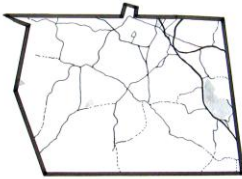


3. Topography



Refer to *Habitats and Land Cover* map

Sharing geological history with the rest of the northeast, Bradford was suppressed by a mile thick sheet of ice and snow until 12-14,000 years ago. Glaciations have been the most important factors in forging the character of the landscape and the formation of soils. Solid rock lies within 20 feet of the surface almost everywhere in New England and most elevations higher than 200 feet are knobs and ridges of this bedrock. Most of the lakes, streams and rivers follow water courses that were once much larger and cut through this base layer of stone.

In some places it is possible to gauge the direction of ice movement by the 'boulder trains' fanning out from their parent ledges and the striations across the bare ledges of outcrops. Glacial erratics, which are large boulders far removed from their original locations, litter the landscape in some areas. Examples of erratics include 'Tipping Rock' on Avery's Ledge on the western edge of town and a lonesome boulder atop a kame terrace near the private Penhallow Road in the Southwest part of town. A 'kame terrace' is an elongated steep ridge of sand and gravel formed by sediment-laden glacial meltwater.

Bradford's southern hills are part of a larger system of hills that include Lovewell and Sunapee mountains. Besides shaping the land, glaciation scraped off the soil, mixed it to varying degrees, and redeposited it as a patchy glacial till. The uneven movement of ice and this mixing resulted in New England's wide range of soils textures, depths, acidity, and fertility. The more level, arable soils of Bradford were deposited by ancient river systems. The sand and gravel deposits around Lake Massasecum and along Route 103 and 114 are the result of glacial outwash and are the locations of important stratified drift aquifers. Elevations in town run from the highest point of Durrell or Moon Mountain at 2096 feet to the lowest at 600 feet by Lake Massasecum.

Because of these varied soil characteristics, the patterns and composition of vegetation also vary widely. The historic patterns of settlement and land use are reflected ultimately in the soils.

3.1 Slope and the Conservation Zone

At the time of this writing, the Conservation Zone comprises all land above 1200 feet in elevation and the land use regulations are slightly different than in the Rural Residential Zone. The reasoning behind this ordinance when it was made in 1990 was that these areas (approximately 25.4 % of the town) are generally not well-suited for development and are located far from town services. The soils are shallow and fragile, the contours are most often steep, and the land is relatively inaccessible. This type of land is valuable for its open spaces, forest resources, recreational opportunities and scenery.

Steep slopes with a vertical change in elevation greater than 20 feet at a slope of 33% (one foot rise in three feet) covering more than 5,000 contiguous square feet are withdrawn from calculations of buildable acreage in determining acreage of new lots.

[include small chart of acreage of severe steep slopes (greater than 50%) steep slopes (greater than 20%)??????] how much steep slope in town?

3.2 Major hills of Bradford

- Avery Ledge [1920 feet] The glacial erratic known as ‘Tipping Rock’ sits on ledge on top of this hill southwest of Durrell(Moon) Mountain and Ayer’s Pond.
- Cedar Hill [1050 feet] This hill was known for its white cedar, much of which has now been overshadowed by taller trees. This hill is prominent, watching over Lake Massasecum north of Guild Hill.
- Durrell (Moon) Mountain [2096 feet] Though unnamed on most maps, this is the highest point in town. It is named for families that worked the land in this area. The top is densely covered with spruce.
- Goodwin Hill [1330 feet] The Goodwin farm was located here, overlooking Meadowbrook Farm (now the Battles Farm easement). There are remnants of a fox blind that was used to guard sheep in the 1800s.
- Guild Hill [1753 feet] The northern half is preserved by the Nelson Family Easement. Overlooking Lake Massasecum, this area was once owned by the prominent Pierce family, related to President Franklin Pierce.

- Haystack Mountain [1709 feet] A hike is rewarded with ledge lookouts in three directions. An impressive stone wall curves over the top and a stone chair with footstool was positioned here decades ago. Bobcat and porcupine abound.
- Hogg Hill [1150 feet] This hill was named for an early farming family. An odd cairn of smooth rocks sits near the top of this hill.
- Knight's Hill [1910 feet] This hill was named for Jonathan Knight, a soldier in the Revolutionary war who farmed here, see photo on page 238 of the Bradford history book. Between its double peak lies a vernal pool graced by wood lilies.
- Pickett Hill [1601 feet] A steep double peak overlooks Alder Plains Road.
- Rowe Hills [1945] This is really three heights in a ridge running east/west and intersecting with Knight's Hill. It also is laced with stone walls, evidence of sheep farming, apple trees, and former hill farms.
- Silver Hill [1745] On the east side of County Road, people have used this steep hill for rock climbing experience.
- Many other hills in town are known by the roads that climb them: Marshall Hill Road, Johnson Hill Road, Cheney Hill Road, Sunset Hill Road, Breezy Hill Road, Ring Hill Road. In remembering these hills, we pay tribute to the early farmers and the hardships they endured while riding, walking and hauling up and down them.

3.3 Recommendations:

- Review the definition of the Conservation Zone - consider Conservation overlays that would protect other important resources such as surface water, views, agricultural and forestry soils.