

## Heath Barrens

Accounts by early travelers to the Allegheny Front in what is today West Virginia described open treeless areas similar to those found there today. In 1746, Thomas Lewis, surveyor of the Fairfax Line, wrote " ...when we had gained the Summit there was a Level as far as we could see to Right and left Clear of Timber about a Quarter mile wide..." An 1860 drawing in Harper's New Monthly Magazine by David Hunter Strother (aka *Porte Crayon*) portrays Stack Rocks emerging from a plain of low vegetation with scattered wind flagged trees, appearing



remarkably similar to today's landscape. These treeless areas were covered, in part, by heath-dominated shrublands called Heath Barrens. The Heath Barrens were expanded by logging, fire, and grazing and the large expanses that persist today on Dolly Sods are some of West Virginia's most iconic tourist attractions.

**Ecological Description:** West Virginia's Heath Barrens are high elevation uplands, sometimes grading into wetlands, dominated by shrub species in the heath family (Ericaceae). Dominant heaths may include mountain laurel (*Kalmia latifolia*), black huckleberry (*Gaylussacia baccata*), giant rhododendron (*Rhododendron maximum*), minnie-bush (*Menziesia pilosa*), and blueberries (*Vaccinium angustifolium*, *Vaccinium myrtilloides*). Stands can be tall evergreen (dominated by mountain laurel), mixed evergreen-deciduous, or low deciduous (dominated by black huckleberry or blueberries). There may be scattered small trees, most commonly red spruce (*Picea rubens*) and red maple (*Acer rubrum*). Additional non-heath shrubs include black chokeberry (*Photinia melanocarpa*), mountain holly (*Nemopanthus mucronatus*), and wild raisin (*Viburnum nudum* var. *cassinoides*). Common subshrubs include wintergreen (*Gaultheria procumbens*) and bristly dewberry (*Rubus hispida*). In low, deciduous barrens there may be moderate cover by grasses, including hairgrass (*Deschampsia flexuosa*) and Allegheny fly-back (*Danthonia compressa*), but this rarely exceeds cover by shrubs. Evergreen, spore-producing lycopods, commonly called ground pine or clubmoss (species include *Dendrolycopodium obscurum*, *Dendrolycopodium hickeyi*, and *Lycopodium clavatum*), are often abundant below and between the shrubs. Bracken fern (*Pteridium aquilinum*) often overtops the low shrubs and hay-scented fern (*Dennstaedtia punctilobula*) may be scattered or form dense patches. Other common herbs that occur in trace amounts include narrowleaf gentian (*Gentiana linearis*), bog goldenrod (*Solidago uliginosa*), and yellow screwstem (*Bartonia virginica*). Mosses and lichens are often abundant and diverse. Common mosses include mountain haircap moss (*Polytrichum pallidisetum*) and broom fork moss (*Dicranum scoparium*). Grey reindeer lichen (*Cladonia rangiferina*) may be abundant enough to be visible on aerial photos. On a microscale, bare soil is often colonized by the pink earth lichen (*Dibaeis baeomyces*).

Soils of Heath Barrens are cold, subject to freeze-thaw processes, rocky, nutrient poor, and highly acidic. Hydrologic regimes range from well-drained to poorly-drained. Heath Barrens are generally described as upland habitats, however, our surveys show that upland/wetland boundaries in these habitats can be interfingered and difficult to distinguish. Wetland indicators common in some Heath Barrens include hydric soil features and plants such as velvetleaf blueberry (*Vaccinium myrtilloides*), bog goldenrod (*Solidago uliginosa*), cinnamon fern (*Osmundastrum cinnamomeum*) and peat mosses (*Sphagnum* spp.). Wetlands may occur in small patches within upland barrens, or they may cover larger contiguous areas in concave basins.

Heath Barrens are often considered successional communities, however, the causes of their origin and persistence on the landscape is variable and controversial. Open areas documented by Lewis and Strother along the Allegheny Front may have originated and been kept open by natural fires, or by aboriginal burning, or by a combination of disturbances, poor soil, and persistently cold and windy conditions. Much of the extensive Heath Barrens on Dolly Sods were probably created by the logging of the spruce forest and subsequent fires (1884 - 1920). Grazing the barrens before and after the logging boom also played a role. Burning for blueberry production may have also been a driving force before and after white settlement. Grass balds are sometimes distinguished from Heath Barrens in WV, but modern plot data indicates that most of these communities are dominated by shrubs, not grasses. Perhaps grasses have declined in these habitats in recent decades.

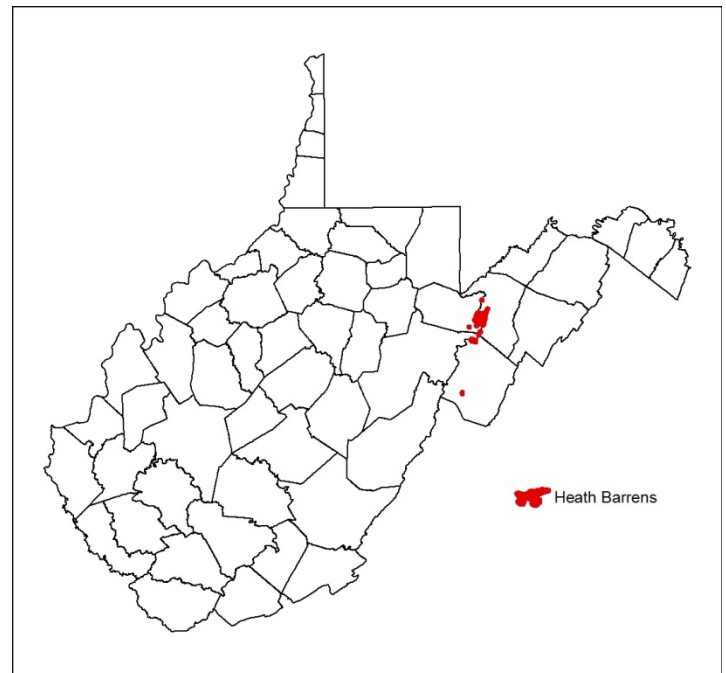
A 1999 lightning-strike along the Allegheny Front near Bear Rocks ignited a fire that spread across about 15 acres of Heath Barrens, demonstrating the potential for natural fire maintenance of these habitats. The first year following the fire, the area became dominated by a flush of *Polytrichum* moss and hairgrass, and shrubs quickly recovered vegetative growth but produced no fruit. The second year, there was a bumper crop of blueberries. Today, the area still produces some blueberries, but huckleberries and chokeberries have increased and grasses have declined. The area still remains essentially treeless.

*Animals that need these habitats:* The pink-edged sulphur (*Colias interior*) is a pretty yellow butterfly, conspicuous in West Virginia's Heath Barrens, whose caterpillars depend on blueberry leaves for food. Thickets of mountain laurel can provide valuable cover for snowshoe hares (*Lepus americanus*).

*Distribution:* WVDNR maps about 2,800 acres of Heath Barrens in the state, but this figure also includes patches of rock outcrops and open woodlands of red spruce. Heath Barrens are concentrated along the Allegheny Front in the vicinity of Dolly Sods, but small patches are found on Spruce Mountain and on the highest peaks of North Fork Mountain.

*Places to see and visit:* Head to the [Bear Rocks Preserve](#) for rock scrambling, berry picking, and unsurpassed views, or plan a longer hike through the Heath Barrens on [Dolly Sods](#) or the [Roaring Plains](#). Ride the ski lift or hike up the mountain to [Bald Knob](#) in Canaan Valley Resort State Park.




*Conservation issues:* In West Virginia, Heath Barrens include both natural and semi-natural vegetation, and it is difficult to separate the two or to estimate the pre-settlement area occupied. Regeneration of red spruce is apparent in many Heath Barrens and the area of these habitats is likely to shrink in the future as they succeed to



woodland, then forest. Maintenance of some areas of Heath Barrens using fire may be justified for recreational, aesthetic, and ecological reasons.

*Classification:*

**NatureServe Ecological System:** Southern Appalachian Grass and Shrub Bald

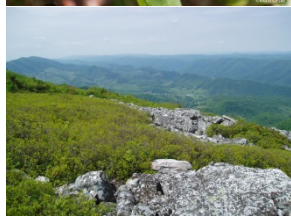
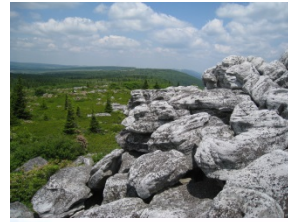
USNVC Association WV Scientific Name [Common Name]	Code	G Rank	S Rank	Links
<i>Kalmia latifolia</i> - <i>Gaylussacia baccata</i> - <i>Vaccinium angustifolium</i> - <i>Menziesia pilosa</i> Shrubland Mountain Laurel - Black Huckleberry Heath Barren	CEGL003939	G2	S2	
<i>Vaccinium angustifolium</i> - <i>Photinia melanocarpa</i> / <i>Deschampsia flexuosa</i> / <i>Cladonia</i> - <i>Polytrichum</i> shrubland Blueberry Heath Barren	CEGL003958	G3G4	S2	
<i>Vaccinium myrtilloides</i> / <i>Pteridium aquilinum</i> / <i>Polytrichum</i> spp. Shrub Swamp Blueberry - Bracken Fern Shrub Swamp	CEGL006596	GNR	S3	

**Key to Associations:**

1. Evergreen or mixed evergreen-deciduous shrublands codominated by *Kalmia latifolia*  
**Mountain Laurel - Black Huckleberry Heath Barren**
1. Deciduous shrublands (may have scattered evergreens)   **2**
2. Wetlands dominated by *Vaccinium myrtilloides*   **Blueberry - Bracken Fern Shrub Swamp**
2. Uplands dominated by *Vaccinium angustifolium*, *Photinia melanocarpa* and/or *Gaylussacia baccata*  
**Blueberry Heath Barren**



## Photo gallery:



## References:

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