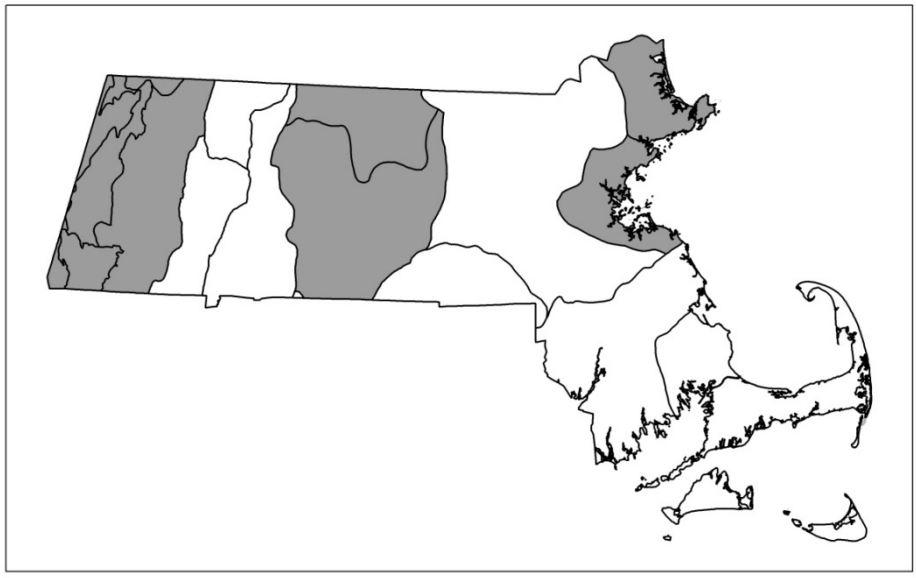
Acidic Rocky Summit/Rock Outcrop Community

Community Code: CT2A1A0000

State Rank: S4



Concept: A widespread open community of low shrubs, scattered grasses, mosses, lichens, and occasional trees, found on rocky summits with exposed acidic bedrock or on rock outcrops where bedrock is acidic.

Environmental Setting: This community is found on rocky summits (balds) or ridge tops with exposed acidic bedrock or on rock outcrops derived from acidic bedrock. These areas are characteristically dry, with little or no soil, and can often be found as open patches within ridgetop pitch pine or dry, mixed oak communities. Although it can be found on flat surfaces, it is more typically found on steep slopes with aspects varying from southeast through southwest. Vegetation is concentrated around the edges or is found in pockets of soil within the outcrop. Ridgetop Pitch Pine - Scrub Oak Communities and other ridgetop communities are often around the open patches of the Acidic Rocky Summit/Rock Outcrop Community. Examples of the Acidic Rock Cliff Community may occur below rocky summits, sometimes with intervening ridgetops or other forest/woodlands.

Vegetation Description: Low shrubs and scattered clumps of grass dominate this community. Vegetation is discontinuous. The exposed rocks often have extensive patches of lichen and moss. Canopy cover is largely absent but trees commonly found near the margin of the bedrock areas include pitch pine (*Pinus rigida*), white pine (*Pinus strobus*), and red oak (*Quercus rubra*), and occasionally may include red pine (*Pinus resinosa*, native in this habitat). The dominant shrubs include scrub oak (*Quercus ilicifolia*), huckleberry (*Gaylussacia baccata*), early sweet blueberry (*Vaccinium pallidum*), low sweet blueberry (*V. angustifolium*), bearberry (*Arctostaphylos uva-ursi*), black chokecherry (*Aronia melanocarpa*), and running shadbush (*Amelanchier spicata*).

Dwarf chestnut oak (*Q. prinoides*) can also be found, but not as commonly. Herbaceous species include little bluestem (*Schizachyrium scoparium*), poverty grass (*Danthonia spicata*), common hair grass (*Deschampsia flexuosa*), Pennsylvania sedge (*Carex pensylvanica*), and cow wheat (*Melampyrum lineare*).

Differentiating Occurrences: Rocky Summit/Rock Outcrop communities are dominated by bare rock. Three rocky summit/rock outcrop community types are named depending on whether the exposed bedrock is acidic (pH < 6.0), circumneutral (pH 6.0 - 7.5), or basic (alkaline, named calcareous for calcium availability) (pH > 7.5). These communities would not be expected to co-occur since the type of bedrock determines the type of natural community. Circumneutral and Calcareous Rocky Summit/Rock Outcrop Communities have species that do not occur on Acidic Rocky Summit/Rock Outcrops, which has a less distinctive flora. Columbine (*Aquilegia canadensis*), climbing fumitory (*Adlumia fungosa*), red cedar (*Juniperus virginiana*), and pink corydalis (*Capnoides sempervirens*) are more likely on circumneutral or calcareous outcrops than on acidic occurrences. In the eastern part of the state, Acidic Rocky Summit/Rock Outcrop Communities are often associated with a dry oak and pitch pine forest, while Circumneutral Rocky Summit/Rock Outcrop Communities are often associated with hickory-hop hornbeam, oak-hickory, or forests with sugar maple. Calcareous outcrops may be near or above patches of Rich, Mesic Forest or enriched northern hardwood forests. The Acidic Rocky Summit/Rock Outcrop Community is often dominated by low shrubs, with grasses, sedges, and a few herbaceous species forming a secondary component. In the Circumneutral Rocky Summit/Rock Outcrop Community, grasses, sedges, and a variety of herbaceous species dominate the vegetation. The Calcareous Rocky Summit/Rock Outcrop Community is dominated by both shrubs and herbaceous plants, with steeper, moister ledges supporting a rich community of ferns. Acidic Rocky Summits/Rock Outcrops can be difficult to separate from other ridgetop communities that may be present at the same site in a mosaic of communities. These include all types of rock cliff communities, Ridgetop Pitch Pine - Scrub Oak Community, Scrub Oak Shrublands, and Ridgetop Heathland Community. When mapping communities on a rock outcrop or summit, the size of the various patches should be considered. One site could have multiple types of these communities or, if one community type is predominant and the others are in small areas (patches of less than 5000 sq. ft.) within it, the dominant community type would be named with notes on the variation. Rock cliffs are vertical to near vertical (more than about 60% slope); rock outcrops are not. The difference is arbitrary. Scrub Oak Shrublands have dominant, dense shrub oaks, no pines and few other trees, and little bare rock. Ridgetop Pitch Pine - Scrub Oak Communities have multiple but scattered stunted pitch pine trees and dense scrub oak, and usually little bare rock. There need to be abundant shrub oaks and pitch pines for the community to be Ridgetop Pitch Pine - Scrub Oak or Scrub Oak Shrubland. Ridgetop Heathland has large areas dominated by lowbush blueberry, and little exposed bedrock.

Associated Fauna: Most animals of rock outcrop communities are not sensitive to the chemistry of the rock, but rather are responding to the elevation and dryness of the habitat. Any

differences in resident fauna between outcrop types are most likely due to geographical differences in species distributions. Outcrops tend to be fairly small, and only a part of the habitat of most vertebrate animals. Small mammals of rock outcrop communities include those of dry habitats such as white-footed mouse (*Peromyscus leucopus*), short-tailed shrew (*Blarina brevicauda*) and, in grassy/sedgy areas with some soil accumulation, meadow voles (*Microtus pennsylvanicus*). Acid Rocky Summit/Rock Outcrop Communities with their open, south-facing slopes provide good habitat for snakes of dry areas, such as north American racer (*Coluber constrictor*), northern ring-necked snake (*Diadophis punctatus*), and northern red-bellied snake (*Storeria occipitomaculata*). No turtles, frogs or toads would be expected. Ravens (*Corvus corax*) are all around high elevations, especially near cliffs where they nest.

Public Access: Greylock State Reservation, Adams; Watatic Mtn., Ashburnham; Middlesex Fells Reservation, Winchester/Stoneham.

Threats: The major threat is probably the use of the areas as viewpoints. This can destroy the vegetation by trampling. The larger and steeper areas where the community occurs are probably stable and not likely to be overgrown by trees. Smaller areas may be overgrown during succession.

Management Needs: Build trails to avoid these areas and/or educate the public, so they understand how to protect the fragile areas. Controlled burns may be useful in keeping areas open.

USNVC/NatureServe: Part of NatureServe System Northern Appalachian-Acadian Rocky Heath Outcrop (CES201.571). In part A4110 *Vaccinium* (*angustifolium*, *myrtilloides*, *pallidum*) Dwarf - shrubland Alliance - *Vaccinium angustifolium* - *Sorbus americana* Dwarf - shrubland [CEGL005094); included in A3314 *Picea rubens* / *Vaccinium angustifolium* Northern Rocky Woodland Alliance - *Picea rubens* / *Vaccinium angustifolium* / *Sibbaldiopsis tridentata* [CEGL006053].