



## NEW ENGLAND WILD FLOWER SOCIETY

### FIELD MANUAL OF INVASIVE PLANTS

#### Introduction

Invasive plant species are one of the greatest threats to native biodiversity and our natural systems. These non-native species have been imported to this country for horticultural and conservation purposes or by accident. They often arrive with no predators to keep their rapid growth and spread in check. The lack of natural control allows them to reproduce freely and easily, spreading from the point of introduction into native plant communities. Once established in these areas they quickly displace native species and alter plant and wildlife communities. The costs imposed by these species are measured not only in ecological terms, but economic as well. Each year over \$137,000,000 are expended on the study, monitoring, and control of invasive species.

In the Northeast, invasive species are well established in many areas, and just beginning to invade others. Regionally these problematic species tend to show a south to north migratory path, and are just beginning to become established in the northern regions of New England. Experience has taught us that new and small infestations are easier to control than those which are well-established. The only way to evaluate where control efforts should begin is to understand where infestations of these species currently exist. In response to this the New England Wild Flower Society (NEWFS) and the White Mountain National Forest (WMNF) with funding from the National Fish and Wildlife Foundation have initiated a three year project to identify areas in and around the White Mountain National Forest where these species have become established. Citizen volunteers are being trained to conduct these surveys throughout the region and report their findings to NEWFS. A specially designed form and database are being used to collect and tabulate this information. This manual is being used as a guide for citizens assisting with the project to help them identify the target species. The manual is designed so that additional species identification cards may be added over time. If you obtain a manual, please be sure to register your name and address with NEWFS, so that as cards are added we can send them to you.



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## Trees

1

Norway Maple (*Acer plantanoides*)

Maple family (*Aceraceae*)

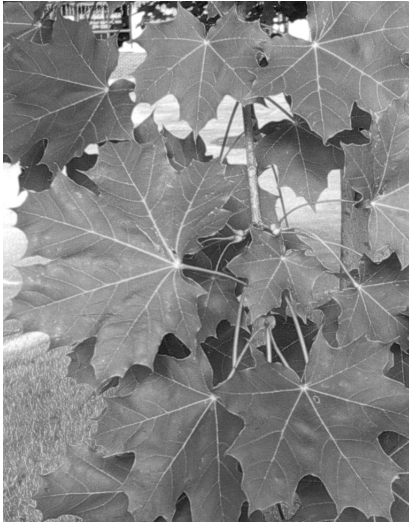


Photo Credit: Mo Ewing



For Complete description,  
see side 2

### KEY IDENTIFIERS:

Deciduous tree, appx. 40'-50' tall. Palmate 5 lobed leaves are appx. 4"-7" wide and long. Gray bark is deeply/vertically furrowed. "Wings" of fruits are widely spreading. Stout twigs. UNLIKE sugar maples, when a leaf is broken from the stem, it oozes a WHITE sticky sap—not clear.



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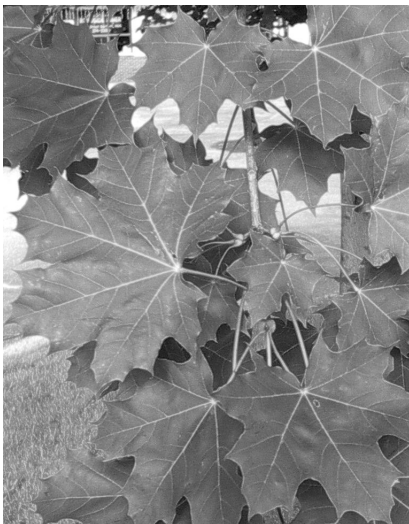
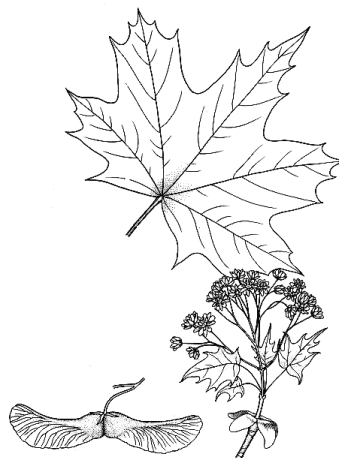


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## **Description**

### **Norway Maple**

**Habit:** large tree, 40'-50' in height (sometimes to 90 feet)

**Leaves:** opposite, large (4-7 inches wide), simple, green on upper and lower surfaces, five lobed, deciduous, broken leaves or leaf stems reveals a white sap

**Bark/Trunk:** gray, vertically furrowed

**Twigs/Stems:** opposite, stout

**Buds:** large (over 3/16"), reddish or green, blunt

**Flowers:** yellow/green, held in erect cluster

**Fruit:** a pair of widely spreading winged samaras (typical maple fruit)

**Note:** Cultivated varieties can have red, copper or variegated leaves.

### **Habitat**

Generalist—growing in a wide variety of soil, moisture, and light conditions. Highly shade tolerant. Widely planted as a street tree and in cultivated landscape. Roadsides, abandoned fields, hedgerows, near old cultural sites and waste places.

### **Similar Species**

Native maple species (*Acer saccharum*, *A. saccharinum*, *A. rubrum*) have a clear sap when leaves or leaf stem is broken. The twigs of sugar maple (*A. saccharum*) are slender and the wings of the fruit are narrowly spreading. Red maple (*A. rubrum*) and silver maple (*A. saccharinum*) are whitened or silvery on the undersides of the leaves.

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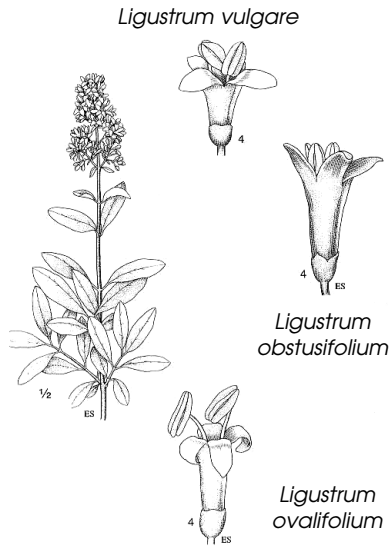
### Shrubs: Opposite, Untoothed Leaves

3

Common, Blunt-leaved & California Privet (*Ligustrum vulgare*, *L. obtusifolium*, *L. ovalifolium*) Olive family (*Oleaceae*)



Photo Credit: Mo Ewing



For Complete description,  
see side 2

#### KEY IDENTIFIERS:

Lance shaped or oblong opposite entire leaves appx. 1"-2" long. 1/4" white tubular flowers in terminal panicles, flower in late spring, 1/8" blue-black fleshy berry in late summer to fall. Need to look at flowers to identify species level.



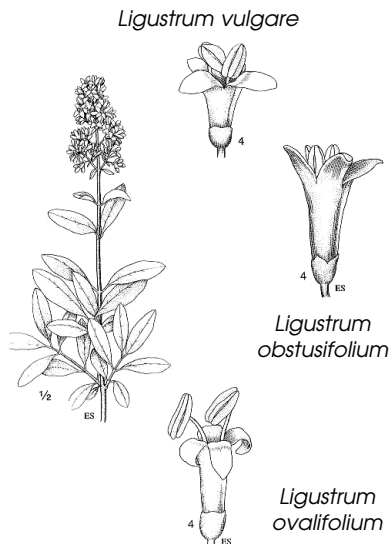
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## **Description**

### **Privets**

**Habit:** Upright shrubs 6' - 20' in height

**Leaves:** opposite, entire, lance-shaped or oblong, 1-2" long

**Stems:** many, gray-brown, lined or finely ridged, opposite

**Flowers:** 1/4" long, white, tubular with flaring lobes, grow in terminal panicles, late spring or early summer

**Fruit:** small, blue/black, fleshy fruit with one seed

**Note:** All three species should be reported, and it is important to identify them to species level if possible. Flowers are needed to separate species accurately..

**Common Privet (*Ligustrum vulgare*)** has corolla tubes that are about 1/4" long (about as long as the lobes); its anthers do not reach the tip of the corolla lobes; and its twigs have either minute soft hairs or none at all.

**Blunt-leaved Privet (*L. obtusifolium*)** is similar to common privet except that its corolla tubes are 3/4" long (twice as long as the lobe; the anthers do not reach the tip of the corolla tube; and its twigs are densely covered with long soft hairs.

**California Privet (*L. ovalifolium*)** is similar to the others but its corolla tubes are 3/4" long (twice as long as the lobes); its anthers project out beyond the corolla tube; and its twigs are not hairy.

### **Habitat**

Roadsides, near old cultural sites, thickets, open woods, and hedgerows.

### **Similar Species**

Privets can be confused with shrub honeysuckles (*Lonicera sp.*), which fruit and flower in the axils and have a lighter colored shreddy bark. Non-native shrub honeysuckles also have a hollow pith.

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## Shrubs: Opposite, Untoothed Leaves

Morrow's, Tartarian & Pretty Honeysuckle (*Lonicera morrowii*, *L. tatarica* & *L. x bella*)  
Honeysuckle family (*Caprifoliaceae*)



Photo Credit: Christopher Mattrick

*Lonicera morrowii*



For Complete description,  
see side 2

### KEY IDENTIFIERS:

Upright shrubs, opposite oval to egg-shaped leaves. Tan to gray shreddy bark. Tubular white, yellow or pink 5-lobed flowers, sometimes fragrant. Cut stem reveals a hollow pith (central core of stem). Fruit present from July - September are red, orange, rarely yellow, juicy, abundant.



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## Description

### Morrow's, Tartarian & Pretty Honeysuckle

**Habit:** Upright shrub, 10-15' in height

**Leaves:** entire, oblong to egg-shaped, deciduous, 1-5 inches long

**Stems:** tan to brown, shreddy in appearance, hollow pith (central core of stem)

**Flowers:** May-June, 5 lobed, tubular, sometimes fragrant, growing in leaf axils

**Fruit:** July - September, red, rarely yellow, juicy, few seeded berry

**Note:** All three species should be reported, and it is important to identify them to species level if possible. All three species hybridize freely!

**Tartarian honeysuckle (*L. tatarica*)** has bluish-green leaves that are smooth and hairless beneath. Its flowers are usually pink (sometimes white) and do not turn yellow as they age.

**Morrow's honeysuckle (*L. morrowii*)** has leaves that are gray-downy beneath and white flowers that yellow as they age. Young twigs and new foliage densely pubescent, hairy.

**Pretty honeysuckle (*L. x bella*)** is a hybrid between tartarian and Morrow's honeysuckle. Its flowers are pink-tinged often with a darker pink stripe down the petal. Young twigs and new foliage sparsely pubescent.

**Habitat** Generalist. Woodlands, thickets, river shores, and waste places. Due to the horticultural use of these plants they are also commonly found at abandoned cultural sites, along roadsides, and in maintained landscapes.

### Similar Species

Native honeysuckles (*Lonicera canadensis*, *L. oblongifolia*, *L. hirsuta*, *L. dioica*, *L. villosa*) all have solid pith.

Bush Honeysuckle (*Diervilla lonicera*) has a solid pith, lanceolate leaves, and yellow flowers.

Snowberry (*Symphoricarpos albus*) has rounded leaves and a white, misshapen berry.

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## Shrubs: Opposite, Toothed Leaves

7

Burning Bush (*Euonymus alatus*)

Staff-tree family (*Celastraceae*)



Photo Credit: Mary Walper



For Complete description,  
see side 2

### KEY IDENTIFIERS:

Shrub (9-15' H), elliptical opposite finely toothed leaves which turn red in fall. A distinguishing feature is the presence of prominent corky "wings" or ridges on its green and brown twigs. Flowers inconspicuous in leaf axils.



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## **Description**

### **Burning Bush**

**Habit:** erect, branching deciduous shrub 6'-9' in height, can reach 15 feet; compact, feathery-layered appearance from distance

**Leaves:** opposite, simple, elliptical, pointed and finely toothed; turn bright scarlet in fall

**Stems:** green/brown with corky-wings

**Flowers:** late spring through early summer, creamy white to green petals, 1/2 -1/3 inch wide, grow in clusters in leaf axils

**Fruit:** a cluster of pods—usually four—with purplish seed coat splitting to reveal an orange fruit (aril)

**Note:** Some cultivated varieties do not have the pronounced wings on the stem.

**Habitat** Generalist. Widely planted in cultivation today, often escaping. Prefers light shade or full sun, but can tolerate a closed canopy. Found throughout the region, but more abundant and aggressive in calcareous soils. Spreads readily into old fields, open woods and floodplain forests.

### **Similar Species**

There are no other local species, which have winged stems. From a distance it can be mistaken for Blueberry (*Vaccinium*) species.

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### Shrubs: Sub-Alternate to Alternate, Untoothed Leaves

Glossy Buckthorn (*Frangula alnus*)

Buckthorn family (*Rhamnaceae*)



Photo Credit: Christopher Mattrick



For Complete description, see side 2

#### KEY IDENTIFIERS:

Shrub to small tree (may grow to 25' H), sub-opposite leaves and branches, wavy edged egg-shaped leaves 1-3" long, often shiny on upper surface, hairy on underside. Hairy buds. Lacking bud scales. Gray bark with raised white lenticels (elongated speckles). Abundant red to blue-black fruit July-September.



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## **Description**

### **Glossy Buckthorn**

**Habit:** shrub or small tree up to 25 feet in height.

**Leaves:** alternate to sub-opposite, entire, egg-shaped to elliptical, often wavy-edged, one to three inches long, smooth or slightly hairy on the underside

**Stems:** gray-brown, heavily to slightly white-lenticled (elongated speckles); branches nearly horizontal, alternate to sub-opposite

**Buds:** tan, naked (lacking bud scales), hairy, resembling the unburned wick of a candle

**Flowers:** May through September, inconspicuous, yellow-green, five petals, appear in the leaf axils.

**Fruit:** round juicy berry, developing fruit ranges from green to red ultimately turning blue-black upon ripening

**Note:** Species has a long growing season—leafing out in May and often holding its leaves into November. Flowers and fruits continuously from May through September. Plants often display buds, flowers, immature fruit, and mature fruit simultaneously. Sometimes difficult to recognize when growing in a forested situation, due to its non-descript appearance, but easily recognized July through September due to masses of berries.

**Habitat** Generalist. Woodland borders, roadsides, waste places, forested wetlands, floodplain forests and other wet areas. Full sun or shade, moist or dry, acidic or basic soils. Highly shade tolerant.

### **Similar Species**

Cherry (*Prunus sp.*) have toothed leaves that are distinctly alternate.

Alders (*Alnus sp.*) have toothed leaves, and the fruit is a hard catkin.

Alder-leaf buckthorn (*Rhamnus alnifolia*), our native buckthorn has toothed leaves, stems reach only three feet high.

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**Fruit:** round juicy berry, developing fruit ranges from green to red ultimately turning blue-black upon ripening

**Note:** Species has a long growing season—leafing out in May and often holding its leaves into November. Flowers and fruits continuously from May through September. Plants often display buds, flowers, immature fruit, and mature fruit simultaneously. Sometimes difficult to recognize when growing in a forested situation, due to its non-descript appearance, but easily recognized July through September due to masses of berries.

**Habitat** Generalist. Woodland borders, roadsides, waste places, forested wetlands, floodplain forests and other wet areas. Full sun or shade, moist or dry, acidic or basic soils. Highly shade tolerant.

### **Similar Species**

Cherry (*Prunus sp.*) have toothed leaves that are distinctly alternate.

Alders (*Alnus sp.*) have toothed leaves, and the fruit is a hard catkin.

Alder-leaf buckthorn (*Rhamnus alnifolia*), our native buckthorn has toothed leaves, stems reach only three feet high.

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## Shrubs: Sub-Alternate to Alternate, Toothed Leaves

11

Common Buckthorn (*Rhamnus cathartica*)

Buckthorn family (*Rhamnaceae*)

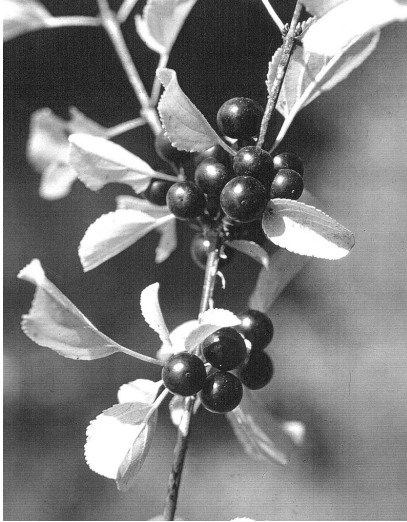


Photo Credit: Jean Baxter



For Complete description,  
see side 2

### KEY IDENTIFIERS:

Shrub to small tree (may grow to 20' H), toothed oval sub opposite leaves appx. 1"-2.5" long. Several leaves often appear to emanate from the same spur branch. Weak thorns at most branch splits and branch tips. Coppery-gray speckled bark. Fruit is a fleshy black berry enclosing four seeds.



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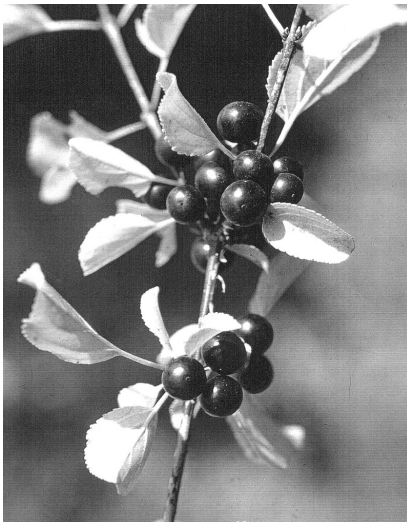


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## **Description**

### **Common Buckthorn**

**Habit:** deciduous shrub or small tree that grows to 20' in height

**Leaves:** toothed, elliptical or oval, smooth, dull green, 1–2.5 inches long with several pairs of prominent veins curving towards the tip (similar to dogwood)

**Branches:** mostly sub-opposite, but may appear at times opposite or alternate; weak thorns often located at branch splits and adjacent to the terminal bud on each branch tip

**Twigs:** prominent raised speckles (lenticels), often armed with thorn-like spur branches

**Bark:** coppery brown

**Flowers:** fragrant, four greenish-yellow petals on stalks that appear to originate from the same point in the axils to form a flat or rounded umbel-shaped cluster, blooms in spring

**Fruit:** fleshy black berry enclosing four seeds

**Habitat** Common buckthorn occurs in a variety of habitats, including woodland borders, fencerows and roadsides. It is also common in abandoned pastures. It prefers well-drained neutral or alkaline soils.

### **Similar Species**

Common buckthorn can be mistaken for crabapple trees. However, crabapple and cherry do not have the weak thorns at the branch splits and tips. Also crabapples have spur-branches, and their fruit are small apples rather than black berries.

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## Shrubs: Alternate Entire Leaves in Bundles

13

Japanese Barberry (*Berberis thunbergii*)

Barberry family (*Berberidaceae*)



Photo Credit: Bill Byrne



For Complete description,  
see side 2

### KEY IDENTIFIERS:

Upright fountain or dome-shaped thorny shrub 2'-3' H, occasionally reaching 6'. Green (sometimes red, copper or variegated) spatula shaped leaves appearing in tufts along the stem. May blooming. Yellow 6-petaled flowers. Inner bark is bright yellow. Fruit is a red oblong drupe or berry.



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## **Description**

### **Japanese Barberry**

**Habit:** Upright fountain or dome-shaped dense woody shrub from 3' - 6' in height

**Leaves:** alternate, entire, spatulate (shaped like a spatula), appearing in tufts along the stem, green (some cultivated varieties have red or copper or variegated leaves—all should be reported)

**Stems:** 2-3 feet occasionally reaching 8 feet, dense growth pattern, arching, spiny (thorns either unbranched or with 2 small side branches, inner bark bright yellow)

**Flowers:** May, yellow, six-petaled, 1/4 inch wide, growing singly or in small upside down umbels (clusters of flowers with each flower held at approximately the same distance from the stem), flowers appear in the leaf axils

**Fruit:** small, oblong, hard, red berry, in small clusters in the leaf axils

**Habitat** Generalist. Roadsides, fields, open woods, near old cultural sites, in cultivated landscapes, stream banks, and seepage slopes. Sun and shade tolerant with an affinity for sweeter and moister soils. Widely planted.

### **Similar Species**

Common barberry (*Berberis vulgaris*) has toothed leaves, a long dangling cluster of flowers, and two or three parted thorns at each leaf axil.

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