

Weed of Interest: Oriental Bittersweet

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Celastrus orbiculatus or Oriental Bittersweet is a non-native woody vine or liana. This species was introduced along with many other ornamental plants from Japan in the late 1800s. During much of the twentieth century, Oriental Bittersweet was used as a rapidly growing screening plant and sometimes a ground cover. It was even used for erosion control along highway medians until the 1970s. Oriental Bittersweet is a heavy seed producer with bright red and yellow berries produced in the fall which are spread in several ways, such as by migrating birds and small woodland animals and also unintentionally in dried floral arrangements – which are often discarded in nearby compost piles or woods. There is no doubt that our deliberate use of this plant in the last century contributed greatly to its introduction into our woodlands and forests. Oriental Bittersweet originated in parts of Asia that have a somewhat similar climate to eastern North America. There are many natural enemies (insects and diseases) in its native range that can help keep it in check there. These natural enemies are not present in the regions where

it has been introduced. Also, it has a very high growth rate - much faster growing than the native American Bittersweet (*Celastrus scandens*), which unfortunately is now uncommon or rare in most Long Island natural areas. Studies have shown that during the period from 1960 to 1999, Oriental Bittersweet has displaced the slower growing native species in more than 40% of the sites surveyed on Long Island. The invasive species now accounts for 95% of the Bittersweet found in the downstate area. If not removed, the seedlings will grow unchecked and eventually start to twine around and grow on nearby desirable woody shrubs and trees. As the vines or lianas grow on and over the resident vegetation, they add weight and wind resistance to the host plant. The foliage of the Bittersweet interferes with the growth of the host plant, and eventually weakens them – making them susceptible to being knocked over during heavy wind storms. In addition to directly harming the trees that it grows upon, when those trees

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Oriental Bittersweet branches with ripe fruit.

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are weakened and eventually killed, the empty spaces in the woods and forests will be quickly filled with other invasives as well. This process radically reduces the quality of the natural areas in many ways. As a result of its highly invasive nature, the NYS DEC has placed it on the "prohibited" list. Along with 65 other invasive species, it is now illegal to possess with intent to sell, import, purchase, transport, introduce or propagate Oriental Bittersweet in New York State. For more information about this regulation go to: <https://www.dec.ny.gov/animals/99141.html>.

Management options: Oriental Bittersweet can be managed with cultural practices or with herbicides in combination with cultural practices. Currently there are three postemergence herbicide active ingredients that are registered for Long Island use for management of this species. These three are: 2,4-D, triclopyr and glyphosate and are marketed under several trade names. Also, in several cases the registration is listed by the NYS DEC as a '2ee' exemption. This means that the DEC has allowed application of these products to control this particular species even though it isn't actually mentioned on the primary label. For more information on which products are labeled, go the NYS DEC website: <http://www.dec.ny.gov/nyspad/products?0>. There are two ways that these herbicides can be applied. One is to cut the vine close to the soil line and paint a concentrated solution directly onto the cut stump. The 'cut stump' method is usually more effective in the dormant season: either in late fall or very early spring. The concentrate placed on the cut stump will inhibit or completely stop the ability of the plant to re-sprout. The other application method which must be used during the active growing season is to spray the foliage with a dilute solution. The potential drawback of this method is that the spray of these non-selective herbicides may unintentionally be deposited on desirable plants. A cultural practice which can have some success in the absence of herbicides is to repeatedly cut the vines at the soil line. Although the vines will start to resprout from the stumps below the cut, the repeated removal of the vines will decrease their ability to produce seed this year and also allow the host trees some time to recover. Hand pulling seedlings in the spring should also be a part of an integrated program managing this highly invasive species. ●



Oriental - Early infestation of Oriental Bittersweet climbing a host tree.



Oriental Bittersweet invading a landscape bed.