



# Field Guide for Plant Identification

## Volume One: Reforestation

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Trees, shrubs, vines, and undesirable  
plants found in our channels and basins

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## Volume One: Reforestation

---

Trees, shrubs, vines, and undesirable  
plants found in our channels and basins



Compiled by  
Harris County Flood Control District  
Environmental Services Division  
and Crouch Environmental Services, Inc.  
November 2013

The information in this field guide for plant identification is intended for use by Harris County Flood Control District personnel. Definitions and descriptions found in this guide are influenced by specific regulatory and pragmatic considerations that are unique to the District's roles and responsibilities.

The control methods for undesirable species listed in this guide are recommendations only. Always read and follow specific instructions on the herbicide label before application. Herbicides may need to be combined with surfactant, drift retardant, and dye.

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# Visual Guide Key



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# Leaf Guide

## Leaf Arrangement



Alternate



Opposite



Whorled



Basal



Simple



Compound



Pinnate



Leaflets

## Leaf Shape



Elliptical



Hastate



Heart-shaped



Lanceolate



Linear



Orbicular



Ovate



Oblong



Palmate



Obovate



Trifoliate

## Leaf Margin



Entire



Toothed



Serrated



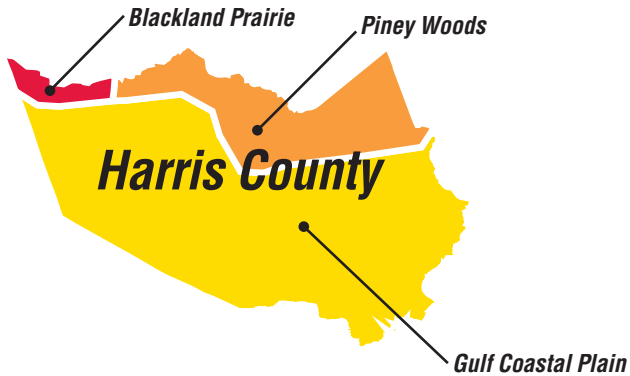
Lobed



Lobed

# Associates Guide

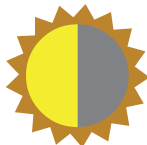
## Harris County Ecoregions



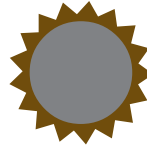
## Sunlight Requirements



*Full Sun*

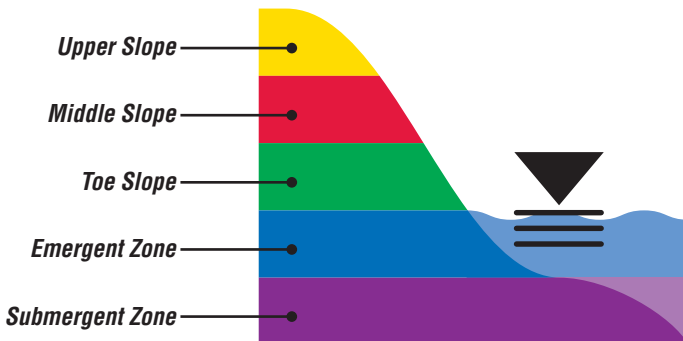


*Partial Sun*



*Full Shade*

## Hydric Zones







# Plant Species



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# Alligator weed (*Alternanthera philoxeroides*)

Undesirable



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© Jeff McMillian, USDA-NRCS Plants Database



© Dean Kelch, CDFA

## Associates

Ecoregion	Sun	Hydric Zone

## Description

**Plant**  
3 ft, Perennial, OBL.

**Leaves**  
Simple, alternate, narrow, lanceolate, smooth margin, 2 - 4 in. long.

**Flower**  
White, flowers are made of small white sepals, occurring in small clusters at the end of a stalk, spring.

**Growth Period**  
Spring.

**Soils**  
Poorly drained.

## Control Methods/Notes

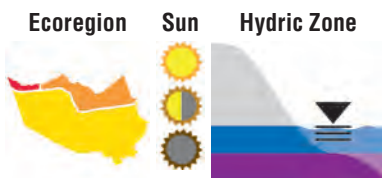
Do not confuse with swamp smartweed. Low growing water plant that does not affect flood control. Polaris™ (or equivalent product, active ingredient isoproplamine salt of imazapyr) foliar treatment year-round. Physical or mechanical removal can result in numerous fragments that may lead to a population explosion. Biological control has been successful using *Agasicles hygrophila*, an aquatic flea beetle.

# Swamp smartweed (*Polygonum hydropiperoides*)

Native

FORBS

## Associates



© Keir Morse, Encyclopedia of Life

## Description

### Plant

2.5 ft, Perennial, Annual, OBL.

### Leaves

Simple, alternate, oblong-lanceolate, smooth margin, 7 in. long, 0.75 in. wide.

### Flower

Pink-white, cluster of small flowers on long stalk, June - November.

### Growth Period

March - October, rapid growth.

### Soils

Poorly drained.



© Enrico Blasutto, Encyclopedia of Life

## Control Methods/Notes

Do not confuse with alligator weed.  
Water-loving. Can help prevent toe slope failure.



© Keir Morse, Encyclopedia of Life

# Parrot's feather (*Myriophyllum aquaticum*)

Undesirable



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© Forest & Kim Starr, Starr Environmental



© Zoya Akulova, Encyclopedia of Life

### Associates

Ecoregion	Sun	Hydric Zone

### Description

**Plant**  
5 ft, Perennial, OBL.

**Leaves**  
Compound, whorled, 4 - 6 small stiff erect lanceolate leaflets, fern-like, smooth margin, 0.5 in. long.

**Flower**  
Pink-white, tiny, growing from axils of the leaves, spring.

**Growth Period**  
Rapid growth.

**Soils**  
Poorly drained.

### Control Methods/Notes




Polaris™ (or equivalent product, active ingredient isopropylamine salt of imazapyr) foliar treatment.

# Waterhyme (*Hydrilla verticillata*)

Undesirable

FORBS

## Associates

Ecoregion	Sun	Hydric Zone
		



© Robert Videki, Forestry Images

## Description

**Plant**  
25 ft, Perennial, OBL.

**Leaves**  
Simple, whorled, linear, pointed, serrated, 6 in. long, 1 in. wide.

**Flower**  
White, male: 3 white to red narrow petals/  
female: 3 translucent petals, summer - fall.

**Growth Period**  
Rapid growth.

**Soils**  
Poorly drained.



© Robert Videki, Forestry Images

## Control Methods/Notes

Application aquatic herbicide Sonar One™ (or equivalent product, active ingredient fluridone) effective year-round. Biological control has been successful using triploid grass carp.



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# Brazilian vervain (*Verbena brasiliensis*)

Undesirable



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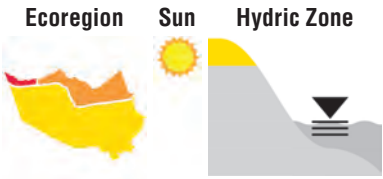


© James H. Miller, USDA-NRCS Plants Database



© Robert H. Mohlenbrock, USDA-NRCS Plants Database

## Associates



## Description

**Plant**  
6 ft, Annual, UPL.

**Leaves**  
Simple, opposite, lanceolate, serrated, irregular, 3 in. long, 1 in. wide.

**Flower**  
Purple, widely branched clusters of sessile heads of small flowers, June - October.

**Growth Period**  
Rapid growth.

**Soils**  
Well drained.

## Control Methods/Notes

Physical removal is effective but time consuming. Foliar application of triclopyr 480 is reported to provide good control.

# Castor bean (*Ricinus communis*)

Undesirable

FORBS

## Associates

Ecoregion



Sun



Hydric Zone



© Bart Wursten, Encyclopedia of Life

## Description

### Plant

10 ft, Annual, FACU.

### Leaves

Simple, alternate, palmate, 7 - 11 lobes, serrated, 20 in. long, 20 in. wide.

### Flower

Red, lacks petals, large head on stalk above plant, June - September.

### Growth Period

March - October, rapid growth.

### Soils

Well drained.



© James Anderson, Encyclopedia of Life

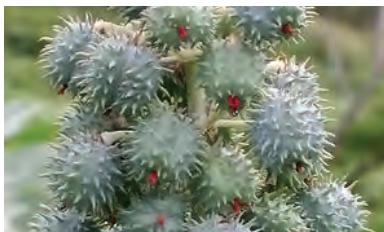
## Control Methods/Notes

Seedlings/juveniles: hand pull in wet soils, or glyphosate foliar treatment is effective year-round.

Adults: Cut-stump method and treat with glyphosate.



© Ton Rulkens, Encyclopedia of Life



© W.L. Wagner, Encyclopedia of Life

# Cocklebur (*Xanthium spp.*)

Undesirable

FORBS



© Franco Folini



© Franco Folini



© Robert Vidéki, Doronicum Kft.



© illinoiswildflowers.info

## Associates

### Ecoregion



### Sun



### Hydric Zone



## Description

### Plant

5 ft, Annual, FAC.

### Leaves

Simple, alternate, triangular to ovate, toothed, irregular, 8 in. long, 6 in. wide.

### Flower

Yellow-green, inconspicuous, unisex, occurring in separate clusters. Fruit is brown when mature, hard, woody bur 0.4 - 0.8 in. long, Spring - Fall.

### Growth Period

Rapid growth.

### Soils

Poorly drained.

## Control Methods/Notes

Can occur in thick stands and impede water flow and catch debris. Both leaves and stems have short, stiff hairs. Stems have black lesions. Foliar application of glyphosate is effective.

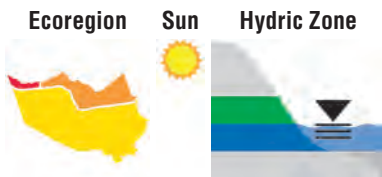


## Elephant ear (*Colocasia esculenta*)

Undesirable

FORBS

### Associates



### Description

#### Plant

2 ft, Perennial, FACW.

#### Leaves

Simple, alternate, ovate to heart-shaped, resembles an elephant ear, smooth margin, 6 in. long, 4 in. wide.

#### Flower

Green, tube-like, comes to point, late spring - late fall.

#### Growth Period

Rapid growth.

#### Soils

Poorly drained.



© L. Dunn, Encyclopedia of Life



© L. Dunn, Encyclopedia of Life

### Control Methods/Notes

Polaris™ (or equivalent product active ingredient isopropylamine salt of imazapyr) foliar treatment.



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# Giant ragweed (*Ambrosia trifida*)

Undesirable

FORBS



© Chris Evans, Forestry Images



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## Associates

Ecoregion



Sun



Hydric Zone



## Description

### Plant

10 ft, Annual, FAC.

### Leaves

Simple, opposite, ovate to elliptical, 3 - 5 lobes, palmate, lightly serrated, 4 in. long, 2 in. wide.

### Flower

Yellow-green, in small clusters on cylindrical spike, late summer - early fall.

### Growth Period

Rapid growth.

### Soils

Moderately drained.

## Control Methods/Notes

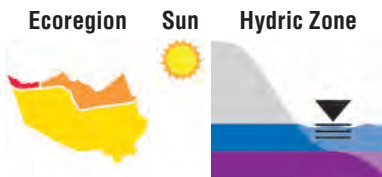
Can occur in thick stands and impede water flow and catch debris. Foliar application of Garlon® 3A (or equivalent product, active ingredient triclopyr) is effective.

## Giant salvinia (*Salvinia molesta*)

Undesirable

FORBS

### Associates



### Description

#### Plant

1 ft, Perennial, OBL.

#### Leaves

Simple, alternate, basal, heart-shaped, folds down middle, smooth margin, 1 in. long, 0.75 in. wide.

#### Flower

Green, spores, year-round.

#### Growth Period

Year-round, rapid growth.

#### Soils

Poorly drained.



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### Control Methods/Notes

Application of aquatic herbicide Sonar One™ (or equivalent product, active ingredient fluridone) is effective.



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# Spanish flag (*Lantana camara*)

Undesirable

FORBS



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© Jed Aplaca



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## Associates

Ecoregion



Sun



Hydric Zone



## Description

### Plant

6 ft, Perennial, FACU.

### Leaves

Simple, opposite, ovate to ovate-oblong, serrated, 3 in. long, 1 in. wide.

### Flower

Orange, pink, red, in clusters of different colors, changing colors, groups of small flowers, year-round.

### Growth Period

Year-round, rapid growth.

### Soils

Well drained.

## Control Methods/Notes




Physical or mechanical removal must remove roots. Foliar application of glyphosate year-round.

# Water hyacinth (*Eichhornia crassipes*)

Undesirable

FORBS

## Associates

Ecoregion	Sun	Hydric Zone
		

## Description

### Plant

1 ft, Perennial, OBL.

### Leaves

Simple, rosette, ovate to circular, erect, thick, glossy, smooth margin, 2.5 in. long, 2.5 in. wide.

### Flower

Purple, showy, raised above leaves, larger petal has yellow dot, July - October.

### Growth Period

Rapid growth.

### Soils

Poorly drained.



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© W.L. Wagner, Encyclopedia of Life

## Control Methods/Notes

Can be removed by raking or seining from the pond surface. Mechanical removal is seen as the best short-term solution to the proliferation of the plant. Glyphosate can be occasionally used as a chemical treatment.



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# Deep rooted sedge (*Cyperus entrerianus*)

Undesirable

GRASSES



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© Richard Carter, Forestry Images

## Associates

Ecoregion



Sun



Hydric Zone



## Description

### Plant

1.5 ft, Perennial, FACW.

### Leaves

Simple, basal, linear, stiff, glossy, smooth margin, triangular culms, 12 in. long, 0.25 in. wide.

### Flower

Yellow or green, multiple ball-shaped clusters of small spikelets near culm, V-shaped, branching, June - September.

### Growth Period

April - November, rapid growth.

### Soils

Poorly drained.

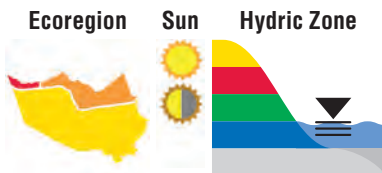
## Control Methods/Notes

Do not confuse with native *Cyperus* species. Look for V-shaped leaves and distinctly purplish-black leaf base to identify. Foliar application of glyphosate year-round, with multiple resprays required. Physical or mechanical control is effective but laborious.

## Sedge (*Cyperus spp.*)

Native/Undesirable

### Associates



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### Description

#### Plant

0.7 - 2 ft, Annual, Perennial, OBL.

#### Leaves

Simple, basal, linear, thin, flat, smooth margin, some culms are circular in cross-section and others are triangular, usually leafless for most of their length, 4 in. long, 0.1 in. wide.

#### Flower

Yellow-green, purple-red, thin culm has multiple clusters of small, flat spikelets, April - September.

#### Growth Period

March - October, rapid growth.

#### Soils

Poorly drained.



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### Control Methods/Notes

HCFCF wetland species. Native species include *C. acuminatus*, *C. articulatus*, *C. croceus*, *C. echinatus*, *C. haspan*, *C. ochraceus*, *C. odoratus*, *C. pseudovegetus*, *C. reflexus*, *C. retrorsus*, and *C. virens*. Invasive species include *C. esculentus* and *C. rotundus*. Foliar application of glyphosate year-round can be used to control invasive *Cyperus* species.



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GRASSES

# Giant plumegrass (*Saccharum giganteum*)

Native

GRASSES



© Larry Allain, USDA-NRCS Plants Database






© James H. Miller, USDA-NRCS Plants Database



© Robert H. Mohlenbrock, USDA-NRCS Plants Database

## Associates

<b>Ecoregion</b>	<b>Sun</b>	<b>Hydric Zone</b>
		

## Description

**Plant**  
10 ft, Perennial, FAC.

**Leaves**  
Simple, basal, linear, flat, open sheath, wrinkled margin, hairy, culms erect or ascending, tufted or clustered, round in cross-section, 12 in. long, 0.5 in. wide.

**Flower**  
White or tan, long erect culm with 10 or more branches with individual spike, each spike contains multiple spikelets with awns, mid-fall.

**Growth Period**  
April - November, rapid growth.

**Soils**  
Moderately drained.

## Control Methods/Notes

Do not confuse with giant reed.



# Giant reed (*Arundo donax*)

Undesirable

## Associates

### Ecoregion



### Sun



### Hydric Zone



## Description

### Plant

20 ft, Perennial, FAC.

### Leaves

Simple, basal, linear, open sheath, smooth margin, woody culms, erect or ascending, round in cross-section, nodes swollen or brittle, 12 in. long, 2 in. wide.

### Flower

Brown, 2 ft long, dense, plume-like, August - September.

### Growth Period

April - September, rapid growth.

### Soils

Moderately drained.

## Control Methods/Notes

Do not confuse with giant plumegrass. Physical or mechanical removal works with new plants less than 1 meter in height, but care must be taken that all rhizome material is removed. Foliar application of 2% imazamox is effective in a mixed stand of *A. donax* and various other species, while 2% imazamox plus 1% glyphosate is most effective for monocultures of *A. donax* only. Apply post-flowering and pre-dormancy, usually late June to early October when plants are translocating nutrients.



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GRASSES

# Giant cutgrass (*Zizaniopsis miliacea*)

Native

GRASSES



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## Associates

Ecoregion



Sun



Hydric Zone



## Description

### Plant

6 ft, Perennial, OBL.

### Leaves

Simple, basal, linear, flat, rough margin, round to polygonal culms, 30 in. long, 1 in. wide.

### Flower

Yellow-green, erect culm that narrows as it terminates, long, nodding spikes with many rice-like spikelets, April - July.

### Growth Period

March - October, rapid growth.

### Soils

Poorly drained.

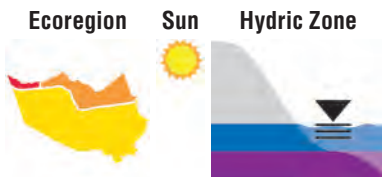
## Control Methods/Notes

HCFCF wetland species. Do not confuse with southern cattail.

# Southern cattail (*Typha domingensis*)

Native / Undesirable

## Associates



## Description

### Plant

8 ft, Perennial, OBL.

### Leaves

Simple, basal, linear, erect, flat, smooth margin, round to polygonal culms, 60 in. long, 2 in. wide.

### Flower

Brown, erect culm terminates into a narrow cylindrical spike with many spikelets, April - August.

### Growth Period

March - October, rapid growth.

### Soils

Poorly drained.

## Control Methods/Notes

Do not confuse with cutgrass. Desirable in limited quantities, densities must be managed. Clearcast™ (or equivalent product, active ingredient Imazamox) foliar treatment applied as needed.



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GRASSES

# Maidencane (*Panicum hemitomon*)

Native

GRASSES



© Graves Lovell, Forestry Images



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## Associates

Ecoregion	Sun	Hydric Zone

## Description

**Plant**  
3.5 ft, Perennial, OBL.

**Leaves**  
Simple, basal, linear, flat, comes to a point, sheath overlapping, smooth margin, hairless light green culms that are largely covered by the sheaths; sometimes culms branch into secondary stems, 10 in. long, 0.5 in. wide.

**Flower**  
Green, erect culm terminates into erect alternate spikes, spikelets become fewer towards the tip, April - October.

**Growth Period**  
Year-round, rapid growth.

**Soils**  
Poorly drained.

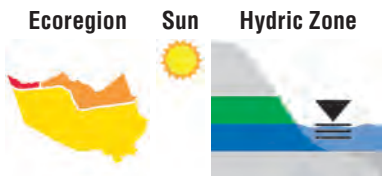
## Control Methods/Notes

Do not confuse with torpedograss. HCFCD bioswale species.

## Torpedograss (*Panicum repens*)

Undesirable

### Associates



### Description

#### Plant

3 ft, Perennial, FACW.

#### Leaves

Simple, alternate, linear, flat, rolled, smooth margin, rolled, culms are rigid and erect to leaning with lower portions often wrapped in bladeless sheaths, 10 in. long, 0.25 in. wide.

#### Flower

Yellow-white, erect culm terminates into sparsely branched spikes, 4 - 7 in. long, June - October.

#### Growth Period

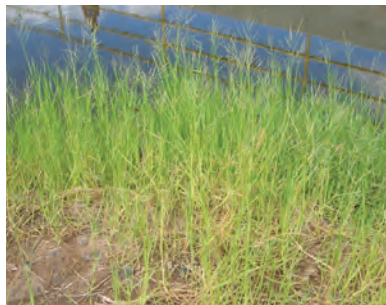
March - October, rapid growth.

#### Soils

Poorly drained.

### Control Methods/Notes

Do not confuse with Maidencane. Glyphosate or Polaris™ (or equivalent product, active ingredient isopropylamine salt of imazapyr) has been the most effective herbicide. Multiple resprays may be required for complete control. Mechanical control is only moderately effective, and care must be taken that all rhizome material is removed.



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# Golden bamboo (*Phyllostachys aurea*)

Undesirable

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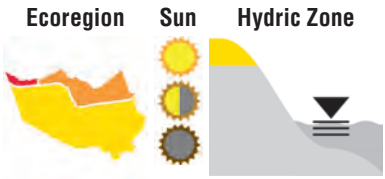


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## Associates



## Description

**Plant**  
20 ft, Perennial, UPL.

**Leaves**  
Compound, alternate, pinnate, leaflets are opposite and elliptical-lanceolate to linear-lanceolate, smooth slightly wrinkled margins, culms are woody and reed-like, 10 in. long, 1.5 in. wide.

**Flower**  
Green, grass-like, not very showy, infrequent and unpredictable.

**Growth Period**  
Year-round, rapid growth.

**Soils**  
Well drained.

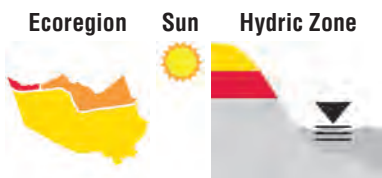
## Control Methods/Notes

Cannot tolerate repeated and close mowing.  
Small infestations: Physical or mechanical removal (immediately after rainfall) with focus on underground rhizome removal.  
Dense infestations: glyphosate foliar treatment year-round.

## Johnson grass (*Sorghum halepense*)

*Undesirable*

### Associates



Ecoregion

Sun

Hydric Zone



© Charles T. Bryson, USDA Agricultural Research Service, Bugwood.org

### Description

#### Plant

3.5 ft, Perennial, FACU.

#### Leaves

Simple, alternate, linear, flat, smooth margin, thickened whitish midribs.

#### Flower

Purplish brown, erect culm terminates into erect whorled spike, 6 - 20 in. long, August - September.

#### Growth Period

Spring - autumn, rapid growth.

#### Soils

Well drained.



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### Control Methods/Notes

Cannot tolerate repeated and close mowing.

Small infestations: Physical or mechanical removal (immediately after rainfall).

Dense infestations: Outrider™ (or equivalent product, active ingredient sulfosulfuron) foliar treatment year-round. Plateau™ (active ingredient imazapic) can be used once per year.



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GRASSES

# Eastern baccharis (*Baccharis halimifolia*)

Undesirable



© Steve C. Pennings, University of Houston



© Smithsonian Institution, National Museum of Natural History, Department of Botany



© Noosa's Native Plants



© Katja Schulz, Encyclopedia of Life

## Associates

Ecoregion Sun Hydric Zone



## Description

### Plant

6.5 ft, Perennial, FAC.

### Leaves

Simple, alternate, ovate to elliptical, lightly-serrated, 2 in. long, 1 in. wide.

### Flower

White, many small, compact, cotton-like flower heads, August - December.

### Growth Period

Summer - fall, rapid growth.

### Soils

Moderately drained.

## Control Methods/Notes

Do not confuse with southern wax myrtle. Desirable in limited quantities, densities must be managed. Shrubs will engulf and outshade native tree plantings.

Seedlings/juveniles: mechanical removal, or glyphosate foliar treatment is effective year-round.

Adults: Cut-stump method and treat with glyphosate year-round.

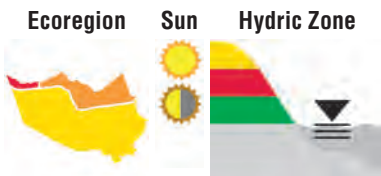
SHRUBS



# Southern wax myrtle (*Myrica cerifera*)

Native

## Associates



© Karan A. Rawlins, Forestry Images

## Description

### Plant

36 ft, Perennial, FAC.

### Leaves

Simple, whorled, linear-elliptical to obovate, smooth margin or coarsely serrated, 5 in. long, 1 in. wide.

### Flower

Red-orange, very small, male: 3 - 4 stamens out of short bract/ female: develop into fruit, March - April.

### Growth Period

March - October, rapid growth.

### Soils

Moderately drained.

## Control Methods/Notes

Do not confuse with eastern baccharis. Desirable in limited quantities, densities must be managed.



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SHRUBS

# American beautyberry (*Callicarpa americana*)

Native



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© David Stephens, Forestry Images



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© David Stephens, Forestry Images

## Associates

Ecoregion



Sun



Hydric Zone



## Description

### Plant

6 ft, Perennial, FACU.

### Leaves

Simple, opposite, elliptical to ovate, saw-toothed, 7 in. long.

### Flower

Green-white, funnel-shaped clusters with 4 lobes, June - November.

### Growth Period

March - November, rapid growth.

### Soils

Well drained.

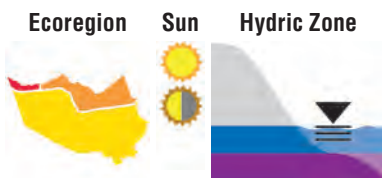
## Control Methods/Notes

Desirable in limited quantities, densities must be managed.

## Buttonbush (*Cephalanthus occidentalis*)

Native

### Associates



© James H. Miller, Forestry Images

### Description

#### Plant

15 ft, Perennial, OBL.

#### Leaves

Simple, opposite, ovate to elliptical, smooth margin, 4 in. long, 2 in. wide.

#### Flower

White, round globes, resemble pincushions, June - September.

#### Growth Period

April - September, rapid growth.

#### Soils

Poorly drained.



© Rebekah D. Wallace, Forestry Images

SHRUBS

### Control Methods/Notes

HCFCD bioswale species. Grows well in soggy or wet soil. Excellent for erosion control and source of nectar for insects.



© Rebekah D. Wallace, Forestry Images



© James H. Miller, Forestry Images

# Coral bean (*Erythrina herbacea*)

Native



© Sally & Andy Wasowski, Ladybird Johnson Wildflower Center

## Associates

Ecoregion Sun Hydric Zone



## Description

### Plant

16 ft, Perennial, UPL.

### Leaves

Compound, opposite, 3 ovate leaflets, arrowhead-shaped, smooth margin, 6 in. long, 2 in. wide.

### Flower

Red, tubular, grow on long spikes, March - July.

### Growth Period

March - October, rapid growth.

### Soils

Well drained.

SHRUBS



© Isidro Martinez, Encyclopedia of Life

## Control Methods/Notes

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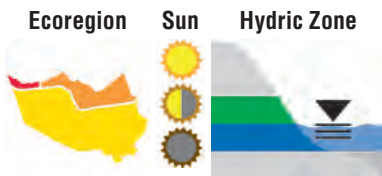


© Clarence A. Rechenthin, Encyclopedia of Life

# Dwarf palmetto (*Sabal minor*)

Native

## Associates



© Drew Avery, Encyclopedia of Life

## Description

### Plant

5 ft, Perennial, FACW.

### Leaves

Simple, alternate, flat, palm, fan-like, smooth margin, 50 in. long.

### Flower

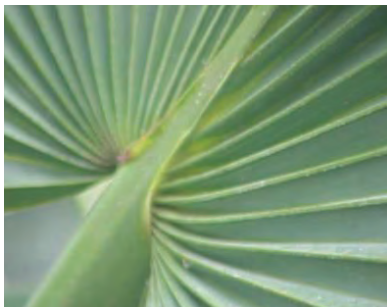
White, small, sepals united in 3-lobed calyx, May - July.

### Growth Period

March - October, slow growth.

### Soils

Poorly drained.



© Kurt Stueber, Encyclopedia of Life

## Control Methods/Notes

HCFCF bioswale species



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SHRUBS

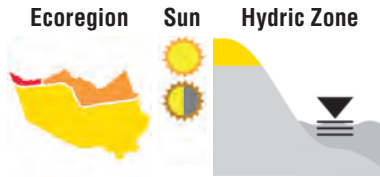
# Firethorn (*Pyracantha koidzumii*)

Undesirable



© Forest & Kim Starr, Starr Environmental

## Associates



## Description

### Plant

12 ft, Perennial, UPL.

### Leaves

Simple, rosette, elliptical, smooth margin, 2 in. long, 0.5 in. wide.

### Flower

White, small, 5-petaled, forming between leaves, August - November.

### Growth Period

April - November, rapid growth.

### Soils

Well drained.

## Control Methods/Notes

Small shrubs: Physical or mechanical removal (immediately after rainfall).

Large Infestations: repeated mowing, cutting, and digging. Cut-stump method and treat with triclopyr or glyphosate year-round.

SHRUBS



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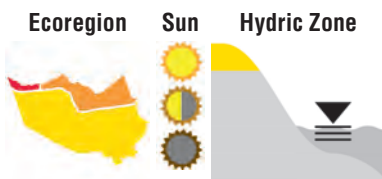


© Forest & Kim Starr, Starr Environmental

## Heavenly bamboo (*Nandina domestica*)

*Undesirable*

### Associates



© Leslie J. Mehrhoff, Forestry Images

### Description

#### Plant

12 ft, Perennial, UPL.

#### Leaves

Compound, opposite, bi or tripinnately arranged, elliptical to lanceolate leaflets, smooth margin, 3 in. long, 1 in. wide.

#### Flower

White, in clusters well above the leaves, March - June.

#### Growth Period

March - October, rapid growth.

#### Soils

Well drained.



© James H. Miller, Forestry Images

SHRUBS

### Control Methods/Notes

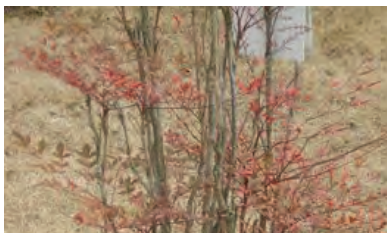
Cannot tolerate repeated and close mowing.

Small infestations: Physical or mechanical removal (immediately after rainfall) with focus on underground rhizome removal.

Dense infestations: glyphosate foliar treatment year-round.



© James H. Miller, Forestry Images



© Dalgial, Encyclopedia of Life

# Leucothoe (*Leucothoe racemosa*)

Native



© USDA-NRCS Plants Database

## Associates

Ecoregion

Sun

Hydric Zone



## Description

### Plant

12 ft, Perennial, FACW.

### Leaves

Simple, alternate, ovate to lanceolate, serrated, 2 in. long.

### Flower

White, bell-shaped, in clusters, April - August.

### Growth Period

March - August, rapid growth.

### Soils

Poorly drained.

SHRUBS



© Smithsonian Institution, National Museum of Natural History, Department of Botany

## Control Methods/Notes

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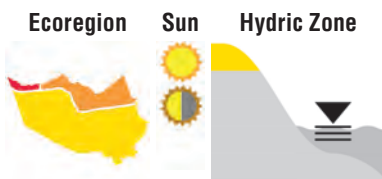
© Smithsonian Institution, National Museum of Natural History, Department of Botany



# Macartney rose (*Rosa bracteata*)

Undesirable

## Associates



© AgriLIFE Extension, Texas A&M System

## Description

### Plant

10 ft, Perennial, UPL.

### Leaves

Compound, opposite, 5 - 9 leaflets, elliptical to obovate, tough and thick, smooth margin, 1 in. long, 0.5 in. wide.

### Flower

White, occurring individually or in groups of 2 - 3 on short stalks, May - July.

### Growth Period

Year-round, rapid growth.

### Soils

Well drained.



© AgriLIFE Extension, Texas A&M System

SHRUBS

## Control Methods/Notes

Grazon P+D™ (or equivalent product, active ingredient picloram + 2,4-D) is most effective. Perform a foliar spray in either spring or fall when soil temperature is above 75°F.



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# Rattlebox (*Sesbania drummondii*)

Undesirable



© BIO 406D, University of Texas at Austin



© BIO 406D, University of Texas at Austin

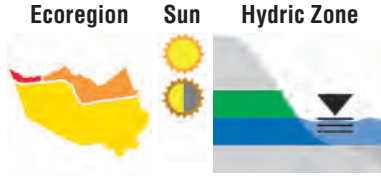


© BIO 406D, University of Texas at Austin



© Joseph Marcus, Ladybird Johnson Wildflower Center

## Associates



## Description

### Plant

15 ft, Perennial, FACW.

### Leaves

Compound, alternate, 12 - 24 leaflets that are oblong, smooth margin, 1.25 in. long, 0.25 in. wide.

### Flower

Orange-yellow, occur in drooping cluster on a long stem, June - September.

### Growth Period

April - November, rapid growth.

### Soils

Poorly drained.

## Control Methods/Notes

Physical or mechanical removal (immediately after rainfall). Foliar application of glyphosate year-round.

# Strawberry bush (*Euonymus americanus*)

Native

## Associates

### Ecoregion



### Sun



### Hydric Zone



© Charles T. Bryson, Forestry Images

## Description

### Plant

10 ft, Perennial, FAC.

### Leaves

Simple, opposite, elliptical to ovate, serrated, 3 in. long, 2 in. wide.

### Flower

Yellow-green, small, 5 petals, growing from base of the leaf, May - June.

### Growth Period

May - November, rapid growth.

### Soils

Moderately drained.



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SHRUBS

## Control Methods/Notes



© Karan A. Rawlins, Forestry Images



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# Turk's cap (*Malvastrum drummondii*)

Native



© Lee Page, Ladybird Johnson Wildflower Center

## Associates

Ecoregion Sun Hydric Zone



## Description

### Plant

4 ft, Perennial, FAC.

### Leaves

Simple, alternate, ovate to heart-shaped, toothed, 2 in. long, 2 in. wide.

### Flower

Red, petals are twisted into a tube showing extended red stamens, January - December.

### Growth Period

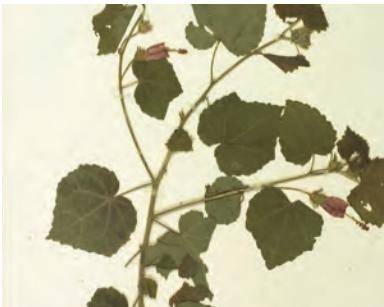
January - December, rapid growth.

### Soils

Moderately drained.

## Control Methods/Notes

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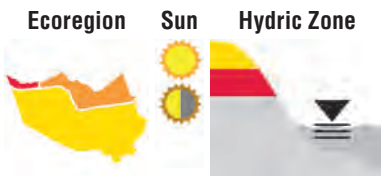
© Lee Page, Ladybird Johnson Wildflower Center

SHRUBS

# Turkeyberry (*Solanum torvum*)

Undesirable

## Associates



## Plant

15 ft, Perennial, FACU.

## Leaves

Simple, alternate, ovate to elliptical, lobed, 9 in. long, 7 in. wide.

## Flower

White, branched inflorescences, year-round.

## Growth Period

Rapid growth.

## Soils

Moderately drained.

## Control Methods/Notes

Seedlings/juveniles: Physical or mechanical removal must remove entire root to prevent resprout, or glyphosate foliar treatment is effective year-round.

Adults: Cut-stump method treated with Garlon 3A® (or equivalent product, active ingredient triclopyr) or glyphosate year-round.



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SHRUBS

# Two-leaf nightshade (*Solanum diphyllum*)

Undesirable



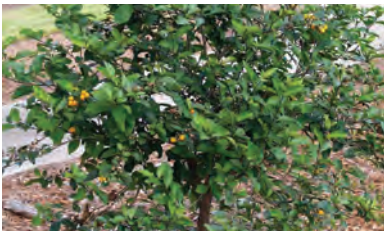
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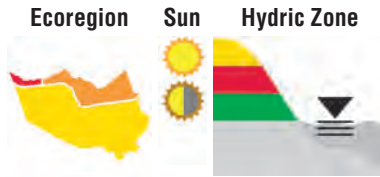


© Charles T. Bryson, Bugwood.org



© TopTropicals.com

## Associates



## Description

### Plant

6 ft, Perennial, FAC.

### Leaves

Simple, alternate, elliptical to oblong, smooth, unequal paired leaves. Major leaf 2.5 in. long, 1 in. wide; minor leaf 1 in. long, 0.5 in. wide.

### Flower

White-lavender, inflorescence of 5 - 20 flowers borne opposite to leaves. Bright orange berries when mature, May - July.

### Growth Period

Rapid growth.

### Soils

Moderately drained.

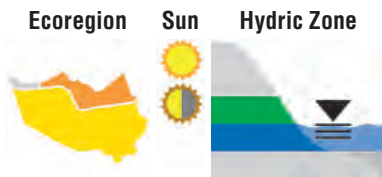
## Control Methods/Notes

Physical or mechanical removal easiest after rainfall. Glyphosate foliar treatment is most effective in spring and early summer.

# Virginia sweetspire (*Itea virginica*)

Native

## Associates



© Karan A. Rawlins, Forestry Images

## Description

### Plant

9 ft, Perennial, FACW.

### Leaves

Simple, alternate, ovate, finely-toothed, 1.5 in. long, 1 in. wide.

### Flower

White, long tassels, April - May.

### Growth Period

May - November, slow growth.

### Soils

Poorly drained.



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SHRUBS

## Control Methods/Notes



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# American holly (*Ilex opaca*)

Native



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## Associates

Ecoregion Sun Hydric Zone



## Description

### Plant

30 ft, Perennial, FAC.

### Leaves

Simple, alternate, elliptical, wedge-shaped base, curved edges into several sharp and spike-like points, 3 in. long, 1 in. wide.

### Flower

Green-white, small clusters of 4 - 6 petals, April - June.

### Growth Period

April - October, slow growth.

### Soils

Moderately drained.

## Control Methods/Notes

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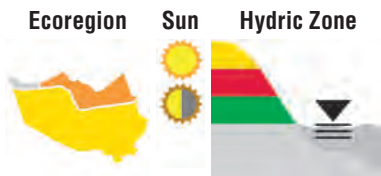
SMALL TREES



# American hornbeam (*Carpinus caroliniana*)

Native

## Associates



© John Ruter, Forestry Images

## Description

### Plant

30 ft, Perennial, FAC.

### Leaves

Simple, alternate, ovate with a round base, double-toothed, 2.5 in. long, 1.5 in. wide.

### Flower

Green, male: 1 - 1.5 in. long catkins/  
female: 0.5 in. long catkins at the end of  
twig with small leaf like, 3-lobed scales,  
March - June.

### Growth Period

April - October, slow growth.

### Soils

Moderately drained.



© Rob Routledge, Forestry Images



© Chris Evans, Forestry Images

## Control Methods/Notes

Common along top slope areas. Hardy and resistant to insects and disease.



© Chris Evans, Forestry Images

SMALL TREES

# Anacua (*Ehretia anacua*)

Native



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© Norman G. Flaigg, Ladybird Johnson Wildflower Center

## Associates

Ecoregion Sun Hydric Zone



## Description

### Plant

35 ft, Perennial, UPL.

### Leaves

Simple, alternate, elliptical or ovate, smooth margin or lightly serrated, 2.5 in. long, 1 in. wide.

### Flower

White, forming in clusters at the end of the twig, March - October.

### Growth Period

March - October, rapid growth.

### Soils

Well drained.

## Control Methods/Notes

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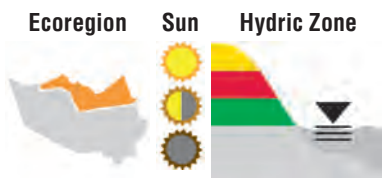
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SMALL TREES

# Arrowwood (*Viburnum dentatum*)

Native

## Associates



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## Description

### Plant

20 ft, Perennial, FAC.

### Leaves

Simple, opposite, ovate to oblong, coarse-toothed, 5 in. long.

### Flower

White, flat-topped clusters, June - August.

### Growth Period

March - October, rapid growth.

### Soils

Moderately drained.



© Troy Evans, Forestry Images

## Control Methods/Notes

HCFCF bioswale species



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SMALL TREES

# Carolina buckthorn (*Frangula caroliniana*)

Native



© Vern Wilkins, Forestry Images



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## Associates

Ecoregion



Sun



Hydric Zone



## Description

### Plant

15 ft, Perennial, FACU.

### Leaves

Simple, alternate, elliptical, smooth margin, 6 in. long, 2 in. wide.

### Flower

Pale yellow-green, bell-shaped, appearing in leaf axils, late spring.

### Growth Period

March - October, rapid growth.

### Soils

Well drained.

## Control Methods/Notes

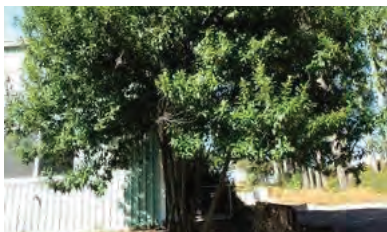
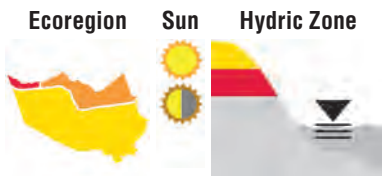
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SMALL TREES

# Cherry laurel (*Prunus caroliniana*)

Native

## Associates



© Michasia Harris, Forestry Images

## Description

### Plant

30 ft, Perennial, FACU.

### Leaves

Simple, alternate, elliptical, smooth margin, 4 in. long.

### Flower

White, stalked bunches, February - April.

### Growth Period

May - October, rapid growth.

### Soils

Well drained.



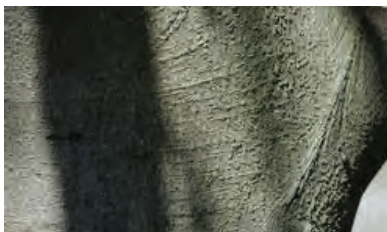
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## Control Methods/Notes

Excellent small evergreen tree.



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SMALL TREES

# Chinese privet (*Ligustrum sinense*)

Undesirable



© James H. Miller, Forestry Images



© Luigi Rignanese, Encyclopedia of Life



© Luigi Rignanese, Encyclopedia of Life



© David Stephens, Forestry Images

## Associates

Ecoregion



Sun



Hydric Zone



## Description

### Plant

12 ft, Perennial, FAC.

### Leaves

Simple, opposite, elliptical, smooth margin, 3 in. long, 1 in. wide.

### Flower

White, in clusters, cone-shaped, May - July.

### Growth Period

March - October, rapid growth.

### Soils

Moderately drained.

## Control Methods/Notes

Very aggressive and out-competes native understorey species.

Seedlings/juveniles: Physical or mechanical removal must remove entire root to prevent resprout, or glyphosate foliar treatment is effective year-round.

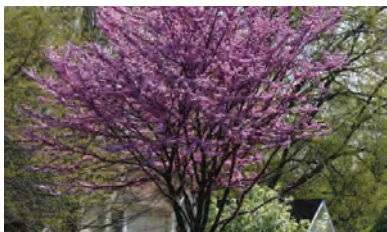
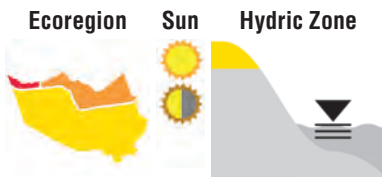
Adults: Cut-stump method treated with Garlon® 3A (or equivalent product, active ingredient triclopyr) or glyphosate year-round.

SMALL TREES

# Eastern redbud (*Cercis canadensis*)

Native

## Associates



© Denise Ellsworth, Forestry Images

## Description

### Plant

18 ft, Perennial, UPL.

### Leaves

Simple, alternate, heart-shaped, smooth margin, 4 in. long.

### Flower

Pink, tiny, appear in small clusters before leaves in spring, March - May.

### Growth Period

May - October, slow growth.

### Soils

Well drained.



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## Control Methods/Notes

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SMALL TREES

# Elderberry (*Sambucus canadensis*)

Native



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## Associates

Ecoregion

Sun

Hydric Zone



## Description

### Plant

10 ft, Perennial, FACW.

### Leaves

Compound, opposite, oddly pinnate, 2 - 4 pairs of leaflets with single terminal leaflet, ovate, lightly serrated, 2.5 in. long, 1.5 in. wide.

### Flower

White, small, flat compound umbels, musty fragrance, May - July.

### Growth Period

February - September, rapid growth.

### Soils

Poorly drained.

## Control Methods/Notes

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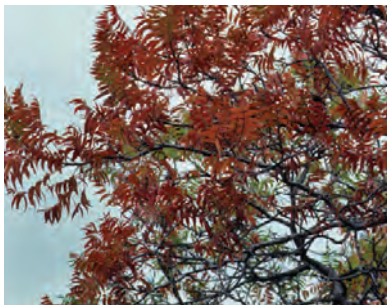
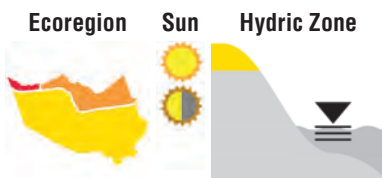
SMALL TREES



# Flame leaf sumac (*Rhus lanceolata*)

Native

## Associates



© Sally & Andy Wasowski, Ladybird Johnson Wildflower Center

## Description

### Plant

30 ft, Perennial, UPL.

### Leaves

Simple, opposite, elliptical to lanceolate, smooth margin, 3 in. long, 0.75 in. wide.

### Flower

White, branching cluster of small flowers with long yellow anthers, July - August.

### Growth Period

March - October, rapid growth.

### Soils

Well drained.



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SMALL TREES

## Control Methods/Notes

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# Glossy privet (*Ligustrum lucidum*)

Undesirable



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## Associates

**Ecoregion**   **Sun**   **Hydric Zone**



## Description

### Plant

33 ft, Perennial, UPL.

### Leaves

Simple, opposite, ovate to oblong or elliptical, smooth margin, 1 in. long, 0.5 in. wide.

### Flower

White, strongly scented, almost sessile, May - July.

### Growth Period

February - December, rapid growth.

### Soils

Well drained.

## Control Methods/Notes

Seedlings/juveniles: Physical or mechanical removal must remove entire root to prevent resprout, or glyphosate foliar treatment is effective year-round.

Adults: Cut-stump method with Garlon® 3A (or equivalent product, active ingredient triclopyr) or glyphosate year-round.

SMALL TREES

# Jerusalem thorn (*Parkinsonia aculeata*)

*Undesirable*

## Associates

### Ecoregion



### Sun



### Hydric Zone



© Pavel Bursik, Encyclopedia of Life

## Description

### Plant

12 ft, Perennial, FAC.

### Leaves

Compound, alternate, bipinnate, 10 leaflets in clusters on spurs, opposite, smooth margin, 2 in. long, 0.5 in. wide.

### Flower

Yellow, 5 petals, one has red dot, March - May.

### Growth Period

March - October, rapid growth.

### Soils

Moderately drained.



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## Control Methods/Notes

Seedlings/juveniles: Physical or mechanical removal, or glyphosate foliar treatment is effective year-round.

Adults: Cut-stump method treated with Garlon® 3A (or equivalent product, active ingredient triclopyr) or glyphosate year-round.



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SMALL TREES

# Mahaw (*Crataegus opaca*)

Native



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© Royal Botanic Garden Edinburgh



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## Associates

**Ecoregion**      **Sun**      **Hydric Zone**



## Description

### Plant

30 ft, Perennial, OBL.

### Leaves

Simple, opposite, ovate, finely-toothed from middle to tip, 2 in. long, 1 in. wide.

### Flower

White, borne in clusters of 2 - 3, February - March.

### Growth Period

March - October, rapid growth.

### Soils

Poorly drained.

## Control Methods/Notes

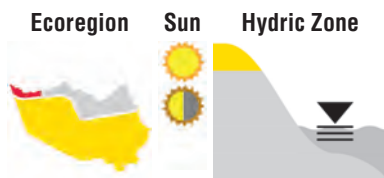
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SMALL TREES

# Mexican buckeye (*Ungnadia speciosa*)

Native

## Associates



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## Description

### Plant

30 ft, Perennial, UPL.

### Leaves

Compound, alternate, pinnate, 5 - 7 elliptical leaflets paired with singular leaflet on end, smooth margin to slightly serrated, 3 in. long, 1 in. wide.

### Flower

Pink, growing in clusters and crown-like on twigs, March - June.

### Growth Period

Rapid growth.

### Soils

Well drained.



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SMALL TREES

## Control Methods/Notes

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# Mexican plum (*Prunus mexicana*)

Native



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© Missouri Botanical Garden



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## Associates

Ecoregion

Sun

Hydric Zone



## Description

### Plant

30 ft, Perennial, FACU.

### Leaves

Simple, alternate, ovate, serrated, 2 in. long, 1 in. wide.

### Flower

White-pink, 5-palmate, cupped petals, March - June.

### Growth Period

May - October, rapid growth.

### Soils

Well drained.

## Control Methods/Notes

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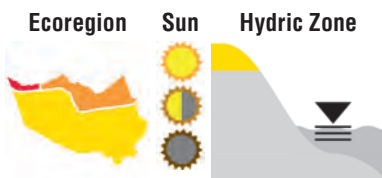
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SMALL TREES

# Mimosa, Persian silk tree (*Albizia julibrissin*)

*Undesirable*

## Associates



© Charles T. Bryson, Forestry Images

## Description

### Plant

30 ft, Perennial, UPL.

### Leaves

Compound, alternate, 5 - 12 pairs of pinnae, each with 10 - 30 pairs of leaflets, fern-like, smooth margin, 12 in. long.

### Flower

Pink, delicate, showy flowers made up of clusters of threadlike stamens, March - August.

### Growth Period

Spring - summer, rapid growth.

### Soils

Well drained.



© James H. Miller, Forestry Images



© Lesley Ingram, Forestry Images

## Control Methods/Notes

Seedlings/juveniles: Physical or mechanical removal, or glyphosate foliar treatment is effective year-round.

Adults: Cut-stump method treated with Garlon® 3A (or equivalent product, active ingredient triclopyr) or glyphosate year-round.



© James H. Miller, Forestry Images

SMALL TREES

# Needle bush (*Acacia farnesiana*)

*Native / Undesirable*



© Pavel Bursik, Encyclopedia of Life



© Forest & Kim Starr, Starr Environmental



© Mike, Encyclopedia of Life



© Don A.W. Carlson, Encyclopedia of Life

## Associates

**Ecoregion**



**Sun**



**Hydric Zone**



## Description

### Plant

26 ft, Perennial, FACU.

### Leaves

Compound, alternate, 10 - 20 sessile leaflets that are linear to oblong and fern-like, smooth margin, 1.5 in. long, 0.25 in. wide.

### Flower

Yellow, thread-like, richly scented, November - March.

### Growth Period

Year-round, rapid growth.

### Soils

Well drained.

## Control Methods/Notes

Seedlings/juveniles: Physical or mechanical removal, or glyphosate foliar treatment is effective year-round.

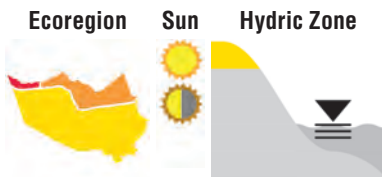
Adults: Cut-stump method treated with Garlon® 3A (or equivalent product, active ingredient triclopyr) or glyphosate year-round.



# Oleander (*Nerium oleander*)

Undesirable

## Associates



© Forest & Kim Starr, Starr Environmental

## Description

### Plant

20 ft, Perennial, UPL.

### Leaves

Simple, opposite or whorled in 3 - 4, elliptical, smooth margin, 10 in. long, 1 in. wide.

### Flower

Varied, white, pink, purple, showy, clusters at the end of branches, April - October.

### Growth Period

April - October, rapid growth.

### Soils

Well drained.



© Lissen, Encyclopedia of Life



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## Control Methods/Notes

Desirable in limited quantities, densities must be managed. Used as an ornamental plant along roadsides, not a serious threat to native plants.



© Robert Gundy, Encyclopedia of Life

SMALL TREES

# Parsley hawthorne (*Crataegus marshallii*)

Native



© Sally & Andy Wasowski, Ladybird Johnson Wildflower Center



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© Franklin Bonner, Forestry Images



© Nancy Loewenstein, Forestry Images

## Associates

Ecoregion Sun Hydric Zone



## Description

### Plant

12 ft, Perennial, FAC.

### Leaves

Simple, rosette, ovate to lanceolate, toothed and lobed, 4 in. long, 3 in. wide.

### Flower

White, showy, 5 petals with long purple anthers, terminated from end of stem, March - May.

### Growth Period

March - October, rapid growth.

### Soils

Moderately drained.

## Control Methods/Notes

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SMALL TREES

# Paw paw (*Asimina triloba*)

Native

## Associates

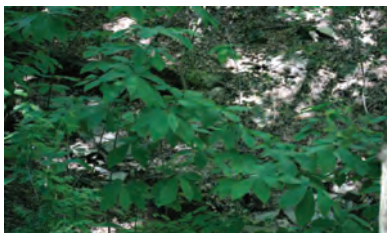
Ecoregion



Sun



Hydric Zone



© Chris Evans, Forestry Images

## Description

### Plant

30 ft, Perennial, FAC.

### Leaves

Simple, alternate, elliptical to obovate, smooth margin, 9 in. long, 3 in. wide.

### Flower

Red-brown, 3 outer petals, 3 innermost petals, leathery in texture, February - May.

### Growth Period

April - September, rapid growth.

### Soils

Moderately drained.



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## Control Methods/Notes

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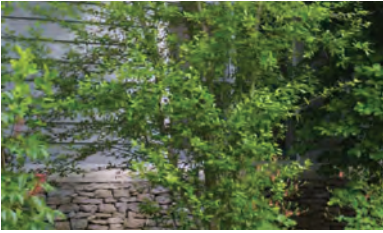


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SMALL TREES

# Possumhaw (*Ilex decidua*)

Native



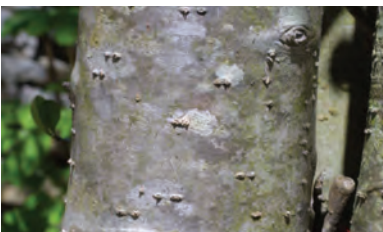
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## Associates

Ecoregion



Sun



Hydric Zone



## Description

### Plant

33 ft, Perennial, FACW.

### Leaves

Simple, alternate, obovate, serrated, 3 in. long.

### Flower

White, small, 4 petals with yellow center, March - May.

### Growth Period

April - October, rapid growth.

### Soils

Poorly drained.

## Control Methods/Notes

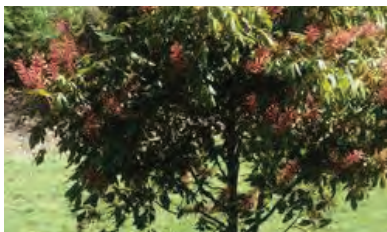
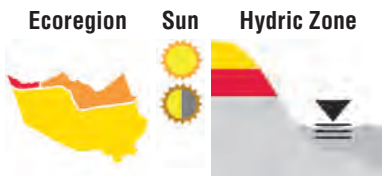
HCFCD bioswale species

SMALL TREES

# Red buckeye (*Aesculus pavia* var. *pavia*)

Native

## Associates



© John Ruter, Forestry Images

## Description

### Plant

35 ft, Perennial, FACU.

### Leaves

Compound, opposite, palm-shaped, 5 leaflets, serrated, 7 in. long, 2.5 in. wide.

### Flower

Red, showy, erect clusters with 2, 5-lobed flowers and equal petals, March - May.

### Growth Period

March - October, rapid growth.

### Soils

Well drained.



© Nancy Loewenstein, Forestry Images



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## Control Methods/Notes

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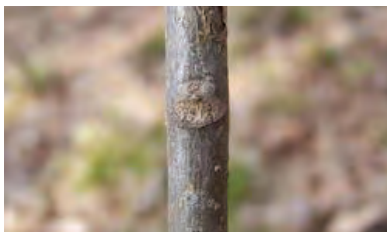
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SMALL TREES

# Red mulberry (*Morus rubra*)

Native



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© David Stephens, Forestry Images



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## Associates

**Ecoregion**      **Sun**      **Hydric Zone**



## Description

### Plant

50 ft, Perennial, FACU.

### Leaves

Simple, alternate, heart-shaped or round at the base, some can be mitten-shaped with 3 lobes, sharply-toothed, 6 in. long, 4 in. wide.

### Flower

White, cylindrical spikes, male: 2 - 3 in. long/ female: 1 in. long, April - May.

### Growth Period

April - October, rapid growth.

### Soils

Well drained.

## Control Methods/Notes

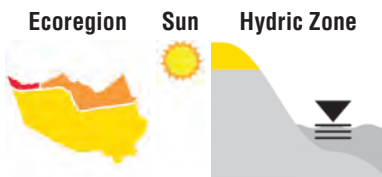
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SMALL TREES

## Rose of Sharon (*Hibiscus syriacus*)

*Undesirable*

### Associates



© Kenpei, Encyclopedia of Life

### Description

#### Plant

12 ft, Perennial, UPL.

#### Leaves

Simple, alternate, ovate to lanceolate, 3-lobed, 2 in. long, 1 in. wide.

#### Flower

Pink, large, showy with dark pink center, 5 petals, July - October.

#### Growth Period

April - October, rapid growth.

#### Soils

Well drained.



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### Control Methods/Notes

Seedlings/juveniles: Physical or mechanical removal must remove entire root to prevent resprout, or glyphosate foliar treatment is effective year-round.

Adults: Cut-stump method treated with Garlon® 3A (or equivalent product, active ingredient triclopyr) or glyphosate year-round.



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SMALL TREES

# Rough-leaf dogwood (*Cornus drummondii*)

Native



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## Associates

Ecoregion

Sun

Hydric Zone



## Description

### Plant

20 ft, Perennial, FAC.

### Leaves

Simple, opposite, ovate, comes to a point, smooth margin, 3 in. long, 1.5 in. wide.

### Flower

White, broad clusters at the end of branches, April - June.

### Growth Period

April - October, rapid growth.

### Soils

Moderately drained.

## Control Methods/Notes

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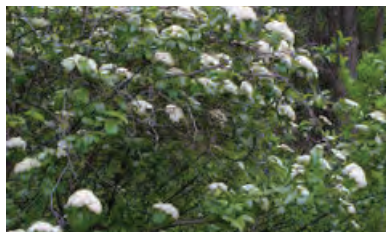
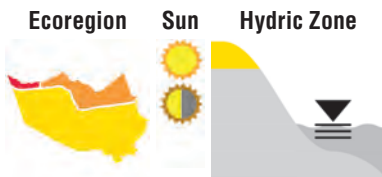
SMALL TREES



# Rusty blackhaw (*Viburnum rufidulum*)

Native

## Associates



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## Description

### Plant

9 ft, Perennial, UPL.

### Leaves

Simple, opposite, ovate, serrated, 2.5 in. long, 1 in. wide.

### Flower

White, clusters, palmate petals up to 4 in. wide, April - June.

### Growth Period

April - October, rapid growth.

### Soils

Well drained.



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## Control Methods/Notes

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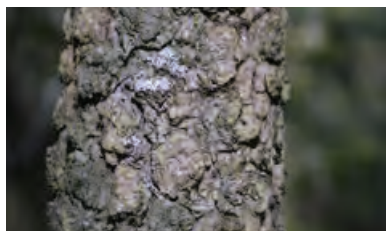
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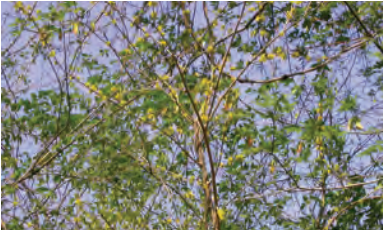


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SMALL TREES

# Swamp privet (*Forestiera acuminata*)

Native



© Gerrit Davidse, Encyclopedia of Life



© Gerrit Davidse, Encyclopedia of Life



© Gerrit Davidse, Encyclopedia of Life



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## Associates

Ecoregion Sun Hydric Zone



## Description

### Plant

30 ft, Perennial, OBL.

### Leaves

Simple, opposite, elliptical to lanceolate, smooth margin, 3 in. long, 1 in. wide.

### Flower

Yellow-green, opposite sessile clusters of tiny petals surrounding multiple long anthers, March - April.

### Growth Period

March - October, rapid growth.

### Soils

Poorly drained.

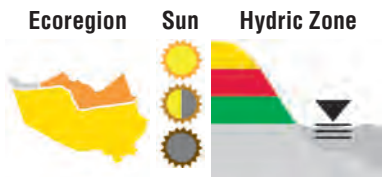
## Control Methods/Notes

HCFCF bioswale species

# Two-wing silverbell (*Halesia diptera*)

Native

## Associates



© Gary Wade, Forestry Images

## Description

### Plant

20 ft, Perennial, FAC.

### Leaves

Simple, alternate, elliptical, smooth margin, 4 in. long, 2 in. wide.

### Flower

White, clusters of 3 - 6, March - May.

### Growth Period

March - October, rapid growth.

### Soils

Moderately drained.



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## Control Methods/Notes

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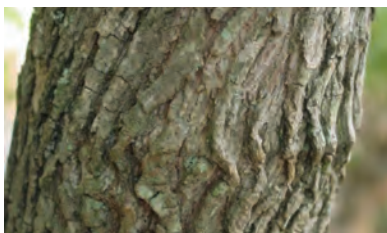
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SMALL TREES

# Water honey locust (*Gleditsia aquatica*)

Native



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© G. Yatskievych, Encyclopedia of Life



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## Associates

Ecoregion

Sun

Hydric Zone



## Description

### Plant

10 ft, Perennial, OBL.

### Leaves

Compound, alternate, pinnate, 10 toothed or finely toothed leaflets, smooth margin, 1 in. long, 0.5 in. wide.

### Flower

White, somewhat irregular, separate, spring - summer.

### Growth Period

March - September, rapid growth.

### Soils

Poorly drained.

## Control Methods/Notes

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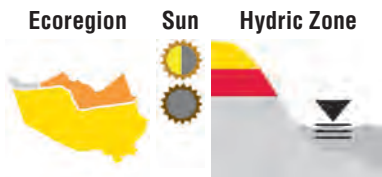
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SMALL TREES

# White fringe tree (*Chionanthus virginicus*)

Native

## Associates



© John Ruter, Forestry Images

## Description

### Plant

35 ft, Perennial, FACU.

### Leaves

Simple, opposite, ovate or oblong, smooth margin, 6 in. long, 2 in. wide.

### Flower

White, thread-like, deeply 4-lobed, richly scented, April - June.

### Growth Period

April - September, rapid growth.

### Soils

Well drained.



© John Ruter, Forestry Images



© Larry Trekall, Forestry Images

## Control Methods/Notes

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SMALL TREES

# Yaupon (*Ilex vomitoria*)

Native



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## Associates

Ecoregion



Sun



Hydric Zone



## Description

### Plant

20 ft, Perennial, FAC.

### Leaves

Simple, alternate, elliptical or ovate, coarsely-serrated, 1 in. long, 0.5 in. wide.

### Flower

Green-white, male: appearing in clusters/ female: appearing individually or in pairs, April - May.

### Growth Period

March - October, slow growth.

### Soils

Moderately drained.

## Control Methods/Notes

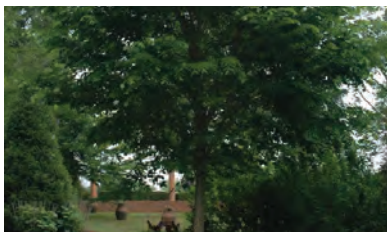
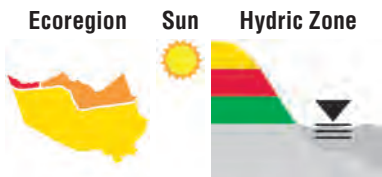
Very common along upper slope areas. Desirable in limited quantities, densities must be managed.

SMALL TREES

# American elm (*Ulmus americana*)

Native

## Associates



© Karan A. Rawlins, Forestry Images

## Description

### Plant

90 ft, Perennial, FAC.

### Leaves

Simple, alternate, ovate, double-toothed, 5 in. long, 2.5 in. wide.

### Flower

Green, small clusters on slender stalks in the axils of the leaves, February - March.

### Growth Period

March - October, rapid growth.

### Soils

Moderately drained.



© Paul Wray, Forestry Images



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## Control Methods/Notes

Excellent canopy species.



© Keith Kanoti, Forestry Images

LARGE TREES

# American sycamore (*Platanus occidentalis*)

Native



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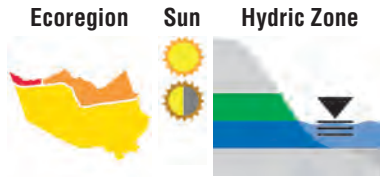


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© Vern Wilkins, Forestry Images

## Associates



## Description

### Plant

100 ft, Perennial, FACW.

### Leaves

Simple, alternate, palmately-veined, 3 - 5 veins ending at tip of wide lobe, coarse-toothed, 8 in. long, 8 in. wide.

### Flower

Green, 0.5 in. round clusters on short stalks, April - May.

### Growth Period

March - September, rapid growth.

### Soils

Poorly drained.

## Control Methods/Notes

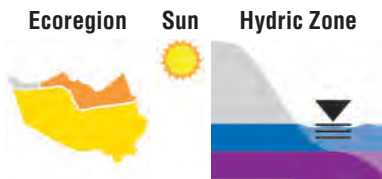
Good shade canopy and good erosion control.



## Bald cypress (*Taxodium distichum*)

Native

### Associates



© Robert Videki, Forestry Images

### Description

#### Plant

100 ft, Perennial, OBL.

#### Leaves

Compound, alternate, slender, flattened, very narrow and arranged in feather-like fashion, smooth margin, 3 in. long, 1 in. wide.

#### Flower

Purple, male: 3 - 4 in. thread-like catkins/  
female: small and inconspicuous,  
March - April.

#### Growth Period

May - October, rapid growth.

#### Soils

Poorly drained.



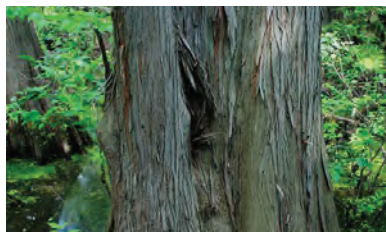
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### Control Methods/Notes

HCFCFD bioswale species. Good shade provider and excellent erosion control. Can grow in a variety of soil types.



© Vern Wilkins, Forestry Images

LARGE TREES

# Black gum (*Nyssa sylvatica*)

Native



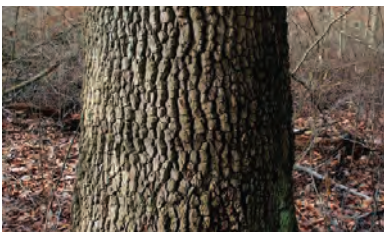
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## Associates

Ecoregion



Sun



Hydric Zone



## Description

### Plant

100 ft, Perennial, FAC.

### Leaves

Simple, alternate, ovate to elliptical or oblong, smooth margin, 4 in. long, 2 in. wide.

### Flower

Green, long, slender clusters, male: many-flowered heads/ female: two or several-flowered clusters, April - June.

### Growth Period

April - November, slow growth.

### Soils

Moderately drained.

## Control Methods/Notes

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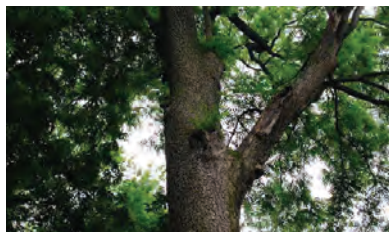
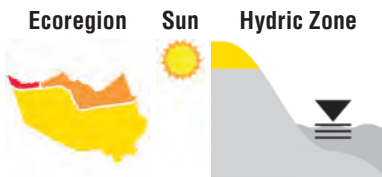
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LARGE TREES

# Black walnut (*Juglans nigra*)

Native

## Associates



© Vern Wilkins, Forestry Images

## Description

### Plant

100 ft, Perennial, UPL.

### Leaves

Compound, alternate, 15 - 23 yellow-green leaflets, arranged pinnately, tapering to a point at the tip, finely-toothed, 18 in. long, leaflets 4 in. long, 1.5 in. wide.



© Paul Wray, Forestry Images

### Flower

Green-yellow, male: stout catkins/ female: groups of 1 - 4 near end of branch, April - June.



© Paul Wray, Forestry Images

### Growth Period

April - September, rapid growth.

### Soils

Well drained.

## Control Methods/Notes

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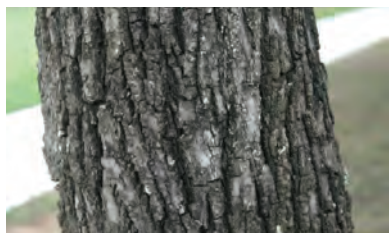
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LARGE TREES

# Black willow (*Salix nigra*)

Native / Undesirable



© David Stephens, Forestry Images



© Paul Wray, Forestry Images



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© David Stephens, Forestry Images

## Associates

Ecoregion Sun Hydric Zone



## Description

### Plant

50 ft, Perennial, OBL.

### Leaves

Simple, alternate, linear-lanceolate, finely-toothed, 5 in. long, 0.5 in. wide.

### Flower

Green, 1 - 3 in. long catkins, April - May.

### Growth Period

March - October, rapid growth.

### Soils

Poorly drained.

## Control Methods/Notes

Desirable in limited quantities, densities must be managed. Short lived, prolific species, sometimes good for erosion control, and frequently fall across waterways.

Small seedlings/juveniles: Physical or mechanical removal year-round.

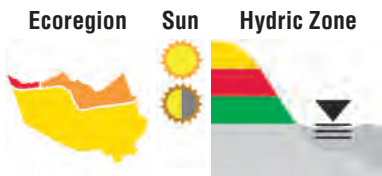
Adult trees: Renovate3™ (or equivalent product, active ingredient triclopyr) applied during the growing season in summer to early fall.

LARGE TREES

## Box elder (*Acer negundo*)

Native

### Associates



© Robert Videki, Forestry Images

### Description

#### Plant

75 ft, Perennial, FAC.

#### Leaves

Compound, opposite, 5 leaflets, short-stalked, toothed, 3 in. long, 2 in. wide.

#### Flower

Green, drooping clusters in the axil between the leaf and twig, March - May.

#### Growth Period

April - September, rapid growth.

#### Soils

Moderately drained.



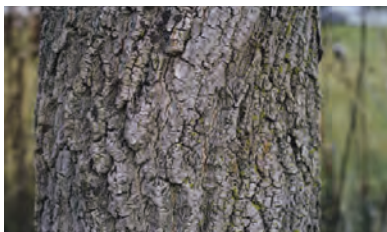
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### Control Methods/Notes

Desirable in limited quantities, densities must be managed. Most common species of maple in Harris County.



© Bill Cook, Forestry Images

LARGE TREES

# Bur oak (*Quercus macrocarpa*)

Native



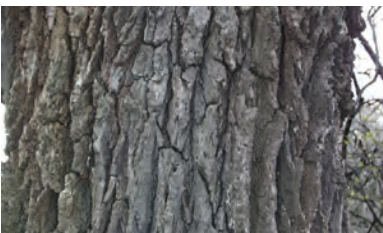
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## Associates

Ecoregion

Sun

Hydric Zone



## Description

### Plant

80 ft, Perennial, FACU.

### Leaves

Simple, alternate, 5 - 9 highly variable lobes that lack bristle tips, roughly-toothed or weekly lobed, 8 in. long, 5 in. wide.

### Flower

Male: yellow, 4 - 6 in. long catkins/  
female: red, inconspicuous, red in color,  
April - May.

### Growth Period

April - November, slow growth.

### Soils

Well drained.

## Control Methods/Notes

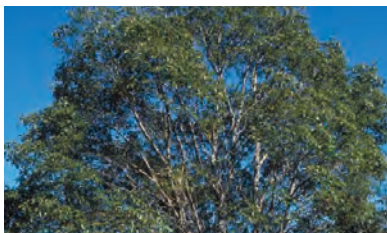
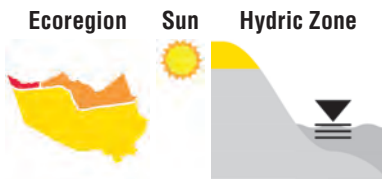
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LARGE TREES

# Camphor tree (*Cinnamomum camphora*)

Undesirable

## Associates



© James H. Miller, Forestry Images

## Description

### Plant

100 ft, Perennial, UPL.

### Leaves

Simple, alternate, ovate to elliptical, leathery, smooth margin, 1 in. long.

### Flower

Yellow, tubular-shaped clusters with 6 lobes, March - April.

### Growth Period

April - October, rapid growth.

### Soils

Well drained.



© Forest & Kim Starr, Starr Environmental

## Control Methods/Notes

Seedlings/juveniles: Cannot tolerate repeated and close mowing.

Adults: Cut-stump method treated with Garlon® 3A (or equivalent product, active ingredient triclopyr).



© James H. Miller, Forestry Images



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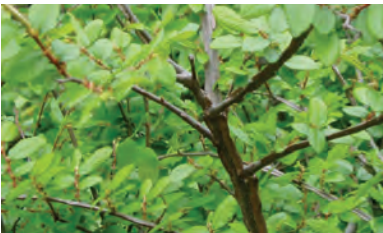
LARGE TREES

# Cedar elm (*Ulmus crassifolia*)

Native



© Paul Cox, Ladybird Johnson Wildflower Center



© Robin R. Buckallew, USDA-NRCS Plants Database



© Robin R. Buckallew, USDA-NRCS Plants Database



© Carl Hunter, USDA-NRCS Plants Database

## Associates

Ecoregion Sun Hydric Zone



## Description

### Plant

75 ft, Perennial, FAC.

### Leaves

Simple, alternate, ovate to elliptical, finely-toothed to double-toothed, blunt at the tip, 2 in. long, 1 in. wide.

### Flower

Red-brown, hairy, short stalked clusters in the leaf axils, August - September.

### Growth Period

May - September, rapid growth.

### Soils

Moderately drained.

## Control Methods/Notes

HCFCF bioswale species. Good on a variety of soil types. Drought tolerant. Bright yellow fall color.

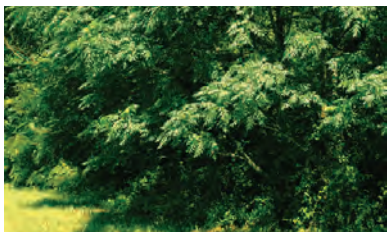
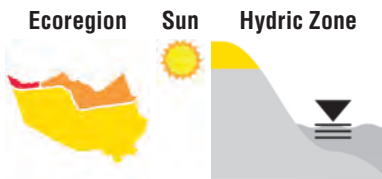
LARGE TREES



# Chinaberry (*Melia azedarach*)

Undesirable

## Associates



© James H. Miller, Forestry Images

## Description

### Plant

40 ft, Perennial, UPL.

### Leaves

Compound, alternate, opposite ovate-lanceolate and glossy, coarse-toothed, 2 in. long, 1 in. wide.

### Flower

Purple, 10 in. long branching clusters with 0.5 in. flowers, mid-spring.

### Growth Period

April - October, rapid growth.

### Soils

Well drained.



© James H. Miller, Forestry Images



© Karan A. Rawlins, Forestry Images

## Control Methods/Notes

Seedlings/juveniles: Physical or mechanical removal must remove entire root to prevent resprout, or glyphosate foliar treatment is effective year-round.

Adults: Cut-stump method treated with Garlon® 3A (or equivalent product, active ingredient triclopyr) or glyphosate year-round.



© James H. Miller, Forestry Images

LARGE TREES

# Chinese elm (*Ulmus parvifolia*)

*Undesirable*



© Michasia Harris, Forestry Images



© Karan A. Rawlins, Forestry Images



© Franklin Bonner, Forestry Images



© Karan A. Rawlins, Forestry Images

## Associates

### Ecoregion



### Sun



### Hydric Zone



## Description

### Plant

40 ft, Perennial, FACU.

### Leaves

Simple, alternate, ovate, finely or bluntly-toothed, 2 in. long.

### Flower

Green, inconspicuous, fall.

### Growth Period

March - October, rapid growth.

### Soils

Well drained.

## Control Methods/Notes

Bark has a distinct mottling of orange, green, grey and brown.

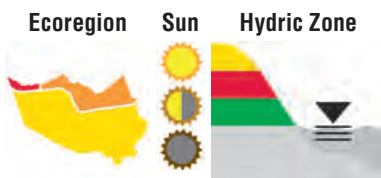
Seedlings/juveniles: Physical or mechanical removal must remove entire root to prevent resprout, or glyphosate foliar treatment is effective year-round.

Adults: Cut-stump method treated with Garlon® 3A (or equivalent product, active ingredient triclopyr) or imazapyr year-round.

# Chinese tallow (*Triadica sebifera*)

*Undesirable*

## Associates



© Karan A. Rawlins, Forestry Images

## Description

### Plant

30 ft, Perennial, FAC.

### Leaves

Simple, alternate, heart-shaped, smooth margin.

### Flower

Yellow, 3 - 6 in. drooping spikes, spring.

### Growth Period

Year-round, rapid growth.

### Soils

Moderately drained.



© James Henson, USDA-NRCS Plants Database

## Control Methods/Notes

Very aggressive species, poor root structure.

Seedlings/juveniles: Physical or mechanical removal must remove entire root to prevent resprout, or glyphosate foliar treatment is effective year-round.

Adults: Cut-stump method treated with Garlon® 3A (or equivalent product, active ingredient triclopyr) year-round.



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LARGE TREES

# Chinkapin oak (*Quercus muehlenbergii*)

Native



© Jason Sharman, Forestry Images



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© Paul Wray, Forestry Images



© Chris Evans, Forestry Images

## Associates

Ecoregion Sun Hydric Zone



## Description

### Plant

70 ft, Perennial, UPL.

### Leaves

Simple, alternate, ovate to elliptical or oblong, sharply-toothed without bristle tips, 5 in. long, 2 in. wide.

### Flower

Yellow, male: 3 - 4 in. long catkin/  
female: less conspicuous, reddish,  
April - June.

### Growth Period

April - October, rapid growth.

### Soils

Well drained.

## Control Methods/Notes

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LARGE TREES

# Cottonwood (*Populus deltoides*)

Native / Undesirable

## Associates

### Ecoregion



### Sun



### Hydric Zone



© J.S. Peterson, USDA-NRCS Plants Database

## Description

### Plant

80 ft, Perennial, FAC.

### Leaves

Simple, alternate, triangular, coarse-toothed, 4.5 in. long, 3.5 in. wide.

### Flower

Male: red, 0.6 - 0.8 in., short-stalked catkin/  
female: yellow, 3.2 - 3.9 in., short-stalked  
catkin, spring.

### Growth Period

Spring - summer, rapid growth.

### Soils

Moderately drained.



© J.S. Peterson, USDA-NRCS Plants Database

## Control Methods/Notes

Desirable in limited quantities, densities must be managed.

Seedlings/juveniles: Physical or mechanical removal, or glyphosate foliar treatment is effective year-round.

Adults: Cut-stump method treated with Garlon® 3A (or equivalent product, active ingredient triclopyr) or glyphosate year-round.



© Al Schneider, USDA-NRCS Plants Database

LARGE TREES

# Eastern persimmon (*Diospyros virginiana*)

Native



© John D. Byrd, Forestry Images



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© Rebekah D. Wallace, Forestry Images



© Chris Evans, Forestry Images

## Associates

Ecoregion Sun Hydric Zone



## Description

### Plant

70 ft, Perennial, FAC.

### Leaves

Simple, alternate, elliptical-oblong to ovate, smooth margin, 4 in. long, 1.5 in. wide.

### Flower

White, male: cluster of 2 - 3 on short stalks/ female: occurring individually on short stalks, April - June.

### Growth Period

April - October, slow growth.

### Soils

Moderately drained.

## Control Methods/Notes

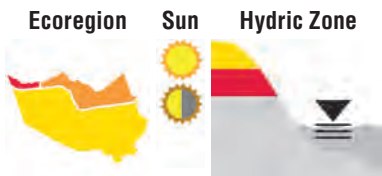
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LARGE TREES

# Eastern red cedar (*Juniperus virginiana*)

Native

## Associates



© Michasia Harris, Forestry Images

## Description

### Plant

75 ft, Perennial, FACU.

### Leaves

Compound, opposite, flat, needle-like, whorled in bunches of 3, smooth margin, 0.5 in. long.

### Flower

White, round, berry-like, fused scales, March - May.

### Growth Period

February - December, slow growth.

### Soils

Well drained.



© Paul Wray, Forestry Images



© Chris Evans, Forestry Images

## Control Methods/Notes

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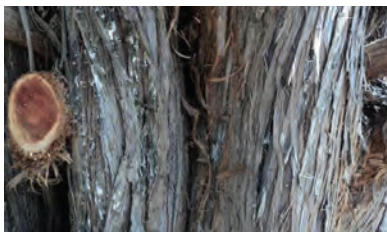
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© Michasia Harris, Forestry Images

LARGE TREES

# Golden rain tree (*Koelreuteria paniculata*)

Undesirable



© Richard Webb, Forestry Images



© Richard Webb, Forestry Images



© Franklin Bonner, Forestry Images

LARGE TREES

## Associates

Ecoregion Sun Hydric Zone



## Description

### Plant

40 ft, Perennial, UPL.

### Leaves

Compound, alternate, 11 or more leaflets abruptly wedged-shaped at the base, bluntly-toothed, 2 in. long.

### Flower

Yellow, long spikes appearing above foliage, 12 in. long, May - June.

### Growth Period

Spring, slow growth.

### Soils

Well drained.

## Control Methods/Notes

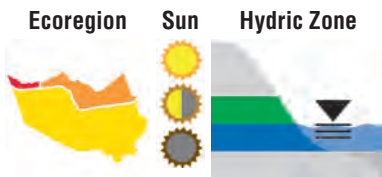
Cut-stump method treated with Garlon® 3A (or equivalent product, active ingredient triclopyr) is effective but should be applied to the outer layer of bark within 1 minute of cutting. Foliar applications have not been tested for control of this species.



## Green ash (*Fraxinus pennsylvanica*)

Native

### Associates



© Robert Videki, Forestry Images

### Description

#### Plant

70 ft, Perennial, FACW.

#### Leaves

Compound, opposite, 7 - 9 ovate to lanceolate leaflets, arranged pinnately, short-stalked, smooth margin, 11 in. long, leaflets 4 in. long, 1.5 in. wide.



© Karan A. Rawlins, Forestry Images

#### Flower

Purple, male: dark clusters of stamens near end of twig/ female: loose clusters, April - May.

#### Growth Period

March - September, rapid growth.

#### Soils

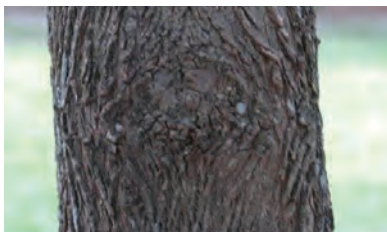
Poorly drained.



© Paul Wray, Forestry Images

### Control Methods/Notes

HCFCF bioswale species. Fast growing, common along the toe slope, good erosion control. Desirable in limited quantities, densities must be managed.



© Karan A. Rawlins, Forestry Images

LARGE TREES

# Gum bumelia (*Sideroxylon lanuginosum*)

Native



© John Ruter, Forestry Images



© Robert H. Mohlenbrock, Encyclopedia of Life



© Melody Lytle, Ladybird Johnson Wildflower Center



© Robert H. Mohlenbrock, Encyclopedia of Life

## Associates

Ecoregion

Sun

Hydric Zone



## Description

### Plant

40 ft, Perennial, FACU.

### Leaves

Simple, alternate, elliptical to obovate, smooth margin, 3 in. long, 0.75 in. wide.

### Flower

White, small, 5 petals, May - June.

### Growth Period

March - August, rapid growth.

### Soils

Well drained.

## Control Methods/Notes

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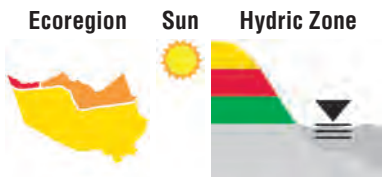
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LARGE TREES

# Honey Locust (*Gleditsia triacanthos*)

Native

## Associates



© Robert Videki, Forestry Images

## Description

### Plant

80 ft, Perennial, FAC.

### Leaves

Compound, alternate, 15 - 30 ovate leaflets, arranged pinnately, smooth margin, 7.5 in. long, leaflets 7 in. long.

### Flower

Green, 2 - 5 in. long spike in the leaf axils, May - June.

### Growth Period

April - September, rapid growth.

### Soils

Moderately drained.



© Chris Evans, Forestry Images



© Robert Videki, Forestry Images

## Control Methods/Notes

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© Paul Wray, Forestry Images

LARGE TREES

# Laurel oak (*Quercus laurifolia*)

Native



© Robert Gundy, Encyclopedia of Life



© Chris Evans, Forestry Images



© Mary Keim, Encyclopedia of Life



© Robert Gundy, Encyclopedia of Life

## Associates

Ecoregion



Sun



Hydric Zone



## Description

### Plant

80 ft, Perennial, FACW.

### Leaves

Simple, opposite, broadly elliptical to obovate, smooth margin, 3 in. long, 1 in. wide.

### Flower

Brown, male: naked catkins developing from leaf axils/ female: solitary on short, stout stalks, February - March.

### Growth Period

April - October, rapid growth.

### Soils

Poorly drained.

## Control Methods/Notes

Similar to water oak but much less common in Harris County.

LARGE TREES

# Live oak (*Quercus virginiana*)

Native

## Associates

Ecoregion



Sun



Hydric Zone



© Michasia Harris, Forestry Images

## Description

### Plant

50 ft, Perennial, FACU.

### Leaves

Simple, alternate, ovate, oblong or elliptical, smooth margin, can sometimes be toothed towards tip, 3 in. long, 1.5 in. wide.

### Flower

Brown-orange, male: 3 in. long catkins/  
female: flower on the peduncle 1 - 3 in.,  
located in the leaf axils, March - April.

### Growth Period

April - November, slow growth.

### Soils

Well drained.



© Wendy VanDyk Evans, Forestry Images



© Franklin Bonner, Forestry Images

## Control Methods/Notes

Found more commonly in the "gumbo" soils  
of Harris County.



© Chris Evans, Forestry Images

LARGE TREES

# Loblolly pine (*Pinus taeda*)

Native



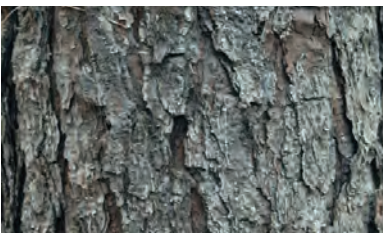
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## Associates

**Ecoregion**   **Sun**   **Hydric Zone**



## Description

### Plant

125 ft, Perennial, FAC.

### Leaves

Simple, whorled, needles in bunches of 3, smooth margin, 7 in. long.

### Flower

Male: yellow-green-purple, 2 in. long, appearing at the tip of branches/  
female: yellow, 0.5 in. long, February - April.

### Growth Period

March - May, rapid growth.

### Soils

Moderately drained.

## Control Methods/Notes

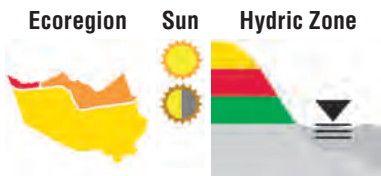
Very fast growing and prolific. Desirable in limited quantities, densities must be managed.

LARGE TREES

## Mexican ash (*Fraxinus berlandieriana*)

*Undesirable*

### Associates



© Norman G. Flaigg, Ladybird Johnson Wildflower Center

### Description

#### Plant

40 ft, Perennial, FAC.

#### Leaves

Compound, opposite, 5 leaflets arranged pinnately, short-stalked leaflets are lanceolate, coarse or toothed, 3.5 in. long.

#### Flower

White, male: dark clusters around the twigs/ female: loose clusters appearing with new leaves, March - June.

#### Growth Period

April - October, rapid growth.

#### Soils

Moderately drained.



© Smithsonian Institution, National Museum of Natural History, Department of Botany

### Control Methods/Notes

Seedlings/juveniles: Physical or mechanical removal must remove entire root to prevent resprout, or glyphosate foliar treatment is effective year-round.

Adults: Cut-stump method treated with Garlon® 3A (or equivalent product, active ingredient triclopyr) or glyphosate year-round.



© Norman G. Flaigg, Ladybird Johnson Wildflower Center

LARGE TREES

# Mexican sycamore (*Platanus mexicana*)

Native



© Missouri Botanical Garden



© Zoya Akulova, Encyclopedia of Life



© Zoya Akulova, Encyclopedia of Life

## Associates

Ecoregion Sun Hydric Zone



## Description

### Plant

20 ft, Perennial, Not listed.

### Leaves

Simple, alternate, heart-shaped to broadly hastate, serrated or slightly lobed, 3 in. long, 3 in. wide.

### Flower

Brown, round, ball-shaped, in clusters terminated from end of stem, spring.

### Growth Period

April - November, rapid growth.

### Soils

Well drained.

## Control Methods/Notes

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LARGE TREES



# Mexican white oak (*Quercus polymorpha*)

Native

## Associates

Ecoregion



Sun



Hydric Zone



© Sally & Andy Wasowski, Ladybird Johnson Wildflower Center

## Description

### Plant

40 ft, Perennial, FAC.

### Leaves

Simple, alternate, several shallow lobes, toothed towards the tips, 4 in. long.

### Flower

Green, male: 4 in. long catkins/ female: less conspicuous, spring.

### Growth Period

March - December, slow growth.

### Soils

Moderately drained.



© Michael Kesi, Encyclopedia of Life

## Control Methods/Notes

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© Michael Kesi, Encyclopedia of Life

LARGE TREES

# Montezuma bald cypress (*Taxodium mucronatum*)

Native



© Whitney Cranshaw, Forestry Images



© Kenpei, Encyclopedia of Life



© Gengiskanhg, Encyclopedia of Life

## Associates

Ecoregion Sun Hydric Zone



## Description

### Plant

70 ft, Perennial, OBL.

### Leaves

Compound, opposite, flat, long, very narrow arranged in feather-like fashion along two sides of slender branchlets, smooth margin, 0.5 in. long.

### Flower

Green or brown, male: 6 - 12 in. long catkins with flowers spread out spirally along central thread-like stem/ female: small and inconspicuous, April - June.

### Growth Period

March - September, rapid growth.

### Soils

Poorly drained.

## Control Methods/Notes

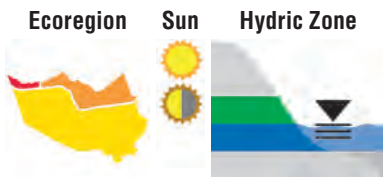
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LARGE TREES

# Nuttall oak (*Quercus texana*)

Native

## Associates



© Nancy Loewenstein, Forestry Images

## Description

### Plant

75 ft, Perennial, FACW.

### Leaves

Simple, alternate, pinnate, 5 - 7 lobes, bristle-tipped, 5 in. long, 2 in. wide.

### Flower

Green, male: 5 in. long catkins/ female: less conspicuous, spring.

### Growth Period

March - November, rapid growth.

### Soils

Poorly drained.



© Robert H. Mohlenbrock, Encyclopedia of Life



© Franklin Bonner, Forestry Images

## Control Methods/Notes

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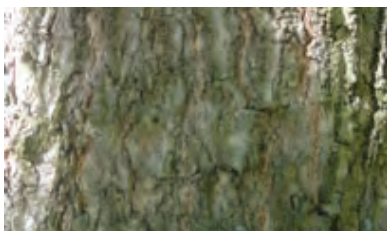
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© William Albrecht, Encyclopedia of Life

LARGE TREES

# Overcup oak (*Quercus lyrata*)

Native



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© Chris Evans, Forestry Images



© Chris Evans, Forestry Images



© Chris Evans, Forestry Images

## Associates

Ecoregion Sun Hydric Zone



## Description

### Plant

90 ft, Perennial, OBL.

### Leaves

Simple, alternate, narrow at base and wider at tip, 5 - 9 lobes that are pointed but not bristle-tipped, smooth margin, 4 in. long, 2 in. wide.

### Flower

Green, male: 3 - 6 in. long, inconspicuous/ female: borne on long, hairy stalk, March - April.

### Growth Period

April - November, slow growth.

### Soils

Poorly drained.

## Control Methods/Notes

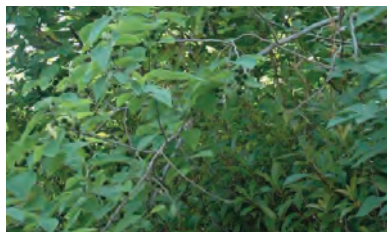
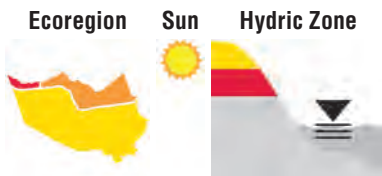
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LARGE TREES

# Paper mulberry (*Broussonetia papyrifera*)

*Undesirable*

## Associates



© Karan A. Rawlins, Forestry Images

## Description

### Plant

50 ft, Perennial, FACU.

### Leaves

Simple, whorled, ovate, coarsely-serrate, 1.5 in. long, 0.5 in. wide.

### Flower

Green, male: 4 lobed catkins, triangular-ovate in shape/ female: pipe-like catkins, spring.

### Growth Period

Spring-summer, rapid growth.

### Soils

Well drained.



© Chris Evans, Forestry Images

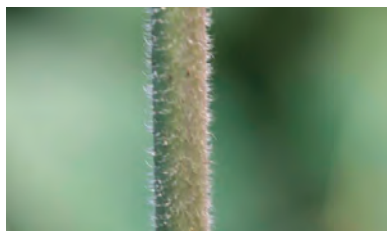
## Control Methods/Notes

Seedlings/juveniles: Physical or mechanical removal, or glyphosate foliar treatment is effective year-round.

Adults: Cut-stump method treated with Garlon® 3A (or equivalent product, active ingredient triclopyr) or glyphosate year-round.



© Amy Richards, Forestry Images



© Chris Evans, Forestry Images

LARGE TREES

# Pecan (*Carya illinoensis*)

Native



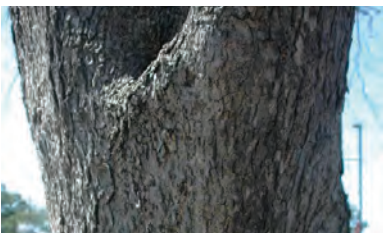
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## Associates

Ecoregion Sun Hydric Zone



## Description

### Plant

120 ft, Perennial, FACU.

### Leaves

Compound, alternate, lanceolate, often sickle-shaped or inequilateral, 11 - 17 leaflets, long-pointed, finely-toothed, 6 in. long, 2 in. wide.

### Flower

Green, male: 3 - 5 in. long/ female: short spikes at the tips of branches, May - July.

### Growth Period

April - October, slow growth.

### Soils

Well drained.

## Control Methods/Notes

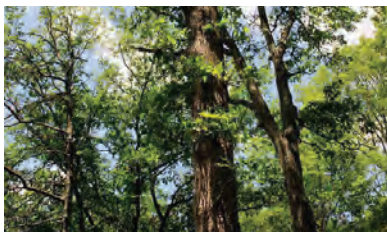
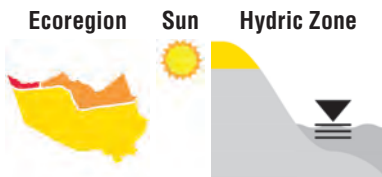
Typically found in the “gumbo” soils of southeastern Harris County.

LARGE TREES

# Post oak (*Quercus stellata*)

Native

## Associates



© Vern Wilkins, Forestry Images

## Description

### Plant

50 ft, Perennial, UPL.

### Leaves

Simple, alternate, typically 5-lobed with lobes broadest at the ends, cross-shaped, no bristle tips, 5 in. long.

### Flower

Green, male: 2 - 4 in. long drooping clustered catkins/ female: inconspicuous, March - May.

### Growth Period

April - November, slow growth.

### Soils

Well drained.



© Wendy VanDyk Evans, Forestry Images



© Paul Wray, Forestry Images

## Control Methods/Notes

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© David Stephens, Forestry Images

LARGE TREES

# Red bay (*Persea borbonia*)

Native



© Rebekah D. Wallace, Forestry Images



© Rebekah D. Wallace, Forestry Images



© Rebekah D. Wallace, Forestry Images



© Rebekah D. Wallace, Forestry Images

## Associates

Ecoregion



Sun



Hydric Zone



## Description

### Plant

80 ft, Perennial, FACW.

### Leaves

Simple, alternate, elliptical to ovate, smooth margin, 2.5 in. long, 1.5 in. wide.

### Flower

White-pale yellow, appearing in axils of new leaves, bell-shaped, no petals, April - June.

### Growth Period

March - October, slow growth.

### Soils

Poorly drained.

## Control Methods/Notes

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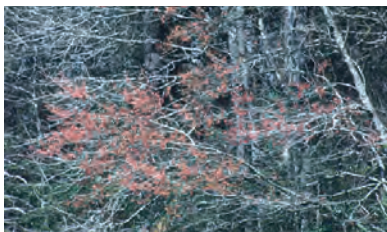
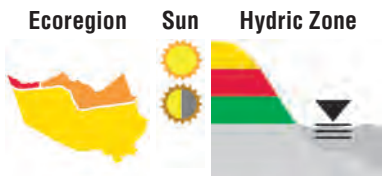
LARGE TREES



## Red maple (*Acer rubrum* var. *drummondii*)

Native

### Associates



© Sally & Andy Wasowski, Ladybird Johnson Wildflower Center

### Description

#### Plant

35 ft, Perennial, FAC.

#### Leaves

Simple, opposite, palmate leaves with 3 to 5 shallow short-pointed lobes, coarse-toothed, 2.5 - 5 in. long, 2.5 - 5 in. wide.



© Louis M. Landry, CalPhotos

#### Flower

Pink to red, in fascicles (clusters) or drooping racemes, March - May.

#### Growth Period

April - October, rapid growth.



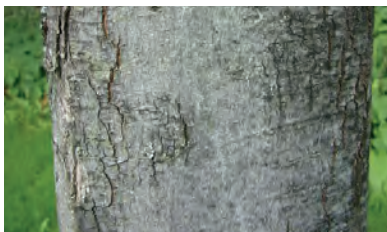
© Elaine Hauge, USDA-NRCS Plants Database

#### Soils

Well drained.

### Control Methods/Notes

Good shade provider.



© Louis M. Landry, CalPhotos

LARGE TREES

# River birch (*Betula nigra*)

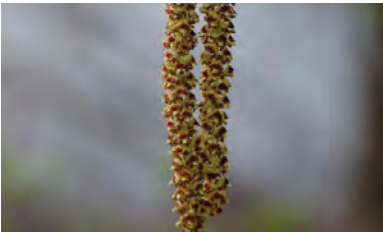
Native



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## Associates

Ecoregion



Hydric Zone



## Description

### Plant

70 ft, Perennial, FACW.

### Leaves

Simple, alternate, ovate, double-toothed, 3 in. long, 1.5 in. wide.

### Flower

Male: brown, catkins drooping at ends of twigs/ female: green, upright and borne in the leaf axils, March - May.

### Growth Period

April - October, rapid growth.

### Soils

Poorly drained.

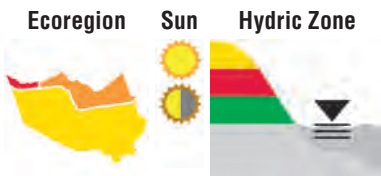
## Control Methods/Notes

Excellent for erosion control.

# Shumard oak (*Quercus shumardii*)

Native

## Associates



© Michael Rayner, Encyclopedia of Life

## Description

### Plant

100 ft, Perennial, FAC.

### Leaves

Simple, alternate, 7 - 9 lobes, rounded sinuses between lobes, bristle-tipped, 7 in. long, 4.5 in. wide.

### Flower

Green, male: 6 - 7 in. long catkins/  
female: solitary or paired in the leaf axils,  
March - April.

### Growth Period

April - November, rapid growth.

### Soils

Moderately drained.



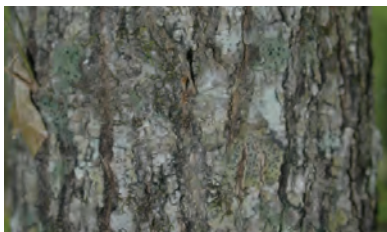
© Chris Evans, Forestry Images



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## Control Methods/Notes

Grows well in sand, well-drained soils.



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LARGE TREES

# Southern magnolia (*Magnolia grandiflora*)

Native



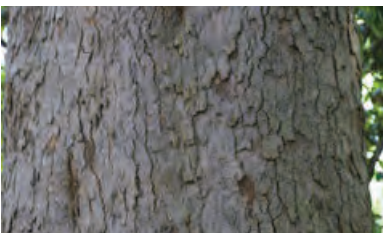
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## Associates

Ecoregion Sun Hydric Zone



## Description

### Plant

90 ft, Perennial, FAC.

### Leaves

Simple, alternate, elliptical or ovate, thick, leathery, smooth margin, 7 in. long, 2.5 in. wide.

### Flower

White, large, showy, cup-shaped petals with purple center, March - June.

### Growth Period

April - June, rapid growth.

### Soils

Moderately drained.

## Control Methods/Notes

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LARGE TREES

# Southern red oak (*Quercus falcata*)

Native

## Associates

Ecoregion



Sun



Hydric Zone



© Chris Evans, Forestry Images

## Description

### Plant

100 ft, Perennial, FACU.

### Leaves

Simple, alternate, 3 - 5 bristle-tipped lobes, central lobe longest, lobes typically come off the midrib at acute angles, smooth margin, 8 in. long, 5 in. wide.



© Chris Evans, Forestry Images

### Flower

Yellow-green, male: 3 - 5 in. long/ female: inconspicuous and borne on a short, downy stalk, March - May.



© Franklin Bonner, Forestry Images

### Growth Period

April - November, rapid growth.

### Soils

Well drained.

## Control Methods/Notes

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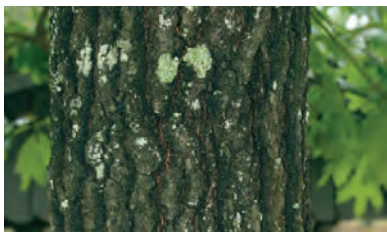
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© Chris Evans, Forestry Images

LARGE TREES

# Sugarberry (*Celtis laevigata*)

Native



© John Ruter, Forestry Images



© Chris Evans, Forestry Images



© Franklin Bonner, Forestry Images



© John Ruter, Forestry Images

## Associates

Ecoregion



Sun



Hydric Zone



## Description

### Plant

90 ft, Perennial, FACW.

### Leaves

Simple, alternate, ovate, smooth margin, 3 in. long, 1.5 in. wide.

### Flower

Green-white, on slender stalks in the leaf axils, March - May.

### Growth Period

March - September, rapid growth.

### Soils

Poorly drained.

## Control Methods/Notes

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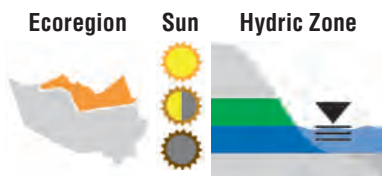
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LARGE TREES

# Swamp chestnut oak (*Quercus michauxii*)

Native

## Associates



© David Stephens, Forestry Images

## Description

### Plant

100 ft, Perennial, FACW.

### Leaves

Simple, alternate, ovate or oblong, many rounded teeth and no bristle-tipped, 6 in. long, 4 in. wide.

### Flower

Male: yellow, catkin 1 - 2.5 in. long / female: yellow-red, less conspicuous, April - May.

### Growth Period

April - October, slow growth.

### Soils

Poorly drained.



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## Control Methods/Notes

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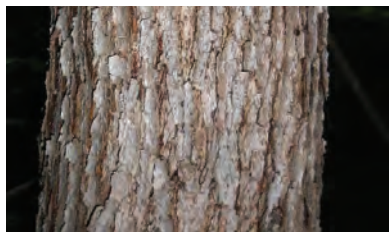
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LARGE TREES

# Sweet bay magnolia (*Magnolia virginiana*)

Native



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## Associates

Ecoregion

Sun

Hydric Zone



## Description

### Plant

80 ft, Perennial, FACW.

### Leaves

Simple, green above and whitish below, alternate, elliptical or oblong, smooth margin, 5 in. long, 2 in. wide.

### Flower

White, showy, 2 - 3 in., 9 - 12 creamy petals, April - July.

### Growth Period

March - October, slow growth.

### Soils

Poorly drained.

## Control Methods/Notes

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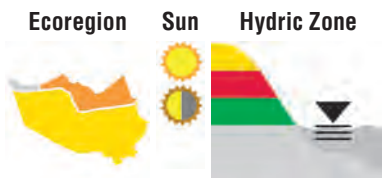
LARGE TREES



# Sweetgum (*Liquidambar styraciflua*)

Native

## Associates



© Richard Webb, Forestry Images

## Description

### Plant

100 ft, Perennial, FAC.

### Leaves

Simple, alternate, star-shaped, 5 - 7 pointed lobes, finely-toothed, 6 in. long, 6 in. wide.

### Flower

Green, male: small inconspicuous/  
female: small round heads on small stalk,  
March - May.

### Growth Period

April - October, slow growth.

### Soils

Moderately drained.



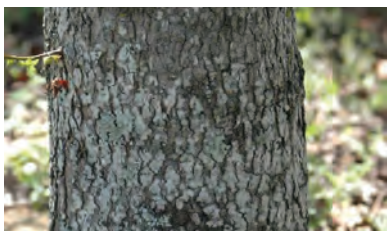
© Joseph LaForest, Forestry Images



© Karan A. Rawlins, Forestry Images

## Control Methods/Notes

Fast growing, good shade provider. Desirable in limited quantities, densities must be managed.



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LARGE TREES

# Tree of heaven (*Ailanthus altissima*)

Undesirable



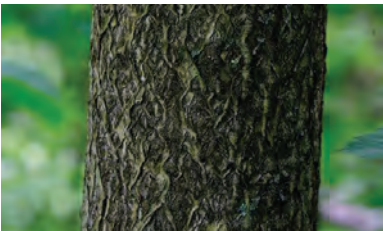
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## Associates

### Ecoregion



### Sun



### Hydric Zone



## Description

### Plant

80 ft, Perennial, FACU.

### Leaves

Compound, opposite, 10 - 41 leaflets, elliptical, smooth margin, may have some teeth along lower margin, 1 - 4 ft long.

### Flower

Green-yellow, occurring in large terminal clusters, spring.

### Growth Period

Spring - summer, rapid growth.

### Soils

Well drained.

## Control Methods/Notes

Seedlings/juveniles: Physical or mechanical removal must remove entire root to prevent resprout, or glyphosate foliar treatment is effective year-round.

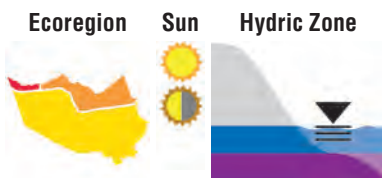
Adults: Cut-stump method treated with Garlon® 3A (or equivalent product, active ingredient triclopyr) or glyphosate year-round.

LARGE TREES

# Water hickory (*Carya aquatica*)

Native

## Associates



© W.D. Brush, USDA-NRCS Plants Database

## Description

### Plant

100 ft, Perennial, OBL.

### Leaves

Simple, alternate, compounded, 9 - 15 in. long leaves with 11 - 15 in. leaflets, light green on top, paler beneath, finely-toothed, 4 in. long, 1 in. wide.



© Chris Evans, Forestry Images

### Flower

Yellow, male: 3 branched catkins 2.5 in. long/ female: short clusters at end of branches, September - November.



© W.D. Brush, USDA-NRCS Plants Database

### Growth Period

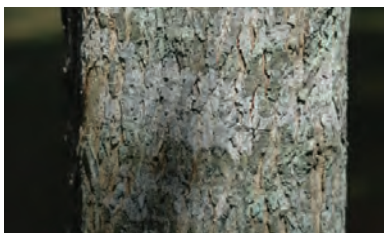
May - October, slow growth.

### Soils

Poorly drained.

## Control Methods/Notes

More common in sandy soils, is related to pecan (*Carya illinoensis*).

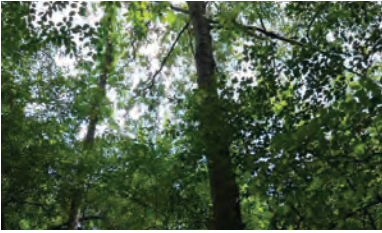


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LARGE TREES

# Water oak (*Quercus nigra*)

Native



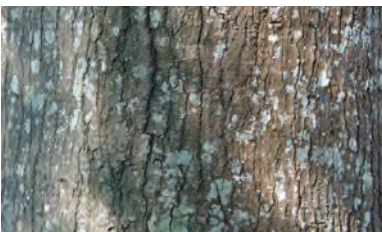
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## Associates

Ecoregion



Sun



Hydric Zone



## Description

### Plant

90 ft, Perennial, FAC.

### Leaves

Simple, alternate, obovate, distal end of leaf may be slightly 3-lobed, bristle-tipped, smooth margin, 3 in. long, 1.5 in. wide.

### Flower

Yellow, male: 2 - 3 in. long/ female: less conspicuous and clustered on a short stalk, March - May.

### Growth Period

March - November, rapid growth.

### Soils

Moderately drained.

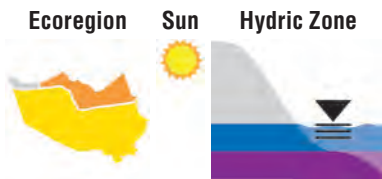
## Control Methods/Notes

Fast growing oak, provides an excellent shade canopy. Shallow root system can be windthrown.

# Water tupelo (*Nyssa aquatica*)

Native

## Associates



© Brian Lockhart, Forestry Images

## Description

### Plant

75 ft, Perennial, OBL.

### Leaves

Simple, alternate, elliptical or ovate, smooth margin, slightly toothed, 4 in. long, 2 in. wide.

### Flower

Green-white, small clusters appearing at time of leaves, March - May.

### Growth Period

March - September, rapid growth.

### Soils

Poorly drained.



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© Gerrit Davide, Encyclopedia of Life

## Control Methods/Notes

HCFCF bioswale species



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LARGE TREES

# White ash (*Fraxinus americana*)

Native



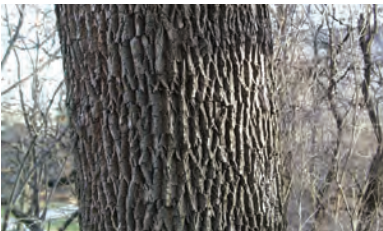
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## Associates

Ecoregion Sun Hydric Zone



## Description

### Plant

100 ft, Perennial, FACU.

### Leaves

Compound, opposite, 7 ovate leaflets arranged pinnately, smooth margin with few remote teeth, 10 in. long, leaflets 4 in. long.

### Flower

Red-purple, male: reddish-purple clusters/ female: open branched clusters, April - May.

### Growth Period

March - September, rapid growth.

### Soils

Well drained.

## Control Methods/Notes

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LARGE TREES

# White mulberry (*Morus alba*)

*Undesirable*

## Associates

### Ecoregion



### Sun



### Hydric Zone



© Robert Videki, Forestry Images

## Description

### Plant

60 ft, Perennial, FACU.

### Leaves

Simple, alternate, ovate, serrated, 5 in. long, 2 in. wide.

### Flower

Green, small clusters in catkins, mid-to-late spring.

### Growth Period

Spring - summer, moderate growth.

### Soils

Well drained.



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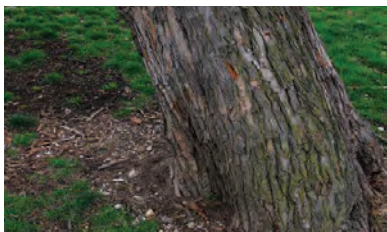
## Control Methods/Notes

Seedlings/juveniles: Physical or mechanical removal must remove entire root to prevent resprout, or glyphosate foliar treatment is effective year-round.

Adults: Cut-stump method treated with Garlon® 3A (or equivalent product, active ingredient triclopyr) or glyphosate year-round.



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LARGE TREES

# White oak (*Quercus alba*)

Native



© Richard Webb, Forestry Images



© Paul Wray, Forestry Images



© Paul Wray, Forestry Images



© Paul Wray, Forestry Images

## Associates

Ecoregion



Sun



Hydric Zone



## Description

### Plant

100 ft, Perennial, FACU.

### Leaves

Simple, alternate, 7 - 11 rounded finger-like lobes without bristle tips, smooth margin, 8 in. long, 4 in. wide.

### Flower

Male: yellow-green, 3 - 4 in. long yellowish-green catkins/ female: red, solitary 0.5 in. long, reddish, April - May.

### Growth Period

April - October, slow growth.

### Soils

Well drained.

## Control Methods/Notes

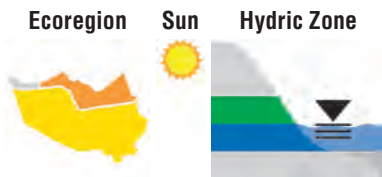
Not common in Harris County. Grows well in well-drained areas.



# Willow oak (*Quercus phellos*)

Native

## Associates



© David Stephens, Forestry Images

## Description

### Plant

90 ft, Perennial, FACW.

### Leaves

Simple, alternate, linear to lanceolate, bristle at the tip, smooth margin, 4 in. long, 0.75 in. wide.

### Flower

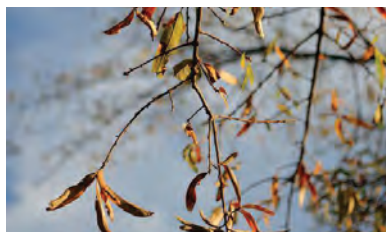
Yellow, male: 2 - 3 in. long catkin/ female: less conspicuous and clustered on a short stalk in the leaf axil, March - May.

### Growth Period

March - November, rapid growth.

### Soils

Poorly drained.



© Vern Wilkins, Forestry Images



© Franklin Bonner, Forestry Images

## Control Methods/Notes

Characteristics are similar to Water Oak (*Quercus nigra*).



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LARGE TREES

# Winged elm (*Ulmus alata*)

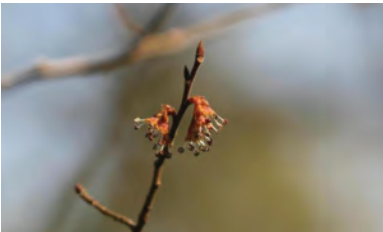
Native



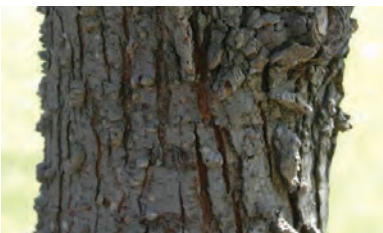
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## Associates

Ecoregion



Sun



Hydric Zone



## Description

### Plant

70 ft, Perennial, FACU.

### Leaves

Simple, alternate, ovate or elliptical, pointed tip, double-toothed, 3 in. long, 1.5 in. wide.

### Flower

Orange, drooping clusters before the leaves unfold, January - March.

### Growth Period

April - September, rapid growth.

### Soils

Well drained.

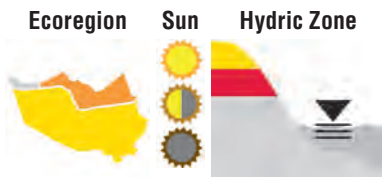
## Control Methods/Notes

It can be very prolific and need some thinning.

# Woolly hop-hornbean (*Ostrya virginiana*)

Native

## Associates



© Paul Wray, Forestry Images

## Description

### Plant

50 ft, Perennial, FACU.

### Leaves

Simple, alternate, ovate, double-toothed, 4 in. long, 2 in. wide.

### Flower

Brown, catkins, male: 3 in. long, cylindrical and forming in groups of 3/ female: forming individually at the end of branches, 0.5 in. long, March - May.

### Growth Period

April - September, slow growth.

### Soils

Well drained.



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## Control Methods/Notes

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LARGE TREES

# Coral honeysuckle (*Lonicera sempervirens*)

Native



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© John Hilty, Encyclopedia of Life



© Steven J. Baskauf, Encyclopedia of Life

## Associates

Ecoregion



Sun



Hydric Zone



## Description

### Plant

18 ft, Perennial, FACU.

### Leaves

Simple, opposite, thick, ovate, orbicular near flower, smooth margin, 3 in. long, 2 in. wide.

### Flower

Red, tubular-shaped, forms in several clusters of 3, mid-spring - mid-fall.

### Growth Period

March - October, rapid growth.

### Soils

Well drained.

## Control Methods/Notes

Do not confuse with Japanese honeysuckle

# Japanese honeysuckle (*Lonicera japonica*)

Undesirable

## Associates

### Ecoregion



### Sun



### Hydric Zone



© Kenpei, Encyclopedia of Life

## Description

### Plant

60 ft, Perennial, FAC.

### Leaves

Simple, opposite, ovate, smooth margin, 3 in. long, 2 in. wide.

### Flower

Yellow-white, 2 lobed, double-tongued, vanilla-scented, March - June.

### Growth Period

March - October, rapid growth.

### Soils

Moderately drained.



© Valter Jacinto, Encyclopedia of Life

## Control Methods/Notes

Do not confuse with coral honeysuckle. If left alone, the weight of this vine can pull down and kill seedling and juvenile trees. Physical removal around base of trees is effective but time consuming, and care must be taken that entire root is removed from soil. Glyphosate foliar treatment is most effective in spring and early summer as seedlings sprout and begin to spread.



© Joseph Wong Kai Yan, Encyclopedia of Life

# Amberique bean (*Strophostyles helvola*)

Undesirable



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© Gerrit Davidse, Encyclopedia of Life



© Gerrit Davidse, Encyclopedia of Life

## Associates

Ecoregion

Sun

Hydric Zone



## Description

### Plant

6 ft, Annual, FAC.

### Leaves

Compound, alternate, trifoliate, leaflets are hairy and opposite and either lobed or hastate, smooth margin, 4 in. long, 2 in. wide.

### Flower

Pink, in clusters of 2 - 6, large single ovate to orbicular petal, united pink stamens, mid-summer - early fall.

### Growth Period

March - October, rapid growth.

### Soils

Moderately drained.

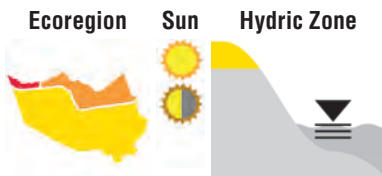
## Control Methods/Notes

If left alone, the weight of this vine can pull down and kill seedling and juvenile trees. Physical removal around base of trees is effective but time consuming, and care must be taken that entire root is removed from soil. Glyphosate foliar treatment is most effective in spring and early summer as seedlings sprout and begin to spread.

## Arrowhead vine (*Syngonium auritum*)

*Undesirable*

### Associates



© Kurt Stueber, Encyclopedia of Life

### Description

#### Plant

20 ft, Perennial, UPL.

#### Leaves

Compound, alternate, heart-shaped or ovate-elliptical, smooth margin, 5 in. long, 4 in. wide.

#### Flower

Green-yellow or pink, yellow center pod surrounded by half circle, thick petal, irregular, March - June.

#### Growth Period

March - August, rapid growth.

#### Soils

Well drained.



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### Control Methods/Notes

If left alone, the weight of this vine can pull down and kill seedling and juvenile trees. Physical removal around base of trees is effective but time consuming, and care must be taken that entire root is removed from soil. Glyphosate foliar treatment is most effective in spring and early summer as seedlings sprout and begin to spread.



© Kurt Stueber, Encyclopedia of Life

# Balloon vine (*Cardiospermum halicacabum*)

Undesirable



© Valter Jacinto, Encyclopedia of Life



© Valter Jacinto, Encyclopedia of Life



© Valter Jacinto, Encyclopedia of Life



© Gerrit Davidse, Encyclopedia of Life

## Associates

Ecoregion

Sun

Hydric Zone



## Description

### Plant

6 ft, Annual, FAC.

### Leaves

Compound, opposite, trifoliate, ovate or narrowly elliptical leaflets, coarsely toothed, 2.5 in. long, 1.5 in. wide.

### Flower

White, 3 petals around yellow center, heads grown from the axil of the leaf, June - September.

### Growth Period

Rapid growth.

### Soils

Moderately drained.

## Control Methods/Notes

If left alone, the weight of this vine can pull down and kill seedling and juvenile trees. Physical removal around base of trees is effective but time consuming, and care must be taken that entire root is removed from soil. Glyphosate foliar treatment is most effective in spring and early summer as seedlings sprout and begin to spread.



# Buckwheat vine (*Brunnichia ovata*)

Native

## Associates

Ecoregion



Sun



Hydric Zone



© Gerrit Davidge, Encyclopedia of Life

## Description

### Plant

35 ft, Perennial, FACW.

### Leaves

Simple, alternate, ovate, smooth margin, 3 in. long, 1.5 in. wide.

### Flower

Yellow-white, tubular, drooping, grows in clusters, June - July.

### Growth Period

March - October, rapid growth.

### Soils

Poorly drained.



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## Control Methods/Notes

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# Bush killer (*Cayratia japonica*)

Undesirable



© Ahmad Fuad Morad, Encyclopedia of Life



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## Associates

### Ecoregion



### Sun



### Hydric Zone



## Description

### Plant

10 ft, Perennial, UPL.

### Leaves

Compound, alternate, pentafoliate, leaflets are elliptical to elliptical-lanceolate, coarsely-toothed, 3 in. long, 1.5 in. wide.

### Flower

White, multiple branched-clusters of small flowers originating from axil of the leaf, March - August.

### Growth Period

March - October, rapid growth.

### Soils

Well drained.

## Control Methods/Notes

This vine can kill seedlings and juveniles by climbing and engulfing. Physical removal around base of trees is effective but time consuming, and care must be taken that entire root is removed from soil. Glyphosate foliar treatment is most effective at temperatures 70°F and above. A natural herbicide of BlackJack 21 Weed Stomper (active ingredient vinegar) has been shown to be effective.

# Carolina jessamine (*Gelsemium sempervirens*)

Native

## Associates

Ecoregion



Sun



Hydric Zone



© Kenpei, Encyclopedia of Life

## Description

### Plant

30 ft, Perennial, FAC.

### Leaves

Simple, alternate, lanceolate, smooth margin, 3 in. long, 0.5 in. wide.

### Flower

Yellow, in clusters, strongly scented, trumpet-shaped, February - April.

### Growth Period

March - October, rapid growth.

### Soils

Moderately drained.



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## Control Methods/Notes

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## Cat's claw vine (*Macfadyena unguis-cati*)

Undesirable



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### Associates

#### Ecoregion



#### Sun



#### Hydric Zone



### Description

#### Plant

10 ft, Perennial, UPL.

#### Leaves

Compound, opposite, trifoliate, lanceolate to ovate glossy leaflets, smooth margin, 2 in. long, 0.75 in. wide.

#### Flower

Yellow, funnel-shaped, 5 petals, short lived, April - August.

#### Growth Period

March - October, rapid growth.

#### Soils

Well drained.

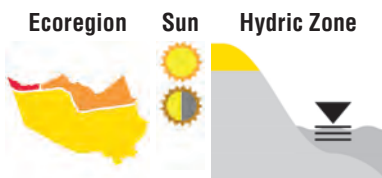
### Control Methods/Notes

If left alone, the weight of this vine can pull down and kill seedling and juvenile trees. Physical removal around base of trees is effective but time consuming, and care must be taken that entire root is removed from soil. Glyphosate foliar treatment is most effective in spring and early summer as seedlings sprout and begin to spread.

## Chinese wisteria (*Wisteria sinensis*)

*Undesirable*

### Associates



© Luigi Rignanese, Encyclopedia of Life

### Description

#### Plant

60 ft, Perennial, UPL.

#### Leaves

Compound, alternate, 7 - 13 ovate-elliptical to ovate-lanceolate leaflets, slightly wavy, 1 in. long, 1 in. wide.

#### Flower

Purple, clusters of showy flowers on long drooping stalks, May - August.

#### Growth Period

March - October, rapid growth.

#### Soils

Well drained.



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### Control Methods/Notes

If left alone, the weight of this vine can pull down and kill seedling and juvenile trees. Physical removal around base of trees is effective but time consuming, and care must be taken that entire root is removed from soil. Glyphosate foliar treatment is most effective in spring and early summer as seedlings sprout and begin to spread.



© Malcolm Storey, Encyclopedia of Life

# Coralvine (*Antigonon leptopus*)

Undesirable



© Forest & Kim Starr, Starr Environmental



© Pedro Acevedo-Rodriguez, USDA-NRCS Plants Database



© Pedro Acevedo-Rodriguez, USDA-NRCS Plants Database

## Associates

Ecoregion



Sun



Hydric Zone



## Description

### Plant

20 ft, Perennial, FAC.

### Leaves

Simple, alternate, heart-shaped, smooth margin, 6 in. long, 3 in. wide.

### Flower

Pink, clusters of showy flowers grown on separate stalk, March - June.

### Growth Period

March - October, slow growth.

### Soils

Moderately drained.

## Control Methods/Notes

If left alone, the weight of this vine can pull down and kill seedling and juvenile trees. Physical removal around base of trees is effective but time consuming, and care must be taken that entire root is removed from soil. There are no herbicides registered for use on coralvine, but foliar treatment using glyphosate foliar treatment is recommended.

# Crossvine (*Bignonia capreolata*)

Native

## Associates

Ecoregion



Sun



Hydric Zone



© Steven J. Baskauf, Encyclopedia of Life

## Description

### Plant

40 ft, Perennial, FAC.

### Leaves

Compound, opposite, pinnate, heart-shaped leaflets, smooth margin, 5 in. long, 2 in. wide.

### Flower

Orange-yellow, bell-shaped with 5 irregular lobes, April - June.

### Growth Period

March - October, rapid growth.

### Soils

Moderately drained.



© Steven J. Baskauf, Encyclopedia of Life

## Control Methods/Notes

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© Steven J. Baskauf, Encyclopedia of Life

# Curly clematis (*Clematis pitcheri*)

Native



© gaberlunzi, Encyclopedia of Life



© Chris Evans, Forestry Images



© Chris Evans, Forestry Images

## Associates

### Ecoregion



### Sun



### Hydric Zone



## Description

### Plant

10 ft, Perennial, FACU.

### Leaves

Simple, opposite, ovate or heart-shaped, smooth margin, 3 in. long, 2 in. wide.

### Flower

Light purple, white-green tips, single flower from the axil of the leaves, bell-shaped, nods downward, July - September.

### Growth Period

Rapid growth.

### Soils

Well drained.

## Control Methods/Notes

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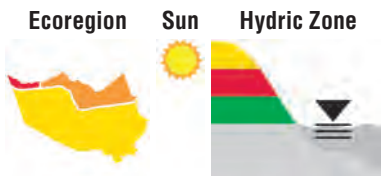
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## Dewberry (*Rubus spp.*)

Native / Undesirable

### Associates



© Robin R. Buckallew, USDA-NRCS Plants Database

### Description

#### Plant

6 ft, Perennial, FAC.

#### Leaves

Compound, opposite, trifoliate, ovate to elliptical leaflets, serrated, 3 in. long, 1 in. wide.

#### Flower

White, 5 fan-shaped petals, vary in size, March - June.

#### Growth Period

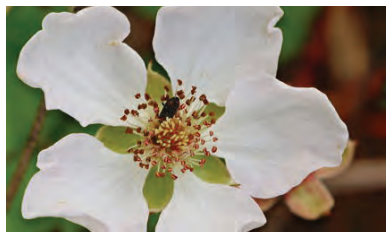
February - November, rapid growth.

#### Soils

Moderately drained.



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© Mary Keim, Encyclopedia of Life

### Control Methods/Notes

Low growing, good for erosion control. Desirable in limited quantities, densities must be managed. Mowing is an effective management tool and will reduce seed population when performed during bloom. Applying Pasturegard™ (or equivalent product, active ingredient triclopyr + fluroxypyr) and triclopyr ester are effective when blooming in late spring. Mowing and herbicide are more effective when used together, but herbicide should not be applied in the same growing season as mowing.



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# English ivy (*Hedera helix*)

Undesirable



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© Jacobo Martin, Encyclopedia of Life

## Associates

**Ecoregion**      **Sun**      **Hydric Zone**



## Description

### Plant

50 ft, Perennial, UPL.

### Leaves

Simple, alternate, 3 to 5-lobed, waxy, smooth margin, 3 in. long, 1 in. wide.

### Flower

Green-yellow, 5 petals, borne in umbrella-like clusters, August - November.

### Growth Period

Year-round, rapid growth.

### Soils

Well drained.

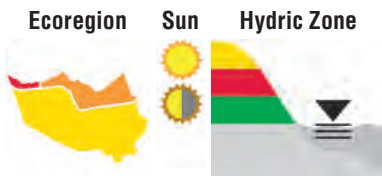
## Control Methods/Notes

If left alone, the weight of this vine can pull down and kill seedling and juvenile trees. Physical removal around base of trees is effective but time consuming, and care must be taken that entire root is removed from soil. Glyphosate foliar treatment is most effective in spring and early summer as seedlings sprout and begin to spread.

# Guadeloupe cucumber (*Melothria pendula*)

Native

## Associates



© Karan A. Rawlins, Forestry Images

## Description

### Plant

10 ft, Perennial, FAC.

### Leaves

Simple, alternate, palmate to hastate, lobed or smooth margin, 2 in. long, 2 in. wide.

### Flower

Yellow, fan-shaped, 5 lobed flowers around green center, tiny, year-round.

### Growth Period

Year-round, rapid growth.

### Soils

Moderately drained.



© Steven J. Baskauf, Encyclopedia of Life



© Bob Peterson, Encyclopedia of Life

## Control Methods/Notes

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# Hempvine (*Mikania scandens*)

Native / Undesirable



© Jeff McMillian, USDA-NRCS Plants Database



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© Robert H. Mohlenbrock, USDA-NRCS Plants Database

## Associates

### Ecoregion



### Sun



### Hydric Zone



## Description

### Plant

1 ft, Perennial, FACW.

### Leaves

Simple, opposite, triangular, smooth margin.

### Flower

Pink-purple, with small heads, 0.2 - 0.3 in. long, in modified panicles, summer.

### Growth Period

Summer.

### Soils

Poorly drained.

## Control Methods/Notes

If left alone, the weight of this vine can pull down and kill seedling and juvenile trees. Physical removal around base of trees is effective but time consuming, and care must be taken that entire root is removed from soil. Glyphosate foliar treatment is most effective during summer. Biological control agents include heliothis budworm, lucerne seedweb moth and cowpea aphid, lucerne flea (year-round).

# Japanese climbing fern (*Lygodium japonicum*)

*Undesirable*

## Associates

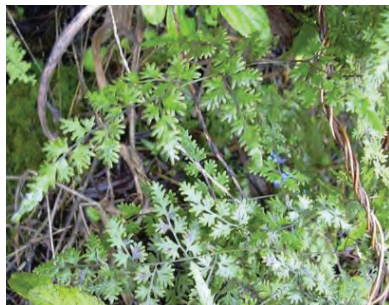
### Ecoregion



### Sun



### Hydric Zone



© Forest & Kim Starr, Starr Environmental

## Description

### Plant

50 ft, Perennial, FAC.

### Leaves

Compound, opposite, bi or tripinnate, leaflets: sterile - lanceolate/fertile - intricately divided, sponges, lobed, 3 in. long, 2 in. wide.

### Flower

Green, reproduces with sponges on leaves, July - October.

### Growth Period

April - December, rapid growth.

### Soils

Moderately drained.



© David J. Moorhead, Forestry Images

## Control Methods/Notes

If left alone, the weight of this vine can pull down and kill seedling and juvenile trees. Physical removal around base of trees is effective but time consuming, and care must be taken that entire root is removed from soil. Glyphosate foliar treatment is most effective in spring and early summer as seedlings sprout and begin to spread.



© Chris Evans, Forestry Images

# Japanese dodder (*Cuscuta japonica*)

Undesirable



© Susan Schwartz, Encyclopedia of Life



© Barry Rice, Forestry Images



© Susan Schwartz, Encyclopedia of Life

## Associates

### Ecoregion



### Sun



### Hydric Zone



## Description

### Plant

3 ft, Annual, UPL.

### Leaves

Simple, alternate, hastate, smooth margin, 3 in. long, 3 in. wide.

### Flower

Pink or white, 5-lobed, shallow petals, small in size, August.

### Growth Period

Rapid growth.

### Soils

Well drained.

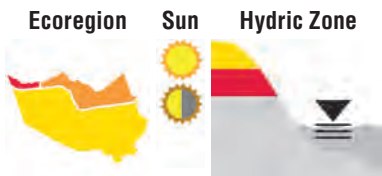
## Control Methods/Notes

If left alone, the weight of this vine can pull down and kill seedling and juvenile trees. Physical removal around base of trees is effective but time consuming, and care must be taken that entire root is removed from soil. Glyphosate foliar treatment is most effective as seedlings sprout and begin to spread.

## Kudzu (*Pueraria lobata*)

*Undesirable*

### Associates



© Gerrit Davidge, Encyclopedia of Life

### Description

#### Plant

50 ft, Perennial, FACU.

#### Leaves

Compound, alternate, 3 ovate to heart-shaped or 3-lobed leaflets, lobed or smooth margin, hairy, 4 in. long, 4 in. wide.

#### Flower

Purple, in long hanging clusters, highly fragrant, July - September.

#### Growth Period

May - October, rapid growth.

#### Soils

Well drained.



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### Control Methods/Notes

If left alone, the weight of this vine can pull down and kill seedling and juvenile trees. Physical removal around base of trees is effective but time consuming, and care must be taken that entire root is removed from soil. Glyphosate foliar treatment is most effective as seedlings sprout and begin to spread.



© Gerrit Davidge, Encyclopedia of Life

# Least snoutbean (*Rhynchosia minima*)

Undesirable



© Moorea Biocode, Encyclopedia of Life



© Smithsonian Institution, National Museum of Natural History, Department of Botany

## Associates

### Ecoregion



### Sun



### Hydric Zone



## Description

### Plant

6 ft, Perennial, UPL.

### Leaves

Compound, alternate, trifoliate, opposite and heart-shaped leaflets, smooth margin, hairy, 1 in. long, 1 in. wide.

### Flower

Orange-yellow, growing in clusters on long stalks, wing-shaped petals, separate, January - March.

### Growth Period

March - October, rapid growth.

### Soils

Well drained.

## Control Methods/Notes

If left alone, the weight of this vine can pull down and kill seedling and juvenile trees. Physical removal around base of trees is effective but time consuming, and care must be taken that entire root is removed from soil. Glyphosate foliar treatment is most effective in spring and early summer as seedlings sprout and begin to spread.



# Louisiana vetch (*Vicia ludoviciana*)

Native

## Associates

### Ecoregion



### Sun



### Hydric Zone



## Description

### Plant

3 ft, Annual, FACU.

### Leaves

Compound, alternate, pinnate, leaflets: alternate or opposite, sessile and elliptical, smooth margin, 1 in. long, 0.25 in. wide.

### Flower

Blue, clusters of 2 - 6 on stalks from leaf axil, multiple wing-petals, February - June.

### Growth Period

February - August, rapid growth.

### Soils

Well drained.



© P.R. Hoar, Encyclopedia of Life

## Control Methods/Notes

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© Robert L. Stone, Ladybird Johnson Wildflower Center

# Ocean blue morning glory (*Ipomoea indica* var. *acuminata*)

Undesirable



© W.L. Wagner, Encyclopedia of Life



© Forest & Kim Starr, Starr Environmental



© Valter Jacinto, Encyclopedia of Life

## Associates

### Ecoregion



### Sun



### Hydric Zone



## Description

### Plant

30 ft, Perennial, FAC.

### Leaves

Simple, alternate, heart-shaped or 3-lobed, smooth margin, 5 in. long, 4 in. wide.

### Flower

Blue-violet, funnel-shaped, August - October.

### Growth Period

March - October, rapid growth.

### Soils

Moderately drained.

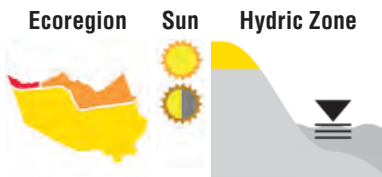
## Control Methods/Notes

If left alone, the weight of this vine can pull down and kill seedling and juvenile trees. Physical removal around base of trees is effective but time consuming, and care must be taken that entire root is removed from soil. Glyphosate foliar treatment is most effective as seedlings sprout and begin to spread.

# Passion flower (*Passiflora incarnata*)

Native

## Associates



© Karan A. Rawlins, Forestry Images

## Description

### Plant

30 ft, Perennial, UPL.

### Leaves

Simple, alternate, palmate, 3 lobes, smooth margin, 5 in. long, 4 in. wide.

### Flower

Pale violet, complex, 5 petals below numerous crown-shaped fringe-like segments, June - September.

### Growth Period

May - October, rapid growth.

### Soils

Well drained.



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© Lynette Schimming, Encyclopedia of Life

## Control Methods/Notes

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# Peppervine (*Ampelopsis arborea*)

Native



© Ted Bodner, USDA-NRCS Plants Database



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© Jeff McMillian, USDA-NRCS Plants Database

## Associates

Ecoregion



Sun



Hydric Zone



## Description

### Plant

0.1 ft, Perennial, FAC.

### Leaves

Bi or tripinnately compound, opposite, leaflets roughly ovate, dark green on the upper surface, lighter on the lower, with a central axis and 1 to 3 pairs of lateral axes supporting leaflets, coarse-toothed, 6 in. long, 6 in. wide.

### Flower

Green, tiny, flat-topped clusters, June - July.

### Growth Period

April - November, rapid growth.

### Soils

Moderately drained.

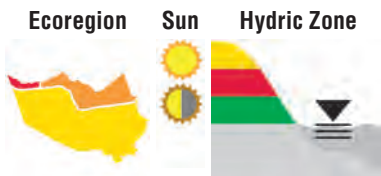
## Control Methods/Notes

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## Poison ivy (*Toxicodendron radicans*)

Native / Undesirable

### Associates



© Steven J. Baskauf, Encyclopedia of Life

### Description

#### Plant

60 ft, Perennial, FAC.

#### Leaves

Compound, alternate, trifoliate, heart-shaped leaflets, smooth margin or slightly toothed, 4 in. long, 2.5 in. wide.

#### Flower

Yellow-green, cluster of small flowers on stalk, 5 triangular petals, recurved, May - July.

#### Growth Period

March - November, rapid growth.

#### Soils

Moderately drained.



© Jennifer Anderson, USDA-NRCS Plants Database

### Control Methods/Notes

Usually a woody vine. Very common in shaded areas. Fairly aggressive but good wildlife plant. Desirable in limited quantities, densities must be managed. Can kill seedling and juvenile trees by climbing. Physical removal requires gloves and face protection from noxious chemicals. Care must be taken that entire root is removed from soil. Glyphosate foliar treatment is most effective in spring and early summer as seedlings sprout and begin to spread.



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# Potato vine (*Dioscorea bulbifera*)

Undesirable



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© W.L. Wagner, Encyclopedia of Life



© Forest & Kim Starr, Starr Environmental

## Associates

### Ecoregion



### Sun



### Hydric Zone



## Description

### Plant

20 ft, Perennial, UPL.

### Leaves

Simple, alternate, long petiole, broadly heart-shaped, smooth margin, 8 in. long, 7 in. wide.

### Flower

Pale green, rarely occur, small, fragrant, grow from leaf axil, July - October.

### Growth Period

March - October, rapid growth.

### Soils

Well drained.

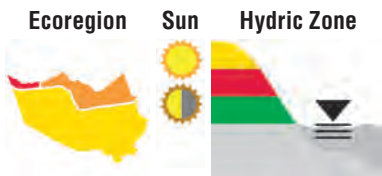
## Control Methods/Notes

If left alone, the weight of this vine can pull down and kill seedling and juvenile trees. Physical removal around base of trees is effective but time consuming, and care must be taken that entire root is removed from soil. Glyphosate foliar treatment is most effective in spring and early summer as seedlings sprout and begin to spread.

## Rattan vine (*Berchemia scandens*)

Native / Undesirable

### Associates



© Robin R. Buckallew, USDA-NRCS Plants Database

### Description

#### Plant

20 ft, Perennial, FAC.

#### Leaves

Simple, alternate, ovate, smooth margin, 4 in. long, 2 in. wide.

#### Flower

White, tiny, split clusters on stalks, spring.

#### Growth Period

March - October, rapid growth.

#### Soils

Moderately drained.



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### Control Methods/Notes

Desirable in limited quantities, densities must be managed. Physical removal is effective but time consuming. Glyphosate foliar treatment is most effective as seedlings sprout and begin to spread.



© Ted Bodner, USDA-NRCS Plants Database

# Saw greenbriar (*Smilax bona-nox*)

Native / Undesirable



© James H. Miller & Ted Bodner, Forestry Images



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© Gravitywave, Encyclopedia of Life



© Steven J. Baskauf, Encyclopedia of Life

## Associates

Ecoregion Sun Hydric Zone



## Description

### Plant

15 ft, Perennial, FAC.

### Leaves

Simple, alternate, broadly ovate to lanceolate-ovate, hastate, smooth margin, sometimes spines, 4 in. long, 3 in. wide.

### Flower

Green, multiple small flowers in umbel clusters from originating axil of leaves, April - June.

### Growth Period

March - November, rapid growth.

### Soils

Moderately drained.

## Control Methods/Notes

Normally found on top slope areas, good erosion control. Desirable in limited quantities, densities must be managed. Mowing is an effective management tool and will reduce seed population when done during bloom. Applying Pasturegard™ (or equivalent product, active ingredient triclopyr + fluroxypyr) and triclopyr ester are effective when blooming in late spring. Mowing and herbicide are more effective when used together, but herbicide should not be applied in the same growing season as mowing.



# Stinkvine (*Paederia foetida*)

Native

## Associates

Ecoregion



Sun



Hydric Zone



## Description

### Plant

10 ft, Perennial, FACU.

### Leaves

Simple, opposite, elliptical-lanceolate, smooth margin, 3 in. long, 1 in. wide.

### Flower

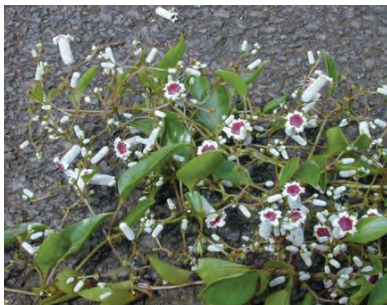
White, funnel-shaped, 5 petals around purple center, May - October.

### Growth Period

April - November, rapid growth.

### Soils

Well drained.



© Forest & Kim Starr, Starr Environmental



© Ahmad Fuad Morad, Encyclopedia of Life

## Control Methods/Notes

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# Trumpet creeper (*Campsis radicans*)

Native



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© John Hilty, Encyclopedia of Life



© John Hilty, Encyclopedia of Life

## Associates

**Ecoregion**    **Sun**    **Hydric Zone**



## Description

### Plant

40 ft, Perennial, FAC.

### Leaves

Compound, opposite, pinnate, odd, 7 - 11 ovate or elliptical leaflets, coarsely toothed, 2.5 in. long, 0.75 in. wide.

### Flower

Orange, 2 - 8 funnel-shaped flowers produced on the length of the vine, trumpet-like, May - October.

### Growth Period

March - October, rapid growth.

### Soils

Moderately drained.

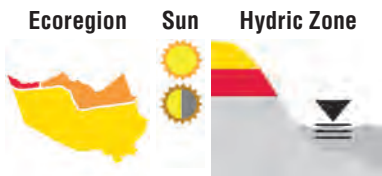
## Control Methods/Notes

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## Virginia creeper (*Parthenocissus quinquefolia*)

Native / Undesirable

### Associates



© Steven J. Baskauf, Encyclopedia of Life

### Description

#### Plant

60 ft, Perennial, FACU.

#### Leaves

Compound, whorled, red in spring and fall, green when mature, 5 ovate to obovate leaflets, serrated, 6 in. long, 2 in. wide.

#### Flower

Green, clusters of tiny flowers, 5 triangular petals, curve backwards, June - August.

#### Growth Period

May - October, rapid growth.

#### Soils

Well drained.



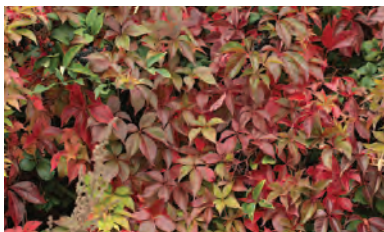
© Steven J. Baskauf, Encyclopedia of Life

### Control Methods/Notes

Desirable in limited quantities, densities must be managed. Physical removal is effective but time consuming. Glyphosate foliar treatment is most effective as seedlings sprout and begin to spread.



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# Yellow passion flower (*Passiflora lutea*)

Native



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## Associates

**Ecoregion**    **Sun**    **Hydric Zone**



## Description

### Plant

15 ft, Perennial, UPL.

### Leaves

Simple, alternate, 3 lobes, smooth margin, 3 in. long, 4 in. wide.

### Flower

Yellow-green, complex, 5 linear petals below fringe-like segments, June - September.

### Growth Period

March - October, rapid growth.

### Soils

Well drained.

## Control Methods/Notes

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VINES

# Glossary

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# Associates Definitions

## Ecoregion



### **The Blackland Prairie -**

The Blackland Prairie receives 30 to 45 inches of rain per year. The growing season

is from 230 days in the north to 280 days in the south. Elevation ranges from 400 feet to nearly 800 feet above sea level. The soils of the Blackland Prairie are not good for growing most trees, so the vegetation is largely tall prairie grasses with a few hardwood trees.



### **The Gulf Coastal Plain -**

The Gulf Coastal Plain extends inland about 30 to 60 miles. Elevations in the Gulf Coastal

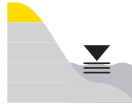
Plain are generally below 100 feet, and the climate is humid. Annual Rainfall varies from 25 to 50 inches. Temperatures are warm, and the growing season is long, from 240 to as much as 309 days.



**The Piney Woods -** The name "Piney Woods" accurately reflects this area of pine forests in Texas. This subregion

extends from the Texas-Louisiana border to the west for about 125 miles. The Piney Woods is the rainiest part of Texas, receiving about 45 to 60 inches of precipitation per year. Its growing season is approximately 230 to 265 days. Its elevation is low, only 100 to 400 feet above sea level.

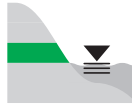
## Hydric Zones



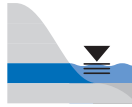
**Upper Slope -** Top of the bank within a channel or basin; flat topography; experiences mostly dry conditions.



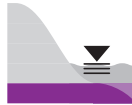
**Middle Slope -** Area between the top of the bank and the waterline; sloping topography; experiences mostly dry conditions.



**Toe Slope -** Located on land directly adjacent to the shoreline at the base of a slope; experiences mostly wet conditions.



**Emergent Zone -** Located in the water; aquatic plants have stems or leaves extending above or sitting on the surface of the water.



**Submergent Zone -** Located in the water; aquatic plants completely beneath the surface of the water.

## Sunlight Requirement



**Full Sun -** Generally receives more than 6 hours of sunlight daily.



**Partial Sun -** Generally receives between 3 and 4 hours of sunlight daily, may receive shading by other plants.



**Full Shade -** Generally receives less than 2 hours of sunlight daily, may receive shading by other plants, understory plants.

# Glossary Definitions

**Acute** - Sharply angled (the angle 90 degrees or less) with the sides of the angle straight.

**Alternate** - Occurring at one node, as leaves or bracts.

**Annual** - A plant that lives for one year.

**Anther** - The part of the stamen that produces pollen.

**Apex** - The tip, point, or vertex.

**Apical** - At the tip.

**Ascending** - Rising upward obliquely.

**Awn** - A stiff bristle, usually at the tip of a structure.

**Axil** - The angle between two organs, especially between a leaf and a stamen.

**Basal (leaf)** - Of, at, or forming the base.

**Bipinnate (leaf)** - Compound leaves that are twice divided; the leaflets are arranged along a secondary vein that is one of several branching off the rachis.

**Bioswale species** - Species actively planted within HCFCD swales. Bioswales are designed to naturally treat water quality, reduce total volume of stormwater runoff by increasing infiltration and groundwater recharge, and increase aesthetics by improving biodiversity.

**Bract** - A small leaf-like structure, often at the base of a flower or inflorescence.

**Branchlet** - A small branch or division of a branch (especially a terminal division); usually applied to branches of the current or preceding year.

**Calyx** - All the sepals together.

**Carpel** - One of the leaflike, seed-bearing structures that constitute the innermost whorl of a flower. One or more carpels make up the pistil.

**Catkin** - A dense, scaly spike bearing unisexual flower without petals.

**Corolla** - All of the petals of a flower collectively, forming the inner floral envelope

**Compound (leaf)** - A leaf divided into two or more leaflets on a single leafstalk.

**Crisped** - Curled leaf; margins divided and twisted in more than one plane.

**Culm** - The stem of a grass-like plant.

**Distal** - Farther from the center or point of attachment.

**Elliptical (leaf)** - Oval in outline, narrowed to rounded ends and widest near the middle (like the outline of a football).

**FAC** - Facultative; usually occur in non-wetlands, but may occur in wetlands.

**FACU** - Facultative upland; usually occur in non-wetlands, but may occur in wetlands.

**FACW** - Facultative wetland; usually occur in wetlands, but may occur in non-wetlands.

**Florets** - One of the closely clustered small flowers that make up the flower head of a composite flower, as the daisy.

**Foliate** - Having to do with leaves, e.g., bifoliate - two leaved; trifoliate - three leaved.

**Forb** - An herbaceous (non-woody) plant other than a grass.

**Glabrous** - Hairless.

**Glandular** - Having glands.

**Glaucous** - Having a whitish or bluish waxy or powdery coating.

**Grass** - Herbaceous (non-woody) plants with narrow leaves growing from the base.

**Hastate (leaf)** - Having a narrow triangular shape like that of a spearhead.

**Head** - A tight cluster of small flowers.

The typical head contains disk flowers, ray flowers, and an involucre.

**Inflorescence** - The flowering part of a plant; a flower cluster.

**Lanceolate (leaf)** - Broadest towards the base, narrowed to the tip, and several times longer than wide.

**Large Tree** - Adult trees taller than 35 feet and greater than 20 inches in trunk diameter.

**Lax** - Loose; so weak as to be scarcely self-supporting.

**Leaflet** - One of the segments of a compound leaf, a small leaf or leaf-like part.

**Linear (leaf)** - Long and slender with parallel sides.

**Lobe** - A partial rounded portion of a leaf margin.

**Midrib** - The central or main rib of a leaf.

**Node** - A place on a stem that bears one or more leaves and bracts.

**OBL** - Obligate; almost always occur in wetlands.

**Oblong (leaf)** - In outline, longer than broad, the sides nearly parallel for much of their length.

**Obovate (leaf)** - Broadest at or near the tip but not that much longer than broad.

**Ocrea** - A sheathing part, as a pair of stipules united about a stem.

**Opposite** - Occurring two at a node on opposite sides of the stem, as leaves or bracts.

**Orbicular (leaf)** - Circular in outline.

**Ovate (leaf)** - Broadest at or near the base but not much longer than broad; having the outline of an egg.

**Palmate (leaf)** - With three or more lobes, veins, or leaflets arising from one point.

**Panicle** - An open, much branched inflorescence with stalked flowers.

**Peduncle** - The stalk of an entire inflorescence or of a flower borne singly.

**Perennial** - A plant that lives three or more years.

**Petal** - The unit of structure of the corolla, often colored.

**Petiole** - The stalk of a leaf.

**Pinnate (leaf)** - Having a stem with leaflets arranged on either side, typically in pairs opposite each other.

**Pinnatifid (leaf)** - Pinnately cleft, with clefts reaching halfway or more to the midrib.

**Pistil** - The female organ of a flower, usually composed of a stigma, style, and ovary. A pistil may be made up of one to many carpels.

**Prostrate** - Growing flat along the ground.

**Raceme** - An unbranched inflorescence with stalked flowers along a long axis.

**Rachis** - A main axis or shaft, such as the main stem of an inflorescence or the stalk of a pinnately compound leaf.

**Radial** - Pertaining to structures that radiate from a central point.

**Rhizome** - A horizontal, underground, modified stem.

**Rigid** - Stiff or unyielding; not pliant or flexible; hard.

**Robust** - Strong and healthy; hardy; vigorous.

**Rosette** - A radiating cluster of plant parts, crowded around a common point of attachment, as of leaves.

**Sepal** - The unit of structure of the calyx, often green and bract-like.

**Serrated (leaf)** - Saw-toothed; having teeth pointed forward.



**Sessile** - Stalkless and attached directly at the base, as certain kinds of leaves and fruit.

**Sheath** - The basal part of a lateral organ that closely surrounds or invests the stem.

**Shrub** - A multi-branched woody perennial plant usually without a single trunk.

**Simple (leaf)** - Not compound, as of leaves.

**Small Tree** - Adult trees less than 35 feet in height and up to 20 inches in trunk diameter.

**Entire (leaf)** - Leaf having a smooth margin without notches or indentations.

**Spike** - An unbranched inflorescence with stalkless flowers along a long axis.

**Spikelets** - A small spike; the unit of structure of grass and often sedge inflorescences.

**Stamen** - The male organ of a flower, usually consisting of a filament and an anther.

**Tripinnate (leaf)** - Pinnately compound leaves in which the leaflets themselves are bipinnate.

**UPL** - Upland; almost never occur in wetlands

**Vine** - A climbing or trailing herbaceous or woody-stemmed plant.

**Wetland species** - Species actively planted within HCFCD facilities to promote the growth of wetlands.

**Whorled (leaf)** - A circular arrangement of like parts, as leaves or flowers, around a point of axis.



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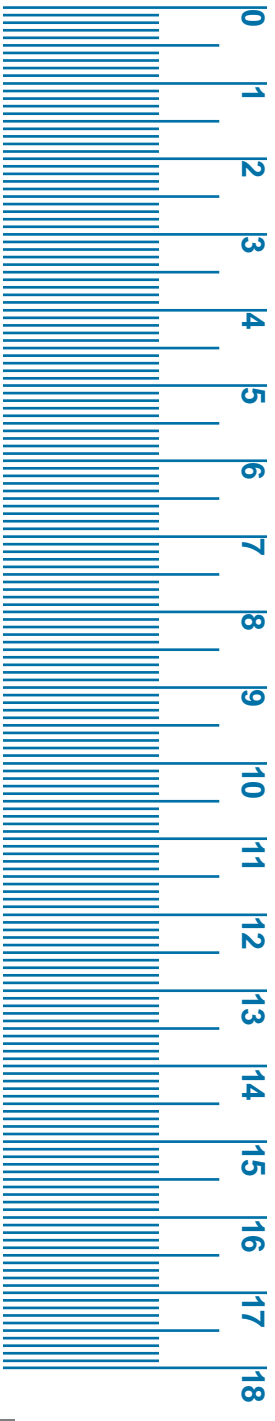
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