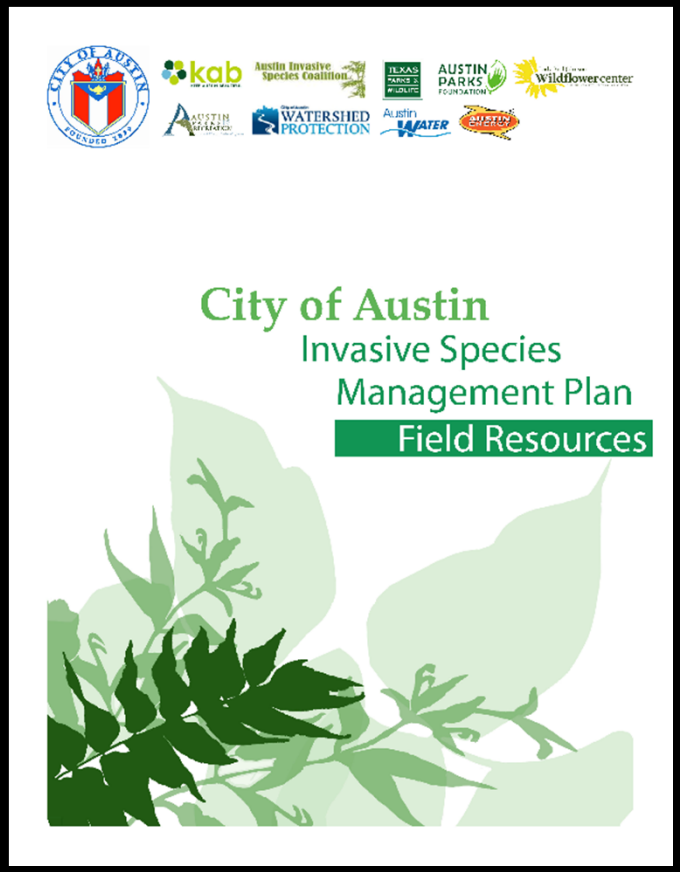


City of Austin - Invasive Plant Species Management Plan

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.

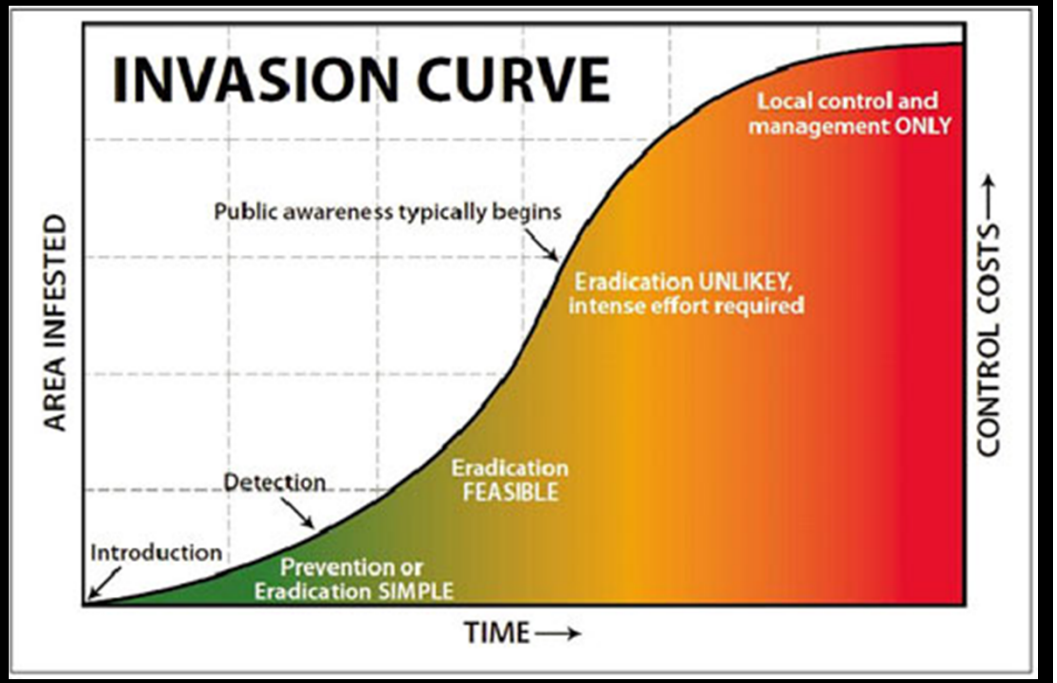
- Other species are introduced accidentally on imported nursery stock, fruits, and in ship ballast waters, on vehicles, in packing materials and shipping containers.

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

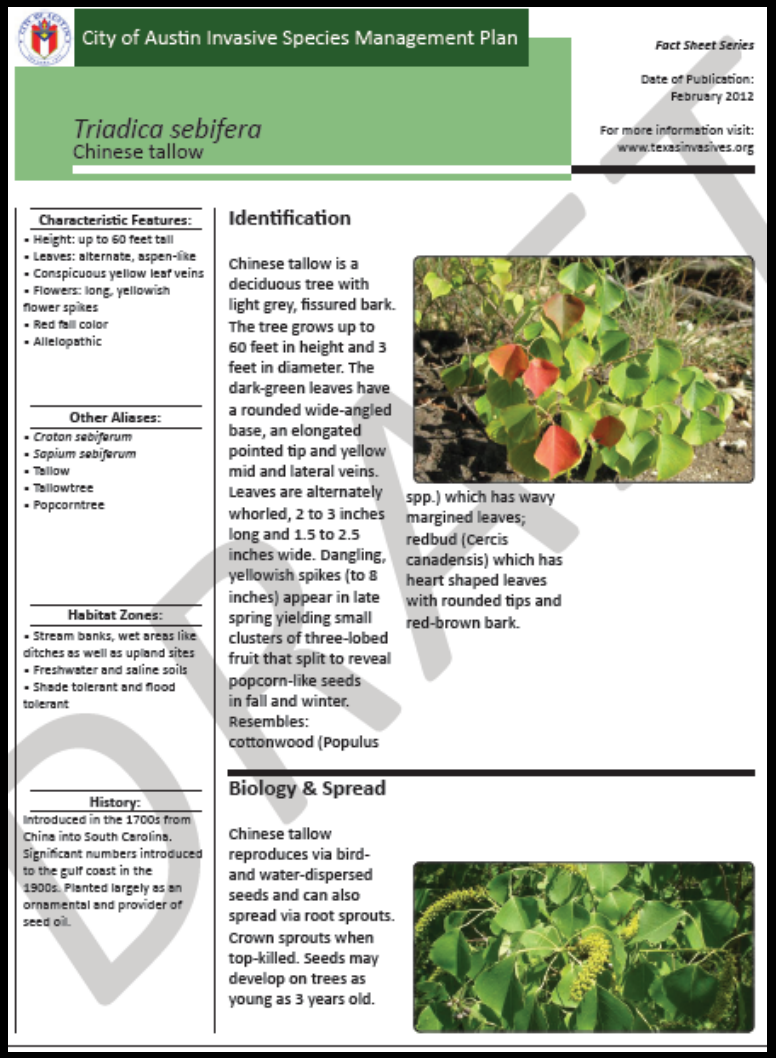
Identification & Images

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
- Popcorntree

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.

DRAFT

What information is available?

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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.

Invasiveness[1]:
The assessment of invasiveness occurs at the species level and does not automatically apply to subspecies, hybrids, cultivars or varieties of that species.

Weed Risk Assessment Summary

Rating	Alert	Impact	Invasiveness[1]	Distribution	Doc.
Moderate	No	B	B	A	3.15

Comments:

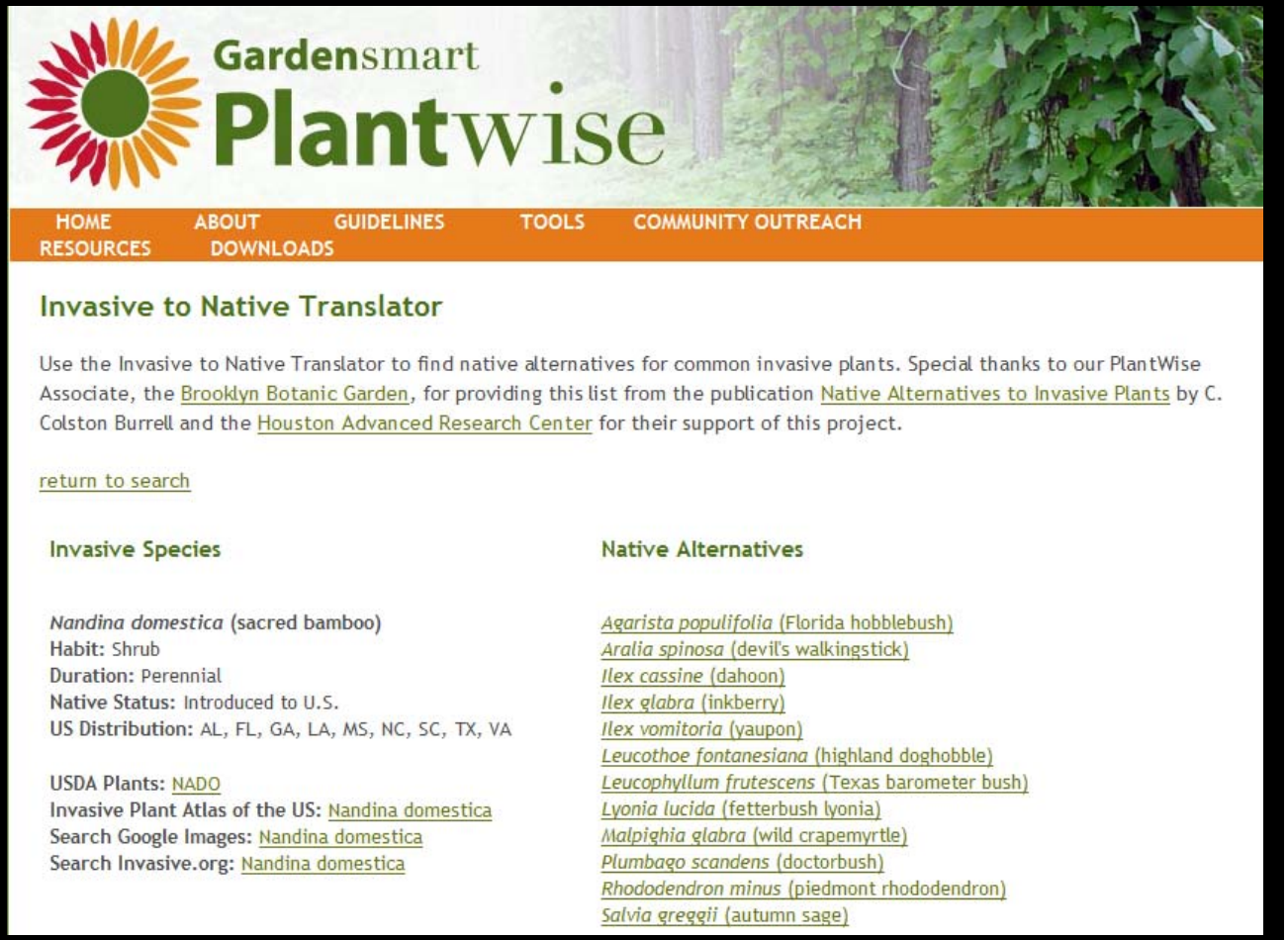
Rating	Alert	Scores	Documentation
1=High	Y=Yes	A=Severe	4 = Reviewed scientific publications
2=Moderate	N=No	B=Moderate	3 = Other published material
3=Limited		C=Limited	2 = Observational
4=Evaluated, not listed		D=None	1 = Anecdotal
		U=Unknown	0 = No information

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



145 Plant Species

Illustrated Descriptions

Ecological Information

Distribution & Habitat

Biology & Spread

History of Introduction

Ecological Threats

Control & Management

Native Alternatives

Native Plant Database (+ 6,800)

Regional Recommended Species

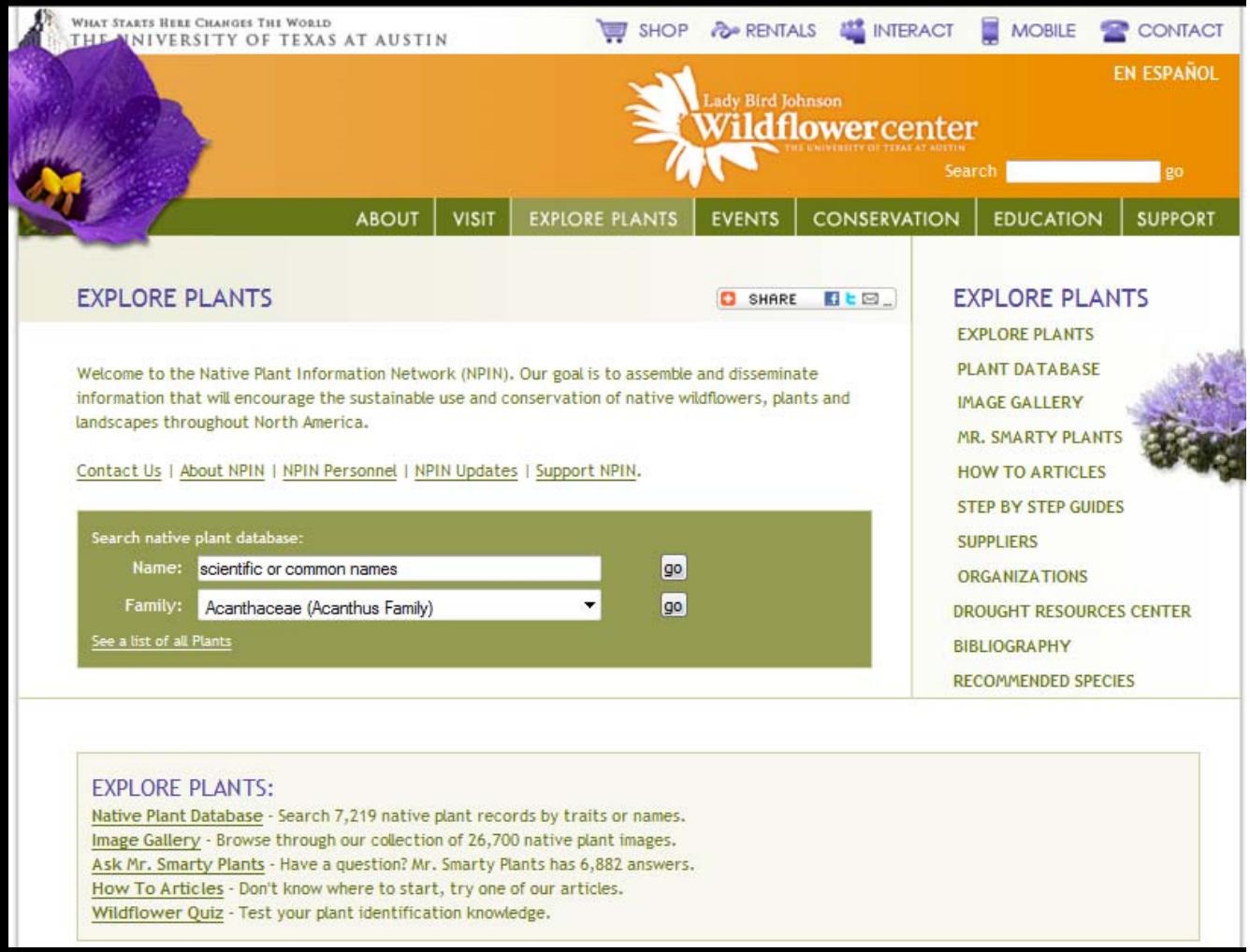
Image Gallery

Mr. Smarty Plants Q&A's

How To Articles

National Suppliers Directory

National Organizations Directory



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

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