

Assessment date 1/21/2020 Assessment completed by Petri and Lieurance

<i>Limnobium laevigatum</i> 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	y	2
3.03	Weed of agriculture	y	4
3.04	Environmental weed	y	4
3.05	Congeneric weed	y	2
4.01	Produces spines, thorns or burrs	n	0
4.02	Allelopathic	n	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	n	0
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.	n	0
4.11	Climbing or smothering growth habit	n	0
4.12	Forms dense thickets	y	1
5.01	Aquatic	y	5

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	y	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	y	1
7.04	Propagules adapted to wind dispersal	y	1
7.05	Propagules water dispersed	y	1
7.06	Propagules bird dispersed	y	1
7.07	Propagules dispersed by other animals (externally)	unk	-1
7.08	Propagules dispersed by other animals (internally)	unk	-1
8.01	Prolific seed production	unk	-1
8.02	Evidence that a persistent propagule bank is formed (>1 yr)	y	1
8.03	Well controlled by herbicides	y	-1
8.04	Tolerates, or benefits from, mutilation or cultivation	y	1
8.05	Effective natural enemies present in U.S.	unk	1
Total Score		29	
Implemented Pacific Second Screening		No	
Risk Assessment Results		High Risk	

section	# questions answered	satisfy minimum?
A		11 yes
B		11 yes
C		19 yes
total		41 yes

	Reference	Source data
1.01	1. USDA, APHIS, Weed Risk Assessment for Limnobium laevigatum- South America spongeplant; https://plants.ifas.ufl.edu/wp-content/uploads/files/caip/pdfs/WRA-Limnobium-laevigatum.pdf [Accessed 1/21/20] 2. Aquasabi; https://www.aquasabi.com/Limnobium-laevigatum [Accessed 1/21/20] 2. Amazon; https://www.amazon.com/Frogbits-Limnobium-Laevigatum-Aquarium-Floating/dp/B00L30X3TQ [Accessed 1/21/20]	1. No evidence of domestication or selection of varieties with reduced weed traits 2. However, the wild type is available as a cultivated aquatic plant
1.02		
1.03		
2.01	1. USDA, APHIS, Weed Risk Assessment for Limnobium laevigatum- South America spongeplant [Accessed 1/21/20] 2. USDA, ARS, Plant Hardiness Zone Map; https://planthardiness.ars.usda.gov/PHZMWeb/# [Accessed 1/21/20] 2. Calflora; https://www.calflora.org/cgi-bin/species_query.cgi?where-calrecnum=10623 [Accessed 1/21/20]	No computer analysis was performed 1. Based on three climatic variables, predicted suitability represents USDA zones 8-13 2. Current distribution of species in California corresponds to USDA zones 8-9
2.02	1. USDA, APHIS, Weed Risk Assessment for Limnobium laevigatum- South America spongeplant; https://plants.ifas.ufl.edu/wp-content/uploads/files/caip/pdfs/WRA-Limnobium-laevigatum.pdf [Accessed 1/21/20] 2-4. Invasive Species Compendium, CABI; https://www.cabi.org/isc/datasheet/115273 [Accessed 1/21/20]	No computer analysis was performed 1. Based on three climatic variables, predicted suitability for establishment across 29% of the USA, including most of the area of Florida 2. Overlapping climate suitability to Florida for Koppen-Geiger climate zones Am, As, Aw, Cf 3. Native range well known as freshwater habitats of tropical and subtropical regions in Mexico, Central and South America, and the Caribbean 4. The species has been introduced to California (USA), Australia, Japan, Zimbabwe, and Zambia
2.03	1. USDA, APHIS, Weed Risk Assessment for Limnobium laevigatum- South America spongeplant; https://plants.ifas.ufl.edu/wp-content/uploads/files/caip/pdfs/WRA-Limnobium-laevigatum.pdf [Accessed 1/21/20] 2. Invasive Species Compendium, CABI; https://www.cabi.org/isc/datasheet/115273 [Accessed 1/21/20]	No computer analysis was performed 1. Based on three climatic variables, predicted suitability for Koppen-Geiger climate classes: tropical rainforest (Af), tropical savanna (As), steppe (BS), mediterranean (Cs), humid subtropical (Cf), and marine west coast (Cf) 2. Species present in 8 Koppen-Geiger zones (Af, Am, As Aw, BS, Cf, Cs, Cw)
2.04	1. USDA, APHIS, Weed Risk Assessment for Limnobium laevigatum- South America spongeplant; https://plants.ifas.ufl.edu/wp-content/uploads/files/caip/pdfs/WRA-Limnobium-laevigatum.pdf [Accessed 1/21/20] 2-3. Invasive Species Compendium, CABI; https://www.cabi.org/isc/datasheet/115273 [Accessed 1/21/20]	1. Based on three climatic variables, predicted suitability for areas with 10 to 100+ inches of annual precipitation 2. Native to Puerto Rico which receives 35.8in to 61.0in of rainfall annually 3. But precipitation is unlikely to be a directly limiting factor as this is an aquatic plant
2.05	1-2. Invasive Species Compendium, CABI; https://www.cabi.org/isc/datasheet/115273 [Accessed 1/21/20] 1-2. USDA, APHIS, Weed Risk Assessment for Limnobium laevigatum- South America spongeplant; https://plants.ifas.ufl.edu/wp-content/uploads/files/caip/pdfs/WRA-Limnobium-laevigatum.pdf [Accessed 1/21/20]	1. Introduced from South America to North America (California) waterways through use in aquariums and aquascapes 2. Beyond California, this species has been introduced to Australia, Japan, Simbabwe, and Zambia

3.01	<p>1. Invasive Species Compendium, CABI; https://www.cabi.org/isc/datasheet/115273 [Accessed 1/21/20] 2. Calflora; https://www.calflora.org/cgi-bin/species_query.cgi?where-calrecnum=10623 [Accessed 1/21/20] 3. Howard et al. 2016, Alien <i>Limnobium laevigatum</i> becoming prevalent in Zimbabwe and Zambia; https://www.reabic.net/journals/bir/2016/4/BIR_2016_Howard_et_al.pdf [Accessed 1/21/20]</p>	<p>1. The species has been introduced to California (USA), Australia, Japan, Zimbabwe, and Zambia 2. Species recorded in California natural areas 56 times 3. Populations have been found in Zimbabwe and Zambia, and are predicted to spread into other part of Africa</p>
3.02	<p>1. Invasive Species Compendium, CABI; https://www.cabi.org/isc/datasheet/115273 [Accessed 1/21/20] 2. Acevedo-Rodriguez & Strong 2005, Monocotyledons and gymnosperms of Puerto Rico and the Virgin Islands; http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.1.713.528&rep=rep1&type=pdf [Accessed 1/21/20]</p>	<p>1. Species grows along irrigation canals in California (invaded range) 2. In Puerto Rico (native range), species grows in fresh-water ditches</p>
3.03	<p>1. Invasive Species Compendium, CABI; https://www.cabi.org/isc/datasheet/115273 [Accessed 1/21/20] 1. USDA, APHIS, Weed Risk Assessment for <i>Limnobium laevigatum</i>-South America spongeplant; https://plants.ifas.ufl.edu/wp-content/uploads/files/caip/pdfs/WRA-Limnobium-laevigatum.pdf [Accessed 1/21/20]</p>	<p>1. In native range in South America, the dense mats have disrupted thousands of kilometers of drainage canals dug for transporting timber</p>
3.04	<p>1-3. Invasive Species Compendium, CABI; https://www.cabi.org/isc/datasheet/115273 [Accessed 1/21/20] 1. USDA, APHIS, Weed Risk Assessment for <i>Limnobium laevigatum</i>-South America spongeplant; https://plants.ifas.ufl.edu/wp-content/uploads/files/caip/pdfs/WRA-Limnobium-laevigatum.pdf [Accessed 1/21/20] 2. EDDMapS; https://www.eddmaps.org/species/subject.cfm?sub=53988 [Accessed 1/22/20] 3. California Department of Food and Agriculture, Pest Rating Proposals and Final Ratings; https://blogs.cdafa.ca.gov/Section3162/?tag=limnobium-laevigatum [Accessed 1/22/20]</p>	<p>1. Species is being managed for control and eradication in natural areas in California, as it is a listed state Noxious Weed and occurs in natural waterways, ponds, and canals. 2. Species also listed as a Noxious Weed in Australia and Oregon (USA) 3. Plants block birds' access to water, suffocates fish and other animals by sealing the water surface from air, and dying plants deplete oxygen in the water.</p>
3.05	<p>1. Madsen et al. 1998, Evaluation of four herbicides on management of American Frogbit; https://www.researchgate.net/profile/John_Madsen/publication/252424374_Evaluation_of_Four_Herbicides_for_Management_of_American_Frogbit_Limnobium_spongia/links/0deec52a0e6aa98961000000/Evaluation-of-Four-Herbicides-for-Management-of-American-Frogbit-Limnobium-spongia.pdf [Accessed 1/21/20] 2. USDA, APHIS, Weed Risk Assessment for <i>Limnobium laevigatum</i>- South America spongeplant; https://plants.ifas.ufl.edu/wp-content/uploads/files/caip/pdfs/WRA-Limnobium-laevigatum.pdf [Accessed 1/21/20]</p>	<p>1. Congener, <i>Limnobium spongia</i>, is native to the southeastern United States where its formation of floating mats create nuisance situations such as blocking navigation, affecting water quality, fish and wildlife habitat, and recreational usage 2. Depending on the treatment, <i>L. spongia</i> and <i>L. laevigatum</i> are placed within one species but as two different varieties. In this case, we are considering them as separate species as one is native the USA and the other is not.</p>
4.01	<p>1. Invasive Species Compendium, CABI; https://www.cabi.org/isc/datasheet/115273 [Accessed 1/21/20]</p>	<p>1. These features are not in the description of the species</p>
4.02	<p>1. Michelan et al. 2010, Effects of an exotic invasive macrophyte (tropical signalgrass) on native plant community composition, species richness, and functional diversity; https://onlinelibrary.wiley.com/doi/full/10.1111/j.1365-2427.2009.02355.x [Accessed 1/22/20] 1. Soloviy & Malovanyy 2019, Freshwater ecosystem macrophytes and microphytes: Development, environmental problems, usage as raw material; http://science.lpnu.ua/sites/default/files/journal-paper/2019/nov/19615/2.pdf [Accessed 1/22/20]</p>	<p>No Evidence 1. However, allelopathy has been suggested for many species of macrophytes, which block growth of phytoplankton</p>
4.03	<p>1-2. Online Parasitic Plants Database; http://www.omnisterra.com/bot/pp_home.cgi [Accessed 1/22/20]</p>	<p>1. Not listed as being a parasitic plant 2. Species is in the family Hydrocharitaceae</p>
4.04	<p>1. Aponte et al. 2013, Proximal analysis of <i>Limnobium laevigatum</i> and its potential as forage; https://scholar.google.com/scholar?cluster=6368859555694308235&hl=en&as_sdt=0,10 [Accessed 1/23/20]</p>	<p>1. Species shows potential for future use as forage, due to its high protein content and low fiber in the dry matter</p>

4.05	1. Cornell Department of Animal Science, Poisonous Plants Information Database; http://poisonousplants.ansci.cornell.edu/ [Accessed 1/22/20] 2. USDA, APHIS, Weed Risk Assessment for <i>Limnobiium laevigatum</i> - South America spongeplant; https://plants.ifas.ufl.edu/wp-content/uploads/files/caip/pdfs/WRA-Limnobiium-laevigatum.pdf [Accessed 1/21/20] 3. Dave's Garden; https://davesgarden.com/guides/pf/go/31858/#b [Accessed 1/21/20]	1. Not listed as a poisonous plant to livestock or other animals 2. No evidence of species being listed as poisonous 3. Seeds are poisonous if ingested
4.06	1. USDA, ARS, National Fungus Collections Database; https://nt.ars-grin.gov/fungalatabases/ [Accessed 1/22/20] 2. CABI; https://www.cabi.org/isc/datasheet/115273#tosummaryOfInvasiveness [Accessed 1/21/20]	1. No records of fungus hosts 2. No reports of associated pathogens
4.07		No Evidence
4.08	1. Hollowell 2005, Plant community structure, fire disturbance, and recovery in mangrove swamps of Waini Peninsula, Guyana; https://search.proquest.com/docview/305367318?pq-origsite=gscholar [Accessed 1/23/20]	No evidence, and fire hazard is less relevant to aquatic species 1. In Guyana, species became the prominent aquatic species in a swamp after a fire, due to the increase in light availability, but the species did not appear to directly influence the occurrence of fire
4.09	1. Acevedo-Rodriguez & Strong 2005, Monocotyledons and gymnosperms of Puerto Rico and the Virgin Islands; http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.713.528&rep=rep1&type=pdf [Accessed 1/21/20] 2. Invasive Species Compendium, CABI; https://www.cabi.org/isc/datasheet/115273 [Accessed 1/21/20]	1. In Puerto Rico, grows in shaded streams 2. Preference for full sun, but in Puerto Rico is was reported to grow in shady streams
4.10	1. Invasive Species Compendium, CABI; https://www.cabi.org/isc/datasheet/115273 [Accessed 1/21/20]	1. Species is a floating aquatic plant
4.11	1. Invasive Species Compendium, CABI; https://www.cabi.org/isc/datasheet/115273 [Accessed 1/21/20]	1. This is an aquatic species which floats on the surface of the water and does not physically climb over any other species
4.12	1-2. Invasive Species Compendium, CABI; https://www.cabi.org/isc/datasheet/115273 [Accessed 1/21/20]	1. Forms dense floating mats, which have been reported to obstruct waterways and reduce the quality or availability of irrigation water 2. In native range, the dense mats have disrupted thousands of kilometers of drainage canals dug for transporting timber
5.01	1. USGS, Nonindigenous Aquatic Species; https://nas.er.usgs.gov/queries/SpeciesList.aspx?Group=Plants [Accessed 1/21/10] 2. Invasive Species Compendium, CABI; https://www.cabi.org/isc/datasheet/115273 [Accessed 1/21/20]	1. Listed as an aquatic species 2. Species is an ornamental pond plant and use in aquarium plantings
5.02	1-2. USDA, PLANTS; https://plants.sc.egov.usda.gov/core/profile?symbol=LILA7 [Accessed 1/21/20]	1. Species is herbaceous 2. Species is in the family Hydrocharitaceae
5.03	1. USDA, ARS, National Genetic Resources Program, GRIN; https://www.ars-grin.gov/Rhizobium [Accessed 1/21/20] 2. Invasive Species Compendium, CABI; https://www.cabi.org/isc/datasheet/115273 [Accessed 1/21/20]	1. Not listed as having an association with rhizobium 2. Species is in the family Hydrocharitaceae
5.04	1. Invasive Species Compendium, CABI; https://www.cabi.org/isc/datasheet/115273 [Accessed 1/21/20]	1. These specialized organs are not in the description of the species
6.01	1. Invasive Species Compendium, CABI; https://www.cabi.org/isc/datasheet/115273 [Accessed 1/21/20]	1. In native range, the dense mats have disrupted thousands of kilometers of drainage canals dug for transporting timber
6.02	1. Invasive Species Compendium, CABI; https://www.cabi.org/isc/datasheet/115273 [Accessed 1/21/20]	1. Species reproducing sexually by seed, and is know for forming dense floating or rooted mats on the water surface
6.03	1. Bernardini & Lucchese 2018, New phylogenetic insights into Hydrocharitaceae; https://ojs.uniroma1.it/index.php/Annalidibotanica/article/view/13970/14003 [Accessed 1/23/20]	1. No evidence of hybridization in this genus, though cases of hybridization have been documented in the family Hydrocharitaceae
6.04	1. Invasive Species Compendium, CABI; https://www.cabi.org/isc/datasheet/115273 [Accessed 1/21/20]	1. Autogamous plants, meaning that the plant is monoecious (separate male and female parts on a single plant) and male parts can fertilize females on the same plant

6.05	1. Lowden 1992, Floral variation and taxonomy of Limnobium; https://www.jstor.org/stable/23312884?seq=1 [Accessed 1/21/20] 1. USDA, APHIS, Weed Risk Assessment for Limnobium laevigatum-South America spongeplant; https://plants.ifas.ufl.edu/wp-content/uploads/files/caip/pdfs/WRA-Limnobium-laevigatum.pdf [Accessed 1/21/20]	1. Species seems more likely to rely on insect pollination than wind pollination, and aphid nymphs have been seen crawling over the flowers at the time of anthesis
6.06	1. Invasive Species Compendium, CABI; https://www.cabi.org/isc/datasheet/115273 [Accessed 1/21/20]	1. Species can reproduce vegetatively through fragmentation of stolon segments which connect rosettes
6.07	1. USDA, APHIS, Weed Risk Assessment for Limnobium laevigatum-South America spongeplant; https://plants.ifas.ufl.edu/wp-content/uploads/files/caip/pdfs/WRA-Limnobium-laevigatum.pdf [Accessed 1/21/20] 1. Parsons & Cuthbertson 2001, Noxious weeds of Australia; https://books.google.com/books?hl=en&lr=&id=sRCrNAQqpwC&oi=fnd&pg=PR10&dq=Parsons,+W.+T.,+and+E.+G.+Cuthbertson.+2001.+Noxious+weeds+of+Australia+(2nd+edition).+CSIRO+Publishing,+Collingwood,+Victoria,+Australia.+698+pp.+&ots=0S7SwG95wq&sig=HhSUgtO1vWnr_ANV934M09nNT1c#v=onepage&q=hyacinth&f=false	1. Generation time is unknown for this species; however this species is ecologically similar to water hyacinth, which can reproduce vegetatively in 5 days and bloom after 3 to 4 weeks, so it is safe to assume that this species could reproduce within a year
7.01	1. Invasive Species Compendium, CABI; https://www.cabi.org/isc/datasheet/115273 [Accessed 1/21/20]	1. Seeds and fragments of stolons can be accidentally transported as hitchhikers on watercrafts
7.02	1. Invasive Species Compendium, CABI; https://www.cabi.org/isc/datasheet/115273 [Accessed 1/21/20] 2. Aquasabi; https://www.aquasabi.com/Limnobium-laevigatum [Accessed 1/21/20] 3. Wiki, List of freshwater aquarium plant species; https://en.wikipedia.org/wiki/List_of_freshwater_aquarium_plant_species [Accessed 1/21/20]	1. Species is an ornamental pond plant and use in aquarium plantings 2. For sale specifically for aquariums 3. Listed as a popular aquarium plant species
7.03	1. Invasive Species Compendium, CABI; https://www.cabi.org/isc/datasheet/115273 [Accessed 1/21/20] 2. USDA, APHIS, Weed Risk Assessment for Limnobium laevigatum-South America spongeplant; https://plants.ifas.ufl.edu/wp-content/uploads/files/caip/pdfs/WRA-Limnobium-laevigatum.pdf [Accessed 1/21/20]	1. In native range in South America, the dense mats have disrupted thousands of kilometers of drainage canals dug for transporting timber, which could potentially transport propagules 2. Most commonly seeds, seedlings, and entire plants are all dispersed by water, with occasional cases of seeds being dispersed by wind
7.04	1. Invasive Species Compendium, CABI; https://www.cabi.org/isc/datasheet/115273 [Accessed 1/21/20]	1. Seeds and fragments of stolons are naturally dispersed by wind
7.05	1. Invasive Species Compendium, CABI; https://www.cabi.org/isc/datasheet/115273 [Accessed 1/21/20]	1. Seeds and fragments of stolons are naturally dispersed by water
7.06	1. Invasive Species Compendium, CABI; https://www.cabi.org/isc/datasheet/115273 [Accessed 1/21/20]	1. Seeds and fragments of stolons can be transported by birds
7.07	1. Cook & Urmi-Konig 1983, A revision of the genus Limnobium including Hydromystria; https://www.sciencedirect.com/science/article/pii/0304377083900153 [Accessed 1/23/20] 2. USDA, APHIS, Weed Risk Assessment for Limnobium laevigatum- South America spongeplant; https://plants.ifas.ufl.edu/wp-content/uploads/files/caip/pdfs/WRA-Limnobium-laevigatum.pdf [Accessed 1/21/20]	1. Fruit releases seeds in a mucilaginous mass 2. The mucilaginous mass may stick to animals, but there is not evidence of this
7.08	1. Cook & Urmi-Konig 1983, A revision of the genus Limnobium including Hydromystria; https://www.sciencedirect.com/science/article/pii/0304377083900153 [Accessed 1/23/20] 2. Invasive Species Compendium, CABI; https://www.cabi.org/isc/datasheet/115273 [Accessed 1/21/20]	1. Seeds are soft and unlikely to withstand crushing or digestive enzymes 2. Known to be transported by birds, which suggests some ability to withstand internal transport
8.01	1-2. Invasive Species Compendium, CABI; https://www.cabi.org/isc/datasheet/115273 [Accessed 1/21/20] 2-3. USDA, APHIS, Weed Risk Assessment for Limnobium laevigatum-South America spongeplant; https://plants.ifas.ufl.edu/wp-content/uploads/files/caip/pdfs/WRA-Limnobium-laevigatum.pdf [Accessed 1/21/20]	1. Fruit contains up to 100 seeds 2. At a site in California, there were 2,500 plants m ⁻² 3. The above calculations mean that if only 50 of these plants produced fruit, then the criteria would be met for prolific reproduction for an herbaceous plant; however we do not currently have information to confirm that and must answer unknown

8.02	<p>1. Invasive Species Compendium, CABI; https://www.cabi.org/isc/datasheet/115273 [Accessed 1/21/20] 1. USDA, APHIS, Weed Risk Assessment for Limnobium laevigatum-South America spongeplant; https://plants.ifas.ufl.edu/wp-content/uploads/files/caip/pdfs/WRA-Limnobium-laevigatum.pdf [Accessed 1/21/20]</p>	<p>1. At a pond in California, seedlings of the species appeared despite populations being almost completely suppressed for three years, suggesting there may be a seed bank 2. There is high uncertainty about the formation of a seed bank because it is not absolutely clear that a few remaining seedlings did not reestablish the site in the previous statement; however, it seems likely that a seed bank is present and this question should receive a yes</p>
8.03	<p>1. Heap 2020, International survey of herbicide resistant weeds; http://www.weedscience.org/ [Accessed 1/21/20] 2. Invasive Species Compendium, CABI; https://www.cabi.org/isc/datasheet/115273 [Accessed 1/21/20]</p>	<p>1. Not listed as resistant to herbicides 2. Multiple aquatic herbicides have been recommended for control of this species including diquat, glyphosate, Imazapyr, and 2,4-D</p>
8.04	<p>1-2. Invasive Species Compendium, CABI; https://www.cabi.org/isc/datasheet/115273 [Accessed 1/21/20] 3. USDA, APHIS, Weed Risk Assessment for Limnobium laevigatum-South America spongeplant; https://plants.ifas.ufl.edu/wp-content/uploads/files/caip/pdfs/WRA-Limnobium-laevigatum.pdf [Accessed 1/21/20]</p>	<p>1. Choppers and shredders can result in small seedlings breaking off and spreading into new areas 2. Likely that if connected plants are broken up there would be a benefit to this treatment</p>
8.05	<p>1. Hutchinson 2019, Dangerous waterweed spreading in Southern Africa; https://blog.invasive-species.org/2019/02/04/dangerous-waterweed-spreading-in-southern-africa/ [Accessed 1/23/20] 2. Oregon Department of Agriculture, Noxious Weed Control Program; https://www.oregon.gov/ODA/shared/Documents/Publications/Weeds/WestIndianSpongeplantProfile.pdf</p>	<p>1. No natural enemies are known, but there is an interest in pursuing this area of research in the future 2. Currently no biocontrols available for this species</p>