Brush Management – Invasive Plant Control
Autumn Olive – *Elaeagnus umbellata*
Conservation Practice Job Sheet VT-314

Autumn Olive (*Elaeagnus umbellata)*

Autumn Olive leaves

Autumn Olive
Autumn olive is native to eastern Asia and was introduced to the United States for ornamental cultivation in the 1800s. It now grows in most northeastern and upper Midwest states.

Autumn olive grows well on a variety of soils including sandy, loamy, and somewhat clayey textures with a pH range of 4.8-6.5. It does not grow as well on very wet or dry sites, but is tolerant to drought. It does well on infertile soils because its root nodules house nitrogen-fixing actinomycetes. Mature trees tolerate light shade, but produce more fruits in full sun, and seedlings may be shade intolerant.

In New England, autumn olive has escaped from cultivation and is progressively invading natural areas. It is a threat to open and semi-open areas. It has the potential of becoming one of the most troublesome invasive shrubs in the area. It exhibits prolific fruiting, rapid growth, is widely disseminated by birds, and can easily adapt to many sites. It is vigorous and competitive against native species, and resprouts after cutting. Due to its nitrogen-fixing capabilities, it has the capacity to adversely affect the nitrogen cycle of native communities. Autumn olive is just beginning to be recognized as a potentially serious problem.

Description
Autumn olive is a large deciduous shrub that can grow up to 20 feet tall. Leaves are alternately arranged, elliptic to lanceolate (shaped like a lance head), and smooth-edged. Mature leaves have a dense covering of lustrous silvery scales on the lower surface. Stems and buds also have silvery scales. Flowers are small, creamy white to yellow and tubular in shape; they grow in small clusters. The abundant fruits look like small pink berries, also with silvery scales.

Similar Natives
Autumn olive has no similar native plants, but is easily confused with Russian olive, which is a less common invader. Unlike autumn olive, Russian olive often has stiff peg-like thorns, and has silvery scales coating both sides of its mature leaves.

Control
The best method of controlling these species is to prevent them from becoming established. Plants should be removed as soon as possible if they are found newly colonizing an area. Small plants and seedlings can be hand-pulled, especially when the soil is moist. Herbicide treatment is probably the best method for eradicating larger, well-established plants,

as cutting only stimulates sprouting and leads to thicker growth.

Biological Control
No biological options are currently known.

Mechanical Control
Seedlings and sprouts can be pulled by hand when the soil is moist enough to insure removal of the root system. Root fragments may resprout if left in the ground.

Cut trees at ground level with power or manual saw. Cutting is most effective after trees have begun to flower, but before they produce seeds. Because autumn olive spreads by suckering, re-sprouts are common after cutting. Cutting is an initial control measure and success will require either herbicide application or repeated cutting.

Prescribed Burning
Burning is not a viable option by itself for autumn olive control. It stimulates growth, resulting in vigorous production of new shoots.

Chemical Control
Where populations are so large or conditions are such that cutting or other non-chemical means of control are impractical, the use of herbicides is an effective alternative. Scientific studies have shown that foliar, cut-stem and basal bark treatments have all been effective for control of autumn olive[1]. Late-summer treatments when the plant is actively translocating materials to the roots tend to be the most effective.

Refer to the pesticide label for complete instructions on the use and application of a given herbicide. Some applications, by rule, may only be done by a certified pesticide applicator, and/or might require the applicator hold a special permit. Private landowners can apply anything purchased at your local garden store with out having a permit so long as it is not near a water body or known public aquifer. You should contact the Vermont Agency of Agriculture Agrichemical Management Section if there are any concerns before applying any pesticides.

[1]- Kuhns, L. J. 1986. "Controlling autumn olive with herbicides." Proc. 40th Ann. Meet. N. E. Weed Sci. Soc.

Disposal
There are a few general rules of thumb that will ensure proper disposal. Be sure the plant is dead before placing in a mulch or compost pile. Either dry it out in the sun, or bag it in a heavy duty black plastic bag. If you have flowers and/or seeds on the plant, put the flowers and seed heads into the bag head first so that there is minimal risk in dispersing seed.

Information and Recommendations compiled from:

- "Invasive Plant Management Guide." Stewardship Subcommittee of the Connecticut Invasive Plant Working Group. http://www.hort.uconn.edu/cipwg/art_pubs/GUIDE/guideframe.htm
- Kuhns, L. J. 1986. "Controlling autumn olive with herbicides." Proc. 40th Ann. Meet. N. E. Weed Sci. Soc.
- "Maine Invasive Plants." Maine Natural Areas Program. http://www.umext.maine.edu/onlinepubs/htmpubs/2525.htm
- Rhoads, Ann F. and Timothy A. Block. 2002. "Invasive Species Fact Sheet." Morris Arboretum of the University of Pennsylvania. http://www.paflora.org/Elaeagnus%20spp.pdf
- The Nature Conservancy - Element Stewardship Abstract (and references therein)

CAUTION: The VT Agency of Agriculture Division of Agricultural Resource Management and Environmental Stewardship, Agrichemical Management Section regulates the sale and use of pesticides in Vermont. Many labels and registrations change from year to year, so applicators will want to be sure they are using a currently, registered product. Contact the Agrichemical Section (802-828-6531) for information on pesticide registration, how to acquire a special permit, lists of currently-licensed pesticide applicators, and other information pertaining to the rules and regulations governing pesticide application in this state.