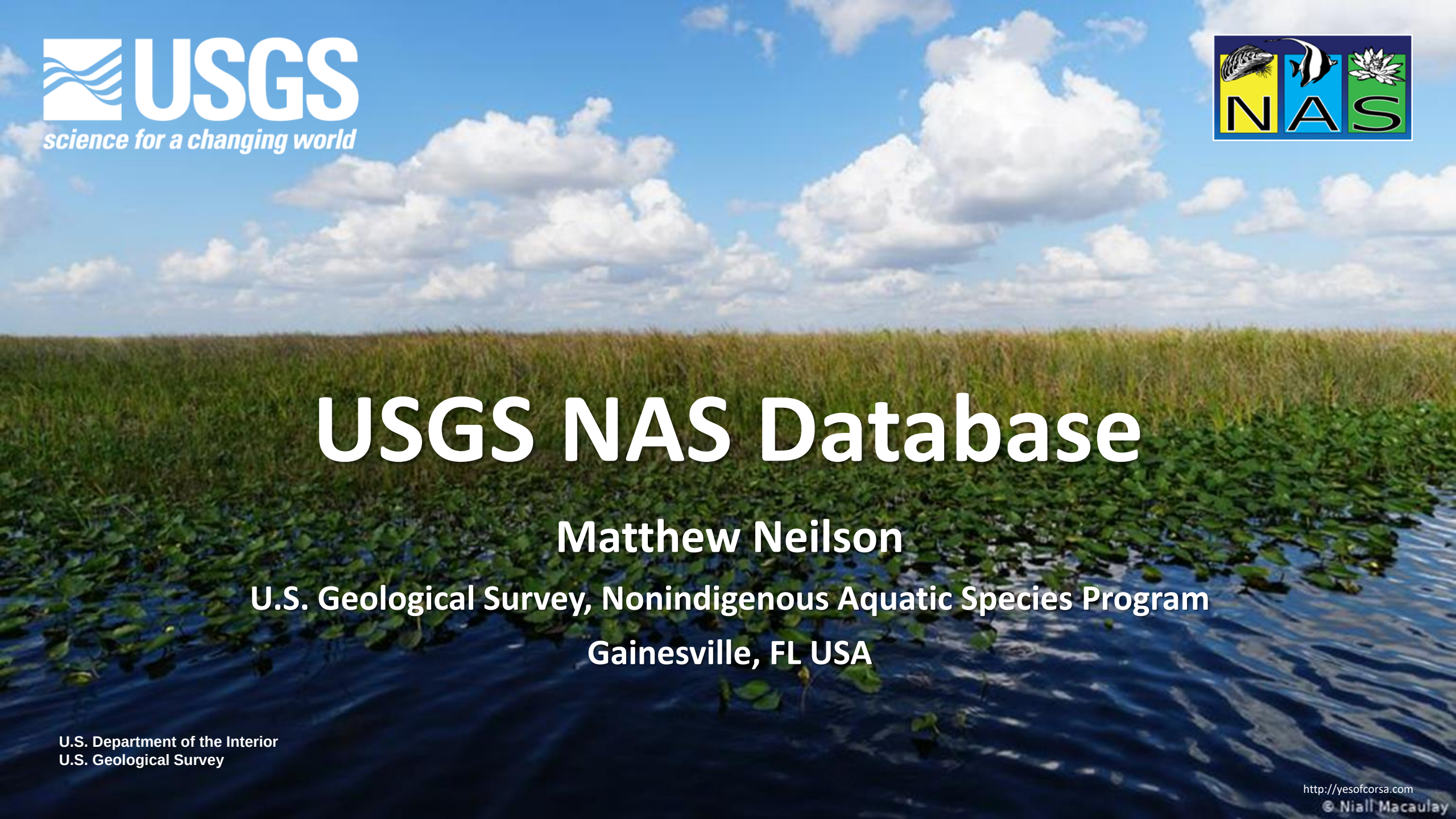


USGS NAS Database

Matthew Neilson

U.S. Geological Survey, Nonindigenous Aquatic Species Program

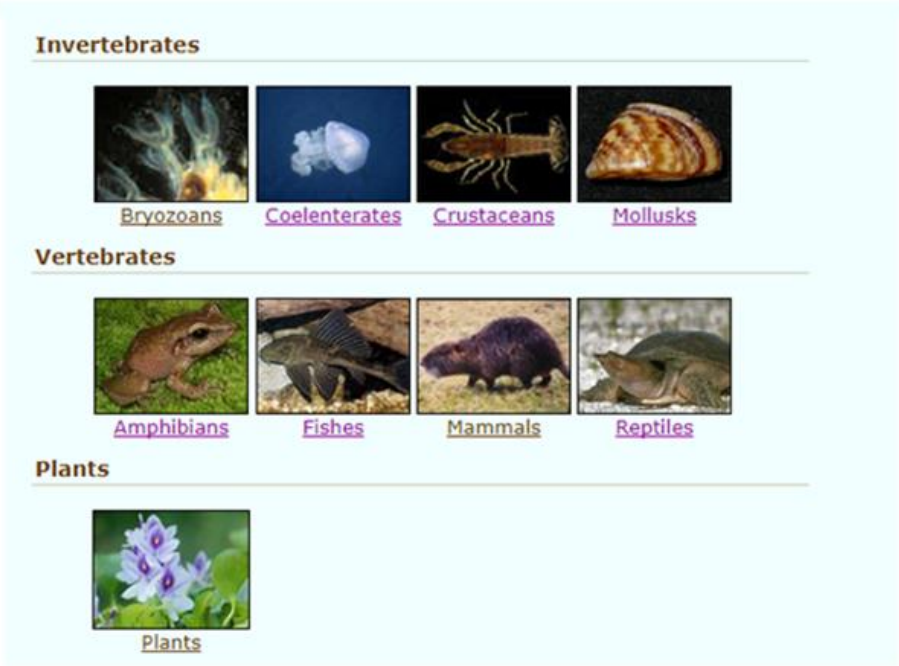
Gainesville, FL USA

U.S. Department of the Interior
U.S. Geological Survey

http://yesofcorsa.com

Nonindigenous Aquatic Species Program

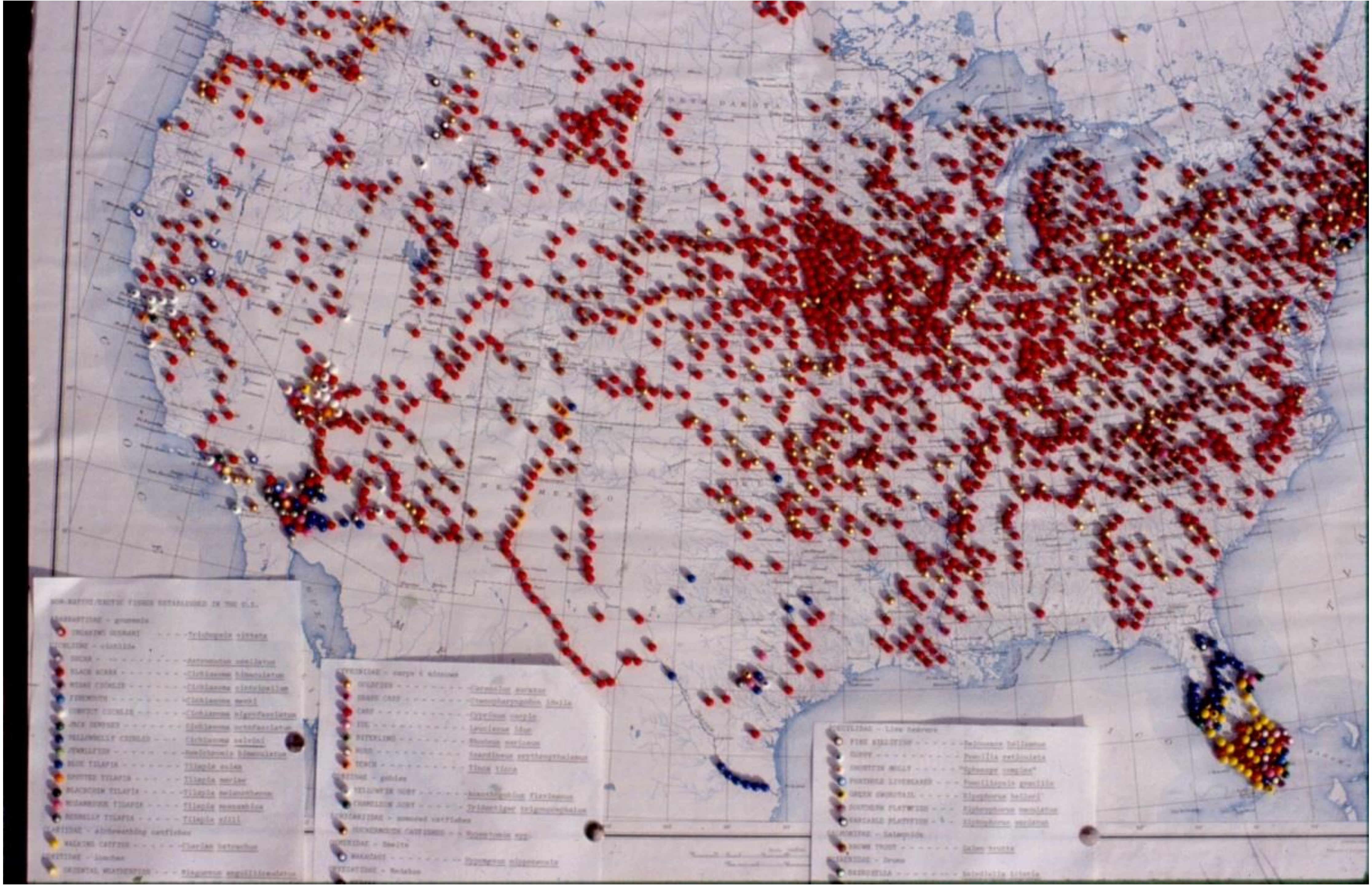
- The program is the central repository for spatially referenced accounts of introduced aquatic species.
- Tracks >1,290 aquatic species
  - Over 600k observations
- Across conterminous US, Alaska, Hawaii, and US territories
- Data ranges from 1800s - present



USGS

https://nas.er.usgs.gov

NAS


BLUE TILAPIA - Tilapia aurea
SPOTTED TILAPIA
Tilapia zillii
WALKING CATFISH - Clarias batrachus
CARP - Cyprinus carpio
TENCH - Tinca tinca
GUPPY - Poecilia reticulata
GREEN SWORDTAIL - Xiphophorus helleri
BROWN TROUT - Salmo trutta

Terminology

- Nonindigenous – any species introduced outside of its native range
  - Includes ‘exotics’ and ‘transplants’
  - No claims about invasiveness or value judgments

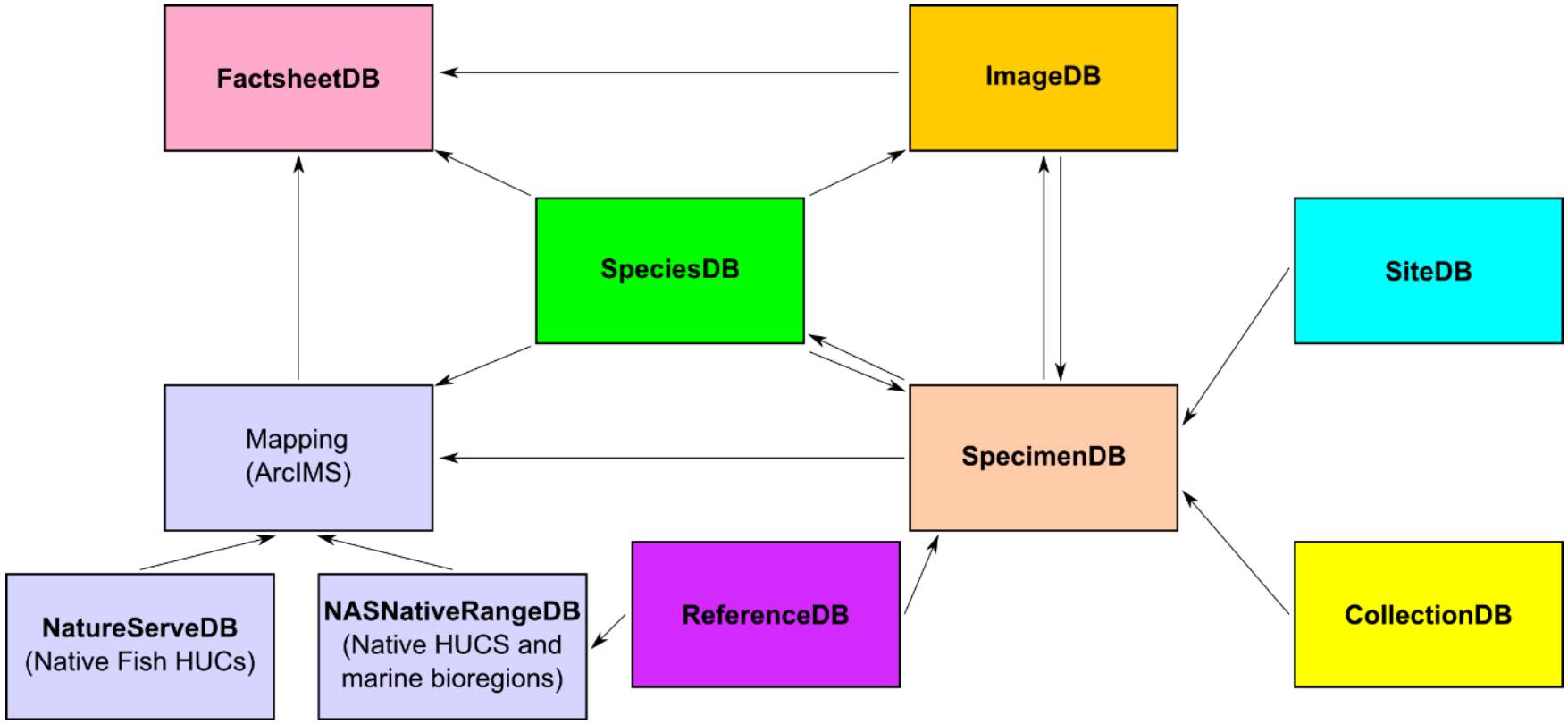
USGS

NAS Database

- Relational database (SQL Server)
  - 9 major tables
  - 60+ fields, including
    - Location information
    - Taxonomic information
    - Temporal information
    - Documentation/source of information
    - Pathway/Status information

USGS

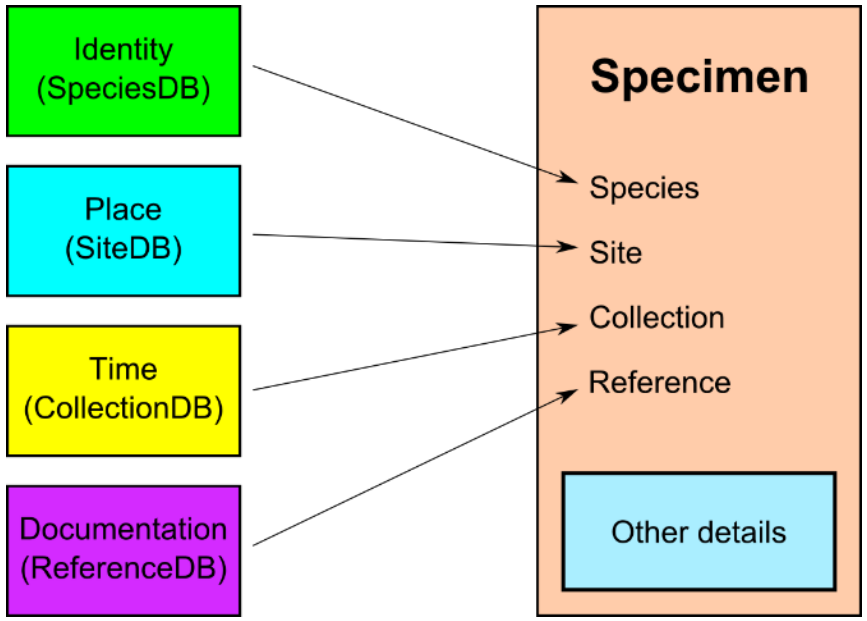
NAS Database Design



USGS

NAS specimen records

- Capture basic information about NAS species sighting
  - What?
  - Where?
  - When?



USGS

NAS specimen records

- Capture basic information about NAS species sighting
  - What?
  - Where?
  - When?

Specimen Information

Ictalurus punctatus
(Channel Catfish)
Fishes
Native Transplant

Collection Info
Point Map
Fact Sheet
Animated Map

Specimen ID	630824
Group	Fishes
Genus	Ictalurus
Species	punctatus
Common Name	Channel Catfish
State	VA
County	Louisa
Locality	Lake Gordonsville
HUC8 Name	Pamunkey
HUC8 Number	2080106
Map	
Collection Day	9
Collection Month	5
Collection Year	2014
Year Accuracy	Actual
Pathway	stocked for sport | stocked for food
Status	established
Record Type	Personal communication
Fresh Marine Intro	Freshwater
Photo	 M. Seay

USGS

Database services/capabilities

- Species-specific fact sheets
- Point mapping
- Web-based queries
- Public reporting of sightings
- Broadcast alerts of new sightings

USGS

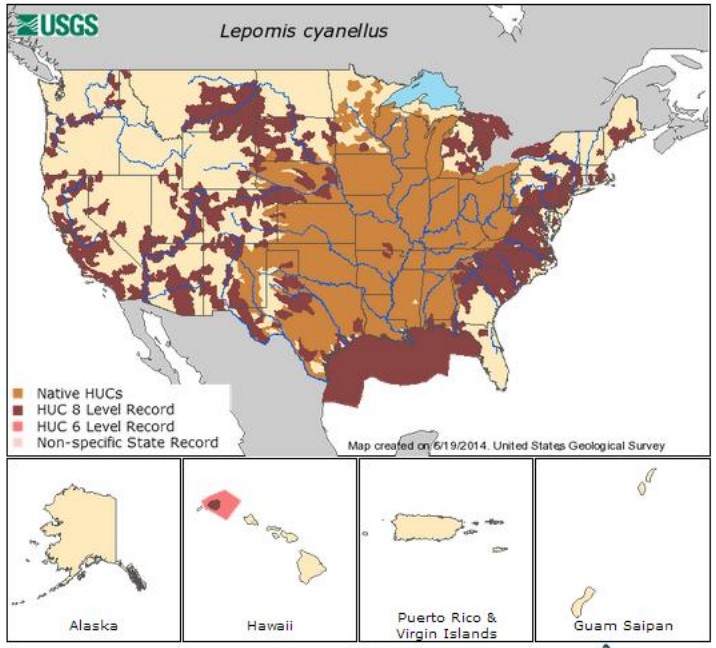
Fact Sheets

Green Sunfish (*Lepomis cyanellus*)
http://nas.er.usgs.gov/queries/FactSheet.aspx?SpeciesID=380

Identification: Becker (1983); Page and Burr (1991); Sublette et al. (1990); Etnier and Starnes (1993); Jenkins and Burkhead (1994).

Size: 31 cm.

Native Range: Great Lakes, Hudson Bay, and Mississippi River basins from New York and Ontario west to Minnesota, South Dakota, and Wyoming, and south to the Gulf; Gulf Slope drainages from Mobile Bay, Georgia and Alabama, to the Rio Grande, Texas. Also northern Mexico (Page and Burr 1991).



Native range data for this species provided in part by NatureServe
Interactive maps: Point Distribution Maps

Nonindigenous Occurrences: This sunfish has expanded both its eastward and westward range greatly, mainly as a result of accidental stocking. Green sunfish have been introduced to eastern coastal drainages in **Alabama** (Lee et al. 1980 et seq.; Swift et al. 1986; Boschung 1992); the Colorado River, Lake Havasu, Lake Mead, Gila, Bill Williams, Little Colorado, Rillito, Salt, Verde, San Carlos, Yaqui, and Santa Cruz drainages in **Arizona** (Miller and Lowe 1967; Minckley 1973; Hendrickson et al. 1980; Tyus et al. 1982; O'Connell 1998; Tilmant 1999) as well as Bill Williams River National Wildlife Refuge (USFWS 2005); all drainages in **California** (Smith 1896; Shebley 1917; Lampman 1946; Moyle and Nichols 1973; Moyle 1976a; Smith 1982; Taylor et al. 1982; U.S. Fish and Wildlife Service 1993e; Dill and Cordone 1997; Moyle and Randall 1999; Tilmant 1999; Sommer et al. 2001; Matern et al. 2002); the Republican drainage and the Green, Gunnison, White, Yampa, and San Juan drainages, and the Colorado River in **Colorado** (Vanicek et al. 1970; Holden and Stalnaker 1975; Lee et al. 1980 et seq.; Tyus et al. 1982); all drainages in **Connecticut** (Behnke and Wetzel 1960; Whitworth et al. 1968; Schmidt 1986; Whitworth 1996); the Brandywine-Christina drainage in northern **Delaware** (Raasch and Altemus 1991; Rohde et al. 1994); Rock Creek Park in the **District of Columbia** (Tilmant 1999); the Apalachicola and other panhandle drainages in **Florida** (Kilby et al. 1959; Yerger 1977; Lee et al. 1980 et seq.; Swift et al. 1986; UF museum specimens); Savannah, Altamaha (Oconee), Locust, and Chattahoochee drainages in **Georgia** (Dahlberg and Scott 1971a, 1971b; Yerger 1977; Swift et al. 1986); the island of Kauai, **Hawaii** (Devick 1991a); southeastern **Idaho** (Linder 1963; Simpson and Wallace 1978; Idaho Fish and Game 1990); a pond in the town of Argyle (lower Penobscot drainage) and a private trout pond and Tucker Stream in Harmony, in **Maine** (Halliwell 2003; F. W. Kircheis, personal communication); all areas of **Maryland** except the extreme western portion where it is native (Lee et al. 1976, 1980 et seq.; Rohde et al. 1994; Starnes et al. 2011); the Merrimack (Assibet) drainage, Buzzards Bay drainage, Bristol County, and possibly in the Taunton, Blackstone, and Quinebaug river drainages, **Massachusetts** (Hartel 1992; Cardoza et al. 1993; Hartel et al. 1996; Tilmant 1999); Houghton County in the upper peninsula (Lake Superior drainage) of **Michigan** (Becker 1983); extreme northeastern **Minnesota** (Lee et al. 1980 et seq.); the Yellowstone, Powder, Little Missouri, Tongue, Musselshell, Redwater, and Belle Fourche drainage, in southeastern **Montana** (Brown 1971; Cross et al. 1986; Holton 1990); Lake Mead Lake Mohave, the Virgin and Moapa, Truckee and Carson drainages, Colorado River, and Meadow Valley Wash in **Nevada** (Miller and Alcorn 1946; La Rivers 1962; Bradley and Deacon 1967; Deacon and Williams 1984; Tilmant 1999; Vinyard 2001); northern **New Jersey** (Lee et al. 1980 et seq.); San Juan, Zuni, Gila, San Francisco, Tularosa, Mimbres, Rio Chama, and Rio Grande drainages in **New Mexico** (Tyus et al. 1982; Sublette et al. 1990; Platania 1991); the upper Susquehanna, Webatuck River in the Housatonic drainage, Chemung drainage, Tioga drainage, and New Croton Reservoir, Iron Mine Pond and the Wallkill River in the lower Hudson drainage in **New York** (Smith 1985; Schmidt 1986); the upper Catawba, Lumber, Waccamaw, Yadkin, French Broad-Holston, Dan, Cape Fear, Neuse, Tar, Albemarle, Chowan, Roanoke, and perhaps the Tennessee drainages in **North Carolina** (Hocutt et al. 1986; Menhinick 1991); southern **North Dakota** (Lee et al. 1980 et seq.); several sites in **Oregon** including Blue Lake near Portland (lower Willamette drainage), St. Louis ponds, Marion County, and Klamath, Lost, Rogue, and Umpqua rivers (Wydoski and Whitney 1979; Bond 1994; Anonymous 2001); eastern **Pennsylvania** in the Delaware, Monocacy, Raystown, Chemung, Susquehanna, and Potomac drainages and Delaware Water Gap National Recreation Area, Pike County (Lee et al. 1980 et seq.; Cooper 1983; Hocutt et al. 1986; Schmidt 1986; Raasch and Altemus 1991; Tilmant 1999); the Santee-Cooper, Savannah, Saluda, Broad, Edisto, Wateree, Catawba, Congaree, Lynches, Pee Dee, and Waccamaw drainages, and Thompson Creek, Ashley Creek, and Rantowles Creek in **South Carolina** (Loyacano 1975; Lee et al. 1980 et seq.; Hocutt et al. 1986; Rohde et al. 1994; Rohde et al. 2009); northwestern **South Dakota** in the Grand Moreau and Belle Fourche drainages (Bailey and Allum 1962; Lee et al. 1980 et seq.); the upper Colorado basin including the Green, White, Dirty Devil, Dolores, Duchesne, and San Juan drainages, the Colorado River itself, Lake Powell, the Weber River, Utah Lake in the Great Basin and Dinosaur National Monument in **Utah** (Sigler and Miller 1963; Vanicek et al. 1970; Tyus et al. 1982; Sigler and Sigler 1987, 1996; Tilmant 1999); the Potomac, Rappahannock, York, James, Dan, Appomattox, Shenandoah, Pee Dee, Rivanna, Chowan, and Roanoke drainages, and perhaps the Holston, Clinch-Powell, and Big Sandy drainages in **Virginia** (Hocutt et al. 1986; Jenkins and Burkhead 1994; Starnes et al. 2011); Deer, Colville, and Loon lakes in the Colville drainage, Sacheen and Diamond lakes in the Little Spokane drainage, **Washington** (Smith 1896; Lampman 1946; Wydoski and Whitney 1979; Fletcher, personal communication); the Potomac, James and probably the New drainages in **West Virginia** (Stauffer et al. 1995; Starnes et al. 2011; however, Jenkins and Burkhead [1994] believe it is native to the New); and the Big Horn, Niobrara, and North Platte drainages in **Wyoming** (Simon 1946; Baxter and Simon 1970; Hubert 1994; Stone 1995; Tilmant 1999).

Means of Introduction: Accidentally stocked as bluegill *L. macrochirus* or with other intended species (i.e., stock contaminant). In Hawaii, first discovered in the Western Kauai Lagoons. That site had been previously stocked with "bluegill" from various plantation reservoirs on Kauai; therefore, it is likely that *L. cyanellus* was present in Hawaii some time prior to its collection (Devick 1991a). It has been suggested that green sunfish were planted inadvertently in Lake Mead in 1937 (Holden and Stalnaker 1975). It may have reached the upper part of the Colorado River either by moving upstream from Lake Mead or by being introduced separately in that region (Holden and Stalnaker 1975).

USGS

Collection information

nas.er.usgs.gov/queries/CollectionInfo.aspx?SpeciesID=380

Lepomis cyanellus (Green Sunfish)
Fishes
Native Transplant

Collection Info
Point Map
Fact Sheet
Animated Map

2803 Results for *Lepomis cyanellus* (Green Sunfish)
click here for listing in all states

Results per page: 25

Page: 1 2 3 4 5 6 7 8 9 10 ... >>

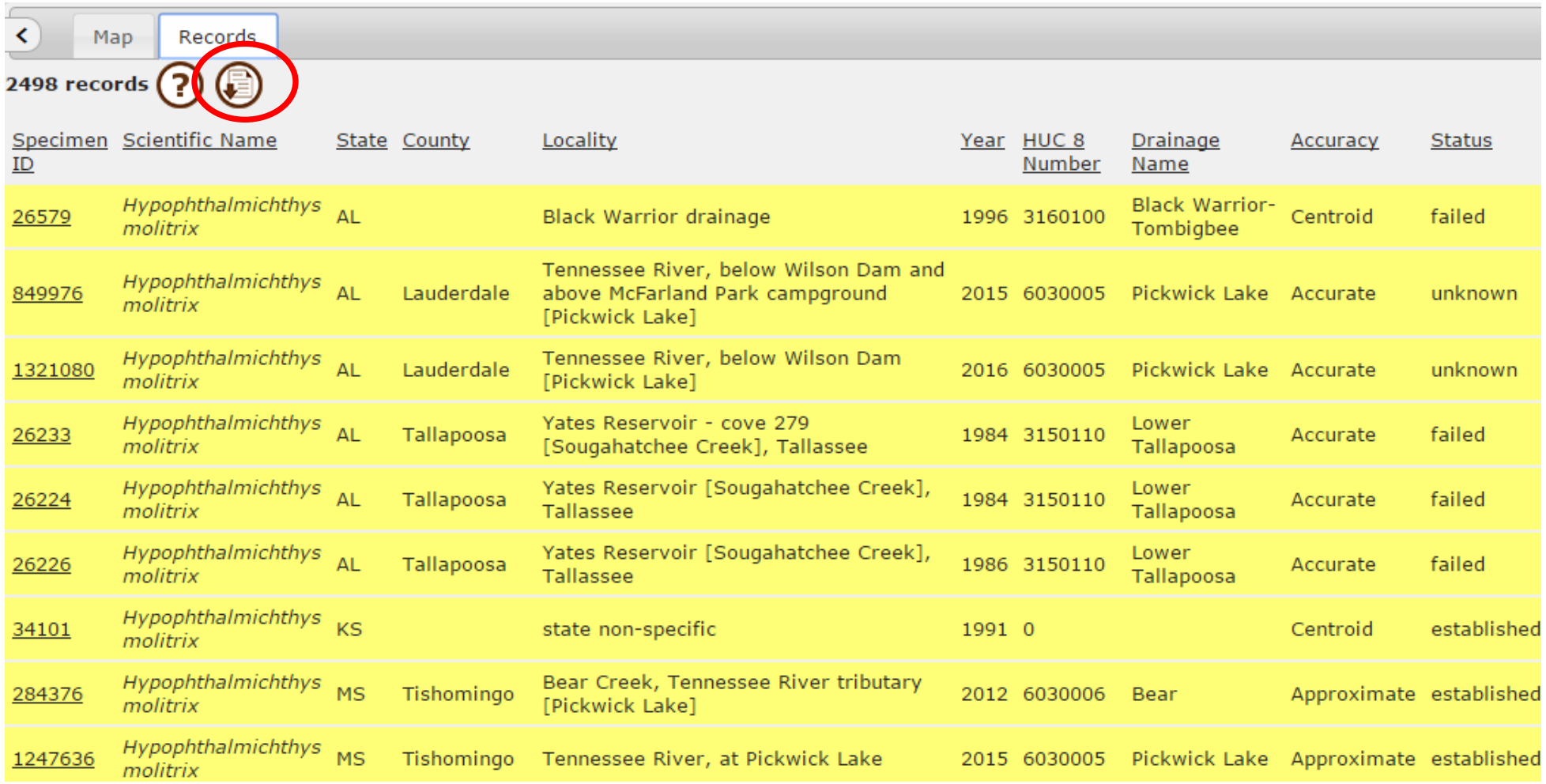
Specimen ID	State	County	Locality	Year	HUC Number	Drainage name	Status
624189			Olentangy River @ I.R. 270 fisherman access S.W. quad	1982	4080300	Lake Huron	established
624190			Unknown Creek at CR169 -- branch of Persimmon Bayou	2009			established
549195			Sims Bayou at SH288	2009	25040000	Northern Gulf of Mexico	established
26315	AL		Chattahoochee River, middle stretch	1980	3130000	Apalachicola Basin	established
26374	AL		Choctawhatchee drainage	1992	3140200	Choctawhatchee	established
26373	AL	Escambia	Escambia River drainage	1992	3140305	Escambia	established
548580	AR	Fulton	White River: Hackney Creek @ Wood Hollow Rd ~2.5 km E AR St. HWY 289 & US 62/412 intersection: ~5.5 km N Ash Flat (TJN07-47)	2007	11010012	Strawberry	established

USGS

Point mapping

USGS

Point mapping - interactive



Map | Records

2498 records

Specimen ID	Scientific Name	State	County	Locality	Year	HUC 8 Number	Drainage Name	Accuracy	Status
26579	*Hypophthalmichthys molitrix*	AL		Black Warrior drainage	1996	3160100	Black Warrior-Tombigbee	Centroid	failed
849976	*Hypophthalmichthys molitrix*	AL	Lauderdale	Tennessee River, below Wilson Dam and above McFarland Park campground [Pickwick Lake]	2015	6030005	Pickwick Lake	Accurate	unknown
1321080	*Hypophthalmichthys molitrix*	AL	Lauderdale	Tennessee River, below Wilson Dam [Pickwick Lake]	2016	6030005	Pickwick Lake	Accurate	unknown
26233	*Hypophthalmichthys molitrix*	AL	Tallapoosa	Yates Reservoir - cove 279 [Sougahatchee Creek], Tallassee	1984	3150110	Lower Tallapoosa	Accurate	failed
26224	*Hypophthalmichthys molitrix*	AL	Tallapoosa	Yates Reservoir [Sougahatchee Creek], Tallassee	1984	3150110	Lower Tallapoosa	Accurate	failed
26226	*Hypophthalmichthys molitrix*	AL	Tallapoosa	Yates Reservoir [Sougahatchee Creek], Tallassee	1986	3150110	Lower Tallapoosa	Accurate	failed
34101	*Hypophthalmichthys molitrix*	KS		state non-specific	1991	0		Centroid	established
284376	*Hypophthalmichthys molitrix*	MS	Tishomingo	Bear Creek, Tennessee River tributary [Pickwick Lake]	2012	6030006	Bear	Approximate	established
1247636	*Hypophthalmichthys molitrix*	MS	Tishomingo	Tennessee River, at Pickwick Lake	2015	6030005	Pickwick Lake	Approximate	established

USGS

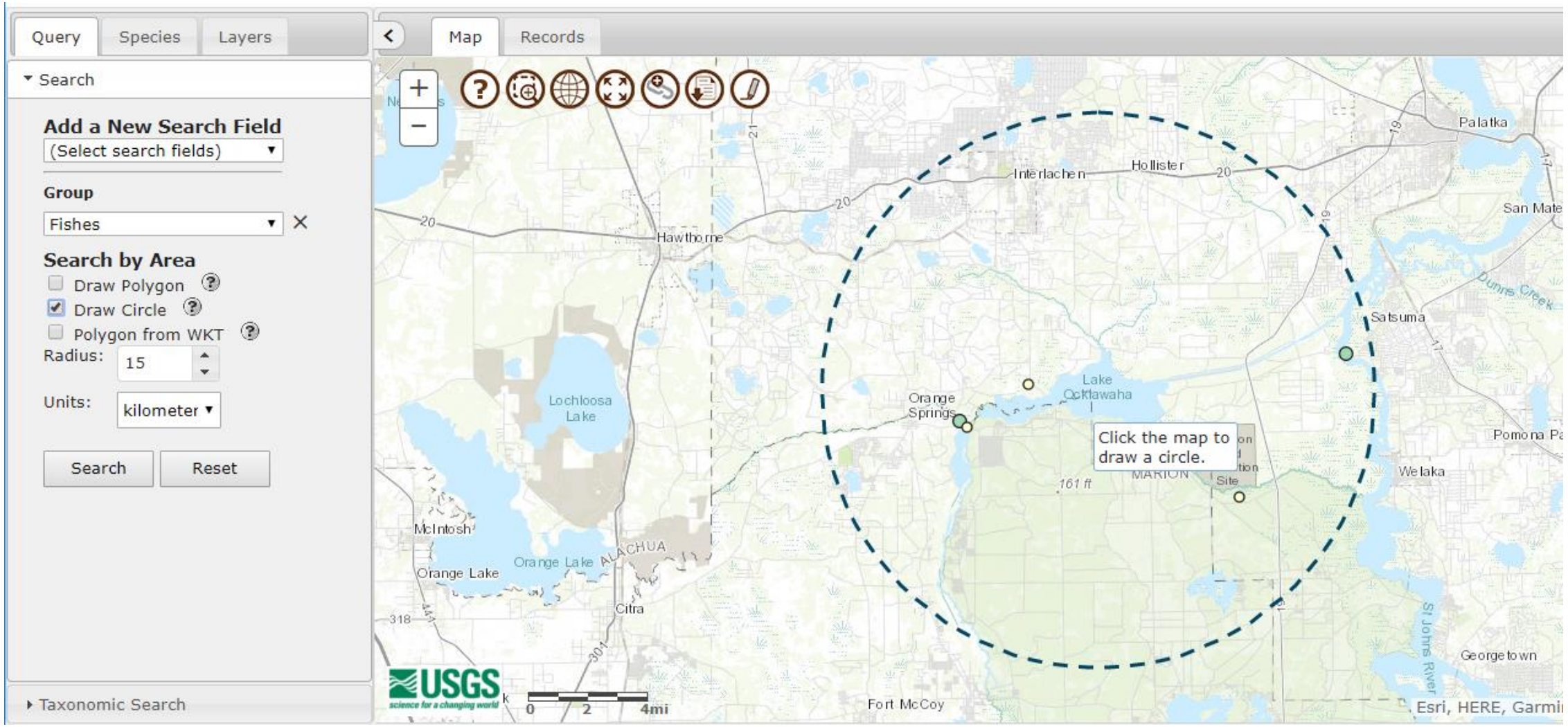
Spatial Queries

- Queries integrated with maps
  - Ability to map multiple species
  - Ability to do a spatial query from the map
  - Ability to download data

  - https://nas.er.usgs.gov/viewer/omap.aspx?

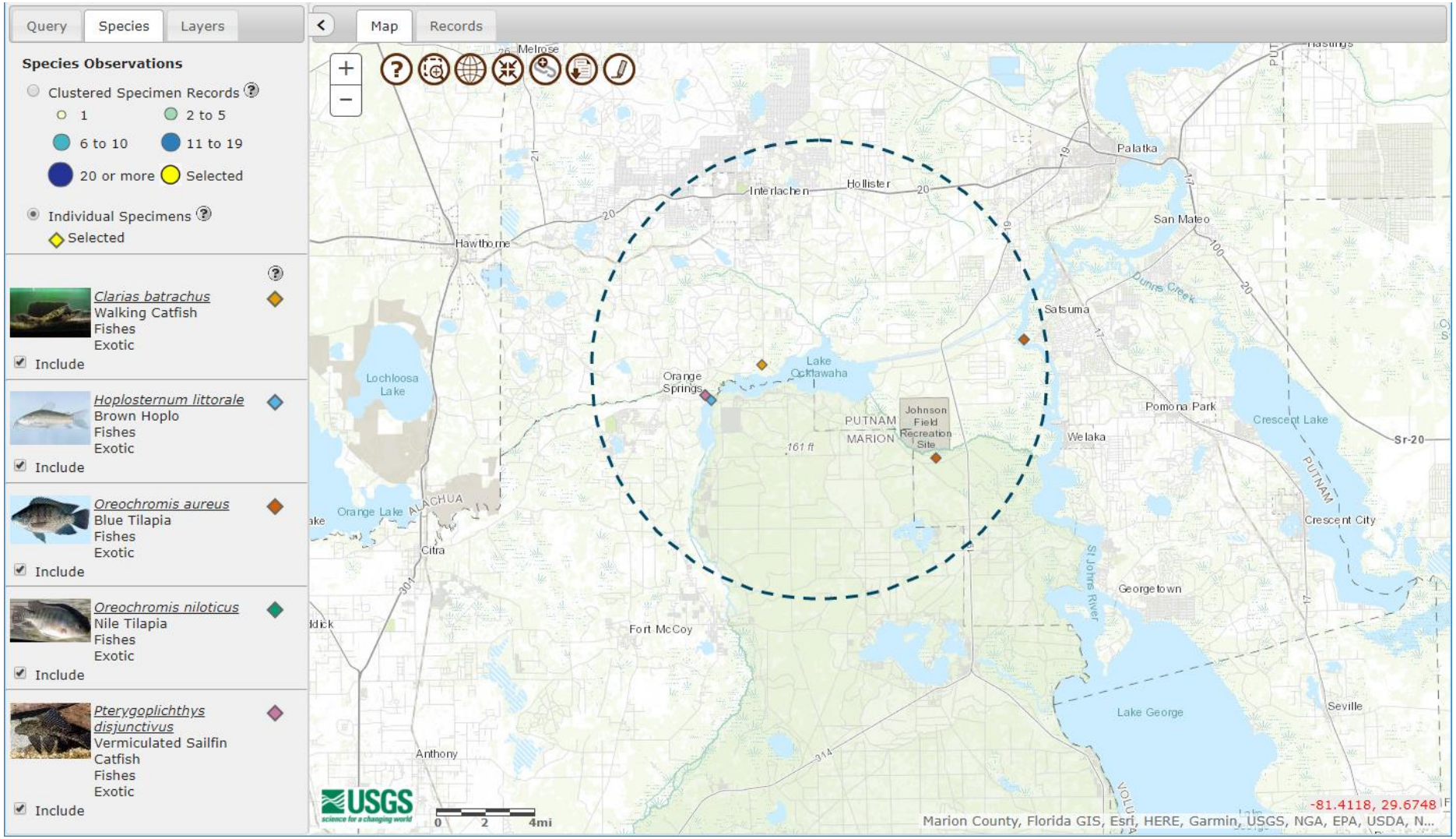
USGS

Spatial Query from Map



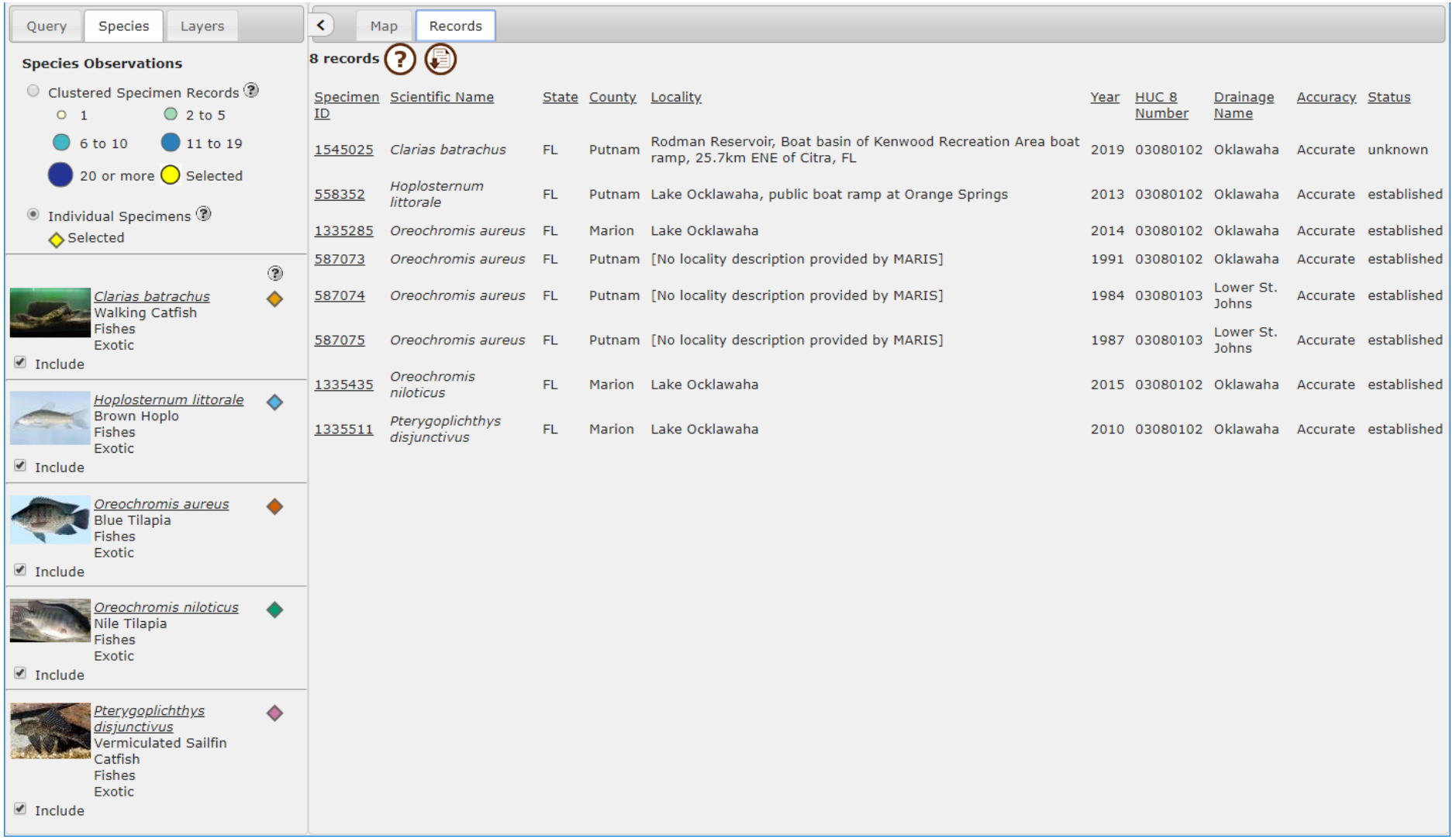
USGS

Spatial Query from Map



USGS

Spatial Query from Map



Specimen ID	Scientific Name	State	County	Locality	Year	HUC 8 Number	Drainage Name	Accuracy	Status
1545025	*Clarias batrachus*	FL	Putnam	Rodman Reservoir, Boat basin of Kenwood Recreation Area boat ramp, 25.7km ENE of Citra, FL	2019	03080102	Oklawaha	Accurate	unknown
558352	*Hoplosternum littorale*	FL	Putnam	Lake Ocklawaha, public boat ramp at Orange Springs	2013	03080102	Oklawaha	Accurate	established
1335285	*Oreochromis aureus*	FL	Marion	Lake Ocklawaha	2014	03080102	Oklawaha	Accurate	established
587073	*Oreochromis aureus*	FL	Putnam	[No locality description provided by MARIS]	1991	03080102	Oklawaha	Accurate	established
587074	*Oreochromis aureus*	FL	Putnam	[No locality description provided by MARIS]	1984	03080103	Lower St. Johns	Accurate	established
587075	*Oreochromis aureus*	FL	Putnam	[No locality description provided by MARIS]	1987	03080103	Lower St. Johns	Accurate	established
1335435	*Oreochromis niloticus*	FL	Marion	Lake Ocklawaha	2015	03080102	Oklawaha	Accurate	established
1335511	*Pterygoplichthys disjunctivus*	FL	Marion	Lake Ocklawaha	2010	03080102	Oklawaha	Accurate	established

USGS

Alert System

NAS Alert System

Alert List | My Alerts | Account Management | FOLLOW US ON twitter

FILTER ALERT RESULTS

Group:	All
In State:	All
Genus	
Species	
Common Name	
Dates Between	and
Sort by:	Date
Records per page:	25

Filter Alerts

The 10 most recent alerts are available at RSS 2.0

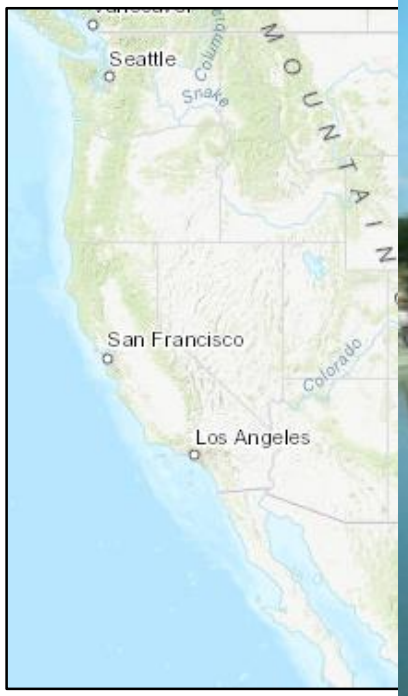
USGS

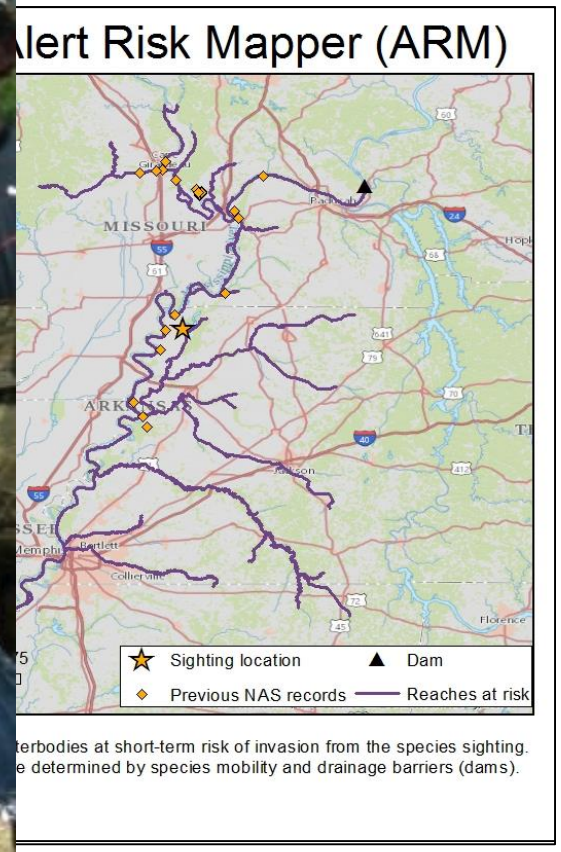
total of **658** alerts match your criteria. Click on the dipnet to get details about the collection.

		Date	Species	New Area
Bonus		2/27/2015	redtail catfish *Phractocephalus hemioliopterus*	State: FL
		2/23/2015	redtail catfish *Phractocephalus hemioliopterus*	County: Miami-Dade (FL) Drainage: Florida Southeast Coast (3090206)
		2/10/2015	Bighead Carp *Hypophthalmichthys nobilis*	State: PA County: Washington (PA) Drainage: Upper Ohio (5030101)
		2/10/2015	Grass Carp *Ctenopharyngodon idella*	County: Washington (PA)
		2/9/2015	Asian Swamp Eel *Monopterus albus*	County: Hardee (FL) Drainage: Peace (3100101)
		2/2/2015	redtail catfish *Phractocephalus hemioliopterus*	State: MA County: Worcester (MA) Drainage: Nashua (1070004)
		1/29/2015	Chain Pickerel *Esox niger*	State: MI County: Chippewa (MI) Drainage: Lake Huron (4080300)
		1/6/2015	Yellow Bullhead *Ameiurus natalis*	County: Fresno (CA) Drainage: Middle San Joaquin-Lower Chowchilla (18040001)
		1/6/2015	Oriental Weatherfish *Misgurnus anguillicaudatus*	County: Sullivan (NY) Drainage: Middle Delaware-Mongaup-Brodhead (2040104)
		12/22/2014	Oriental Weatherfish *Misgurnus anguillicaudatus*	Drainage: Middle Hudson (2020006)
		12/22/2014	Oriental Weatherfish *Misgurnus anguillicaudatus*	County: Dutchess (NY) Drainage: Hudson-Wappinger (2020008)
		12/18/2014	chocolate surgeonfish *Acanthurus pyroferus*	Country: US State: FL County: Palm Beach (FL) Drainage: Florida Southeast Coast (3090206)

NAS Alerts- new invasions

Black Carp

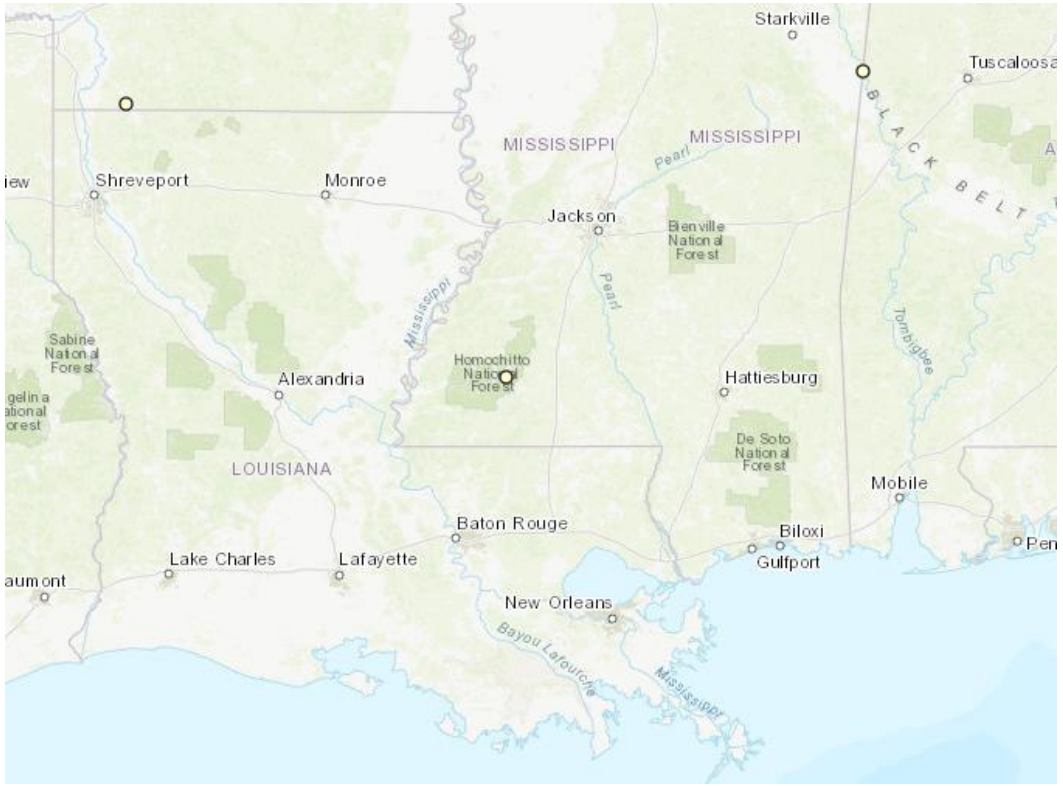




USGS science for a changing world

NAS

Giant Salvinia

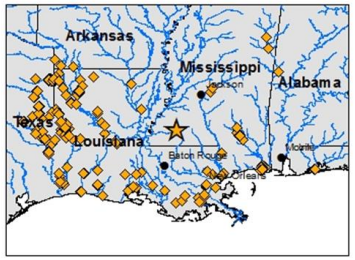


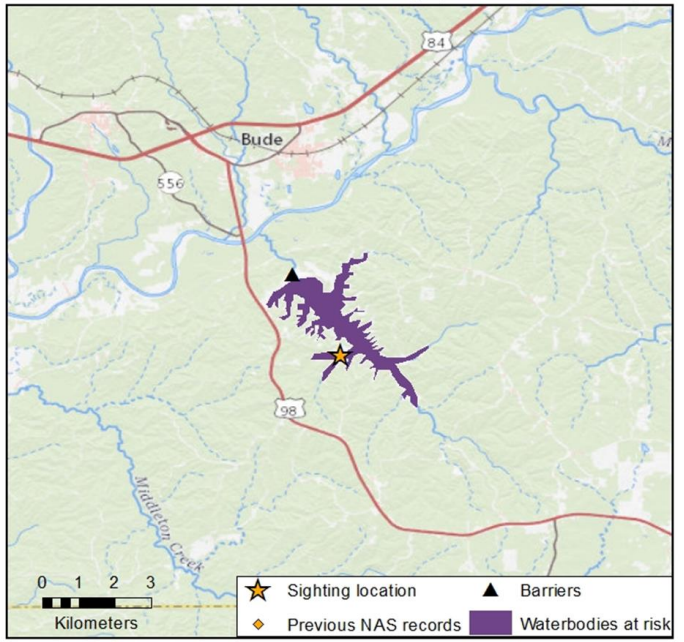
USGS
science for a changing world

N

NAS Alert Risk Mapper (ARM)

Specimen ID:	1529995
Species:	*Salvinia molesta* (giant salvinia)
Alert level:	County: Franklin (MS); Drainage: Homochitto (8060205)
Alert date:	03/08/2019
State:	Mississippi
Locality:	Lake Okhissa
Latitude (N):	31.4122
Longitude (W):	-90.8317
Collection date:	02/11/2019
Comments:	





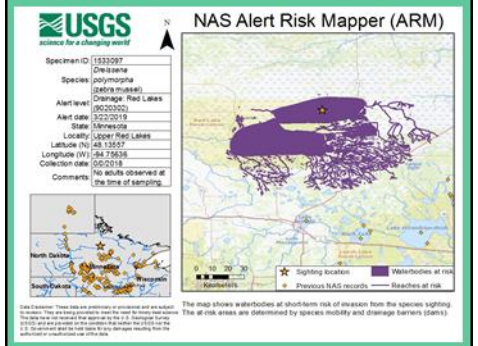
Data Disclaimer: These data are preliminary or provisional and are subject to revision. They are being provided to meet the need for timely best science. The data have not received final approval by the U.S. Geological Survey (USGS) and are provided on the condition that neither the USGS nor the U.S. Government shall be held liable for any damages resulting from the authorized or unauthorized use of the data.

The map shows waterbodies at short-term risk of invasion from the species sighting. The at-risk areas are determined by species mobility and drainage barriers (dams).

USGS

Actionable Maps and Tools

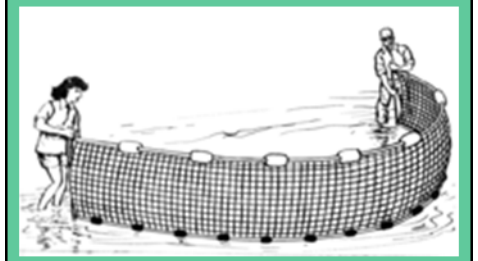
Alert Risk Mapper



Flood and Storm Tracker

Impact Tables

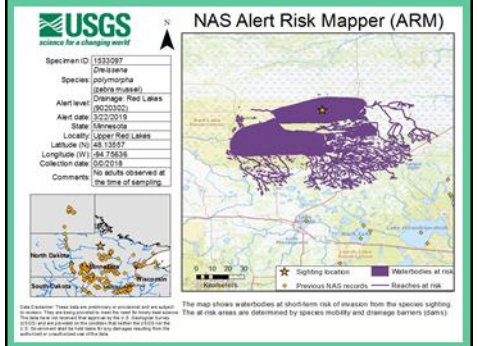
SEINeD Tool



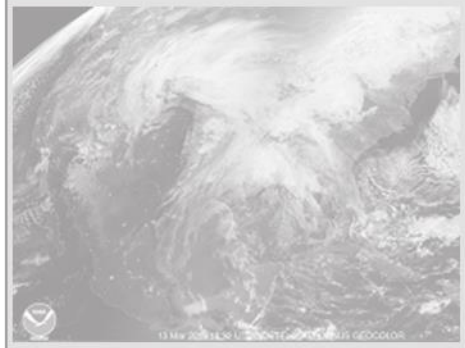
USGS

Actionable Maps and Tools

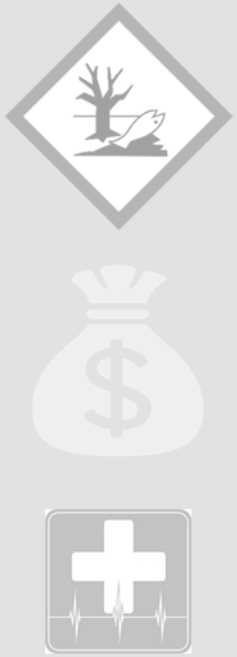
Alert Risk Mapper



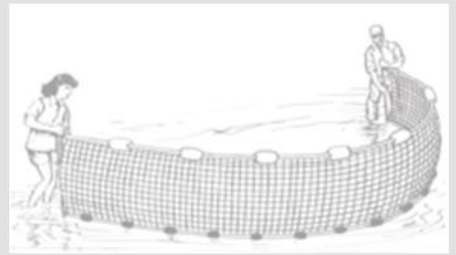
Flood and Storm Tracker



Impact Tables



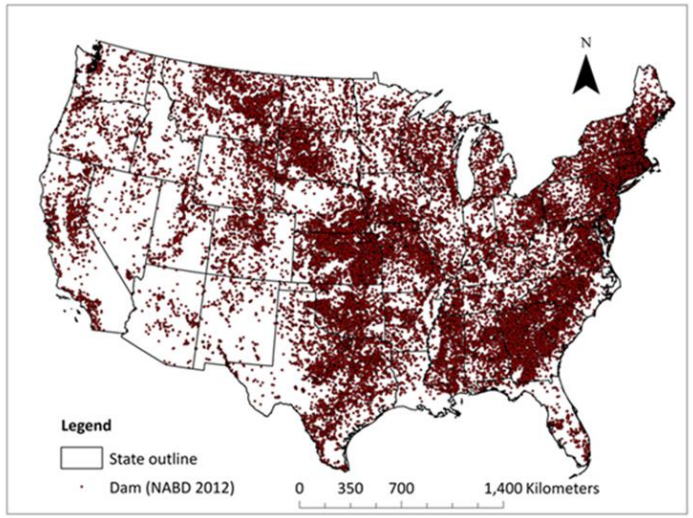
SEINeD Tool



USGS

Alert Risk Mapper (ARM)

- Started in the Spring of 2018
- Maps are created for nearly every new NAS Alert
  - Species new to: U.S., State, County, or Drainage
  - Not made for marine introductions, occurrences on private property, or failed introductions
- Short-term risk assessment (~6 months utilizing)
- credible scenarios of its potential movement within a drainage based on its mobility and drainage barriers (dams and waterfalls).



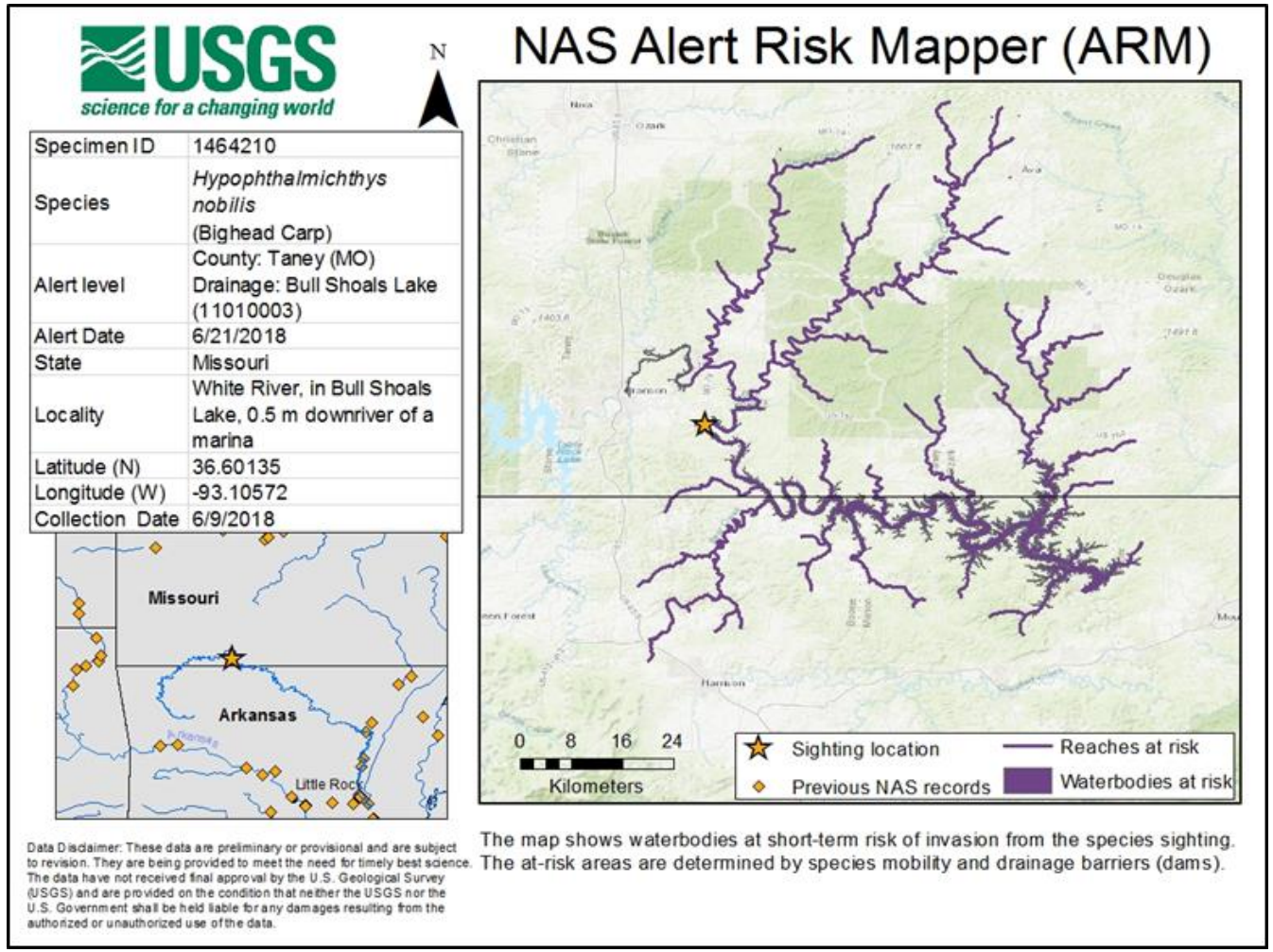
Large dams of the U.S.
(Ostroff et al. 2013)

USGS

Alert Risk Mapper (ARM)

Information on the sighting from the NAS Alert.

Regional view map of the waterbodies



Local view map of the sighting location

USGS science for a changing world

NAS

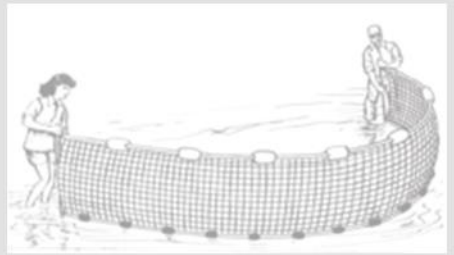
Actionable Maps and Tools

Alert Risk Mapper

Flood and Storm Tracker

Impact Tables

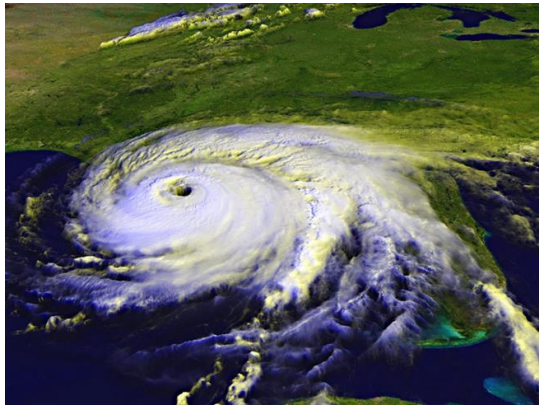
SEINeD Tool



USGS

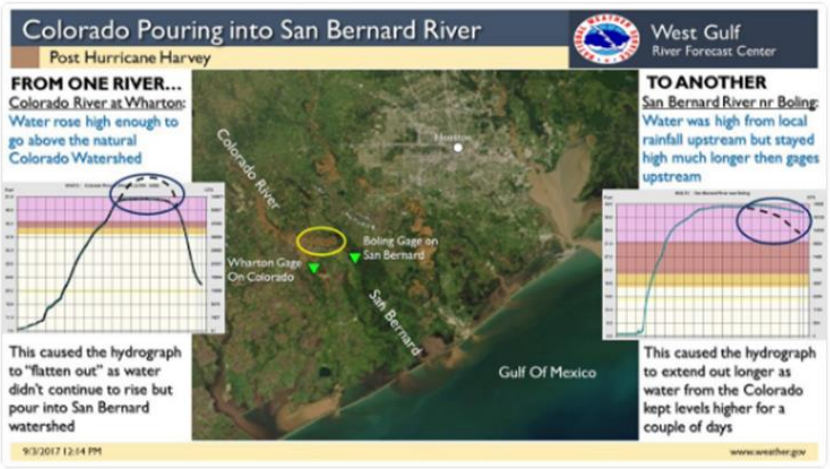
Flood and Storm Tracker (FaST)

- Started with Hurricane Harvey (2017)
- Interactive maps created for every major hurricane and storm
  - 2017: Hurricanes Harvey, Irma, Maria, Nate
  - 2018: Hurricanes Lan, Florence, Michael
  - 2019: Midwest Spring Flood
- Maps show areas with sufficient flooding to connect drainage divides potentially allowing non-native species access to new drainages



NWSWGRFC
@NWSWGRFC
Follow

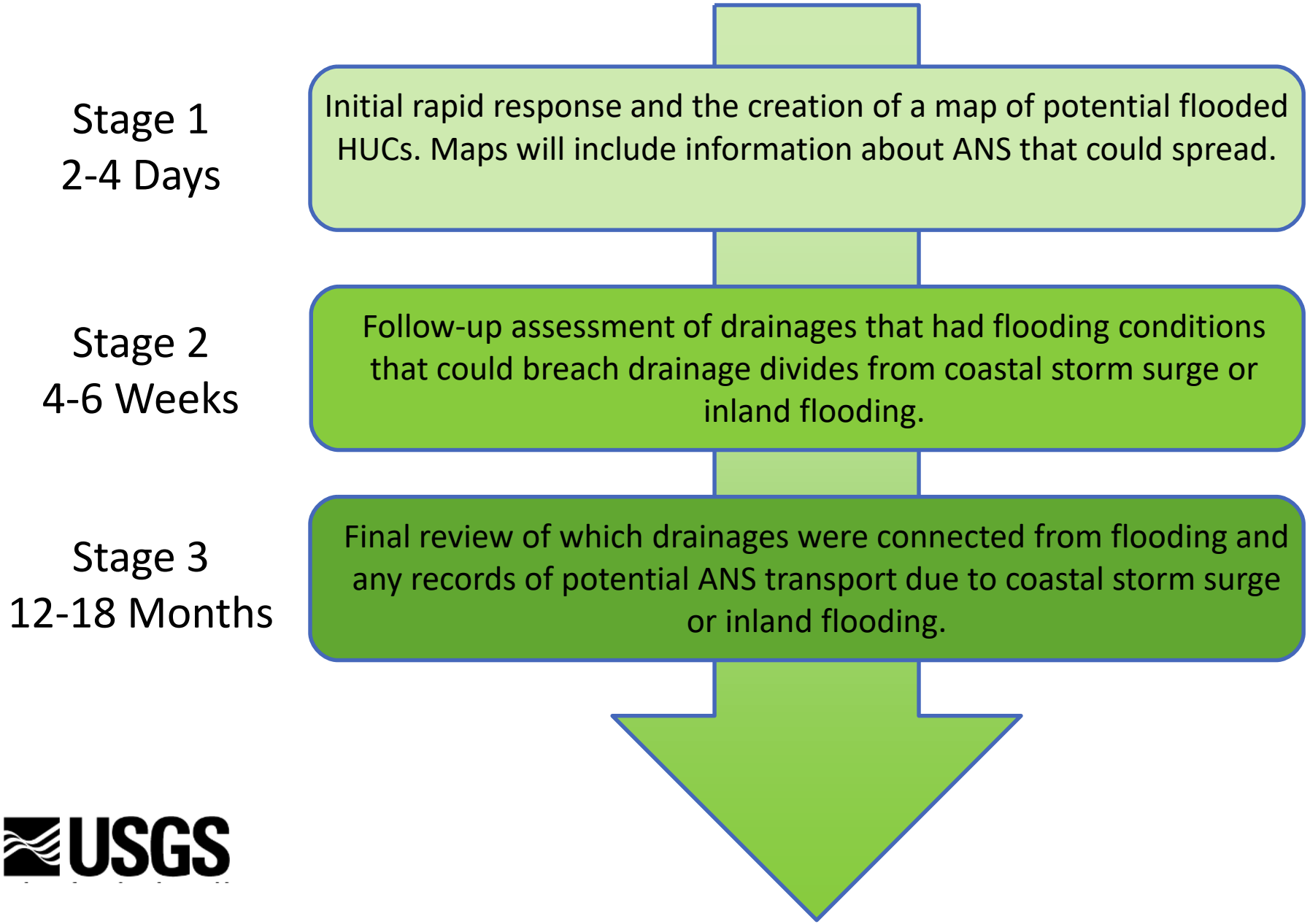
#HurricaneHarvey caused such significant flooding the rivers have jumped over watershed boundaries! #txwx #txflood #HarveyFlood #houwx



10:20 AM - 3 Sep 2017

USGS science for a changing world

Flood and Storm Tracker (FaST)



USGS

Flood and Storm Tracker (FaST)

Query

Midwest Spring Flood - Initial map

Click on a drainage in the map or select a species from below.

Select a species:

Rusty Crayfish (Faxonius rusticus)

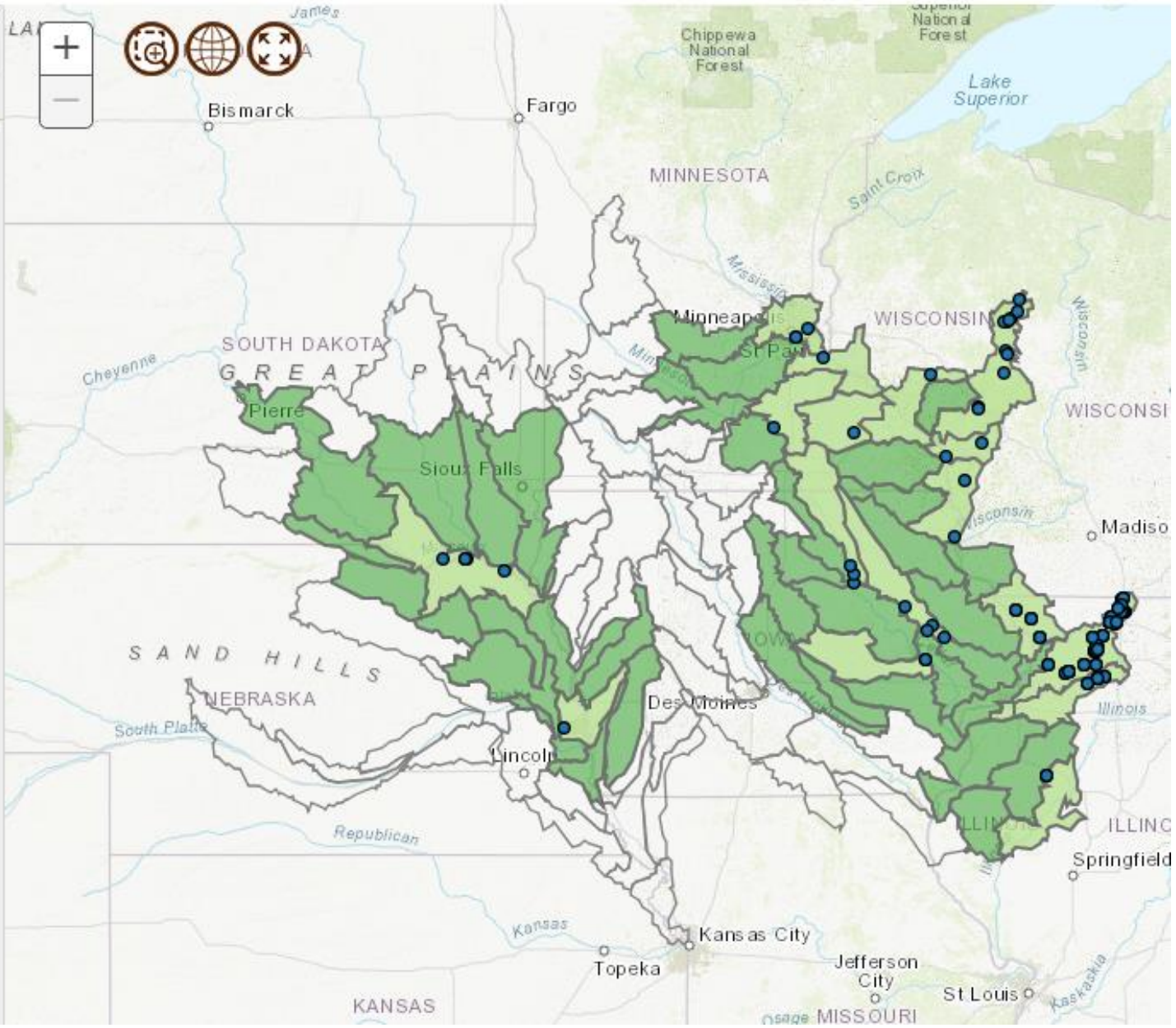
Map updated 03/18/2017

Faxonius rusticus
Rusty Crayfish
Crustaceans-Crayfish
Native
View Species Profile

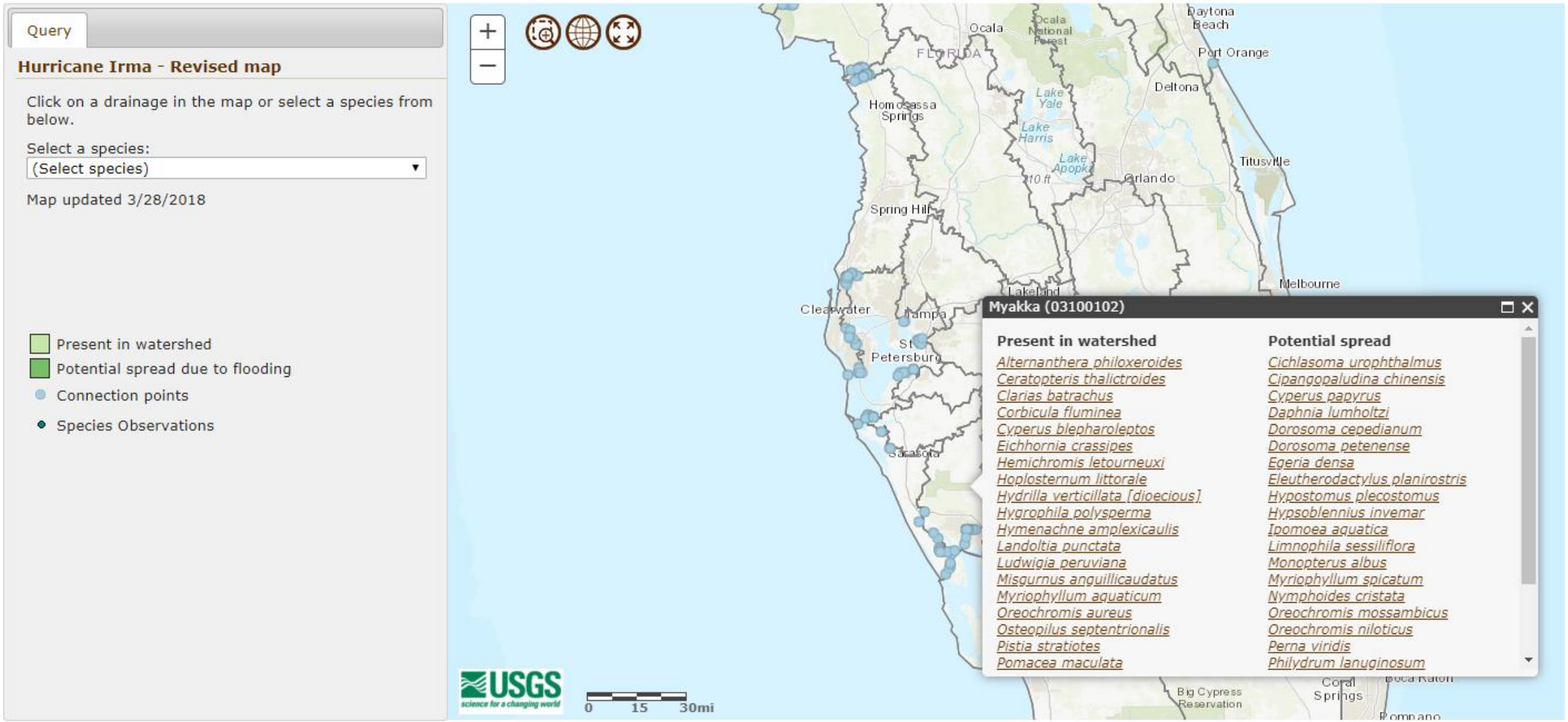
- Present in watershed
- Potential spread due to flooding
- Connection points
- Species Observations

Disclaimer

The initial USGS Midwest Spring FaST map was created within three days of the event to quickly identify flooded 8-digit hydrologic units (HUC8s). This initial map integrates satellite imagery of flood extent from NASA (NASA MODIS) with known locations of established or possibly established, introduced aquatic species. The initial map does not account for actual hydrologic connections, flood height or elevation divides; those elements will be incorporated into the step 2, revised map of the Midwest Spring flood.

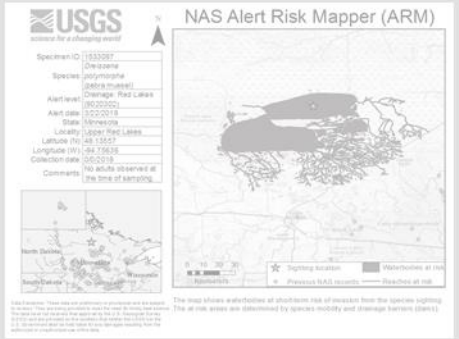


Flood and Storm Tracker (FaST)

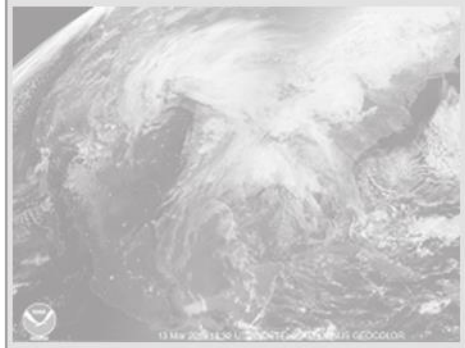


Actionable Maps and Tools

Alert Risk Mapper

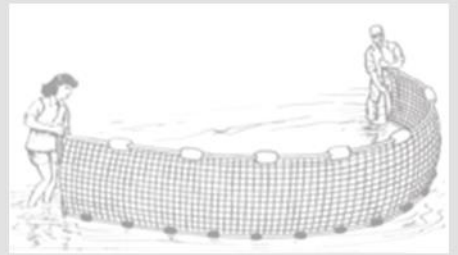


Flood and Storm Tracker



Impact Tables

SEINeD Tool



USGS

Impact Tables

Ecological

- Genetic
- Competition
- Predation
- Disease/parasite/toxic
- Habitat modification

Economic

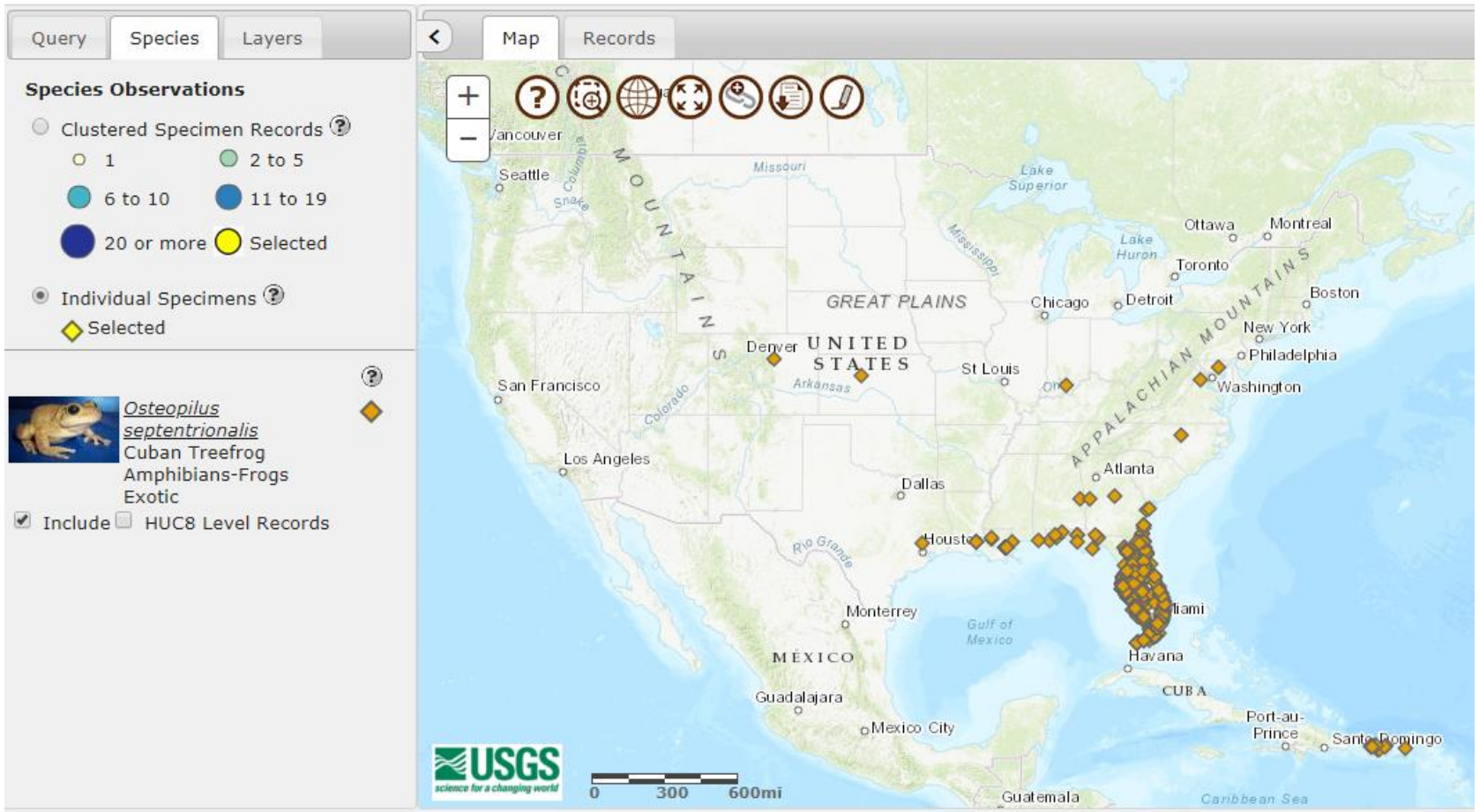
- Infrastructure
- Recreation
- Aquaculture
- Property value

Human Health

USGS

Impact Tables

Cuban Treefrog (*Osteopilus septentrionalis*)

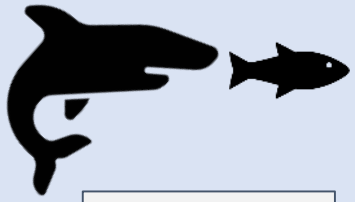


USGS

Impact Tables

Cuban Treefrog (*Osteopilus septentrionalis*)

Ecological



Predation

Competition

Economic

Infrastructure

Human Health

USGS

Impact Tables

NAS - Nonindigenous Aquatic Species

Home | Alert System | Database & Queries | Taxa Information | Report a Sighting

Osteopilus septentrionalis
(Cuban Treefrog)
Amphibians-Frogs
Exotic

Collection Info
Point Map
Species Profile
Animated Map

Rice, K. G., J. H. Waddle, M. W. Miller, M. E. Crockett, F. J. Mazzotti, and H. F. Percival. 2011. Recovery of native treefrogs after removal of nonindigenous Cuban Treefrogs, Osteopilus septentrionalis. Herpetologica 67(2):105-117.

Smith, K.G. 2005. Effects of Nonindigenous Tadpoles on Native Tadpoles in Florida: Evidence of Competition. Biological Conservation 123:433-441.

Johnson, S.A. 2007. The Cuban Treefrog (Osteopilus septentrionalis) in Florida. http://edis.ifas.ufl.edu/uw259. Created on 05/01/2007. Accessed on 03/04/2019

Smith, K.G. 2004. Osteopilus septentrionalis (Cuban Treefrog). Reproductive behavior. Herpetological Review 35(4):374-375.

Meshaka, W.E., Jr. 2011. A runaway train in the making: the exotic amphibians, reptiles, turtles, and crocodilians of Florida. Herpetological Conservation & Biology 6:1-101. http://herpconbio.org/Volume_6/Monograph_1/Meshaka_2011.pdf.

Dahm, D. 2018. Tree frog causes Kissimmee power outage; 800 customers lose power for more than hour. ClickOrlando.com. Orlando, FL. https://www.clickorlando.com/strange-florida/tree-frog-causes-kissimmee-power-outage. Created on 05/11/2018. Accessed on 03/04/2019.

Tennessen, J., S.E. Parks, R.W. Snow, and T.L. Langkilde. 2013. Impacts of acoustic competition between invasive Cuban treefrogs and native treefrogs in southern Florida. Page 010057 in Proceedings of Meetings on Acoustics ICA2013. Acoustical Society of America.

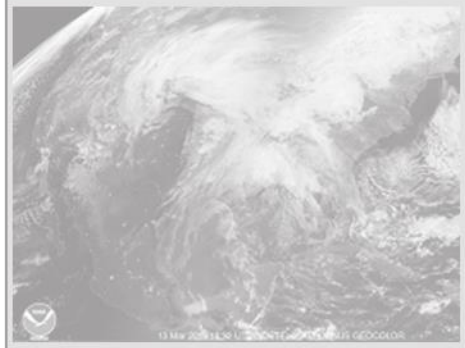
Knight, C. M., M.J. Parris, and W.H. Gutzke. 2009. Influence of priority effects and pond location on invaded larval amphibian communities. Biological Invasions 11(4):1033-1044.

USGS

Actionable Maps and Tools

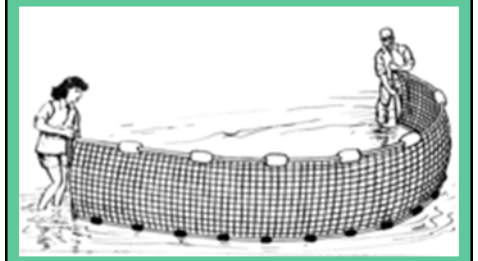
Alert Risk Mapper

Flood and Storm Tracker



Impact Tables

SEINeD Tool



USGS

Screen and Evaluate Invasive and Non-native Data (SEINeD)

Have you SEINeD your fisheries data?

- The SEINeD tool will allow stakeholders to upload a biological dataset collected anywhere in the conterminous US, Alaska, Hawaii, or US Territory that can be screened for invasive or non-native aquatic species occurrences.

Give the user a CSV file of:

- Native and non-native occurrences
- Spatial accuracy of the sighting location
- Taxonomic accuracy of the specimens
- Additional spatial layers
  - Hydrologic Unit Codes (8, 10, 12 HUCs)
  - National Hydrography Dataset (NHDPlusV2)

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NAS - Nonindigenous Aquatic Species

Home | Alert System | Database & Queries | Taxa Information | Report a Sighting

NAS FaST - Flood and Storm Tracker

Welcome to the Nonindigenous Aquatic Species (NAS) information resource for the United States Geological Survey. Located at Gainesville, Florida, this site has been established as a central repository for spatially referenced biogeographic accounts of introduced aquatic species. The program provides scientific reports, online/realtime queries, spatial data sets, distribution maps, and general information. The data are made available for use by biologists, interagency groups, and the general public. The geographical coverage is the United States.

General search for nonindigenous aquatic species information

Search for NAS records via our custom spatial query map

Invertebrates


Bryozoans


Coelenterates


Crustaceans


Mollusks

Vertebrates


Amphibians


Fishes


Mammals


Reptiles

Plants


Plants

SEINeD Tool

Screen and Evaluate Invasive and Non-native Data

Upload CSV file

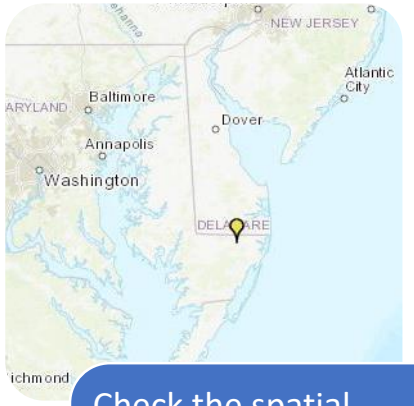
NAS Program Updates

3/25/2019
200th ARM map

3/25/2019
Midwest Spring Flood Map

3/22/2019
Welcome Jonathan Freedman

RSS 2.0



Check the spatial accuracy of the sighting location

- Based on user provided state and county information

Check the indigenous status of the species at the sighting location

- Native ranges developed for USGS NAS and CSAS's Aquatic Gap

Provide additional spatial information about the sighting location

- Hydrologic Unit Codes (HUCs)
- National Hydrography Dataset (NHDPlusV2)

Species	Latitude	Longitude	State	County
Noturus insignis	39.59	-77.82	MD	Washington
Noturus insignis	39.15	-77.52	MD	Montgomery
Micropterus salmoides	39.59	-77.82	MD	Montgomery
Micropterus salmoides	39.59	-77.82	MD	Washington
Pylodictis olivaris	39.15	-77.52	MD	Montgomery
Carp	39.15	-77.52	MD	Montgomery

Species	Latitude	Longitude	State	County	Taxa error	Spatial error	Non-native	HUC 8 (Number)	HUC 8 (Name)
Noturus insignis	39.59	-77.82	MD	Washington				2070008	Middle Potomac-Catoctin
Noturus insignis	39.15	-77.52	MD	Montgomery				2070008	Middle Potomac-Catoctin
Micropterus salmoides	39.59	-77.82	MD	Montgomery		X			
Micropterus salmoides	39.59	-77.82	MD	Washington			X	2070008	Middle Potomac-Catoctin
Pylodictis olivaris	39.15	-77.52	MD	Montgomery			X	2070008	Middle Potomac-Catoctin
Carp	39.15	-77.52	MD	Montgomery	X				

Thank you

- Wesley Daniel – Inverts, Mollusks, Herps, and Mammals

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- Matthew Neilson – Fishes and Technical details

mneilson@usgs.gov

- Amy Benson – Carps, Snakeheads and dreissenid mussels

abenson@usgs.gov

- Ian Pfingsten – Plants

ipfingsten@usgs.gov

- Cayla Morningstar – Mollusks

cmorningstar@contractor.usgs.gov

- Jonathan Freedman – Fishes and Herps

jfreedman@contractor.usgs.gov

- Justin Procopio – Fishes and Crayfishes

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