UF IFAS UNIVERSITY of FLORIDA

Assessment of Non-native Plants in Florida's Natural Areas

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Assessment date 2 November 2015

	***Vicia grandiflora* ALL ZONES**	**Answer**	**Score**
1.01	Is the species highly domesticated?	n	0
1.02	Has the species become naturalised where grown?		
1.03	Does the species have weedy races?		
2.01	Species suited to Florida's USDA climate zones (0-low; 1-intermediate; 2-high) North Zone: suited to Zones 8, 9 Central Zone: suited to Zones 9, 10 South Zone: suited to Zone 10	2	
2.02	Quality of climate match data (0-low; 1-intermediate; 2-high)	2	
2.03	Broad climate suitability (environmental versatility)	y	1
2.04	Native or naturalized in habitats with periodic inundation North Zone: mean annual precipitation 50-70 inches Central Zone: mean annual precipitation 40-60 inches South Zone: mean annual precipitation 40-60 inches	y	1
2.05	Does the species have a history of repeated introductions outside its natural range?	y	
3.01	Naturalized beyond native range	y	2
3.02	Garden/amenity/disturbance weed	n	0
3.03	Weed of agriculture	n	0
3.04	Environmental weed	n	0
3.05	Congeneric weed	y	2
4.01	Produces spines, thorns or burrs	n	0
4.02	Allelopathic	unk	0
4.03	Parasitic	n	0
4.04	Unpalatable to grazing animals	n	-1
4.05	Toxic to animals	n	0
4.06	Host for recognised pests and pathogens	y	1
4.07	Causes allergies or is otherwise toxic to humans	n	0
4.08	Creates a fire hazard in natural ecosystems	unk	0
4.09	Is a shade tolerant plant at some stage of its life cycle	n	0
4.10	Grows on infertile soils (oligotrophic, limerock, or excessively draining soils). North & Central Zones: infertile soils; South Zone: shallow limerock or Histisols.	y	1
4.11	Climbing or smothering growth habit	y	1
4.12	Forms dense thickets Text	n	0
5.01	Aquatic	n	0
5.02	Grass	n	0
5.03	Nitrogen fixing woody plant	n	0
5.04	Geophyte	n	0
6.01	Evidence of substantial reproductive failure in native habitat	n	0
6.02	Produces viable seed	y	1

6.03	Hybridizes naturally	unk	-1
6.04	Self-compatible or apomictic	y	1
6.05	Requires specialist pollinators	n	0
6.06	Reproduction by vegetative propagation	n	-1
6.07	Minimum generative time (years)	1	1
7.01	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	y	1
7.02	Propagules dispersed intentionally by people	y	1
7.03	Propagules likely to disperse as a produce contaminant		
7.04	Propagules adapted to wind dispersal	n	-1
7.05	Propagules water dispersed		
7.06	Propagules bird dispersed	n	-1
7.07	Propagules dispersed by other animals (externally)	n	-1
7.08	Propagules dispersed by other animals (internally)		
8.01	Prolific seed production		
8.02	Evidence that a persistent propagule bank is formed (>1 yr)	n	-1
8.03	Well controlled by herbicides	unk	1
8.04	Tolerates, or benefits from, mutilation or cultivation	unk	-1
8.05		?	
	Total Score	**7**	
	Implemented Pacific Second Screening	**no**	
	Risk Assessment Results	**High**	

section	**# questions answered**	**satisfy minimum?**
A	11	yes
B	10	yes
C	15	yes
total	36	yes

	Reference	Source data
1.01		cultivated, but no evidence of selection for reduced weediness
1.02		
1.03		
2.01	1. PERAL NAPPFAST Global Plant Hardiness (http://www.nappfast.org/Plant_hardiness/NAPPFAST%20Global%20zones/10-year%20climate/PLANT_HARDINESS_10YR%20lgnd.tif). 2. USDA, ARS, National Genetic Resources Program. Germplasm Resources Information Network - (GRIN) [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland. http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?409896 (0-00-0000).	No computer analysis was performed. 1. Global hardiness zone: 5, 6, 7, 8, 9, 10 ; equivalent to USDA Hardiness zones: 6a: to -23.3 °C (-10 °F) USDA Zone 6b: to -20.5 °C (-5 °F) USDA Zone 7a: to -17.7 °C (0 °F) USDA Zone 7b: to -14.9 °C (5 °F) USDA Zone 8a: to -12.2 °C (10 °F) USDA Zone 8b: to -9.4 °C (15°F) USDA Zone 9a: to -6.6 °C (20 °F) USDA Zone 9b: to -3.8 °C (25 °F) USDA Zone 10a: to -1.1 °C (30 °F) USDA Zone 10b: to 1.7 °C (35 °F). 2. Native to ASIA-TEMPERATE Western Asia: Iran [n.]; Turkey Caucasus: Armenia; Azerbaijan; Georgia; Russian Federation - Checheno-Ingushetia, Dagestan, Kabardino-Balkaria, Karachay-Cherkessia, Krasnodar, North Ossetia, Stavropol Middle Asia: Kyrgyzstan EUROPE Middle Europe: Austria; Czechoslovakia; Hungary East Europe: Moldova; Russian Federation - Volgograd; Ukraine [incl. Krym] Southeastern Europe: Albania; Bulgaria; Former Yugoslavia; Greece; Italy [incl. Sicily]; Romania
2.02		
2.03	1. Köppen-Geiger climate map (http://www.hydrol-earth-syst-sci.net/11/1633/2007/hess-11-1633-2007.pdf).	1. Distribution in the native/cultivated range occurs in Cfa, Csb, Csa, Bsk, Bwk, Dfb, Dfc, Dsb
2.04	1. Climate Charts. World Climate Maps. http://www.climate-charts.com/World-Climate-Maps.html#rain (8-19-2015) 2. Global Biodiversity Information Facility (http://www.gbif.org/species/2974901 accessed 11/2/2015)	1 and 2. Overlaying distribution map and precipitation map indicates clearly that distribution falls in areas receiving 47.5 to 147.4mm or 18.8 to 58.1 inches pf precipitation annually.
2.05	1. NatureWatchNZ http://naturewatch.org.nz/taxa/170209-Vicia-grandiflora (9-18-2015) 2. Cristine V. Santanna with revisions and editing by Jenna Dorey and Robyn J. Burnham. Factsheet. http://climbers.lsa.umich.edu/wp-content/uploads/2013/07/VicigranFABAFINAL.pdf (9-14-2015) 2. Go Botany New England Wild https://gobotany.newenglandwild.org/species/vicia/grandiflora/ (9-18-2015) 3. Manual of Alien Plants of Belgium http://alienplantsbelgium.be/content/vicia-grandiflora	1. An exotic plant growing wild in the United States. 2. Native to to the old world, V. grandiflora is found mainly in the southeastern United States 3. Large yellow vetch is native to Europe and introduced to North America, probably as a forage plant. It has spread throughout the Southeast and is found in a few other areas, including New England, where it has been collected only in Massachusetts. 3. Introduced to Belgium
3.01	1. Native and Naturalized plants of the Carolinas and Georgia http://www.namethatplant.net/plantdetail.shtml?plant=1634 (9-21-2015) 2. USDA, ARS, National Genetic Resources Program. Germplasm Resources Information Network - (GRIN) [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland. URL: http://www.ars-grin.gov.4/cgi-bin/npgs/html/taxon.pl?300662 (21 September 2015)	1. Naturalized in the Carolinas and Georgia 2. Naturalized in Europe
3.02		no evidence
3.03		no evidence
3.04		no evidence
3.05	1. Holm, LeRoy G. A Geographical Atlas of World Weeds. Malabar, FL: Krieger Pub., 1991. Print. 2. Alaska Department of Natural Resources, Prohibited and Restricted Noxious Weeds. (http://plants.alaska.gov/invasives/noxious-weeds.htm accessed 11/2/2015)	Vicia sativa is a serious weed in Indonesia, Italy, Portugal, and Poland. Vicia cracca is a serious weed in Finland. 3. V. cracca is a restricted noxious weed in Alaska

4.01	1. Cristine V. Santanna with revisions and editing by Jenna Dorey and Robyn J. Burnham. Factsheet. http://climbers.lsa.umich.edu/wp-content/uploads/2013/07/VicigranFABAFINAL.pdf (9-14-2015)	No evidence of these features
4.02		
4.03		no evidence
4.04	1. Mississipi Agricultural Experiment Station http://msucares.com/crops/forages/legumes/cool/vecth-bigflower.html (9-14-2015)	1. Vetch can be use for pasture, hay or silage (in small grain mixture). Vetch lacks grazing tolerance and it is best utilized in rotational grazing. Seasonal production in the northern part of the state from March to May and in the southern part from November to December and February to April. Yields range from 1.5 to 3.5 tons/ac. When used as a pasture crop, it can be mixed with small grains or annual ryegrass. Vetch can be overseeded on warm-season grass sods to extend the grazing season and provide good beef steer gains. Grazing should be begging when plants have are 5 to 6 inches tall. Close grazing below the lowest leaf axil will remove axillary buds, resulting in slow regrowth.
4.05		no evidence, unlikely because it can be used as forage.
4.06	Mississipi Agricultural Experiment Station http://msucares.com/crops/forages/legumes/cool/vecth-bigflower.html (9-14-2015)	Diseases of vetches include anthracnose, leaf spot and downy mildew, several stem and root rots, and rust. Many of the insects of forage legumes attack vetches, including the pea aphid, cutworms, fall armyworm, vetch bruchid, American grasshopper, lygus bugs, clover leafhopper, and potato leafhopper. Hairy vetch is susceptible to root-knot nematodes and soybean cyst nematodes.
4.07		no evidence
4.08		no evidence
4.09	Plants for a Future http://www.pfaf.org/user/Plant.aspx?LatinName=Vicia+grandiflora+kitaibeliana (9-14-2015) 2. Alabama Plant Atlas http://www.floraofalabama.org/specimendetails.aspx?PlantID=2093 (9-21-2015)	1. It can grow in semi-shade (light woodland) or no shade. 2. Full sun
4.10	1. Alabama Plant Atlas http://www.floraofalabama.org/specimendetails.aspx?PlantID=2093 (9-21-2015) 2. USDA Global Soil Regions Map http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/use/worldsoils/?cid=nrcs142p2_054013 (9-21-2015)	1. Grows in limestone 2. Native to areas with soil composition congruent with all three zones.
4.11	1. Cristine V. Santanna with revisions and editing by Jenna Dorey and Robyn J. Burnham. Factsheet. http://climbers.lsa.umich.edu/wp-content/uploads/2013/07/VicigranFABAFINAL.pdf (9-14-2015) 2. NatureWatchNZ http://naturewatch.org.nz/taxa/170209-Vicia-grandiflora (9-18-2015) 3. Alabama Plant Atlas http://www.floraofalabama.org/specimendetails.aspx?PlantID=2093 (9-21-2015)	1. Foliar tendrils allow climbing 2. Climbing by tendrils 3. Climbing vine with clusters of light yellow flowers
4.12		no evidence
5.01		Family: Fabaceae
5.02		Family: Fabaceae
5.03	1. Cristine V. Santanna with revisions and editing by Jenna Dorey and Robyn J. Burnham. Factsheet. http://climbers.lsa.umich.edu/wp-content/uploads/2013/07/VicigranFABAFINAL.pdf (9-14-2015)	Vicia grandiflora does fix nitrogen but is not a true woody vine. Vicia is a member of the subfamily Faboideae in the Fabaceae family, which is in the order Fabales, superorder Rosanae, subclass Magnoliidae.

5.04	1. Cristine V. Santanna with revisions and editing by Jenna Dorey and Robyn J. Burnham. Factsheet. http://climbers.lsa.umich.edu/wp-content/uploads/2013/07/VicigranFABAFINAL.pdf (9-14-2015)	no evidence of these structures
6.01		no evidence
6.02	1. Cristine V. Santanna with revisions and editing by Jenna Dorey and Robyn J. Burnham. Factsheet. http://climbers.lsa.umich.edu/wp-content/uploads/2013/07/VicigranFABAFINAL.pdf (9-14-2015) 2. Mississipi Agricultural Experiment Station http://msucares.com/crops/forages/legumes/cool/vecth-bigflower.html (9-14-2015)	1. Vicia grandiflora is a self-reseeding species, demonstrated in experimental inter-seeding in farming and agriculture 2. Vetch is a self-reseeding species and rapidly colonizes low fertility, open spaces. Vetch seed remains viable for 5 years or longer.
6.03		no evidence
6.04	1. Cristine V. Santanna with revisions and editing by Jenna Dorey and Robyn J. Burnham. Factsheet. http://climbers.lsa.umich.edu/wp-content/uploads/2013/07/VicigranFABAFINAL.pdf (9-14-2015) 2. Crop Genebank Knowledge Base, Information on breeding systems for some common tropical and sub-tropical forages (cropgenebank.sgrp.cgiar.org accessed 11/2/2015)	1. This species can self pollinate (but seed set increases with insect pollination) 2. Listed as self pollinated
6.05	Cristine V. Santanna with revisions and editing by Jenna Dorey and Robyn J. Burnham. Factsheet. http://climbers.lsa.umich.edu/wp-content/uploads/2013/07/VicigranFABAFINAL.pdf (9-14-2015)	Vicia grandiflora is insect pollinated, like other members of Vicia. Various bees are known to visit the plant for nectar including bumblebees, Apis mellifera, Eucera, Anthophora, Andrena, and Halictus species
6.06		no evidence
6.07	1. Templeton, W. C.; Taylor, T. H. 1975 Performance of Bigflower Vetch Seeded into Bermudagrass and Tall Fescue Swards Agronomy Journal Vol. 67 no. 5 709-712	Bigflower vetch, Vicia grandiflora var. kitaibeliana W. Koch, is a self-regenerating winter-annual legume
7.01	1. Cristine V. Santanna with revisions and editing by Jenna Dorey and Robyn J. Burnham. Factsheet. http://climbers.lsa.umich.edu/wp-content/uploads/2013/07/VicigranFABAFINAL.pdf (9-14-2015) 2. Go Botany https://gobotany.newenglandwild.org/species/vicia/grandiflora/ (9-18-2015) 3. Alabama Plant Atlas http://www.floraofalabama.org/specimendetails.aspx?PlantID=2093 (9-21-2015)	1. Open sites and woods, abandoned fields, and on roadsides 2. Fields, roadsides, waste areas. 3. Roadsides and under bridges
7.02	1. Mississippi Agric & Forestry Experiment Station, MSU Extension System (http://msucares.com/crops/forages/legumes/cool/vecth-bigflower.html accessed 11/2/2015) 2. Feedipedia, Animal Feed Resources Information System (http://www.feedipedia.org/node/239 accessed 11/2/2015)	Promoted as forage for pasture and planted as agricultural crop
7.03		no evidence
7.04		No evidence of mechanisms for wind dispersal…see photos of seeds.
7.05		no evidence
7.06	Cristine V. Santanna with revisions and editing by Jenna Dorey and Robyn J. Burnham. Factsheet. http://climbers.lsa.umich.edu/wp-content/uploads/2013/07/VicigranFABAFINAL.pdf (9-14-2015)	Further, birds often eat the seeds (14), but there is no evidence confirming that the seeds are still viable after predation.

7.07	Cristine V. Santanna with revisions and editing by Jenna Dorey and Robyn J. Burnham. Factsheet. http://climbers.lsa.umich.edu/wp-content/uploads/2013/07/VicigranFABAFINAL.pdf (9-14-2015)	No evidence of mechanisms for attachement…see photos of seeds.
7.08		no evidence
8.01		no evidence
8.02		no evidence
8.03		no evidence of control
8.04		no evidence
8.05		no evidence