Ohio Invasive Plant Assessment Protocol

				Score	Notes	References
Botanical Name:	*Eleutherococcus sieboldianus (Synon*					
Common Name:	Five-leaflet aralia, Aralia	Step I Outcome:	**Continue**			
Family Name:	Araliaceae	Step II Score:	**15**			
Posted Date:	7/20/16	Step II Outcome:	**Not Known to be Invasive**			
Initial assessment conducted by:	Ilana and Yulia Vinnik					

Step I

Directions: Place an "X" in the Score column next to the selected answer to each of the four questions.

		Score
1. Is this plant known to occur in the state and listed as "noxious" on any federal or Ohio Department of Agriculture plant list?	Yes. *Place on invasive plant list, no further investigation needed.* ***STOP***	
	No. *Continue on to question 2.*	X
2. Has this plant demonstrated widespread dispersion and establishment (i.e. high numbers of individuals forming dense stands) in natural areas across two or more regions in Ohio?[a]	Yes. *Place on invasive plant list, no further investigation needed.* ***STOP***	
	No. *Continue on to question 3.*	X
3. Does this plant form self-replicating populations outside of cultivation in Ohio and is it documented to alter the composition, structure, or normal processes or functions of a natural ecosystem?	Yes	
	No	X
	Unknown	
4. Is the plant listed as invasive in an adjoining state or a nearby state east of the Mississippi within the USDA Plant Hardiness zones 5-6?[b,c]	Yes	
	No	X
	Unknown	

If the answer was yes for both questions 3 and 4, the plant is placed on the invasive plant list and no further research is needed. Stop here. If the answer is no for both questions 3 and 4, the plant is not considered invasive and no further investigation is warranted. Otherwise, proceed to Step II.

Step II: Invasion Status

Directions: Place the appropriate numerical score (or "U") in the Score column next to the selected answer to each of these 18 questions.

	Score	Notes	References
1. Current Invasion in Ohio - plant is not found in natural areas (**0 pts.**) - plant is found in natural areas but only because it persist from previous planting in that location (e.g. old home sites) (**0 pts.**) - plant is only expanding from sites of previous planting (**1 pt.**) - plant occurs in natural areas away from site of planting (**3 pts.**) - Information unknown (**U**)	1		1,2,5
2. State Distribution[a] - plant is not naturalized in any region of Ohio (**0 pts.**) - plant is naturalized in only one region in Ohio (**1 pt.**) - plant is naturalized in two regions in Ohio (**2 pts.**) - plant is naturalized in three regions in Ohio (**3 pts.**) - plant is naturalized in four regions in Ohio (**4 pts.**) - plant is naturalized in five regions in Ohio (**5 pts.**) - Information unknown (**U**)	2	Regions 3 and 5	1,2,5
3. Regional/US Distribution			

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	Score	Notes	References
- plant is not considered to be a problem in any other state (**0 pts.**) - plant has been reported as a widespread problem in another non-neighboring state within the USDA Plant Hardiness Zones 5-6 (**1 pt.**) - plant has been reported to be a widespread problem in 1-2 adjoining states (**3 pts.**) - plant has been reported to be a widespread problem in 3 or more adjoining states (**5 pts.**) - plant has been reported to be a widespread problem in similar habitat outside the US (**1 pt.**) - Information unknown (**U**)	1	4: "Has been noted as an escape in Massachusetts, Connecticut, and Pennsylvania." 9=> considered as invasive plant in New Jersey	4,9
Step II: Biological Characters			
4. Vegetative Reproduction - no vegetative reproduction (**0 pts.**) - reproduces readily within the original site (**1 pt.**) - has runners or spreading rhizomes that root easily (**3 pts.**) - fragments easily and fragments can be easily dispersed (**4 pts.**) - has runners or spreading rhizomes that root easily AND fragments easily and fragments can be easily dispersed (**5 pts.**) - Information unknown (**U**)	3	7: It is capable of forming new roots when branches touch the ground. The roots can then form new stems.	7
5. Sexual Reproduction - no sexual reproduction (**0 pts.**) - infrequent sexual reproduction (**1 pt.**) - frequent sexual reproduction, but high variation among years in seed production (**3 pts.**) - frequent sexual reproduction (one or more events per year) (**5 pts.**) - Information unknown (**U**)	1	8: Dioecious and flowers are not usually fertilized (due to clones).	8
6. Number of Viable Seeds or Propagules per Plant - few (0-10) (**1 pt.**) - moderate (11-1,000) (**3 pts.**) - prolific (>1,000) (**5 pts.**) - Information unknown (**U**)	3	Fruits in clusters, producing small black berries; each berry contains 2 to 5 seeds.	7
7. Flowering Period - one month or less per year (**0 pts.**) - two months (**1 pt.**) - three to five months (**2 pts.**) - longer than five months (**3 pts.**) - Information unknown (**U**)	1	May to June	6,7
8. Dispersal Ability - low potential for long-distance seed/propagule dispersal (>1km) (**0 pts.**) - medium potential for long-distance seed/propagule dispersal (**3 pts.**) - high potential for long-distance seed/propagule dispersal (**5 pts.**) - Information unknown (**U**)	U	No evidence (but possibly bird-dispersed)	
9. Generation Time - long juvenile period (>5 or more years for trees, 3 or more years for other growth forms) (**0 pts.**) - short juvenile period (<5 years for trees, <3 years for other forms) (**3 pts.**) - Information unknown (**U**)	U	No evidence	

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Ste

	Score	Notes	References
10. Establishment - unable to invade natural areas (**0 pts.**) - can only colonize certain habitat stages (e.g. early successional habitats) (**1 pt.**) - aggressively colonizes and establishes in edge habitats (**3 pts.**) - aggressively colonizes and establishes in intact and healthy natural areas (**6 pts.**) - Information unknown (**U**)	1	6: "Extremely adaptable shrub that will grow well in a wide range of soils in full sun to shade conditions. Good tolerance for drought, poor soils, urban pollution and shearing. " 7=>used in urban sites, where conditions do not allow other plants to grow.	6,7
Step II: Ecological Importance			
11. Impact on Ecosystem Processes - no known effect on ecosystem-level processes (**0 pts.**) - moderate effects on ecosystem-level processes (e.g., changes in nutrient cycling)(**3 pts.**) - causes long-term, substantial alterations in the ecosystem (e.g., changing fire regime of an area, changing hydrology of wetlands) (**6 pts.**)	0	No evidence	
12. Impact on Rare Organisms - no known negative impact on Ohio State-listed or federal-listed plants or animals (**0 pts.**) - negatively impacts listed species, such as through displacement or interbreeding (**3 pts.**)	0	No evidence	
13. Impact on Native Animals - no known negative impact on animals (**0 pts.**) - documented direct or indirect negative effects on animal taxa (**3 pts.**)	0	No evidence	
14. Impact on Native Plants - no known negative effects on native plants (**0 pts.**) - negatively impacts some native plants (increasing their mortality and/or recruitment of certain taxa) (**3 pts.**) - impacts native plants to such an extent that community structure is greatly altered (**6 pts.**)	0	7: Can quickly displace native plants; can hinder the growth of native trees and shrubs (but this is just a generic statement with no empirical evidence).	7
15. Hybridization - no known instances of hybridization with other plant species (**0 pts.**) - can hybridize with native Ohio plants or commercially-available species, but seeds are inviable (**1 pt.**) - can hybridize with native Ohio plants or commercially-available species, producing viable seed (**3 pts.**)	0	No evidence	
16. Population Density - occurs only as small, sporadic populations or individuals (**1 pt.**) - typically forms small, monospecific patches (**3 pts.**) - is a dominant plant in area where population occurs (absolute cover 15-50%) (**4 pts.**) - forms an extensive, monospecific stand (absolute cover >50%) (**5 pts.**)	1	Occur in clusters.	7
17. Role in Succession in Natural Areas - successional information is unknown (**0 pts.**)			

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- is an early successional species that temporarily invades a disturbed site but does not persist as the site matures (**0 pts.**) - readily invades disturbed sites and persists, but does not interfere with succession (**1 pt.**) - readily invades disturbed sites, persists and interferes with succession of native plants (**4 pts.**)	0	No evidence	
18. Number of Habitats Invaded ***Forestlands:*** Floodplain forest, hemlock-hardwood forest, mixed mesophytic forest, beech-maple forest, oak-maple forest, oak-hickory forest. ***Grasslands:*** Alvar*, beach-dune community*, bur oak savanna*, slough-grass-bluejoint prairie*, sand barren*, big bluestem prairie, little bluestem prairie (xeric limestone prairie*+), post oak opening*+ ***Wetlands:*** Bog*, fen*, twigrush-wiregrass wet prairie*, marsh, buttonbush swamp, mixed shrub swamp, hemlock-hardwood swamp*, maple-ash-oak swamp, white pine-red maple swamp* * Considered a rare plant community in Ohio by ODW's Biodiversity Database Program. + = xeric limestone prairies or cedar glades and post oak openings are unique to the Interior Low Plateau Region of Adams, Highland and Pike counties, and are not included in Schneider and Cochrane (1997). - not found in any natural habitats in Ohio (**0 pts.**) - only found in 1 broad category (**1 pt.**) - found in 2 broad categories or 2 rare habitat types (**3 pts.**) - found in 3 broad categories or 3 rare habitat types (**4 pts.**) - found in 4 or more rare habitat types (**5 pts.**)	1	6: Naturalize in woodland areas. 7: This plant is most likely found in open forests and forest edges.	6,7

Total Score: **15**

Number of Unknowns: **2**

Outcome: **Not Known to be Invasive**

Total Points	Assessment Decision
4 or more U	Insufficient Data
0-34	Not Known to be Invasive
35-44	Pending Further Review
45-80	Invasive