



Open Upland Communities

Vermont lies squarely within the great biome known as the Eastern Deciduous Forest. In the big picture, this is a forested place, not prairie or desert or chaparral. Although open fields are part of what makes the Vermont landscape what it is today, Vermont was probably about 95 percent forested prior to European settlement, and open places were rare.

To ecologists and botanists working in the Eastern Deciduous Forest, natural openings are a curiosity, an oddity, a place to find unusual things. Some openings in the forest, like canopy gaps and landslide scars, are temporary, but others are persistent or even permanent.

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There are several major factors that create natural and persistent openings in the forest:

1. *Sustained dryness and thin soils* prevent trees and shrubs from growing well on ridgetops.
2. *Fire* kills woody plants selectively on some exposed ridgetops and in other dry soils.
3. *Steep slopes* prevent soil from accumulating on cliffs and talus slopes.
4. *Chronic instability of soils* keeps vegetation from remaining in place on river bluffs.
5. *Cold winds* keep trees low to the ground on high mountaintops.
6. *Flooding and ice scour* kill trees and shrubs along rivershores and lakeshores.
7. *Sustained wetness* creates lakes, ponds, and open wetlands.

Open Upland Communities are those natural openings created by the first six factors. Open wetlands are created by the last three factors. Open Upland Communities are non-wetlands where trees are either absent or widely scattered, occupying less than 25 percent of the total vegetative cover. Places where tree cover is 25 percent to 60 percent are called Woodlands, and those with more than 60 percent cover are Forests.

Open Upland Natural Communities

1. Study the land use history of the area. Is it a natural opening, or was it created by human activity? If it was created by humans, it may not be covered in this book.
2. If it is natural, consider the processes that keep it open. Is it near a river or lake? If so, does it flood occasionally, or is it scoured by ice in winter and spring? Does it burn occasionally, as evidenced by fire scars on trees or charcoal in the soil? Are the fires natural? Are the slopes unstable, or simply too steep to support the accumulation of soil? Look at the substrate: what is its nature? Is it bedrock? Cobble? Gravel or sand? Clay or silt? Organic soil?
3. If bedrock is exposed, study a bedrock geology map, either the general one presented in Part One or a more specific one. What type of bedrock is present? Is it calcareous rock, like limestone or dolomite, or is it acidic rock, such as granite?
4. Consider the topography. What is the elevation of the area? What is the slope? Aspect? Are you on the top of a hill or on a sideslope?
5. Study the vegetation. What kinds of plants are dominant? Are they plants that are characteristic of cooler climates or of warmer climates?
6. Use the key below to determine which kind of Open Upland Community you are in, and go to the page indicated to learn more.



Upland Shores: These are openings adjacent to rivers, streams, lakes or ponds that are maintained in early successional stages by flooding and/or ice scour. The substrate may be bedrock, cobble, gravel, shale, sand, or occasionally clay. Go to page 190.



Outcrops and Upland Meadows: These are areas of bedrock exposure, with slopes less than 60 degrees, that are generally not adjacent to rivers, streams, lakes, or ponds, and which are open because of excessive dryness, thin soils, fire, or cold winds. Go to page 209.



Cliffs and Talus: These are areas of bedrock exposure that are very steep, with slopes greater than 60 degrees, OR areas of rockfall below cliffs. Go to page 223.