BURNING BUSH HISTORY – BALCH HILL, HANOVER, NH


Saplings in forest edge, about 50' from parent plants

Location
The intersection of Hemlock Trail and Hunter Trail at the field on the summit of Balch Hill is at approximately 43.71295N, 72.26175W. This is where I did the count of 2" seedlings of *Euonymus alatus* (Burning bush) on November 13, 2005.

Soils
Most of the soil on the summit of Balch Hill is classified as Cardigan-Kearsarge Rock outcrop complex (soil type 361), with 40% of the soils classed Cardigan, 30% classed as Kearsarge soils. The area has slopes, which vary between "C" (8-15%), "D" (15-25%) and "E" (25-35%). These are typical hilltop soils, and contain glacial tills. The Cardigan soils are well-drained silty to loamy, with frequent rock outcrops on about 15% of the land. Depth to bedrock varies from 20 to 40 inches. The shallow Kearsarge soils are somewhat excessively drained, with bedrock occurring at 10 to 20 inches.

Parent Burning Bush Plants
On November 13, 2005 we cut and treated a mature common buckthorn (*Rhamnus cathartica*) with an age of approximately 30 years – it is apparent that in the 1970's when this land was first conserved, the stewards of the land planted the then-recommended "conservation package", which contained autumn olive, Russian olive, common buckthorn, glossy buckthorn, amur maple, shrub honeysuckle, oriental bittersweet and burning bush. Of these, only Russian olive didn't produce offspring in the 30-year interval. While small Japanese barberry plants are found throughout the area, it is not apparent that any are parent plants; barberry probably arrived from neighboring yards. Glossy buckthorn has spread rapidly throughout the area, producing many dense almost impenetrable patches; bittersweet is found throughout, though most plants are near three original plants where it has spread thickly.

About six burning bush plants were planted in a cluster, at the top of Hemlock Trail, at the North edge of the field at the summit, with south-facing aspect.

Spread of Burning Bush:
The original plants are now quite large, and have produced quite a few (>50) 2-3' seed-producing saplings along the edge of the woods on either side of the original cluster, to a distance of about 50' from the parents. Saplings can be found at very low density elsewhere on the hill.

It is the seedlings of about 2” height that are now most notable.

Pattern of Growth:
Most of the seedlings are growing in sunny woods edge; however, even the forest had plants, most are radiate out from parent plants within a 75’ distance.

Seedling Count:
On November 13, 2005, at outermost edge of the 2” seedlings, I counted 30 plants in a one-meter square.

2” high seedlings, about 75’ from parent plants

Seedlings, up close

Conclusion:
I regard this survey as firm evidence that the plant is clearly capable of spreading, but lag-time is on order of 30 years before the plant is obviously a problem.

Notes: Barbara McIlroy, November 14, 2005
Photos: Rob Chapman, November 13, 2005