



2013 FLEPPC/SE-EPPC Joint Annual Symposium

Panama City Beach, Florida

May 21 - 23, 2013

Damon Waitt, Ph.D.

Senior Director and Botanist

Lady Bird Johnson Wildflower Center

at the University of Texas at Austin

Austin, TX

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STAR WARS

— EPISODE I —

THE PHANTOM MENACE



THE ADVENTURE BEGINS



3151827



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APRIL 3, 2012 · 8:04 PM

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The Unstoppable, Invasive Bastard Cabbage



Commander Ben gives Bastard Cabbage the business

There has been A LOT of interest in Bastard Cabbage (*Rapistrum rugosum*) lately.

If you travel along the roads in Central Texas and you don't know about invasive species, you might think that the Bastard Cabbage is a nice, big wildflower on the roadsides. It's not. It's a terrible invasive plant that causes havoc by overrunning and towering over all the Texas wildflowers. The seedlings of the native plants don't get light, and they die or can't sprout and the Bastard Cabbage takes over,

all ages about invasive species.

Most Popular Videos

- [An Invasive Carol](#)
- [Fistful of Saltoedar](#)
- [In an Ecessis Far, Far Away](#)
- [iPhone Apps & Google Maps](#)
- [Tea Time with English Ivy](#)
- [Terrible Texas Drought Reveals Sometimes Islands](#)
- [Texas Drought Scorches McKinney Falls State Park](#)
- [The Boy Who Cried Invasives](#)
- [Titanic Struggle with Chinese Privat Ends with Their Doom](#)
- [Who Will Fall This Titan](#)

Recent Posts

- [USDA Celebrates Commander Ben and His Invasive Hunter Academy](#)
- [Life on Europa: Interview series with Dr. Britney Schmidt](#)
- [From Heavy Metal Fan to Planetary Scientist \(Geophysicist Dr. Britney Schmidt\)](#)
- [Planetary Merit Smackdown: Triton versus Europa](#)
- [Does Earth Ice Hold the Key to Alien Life?](#)

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





**WIPE OUT
BUFFELGRASS**



PG


**BUFFEL GRASS
SEED
FOR SALE**

956-487-5413

956-500-1858

Wildflower Center Activities

- www.texasinvasives.org
- 2005, 2007, 2009, 2011 Statewide Invasive Species Conferences.
- Texas Invasive Plant and Pest Council.
- Public Awareness Campaigns.
- Research on Invasive Species.
- Invaders of Texas Citizen Science Program.
- Sentinel Pest Network.




HELLO INVASIVE SPECIES.
GOODBYE TEXAS.

IWIRE: A monthly e-Newsletter about invasive plants and pests in Texas.
SIGN UP


Hello Invasive Species. Goodbye Texas.

For the past several months the Lady Bird Johnson Wildflower Center, Texas Parks and Wildlife Department and Sherry Matthews Advocacy Marketing have been working together to create a better texasinvasives.org. In addition to a more user friendly interface, the new website sports new content, such as YouTube videos and creatives that you can share and new features like Eco Alerts by Region and a Report It system to help keep the worst of the worst out of Texas.




Got *Allanthus*?

Researchers at Penn State University are working with a native vascular wilt fungus as a potential biocontrol of tree-of-heaven (*Allanthus altissima*). The project seeks to characterize the diversity of *Allanthus* throughout the U.S. and test the susceptibility of *Allanthus* to the fungus. They have already collected seed from more than 20 states mostly in the northeast, Midwest, and northwest and are now looking to collect seeds from Texas, Oklahoma, Arkansas, or Louisiana. Please email [Matt Kasson](mailto:Matt.Kasson) to learn how you can help.



Austin to Consider Invasive Species Resolution


In what may be a first for Texas municipality, Austin City Council will vote on an invasive species resolution on April 8, 2010. The resolution points out the problem of invasive species and directs the City Manager to develop an Invasive Species Management Plan for the control and/or eradication of undesirable aquatic and terrestrial species - [View Agenda](#)



Invasive Spotlight: Malta-star thistle
(*Centaurea melitensis*)

[Malta-star thistle](#) is an erect annual with a spiny, yellow-flowered head that typically reaches 1 m tall. Stem leaves are alternate, and mostly linear or narrowly oblong to oblanceolate. Malta-star thistle is easily recognizable by its spiny bud that is produced before flowering.

Plants can produce 60 or more seeds per head and 100 or more heads per plant. The heads stick to clothing, animal fur and vehicles, allowing for long distance seed dispersal.



**STOP
ZEBRA
MUSSELS.**

**CLEAN, DRAIN AND
DRY YOUR BOAT.**

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HELLO BASTARD CABBAGE. GOODBYE BLUEBONNETS.

Bastard cabbage - Don't let it fool you! The bright yellow flowers towering over the blues and reds of our native bluebonnets and Indian paintbrush are an invasive species with an overwhelming presence along Texas' roadways. *Rapistrum rugosum* (AKA Bastard Cabbage) is taking up space and resources meant for our native wildflowers. This is not going un-noticed by Texans, and there is a rising level of concern over the spread of bastard cabbage.

LEARN MORE

SPOTLIGHT

Invasive Species News and Events

MORE

DO YOUR PART TO STOP THE SPREAD!

**GIANT SALVINIA***Salvinia molesta*

BRAZIL AQUATIC INVASIVE

**SOAPBERRY BORER***Juglium orionurus*


MEXICO WOOD BORING BEETLE

**JAPANESE
CLIMBING FERN***Lygodium japonicum*

JAPAN FOREST THREAT

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**HELLO
ZEBRA MUSSELS.
GOODBYE
TEXAS BOATING.**

CLEAN YOUR BOAT, TRAILER AND GEAR.

TEXAS
PARKS &
WILDLIFE





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PROFESSIONALS

In this section we provide information for stakeholders who have a professional interest in invasive species in Texas. It contains information about the Texas Invasive Plant & Pest Council (TIPPC), the statewide Invasive Species Conference, abstracts from past conferences and Species Assessments.

WHO ARE THE PROFESSIONALS?

Land management specialists from local, state, and federal agencies, including municipal, regional, state and federal parks.

Environmental organizations such as The Nature Conservancy, Native Plant Society, Audubon, Land Conservancies, Land Trusts, etc.

SUPPORT TIPPC

Donate to support the Texas
Invasive Plant & Pest Council






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TEXAS INVASIVE PLANT AND PEST COUNCIL
TIPPC
EST 2007
www.texasinvasives.org

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TEXAS INVASIVE PLANT INVENTORY

Please read the information on the Texas Invasive Plant Inventory including how plants were listed and what the ratings mean. Click on the scientific name to go to the assessment. Key to abbreviations: IMP - Impact, INV - invasiveness, DIST - Distribution, DOC - Documentation.

Records 4 to 20 of 20: [First](#) | [Previous](#) | [Next](#) | [Last](#)

NAME	RATING	IMP	INV	DIST	ALERT	DOC
Ailanthus altissima Tree of heaven	Moderate	B	B	A	N	3.08
Alternanthera philoxeroides Alligatorweed	Moderate	B	B	A	N	3.23
Arundo donax Giant reed	High	A	B	A	N	3.84
Bothriochloa ischaemum var. songarica King Ranch bluesiem	Not listed	B	B	U	N	2
Broussonetia papyrifera Paper mulberry	Moderate	B	B	A	N	2.61
Centaurea melitensis Malta star-thistle	Moderate	B	A	A	N	3.15
Colocasia esculenta Elephant ears	Moderate	B	A	A	N	2.5
Conyocetia grandiflora	High	A	B	R	N	3.60

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MELIA AZEDARACH - CHINABERRY TREE

View record in [Invasive Plant database](#).Download Assessment: [MS Word](#) | [PDF](#).

SUMMARY

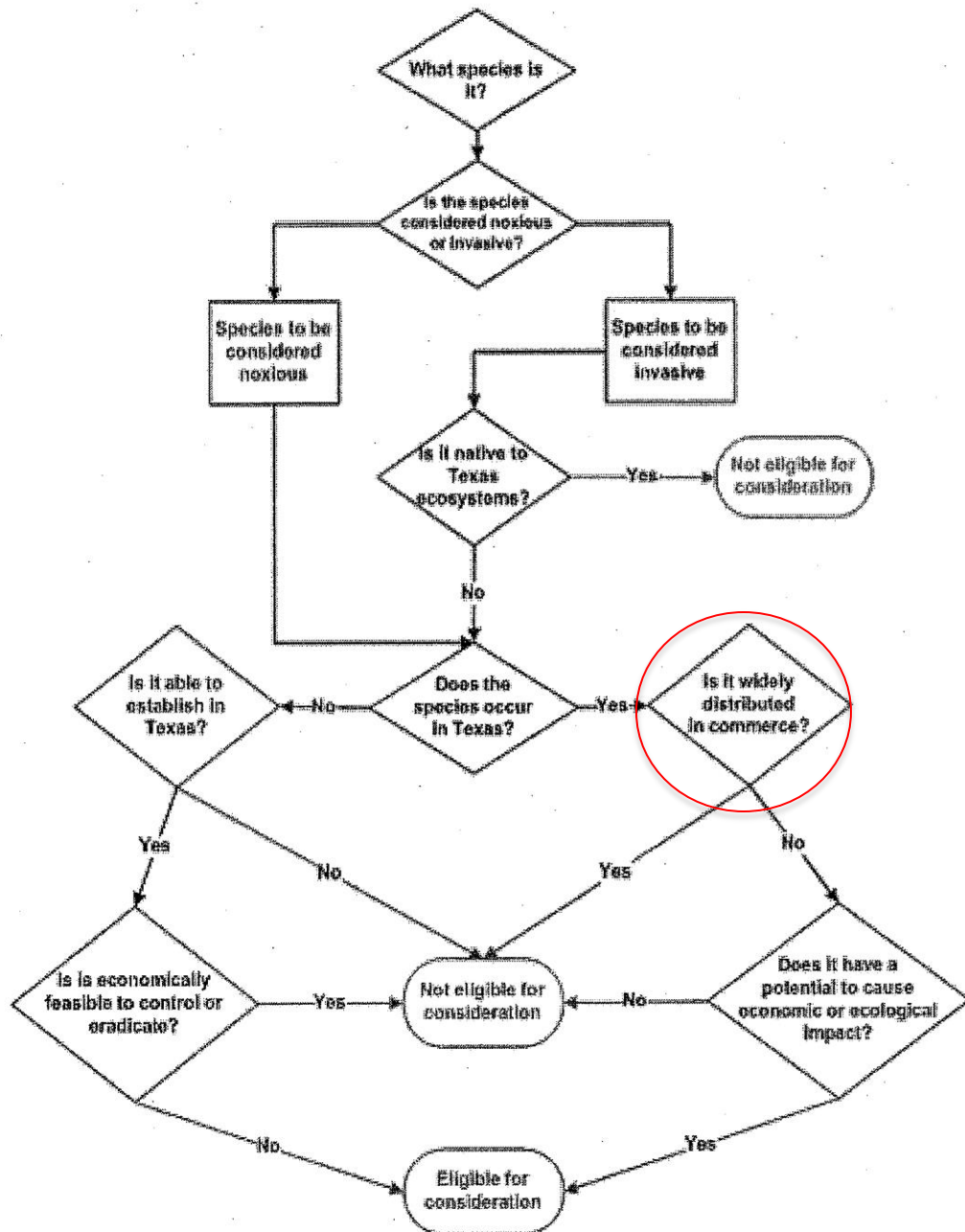
RATING	ALERT	IMPACT	INVASIVENESS	DISTRIBUTION	DOC.
High	N	A	B	A	2.69

Comments: Originally assessed for the City of Austin Invasive Management Plan

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

Scores	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	2.5	2.6	2.7	3.1	3.2
	A	A	C	D	B	A	C	A	A	A	C	A	A

TEXAS NOXIOUS / INVASIVE PLANT SPECIES LIST
Eligibility for List Consideration



Texas Department of
Agriculture Decision
Tree

Is it widely distributed in
commerce?

Yes – Not eligible for
consideration

No – Does it have a
potential to cause
economic or ecological
impact?

Yes – Eligible for
consideration

The Texas Invasive Plant Inventory

Inventory Results (N=30)

SYMBOL	Species	Common Name	Overall	Alert	Impact	Invasiveness	Distribution	Document.	COA	FED	TDA	TPWD
AIAL	<i>Ailanthus altissima</i>	Tree of heaven	Moderate	no	B	B	A	3.08	*			
ALPH	<i>Alternanthera philoxeroides</i>	Alligatorweed	Moderate	no	B	B	A	3.23			*	*
ARDO4	<i>Arundo donax</i>	Giant cane	High	no	A	B	A	3.84	*		*	
BOISS	<i>Bothriochloa ischaemum</i>	King Ranch blue stem	Unknown	no	B	B	U	2	*			
BRPA4	<i>Broussonetia papyrifera</i>	Paper mulberry	Moderate	no	B	B	A	2.16	*			
CEME2	<i>Centaurea melitensis</i>	Malta star thistle	Moderate	no	B	A	A	3.15	*			
COES	<i>Colocasia esculenta</i>	Elephant ear	Moderate	no	B	A	A	2.5	*			
CRGR6	<i>Cryptostegia grandiflora</i>	rubber vine	High	no	A	B	B	3.69				
CYDA	<i>Cynodon dactylon</i>	Bermudagrass	Moderate	no	B	B	A	2.7	*			
CYFA2	<i>Cyrtomium falcatum</i>	Hollyfern	Low*	no	B	C	A	1.14	*			
EICR	<i>Eichhornia crassipes</i>	Water hyacinth	High	no	A	A	A	3.3	*		*	*
FISI2	<i>Firmiana simplex</i>	Chinese parasoltree	Moderate	no	B	B	A	2	*			
HYVE3	<i>Hydrilla verticillata</i>	Hydrilla	High	no	A	A	A	3.38	*	*	*	*
IMCY	<i>Imperata cylindrica</i>	Cogongrass	High	yes	A	A	C	3.5		*		
IPAQ	<i>Ipomoea aquatica</i>	Water spinach								*	*	*
LILU2	<i>Ligustrum lucidum</i>	Glossy Privet	High	no	A	A	A	3.41	*			
LOJA	<i>Lonicera japonica</i>	Jap. honeysuckle	Moderate	no	B	B	A	3	*			
LYJA	<i>Lygodium japonicum</i>	Jap. climbing fern	High	no	A	A	A	2.9				
MAUN3	<i>Macfadyena unguis-cati</i>	Cat claw vine	Moderate	no	B	A	A	2.15	*			
MEAZ	<i>Melia azedarach</i>	Chinaberry	High	no	A	B	A	2.69	*			
MYAQ2	<i>Myriophyllum aquaticum</i>	Parrotfeather	High	no	A	A	B	3.76			*	
NADO	<i>Nandina domestica</i>	Heavenly bamboo	Moderate	no	C	A	A	2.8	*			
PHAU8	<i>Phyllostachys aurea</i>	Golden bamboo	High	no	A	B	A	2.61	*			
PICH4	<i>Pistacia chinensis</i>	Chinese pistache	Moderate	no	B	B	A	1.6	*			
PUMOL	<i>Pueraria montana var. lobata</i>	Kudzu	High	no*	A	B	A	2.8	*		*	
PYCO2	<i>Pyracantha coccinea</i>	Pyracantha	Moderate	no	C	B	A	2.15	*			
RARU	<i>Rapistrum rugosum</i>	Bastard cabbage	High	no	A	B	A	2.92	*			
SOHA	<i>Sorghum halepense</i>	Johnson grass	High	no	A	A	A	3	*			
TARA	<i>Tamarix ramosissima</i>	Salt cedar	High	no	A	B	A	3.15	*		*	
TRSE6	<i>Triadica sebifera</i>	Chinese tallow	Moderate	no	B	B	A	3.15	*		*	

Key TDA Noxious and Invasive List

Already Listed

Newly Listed

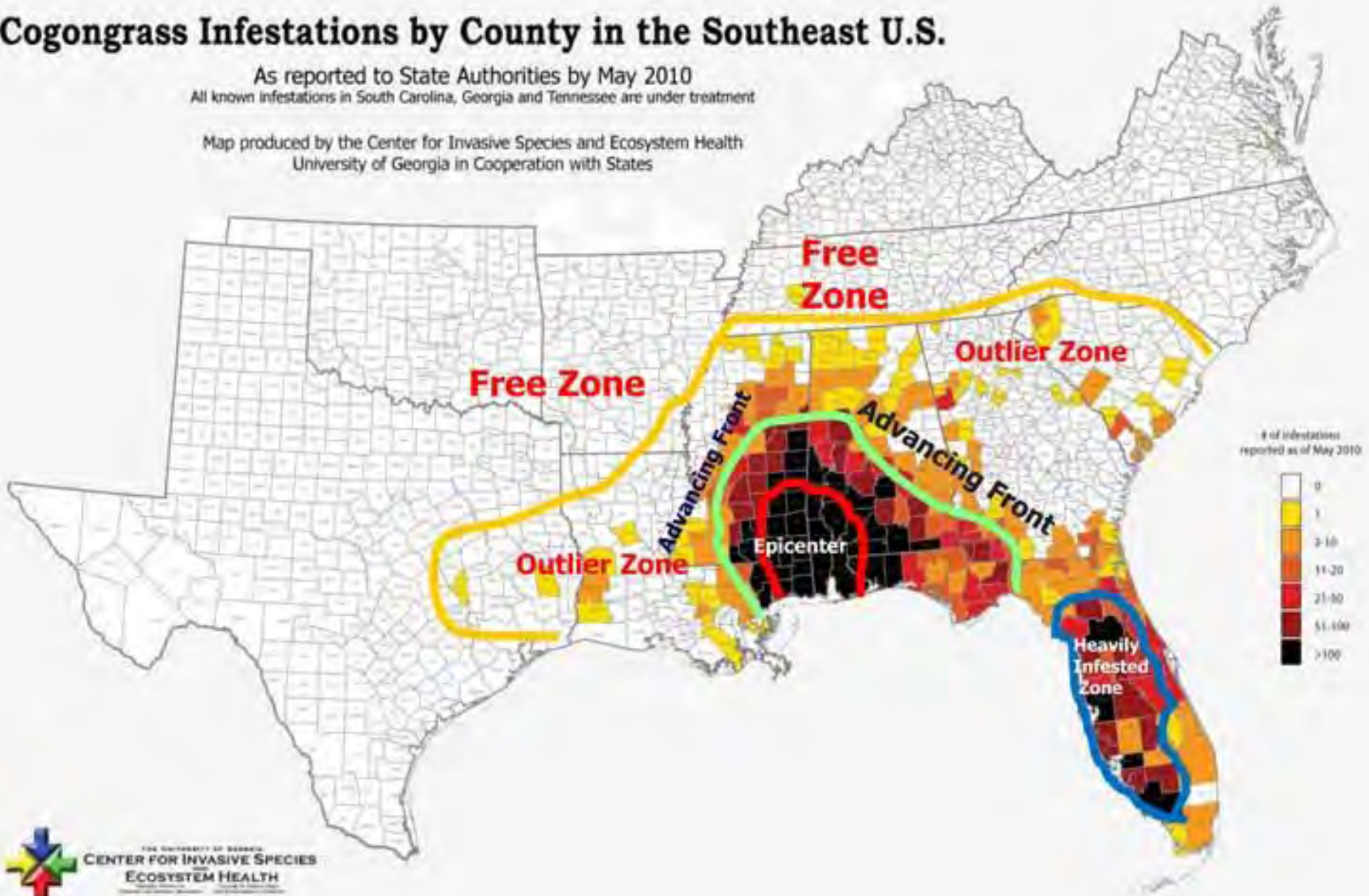
Submitted for Listing


The Texas Invasive Plant Inventory

Cogongrass Infestations by County in the Southeast U.S.

As reported to State Authorities by May 2010
All known infestations in South Carolina, Georgia and Tennessee are under treatment

Map produced by the Center for Invasive Species and Ecosystem Health
University of Georgia in Cooperation with States



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CITIZEN SCIENTISTS

The Invaders of Texas Program is an innovative campaign whereby volunteer "citizen scientists" are trained to detect the arrival and dispersal of invasive species in their own local areas. That information is delivered into a statewide mapping database and to those who can do something about it. The premise is simple. The more trained eyes watching for invasive species, the better our chances of lessening or avoiding damage to our native landscape.

The Invaders of Texas Program supports the creation and perpetuation of a network of local citizen scientist teams who seek out and report outbreaks of selected environmentally and economically harmful invasive species. These teams, coordinated by the Wildflower Center contribute important data to local and national resource managers who will, in turn, coordinate appropriate responses to control the spread of unwanted invaders. The Invaders Program is designed to move the target audience beyond awareness to action on invasive species.

LOGIN & REPORT

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INVADERS OF TEXAS

Since 2006

86 Workshops

52 Satellites

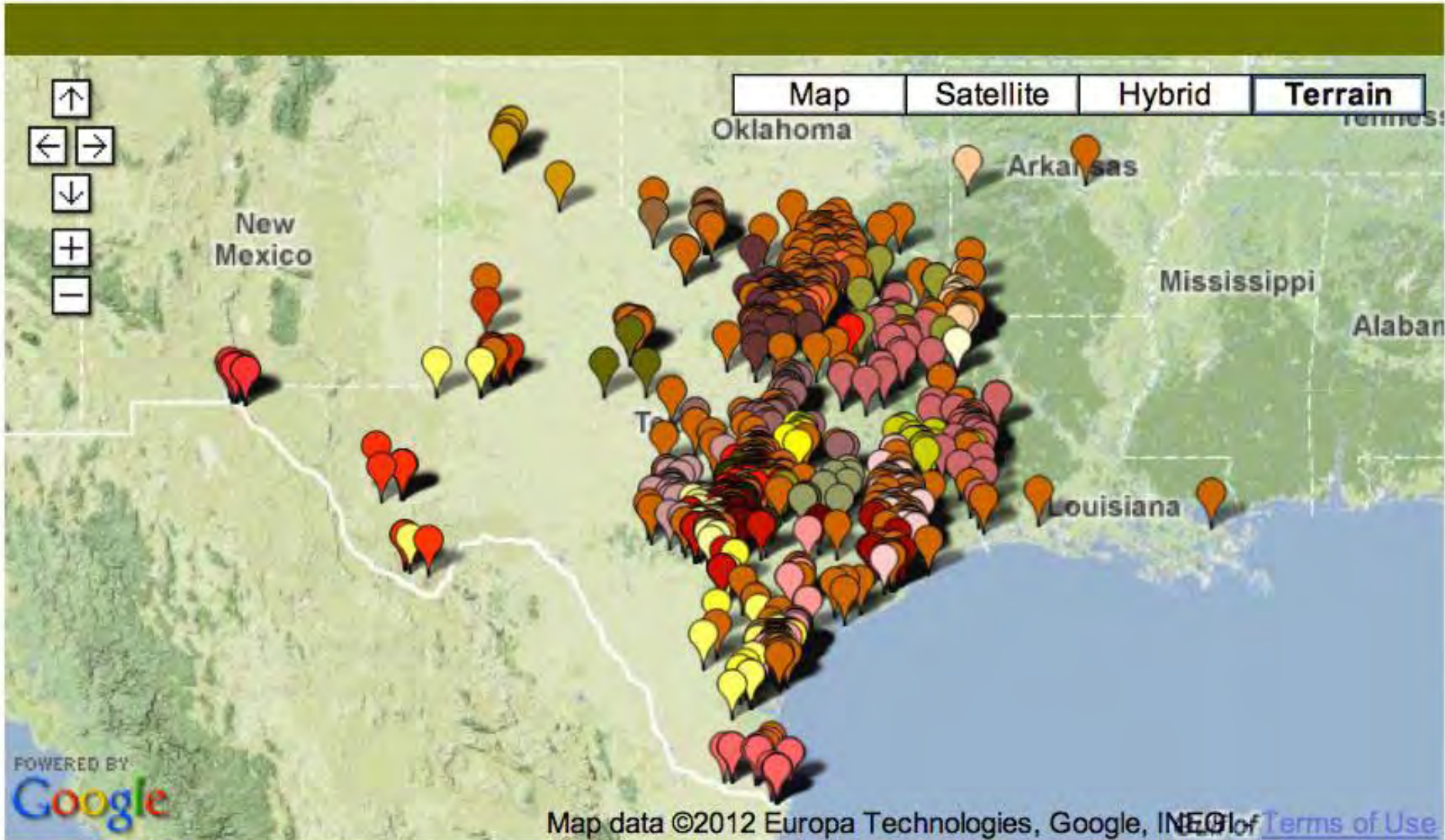
1,729 Citizen Scientists

15,417 Observations

4,878 Volunteer Hours



DISTRIBUTION OF CITIZEN SCIENTISTS



Data Collection

INVADERS DATASHEET

Observation ID: _____ (leave blank until assigned by system during data entry)
Satellite: _____ (your satellite)
Collector: _____ (your name)
Species Name or Code: _____ (e.g. AIAL or *Ailanthus altissima*)
Date: _____ (use the format yyyy/mm/dd)

Time Spent* (circle one): 5 15 30 45 60 90 120 180 240 360
*Total time spent on an observation in minutes. If first or last observation for day, include time needed to travel to or from site.

GPS Coordinates (in decimal degrees)
Latitude: _____ (e.g. 32.74452, positive indicates Northern hemisphere)
Longitude: = _____ (e.g. -097.67281, negative indicates Western longitude)

Disturbance (circle one):
 Fire Flood Graded Cleared Brush Grazed Cropland Roadside Other None

Patch Type (check one): <input type="checkbox"/> Point (one or few plants) <input type="checkbox"/> Linear (plants extending along a line) <input type="checkbox"/> Polygon (of non-linear shape)	Abundance (check one): <input type="checkbox"/> Rare (hard to find, other plants more common) <input type="checkbox"/> Common (one of the common plants in area)
---	---

Notes: Include a description of the location plus any other notes.

Images - For verification purposes, take several close up digital images of the species and record the file names of the images below so you can refer to them during image upload.

Species Image (Close up View)

Consent: I (We), the undersigned, give consent to volunteers from the Invaders of Texas Citizen Science program to conduct surveys of invasive species on property that we own or manage and to use site specific information in the preparation of reports including sharing data and publication of survey results on the www.texasinvasives.org website.

Landowner or Authorized Agent: _____ Date: _____

Texas Invasives
 http://www.texasinvasives.org/observations/insert.php
 NISC Welcome to I...pecies.gov! NETGEAR Router Great Austin Tree Survey NECIS National As... - NA EPPCs Wildflower Center NPIN Maintenance

Step 2: Observation Information

Fill out the form below using your data collections sheet as a guide. When you are satisfied with your data entry, click Insert Observation.

Species :

Collection Date : 2009-09-04 eg. 2005-12-28

Total Collection Time : 5 min

GPS Coordinates : Please enter GPS coordinates as Lat/Long decimal degrees. [Contact Us](#) if you need help setting your GPS receiver.

Look Up Coordinates: If you don't have a GPS receiver, you can find your coordinates on a Google Map by using the Choose Location feature:

Latitude : in decimal degrees (e.g. 32.74452)

Longitude : - in decimal degrees (e.g. -97.67281)
The Negative indicate Western longitude.

Disturbance :

Patch_Type :

Abundance :

Notes: Please include location details so that we may verify your GPS coordinates plus any other information about the species observation that is relevant.

or

Questions and/or comments to Webmaster
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Invaders^{of} Texas

A Citizen Science Program to Detect and Report Invasive Species

WELCOME BACK DAMON.

Here on your profile page you can add a new species observation, view or map your species observations, edit observations before they are validated, and update your personal information.

More Options:

[View Your Observations](#)

[Map Your Observations](#)

[Review Online Training](#)

DAMON'S RECENT OBSERVATIONS

You have a one week grace period to edit or delete your recent observations before they are validated. Once validated, they disappear from your profile page and are available in the Invasiders Observations Database.

OBS ID	SPECIES	DATE	VIEW RECORD	ACTION
OBS #15590	<i>Nandina domestica</i> Heavenly bamboo	2011-12-08		Edit Data Replace Image Delete
OBS #13446	<i>Arundo donax</i> Giant reed	2011-02-06		Edit Data Replace Image Delete
OBS #13444	<i>Melia azedarach</i> Chinaberry tree	2011-02-06		Edit Data Replace Image Delete

Species Observations

Tracks species observations submitted by volunteers.

Provides the public with full access to citizen science data.

Links to **species observation detail** page **plant detail** page and **validation** information.

Procedure based on Nature Conservancy Weed Information Management System.

The screenshot shows a web browser window displaying the 'Texas Invasives' website. The page title is 'Texas Invasives' and the URL is 'http://texasinvasives.org/observations/detail.php?site_id=363'. The main heading is 'INVASIVES DATABASE'. A left sidebar contains navigation links: 'INVASIVES DATABASE', 'INVASIVE PLANTS', 'INVADERS OBSERVATIONS' (highlighted), 'MAP INVASIVES', and 'COUNTY COMPARISONS'. The main content area is titled 'SPECIES OBSERVATION #363' and features the species name '*Triadica sebifera* - Chinese tallow tree'. Below this is a table with three columns: 'SPECIES DATA', 'COLLECTION DATA', and 'VALIDATION'. The table contains the following information:

SPECIES DATA	COLLECTION DATA	VALIDATION
USDA Code: TRSE6	Collector: Damon Waitt	Validated: Yes
Patch Type: Point	Satellite: Travis County Invaders	Date: 2007-07-31
Abundance: Uncommon	Date: 2006-05-19	By: Joe Marcus
Disturbance: Roadside	Time: 60.0 minutes	

Below the table is a 'Collection Notes' section: 'Around 4700 La Crosse Ave, Austin, TX.' A map of the area is shown with a red pin indicating the location. The map includes navigation controls and a legend. At the bottom of the page, there is a photograph of the Chinese tallow tree with its characteristic yellow flowers.

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MAP INVASIVES



- | | | |
|------------------------------------|---------------------------------|--------------------------------------|
| Balcones Invaders | Hays County Invaders | Piney Wood Lakes |
| Big Country Invaders | Heart of Texas Invaders | Pinywoods Invaders |
| Blackland Prairies Invaders | Heartwood Invaders | Rio Grande Valley Invaders |
| Bowie County Invaders | High Plains Invaders | Rolling Plains Invaders |
| Capital Area Invaders | Highland Lake Invaders | San Antonio Invaders |
| City of Austin Invaders | Hill Country Invaders | Stewards of Mayfield Preserve-Austin |
| City of Austin PARD | Hornaday Invaders | Texas High School Invaders |
| Comal County Invaders | Houston-Galveston Invaders | Texas Middle School Invaders |
| Cradle of Texas Invaders | Lady Bird Lake Arundo Survey | Tierra Grande Invaders |
| Cross Timbers Invaders | Llano Estacado Invaders | TPWD - Region B |
| Cypress Basin Invaders | Lost Pines Invaders | Trans-Pecos Invaders |
| El Camino Real Invaders | Mid Coast Invaders | Travis County BCP |
| Gideon Linocum Invaders | Moody High School | Travis County Invaders |
| Griffin School Restoration Project | National Forests and Grasslands | Voyager |

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|------------------------------------|---------------------------------|--------------------------------------|
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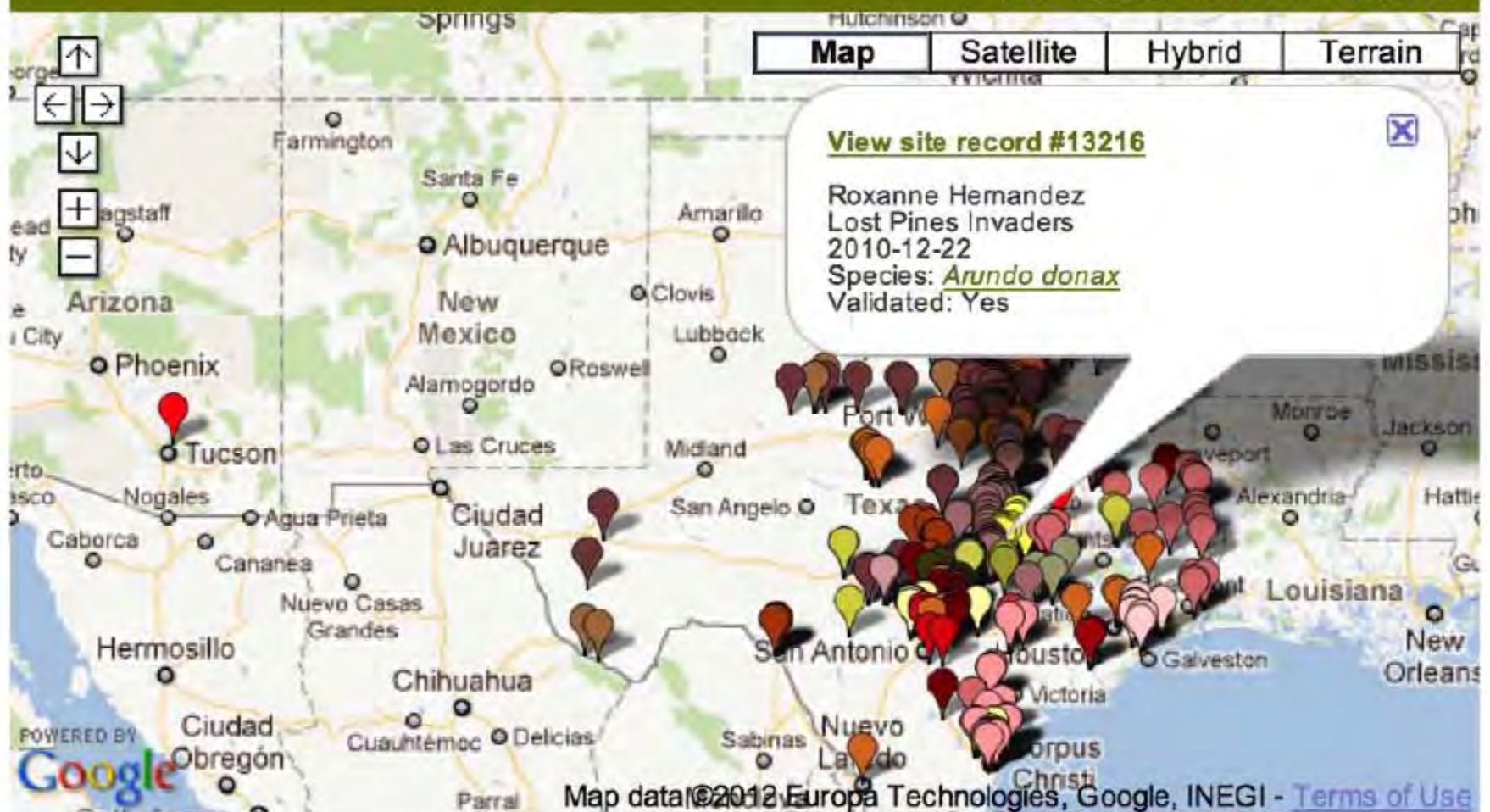
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breaking news, events and
the species spotlight.

MAP INVASIVES



- | | | |
|------------------------------------|---------------------------------|--------------------------------------|
| Balcones Invaders | Hays County Invaders | Piney Wood Lakes |
| Big Country Invaders | Heart of Texas Invaders | Pineywoods Invaders |
| Blackland Prairies Invaders | Heartwood Invaders | Rio Grande Valley Invaders |
| Bowie County Invaders | High Plains Invaders | Rolling Plains Invaders |
| Capital Area Invaders | Highland Lake Invaders | San Antonio Invaders |
| City of Austin Invaders | Hill Country Invaders | Stawards of Mayfield Preserve-Austin |
| City of Austin PARD | Hornaday Invaders | Texas High School Invaders |
| Comal County Invaders | Houston-Galveston Invaders | Texas Middle School Invaders |
| Cradle of Texas Invaders | Lady Bird Lake Arundo Survey | Tierra Grande Invaders |
| Cross Timbers Invaders | Llano Estacado Invaders | TPWD - Region B |
| Cypress Basin Invaders | Lost Pines Invaders | Trans-Pecos Invaders |
| El Camino Real Invaders | Mid Coast Invaders | Travis County BCP |
| Gideon Linocum Invaders | Moody High School | Travis County Invaders |
| Griffin School Restoration Project | National Forests and Grasslands | Voyager |

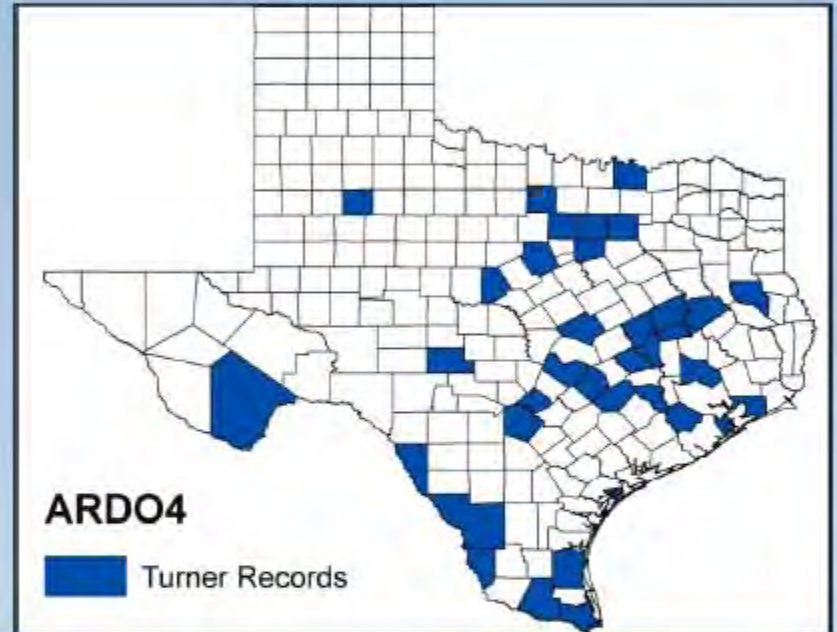
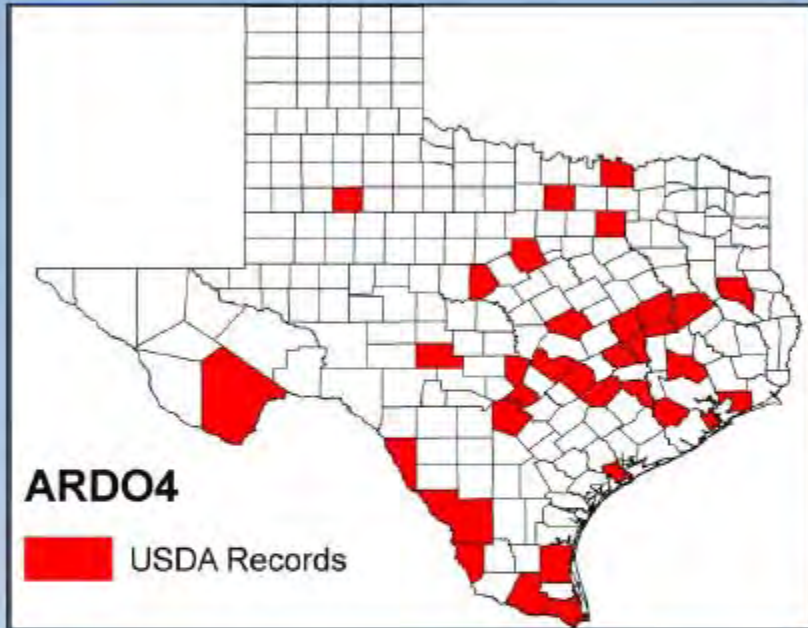
717 Observations Found

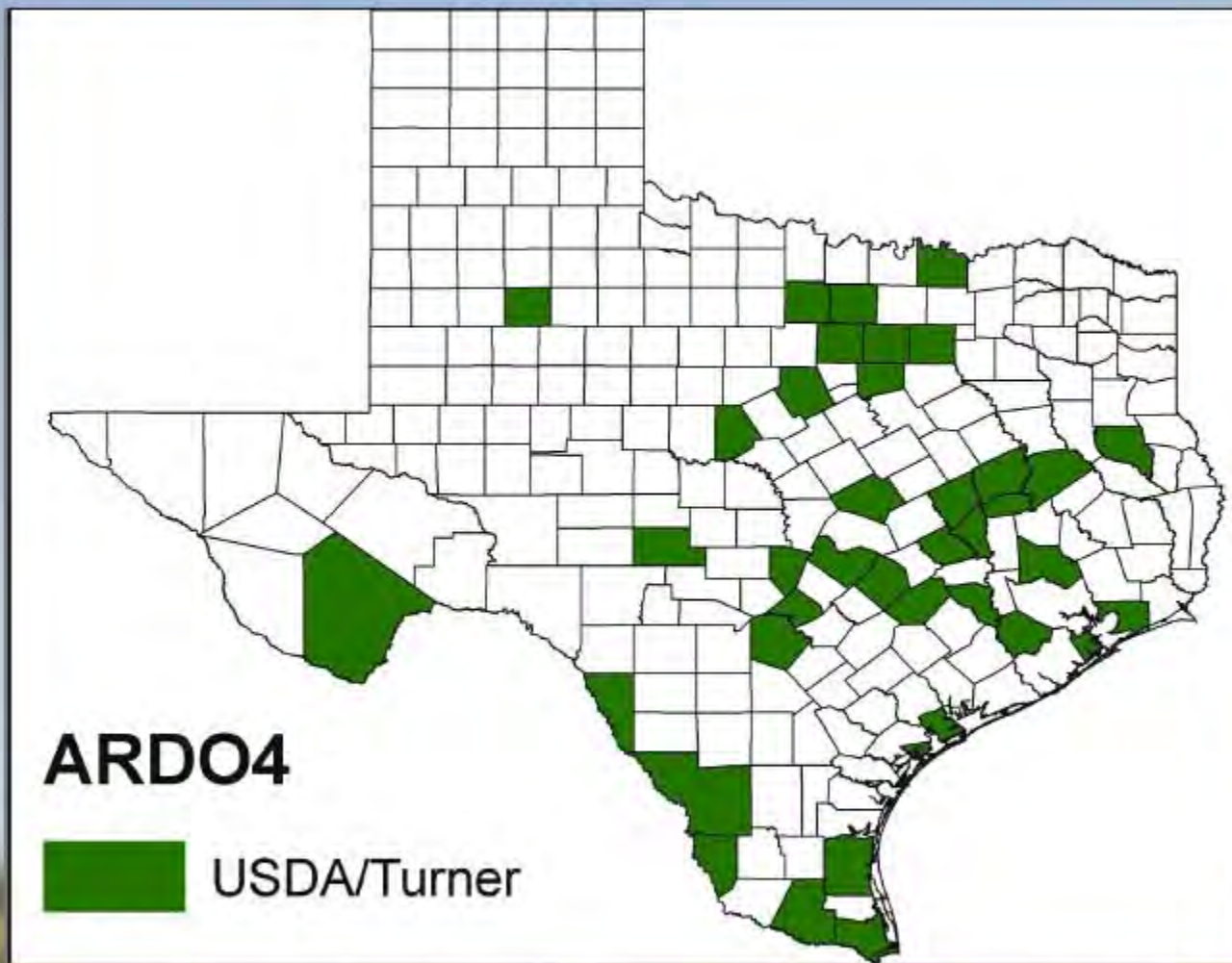


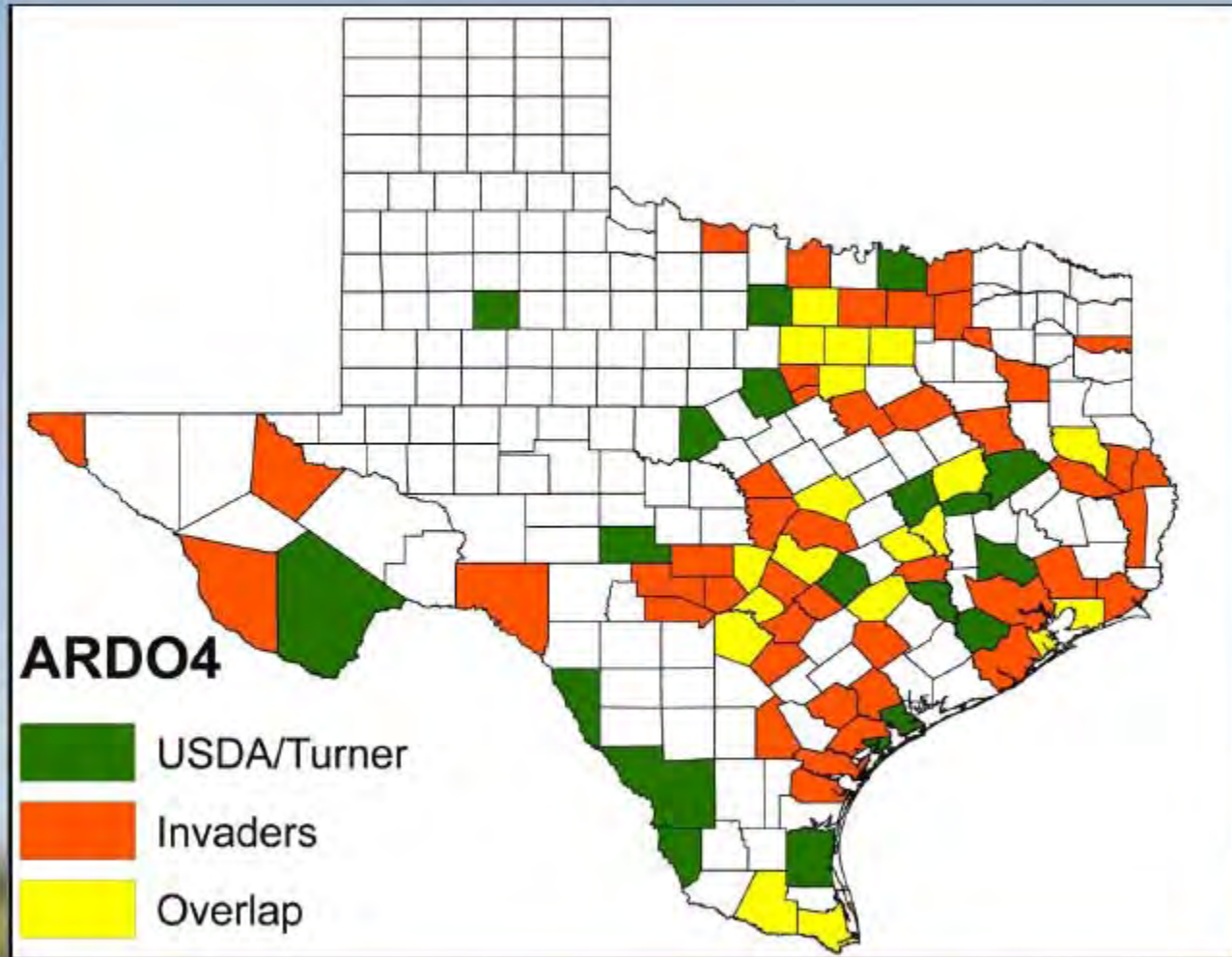
- Balcones Invaders
- Big Country Invaders
- Blackland Prairies Invaders
- Bowie County Invaders

- Hays County Invaders
- Heart of Texas Invaders
- Heartwood Invaders
- High Plains Invaders

- Piney Wood Lakes
- Pineywoods Invaders
- Rio Grande Valley Invaders
- Rolling Plains Invaders







giant reed

Arundo donax L.

USDA PLANTS Symbol: ARDO4
Invasive Plant Atlas

Distribution Maps: [State](#) / [County](#) / [Southeast](#)



Multiple Points



Single Point



[Print](#)



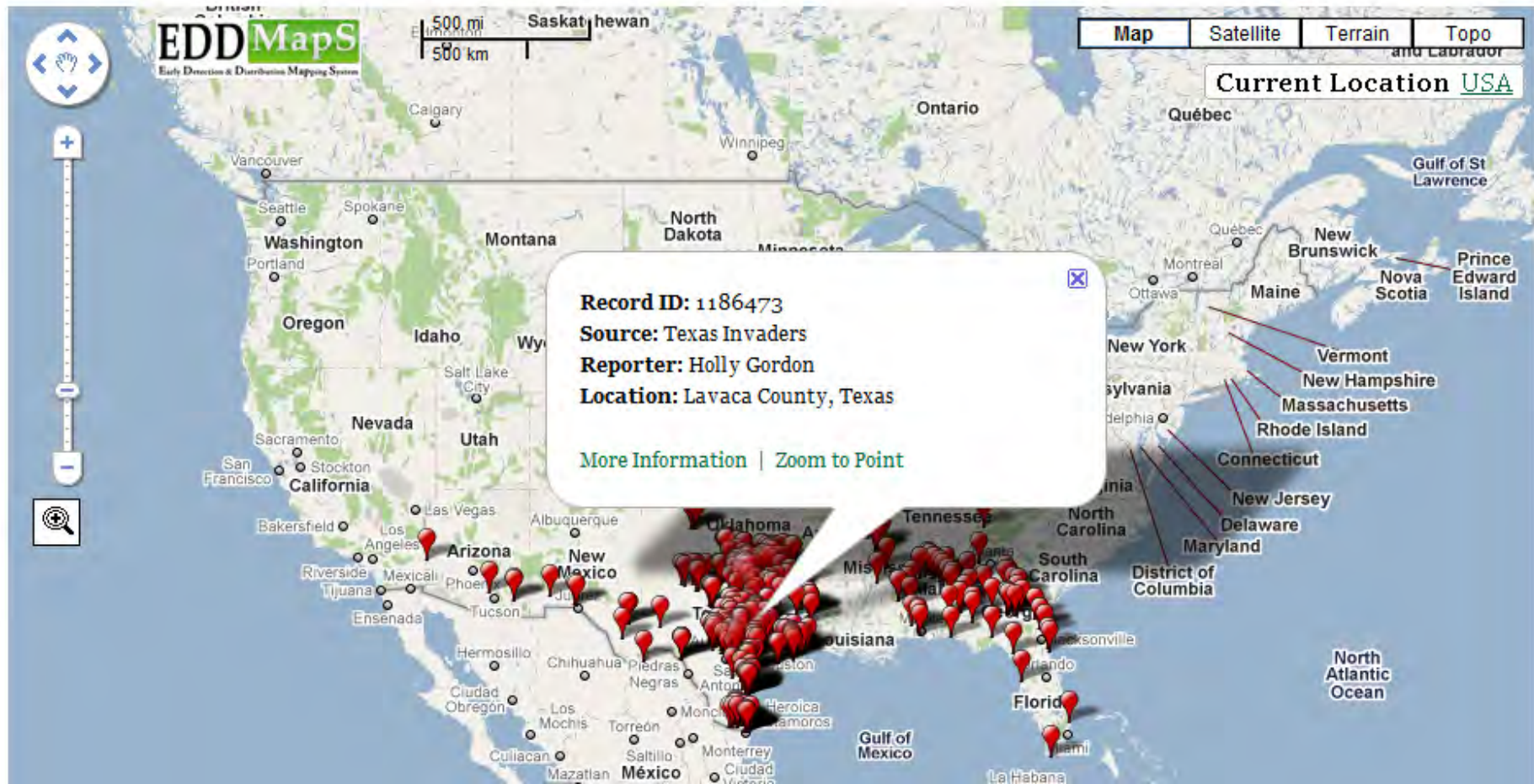
[Link to this View](#)

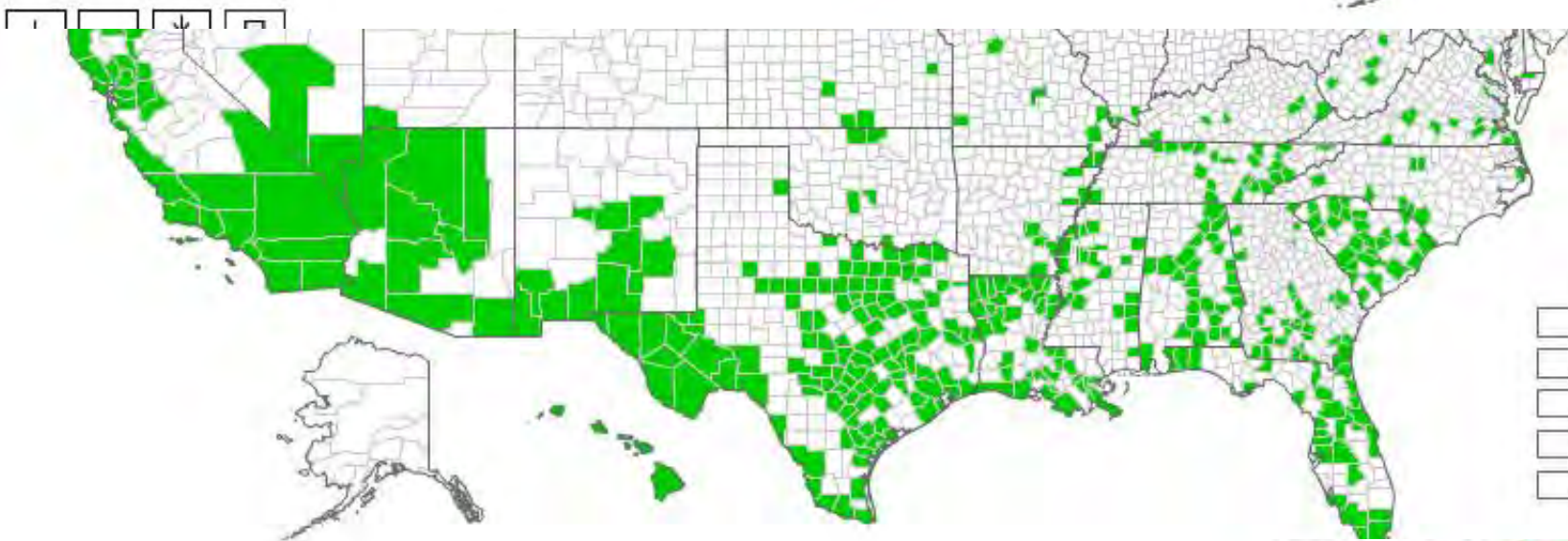
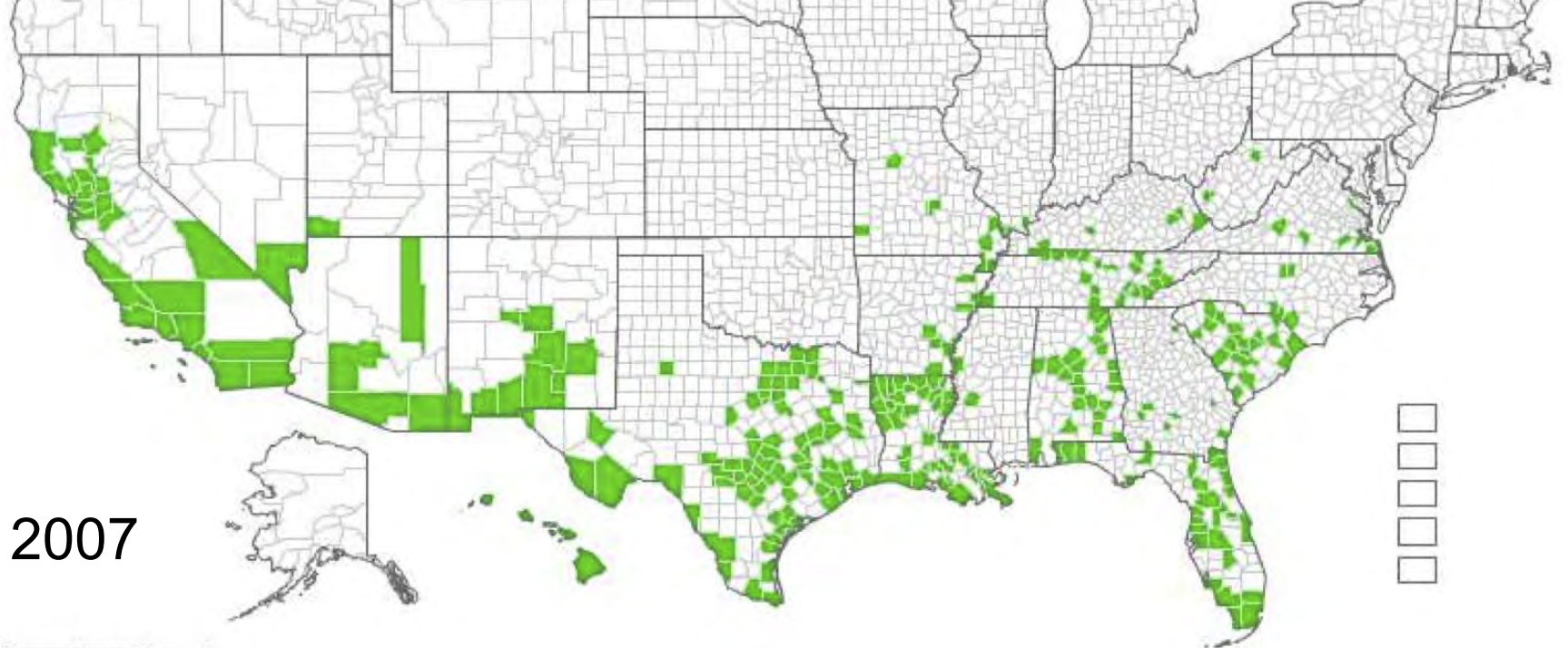


[Excel](#)



[Google Earth](#)





Creating a Successful Citizen Science Model to Detect and Report Invasive Species

TRAVIS GALLO AND DAMON WAITT

*The Invaders of Texas program is a successful citizen science program in which volunteers survey and monitor invasive plants throughout Texas. Invasive plants are being introduced at alarming rates, and our limited knowledge about their distribution is a major cause for concern. The Invaders of Texas program trains citizen scientists to detect the arrival and dispersal of invasive plants in their local areas and to report them into an online, statewide mapping database. In order to test the value of citizen scientists' data, we compared Invaders of Texas citizen scientists' observations of *Arundo donax* (giant reed) with previously recorded *A. donax* observations in Texas and found an increase in the reed's overall distribution. A comparison with observations from the Invasive Plant Atlas of New England (Molterhoff et al. 2003), a similar citizen science program, confirmed that, given proper training, citizen scientists are able to detect and report invasive plants in their local areas, and the data they collect can be used by professional scientists.*

Keywords: citizen science, Texas, *Arundo donax*, early detection, online mapping database

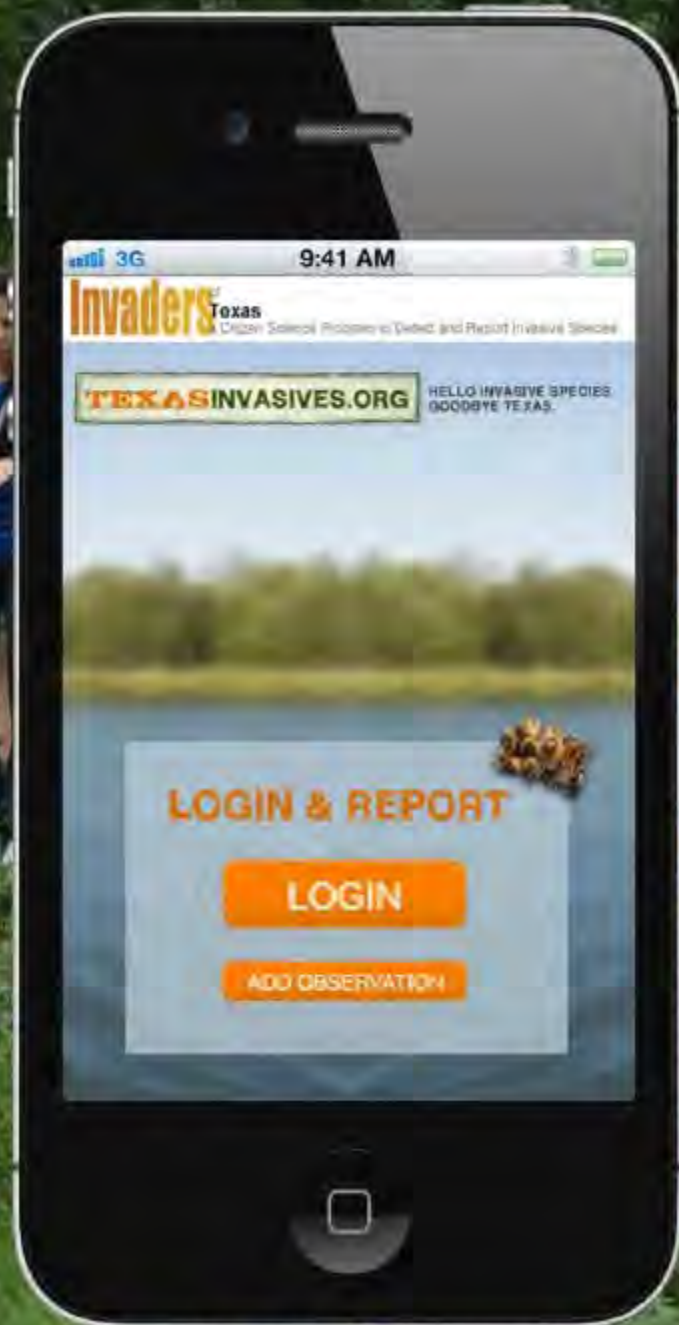
Humans have surpassed natural forces as the chief global disperser of vascular plants, and the large volume of international commerce virtually guarantees that new weeds will turn up in new ranges (Mack and Lonsdale 2001). Potentially invasive species are being introduced into the United States at an alarming rate, and our knowledge of their actual distribution is limited. Invasive plants, animals, and fungi are the second-leading cause of native plant endangerment, exceeded only by habitat destruction and degradation, and influence biodiversity, aesthetics, recreation, and property value (Wilcove et al. 1998, Mack et al. 2000, Leung et al. 2002). The majority of plants used in agriculture, forestry, and horticulture in North America are not native to the continent (Reichard and White 2001). In the history of the United States, over 5000 nonnative invasive plants have been introduced for food crops, land restoration, erosion control, or ornamental purposes and have become established in our natural ecosystems (Morse et al. 1995). Some of these species have caused major economic loss in agriculture, forestry, and other segments of the US economy, not to mention grave harm to the environment through the displacement of native plant species (Pimentel et al. 2005). Invasive plants spread at a rate of 14% per year and, on public lands, consume 4600 acres of wildlife habitat per day (Babbitt 1998).

Cheatgrass (*Bromus tectorum*), an introduced plant that now covers millions of acres in western North America, illustrates how an invasive plant can outcompete and dominate

native plants in a region (Rossman 2001). Because of the sporadic introductions and rapid spread of invasive plants, many resource managers, biologists, and policymakers have limited knowledge about the extent of infestation by invasive plants in their regions. For proper management of invasive species, there is not only a need for data on where they occur but also a need for that data to be freely and readily available to enable cost-effective responses by resource managers (Ruhle et al. 2005, Doherty et al. 2008). Such information provides a quantitative rationale for policymakers to allocate society's resources most effectively and efficiently (Leung et al. 2002). We have created a model program in Texas that relies on citizen scientists to collect invasive species data, which is then recorded in a public database that resource managers can access for weed management, scientists can use for predicting weed distributions, and policymakers can use to understand the scope of invasive species problems.

Citizen scientists are volunteers who participate as field assistants in scientific studies (Cohn 2008). Citizen scientists currently play an active role in a wide range of ecological projects, and their contribution has enabled scientists to collect large amounts of data over wide areas at a minimal cost (McCaffrey 2005, Braschler 2009). Early citizen scientist programs were created merely as educational tools, but there has been a growing focus on using citizen scientists to collect long-term data. Many citizen scientist-based networks help address the needs of ecologists and scientists to collect data for large-scale projects, such as breeding bird surveys,

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TEXASINVASIVES.ORGHELLO INVASIVE SPECIES.
GOODBYE TEXAS.

INVASIVES 101

TAKE ACTION

CITIZEN SCIENTISTS

PROFESSIONALS

RESOURCES

INVASIVES
DATABASE

GO



TAKE ACTION

STOP THE SPREAD

REPORT IT

ERADICATE

SPREAD THE WORD

GET INVOLVED

GO NATIVE

KEEP INFORMED

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

SIGN UP

ERADICATOR CALCULATOR

The Eradicator Calculator is designed to ensure that volunteer-based invasive species eradication efforts don't go unheard. The tool provides a forum to **publicize eradication events, track efforts** by date and location for 149 different invasive species, and **quantify the costs** associated with eradication events. Event details will include: eradication event date, target species, equipment cost, treatment type, volunteer time, and staff time. The information will be stored in our database and available to the public to search.

REPORT
ERADICATION

The *Eradicator Calculator* will house important data that is needed to more accurately determine the economic impacts of controlling invasive species. This information helps agency decision-makers understand the financial burden of control efforts.

Species Group Date Range -

Go

reset

[View all Eradication Calculator entries](#)

TAKE ACTION

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[SIGN UP](#)

**DON'T MOVE
FIREWOOD**.org

ERADICATION EVENT

MARCH 18, 2012

Group: Jerry Levenson

Location: Blunn Creek Preserve

Event Notes: Year total

[REPORT
ERADICATION](#)



Species	Volunteer Hrs	Volunteer Cost	Staff Hrs	Staff Cost	Supplies Cost	Total
Ligustrum lucidum Blunn Creek Preserve	103	\$2,215	0	\$0	\$0	\$2,215
	103	\$2,215	0	\$0	\$0	\$2,215

[SHARE](#) [f](#) [t](#) [e](#) ..

Sentinel Pest Network

Train citizens to identify and report pests of regulatory significance such as Emerald Ash Borer, Cactus Moth, Asian Longhorned Beetle and Sudden Oak Death.

Work with state and federal agency partners to follow up on citizen reports.

Educate and engage other citizen scientists in early detection and ongoing monitoring of invasive pests.

Participate in outreach campaigns to disseminate information about pests to the public.



COMMON NAME**SCIENTIFIC NAME**

Asian Longhorned Beetle

Anoplophora glabripennis

Brown Fir Longhorned Beetle

Callidiellum villosulum

Cactus Moth

Cactoblastis cactorum

Emerald Ash Borer

Agrilus planipennis

Gypsy Moth

Lymantria dispar

Sirex Woodwasp

Sirex noctilio

Cogongrass

Imperata cylindrica

Giant Hogweed

Heracleum mantegazzianum

Onionweed

Asphodelus fistulosus

Tropical Soda Apple

Solanum viarum

Tropical Spiderwort

Commelina benghalensis

Giant African Land Snail

Lissachatina fulica

TAKE ACTION

[STOP THE SPREAD](#)[REPORT IT](#)[SPREAD THE WORD](#)[GET INVOLVED](#)[GO NATIVE](#)

KEEP INFORMED

Sign up for the IWire to get breaking news, events and the species spotlight.

[SIGN UP](#)

REPORT IT

We need your help to stop the spread of invasive species! Please report any new sightings of the following key invasive species. If possible, take a picture of the plant or pest and record its GPS location.



GIANT AFRICAN LAND SNAIL

Lissachatina fulica

A large terrestrial snail that can reach up to 8 inches in length and nearly 5 inches in diameter. The brownish shell covers at least half the length of the snail. Damages native plants and crops. Scientists consider the giant African snail to be one...

[REPORT IT](#)

ZEBRA MUSSELS

Dreissena polymorpha

The zebra mussel is a highly invasive aquatic species that multiplies rapidly and can cause tremendous environmental and economic damage. This bivalve mollusk, originally from the Balkans, Poland and the former Soviet Union, has become established in...

[REPORT IT](#)

EMERALD ASH BORER

Agrilus planipennis

**DONT MOVE
FIREWOOD.org****LOGIN & REPORT**

Invaders of Texas Login

username

password

LOGIN

[FORGOTTEN PASSWORD?](#)**REPORT FORM**

If you have spotted *Anoplophora glabripennis* (Asian Longhorned Beetle), use this report form to send an email to the appropriate authorities.

Your Name

Email

Phone Number

Street Address

City

County

Zip Code

Location Latitude: Longitude: in decimal degrees

Did You Collect a Specimen?

 Yes or No.

Host Plant

 If applicable, what is the host plant?

Comments: Describe the species, impact, infestation or generally what you are seeing.

KILLER SNAILS IN TEXAS!

By Tap Vann on May 8, 2013



★★★★☆ 2 Votes

African land snails are attacking thousands of Texans!

The snails are potentially vicious and dangerous and they can carry meningitis. Scientists have warned anyone who comes in contact with them to – run!!

COMMENTS (3)

CATEGORIES:
HEADLINES, TOPSTORY

TAGS: HOUSTON,
INVASIVE SPECIES,
KPRC-TV, LADY BIRD

A woman gardening in East Texas was attacked and killed while she was planting her petunias.



Governor Rick Perry has called in the National Guard to deal with the snail crisis. "We are Texans. We are not going to let a bunch of snails take us down," said Governor Perry.



Meanwhile, Texans are arming themselves with special "Snail Guns" that can kill up to 500 snails in one shot. "We're going to need a lot of them snail guns down here," said Sheriff Johnny Jimjohn of Dallas. "We got lots of snails to kill."

PETA is trying to stop Texans from killing the snails. "They can rid the state of the pests without committing snail slaughter," said a spokesperson for PETA>

The giant killer snails can lay 1,000 eggs per month, so there will be

NISC

National Invasive Species Council

Established in 1999

Secretaries and Administrators of 13
federal departments.

Receives advice from ISAC.

Drafts National Invasive Species
Management Plan

Interdepartmental Invasive Species
Performance Budget

Hosts NISAW

www.invasivespecies.gov

Department of the Interior*

Department of Agriculture*

Department of Commerce*

Department of State

Department of Defense

Department of Homeland Security

Department of Transportation

Department of the Treasury

Department of Health and Human
Services

Environmental Protection Agency

U.S. Agency for International
Development

U.S. Trade Representative

National Aeronautics and Space
Administration

ISAC

Invasive Species Advisory Committee

Non-federal experts provide advice NISC and are appointed by the Secretary of the Interior

Expertise represents a wide variety of interests from academia, industry, and the private sector.

Makes recommendations to assist Federal agencies on invasive species challenges.

Provided input to the drafting of the 2001 and 2008-2012 Invasive Species National Management Plan.

ISAC White Papers:

Marine Bioinvasions White Paper (June 2011)

Climate Change White Paper (December 2010)

Green Economy White Paper (June 2010)

Biofuels White Paper (August 2009)

Definitions White Paper (April 2006)

ISAC Subcommittees:

Prevention

Early Detection and Rapid Response

Control and Restoration

Research and Information Management

Communication, Education and Outreach

Organization and Collaboration

STATE COUNCILS

Approx. 20 states have state-level invasive species councils.

Often modeled after NISC.

Usually made up of state agencies with some regulatory authority.

Established by proclamation, legislation, MOAs, etc.

Engaged in outreach, project coordination, funding, etc.

Arizona Invasive Species Advisory Council

CA Invasive Species Council

Connecticut Invasive Plant Council

Florida Invasive Species Working Group

Hawaii Invasive Species Council

Idaho Invasive Species Council

Massachusetts Council on Invasive Species

Maine Invasive Species Council

Minnesota Invasive Species Council

New Hampshire Invasive Species Committee

New Jersey Invasive Species Council

New York State Invasive Species Task Force

Oregon Invasive Species Council

Palau National Invasive Species Committee

TX Invasive Species Coordinating Committee

Utah State Weed Committee

Virginia Invasive Species Council

Washington Invasive Species Council

WI Governor's Invasive Species Council

NECIS

National Environmental Coalition on Invasive Species

Established in 2003

Partnership of seventeen major
environmental organizations

Provides a united expert and scientific
voice on invasive species policy

www.necis.net

Audubon

California Invasive Plant Council

The Center for International Environmental Law

Conservation International

Ecological Society of America

Environmental Law Institute

Great Lakes United

Healing Our Waters-Great Lakes Coalition

Lady Bird Johnson Wildflower Center

National Association of Exotic Plant Pest Council

National Parks Conservation Association

National Wildlife Federation

National Wildlife Refuge Association

Natural Areas Association

Natural Resources Defense Council

The Nature Conservancy

The Wildlife Society

UGA1120422

NAEPPC

National Association of Exotic Pest Plant Councils

Established in 1995

Coalition of state and regional Exotic
Pest Plant Councils (EPPCs) and
Invasive Plant Councils (IPCs).

Represent professional natural
resource managers, scientists and
others.

Website serves as a contact hub for
multi-agency state invasive species
councils, CWMAs and CISMAs.

www.naeppc.org

Alabama Invasive Plant Council

California Invasive Pest Plant Council

Florida Exotic Pest Plant Council

Georgia Exotic Pest Plant Council

Ohio Invasive Plant Council

Kentucky Exotic Pest Plant Council

Michigan Exotic Pest Plant Council

Mid-Atlantic Exotic Pest Plant Council

Midwest Invasive Plant Network

Mississippi Exotic Pest Plant Council

New England Invasive Plant Group

Invasive Plant Atlas of New England

North Carolina Exotic Pest Plant Council

Pacific Northwest Invasive Plant Council

South Carolina Exotic Pest Plant Council

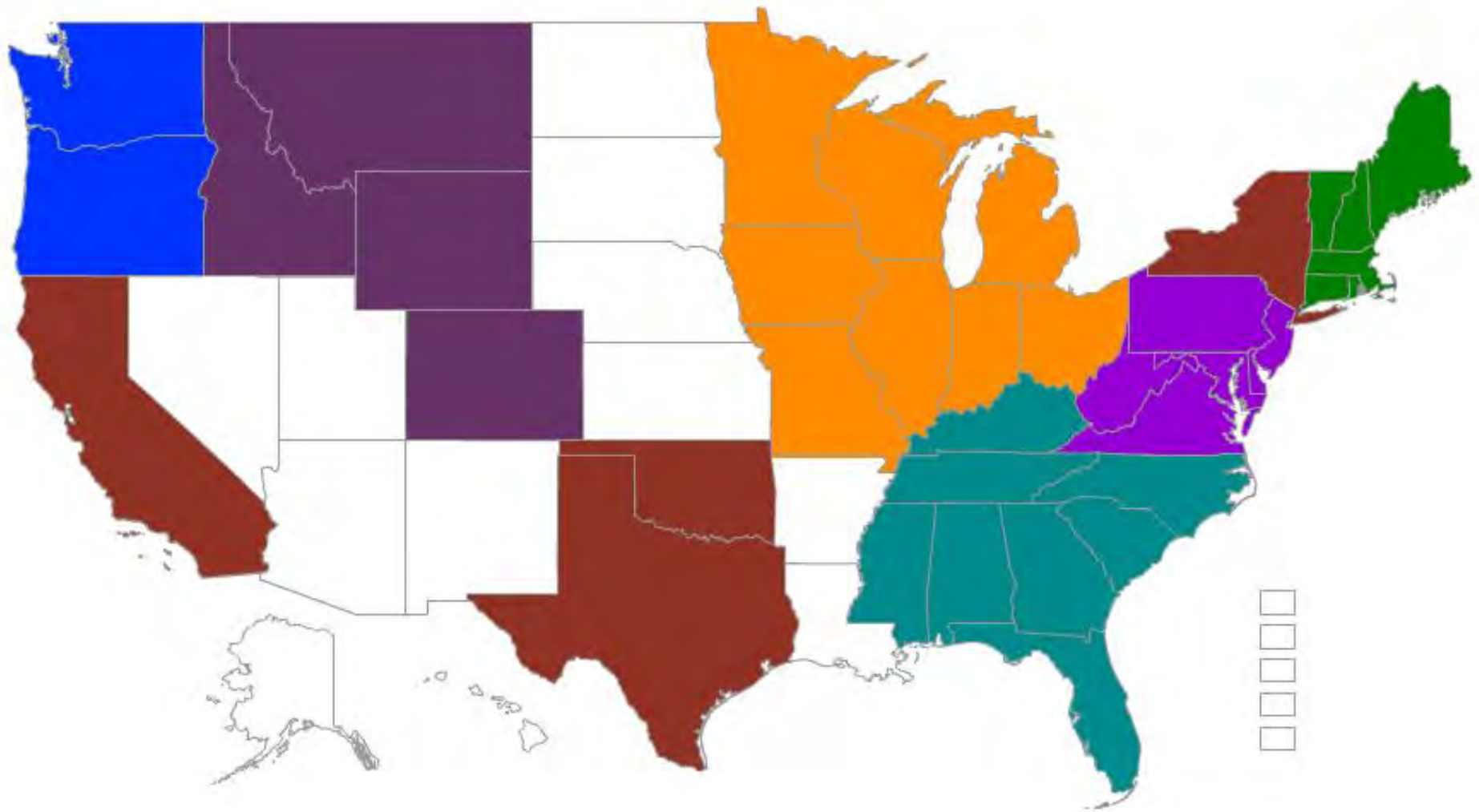
Southeast Exotic Pest Plant Council

Tennessee Exotic Pest Plant Council

Texas Invasive Plant and Pest Council

Invasive Plants Association of Wisconsin

NAEPPC



NNIPC

National Network of Invasive Plant Centers

Established in 2009

Focus on areas that warrant national discussion and coordination:

Early detection and rapid response (EDRR)

Cooperative weed management areas

Economic impacts of invasive plants

K-12 education and curriculum

www.invasiveplantcenters.org

California Invasive Plant Council

Center for Aquatic and Invasive Plants

Center for Invasive Plant Management

Center for Invasive Species and

Ecosystem Health

Midwest Invasive Plant Network

Invasive Plant Atlas of New England

CFD

Continental Forest Dialogue

Formed in 2006

Voluntary coalition of non-profit, business, industry, government, landowner, and academic entities.

Focus: preventing harmful non-native forest insects and diseases from being introduced, becoming established, and spreading in North America.

Action Areas:

- Raise Awareness
- Prevention
- Early Detection and Rapid Response
- Slow the Spread
- Restoration



NAISN

North American Invasive Species Network

Established in 2010

Includes US, Canada and Mexico.

NAISN is a consortium that uses a coordinated network to advance science-based understanding and enhance management of non-native invasive species.

www.naisn.org

Center for Invasive Plant Management

Center for Aquatic and Invasive Plants

CONABIO, Mexico

National Institute of Invasive Species
Science

Center for Invasive Species and
Ecosystem Health

Invasive Species Research Institute,
Canada

Canadian Aquatic Invasive Species
Network

Geosystems Research Institute

NAWMA

North American Weed Management Association

Public and private professional weed managers involved in implementing county, municipal, district, state, provincial or federal weed laws.

Involved in legislation and regulation, cooperation, enforcement and funding of weed management projects

www.nawma.org

Audit Committee

Awards Committee

Biological Control Committee

EDRR Committee

Healthy Habitat Committee

International Issues Committee

Mapping Standards Committee

Nominations Committee

Personal Improvement Committee

Trade Show Committee

Weed Free Forage Committee

CISMAs/CWMAs

Cooperative Invasive Species
Management Areas

Cooperative Weed Management
Areas

Community-based partnerships of federal, state, and local government agencies, private landowners, natural resource managers, non-governmental organizations, and others who agree to cooperatively manage invasive species in a defined area.

CWMA/CISMA Characteristics:

Defined area distinguished by a common geography, invasive species problem, community, climate, political boundary, or land use.

Involvement or representation of the majority of landowners and natural resource managers in the defined area.

Comprehensive plan that addresses the management or prevention of one or more weeds or invasive species.

CWMAs/CISMAs often function under the authority of a mutually developed Memorandum of Understanding and are governed by a steering committee.



CHARACTERISTICS of ISOs

Invasive Species Organizations

- Exhibit rapid, uncontrolled growth
- Able to flourish in diverse habitats
- Can withstand long periods of dormancy
- Highly competitive for limited resources
- Resistant to control efforts

PREVENTION

- Stop new Invasive Species Organizations from becoming established.
- Pathways include meetings of existing Invasive Species Organizations, conference calls and happy hours.
- If you are in a meeting and a new Invasive Species Organization is proposed...
- Look around the room.
- If you see the same people who belong to all the other ISOs...
- Eradicate the new ISO before it becomes established.

But Seriously...

There's a logical hierarchy from the national level (NISC/ISAC, EDDMapS, NAEPPC) to the state level (State ISCs, EPPCs, IPCs) to the local level (CWMAs, CISMAs, PRISMs).

Ideally there would be:

1. Federal funding flowing through this network to the local level for implementing projects on the ground.
2. Strategic planning at all levels to ensure that on-the-ground projects fit a larger landscape-level strategy.
3. A universal mapping system that supports the strategic planning by identifying outlier and leading edge populations.
4. A universal listing system that documents impacts of invasive species.

Thank You!

