Species name: *Praxelis clematidea*

Category proposed: Cat. II

Proposed by and Date: Debi Stone (TNC), Charles Cook (FL DEP), Steve Richardson (FIPRI), Kent Williges (FWCC); Colette Jacono (FWCC)

Start date of this document: 6/18/2014

Document Author/s: Debi Stone, Colette Jacono

Common names: The name praxelis will be used for now.

Synonyms: not of recent concern

Has the species been vouchered? Yes

Counties with vouchered records for natural areas: Manatee, Hillsborough, Osceola

Voucher data:

<table>
<thead>
<tr>
<th>County</th>
<th>Locality</th>
<th>Habitat</th>
<th>Date</th>
<th>Museum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural Areas</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Manatee</td>
<td>Moody Branch Mitigation Park WEA, Parrish.</td>
<td>Ground Cover Restoration Site</td>
<td>Nov 2013</td>
<td>FLAS</td>
</tr>
<tr>
<td>Hillsborough</td>
<td>Fish Hawk Nature Preserve; E side of Boyette Road across the street from Camp Dorothy Thomas</td>
<td>sand hill - dry flatwoods</td>
<td>Jun 2013</td>
<td>USF</td>
</tr>
<tr>
<td>Osceola</td>
<td>Disney Wilderness Preserve</td>
<td>Wet flatwoods having a diverse herbaceous &amp; shrub layer</td>
<td>July 2014</td>
<td>Enroute to USF</td>
</tr>
<tr>
<td>Lake</td>
<td>Hilochee WMA, Clermont</td>
<td>Seven year old native groundcover restoration site, flatwoods</td>
<td>July 2014</td>
<td>Enroute to FLAS</td>
</tr>
<tr>
<td>Disturbed Areas</td>
<td></td>
<td></td>
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<tr>
<td>Hardee</td>
<td>Wauchula, Johns Road.</td>
<td>Found in herb garden</td>
<td>April 2013</td>
<td>FLAS</td>
</tr>
<tr>
<td>Hillsborough</td>
<td>Adjacent to Wimauma Airport, S of FL 674, E of FL 579.</td>
<td>Abandoned citrus grove w/ thousands of plants in flower</td>
<td>May 2014</td>
<td>USF</td>
</tr>
<tr>
<td>Lake</td>
<td>Hilochee WMA, Clermont</td>
<td>In a weedy fencerow w/ Vitis, Rubus &amp; Smilax. *Also in isolated, dense patches throughout property and along roadside.</td>
<td>Dec 2012</td>
<td>FLAS</td>
</tr>
<tr>
<td>Orange</td>
<td>Lake Hancock Road</td>
<td>Roadside w/ Paspalum notatum, Heterotheca subaxillaris, Bidens alba, Cyperus rotundus, Eupatorium capillifolium, Urena lobata, Sida rhombifolia</td>
<td>July 2007</td>
<td>USF, FLAS</td>
</tr>
</tbody>
</table>
Orange
Note: Collected as part of dissertation related to the evaluation of risk factors associated with decreased nutritional status and reproduction in gopher tortoises
Abandoned citrus grove, now open field dominated by Rhynchelytrum repens, Richardia brasiliensis; on edges, Urena lobata and Cenchrus spinifex, Heterotheca subaxillaris, Bidens alba
July 2006 FLAS

Orange
SSW of Reedy Lake, near the Rapid Infiltration Basin Systems of the Reedy Creek Improvement District along Old Hartzog Road
Roadside and edge of pine plantation w/ Paspalum notatum, Heterotheca subaxillaris, Bidens alba, Lantana camara, Panicum maximum, Rhynchelytrum repens
July 2007 FLAS

Orange
Boggy Creek Road, ca 0.1 mile E of small bridge over Boggy Creek
In deep canal (cut-over swamp to the S) w/ Paspalum notatum, Andropogon, Panicum repens, P. maximum, Aeschynomene indica, Ludwigia peruviana, Sesbania punicea, etc.
Sept 2008 FLAS

Osceola
Disney Wilderness Preserve
Roadside in disturbed flatwoods.
May 2014 USF

Reclaimed Areas
Polk
Homeland, near the Peace River (photo below)
Sandy reclaimed pine flatwoods. The reclamation earthmoving was completed in the late ’70s, hence the soil has matured for more than 40 years (“The site is not a recently disturbed area” C. Cook 07/28/14).
Nov 2013 USF

Polk
Bok Tower Gardens - In a disturbed area undergoing restoration from fallow citrus to LLP/sandhill habitat. On a maintained portion of one acre that was very heavily planted two years ago with wildflowers and mulched with pine straw. The pine straw or potted materials are suspected sources of introduction because Praxelis has not been found on any other portion of the 30 acre unit (Katrina Noland, Land Steward, personal communication 07/24/14).

Osceola County:
Disney Wilderness Preserve. Populations first identified in 2013. Observed in 2014 at 8 sites, mainly along roadsides and in disturbed areas. Largest current population is only 0.6 gross acres with an estimated cover of 25%, but that is because it is spread very far along a road. The epicenter of this population is in the 75 to 95% cover range and probably about 0.08 gross acres. The others are all roadside. Praxelis is beginning to germinate in the palmetto in one of the populations, but it is still within about 3 feet of the road footprint.

Polk County: 1) Bok Tower Gardens - In a disturbed area undergoing restoration from fallow citrus to LLP/sandhill habitat. On a maintained portion of one acre that was very heavily planted two years ago with wildflowers and mulched with pine straw. The pine straw or potted materials are suspected sources of introduction because Praxelis has not been found on any other portion of the 30 acre unit (Katrina Noland, Land Steward, personal communication 07/24/14).

2) Lakeland, Tenoroc Fish Management Area (Casey Beavers, DEP)

3) Bartow, CR 555, reclaimed phosphate parcel (Noralyn Phosphoria Mine) - The CR 555 Praxelis grows on reclaimed sandy soils that were revegetated as pine flatwoods more than 10 years ago. At this
time the ground cover consists primarily of weedy species along with a few native desirables. Weed associates: *Melinis repens*, *Richardia brasiliensis*, *Heterotheca subaxillaris*, *Eupatorium*, *Cyperus* sp., *Phyla nodiflora*, *Digitaria* sp., *Baccharis* sp., *Ambrosia artemisiifolia*, *Schinus terebinthefolius* and *Imperata cylindrical* (Charles Cook, DEP, personal communication 07/25/14) (Also see pre-herbicide and post-herbicide photos below).

4) Bartow, FIPR, SR 60 (Steven Richardson, Florida Polytechnic Univ., Industrial and Phosphate Res. Institute)

**Habitats invaded:**
**Osceola County:** Mainly where natal populations are/have been, but also tolerating more hydric conditions. One population occurs along a culvert next to a bay head. The *Praxelis* grows throughout most of the ditch by the culverts and is moving into the palmetto less than 10 feet away from bay trees.

**Population density / age structure:**
**Osceola County:** Disney Wilderness Preserve. Quick to grow and to mature, rapid reproduction rate leads to dense colonization of open areas within a few months. Individuals often begin flowering at 3 to 4 inches tall. When the flower heads are opened, the seeds appear to be mature, even though flowers are still intact. Debi Stone is investigating the germination rate of fresh seed collected from flowering heads.

**Polk County:** Homeland, FL. March 2014. A newly discovered invasion was hand-pulled and the individual plants counted. The colony consisted of 3 flowering/seeding adults (18-24” tall), 9 flowering/non-seeding sub-adults (12-18” tall), and 90 seedlings (< 12” tall). The patch covered an area of approximately 12x12’.

**Alteration observed to natural community:**
1) *Praxelis* seems to be capable of outcompeting many of our native weedy species (blackberry, bluestems, maidencane, etc.), and can grow to dense concentrations to alter vegetation structure and composition.
2) The plants have fibrous root systems that might act to displace native seed germination.
3) The plants grow into such crowded patches that they may shade out native plants.

**Fire tolerance:**
1) Documents from Australia indicate a positive reaction to fire (see linked articles below).
2) Fire tolerance of a seed bank has been reported in a population that was treated and apparently killed with glyphosate.
3) In a flatwoods restoration parcel a persisting seed bank was liberated following fire treatment (Kent Williges, FWCC, 2014, Pers. Comm.)

**Native Range:** Restricted to South America - Argentina, Bolivia, Paraguay and Brazil (see Abbott et al. 2008). Introduced to China, Hong Kong and Australia. Considered an environmental weed in Australia (Randall 2002)

**Native Habitat:** uplands, riparian
Additional Comments:

Perennial and annual. When stressed (drought, herbicide, etc.) *Praxelis* responds by casting off a large amount of seed. Plumose achenes are prone to wind borne and mechanical dispersal by vehicles. Literature suggests the species not be hand-pulled due to risk of spreading seed.

Supporting images:

Seed derived plants of *Praxelis clematidea* invade good quality wet flatwoods at Disney Wilderness Preserve. This site is located seven feet from the road footprint and approx. 0.75 miles from the vouchered population. There are no washouts or erosion problems nearby. Photo: Debi Stone.
**Praxelis clematidea** near the Peace River, Homeland, >40yr old reclaimed pine flatwoods. Photo C. Cook.

Distinguishing features: Shrubby, pubescent herb to 1.3m. Leaves with margins irregularly toothed. Heads longer than wide having conical shaped receptacles; pappus w/ bristles ~40, florets 25-30, phyllaries 15-25, unequal, flat, dropping at time of achene maturation.

Photos: *Praxelis clematidea* C. Cook
Polk Co., CR 555 reclaimed phosphate parcel (Noralyn Phosphoria Mine). *Praxelis clematidea* occurs with other weedy species at a 10 yr old site where native ground cover restoration had not been employed.

Polk Co., CR 555 reclaimed phosphate parcel (Noralyn Phosphoria Mine) after herbicide treatment. The mining company is aggressively treating the species. Photos by: Charles Cook, DEP
General distribution of *Praxelis clematidea* in Florida as of 29 July 2014.
Map by Charles Cook, DEP.

**Supporting documents:**


Williges, Kent. Hilochee Fall 2010 Report, Upland Habitat Research and Monitoring, FFWCC, Williston, FL; 10 pg.


http://www.weeds.org.au/cgi-bin/weedident.cgi?tpl=plant.tpl&state=&s=&ibra=all&card=H33


___________ To be Filled in by List Committee following Hearing of Proposal ___________

Outcome: Cat.II Date: 29 July 2014

Vote tally: # 7 Yea # 0 Nay #__ Abstained #__ Voting withheld