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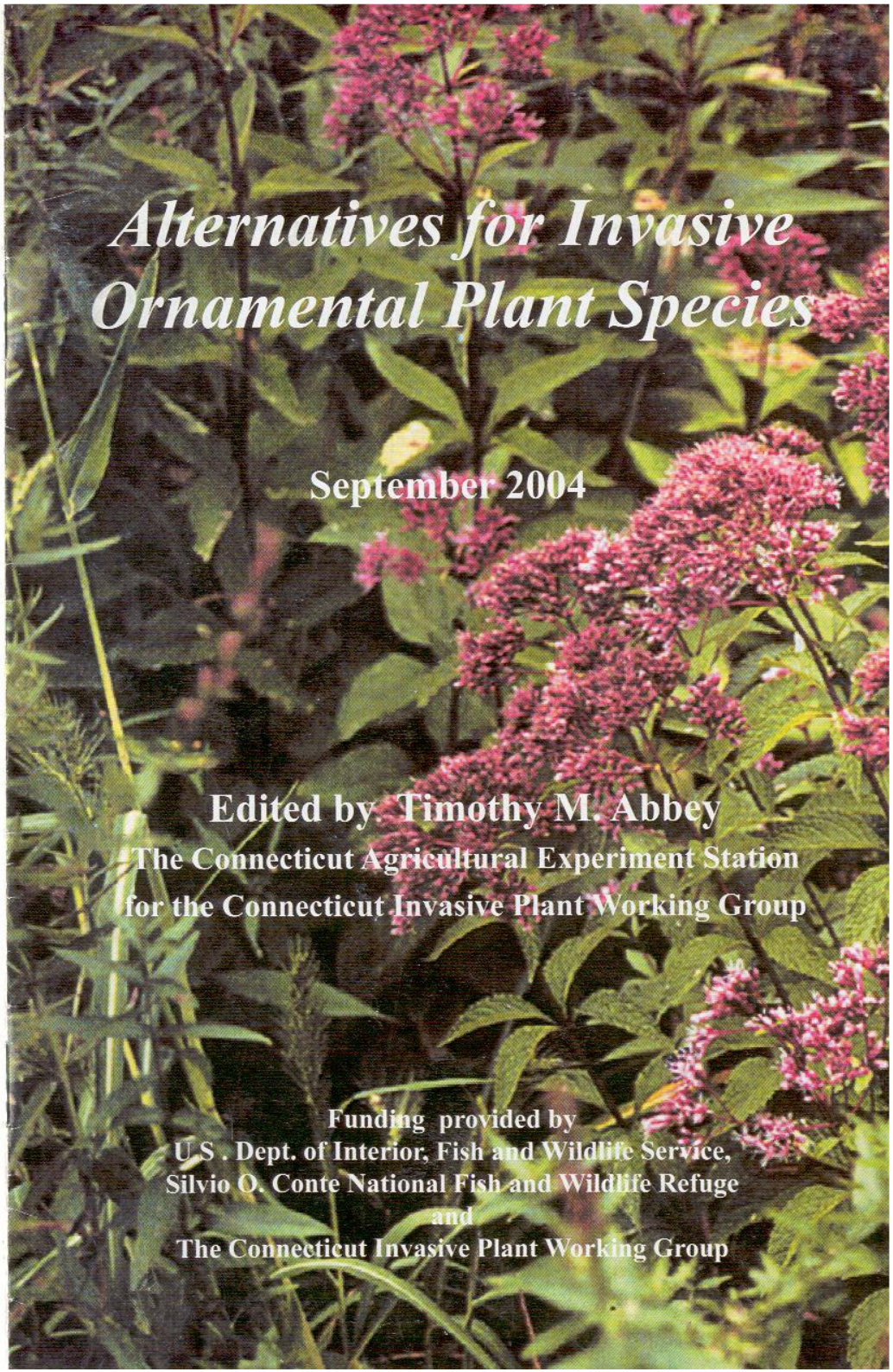

Alternatives for Invasive Ornamental Plant Species

September 2004

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The Connecticut Agricultural Experiment Station
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Introduction

The goal of this booklet is to promote commercially available, although underused, alternatives to potentially invasive ornamental plant species in New England. *An **invasive plant** is a species non-native to the ecosystem under consideration, and whose introduction, whether accidental or intentional, causes or is likely to cause harm to the environment, economy or human health.* Invasive plants are so successful because they often: 1) grow and mature rapidly; 2) spread quickly; 3) can flower and/or set seed over a long period of time; 4) have few known diseases or insects to provide control; 5) thrive in many habitats; and 6) are difficult to control. The first five characteristics contribute to the development and production of some non-native plants as marketable ornamental plants because these traits are often desirable for landscape plantings.

Why avoid invasive plants?

Most plants, whether they are native or non-native, grow and limit their development to the site on which they are planted. Although many of our beautiful ornamental plants and the majority of our fruits and vegetables are not native to the United States, neither are they invasive. However, a small number of non-native plant species have become invasive. They disperse to other locations and thrive there. In natural areas, they establish themselves at the expense of native plants. They also detract from the aesthetic appearance of managed landscapes and hamper the growth and harvest of crops in cultivated agricultural areas. In either case, this disruption has a negative impact. Typically, invasive species are extremely difficult to control once established. At this time, all the cultivars for a given invasive species are considered invasive. However, future research may prove this to be incorrect.

This publication focuses on five plants considered invasive or potentially invasive (on the invasive plant lists of Connecticut, Massachusetts, New Hampshire, and New York) and which are still commercially available. Some invasive species will no longer be available in Connecticut and New Hampshire when the 2004 invasive plant legislation and rules go into effect.

Choosing non-invasive alternatives

Members of the Connecticut Nursery and Landscape Association and the Connecticut Invasive Plant Working Group selected the plants featured as non-invasive alternatives to the invasive plants listed. *Some of the alternatives recommended in this booklet are native to New England and all are native to some part of the eastern U.S.A. Under our definition, a plant species is considered **native** if it was present in a state or region before the arrival of European settlers.*

Due to space limitations, only a few alternative plant species have been presented. If you are seeking species native to your area, a specific flower color, fall foliage color, wildlife benefit, preferred soil and sun conditions, etc., there are many additional plants and cultivars that may fulfill these requirements.

How to Use this Booklet

On the following pages, each invasive species is shown in a red box and its common and scientific names are in red. The next line indicates the native range and the date the plant was introduced to the United States. Information is included on why the plant was used in the landscape.

Plants that can be used instead of the invasive species are labeled "non-invasive alternatives." The names are shown in green. Alternative plant descriptions have notes on flowering time, color, sunlight and soil requirements, size, suitability for various kinds of plantings, and attractiveness to wildlife. Also included: the general area of the United States where the plant is native, the zones in which it will grow, whether or not it is native to New England and whether or not it is rare in a given New England state.

Concerns Over Planting Rare Species

Some conservation biologists recommend not planting species that are listed as endangered, threatened, of special concern, etc. in an area. In this booklet, such plants will be referred to as "rare." The concern with planting rare species is the potential for plants from non-local seed sources to bring in pests or diseases or to interbreed with the existing rare plants and create offspring that are less well-adapted to local conditions. An exception to this recommendation is made for places where ecological restoration of a site is being undertaken using plants grown from locally-derived sources.

INVASIVE

Autumn olive *Elaeagnus umbellata*

China, Korea, Japan (1830)

This invasive plant was originally planted for its silvery-white, fragrant flowers, drought tolerance and ability to grow under low fertility. Its abundant red fruit in September-October is eaten by birds, contributing to its undesirable spread into natural habitats.

NON-INVASIVE ALTERNATIVE

Bayberry *Myrica pensylvanica (Morella pensylvanica)*

Eastern United States Zones 3-6

Inconspicuous flowers, March-April. Minimal burgundy fall color. Full sun to partial shade. Poor soils, drought and salt tolerant. Size (HxW)=5'-12' x equal. Gray, winter berries. Produces suckers. Persistent berries for winter and early spring food for local and migratory song-birds. Need female and male plants for berries. Native to New England states except VT.

NON-INVASIVE ALTERNATIVES

Winterberry *Ilex verticillata*

Eastern United States Zones 3-9

White flowers, June-July. Minimal yellow fall color. Full sun to partial shade. Moist, acidic (pH 4.5-6.5) soil, tolerant of wet conditions. Size (HxW)=6'-10' x equal. Border or massing. Red fall and winter berries for local and migratory songbirds. Need female and male plants for berries. Native to all New England states.

Fothergilla (dwarf, large) *Fothergilla gardenii, F. major*

Southeastern United States Zones 4-8

White flowers, April-May. Yellow, orange, scarlet fall color. Full sun to partial shade. Moist, well-drained, acidic soil. Size (HxW) dwarf=2'-3' x equal; large=6'-10' x equal. Foundation, border, mass plantings. Not native to New England.

Chokeberry (red) *Aronia arbutifolia*

Eastern United States Zones 4-9

White flowers in May. Red-purple fall color. Full sun to partial shade. Adapts to various soil conditions. Size (HxW)=6'-10' x 8'-12'. Persistent berries provide winter interest. Berries winter and early spring food for local and migratory songbirds. Mass plantings. Native to all New England states except VT.

INVASIVE

Japanese barberry *Berberis thunbergii*

Japan (1864)

Many cultivars of this invasive species have dark red foliage. Red berries in October and winter are eaten by birds, contributing to its spread. Used as a hedge or barrier. Tolerant of drought and urban conditions.

NON-INVASIVE ALTERNATIVES

Bayberry *Myrica pensylvanica (Morella pensylvanica)*

Eastern United States Zones 3-6

Inconspicuous flowers, March-April. Minimal burgundy fall color. Full sun to partial shade. Poor soils, drought and salt tolerant. Size (HxW)=5'-12' x equal. Gray, winter berries. Produces suckers. Persistent berries for winter and early spring food for local and migratory songbirds. Need male and female plants for berries. Native to New England states except VT.

Virginia sweetspire *Itea virginica*

Southeastern United States Zones 5-9

White flowers, June-July. Reddish purple fall color. Full sun to partial shade. Moist soil, tolerant of wet conditions. Size (HxW)=3'-5' x variable. Shrub border. Borderline hardiness in Zone 5. Not native to New England.

Highbush blueberry *Vaccinium corymbosum*

Eastern United States Zones 3-6

White flowers, May-early June. Yellow, bronze, orange to red fall foliage color. Excellent red fall color in full sun. Full sun to partial shade. Moist to dry acidic soil (pH 4.5-5.5). Size (HxW)=6'-12' x 8'-12'. Summer berries for nesting birds and local mammals. Native to all New England states.

Chokeberry (red) *Aronia arbutifolia*

Eastern United States Zones 4-9

White flowers in May. Red-purple fall color. Full sun to partial shade. Adapts to various soil conditions. Size (HxW)=6'-10' x 8'-12'. Mass plantings. Persistent berries provide winter interest. Berries winter and early spring food for local and migratory songbirds. Native to all New England states except VT.

Winterberry *Ilex verticillata*

Eastern United States Zones 3-9

White flowers, June-July. Minimal yellow fall color. Full sun to partial shade. Moist soil, acidic (pH 4.5-6.5), wet tolerant. Size (HxW)=6'-10' x equal. Border or massing. Red fall and winter berries for local and migratory songbirds. Need female and male plants for berries. Native to all New England states.

NON-INVASIVE ALTERNATIVES

INVASIVE

Winged euonymus (Burning bush) *Euonymus alatus*

Northeast Asia to Central China (1860)

This invasive shrub escapes cultivation and can dominate forest understory. Has been popular for its bright red fall foliage and its versatility. Used as a border, mass planting, hedge, etc. Can tolerate a variety of soil types, pH adaptable.

NON-INVASIVE ALTERNATIVES

Bayberry *Myrica pensylvanica (Morella pensylvanica)*

Eastern United States Zones 3-6

Inconspicuous flowers, March-April. Minimal burgundy fall color. Full sun to partial shade. Poor soils, drought and salt tolerant. Size (HxW)=5'-12' x equal. Gray, winter berries. Produces suckers. Persistent berries for winter and early spring food for local and migratory songbirds. Need male and female plants for berries. Native to New England states except VT.

Summersweet (Sweet pepper bush) *Clethra alnifolia*

Eastern United States Zones 3-9

White flowers, July-August. Pale yellow to golden brown fall color. Full sun to shade. Moist to wet, acidic soils. Salt tolerant. Fruit. Size (HxW)=6'-8' x 8'-10'. Blooms best in full sun. Butterflies use flower nectar. Native to all New England states, but is "rare" in ME.

NON-INVASIVE ALTERNATIVES

Highbush blueberry *Vaccinium corymbosum*

Eastern United States Zones 3-6

White flowers, May-early June. Yellow, bronze, orange to red fall foliage color. Excellent red fall color in full sun. Full sun to partial shade. Moist to dry acidic (pH 4.5-5.5) soil. Size (HxW)=6'-12' x 8'-12'. Summer berries for nesting birds and local mammals. Native to all New England states.

Chokeberry (red) *Aronia arbutifolia*

Eastern United States Zones 4-9

White flowers in May. Red-purple fall color. Full sun to partial shade. Adapts to various soil conditions. Size (HxW)=6'-10' x 8'-12'. Persistent red berries provide winter interest. Berries in winter and early spring are food for local and migratory songbirds. Mass plantings. Native to all New England states except VT.

Fothergilla (dwarf, large) *Fothergilla gardenii, F. major*

Southeastern United States Zones 4-8

White flowers, April-May. Yellow, orange, scarlet fall color. Full sun to partial shade. Moist, well-drained, acidic soil. Size (HxW)=2'-3' x equal. 6'-10' x equal. Foundation, border, mass plantings. Not native to New England.

INVASIVE

Purple loosestrife *Lythrum salicaria*

Europe (Early 1800's)

This invasive plant spreads to wetlands, dominating and disrupting the natural habitat. Reddish-purple flowers in July-August attract insects. Grows well in moist areas, but adapts to garden soil. Height 3'-10'. Large plants have woody tap roots.

NON-INVASIVE ALTERNATIVES

Beebalm *Monarda didyma*

Eastern North America Zones 4-9

Scarlet red, pink, lavender, white flowers, July-August. Full sun. Moist soils, not drought tolerant. Height=2'-4'. Rapid spreader. Attracts bees, butterflies and hummingbirds. Native to NY, but not New England.

Joe-pye weed *Eupatorium dubium (also E. purpureum)*

Eastern North America Zones 4-9

Purple flowers, August-September. Full sun to partial shade. Moist, wet soil. Height=5'-7'. Attracts butterflies. *E. dubium* is native to all New England states except VT ("rare" in ME). *E. purpureum* var. *purpureum* native to all New England states ("rare" in VT).

NON-INVASIVE ALTERNATIVES

Purple coneflower *Echinacea purpurea*

Eastern North America Zones 3-8

Purple, white flowers, July-September. Full sun to partial shade. Well-drained soils. Drought tolerant. Height=2'-4'. Attracts butterflies. Not native to New England.

Swamp milkweed *Asclepias incarnata*

Eastern North America Zones 4-9

White, pink flowers, July-August. Full sun to partial shade. Moist to wet areas; adapts to garden soil if not droughty. Height=2'-4'. Food for Monarch caterpillars and nectar source for butterflies. Native to all New England states.

Blue giant hyssop *Agastache foeniculum*

North America Zones 5-9

Blue flowers, August-September. Full sun. Moist, well-drained soil. Height=2'-3'. Not native to New England.

INVASIVE

Norway maple *Acer platanoides*

Continental Europe (1756)

This invasive tree can form dense stands and outcompete native vegetation, including sugar maple seedlings. Yellow fall leaf color is held late into the season. Adaptable to different soil types. Can tolerate harsh urban conditions. Used as a lawn, park and street tree.

NON-INVASIVE ALTERNATIVES

Red maple *Acer rubrum*

Eastern United States Zones 3-9

Red flowers, March-April. Yellow, red, orange fall color. Full sun to shade. Moist, slightly acidic soil. Tolerates many conditions, including wet. Size (HxW)=40'-60' x equal. Spring seeds for wildlife. Parks, lawns, street tree. Native to all New England states.

Sugar maple *Acer saccharum*

Eastern United States Zones 4-8

Yellow flowers, April-May. Yellow to red fall foliage. Full sun to shade. Moist, well-drained soil. Size (HxW)=60'-70' x two-thirds height. Fall seed for wildlife. Parks, lawns, street tree (away from salts). Native to all New England states.

Other Shrubs for Consideration

Arrowwood, *Viburnum dentatum* var. *lucidum or V. recognitum*

Full sun to partial shade. Moist, well-drained soil, but well adapted to various conditions. Salt tolerant. Fall berries eaten by birds. Native to all New England states.

Buttonbush, *Cephalanthus occidentalis*

Full sun to partial shade. Prefers moist or wet soil. Interesting flower and fruit. Native to all New England states.

Mountain laurel, *Kalmia latifolia*

Evergreen. Full sun to shade. Well-drained acidic soil. Native to New England, but is "rare" in ME and VT.

Red twig dogwood, *Cornus sericea*

Full sun to shade. Moist, well-drained soil, but will adapt to various soil conditions. White fall berries eaten by birds. Bright red stems. Native to all New England states.

Rhododendron, *Rhododendron carolinianum Rhododendron catawbiense*

Evergreen. Partial to full shade. Acidic, well-drained soil. Group plantings, foundations. Not native to New England.

Serviceberry, *Amelanchier arborea*

Full sun to partial shade. Prefers moist, well-drained, acidic soil. Good for wet areas, but not stress tolerant. Edible, purple-black summer berries are early summer food for birds and mammals. Native to New England, but not varieties *alabamensis* and *austromontana.*

Spicebush, *Lindera benzoin* var. *benzoin*

Full sun to partial shade. Moist, well-drained soil, but will adapt to various soil conditions. All parts aromatic if crushed. Very early flowers. Attracts butterflies. Scarlet, fall berries for birds and mammals. Native to New England, but is "rare" in ME.

Witch hazel, *Hamamelis vernalis*

Full sun to partial shade. Moist soil, pH adaptable. Screen or unpruned hedge. Very early flowers. This species of *Hamamelis* is not native to New England.

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New England Network

Silvio O. Conte National Fish and Wildlife Refuge, New England Invasive Plant Group (NIPGro): Newsletters, networking/educational opportunities, and links to updated invasive plant information for each New England state. (413)863-0209.

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