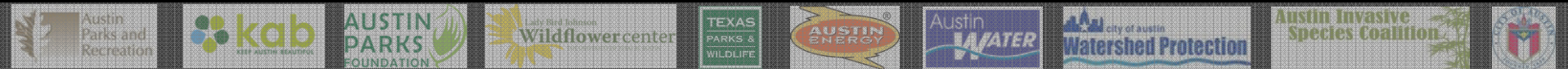
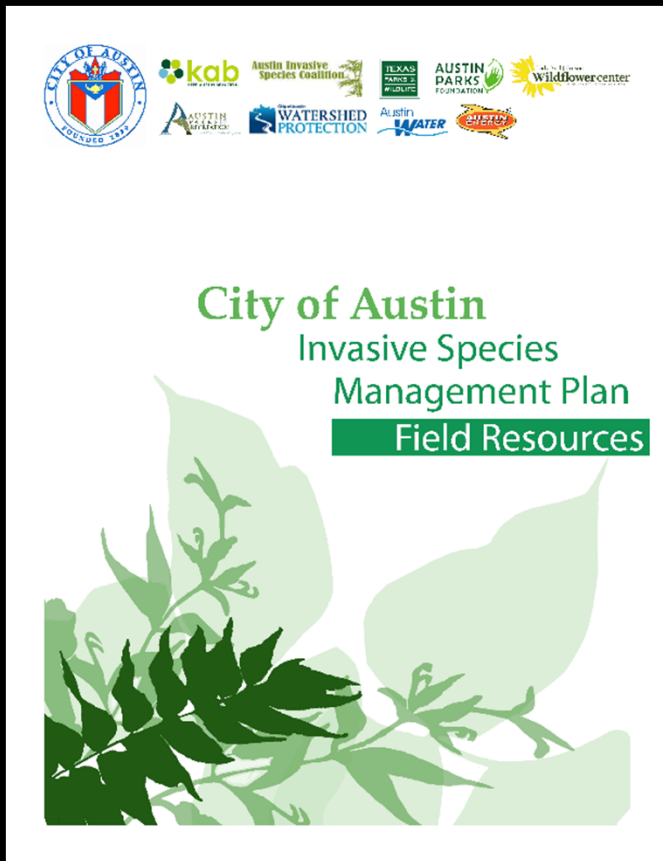


City of Austin - Invasive Plant Species Management Plan

MOST WANTED: Top 24 Invasive Species



What is an Invasive Species?

An "invasive species" is defined as a species that is **non-native (or alien)** to the ecosystem under consideration and whose introduction causes or is likely to cause **economic or environmental harm or harm to human health.** (Executive Order 13112).

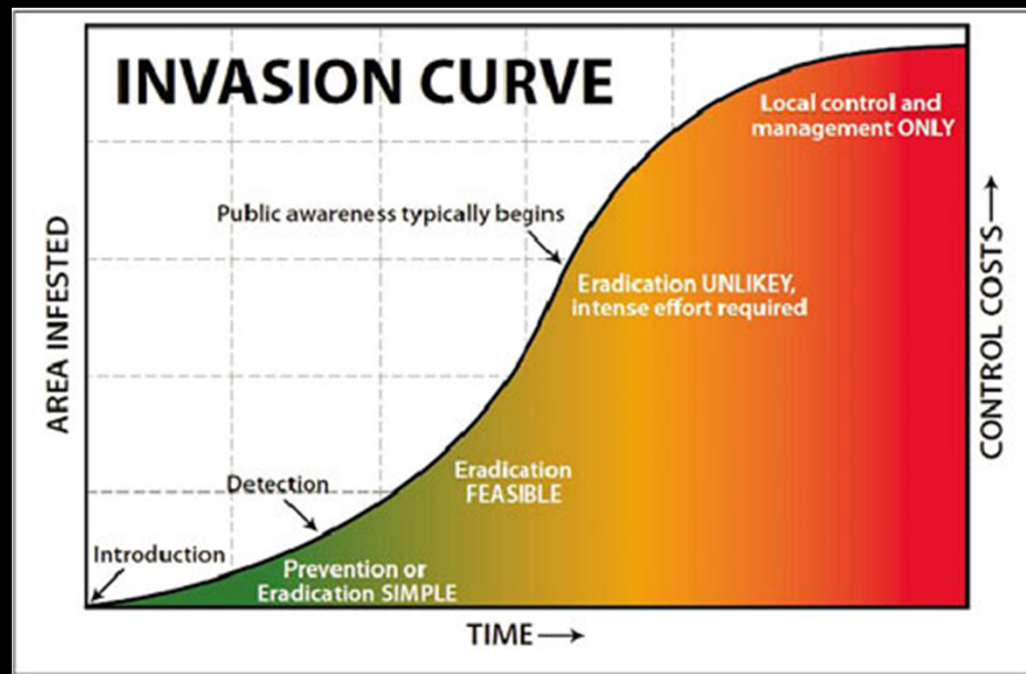


How do they get here?

- **Spread by humans** who do not realize that these plants, animals and insects are destructive.
- May happen when people plant garden **ornamentals**, range **forage plants**, or plants for **erosion control**.
- Can occur when animals and insects are **introduced to control other organisms**.
- Other species are **introduced accidentally** on **imported** nursery stock, fruits, and in ship ballast waters, on vehicles, in packing materials and shipping containers.

Why are they important?

- Invasive species threaten native plant and **native plant communities**.
- After habitat destruction, invasive species are the single largest cause of **native plant extinction**.
- The rate at which new, potentially invasive, species are being introduced is **exponentially increasing**.



What are the Ecosystem Impacts?

FIRE REGIMES

SOIL HEALTH

HYDROLOGY

WATER YIELD

EROSION

**AQUATIC
NUTRIENTS**

BIODIVERSITY



What are our species of interest? **TDA Noxious Plant List** (§19.300)

Woody

Glossy privet
Chinaberry tree
Salt cedar
Tree of heaven
Paper mulberry
Chinese parasol tree
Sacred bamboo
Chinese pistache
Scarlet firethorn
Chinese tallow

Aquatic

Common water hyacinth
Hydrilla
Elephant ears

Herbaceous

Golden bamboo
Giant reed
Johnson grass
Bermudagrass
Bluestem, King Ranch
Japanese netvein hollyfern
Bastard cabbage
Malta star-thistle

Vines

Kudzu
Japanese honeysuckle
Catclawvine

How were the species evaluated?

Impact

Assess the **cumulative impact** of the species on the wildlands.

Applies to impacts within the **area currently occupied** by the species.

Arranged **hierarchically**: species that significantly alter ecosystem processes, impacts on plant community composition, and higher trophic levels.

Invasiveness

Rates a **species' potential** to establish, spread, and increase in abundance in wildlands.

Distribution

Rates the **number and proportion** of different ecological types invaded.

“Ecological amplitude” indicates the **diversity** of ecological types invaded.

Addresses the **extent of infestation** in any given ecological type (frequency) .

Documentation

Assessed as highest level of **documentation** for each criterion.

Inventory Categories (Score)

High, Moderate, Low, Unknown

Species Weed Risk Assessments

Species	Common Name	Overall	Alert	Impact	Invasiveness	Distribution	Documentation
<i>Arundo donax</i>	Giant reed	High	no	A	B	A	3.84
<i>Eichhornia crassipes</i>	Common water hyacinth	High	no	A	A	A	3.3
<i>Hydrilla verticillata</i>	Hydrilla	High	no	A	A	A	3.38
<i>Ligustrum lucidum</i>	Glossy privet	High	no	A	A	A	3.41
<i>Melia azedarach</i>	Chinaberry tree	High	no	A	B	A	2.69
<i>Phyllostachys aurea</i>	Golden bamboo	High	no	A	B	A	2.61
<i>Pueraria montana var. lobata</i>	Kudzu	High	no*	A	B	A	2.8
<i>Rapistrum rugosum</i>	Bastard cabbage	High	no	A	B	A	2.92
<i>Sorghum halepense</i>	Johnson grass	High	no	A	A	A	3
<i>Tamarix ramosissima</i>	Salt cedar	High	no	A	B	A	3.15
<i>Ailanthus altissima</i>	Tree of heaven	Moderate	no	B	B	A	3.08
<i>Broussonetia papyrifera</i>	Paper mulberry	Moderate	no	B	B	A	2.16
<i>Centaurea melitensis</i>	Malta star-thistle	Moderate	no	B	A	A	3.15
<i>Colocasia esculenta</i>	Elephant ears	Moderate	no	B	A	A	2.5
<i>Cynodon dactylon</i>	Bermudagrass	Moderate ¹	no	B	B	A	2.7
<i>Firmiana simplex</i>	Chinese parasol tree	Moderate	no	B	B	A	2
<i>Lonicera japonica</i>	Japanese honeysuckle	Moderate	no	B	B	A	3
<i>Macfadyena unguis-cati</i>	Catclawvine	Moderate	no	B	A	A	2.15
<i>Nandina domestica</i>	Sacred bamboo	Moderate	no	C	A	A	2.8
<i>Pistacia chinensis</i>	Chinese pistache	Moderate	no	B	B	A	1.6
<i>Pyracantha coccinea</i>	Scarlet firethorn	Moderate	no	C	B	A	2.15
<i>Triadica sebifera</i>	Chinese tallow	Moderate	no	B	B	A	3.15
<i>Cyrtomium falcatum</i>	Japanese netvein hollyfern	Low*	no	B	C	A	1.14
<i>Bothriochloa ischaemum</i>	Bluestem, King Ranch	Unknown	no	B	B	U	2

^{1,*} see notes section for description

What is the reach of this list?

Sec. 71.153. Local Regulation

A political subdivision may **not adopt an ordinance or rule** that restricts the planting, sale, or distribution of noxious or invasive plant species.

This section does not limit the preparation and **distribution of educational materials** relating to plants of local concern.

Sec. 71.154. Disclaimer Required (2011)

“This plant list is only a **recommendation** and has **no legal effect** in the state of Texas. It is lawful to sell, distribute, import, or possess a plant on this list unless the Texas Department of Agriculture labels the plant as noxious or invasive on the department's plant list.”

What information is available?

Quick Reference

Characteristic Features

Aliases

Habitat Zones

History


Identification & Images

Biology & Spread

Ecological Threats

Management Strategies & Control

Weed Risk Assessment Summary

 City of Austin Invasive Species Management Plan

Fact Sheet Series
Date of Publication:
February 2012
For more information visit:
www.texasinvasives.org

Triadica sebifera
Chinese tallow

Characteristic Features:

- Height: up to 60 feet tall
- Leaves: alternate, aspen-like
- Conspicuous yellow leaf veins
- Flowers: long, yellowish flower spikes
- Red fall color
- Allelopathic

Other Aliases:

- *Croton sebiferum*
- *Sapium sebiferum*
- Tallow
- Tallowtree
- Popcorn tree

Habitat Zones:


- Stream banks, wet areas like ditches as well as upland sites
- Freshwater and saline soils
- Shade tolerant and flood tolerant

History:

Introduced in the 1700s from China into South Carolina. Significant numbers introduced to the gulf coast in the 1900s. Planted largely as an ornamental and provider of seed oil.


Identification

Chinese tallow is a deciduous tree with light grey, fissured bark. The tree grows up to 60 feet in height and 3 feet in diameter. The dark-green leaves have a rounded wide-angled base, an elongated pointed tip and yellow mid and lateral veins. Leaves are alternately whorled, 2 to 3 inches long and 1.5 to 2.5 inches wide. Dangling, yellowish spikes (to 8 inches) appear in late spring yielding small clusters of three-lobed fruit that split to reveal popcorn-like seeds in fall and winter. Resembles: cottonwood (*Populus* spp.) which has wavy margined leaves; redbud (*Cercis canadensis*) which has heart shaped leaves with rounded tips and red-brown bark.



Biology & Spread

Chinese tallow reproduces via bird- and water-dispersed seeds and can also spread via root sprouts. Crown sprouts when top-killed. Seeds may develop on trees as young as 3 years old.



What information is available?

Quick Reference

Characteristic Features

Aliases

Habitat Zones

History

Identification & Images

Biology & Spread

Ecological Threats

Management Strategies & Control

Weed Risk Assessment Summary

Disclaimer (H.B. 338):

This plant list is only a recommendation and has no legal effect in the state of Texas. It is lawful to sell, distribute, import, or possess a plant on this list unless the Texas Department of Agriculture labels the plant as noxious or invasive on the department's plant list.



Invasiveness¹:

The assessment of invasiveness occurs at the species level and does not automatically apply to subspecies, hybrids, cultivars or varieties of that species.

Ecological Threats

Chinese tallow is a fast growing, shade tolerant species capable of transforming diverse plant communities into single species forests, thus reducing habitat quality and ecosystem function. The tree prefers wet soils, but is adaptable and has impacted a

variety of landscapes including marshes, coastal prairies and river bottoms as well as upland sites. Chinese tallow changes conditions for both established and germinating native plants by altering light availability and soil chemistry.



Management Strategies/ Control

This woody species is treated using a combination of mechanical and chemical methods. Hand-pull or weed wrench saplings. Established individuals will require herbicide to control. Herbicide application can be done using cut-stump, girdle, injection and basal bark methods. Where feasible, trees will be felled and their stumps will receive herbicide applications

within five minutes of cutting. Where standing dead trees do not present a hazard to site users, herbicide may be applied using the basal bark method on trees with smooth bark or using the girdle or injection methods on trees of any size. Near water, use formulations approved by the US Environmental Protection Agency for aquatic use. Herbicide should not be applied when rainfall is

expected within 48 hours or when winds exceed 10 miles per hour. Restoration of soil and vegetation may be necessary following treatment, especially when soil is left bare. Follow-up monitoring and treatment will be necessary to prevent re-establishment from residual seeds in the soil.

Weed Risk Assessment Summary

Rating	Alert	Impact	Invasiveness ¹	Distribution	Doc.
Moderate	No	B	B	A	3,15
Comments:					
Rating	Alert	Scores	Documentation		
1=High	Y=Yes	A=Severe	4 = Reviewed scientific publications		
2=Moderate	N=No	B=Moderate	3 = Other published material		
3=Limited		C=Limited	2 = Observational		
4=Evaluated, not listed		D=None	1 = Anecdotal		
		U=Unknown	0 = No information		

Where can I find appropriate substitutes?

BMP's to control invasive plants at the urban/wildland interface.

Native alternatives for 148 species of North American invasive plants.

10 Plantwise Guidelines



Gardensmart
Plantwise

[HOME](#)
[RESOURCES](#)

[ABOUT](#)
[DOWNLOADS](#)

[GUIDELINES](#)

[TOOLS](#)

[COMMUNITY OUTREACH](#)

Invasive to Native Translator

Use the Invasive to Native Translator to find native alternatives for common invasive plants. Special thanks to our PlantWise Associate, the [Brooklyn Botanic Garden](#), for providing this list from the publication [Native Alternatives to Invasive Plants](#) by C. Colston Burrell and the [Houston Advanced Research Center](#) for their support of this project.

[return to search](#)

Invasive Species

Nandina domestica (sacred bamboo)
Habit: Shrub
Duration: Perennial
Native Status: Introduced to U.S.
US Distribution: AL, FL, GA, LA, MS, NC, SC, TX, VA

USDA Plants: [NADO](#)
Invasive Plant Atlas of the US: [Nandina domestica](#)
Search Google Images: [Nandina domestica](#)
Search Invasive.org: [Nandina domestica](#)

Native Alternatives

[Aqarista populifolia](#) (Florida hobblebush)
[Aralia spinosa](#) (devil's walkingstick)
[Ilex cassine](#) (dahoon)
[Ilex glabra](#) (inkberry)
[Ilex vomitoria](#) (yaupon)
[Leucothoe fontanesiana](#) (highland doghobble)
[Leucophyllum frutescens](#) (Texas barometer bush)
[Lyonia lucida](#) (fetterbush lyonia)
[Malpighia glabra](#) (wild crapemyrtle)
[Plumbago scandens](#) (doctorbush)
[Rhododendron minus](#) (piedmont rhododendron)
[Salvia greggii](#) (autumn sage)

145 Plant Species

Illustrated Descriptions

Ecological Information

Distribution & Habitat

Biology & Spread

History of Introduction

Ecological Threats

Control & Management

Native Alternatives

INVASIVES DATABASE

- INVASIVES DATABASE
- INVASIVE PLANTS**
- INVASIVE ANIMALS
- INVASIVE INSECTS
- INVASIVE PATHOGENS
- INVADERS OBSERVATIONS
- MAP INVASIVES
- COUNTY COMPARISONS

KEEP INFORMED
Sign up for the iWire to get breaking news, events and the species spotlight.

DONTMOVE FIREWOOD.org


NANDINA DOMESTICA

HEAVENLY BAMBOO

Synonym(s):
Family: Berberidaceae (Barberry Family)
Duration and Habit: Perennial Shrub

[Go Back](#) | [Printer Friendly Fact Sheet](#)

- Federal Noxious Weed
- TDA Noxious Weed
- TPWD Prohibited Exotic Species
- Invasive Plant Atlas of the US



Photographer: Forest & Kim Starr
Source: USGS

DESCRIPTION

Evergreen erect shrub in the barberry family (Berberidaceae) that grows to a height of 6-10 feet and width of 3 to 5 feet (Other cultivars including dwarf nandina are shorter in height). The plant has multiple bushy cane-like stems that resemble bamboo. The alternate leaves are bi-pinnately compound dividing into many 1 to 2-inch, pointed, oval leaflets. Young foliage is often pinkish, and then turns to soft light green. The foliage can be tinged red in winter. Early summer terminal clusters of tiny white-to-pink flowers. Each flower is 1/4 to 1/2 inch across, appearing in loose, erect, 6 to 12 inch clusters at the end of the branches. If plants are grouped, shiny red spherical berries, 1/3 inch in diameter, follow the flowers in fall and winter. Single plants seldom fruit heavily.

Ecological Threat: Nandina has naturalized and invaded habitats. It colonizes by spreading underground root sprouts and by animal-dispersed seeds. It can persist as a seedling for several years before maturing. It can displace native species and disrupt plant communities. Berries are can be toxic to cats and some grazing animals.

Native Plant Database
(+ 6,800)

Regional Recommended
Species

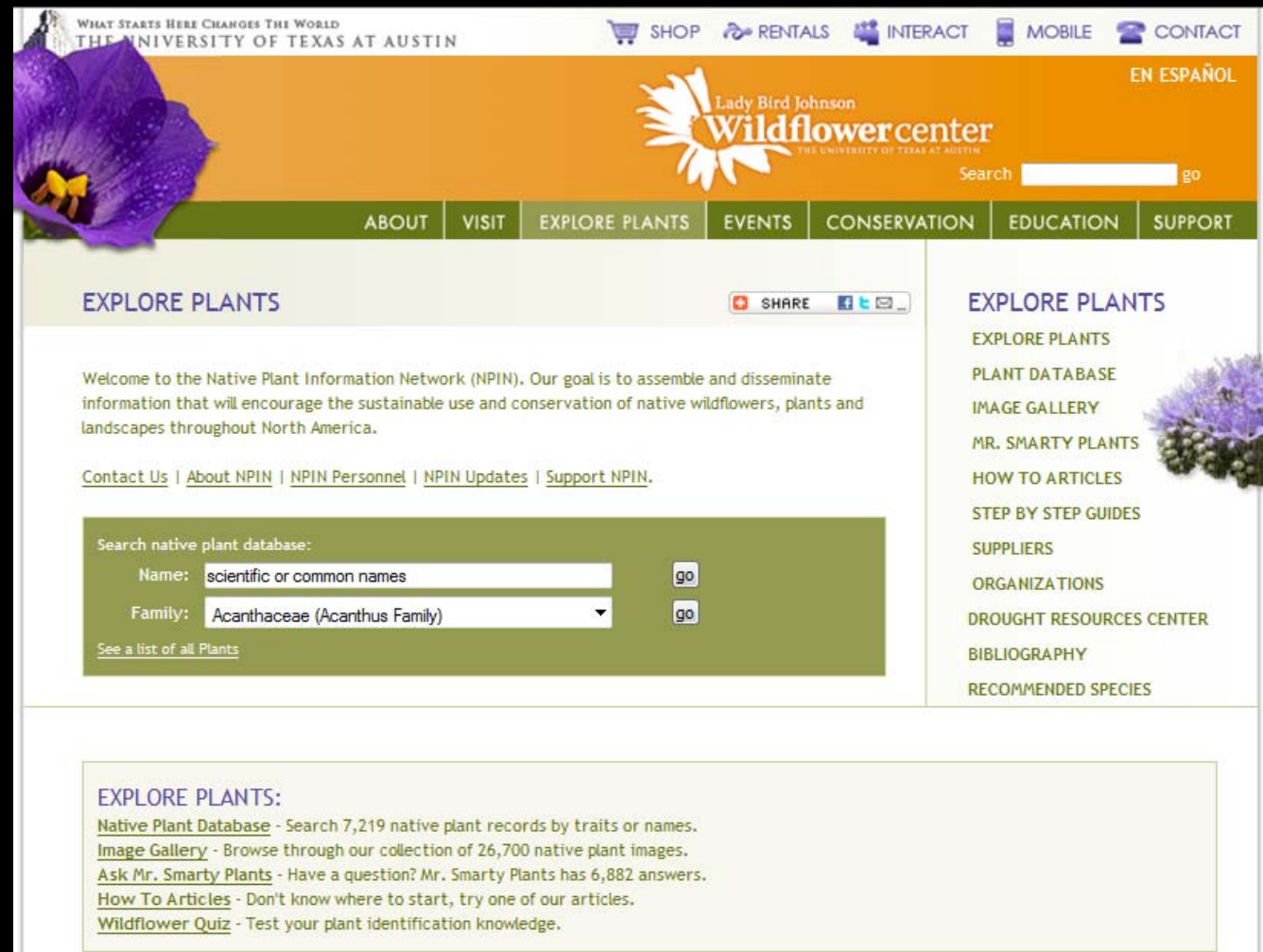
Image Gallery

Mr. Smarty Plants Q&A's

How To Articles

National Suppliers
Directory

National Organizations
Directory



WHAT STARTS HERE CHANGES THE WORLD
THE UNIVERSITY OF TEXAS AT AUSTIN

SHOP RENTALS INTERACT MOBILE CONTACT

Lady Bird Johnson
Wildflower center
THE UNIVERSITY OF TEXAS AT AUSTIN

EN ESPAÑOL

Search go

ABOUT VISIT EXPLORE PLANTS EVENTS CONSERVATION EDUCATION SUPPORT

EXPLORE PLANTS

SHARE

Welcome to the Native Plant Information Network (NPIN). Our goal is to assemble and disseminate information that will encourage the sustainable use and conservation of native wildflowers, plants and landscapes throughout North America.

[Contact Us](#) | [About NPIN](#) | [NPIN Personnel](#) | [NPIN Updates](#) | [Support NPIN](#).

Search native plant database:

Name: go

Family: go

[See a list of all Plants](#)

EXPLORE PLANTS

- EXPLORE PLANTS
- PLANT DATABASE
- IMAGE GALLERY
- MR. SMARTY PLANTS
- HOW TO ARTICLES
- STEP BY STEP GUIDES
- SUPPLIERS
- ORGANIZATIONS
- DROUGHT RESOURCES CENTER
- BIBLIOGRAPHY
- RECOMMENDED SPECIES

EXPLORE PLANTS:

- [Native Plant Database](#) - Search 7,219 native plant records by traits or names.
- [Image Gallery](#) - Browse through our collection of 26,700 native plant images.
- [Ask Mr. Smarty Plants](#) - Have a question? Mr. Smarty Plants has 6,882 answers.
- [How To Articles](#) - Don't know where to start, try one of our articles.
- [Wildflower Quiz](#) - Test your plant identification knowledge.

Resources

Be PlantWise

<http://beplantwise.org/about/index.php>

Native Plant Information Network

<http://www.wildflower.org/explore/>

Texas Invasive Plant & Pest Council

<http://www.texasinvasives.org/professionals/tippc.php>

Invaders of Texas

<http://www.texasinvasives.org/>

Principles of Successful Sustainable Landscapes

http://www.wildflower.org/edg_workshops/



ECOSYSTEM DESIGN GROUP

Matthew D. O'Toole
Environmental Designer
Lady Bird Johnson Wildflower Center
University of Texas at Austin
4801 La Crosse Avenue | Austin, Texas 78739
motoole@wildflower.org | 512.232.0134