

Taxon: <i>Sesuvium verrucosum</i> Raf.	Family: Aizoaceae
Common Name(s): romerillo western purslane	Synonym(s): <i>Sesuvium erectum</i> Correll

Assessor: Chuck Chimera	Status: Assessor Approved	End Date: 7 Nov 2017
WRA Score: 9.0	Designation: H(HPWRA)	Rating: High Risk

Keywords: Perennial Herb, Naturalized, Succulent, Halophyte, Self-Compatible

Qsn #	Question	Answer Option	Answer
101	Is the species highly domesticated?	y=-3, n=0	n
102	Has the species become naturalized where grown?		
103	Does the species have weedy races?		
201	Species suited to tropical or subtropical climate(s) - If island is primarily wet habitat, then substitute "wet tropical" for "tropical or subtropical"	(0-low; 1-intermediate; 2-high) (See Appendix 2)	High
202	Quality of climate match data	(0-low; 1-intermediate; 2-high) (See Appendix 2)	High
203	Broad climate suitability (environmental versatility)	y=1, n=0	y
204	Native or naturalized in regions with tropical or subtropical climates	y=1, n=0	y
205	Does the species have a history of repeated introductions outside its natural range?	y=-2, ?=-1, n=0	?
301	Naturalized beyond native range	y = 1*multiplier (see Appendix 2), n= question 205	y
302	Garden/amenity/disturbance weed		
303	Agricultural/forestry/horticultural weed	n=0, y = 2*multiplier (see Appendix 2)	n
304	Environmental weed	n=0, y = 2*multiplier (see Appendix 2)	n
305	Congeneric weed	n=0, y = 1*multiplier (see Appendix 2)	y
401	Produces spines, thorns or burrs	y=1, n=0	n
402	Allelopathic		
403	Parasitic	y=1, n=0	n
404	Unpalatable to grazing animals	y=1, n=-1	n
405	Toxic to animals	y=1, n=0	n
406	Host for recognized pests and pathogens		
407	Causes allergies or is otherwise toxic to humans	y=1, n=0	n
408	Creates a fire hazard in natural ecosystems	y=1, n=0	n
409	Is a shade tolerant plant at some stage of its life cycle	y=1, n=0	n

Qsn #	Question	Answer Option	Answer
410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)	y=1, n=0	n
411	Climbing or smothering growth habit	y=1, n=0	n
412	Forms dense thickets	y=1, n=0	n
501	Aquatic	y=5, n=0	n
502	Grass	y=1, n=0	n
503	Nitrogen fixing woody plant	y=1, n=0	n
504	Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)	y=1, n=0	n
601	Evidence of substantial reproductive failure in native habitat	y=1, n=0	n
602	Produces viable seed	y=1, n=-1	y
603	Hybridizes naturally		
604	Self-compatible or apomictic	y=1, n=-1	y
605	Requires specialist pollinators	y=-1, n=0	n
606	Reproduction by vegetative fragmentation	y=1, n=-1	y
607	Minimum generative time (years)	1 year = 1, 2 or 3 years = 0, 4+ years = -1	1
701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)		
702	Propagules dispersed intentionally by people	y=1, n=-1	y
703	Propagules likely to disperse as a produce contaminant	y=1, n=-1	n
704	Propagules adapted to wind dispersal	y=1, n=-1	n
705	Propagules water dispersed	y=1, n=-1	y
706	Propagules bird dispersed		
707	Propagules dispersed by other animals (externally)		
708	Propagules survive passage through the gut		
801	Prolific seed production (>1000/m2)		
802	Evidence that a persistent propagule bank is formed (>1 yr)		
803	Well controlled by herbicides		
804	Tolerates, or benefits from, mutilation, cultivation, or fire		
805	Effective natural enemies present locally (e.g. introduced biocontrol agents)		

Supporting Data:

Qsn #	Question	Answer
101	Is the species highly domesticated?	n
	Source(s)	Notes
	Flora of North America Editorial Committee. 2004. Flora of North America: Volume 4: Magnoliophyta: Caryophyllidae, Part 1. Oxford University Press US, New York and Oxford	[No evidence of domestication] "Sesuvium verrucosum is widespread and variable, with habitat preferences extending from coastal, saline wetlands to reservoir margins and desert alkali playas in North America and South America."

102	Has the species become naturalized where grown?	
	Source(s)	Notes
	WRA Specialist. 2017. Personal Communication	NA

103	Does the species have weedy races?	
	Source(s)	Notes
	WRA Specialist. 2017. Personal Communication	NA

201	Species suited to tropical or subtropical climate(s) - If island is primarily wet habitat, then substitute "wet tropical" for "tropical or subtropical"	High
	Source(s)	Notes
	Flora of North America Editorial Committee. 2004. Flora of North America: Volume 4: Magnoliophyta: Caryophyllidae, Part 1. Oxford University Press US, New York and Oxford	"Moist or seasonally dry flats, margins of usually saline or alkaline habitats, including coastal wetlands and desert playa lakes; 0-1000 m; Ariz., Ark., Calif., Colo., Kans., La., Nev., N.Mex., Okla., Oreg., Tex., Utah; Mexico; South America."

202	Quality of climate match data	High
	Source(s)	Notes
	Flora of North America Editorial Committee. 2004. Flora of North America: Volume 4: Magnoliophyta: Caryophyllidae, Part 1. Oxford University Press US, New York and Oxford	

Qsn #	Question	Answer
203	Broad climate suitability (environmental versatility)	y
	Source(s)	Notes
	Dave's Garden. 2017. Western Sea Purslane - <i>Sesuvium verrucosum</i> . https://davesgarden.com/guides/pf/go/93123/ . [Accessed 6 Nov 2017]	"Hardiness: 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) USDA Zone 11: above 4.5 °C (40 °F)"
	Flora of North America Editorial Committee. 2004. Flora of North America: Volume 4: Magnoliophyta: Caryophyllidae, Part 1. Oxford University Press US, New York and Oxford	[Broad distribution and elevation range] "Moist or seasonally dry flats, margins of usually saline or alkaline habitats, including coastal wetlands and desert playa lakes; 0-1000 m; Ariz., Ark., Calif., Colo., Kans., La., Nev., N.Mex., Okla., Oreg., Tex., Utah; Mexico; South America."

204	Native or naturalized in regions with tropical or subtropical climates	y
	Source(s)	Notes
	Frohlich, D. & Lau, A. 2012. New plant records for the Hawaiian islands. Bishop Museum Occasional Papers 113: 27-54	" <i>Sesuvium verrucosum</i> is native to North and South America, and prefers coastal habitats as well as reservoir margins and ephemeral desert ponds (Ferren 2003). This species was first collected on Maui, in Kīhei. it had been misidentified as <i>S. portulacastrum</i> . The species was then collected in a dry limestone coastal flat just above the intertidal zone at Maunalua Bay, O‘ahu. This species has also been reported from O‘ahu (but so far not collected) from Kalaeloa to Pearl Harbor. it was then collected from Molokā‘i, in a residential coastal area."

205	Does the species have a history of repeated introductions outside its natural range?	?
	Source(s)	Notes
	Bohley, K., Winter, P. J., & Kadereit, G. (2017). A Revision of <i>Sesuvium</i> (Aizoaceae, Sesuvioideae). <i>Systematic Botany</i> , 42(1), 124-147	"Introduced as an ornamental in Saudi Arabia and also reported from Kish Island in Southern Iran (Fadaie et al. 2006)."
	Frohlich, D. & Lau, A. 2012. New plant records for the Hawaiian islands. Bishop Museum Occasional Papers 113: 27-54	"it is unclear whether this species was intentionally or accidentally introduced, although it does not appear to be widely cultivated."
	California Native Plant Society. 2017. Western Sea-purslane - <i>Sesuvium verrucosum</i> . http://calscape.org/ . [Accessed 6 Nov 2017]	"Nursery Availability Never or Almost Never Available Nurseries Garden Growers Nursery"

301	Naturalized beyond native range	y
	Source(s)	Notes

Qsn #	Question	Answer
	USDA, ARS, Germplasm Resources Information Network. 2017. National Plant Germplasm System [Online Database]. http://www.ars-grin.gov/npgs/index.html . [Accessed 6 Nov 2017]	"Naturalized: Asia-Temperate Arabian Peninsula: Bahrain; Saudi Arabia; United Arab Emirates"
	Frohlich, D. & Lau, A. 2012. New plant records for the Hawaiian islands. Bishop Museum Occasional Papers 113: 27–54	" <i>Sesuvium verrucosum</i> is native to North and South America, and prefers coastal habitats as well as reservoir margins and ephemeral desert ponds (Ferren 2003). This species was first collected on Maui, in Kīhei. It had been misidentified as <i>S. portulacastrum</i> . The species was then collected in a dry limestone coastal flat just above the intertidal zone at Maunaloa Bay, O‘ahu. This species has also been reported from O‘ahu (but so far not collected) from Kalaeloa to Pearl Harbor. It was then collected from Molokā‘i, in a residential coastal area."
	Fadaie, F., Attar, F., & Ghahreman, A. (2006). A new record of Aizoaceae (<i>Sesuvium verrucosum</i> Raf.) for the Flora of Iran. Iranian Journal of Botany, 12, 87-88	" <i>Sesuvium verrucosum</i> is reported for the first time from Iran and Flora Iranica area. It was collected in Kish Island and near Mahshahr in S. Iran. It differs in number of stamens, shape and size of leaves and plant color in drying state from <i>S. sesuvioides</i> (Fenzl) Verdc. which was introduced from Flora Iranica only from Pakistan."

302	Garden/amenity/disturbance weed	
	Source(s)	Notes
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	" <i>Sesuvium verrucosum</i> Raf. Aizoaceae Total N° of Refs: 1 Habit: perennial Herb Major Pathway/s: Herbal References: United States of America-N- 2092."
	Fadaie, F., Attar, F., & Ghahreman, A. (2006). A new record of Aizoaceae (<i>Sesuvium verrucosum</i> Raf.) for the Flora of Iran. Iranian Journal of Botany, 12, 87-88	[Disturbance adapted. Potentially weed in certain habitats] "This species is native in south–central and south western N. America (Boetsch, 2000), and in Arabian Peninsula and Socotra is a weed of irrigated and waste ground, apparently naturalized on salt flats (Miller, 1996)."

303	Agricultural/forestry/horticultural weed	n
	Source(s)	Notes
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	No evidence to date

304	Environmental weed	n
	Source(s)	Notes
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	No evidence to date

305	Congeneric weed	y
	Source(s)	Notes

Qsn #	Question	Answer
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	[Cited as a weed in a number of references] "Sesuvium portulacastrum (L.) L. Aizoaceae Total N° of Refs: 38 Global Risk Score: 7.2 Rating: Medium Aqua - Habit: perennial Herb Preferred Climate/s: Dryland, Mediterranean, Subtropical, Tropical Origin: Africa, N Am, S Am. Major Pathway/s: Contaminant, Crop, Herbal, Ornamental Dispersed by: Humans, Animals, Livestock, Sheep References: Vietnam-W-262, Thailand-W- 822, Chile-N-300, Global-N-85, Japan-N- 287, Canary Islands-N-305, Europe-NW- 482, Canary Islands-N-637, Portugal-N- 662, Portugal-N-718, Japan-N-794, Belize-N-850, Mexico-W-890, Canary Islands-I- 901, Portugal-N-898, Europe-N-819, Belgium-UD-1220, Mexico-W-1226, Chile-N-1229, Japan-N-1278, south and southeast Asia-A-1320, Global-W-1324, India-NI-1345, Chile-N-1348, Mexico-N- 1500, Fiji-A-1521, Fiji-A-87, Vietnam-A- 87, United States of America-ZD-1613, Australia-N-1902, Saudi Arabia-N-1978, Australia-W-1977, Belgium-W-1977, Chile-W-1977, Japan-W-1977, Portugal- W-1977, Saudi Arabia-W-1977, Spain-W- 1977."
	Quattrocchi, U. 2012. CRC World Dictionary of Medicinal and Poisonous Plants: Common Names, Scientific Names, Eponyms, Synonyms, and Etymology. CRC Press, Boca Raton, FL	[Troublesome weed] "Sesuvium portulacastrum ... fodder, ground cover and pioneer, erosion control, a troublesome weed, saline beach-dunes"

401	Produces spines, thorns or burrs	n
	Source(s)	Notes
	Flora of North America Editorial Committee. 2004. Flora of North America: Volume 4: Magnoliophyta: Caryophyllidae, Part 1. Oxford University Press US, New York and Oxford	[No evidence] "Plants perennial, papillate with crystalline globules abundant, glabrous. Stems prostrate, to 1 m, forming mats to 2 m diam., branched from base, finely verrucose; not rooting at nodes. Leaves: blade linear to widely spatulate, to 4 cm, base tapered or flared and clasping. Inflorescences: flowers solitary; pedicel absent or to 2 mm. Flowers: calyx lobes rose or orange adaxially, ovate-lanceolate, 2-10 mm, margins scarious, apex hooded or beaked, papillate abaxially; stamens 30; filaments connate in proximal 1/2, reddish; pistil 5-carpellate; ovary 5-loculed; styles 5. Capsules ovoid-globose, 4-5 mm. Seeds 20-40, dark brown to black, 0.8-1 mm, shiny, smooth."

402	Allelopathic	n
	Source(s)	Notes
	WRA Specialist. 2017. Personal Communication	Unknown. No evidence of allelopathy found

403	Parasitic	n
	Source(s)	Notes
	Flora of North America Editorial Committee. 2004. Flora of North America: Volume 4: Magnoliophyta: Caryophyllidae, Part 1. Oxford University Press US, New York and Oxford	"Plants perennial, papillate with crystalline globules abundant, glabrous." [Aizoaceae. No evidence]

404	Unpalatable to grazing animals	n

Qsn #	Question	Answer
	Source(s)	Notes
	Borders, B. 2009. A synthesis of native plant seed production efforts in the San Joaquin Valley, California. California State University, Stanislaus Endangered Species Recovery Program, Fresno, CA	"We had continuous problems with wildlife feeding on nursery-grown plants." ... "Based on numerous sightings and the presence of scat in the immediate vicinity of damaged plants, we believe that black-tailed jackrabbits (<i>Lepus californicus</i>) and desert cottontails (<i>Sylvilagus audubonii</i>) are the main herbivore pests at the nursery. However, we have also observed evidence of damage caused by deer mice (<i>Peromyscus maniculatus</i>) and birds." ... "Table 2. Species that were browsed heavily by wildlife during one or more growing seasons while in cultivation at the nursery." [<i>Sesuvium verrucosum</i> browsed in nursery]

405	Toxic to animals	n
	Source(s)	Notes
	Borders, B. 2009. A synthesis of native plant seed production efforts in the San Joaquin Valley, California. California State University, Stanislaus Endangered Species Recovery Program, Fresno, CA	"We had continuous problems with wildlife feeding on nursery-grown plants." ... "Based on numerous sightings and the presence of scat in the immediate vicinity of damaged plants, we believe that black-tailed jackrabbits (<i>Lepus californicus</i>) and desert cottontails (<i>Sylvilagus audubonii</i>) are the main herbivore pests at the nursery. However, we have also observed evidence of damage caused by deer mice (<i>Peromyscus maniculatus</i>) and birds." ... "Table 2. Species that were browsed heavily by wildlife during one or more growing seasons while in cultivation at the nursery." [<i>Sesuvium verrucosum</i> browsed in nursery. No evidence of toxicity]
	Quattrocchi, U. 2012. CRC World Dictionary of Medicinal and Poisonous Plants: Common Names, Scientific Names, Eponyms, Synonyms, and Etymology. CRC Press, Boca Raton, FL	No evidence

406	Host for recognized pests and pathogens	
	Source(s)	Notes
	Gilman, E. F. (1999). <i>Sesuvium portulacastrum</i> Sea Purslane. Fact Sheet FPS-548. University of Florida IFAS Extension, Gainesville, FL. http://edis.ifas.ufl.edu . [Accessed 7 Nov 2017]	[Unknown. Related taxon generally pest free] "Pest resistance: no serious pests are normally seen on the plant"

Qsn #	Question	Answer
407	Causes allergies or is otherwise toxic to humans	n
	Source(s)	Notes
	Eat the Weeds. 2017. <i>Sesuvium portulacastrum</i> : Maritime Munch. http://www.eattheweeds.com/sesuvium-portulacastrum-maritime-munch-2/ . [Accessed 7 Nov 2017]	"On the west coast of the United States (and the salty desert southwest interior) your edible sea purslane is <i>Sesuvium verrucosum</i> ." [No evidence of toxicity]
	Quattrocchi, U. 2012. CRC World Dictionary of Medicinal and Poisonous Plants: Common Names, Scientific Names, Eponyms, Synonyms, and Etymology. CRC Press, Boca Raton, FL	[No evidence for <i>Sesuvium verrucosum</i> . Related species edible but caustic if eaten raw] " <i>Sesuvium portulacastrum</i> ... leaves and stems cooked and eaten, very salty, fodder ... The plant is caustic, young plants edible after repeated washing and boiling. Leaves antiscorbutic, haemostatic; leaf paste taken with water in case of gonorrhoea. Decoction, applied externally for a long time, antidote for stings of venomous fish."
408	Creates a fire hazard in natural ecosystems	n
	Source(s)	Notes
	Fadaie, F., Attar, F., & Ghahreman, A. (2006). A new record of Aizoaceae (<i>Sesuvium verrucosum</i> Raf.) for the Flora of Iran. <i>Iranian Journal of Botany</i> , 12, 87-88	[Succulent. No evidence] "Succulent, perennial herb or subshrub. Stem prostrate, spreading or erect, suffruticose toward the base, densely verrucose and papillate, many leaved."
409	Is a shade tolerant plant at some stage of its life cycle	n
	Source(s)	Notes
	Dave's Garden. 2017. Western Sea Purslane - <i>Sesuvium verrucosum</i> . https://davesgarden.com/guides/pf/go/93123/ . [Accessed 6 Nov 2017]	"Sun Exposure: Full Sun"
	Flora of North America Editorial Committee. 2004. <i>Flora of North America: Volume 4: Magnoliophyta: Caryophyllidae, Part 1</i> . Oxford University Press US, New York and Oxford	[High light environments] "Moist or seasonally dry flats, margins of usually saline or alkaline habitats, including coastal wetlands and desert playa lakes"
410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)	n
	Source(s)	Notes
	Lady Bird Johnson Wildflower Center. 2017. Native Plant Database - <i>Sesuvium verrucosum</i> . https://www.wildflower.org/ . [Accessed 7 Nov 2017]	"Native Habitat: Open low spots in salty or alkaline soil."
	Bohley, K., Winter, P. J., & Kadereit, G. (2017). A Revision of <i>Sesuvium</i> (Aizoaceae, Sesuvioideae). <i>Systematic Botany</i> , 42(1), 124-147	"The species grows in saline areas (e.g. salt flats) and on sandy soil, often on gypsum or alkaline soil. It acts as a pioneer species on salt plains (Ungar 1968)."
	The Watershed Nursery. 2017. <i>Sesuvium verrucosum</i> . http://www.watershednursery.com/nursery/plant-finder/sesuvium-verrucosum/ . [Accessed 7 Nov 2017]	"This mat forming perennial herb grows in many types of saline and alkaline habitat types on the coast and inland and would make a fantastic native substitute for iceplant." ... "Soil: Clay, Loam, Sand, Rocky"
411	Climbing or smothering growth habit	n

Qsn #	Question	Answer
	Source(s)	Notes
	Flora of North America Editorial Committee. 2004. Flora of North America: Volume 4: Magnoliophyta: Caryophyllidae, Part 1. Oxford University Press US, New York and Oxford	[Mat forming, but no evidence of smothering habit] "Plants perennial, papillate with crystalline globules abundant, glabrous. Stems prostrate, to 1 m, forming mats to 2 m diam., branched from base, finely verrucose; not rooting at nodes. Leaves: blade linear to widely spatulate, to 4 cm, base tapered or flared and clasping."

412	Forms dense thickets	n
	Source(s)	Notes
	Flora of North America Editorial Committee. 2004. Flora of North America: Volume 4: Magnoliophyta: Caryophyllidae, Part 1. Oxford University Press US, New York and Oxford	[No evidence. Prostrate, potentially mat-forming] "Plants perennial, papillate with crystalline globules abundant, glabrous. Stems prostrate, to 1 m, forming mats to 2 m diam., branched from base, finely verrucose; not rooting at nodes." ... "Moist or seasonally dry flats, margins of usually saline or alkaline habitats, including coastal wetlands and desert playa lakes"

501	Aquatic	n
	Source(s)	Notes
	Flora of North America Editorial Committee. 2004. Flora of North America: Volume 4: Magnoliophyta: Caryophyllidae, Part 1. Oxford University Press US, New York and Oxford	[Not aquatic, but grows in close proximity to aquatic habitat] "Moist or seasonally dry flats, margins of usually saline or alkaline habitats, including coastal wetlands and desert playa lakes; 0-1000 m"

502	Grass	n
	Source(s)	Notes
	USDA, ARS, Germplasm Resources Information Network. 2017. National Plant Germplasm System [Online Database]. http://www.ars-grin.gov/npgs/index.html . [Accessed 6 Nov 2017]	Family: Aizoaceae Subfamily: Sesuvioideae

503	Nitrogen fixing woody plant	n
	Source(s)	Notes
	USDA, ARS, Germplasm Resources Information Network. 2017. National Plant Germplasm System [Online Database]. http://www.ars-grin.gov/npgs/index.html . [Accessed 6 Nov 2017]	Family: Aizoaceae Subfamily: Sesuvioideae

504	Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)	n
	Source(s)	Notes
	Flora of North America Editorial Committee. 2004. Flora of North America: Volume 4: Magnoliophyta: Caryophyllidae, Part 1. Oxford University Press US, New York and Oxford	[No evidence] "Plants perennial, papillate with crystalline globules abundant, glabrous. Stems prostrate, to 1 m, forming mats to 2 m diam., branched from base, finely verrucose; not rooting at nodes. Leaves: blade linear to widely spatulate, to 4 cm, base tapered or flared and clasping."

Qsn #	Question	Answer
601	Evidence of substantial reproductive failure in native habitat	n
	Source(s)	Notes
	USDA, ARS, Germplasm Resources Information Network. 2017. National Plant Germplasm System [Online Database]. http://www.ars-grin.gov/npgs/index.html . [Accessed 6 Nov 2017]	[No evidence. Broad distribution] "Native: Northern America North-Central U.S.A.: United States - Kansas, - Oklahoma Northern Mexico: Mexico - Baja Norte, - Baja Sur, - Chihuahua, - Coahuila, - San Luis Potosi, - Sonora, - Zacatecas Northwestern U.S.A.: United States - Colorado, - Oregon South-Central U.S.A.: United States - New Mexico, - Texas Southeastern U.S.A.: United States - Arkansas, - Louisiana Southern Mexico: Mexico - Federal District, - Guanajuato, - Hidalgo, - Jalisco, - Mexico, - Michoacan Southwestern U.S.A.: United States - Arizona, - California, - Nevada, - Utah Naturalized: Asia-Temperate Arabian Peninsula: Bahrain; Saudi Arabia; United Arab Emirates"
	Flora of North America Editorial Committee. 2004. Flora of North America: Volume 4: Magnoliophyta: Caryophyllidae, Part 1. Oxford University Press US, New York and Oxford	[No evidence] "Flowering spring-fall. Moist or seasonally dry flats, margins of usually saline or alkaline habitats, including coastal wetlands and desert playa lakes; 0-1000 m; Ariz., Ark., Calif., Colo., Kans., La., Nev., N.Mex., Okla., Oreg., Tex., Utah; Mexico; South America."

602	Produces viable seed	y
	Source(s)	Notes
	Flora of North America Editorial Committee. 2004. Flora of North America: Volume 4: Magnoliophyta: Caryophyllidae, Part 1. Oxford University Press US, New York and Oxford	"Capsules ovoid-globose, 4-5 mm. Seeds 20-40, dark brown to black, 0.8-1 mm, shiny, smooth."
	Bohley, K., Winter, P. J., & Kadereit, G. (2017). A Revision of <i>Sesuvium</i> (Aizoaceae, Sesuvioideae). <i>Systematic Botany</i> , 42(1), 124-147	"Fruit a beehive-shaped or ovoid capsule, usually many-seeded. Seeds around 1 mm long, rounded-reniform, black, lustrous, and slightly iridescent." ... "In the greenhouse, fruit set by self pollination and vegetative propagation via suckers were observed."

603	Hybridizes naturally	
	Source(s)	Notes
	Frohlich, D. & Lau, A. 2012. New plant records for the Hawaiian islands. <i>Bishop Museum Occasional Papers</i> 113: 27-54	"it is variable in its native range, and it is unclear whether or not it is hybridizing with the native <i>S. portulacastrum</i> where these species co-occur in Hawai'i."
	Bohley, K., Winter, P. J., & Kadereit, G. (2017). A Revision of <i>Sesuvium</i> (Aizoaceae, Sesuvioideae). <i>Systematic Botany</i> , 42(1), 124-147	Unknown. No evidence of hybridization documented

604	Self-compatible or apomictic	y
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Qsn #	Question	Answer
	Source(s)	Notes
	Bohley, K., Winter, P. J., & Kadereit, G. (2017). A Revision of <i>Sesuvium</i> (Aizoaceae, Sesuvioideae). <i>Systematic Botany</i> , 42(1), 124-147	"In the greenhouse, fruit set by self-pollination and vegetative propagation via suckers were observed."

605	Requires specialist pollinators	n
	Source(s)	Notes
	Bohley, K., Winter, P. J., & Kadereit, G. (2017). A Revision of <i>Sesuvium</i> (Aizoaceae, Sesuvioideae). <i>Systematic Botany</i> , 42(1), 124-147	"Nothing is known about pollinators or seed dispersers for either genus. In the greenhouse, <i>C. humifusa</i> and several <i>Sesuvium</i> species are capable of self-pollination. Honeybees and smaller wild bees were sometimes observed on flowers, but this might not reflect the natural pollinator spectrum."

606	Reproduction by vegetative fragmentation	y
	Source(s)	Notes
	Bohley, K., Winter, P. J., & Kadereit, G. (2017). A Revision of <i>Sesuvium</i> (Aizoaceae, Sesuvioideae). <i>Systematic Botany</i> , 42(1), 124-147	"In <i>S. verrucosum</i> , clonal propagation from root suckers was observed in the greenhouse."

607	Minimum generative time (years)	1
	Source(s)	Notes
	Culver, D. R. & Lemly, J. M. 2013. <i>Field Guide to Colorado's Wetland Plants Identification, Ecology and Conservation</i> . Colorado Natural Heritage Program, Colorado State University, Fort Collins, CO	"Duration: Annual, Perennial"

701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	
	Source(s)	Notes
	Bohley, K., Winter, P. J., & Kadereit, G. (2017). A Revision of <i>Sesuvium</i> (Aizoaceae, Sesuvioideae). <i>Systematic Botany</i> , 42(1), 124-147	"Nothing is known about pollinators or seed dispersers for either genus." ... "Fruit a beehive-shaped or ovoid capsule, usually many-seeded. Seeds around 1 mm long, rounded-reniform, black, lustrous, and slightly iridescent." [Seeds small, but lack means of external attachment. Could potentially adhere to vehicles, tools, or footwear in soil]

Qsn #	Question	Answer
702	Propagules dispersed intentionally by people	y
	Source(s)	Notes
	Verdcourt, B. (1985). An Introduced Sesuvium (Aizoaceae) in Arabia. Kew Bulletin, 40(1), 208-1x	"BAHRAIN. Residency Garden, sea level, 25 April 1965, Dickson 1020 (K):- fleshy-leaved plant with smooth stem, flowers deep purple. N coast near Portuguese Fort, date garden on sandy soil, at edge of cultivated ground"
	Bohley, K., Winter, P. J., & Kadereit, G. (2017). A Revision of Sesuvium (Aizoaceae, Sesuvioideae). Systematic Botany, 42(1), 124-147	"Introduced as an ornamental in Saudi Arabia and also reported from Kish Island in Southern Iran (Fadaie et al. 2006)."

703	Propagules likely to disperse as a produce contaminant	n
	Source(s)	Notes
	Frohlich, D. & Lau, A. 2012. New plant records for the Hawaiian islands. Bishop Museum Occasional Papers 113: 27-54	"it is unclear whether this species was intentionally or accidentally introduced, although it does not appear to be widely cultivated." [Not widely cultivated, & not grown with produce or other commercial crops]
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	"Major Pathway/s: Herbal"

704	Propagules adapted to wind dispersal	n
	Source(s)	Notes
	Bohley, K., Winter, P. J., & Kadereit, G. (2017). A Revision of Sesuvium (Aizoaceae, Sesuvioideae). Systematic Botany, 42(1), 124-147	[No adaptations for wind dispersal, but small size may allow some dispersal by wind. However, procumbent habit would likely minimize important of this dispersal mode] "Nothing is known about pollinators or seed dispersers for either genus." ... "Procumbent, perennial and often much-branched herb with a dense cover of bladder cells" ... "Seeds around 1 mm long, rounded-reniform, black, lustrous, and slightly iridescent."

705	Propagules water dispersed	y
	Source(s)	Notes
	Grover, P. B. & Knopf, F. (1982). Habitat Requirements and Breeding Success of Charadriiform Birds Nesting at Salt Plains National Wildlife Refuge, Oklahoma. Journal of Field Ornithology, 53(2), 139-148	[Occurs along streams] "Plants occurring on the flats were salt cedar (<i>Tamarix gallica</i>) and in- land salt grass (<i>Distichlis stricta</i>) growing along the banks of upper Clay Creek and the West Salt Fork, and sea purslane (<i>Sesuvium verrucosum</i>) which occurs sparsely along the banks of those streams."
	Flora of North America Editorial Committee. 2004. Flora of North America: Volume 4: Magnoliophyta: Caryophyllidae, Part 1. Oxford University Press US, New York and Oxford	[Occurs near aquatic habitats] "Seeds 20-40, dark brown to black, 0.8-1 mm, shiny, smooth. Flowering spring-fall. Moist or seasonally dry flats, margins of usually saline or alkaline habitats, including coastal wetlands and desert playa lakes"

706	Propagules bird dispersed	
	Source(s)	Notes

Qsn #	Question	Answer
	Miller, M., Burns, E., Wickland, B., & Eadie, J. (2009). Diet and Body Mass of Wintering Ducks in Adjacent Brackish and Freshwater Habitats. <i>Waterbirds: The International Journal of Waterbird Biology</i> , 32(3), 374-387	[Seeds consumed by ducks. Unknown if any survive consumption, remain viable, or are effectively dispersed by ducks] "Field-collected and hunter-donated ducks obtained during September-January of 1997-98 and 1998- 99 were used to determine if food habits and body mass of Northern Pintails (<i>Anas acuta</i>) and Mallards (<i>A. platyrhynchos</i>) wintering in Suisun Marsh (Suisun), California" ... "Ducks in Suisun fed primarily on seeds of Sea Purslane (<i>Sesuvium verrucosum</i>) , followed by Alkali Bulrush (<i>Schoenoplectus maritimus</i>) and Wild Millet { <i>Echinochloa crusgalli</i> }, together forming 73-90% (aggregate % dry mass) of the diet"

707	Propagules dispersed by other animals (externally)	
	Source(s)	Notes
	Bohley, K., Winter, P. J., & Kadereit, G. (2017). A Revision of <i>Sesuvium</i> (Aizoaceae, Sesuvioideae). <i>Systematic Botany</i> , 42(1), 124-147	"Nothing is known about pollinators or seed dispersers for either genus." ... "Seeds around 1 mm long, rounded-reniform, black, lustrous, and slightly iridescent." [No means of external attachment, but small size may facilitate attachment to animals in soil]

708	Propagules survive passage through the gut	
	Source(s)	Notes
	Miller, M., Burns, E., Wickland, B., & Eadie, J. (2009). Diet and Body Mass of Wintering Ducks in Adjacent Brackish and Freshwater Habitats. <i>Waterbirds: The International Journal of Waterbird Biology</i> , 32(3), 374-387	[Seeds consumed by ducks. Unknown if any survive consumption, remain viable, or are effectively dispersed by ducks] "Field-collected and hunter-donated ducks obtained during September-January of 1997-98 and 1998- 99 were used to determine if food habits and body mass of Northern Pintails (<i>Anas acuta</i>) and Mallards (<i>A. platyrhynchos</i>) wintering in Suisun Marsh (Suisun), California" ... "Ducks in Suisun fed primarily on seeds of Sea Purslane (<i>Sesuvium verrucosum</i>) , followed by Alkali Bulrush (<i>Schoenoplectus maritimus</i>) and Wild Millet { <i>Echinochloa crusgalli</i> }, together forming 73-90% (aggregate % dry mass) of the diet"

801	Prolific seed production (>1000/m2)	
	Source(s)	Notes
	Bohley, K., Winter, P. J., & Kadereit, G. (2017). A Revision of <i>Sesuvium</i> (Aizoaceae, Sesuvioideae). <i>Systematic Botany</i> , 42(1), 124-147	[Numbers and densities unknown] "Fruit a beehive-shaped or ovoid capsule, usually many-seeded. Seeds around 1 mm long, rounded-reniform, black, lustrous, and slightly iridescent."

802	Evidence that a persistent propagule bank is formed (>1 yr)	
	Source(s)	Notes
	Royal Botanic Gardens Kew. (2017) Seed Information Database (SID). Version 7.1. Available from: http://data.kew.org/sid/ . [Accessed 7 Nov 2017]	"Storage Behaviour: No data available for species. Of 4 known taxa of genus <i>Sesuvium</i> , 100.00% Orthodox(p/?)"

803	Well controlled by herbicides	

Qsn #	Question	Answer
	Source(s)	Notes
	WRA Specialist. 2017. Personal Communication	Unknown. No information on herbicide efficacy or chemical control of this species

804	Tolerates, or benefits from, mutilation, cultivation, or fire	
	Source(s)	Notes
	WRA Specialist. 2017. Personal Communication	Unknown

805	Effective natural enemies present locally (e.g. introduced biocontrol agents)	
	Source(s)	Notes
	WRA Specialist. 2017. Personal Communication	Unknown. Possible that biotic factors affecting and potentially limiting native <i>Sesuvium portulacastrum</i> could also affect <i>S. verrucosum</i>

Summary of Risk Traits:

High Risk / Undesirable Traits

- Elevation range exceeds 1000 m, demonstrating environmental versatility
- Grows in temperate & tropical climates
- Naturalized in the Hawaiian Islands (Oahu, Molokai, Maui) & the Arabian Peninsula (Bahrain; Saudi Arabia; United Arab Emirates)
- Other *Sesuvium* species are weeds
- Reproduces by seeds & vegetatively from root suckers (observed in greenhouse)
- Self-compatible
- Able to reach maturity in <1 year (but typically perennial)
- Likely dispersed by water due to proximity to aquatic environments
- Intentionally cultivated by people (limited)

Low Risk Traits

- No reports of negative impacts (although no evidence of widespread cultivation)
- Unarmed (no spines, thorns, or burrs)
- Edible to animals & people
- Requires full sun