

Wetland and Riparian Invaders: A Guide to Invasive Plants of Southeastern Pennsylvania

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As long as humans have been traversing the oceans in search of new lands they have been introducing exotic plant species to new ecosystems. New plant species that are introduced to a new region can take one of two pathways they can become naturalized and harmless to the region or they can become invasive and cause problems. Nearly 1,500 non-native invasive plants have been introduced to the continental United States. Invasive plant species are seen worldwide as one of the leading threats to economic and environmental instability. In 1999 it was estimated that the United States spends \$123 billion on the prevention and control of invasive plants.

This book is designed to allow the horticulturalist, forester, and even tourist to be able to identify the leading invasive plant species of Southeastern Pennsylvania that affect the wetlands and riparian areas in the region. It will give information on the effects that an invasive species can have when introduced to a wetland or riparian area. It will provide ways of removing the plant if it is found in a garden or on another part of personal property. For each invasive species, there will be suggestions of native plants that look and/or behave the same way and would be better to use in residential gardens or landscapes. Finally, there is a directory of native plant nurseries located in the Southeastern Pennsylvania region.

Purple Loosestrife *Lythrum salicaria*

Purple loosestrife is an herbaceous perennial with a square woody stem. The leaves are lance shaped and are oriented oppositely and/or whorled around the stem. They are also heart shaped at the base of the leaf. Loosestrife will grow 4-10 feet tall depending on conditions. Flowers bloom between June and September. These showy flowers are magenta in color and form a spike 4 – 20 inches tall. Individual flowers have five to seven petals. Flowers give way to fruits that contain approximately 100 tiny dark seeds. A single plant can produce 2.5 million seeds in a single growing season and seed banks can be viable for up to 20 years. Loosestrife reproduces by seed dispersal and vegetatively along underground stems, which can grow about one foot a year. A single rootstock can have 30 – 50 stems associated with it. Loosestrife needs the temperature to be above 20° C. It has a high temperament for many different habitats but prefers areas inundated regularly with water, such as wet meadows and floodplains and usually in open fields where there is plenty of sunlight. It is not successful in saline wetlands. Is classified as a FACW+



Where does the plant originate? Why was it brought to the United States? What is its distribution?

- Purple loosestrife is a native perennial from Europe and Asia
- It was introduced to North America in the early 1800's in a European ship ballast
- It was then later brought over for ornamental planting
- Purple loosestrife was also brought to the United States for medicinal purposes. It was used for treating diarrhea, dysentery, bleeding and ulcers.

What problems does it cause?

- Permanent stands replace native vegetation
- Threaten rare or endangered species
- Purple loosestrife affects the hydrological and biogeochemical processes of a wetland
- In areas where there is extensive growth there is a reduction in the porewater pools of phosphate
- Native plants drop their leaves in the spring and add nutrients then purple loosestrife drops leaves in the fall, and they decompose quickly which leads to a nutrient flush in the non-active growing season
- The change in the nutrient release, when there is not primary production, results in alterations to wetland functions
- This in turn is causing a decline in marsh birds populations such as the Virginia rail (*Rallus limicola*) and Black terns (*Clidonias niger*)

Native Alternatives



Obedient Plant (*Physostegia virginiana*)



Fireweed (*Epilobium angustifolium*)



Great blue lobelia (*Lobelia siphilitica*)

How can you remove it from your garden or property?

- Individual plants can be hand pulled before seed set
- Larger stands are more difficult to control or eliminate
- Do not dig out the root because disturbance can cause spreading
- Stands can be cut low on the stem and then the remaining stem burned because it can resprout from remaining root tissue
- A glyphosphate herbicide (Roundup®) has been successful for spot treatments
- Use care when applying herbicides. Most are non-specific and can damage any other surrounding herbaceous plants.
- If Purple loosestrife is found near a water source be sure to use a herbicide that is safe to use in or near water.

Winged Euonymus; Burning Bush *Euonymus alatus*

Burning Bush is a multi stemmed, fast growing, woody shrub that can reach heights ranging from 8 – 23 feet. The bark is grey to brown in color. Leaves occur oppositely along the branches. They are subsessile, elliptical – ovate and have finely toothed margins. They are approximately 8 cm long and are dark green in the summer then turning to a purplish red – scarlet in the fall. The autumn color is where the name burning bush originates. The stems have distinctive rectangular, corky wings (approximately 2-4 wings per stem). The flowers are small and inconspicuous yellow – green flowers. They have four petals and appear in clusters at stem branches between April and June. The fruits are smooth 1-4 lobed capsules, which are red-purple and add color to the shrub in late summer. The fruits mature between September and October when they split open and reveal four red-orange seeds, which will continue into January. The seeds are eaten and dispersed by birds.

Where does the plant originate? Why was it brought to the United States? What is its distribution?

- Native to China and Japan
- Introduced in 1860 as an ornamental landscaping shrub
- It can be found along the eastern coast of the United States from New Hampshire to Georgia then west through the Great Lake states and the mid western plains

What problems does it cause?

- Threatens a variety of habitats: forests (upland and moist), coastal scrublands, and prairies
- Tolerant of a variety of soil types, pH values, and salt Tolerant of areas in full shade
- Forms dense thickets that displace native woody and herbaceous plants
- Forms a "seed shadow", young seedlings have to ability to grow under and in the shadows of parent plants
- Can have long term effects on tree populations by shadowing tree seedlings and saplings
- Has the ability to change a prairie land into a scrubland ecosystems
- Altering the ecosystems will change habitat and food source availability to native birds and animals
- Is able to reproduce by root suckers and birds aid in spreading by eating seeds

How can you remove it from your garden or property?

- Plants up to two feet tall can be pulled out by hand preferably after rain when the soils are moist
- Larger plants can be dug out with weed pulling tools
- Cutting stems close to the ground and then grounding out the stump or constant cutting of regrowth is effective
- A wide variety of herbicides can be applied either as foliar sprays or to cut stumps
- Herbicides: glyphosate, imazapyr, triclopyr
- Herbicides should be applied in the early summer months

Native Alternatives



White-Hazel (*Femoralia virginiana*)



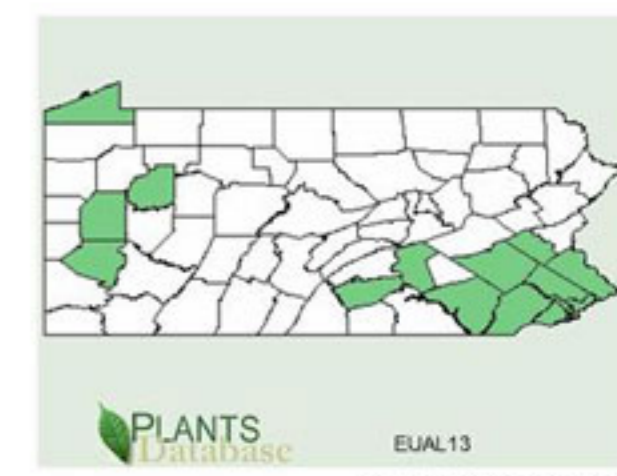
Silky Dogwood (*Cornus amomum*)



Virginia Sweetspire (*Itea virginica*)

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PLANTS Database EUAL13
USDA: <http://plants.usda.gov/>