

Early Detection & Rapid Response (EDRR) Target Species

EDRR List Categories:



<u>STATE EARLY DETECTION SPECIES:</u> (Non-native invasive plants which threaten but have not been reported to Occur in South Carolina)

<u>STATE RAPID RESPONSE SPECIES:</u> (Non-native invasive plants with distributions in South Carolina that can still be eradicated)

Within these 2 categories, some species are REGULATED and OTHERS ARE NOT REGULATED (therefore different reporting criteria are used)

REGULATED species are listed on the SC or Federal Noxious Weed List, other non-regulated species have not been officially listed as Noxious Weeds by the State or Federal Government, but are known to exhibit invasive characteristics and cause damage to natural communities.

EDRR Reporting:



REGULATED SPECIES:

- In SC: call the Clemson University Plant Problem Clinic (864-646-2140) for guidance.
- Take a photo and GPS coordinates if possible, report the observation to EDDMapS: http://www.se-eppc.org/ (location, size of infestation, you can upload photos, etc.).
- •Send digital photo to John Nelson at the USC Herbarium: plantman@herbarium.org for verification.

NON – REGULATED SPECIES: Take a photo and GPS coordinates if possible, report the observation to EDDMapS: http://www.se-eppc.org/ (location, size of infestation, you can upload photos, etc.).

•Send digital photo to John Nelson at the USC Herbarium: plantman@herbarium.org for verification.

SCIENTIFIC NAME: COMMELINA BENGHALENSIS

COMMON NAME: Bengal Dayflower/Tropical Spiderwort

LIST: EARLY DETECTION



REGULATED

CURRENT LISTINGS:

Federal Noxious Weed State Noxious Weed in 46 states

including SC and NC SC-EPPC: Watch B/Herb

NC-EPPC/NCNPS: Watch List B

NCDOT: Watch List/Herbaceous Plant

GA-EPPC: Category 4

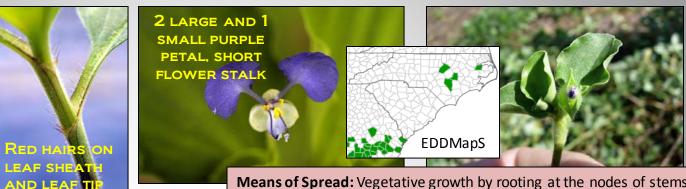
Potential distribution: all regions

Known to occur in NC

Origin: Asia and Africa.

Date of Introduction: 1963.

Reason: Accidental or unknown.



Means of Spread: Vegetative growth by rooting at the nodes of stems, broken stems will root; both aerial and underground seeds are viable. Plant material can move around on hand tools, animals, clothing, machinery. Can be imported with seeds, spices, and condiments

Habitat Type: Areas with moist soil, roadsides, grasslands, disturbed soil, widely adaptable to many soil types and moisture regimes. Forms dense pure stands in cropland and pastures smothering low growing crops and grasses, competes with crops for resources reducing yields.







SCIENTIFIC NAME: HERACLEUM MANTEGAZZIANUM COMMON NAME: GIANT HOGWEED

LIST: EARLY DETECTION



REGULATED

CURRENT LISTINGS:

Federal: Noxious Weed

State: Class A Noxious Weed in NC

SC-EPPC: Not Listed

NC-EPPC/NCNPS: Not Listed

NC-DOT: Watch List/Herbaceous Plant

Potential Distribution: Mtns, Piedmont

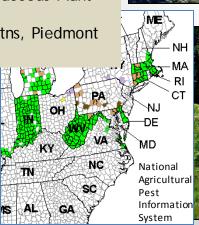
Known to occur in NC

Origin: Europe and Asia Date of Introduction:

1917

Reason: Introduced as

an ornamental







Means of Spread: By human activities including using seeds for ornamental plantings and as a spice in Middle-eastern cooking. Birds may spread seeds.

Habitat Type: Disturbed soil, moist soil, riverbanks, ditches, right-of ways, agricultural areas.



Side Note: Plant sap induces UV skin sensitivity in humans causing large painful blisters and eruptions; contact with eyes can cause temporary and permanent blindness.



SCIENTIFIC NAME: SALVINIA MOLESTA

COMMON NAME: GIANT SALVINIA

LIST: EARLY DETECTION





Means of Spread: effectively reproduces through vegetative means. Stems fragment spontaneously as plants mature and are easily spread by boats and animals. The spores it produces are not known to be fertile. Under favorable natural conditions, it can double its biomass in about seven to 10 days. Salvinia molesta will withstand periods of stress, both low temperature and dewatering, through latent buds.

CURRENT LISTINGS:

Federal: noxious weed

State Noxious Weed Lists: AB, AZ, CA, CO, CT, FL, MA, MS, NV, NC, OR, SC, TX,

VT

SC-EPPC Ranking: none

NC-EPPC Ranking: Rank 1 Severe Threat

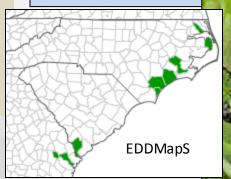
NCDOT: Moderate Threat/Aquatic

Potential distribution: all regions

Origin: Southeastern Brazil

North American Introduction: 1990's Reason: intentional; as an aquarium plant

Habitat Type: Quiet water of lakes and ponds, oxbows, ditches; slow flowing streams and rivers, backwater swamps, marshes and rice fields (USGS).





SCIENTIFIC NAME: GALEGA OFFICINALIS COMMON NAME: GOATSRUE

LIST: EARLY DETECTION



REGULATED

CURRENT LISTINGS:

Federal: noxious weed

State Noxious Weed Lists: AB, CA, FL, MA, MN, NV, NC, OR, PA, SC, VT, WA

SC-EPPC Ranking: none NC-EPPC Ranking: none

Potential distribution: all regions

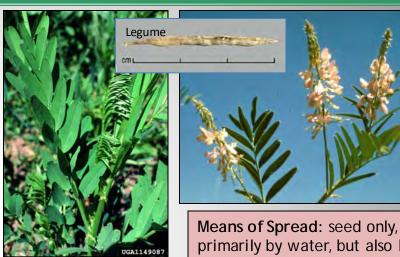
Origin: Southern Europe and Western Asia North American Introduction: UT, 1891 Reason: intentional; possibly as a forage

crop

NOTE: it was later discovered that goatsrue is TOXIC to livestock

<u>NOTE</u>: goatsrue has medicinal uses, especially in the treatment of diabetes





primarily by water, but also by humans and animals



Habitat Type: riparian areas, wetlands, pastures, along fencelines and roadways, possibly gardens, tolerates some shade





SCIENTIFIC NAME: CUSCUTA JAPONICA

COMMON NAME: Japanese Dodder

LIST: EARLY DETECTION



REGULATED

CURRENT LISTINGS:

Federal Noxious Weed State Noxious Weed in 14 states

including SC and NC SC-EPPC: Watch A/Vine

NC-EPPC: none

Potential Distribution: all regions Eradicated from Pickens Co., SC

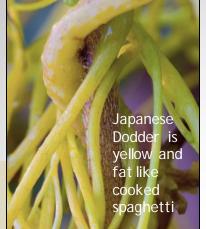
Origin: Asia.

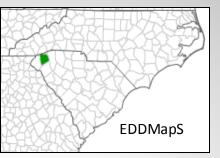
Date of Introduction: Unknown, first found parasitizing kudzu in a greenhouse

in San Antonio, Texas in 1941.

Reason: Intentionally for medicinal use, commonly intercepted as a contaminant of

commercially imported seed.







Means of Spread: (Stem parasite) Fruit matures at the same time as host fruit and are harvested simultaneously. Seeds remain viable for 10-20 years. Sticky stem fragments will readily sprout haustoria and are easily spread by birds, mammals, humans, and vehicles.

Habitat Type: Cultivated and perennial crops, pastures, ditch banks, roadsides; will invade orchards and nurseries.





Native Dodders are more orange and the stem is thin

SCIENTIFIC NAME: OROBANCHE MINOR

COMMON NAME: SMALL BROOMRAPE

LIST: EARLY DETECTION



REGULATED

CURRENT LISTINGS:

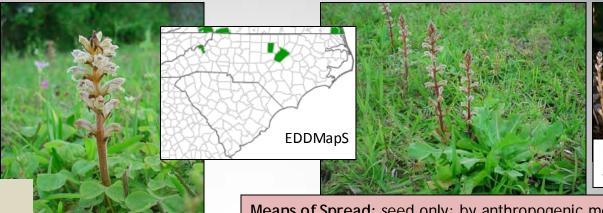
Federal: noxious weed State Weed Lists: AL, CA, FL,

MA, MN, NC, OR, SC, TX, VT SC-EPPC Ranking: none NC-EPPC Ranking: none

Potential Distribution: all regions

Eradicated from SC

Origin: Europe, Middle East, North Africa North American Introduction: no information Reason: no information; likely accidental





Native Beech Drops Daniel Reed, www.2bnthewild.com

Means of Spread: seed only; by anthropogenic means (soil, equipment, shoes), wind, and water.

Habitat Type: growing as a parasite on clovers, vetches, legume forages, leafy green vegetable crops, lawns, roadsides





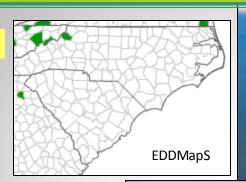
SCIENTIFIC NAME: LYTHRUM SALICARIA **COMMON NAME: Purple Loosestrife**

LIST: EARLY DETECTION



HERB/FORB

REGULATED





CURRENT LISTINGS:

State Weed Lists: on 33 state weed lists including SC (aquatic weed, plant pest) and

NC (Class B)

SC-EPPC: Watch B

NC-EPPC/NCNPS: Rank 2 Significant Threat

NCDOT: Watch List/aquatic plants

Potential distribution: Mtns., Piedmont, has

been reported in NC mountains.

Origin: Eurasia

Date of Introduction: early 1800's Reason: Through ships' ballast, as an ornamental and for medicinal use

Means of Spread: long blooming season, a mature plant may have as many as thirty flowering stems capable of producing an estimated two to three million, minute seeds per year; also vegetatively through underground stems that can grow 1 foot a year; still planted as ornamental in some states.

Habitat Type: wide range of freshwater wetlands including freshwater wet meadows, tidal and non-tidal marshes, river and stream banks, pond edges, reservoirs, and ditches





SCIENTIFIC NAME: EUONYMUS ALATUS

COMMON NAME: BURNING BUSH

LIST: EARLY DETECTION



SHRUB

NOT REGULATED

CURRENT LISTINGS:

Federal: none

State Weed Lists: CT, MA, NH SC-EPPC Ranking: Watch B/shrubs

P. Wray, Bugwood

NC-EPPC Ranking: Rank 2

Significant Threat, NCDOT: Watch

List/shrubs

Potential distribution: Mtns,

Piedmont; known in NC, conflicting

information for SC

Origin: northeast Asia

North American Introduction: 1860s

Reason: ornamental

NOTE: burning bush continues to be sold as an ornamental plant



Means of Spread: sexual reproduction by bird-dispersed seed; vegetative reproduction by root suckering

Habitat Type: many habitat types including pastures/fields, forest understories, roadsides, gardens; broad soil moisture, pH, and light tolerances (can survive in full shade)





FRIGHTENING FACTS About EDRR Target Species

EDDMapS

SCIENTIFIC NAME: CIRSIUM ARVENSE COMMON NAME: CANADA THISTLE

LIST: EARLY DETECTION



NOT REGULATED

CURRENT LISTINGS:

State Weed Lists: 33 states including

NC

SC-EPPC Ranking: Watch B

NC-EPPC/NSNPS Ranking: Watch B

Significant Threat

NCDOT: Watch List/Herbaceous

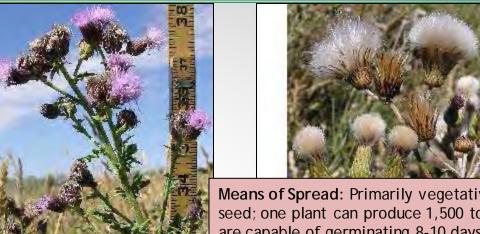
Plants

Potential distribution: Mtns, Piedmont; known in NC mtns.

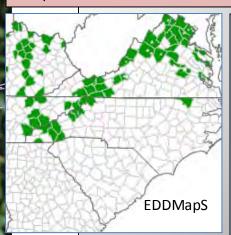
Origin: Europe and Asia

North American Introduction: 1600's

Reason: accidental



Means of Spread: Primarily vegetatively but also by seed; one plant can produce 1,500 to 5,000 seeds that are capable of germinating 8-10 days after flowers open; wind disperses seed; fibrous tap roots may extend 6 feet deep; horizontal roots from tap produce new shoots.



Habitat Type: barrens, glades, meadows, prairies, fields, pastures, waste places. Primarily disturbed uplands but can invade wet areas with fluctuating water levels like stream bank sedge meadows and wet prairies, clay to gravely soils.

SCIENTIFIC NAME: AKEBIA QUINATA

COMMON NAME: CHOCOLATE VINE

LIST: EARLY DETECTION



NOT REGULATED

CURRENT LISTINGS:

SC-EPPC: Watch B/Vine

NC-PPC/NC NPS: Watch list B

GA-EPPC: Category 4

Potential distribution in SC: Mtns, Piedmont, known in NC

Origin: Central China, Japan,

Korea

Date of Introduction: 1845 Reason: : Introduced as an ornamental, naturalized to

warm climates

NOTE: being sold as an

ornamental

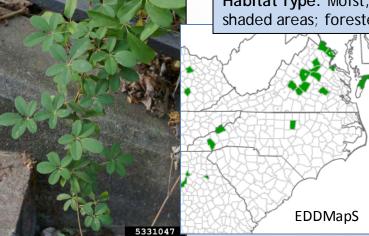






Means of Spread: Primarily through vegetative growth, up to 40 ft. in one growing season; when fruit produced birds may spread seeds, long distance movement

Habitat Type: Moist, light, and well-drained soils, sunny or partly shaded areas; forested, riparian, wetland, and urban habitats





SCIENTIFIC NAME: CYPERUS ENTERIANUS

COMMON NAME: DEEP-ROOTED SEDGE

LIST: EARLY DETECTION



SEDGE

NOT REGULATED

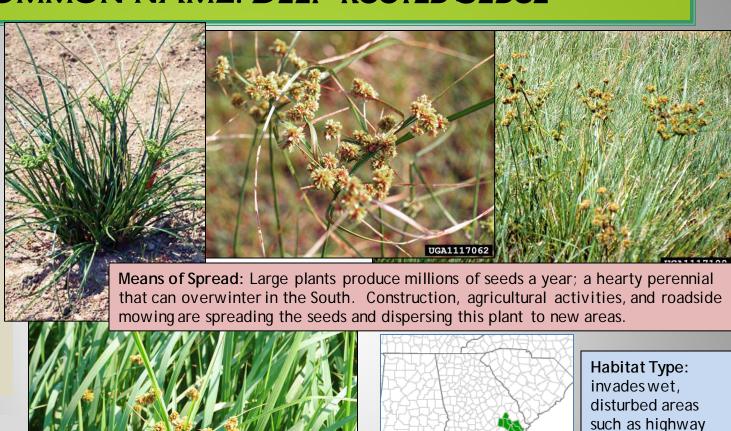
CURRENT LISTINGS: SC-EPPC: Watch B/Herb NC-PPC/NC NPS: not listed

Potential distribution in SC: Coastal Plain Currently established in TX, LA, MS, AL, GA, and FL

Origin: South America

Date of Introduction: 1990

Reason: : accidental



EDDMapS

ditches and field

margins

SCIENTIFIC NAME: Allaria petiolata

COMMON NAME: GARLIC MUSTARD

LIST: EARLY DETECTION



NOT REGULATED

CURRENT LISTINGS:

Federal: none

State Noxious Weed: AL, CT, MA, MI, NH,

OR, VT, WA

SC-EPPC Ranking: Watch B/Herbs NC-EPPC/NCNPS: Rank 1 Severe Threat NCDOT: Threat - herbaceous plants

Potential distribution: Mtns., Piedmont, known in NC, conflicting information about possible SC occurrences.

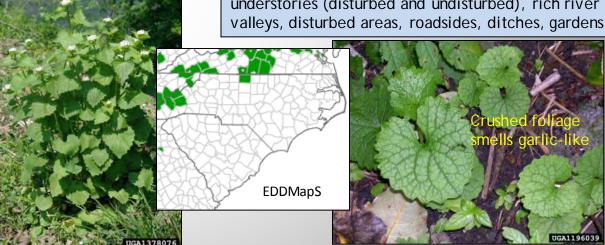
Origin: Europe

North American Introduction: first record is from Long Island, NY, 1868 Reason: food, medicinal purposes



Habitat Type: moist, shaded soils - forest understories (disturbed and undisturbed), rich river

means, but also by animals and limited movement in water



SCIENTIFIC NAME: CAYRATIA JAPONICA COMMON NAME: Bushkiller

LIST: EARLY DETECTION



VINE

NOT REGULATED

CURRENT LISTINGS:

State Noxious Weed in NC SC-EPPC Ranking: Watch B

NC-EPPC/NCNPS: Rank 2 Significant

Threat

NCDOT: Watch List/Vines

Potential distribution: Piedmont,

Reported in NC 3 counties (Mecklenburg)

Origin: temperate and sub-tropical

Asia, Australia

North American Introduction: first

record is from LA, 1964

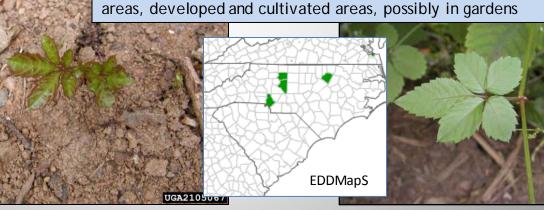
Reason: unclear, possibly ornamental





Means of Spread: sexual reproduction not observed in North America; vegetative reproduction by root fragments and adventitious shoots produced when roots cut/disturbed

Habitat Type: tolerates shade and full sun, damp deciduous riparian areas, developed and cultivated areas, possibly in gardens

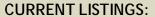


SCIENTIFIC NAME: Lygodium microphyllum COMMON NAME: Old World Climbing Fern

LIST: EARLY DETECTION



NOT REGULATED



State Weed Lists: Noxious weed

in Florida and Alabama FL EPPC: Category 1 SC-EPPC: not listed NC-EPPC: not listed

Potential distribution: Piedmont.

Coastal Plain

Origin: Africa, Australia, Southeast

Asia

Date of Introduction: 1965

Reason: Introduced as a groundcover

and naturalized to Florida





EDDMapS

Means of Spread: Rhizomes and spores. Spores dispersed by wind, water, animals, humans, vehicles, equipment. Year-long vegetative growth and production of fertile fronds.



SCIENTIFIC NAME: OPLISMENUS HIRTELLUS SSP. **UNDULATIFOLIUS**

COMMON NAME: WAVYLEAF BASKETGRASS

LIST: EARLY DETECTION



GRASS

NOT REGULATED

CURRENT LISTINGS: SC-EPPC: FDRR

Current distribution: VA, MD

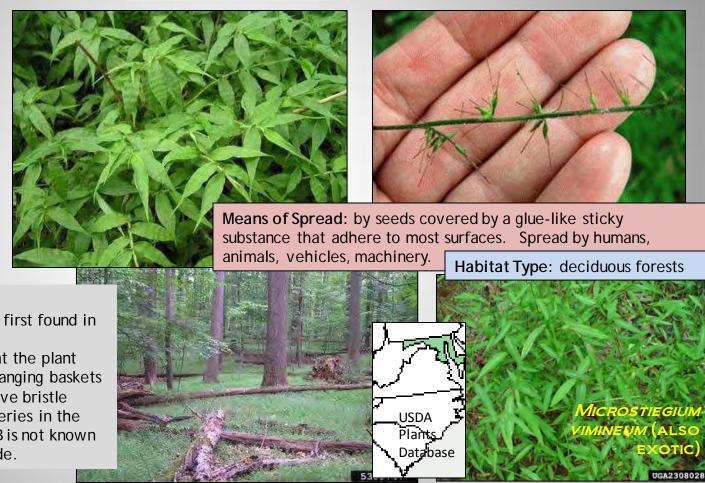
Origin: Eurasia

Date of Introduction: unknown, first found in

1996 (Howard Co. MD)

Reason: unclear; It is possible that the plant was a contaminant of discarded hanging baskets in MD. Variegated varieties of native bristle basketgrass are sold by plant nurseries in the Mid-Atlantic Region. However, WB is not known

to be sold in the horticultural trade.



SCIENTIFIC NAME: IMPERATA CYLINDRICA

COMMON NAME: Cogongrass

LIST: RAPID RESPONSE



GRASS

REGULATED

CURRENT LISTINGS:

Federal: Noxious Weed

State Weed Lists: Noxious Weed in AL, CA, FL, HA, MN, MS, NC, OR, SC, VT SC-EPPC: Severe Thread/ Grasses/Sedges

NC-EPPC/NCNPS: Watch B GA-EPPC: Category 1 Alert

Potential distribution: Mtns., Piedmont, has been reported in NC mountains.

Origin: Southeast Asia

Date of Introduction: early 1900's Reason: introduced into the southeast United States in packing material, also intentionally introduced for erosion

control and livestock forage





Habitat: a hardy species, tolerant of shade, high salinity, moisture and drought. It grows in coastland, disturbed areas, natural forest, planted forests, range/grasslands, riparian zones, scrub/shrub lands, urban areas, and wetlands.

Means of Spread: Vegetatively through dense rhizomes and by wind dispersed seed. Also planted and moved by people.





SCIENTIFIC NAME: PHRAGMITES AUSTRALIS VAR. AUSTRALIS COMMON NAME: Common Reed

LIST: RAPID RESPONSE



REGULATED

CURRENT LISTINGS:

State Noxious Weed Lists: AL, CT, MA,

SC, VT, WA

SC-EPPC: Severe Threat/Grass, Sedges NC-EPPC/NCNPS: Rank 1 Severe Threat

NCDOT: Threat/Herbaceous Plants

-Distribution in SC and NC: outer coastal plain- more than what range map shows;

-Native Phragmites not widely

distributed on SC coast

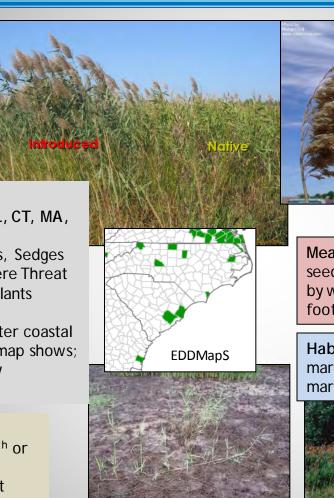
Origin: Eurasia and Africa

Date of Introduction: late 18th or

early 19th century.

Reason: Accidentally in ballast

material.



Means of Spread: Vegetative growth through rhizomes; seeds have low viability. Root and stem fragments spread by water and equipment and sprout readily. Can grow 10 foot long rhizomes in 1 growing season.

Habitat Type: Tidal and non-tidal fresh and brackish marshes, sometimes in altered, degraded, or polluted salt marshes; river edges, lake and pond shores.





SCIENTIFIC NAME: Hydrilla Verticillata COMMON NAME: Hydrilla

LIST: RAPID RESPONSE



REGULATED

CURRENT LISTINGS:

Federal: Noxious Weed State Noxious Weed in 17 states including SC and NC SC-EPPC: not listed

(terrestrial plants only)
NC-EPPC/NCNPS: Rank 1

Severe Threat

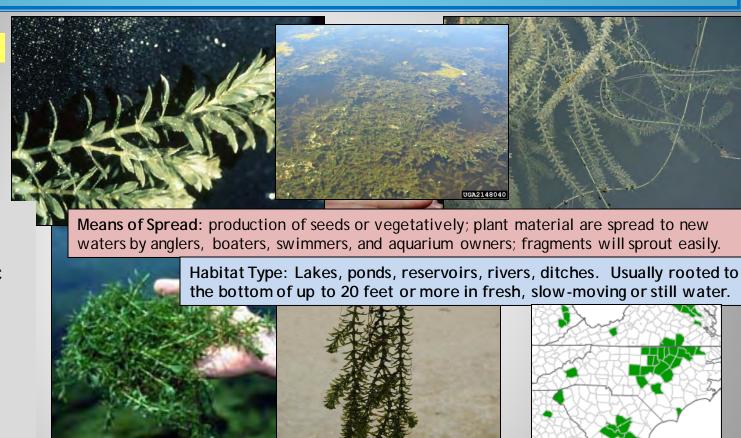
NCDOT: Threat/Aquatic

Distribution in SC and NC: water bodies all regions.

Origin: Africa or Asia

Date of Introduction: 1950's

Reason: Aquarium trade



EDDMapS

FRIGHTENING FACTS About EDRR Target Species

Note: resembles native Elodea sp., but has sharply

scabrous texture, and anthers that open explosively.

serrated leaf margins, red veins, spinous midrib,

SCIENTIFIC NAME: SOLANUM VIARUM COMMON NAME: Tropical Soda Apple

LIST: RAPID RESPONSE



REGULATED

CURRENT LISTINGS:

Federal: Noxious Weed

State Noxious Weed Lists: AL, AZ, CA, FL,

MA, MN, MS. NC, OR, SC, TN, TX, VT

SC-EPPC: Severe Threat/Herbs

NC-EPPC/NCNPS: Rank 2 Significant Threat

NCDOT: Watch List/Herbaceous Plants

Distribution in SC: all regions, but Clemson DPI has conducted treatments on infested areas (now only funding for education, not

control)

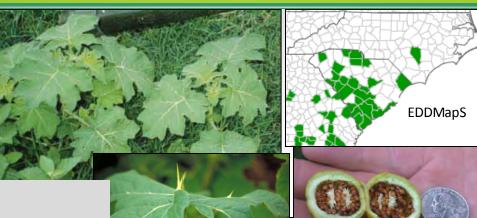
Origin: Brazil and

Argentina

Date of Introduction: 1988

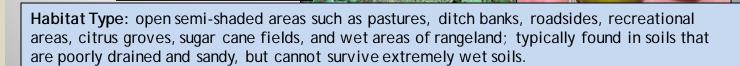
to FL

Reason: Accidental





Means of Spread: The sweet smell of the fruit attracts livestock and wildlife that eat and spread the seed (in SC, usually spread by cattle). Each plant can produce approximately 50,000 seeds. It reproduces primarily by seed, but can also spread by roots.



SCIENTIFIC NAME: Striga asiatica COMMON NAME: WITCHWEED

LIST: RAPID RESPONSE



HERB/FORB

REGULATED

CURRENT LISTINGS: Federal: Noxious Weed State Noxious Weed Lists:

AL, AZ, AK, CA, HI, MA, MN, NC, OR, SC, VT

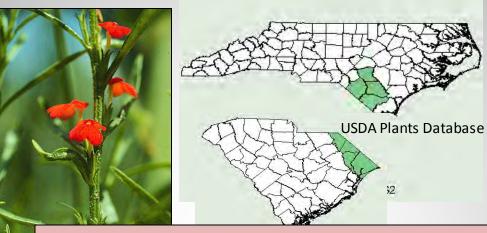
SC-EPPC: Watch B/Herbs

Distribution in SC and NC:

Coastal Plain

Origin: Africa, India, Middle East, China Date of Introduction: uncertain, 1st found in 1955.

Reason: Accidental





Means of Spread: seeds; each plant can produce 50,000 seeds that can remain viable in the soil for 10 years; seeds can be moved in crops plants, and soil, wind, water, and machinery.

Habitat Type: (root parasite) crop fields- corn, sorghum, sugar cane, rice; also parasitizes weedy grasses; can be found in cotton, peanut or soybean fields with weedy grasses.





SCIENTIFIC NAME: VITEX ROTUNDIFOLIA COMMON NAME: BEACH VITEX

LIST: RAPID RESPONSE



SHRUB

NOT REGULATED

CURRENT LISTINGS:

State Noxious Weed in NC, not

listed in SC

SC-EPPC: Severe Threat/Shrub

NC-EPPC/NCNPS: Severe

Threat

NCDOT: Threat/Shrub

Distribution: Coastal NC and SC, 1 county in GA, 1 county in

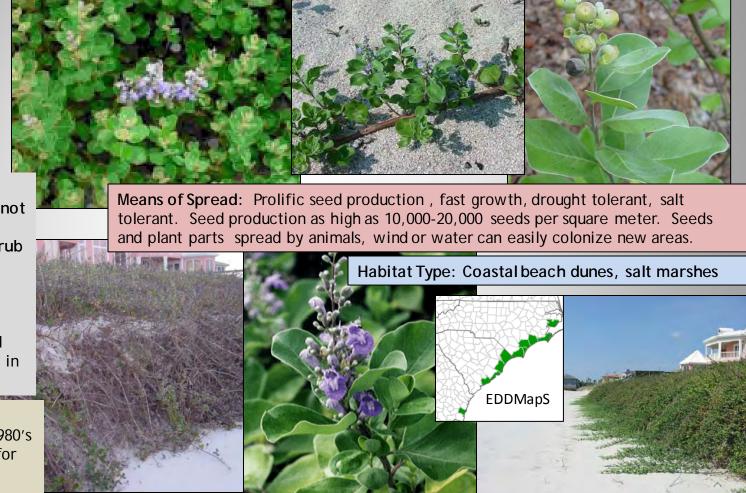
AL

Origin: Korea

Date of Introduction: Mid 1980's Reason: As an ornamental, for

erosion control/beach

stabilization



SCIENTIFIC NAME: POLYGONUM CUSPIDATIUM COMMON NAME: Japanese Knotweed

LIST: RAPID RESPONSE



SHRUB

NOT REGULATED

CURRENT LISTINGS:

SC-EPPC: Severe Threat/Shrub NC-EPPC/NCNPS: Severe Threat NCDOT: Threat/Herbaceous plant

GA-EPPC: Category 1 Alert

State Noxious Weed in AL, CA, MA,

NH, OR, VE, WA

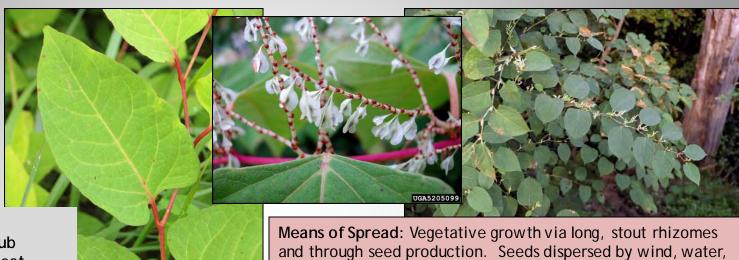
Potential Distribution in SC: all regions

Origin: Eastern Asia

Date of Introduction: Late 1800s.

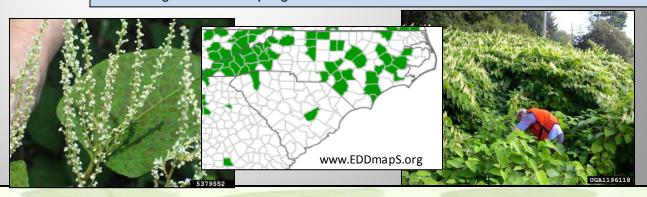
Reason: As an ornamental, for

landscape screen, and erosion control



Habitat Type: Wetlands, along streams and rivers, ditches, utility right-of-ways, old home sites; can tolerate shade, high salinity, high temperatures, and drought. Can escape gardens to invade undisturbed natural areas.

as a contaminant in fill dirt and on soles of shoes.



SCIENTIFIC NAME: CELASTRUS ORBICULATUS

COMMON NAME: ORIENTAL BITTERSWEET

LIST: RAPID RESPONSE



VINE

NOT REGULATED

CURRENT LISTINGS:

State Noxious Weed in NC,

MA, NH, NC, VT

SC-EPPC: Watch A/Vine NC-EPPC/NCNPS: Severe

Threat, NCDOT: Threat/Vine

Potential Distribution in SC: Mtns., Piedmont (Known in NC

and SC-Greenville Co.)

Origin: Eastern Asia, China,

Korea, Japan

Date of Introduction: 1860

Reason: As an ornamental



Habitat Type: Through the southern Appalachians in old home sites, fields, road edges. Some shade tolerance allows it to also grow in open forests.





SCIENTIFIC NAME: TAMARIX SPP.

COMMON NAME: SALT CEDAR

LIST: RAPID RESPONSE



SHRUB

NOT REGULATED

CURRENT LISTINGS:

State Noxious Weed in NC, MA, NH,

NC, VT

SC-EPPC: Watch A/Vine

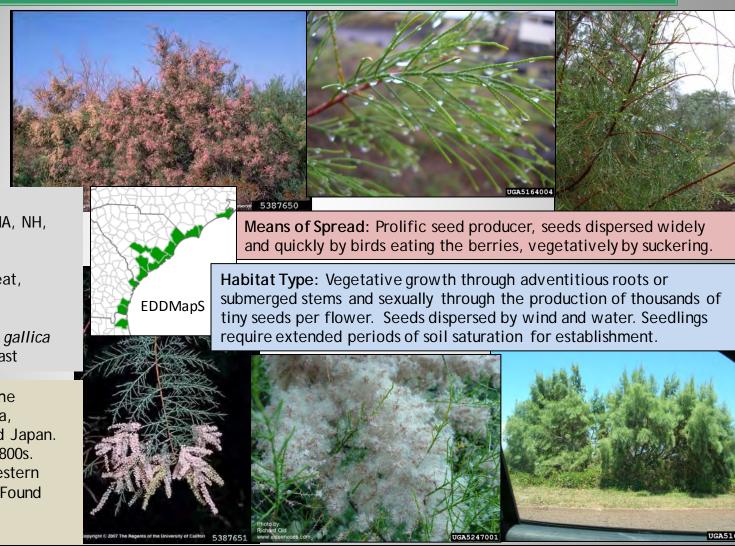
NC-EPPC/NCNPS: Severe Threat,

NCDOT: Threat/Vine

Distribution in SC and NC: T. gallica

(French Tamarix) found on coast

Origin: Western Europe and the Mediterranean to North Africa, northeastern China, India, and Japan. Date of Introduction: early 1800s. Reason: introduced to the western U.S. as an ornamental shrub. Found planted on SC and NC coastal properties.



SCIENTIFIC NAME: LYGODIUM JAPONICUM

COMMON NAME: Japanese Climbing Fern

LIST: RAPID RESPONSE



VINE

NOT REGULATED

CURRENT LISTINGS:

State Noxious Weed in FL

SC-EPPC Ranking: Severe

Threat/Vine

NC-EPPC/NCNPS: Significant Threat

GA-EPPC: Category 1

Distribution in SC: all regions,

multiple counties

Distribution in NC: limited, only

known in Lee County

Origin: Japan, Eastern Asia,

tropical Australia

Date of Introduction: Introduced

into Florida 1932

Reason: used as an ornamental,

escaped from cultivation



wet flatwoods.

estuarine habitats.