will control scheduling of trains, staffing train excursions, and maintaining the railroad and its equipment. The takeover began in 2015.[5][6]

The WVDNR will maintain ownership of the right-of-way and equipment, as well as continue staffing and maintaining the non-railroad portions of the park, including the historic company town of Cass, the visitor's center, and the overnight cottage rentals that the park offers.[7]

Locomotives

Table of locomotives

Cass No.	Type	Manufacturer	Serial No.	Date built	Class	Weight	Status	Notes
2	Shay	Lima Locomotive Works	3320	Jul 1928	PC-13	93 tons	Operational	In service
3	Shay	Lima Locomotive Works	3142	Dec 1920	C-80-3	80 tons	Inoperable; on display	Not operational, stored, on display
4	Shay	Lima Locomotive Works	3189	Dec 1922	C-70-3	80 tons	Operational	In service
5	Shay	Lima Locomotive Works	1503	Nov 1905	C-80-3	90 tons	Operational	In service, WV state locomotive, oldest operational Shay
6	Heisler	Heisler Locomotive Works	1591	1929	C-90-3	100 tons	Operational	In service in Durbin, no longer kept at Cass although still owned by the State of WV
6	Shay	Lima Locomotive Works	3354	May 1945	C-150-3	162 tons	Operational	Ex-Western Maryland Railway No. 6; In service, Cass's biggest engine, largest Shay in existence, last Shay built
7	Shay	Lima Locomotive Works	3131	Oct 1920	C-70-3	80 tons	Inoperable; in storage	Not operational, stored
9	Climax	Climax Locomotive Works	1551				Operational	Restoration completed in September 2019, in service
10	Shay	Lima Locomotive Works	2804	Jan 1916	C-70-3	60 tons	Inoperable	Ex-Brimstone Railroad No. 36, not operational, stored, used for parts
11	Shay	Lima Locomotive Works	3221	Jul 1923	C-90-3	103 tons	Operational	In service
—	Shay	Lima Locomotive Works	3299	Feb 1926	C-70-3	70 tons	Inoperable	Not operational, Ex-Graham County Railway 1926. Acquired for parts.



Back Allegheny Mountain from Whittaker Station

Cass Shay #2 at Cass Station

Shay #4 and #11 pull the Bald Knob train up the mountain

Cass Shay #4

Cass Shay #6 prepares to depart Cass in 2004

Shay #6 at Whittaker Station

See also

- Bald Knob
- Leatherbark Run
- List of heritage railroads in the United States
- List of West Virginia state parks
- Steam railroad

References

Coordinates: 37.9726054°N 79.9641174°W

Gathright Dam

Gathright Dam is an earthen and rolled rock-fill embankment dam on the Jackson River 19 miles (31 km) north of Covington, Virginia. The dam is 257 feet (78 m) tall and 1,310 feet (400 m) long and has a controlled spillway within the structure's southern portion. It creates **Lake Moomaw**, which has a normal volume of 40 billion US gallons (150,000,000 m^3). The dam serves flood control and recreational purposes and is operated by the U.S. Army Corps of Engineers.[2]

The Gathright Dam's intake tower contains nine portals that allow it to release water between reservoir depths of 12 to 87 feet (3.7 to 26.5 m). This allows the dam to manage the temperature and flow of water released downstream.[3] This helps mitigate some of the negative environmental effects posed by the dam and manage fisheries downstream.

Contents

- History and construction
- Instability concerns
- References
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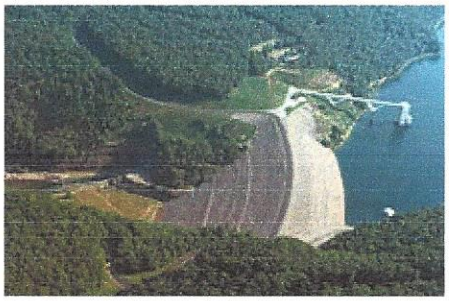
History and construction

Gathright Dam construction

The Gathright Dam was authorized by Congress with the Flood Control Act of 1946 to provide flood protection of industrial, commercial and residential properties along the Jackson and James Rivers, with immediate impact on Covington, Virginia.[4][5] Benjamin Cline Moomaw, Jr., a Virginian businessman who was influential in gaining approval for the project and is known locally as "the Father of the Gathright Dam" is the namesake for the lake. The dam itself is named after Thomas Gathright, who owned the land that was flooded by the reservoir.[6]

Gathright Dam



Gathright Dam

Location of Gathright Dam in Virginia

Location	Alleghany County, near Kincaid, Virginia
Coordinates	37.9726054°N 79.9641174°W[1]
Construction began	1974
Opening date	1979
Operator(s)	U.S. Army Corps of Engineers
Dam and spillways	
Type of dam	Embankment, rock-fill
Impounds	Jackson River
Height	257 feet (78 m)
Length	1,310 feet (400 m)
Width (base)	32 feet (9.8 m) (crest) 1,000 feet (300 m) (base)
Reservoir	

Because of setbacks though, construction did not begin until 1974. The dam was finished in 1979 and that December, Lake Moomaw began to fill. The reservoir was filled by April 1982. Filling of the reservoir displaced the small town of Greenwood which had been located at what is now the southern part of Lake Moomaw.

Creates	Lake Moomaw
Total capacity	Normal: 40 billion US gallons (150,000,000 m^3) Max: 137 billion US gallons (520,000,000 m^3)
Catchment area	345 square miles (890 km^2)
Surface area	3.9 square miles (10 km^2)

The reservoir reached its highest elevation in 1996 at 1,598 ft (487 m) above sea-level.[5]

Environmentalists and the EPA challenged the plan for construction on grounds that the scenic Kincade Gorge and important historical and archaeological sites would be destroyed by the lake. Contesting parties suggested that the dam was constructed for the benefit of the Westvaco paper plant downstream that relied on a regular flow of water to operate.[7]

Instability concerns

In May 2009, the U.S. Army Corps of Engineers (USACE) inspected the Gathright Dam as part of Screening Portfolio Risk Analysis and routine inspections. Later in the year on September 2, the USACE assigned the dam a Safety Action Classification (DSAC) II which is defined as "Urgent (Unsafe or Potentially Unsafe)". The rating is attributed to concerns about possible increased seepage at the toe of the dam, and an undetermined flow rate at the river spring one-quarter mile (0.40 km) downstream, and potential flow channels through limestone below the spillway during pool events above 1,600 feet (490 m).[5]

Because of this rating, the USACE has implemented risk reduction measures which include increased monitoring, updating emergency operation plans and reducing the water level in the reservoir. As of early 2010, the USACE has reduced and continues to maintain the reservoir at an elevation of 1,562 ft (476 m) above sea level compared to the normal level of 1,582 ft (482 m). Throughout 2010, the USACE conducted safety exercises with local/state officials, conduct a series of investigations on the dam, update inundation mapping and reevaluate the DSAC status.[8] In November 2010, Lake Moomaw was restored to a level of 1,582 ft (482 m) and the DSAC will be reevaluated in the future.[9]

References

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4. Lake Moomaw Archives (http://www.mumma.org/archives/bulletins/bulletin08.txt)
5. "USACE Gathright Dam Action Plan" (https://web.archive.org/web/20100829154656/http://www.nao.usace.army.mil/gathrightsafety.asp). Archived from the original (http://www.nao.usace.army.mil/gathrightsafety.asp) on 2010-08-29. Retrieved 2010-01-09.
6. "Lake Moomaw" (https://www.dgif.virginia.gov/waterbody/lake-moomaw/). Virginia Department of Game and Inland Fisheries. Retrieved January 15, 2017.
7. Corey L. Wrenn "Powerlessness and Pollution in Alleghany County, Virginia: A Historical Analysis of Paternalism and Economic Coercion in Appalachia and its Relationship with Environmental