

**Family:** *Caryophyllaceae*

**Taxon:** *Silene armeria*

**Synonym:** NA

**Common Name:** sweet William catchfly  
Sweet William campion

**Questionnaire :** current 20090513      **Assessor:** Chuck Chimera      **Designation:** H(HPWRA)  
**Status:** Assessor Approved      **Data Entry Person:** Chuck Chimera      **WRA Score** 7

101	Is the species highly domesticated?	y=-3, n=0	n
102	Has the species become naturalized where grown?	y=1, n=-1	
103	Does the species have weedy races?	y=1, n=-1	
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)	Low
202	Quality of climate match data	(0-low; 1-intermediate; 2-high) (See Appendix 2)	Low
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	
205	Does the species have a history of repeated introductions outside its natural range?	y=-2, ?=-1, n=0	y
301	Naturalized beyond native range	y = 1*multiplier (see Appendix 2), n= question 205	y
302	Garden/amenity/disturbance weed	n=0, y = 1*multiplier (see Appendix 2)	y
303	Agricultural/forestry/horticultural weed	n=0, y = 2*multiplier (see Appendix 2)	
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	y=1, n=0	n
403	Parasitic	y=1, n=0	n
404	Unpalatable to grazing animals	y=1, n=-1	
405	Toxic to animals	y=1, n=0	
406	Host for recognized pests and pathogens	y=1, n=0	n
407	Causes allergies or is otherwise toxic to humans	y=1, n=0	
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	
410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)	y=1, n=0	y
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	y=1, n=-1	
604	Self-compatible or apomictic	y=1, n=-1	
605	Requires specialist pollinators	y=-1, n=0	n
606	Reproduction by vegetative fragmentation	y=1, n=-1	n
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)	y=1, n=-1	y
702	Propagules dispersed intentionally by people	y=1, n=-1	y
703	Propagules likely to disperse as a produce contaminant	y=1, n=-1	
704	Propagules adapted to wind dispersal	y=1, n=-1	n
705	Propagules water dispersed	y=1, n=-1	y
706	Propagules bird dispersed	y=1, n=-1	n
707	Propagules dispersed by other animals (externally)	y=1, n=-1	n
708	Propagules survive passage through the gut	y=1, n=-1	
801	Prolific seed production (>1000/m2)	y=1, n=-1	n
802	Evidence that a persistent propagule bank is formed (>1 yr)	y=1, n=-1	
803	Well controlled by herbicides	y=-1, n=1	y
804	Tolerates, or benefits from, mutilation, cultivation, or fire	y=1, n=-1	
805	Effective natural enemies present locally (e.g. introduced biocontrol agents)	y=-1, n=1	

Designation: H(HPWRA)

WRA Score 7

## Supporting Data:

101	2005. Flora of North America Editorial Committee. Flora of North America: north of Mexico. Magnoliophyta: Caryophyllidae. Caryophyllales. Volume 5, Part 2. Oxford University Press, Oxford, UK	[Is the species highly domesticated? No] No evidence
102	2011. WRA Specialist. Personal Communication.	NA
103	2011. WRA Specialist. Personal Communication.	NA
201	1988. Webb, C. J./Sykes, W.R./Garnock-Jones, P.J.. Flora of New Zealand, Volume IV: Naturalised pteridophytes, gymnosperms, dicotyledons. Botany Division, DSIR, Christchurch, New Zealand <a href="http://FloraSeries.LandcareResearch.co.nz">http://FloraSeries.LandcareResearch.co.nz</a>	[Species suited to tropical or subtropical climate(s) 0-Low] "C., S. and parts of E. Europe, C. USSR" [Native to temperate Europe]
202	1988. Webb, C. J./Sykes, W.R./Garnock-Jones, P.J.. Flora of New Zealand, Volume IV: Naturalised pteridophytes, gymnosperms, dicotyledons. Botany Division, DSIR, Christchurch, New Zealand <a href="http://FloraSeries.LandcareResearch.co.nz">http://FloraSeries.LandcareResearch.co.nz</a>	[Quality of climate match data 0-Low] "C., S. and parts of E. Europe, C. USSR" [Specific climate data lacking. May be suited for higher elevations of tropical and sub-tropical areas]
203	2005. Flora of North America Editorial Committee. Flora of North America: north of Mexico. Magnoliophyta: Caryophyllidae. Caryophyllales. Volume 5, Part 2. Oxford University Press, Oxford, UK	[Broad climate suitability (environmental versatility)? Yes] "Waste places, disturbed ground; 0-1200 m" [Elevation range exceeds 1000 m]
203	2010. Albert, B.. Catchfly Plants in California. <a href="http://www.gardenguides.com">gardenguides.com</a> , <a href="http://www.gardenguides.com/90753-catchfly-plants-california.html">http://www.gardenguides.com/90753-catchfly-plants-california.html</a>	[Broad climate suitability (environmental versatility)? Yes. Multiple hardiness zones] "It can tolerate cold winter temperatures but will die off to the ground after the first frost of the season. It is suitable for USDA zones 3 through 10, which includes all of California."
204	2011. Missouri Botanical Garden. Gardens & Gardening > Your Garden > Plant Finder > Plant Details - <i>Silene armeria</i> . <a href="http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/b278/silene-armeria.aspx">http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/b278/silene-armeria.aspx</a>	[Native or naturalized in regions with tropical or subtropical climates? No] "Zone: 5 to 8...Plants do not perform well in the hot and humid summers of the deep South...It is typically grown in U. S. gardens as a cool weather annual or biennial."
204	2011. Starr, F./Starr, K.. Plants of Hawaii - <i>Silene armeria</i> . <a href="http://www.hear.org/starr/images/species/?q=silene+armeria&amp;o=plants">http://www.hear.org/starr/images/species/?q=silene+armeria&amp;o=plants</a>	[Native or naturalized in regions with tropical or subtropical climates? Apparently able to colonize higher elevation sites in tropical and subtropical regions] "Olinda, Hawea Pl., along unmaintained portion of gravel road. One plant. Adventive. Upland mesic rural vegetation such as <i>Pennisetum clandestinum</i> and <i>Conyza</i> . 2305081N, 781678E, 2700 ft. 20-Jun-11. Coll. Forest Starr & Kim Starr (#Starr-110620-01)"
205	2005. Flora of North America Editorial Committee. Flora of North America: north of Mexico. Magnoliophyta: Caryophyllidae. Caryophyllales. Volume 5, Part 2. Oxford University Press, Oxford, UK	[Does the species have a history of repeated introductions outside its natural range? Yes] "introduced; B.C., N.B., N.S., Ont., Que.; Calif., Conn., Del., D.C., Fla., Ill., Ind., Ky., Maine, Md., Mass., Mich., Minn., Mo., N.H., N.J., N.Y., N.C., Ohio, Oreg., Pa., S.C., Utah, Vt., Wash., W.Va., Wis."
301	1988. Webb, C. J./Sykes, W.R./Garnock-Jones, P.J.. Flora of New Zealand, Volume IV: Naturalised pteridophytes, gymnosperms, dicotyledons. Botany Division, DSIR, Christchurch, New Zealand <a href="http://FloraSeries.LandcareResearch.co.nz">http://FloraSeries.LandcareResearch.co.nz</a>	[Naturalized beyond native range? Yes] "Biostatus: New Zealand (Political Region): Wild, Exotic (Fully naturalised)"
301	2001. Mohlenbrock, R.H.. The illustrated flora of Illinois: Flowering plants: pokeweeds, four-o'clocks, carpetweeds, cacti, purslanes, goosefoots, pigweeds, and pinks. SIU Press, Carbondale, IL	[Naturalized beyond native range? Yes] "Habitat: Disturbed soil in cities. Range: Native to Europe and Asia: occasionally escaped from cultivation throughout the United States."
301	2005. Flora of North America Editorial Committee. Flora of North America: north of Mexico. Magnoliophyta: Caryophyllidae. Caryophyllales. Volume 5, Part 2. Oxford University Press, Oxford, UK	[Naturalized beyond native range? Yes] "It is an occasional and adventive garden escape."

301	2010. Wu, S-H/Sun, H-T/Teng, Y-C/Rejmanek, M./Chaw, S-M/Yang, T.-Y.A./Hsieh, C-F. Patterns of plant invasions in China: Taxonomic, biogeographic, climatic approaches and anthropogenic effects. <i>Biological Invasions</i> . 12: 2179–2206.	[Naturalized beyond native range? Yes] "Table 4 List of naturalized species in China" [Includes <i>Silene armeria</i> ]
301	2011. Missouri Botanical Garden. Gardens & Gardening > Your Garden > Plant Finder > Plant Details - <i>Silene armeria</i> . <a href="http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/b278/silene-armeria.aspx">http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/b278/silene-armeria.aspx</a>	[Naturalized beyond native range? Yes] " <i>Silene armeria</i> is a catchfly that is native to Europe, but has escaped gardens and naturalized over time in parts of eastern and central North America and the Pacific Northwest."
301	2011. Starr, F./Starr, K.. Plants of Hawaii - <i>Silene armeria</i> . <a href="http://www.hear.org/starr/images/species/?q=silene+armeria&amp;o=plants">http://www.hear.org/starr/images/species/?q=silene+armeria&amp;o=plants</a>	[Naturalized beyond native range? Potentially Maui. Apparently able to colonize higher elevation sites in tropical and subtropical regions] "Olinda, Hawea Pl., along unmaintained portion of gravel road. One plant. Adventive. Upland mesic rural vegetation such as <i>Pennisetum clandestinum</i> and <i>Conyza</i> . 2305081N, 781678E, 2700 ft. 20-Jun-11. Coll. Forest Starr & Kim Starr (#Starr-110620-01)"
302	1988. Webb, C. J./Sykes, W.R./Garnock-Jones, P.J.. <i>Flora of New Zealand, Volume IV: Naturalised pteridophytes, gymnosperms, dicotyledons</i> . Botany Division, DSIR, Christchurch, New Zealand <a href="http://FloraSeries.LandcareResearch.co.nz">http://FloraSeries.LandcareResearch.co.nz</a>	[Garden/amenity/disturbance weed? Yes] "Waste land, gardens, roadsides, stony ground... The sp. is sometimes cultivated and naturalised plants are often garden escapes." [Commonly mentioned as a garden weed of minor significance]
302	2011. Dave's Gardern. PlantFiles: Sweet-William Catchfly, None-So-Pretty - <i>Silene armeria</i> . <a href="http://davesgarden.com/guides/pf/go/1065/">http://davesgarden.com/guides/pf/go/1065/</a>	[Garden/amenity/disturbance weed? Yes] "Never again! To say that this plant self sows is an understatement. It spreads worse than most weeds. It flowers and seeds all season long so you will get self-sowing the same season. I'm fairly confident for every seed you plant you get 100 seeds in return. Unless you're planting this in an area where you want it to spread prolifically I would avoid it at all costs."
303	1923. Clark, G.H./Fletcher, J.. <i>Farm weeds of Canada</i> . Second Edition. Dept. of Agriculture, Ottawa	[Agricultural/forestry/horticultural weed? No] "Garden Catchfly ( <i>Silene armeria</i> L.) is frequently found growing in fields near old gardens from which it has escaped. It is an annual, with pink and white flowers, and seldom gives serious trouble."
303	2007. Randall, R.P.. <i>Global Compendium of Weeds - Silene armeria</i> [Online Database]. <a href="http://www.hear.org/gcw/species/silene_armeria/">http://www.hear.org/gcw/species/silene_armeria/</a>	[Agricultural/forestry/horticultural weed? Possibly] Listed as an agricultural weed, but evidence of detrimental impacts on crop cultivation were not found.
304	2007. Randall, R.P.. <i>Global Compendium of Weeds - Silene armeria</i> [Online Database]. <a href="http://www.hear.org/gcw/species/silene_armeria/">http://www.hear.org/gcw/species/silene_armeria/</a>	[Environmental weed? No] No evidence
305	2004. Blair, A.C./Wolfe, L.M.. The Evolution of an Invasive Plant: An Experimental Study with <i>Silene latifolia</i> . <i>Ecology</i> . 85(11): 3035-3042.	[Congeneric weed? Yes] " <i>Silene latifolia</i> Poiret (= <i>S. alba</i> (Miller) E.H.L. Krause = <i>S. pratensis</i> (Rafn.) Godren & Gren.) (Caryophyllaceae) is a dioecious, short-lived perennial. While a common field and roadside plant in Europe, <i>Silene</i> has become a problematic weed of cultivated fields and disturbed habitats in North America, especially in the northern United States and southern Canada (U.S. Department of Agriculture 1965, McNeil 1977)."
401	2005. <i>Flora of North America</i> Editorial Committee. <i>Flora of North America: north of Mexico</i> . Magnoliophyta: Caryophyllidae. Caryophyllales. Volume 5, Part 2. Oxford University Press, Oxford, UK	[Produces spines, thorns or burrs? No] "Plants annual, glabrous throughout, ± glaucous, sometimes glutinous in distal parts; taproot slender. Stems simple, branches in inflorescence, (10-)20-40(-70) cm. Leaves: basal withering before flowering, blade lanceolate-spatulate, 2-5 cm; cauline sessile to amplexicaulous, blade lanceolate to ovate or elliptic, 1-6 cm x 5-25 mm, apex acute."
402	2011. WRA Specialist. Personal Communication.	[Allelopathic? No] Widely grown and naturalized, with no evidence of allelopathic properties
403	1988. Webb, C. J./Sykes, W.R./Garnock-Jones, P.J.. <i>Flora of New Zealand, Volume IV: Naturalised pteridophytes, gymnosperms, dicotyledons</i> . Botany Division, DSIR, Christchurch, New Zealand <a href="http://FloraSeries.LandcareResearch.co.nz">http://FloraSeries.LandcareResearch.co.nz</a>	[Parasitic? No] "Taprooted annual or biennial. Stems 1 several, erect, glabrous, usually with a dark sticky patch c. 1 cm long beneath upper nodes, (10)-20-50 cm tall. Lvs glabrous, glaucous; basal lvs obovate to oblanceolate to spatulate, subacute to acute, cuneate at base, 3-6 x 0.5-1.5 cm; stem lvs ovate to lanceolate, sessile and amplexicaul at base, acute, (1.5)-2-7-(10) x (0.5)-1-2-(2.5) cm."
404	2011. Outsidepride.com. <i>Silene - Armeria</i> . <a href="http://www.outsidepride.com/seed/flower-seed/silene/catchfly-wildflower-seed.html">http://www.outsidepride.com/seed/flower-seed/silene/catchfly-wildflower-seed.html</a>	[Unpalatable to grazing animals? Possibly yes] "Deer Resistant: Yes"
405	2011. Dave's Gardern. PlantFiles: Sweet-William Catchfly, None-So-Pretty - <i>Silene armeria</i> . <a href="http://davesgarden.com/guides/pf/go/1065/">http://davesgarden.com/guides/pf/go/1065/</a>	[Toxic to animals? Possibly] "Danger: Parts of plant are poisonous if ingested" [No other evidence found]

405	2011. Specialized Information Services, U.S. National Library of Medicine. TOXNET toxicology data network [online database]. National Institutes of Health, <a href="http://toxnet.nlm.nih.gov/">http://toxnet.nlm.nih.gov/</a>	[Toxic to animals? No evidence]
406	2011. Missouri Botanical Garden. Gardens & Gardening > Your Garden > Plant Finder > Plant Details - <i>Silene armeria</i> . <a href="http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/b278/silene-armeria.aspx">http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/b278/silene-armeria.aspx</a>	[Host for recognized pests and pathogens? No] "No serious insect or disease problems."
407	2011. Dave's Gardern. PlantFiles: Sweet-William Catchfly, None-So-Pretty - <i>Silene armeria</i> . <a href="http://davesgarden.com/guides/pf/go/1065/">http://davesgarden.com/guides/pf/go/1065/</a>	[Causes allergies or is otherwise toxic to humans? Possibly, although no other evidence was found] "Danger: Parts of plant are poisonous if ingested"
407	2011. Specialized Information Services, U.S. National Library of Medicine. TOXNET toxicology data network [online database]. National Institutes of Health, <a href="http://toxnet.nlm.nih.gov/">http://toxnet.nlm.nih.gov/</a>	[Causes allergies or is otherwise toxic to humans? No evidence]
408	2005. Flora of North America Editorial Committee. Flora of North America: north of Mexico. Magnoliophyta: Caryophyllidae. Caryophyllales. Volume 5, Part 2. Oxford University Press, Oxford, UK	[Creates a fire hazard in natural ecosystems? No] No evidence
408	2011. WRA Specialist. Personal Communication.	[Creates a fire hazard in natural ecosystems? No] No evidence
409	2010. Albert, B.. Catchfly Plants in California. <a href="http://www.gardenguides.com">gardenguides.com</a> , <a href="http://www.gardenguides.com/90753-catchfly-plants-california.html">http://www.gardenguides.com/90753-catchfly-plants-california.html</a>	[Is a shade tolerant plant at some stage of its life cycle? Possibly No] "It likes full sun and is adaptable to most types of well draining soils."
409	2011. Missouri Botanical Garden. Gardens & Gardening > Your Garden > Plant Finder > Plant Details - <i>Silene armeria</i> . <a href="http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/b278/silene-armeria.aspx">http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/b278/silene-armeria.aspx</a>	[Is a shade tolerant plant at some stage of its life cycle? Possibly] "Sun: Full sun to part shade"
410	2010. Albert, B.. Catchfly Plants in California. <a href="http://www.gardenguides.com">gardenguides.com</a> , <a href="http://www.gardenguides.com/90753-catchfly-plants-california.html">http://www.gardenguides.com/90753-catchfly-plants-california.html</a>	[Tolerates a wide range of soil conditions? Yes] "It likes full sun and is adaptable to most types of well draining soils."
411	2005. Flora of North America Editorial Committee. Flora of North America: north of Mexico. Magnoliophyta: Caryophyllidae. Caryophyllales. Volume 5, Part 2. Oxford University Press, Oxford, UK	[Climbing or smothering growth habit? No] "Plants annual, glabrous throughout, ± glaucous, sometimes glutinous in distal parts; taproot slender. Stems simple, branches in inflorescence, (10-)20-40(-70) cm. Leaves: basal withering before flowering, blade lanceolate-spatulate, 2-5 cm; cauline sessile to amplexicaulous, blade lanceolate to ovate or elliptic, 1-6 cm x 5-25 mm, apex acute."
412	2005. Flora of North America Editorial Committee. Flora of North America: north of Mexico. Magnoliophyta: Caryophyllidae. Caryophyllales. Volume 5, Part 2. Oxford University Press, Oxford, UK	[Forms dense thickets? No] No evidence
501	2005. Flora of North America Editorial Committee. Flora of North America: north of Mexico. Magnoliophyta: Caryophyllidae. Caryophyllales. Volume 5, Part 2. Oxford University Press, Oxford, UK	[Aquatic? No] Terrestrial
502	2005. Flora of North America Editorial Committee. Flora of North America: north of Mexico. Magnoliophyta: Caryophyllidae. Caryophyllales. Volume 5, Part 2. Oxford University Press, Oxford, UK	[Grass? No] Caryophyllaceae
503	2005. Flora of North America Editorial Committee. Flora of North America: north of Mexico. Magnoliophyta: Caryophyllidae. Caryophyllales. Volume 5, Part 2. Oxford University Press, Oxford, UK	[Nitrogen fixing woody plant? No] Caryophyllaceae

504	1988. Webb, C. J./Sykes, W.R./Garnock-Jones, P.J.. Flora of New Zealand, Volume IV: Naturalised pteridophytes, gymnosperms, dicotyledons. Botany Division, DSIR, Christchurch, New Zealand <a href="http://FloraSeries.LandcareResearch.co.nz">http://FloraSeries.LandcareResearch.co.nz</a>	[Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)? No] "Taprooted annual or biennial. Stems 1 several, erect, glabrous, usually with a dark sticky patch c. 1 cm long beneath upper nodes, (10)-20-50 cm tall." [Not a geophyte, but may be able to resprout from taproot]
601	2007. Selvi, F.. Diversity, geographic variation and conservation of the serpentine flora of Tuscany (Italy). Biodiversity and Conservation. 16: 1423–1439.	[Evidence of substantial reproductive failure in native habitat? No] No evidence
601	2011. WRA Specialist. Personal Communication.	[Evidence of substantial reproductive failure in native habitat? No] No evidence
602	2005. Flora of North America Editorial Committee. Flora of North America: north of Mexico. Magnoliophyta: Caryophyllidae. Caryophyllales. Volume 5, Part 2. Oxford University Press, Oxford, UK	[Produces viable seed? Yes] "Capsules oblong, 7-10 mm, opening by 6 (or 8) spreading teeth; carpophore 7-8 mm, glabrous. Seeds dark brown, reniform-rotund, less than 1 mm diam., rugose."
602	2011. Missouri Botanical Garden. Gardens & Gardening > Your Garden > Plant Finder > Plant Details - <i>Silene armeria</i> . <a href="http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/b278/silene-armeria.aspx">http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/b278/silene-armeria.aspx</a>	[Produces viable seed? Yes] "Plants may self seed in optimum growing conditions."
603	2011. WRA Specialist. Personal Communication.	[Hybridizes naturally? Unknown]
604	1988. Webb, C. J./Sykes, W.R./Garnock-Jones, P.J.. Flora of New Zealand, Volume IV: Naturalised pteridophytes, gymnosperms, dicotyledons. Botany Division, DSIR, Christchurch, New Zealand <a href="http://FloraSeries.LandcareResearch.co.nz">http://FloraSeries.LandcareResearch.co.nz</a>	[Self-compatible or apomictic? Unknown] "Infl. a 10-30-flowered sub capitate dichasium; pedicels 2-5-(9) mm long; bracts ovate, scarious. Fls ♂. Calyx glabrous, narrowly cylindrical, broadest above middle, not or slightly contracted at mouth, 10-veined, often pinkish, 12-15 mm long; teeth oblong, obtuse, erect. Petals pink; limb obtuse to shallowly emarginate; claw not lobed; coronal scales linear-acuminate, c. 2 mm long. Styles 3, erect, c. 5 mm long." [perfect flowers, but no information found on self-compatibility]
605	2010. Midori Kobayashi-Kidokoro1 and Seigo Higashi2. Flower Constancy in the Generalist Pollinator <i>Ceratina flavipes</i> (Hymenoptera: Apidae): An Evaluation by Pollen Analysis. <i>Psyche</i> . doi:10.1155/2010/891906: .	[Requires specialist pollinators? No] "The food habits of the solitary bee <i>Ceratina flavipes</i> were studied by observation on foraging behavior and identifying the pollen grains that they collected. It appeared that <i>C. flavipes</i> tend to collect pollen from particular species; however, they visit multiple flowering species." [Species visited include <i>Silene armeria</i> ]
605	2011. Dave's Gardern. PlantFiles: Sweet-William Catchfly, None-So-Pretty - <i>Silene armeria</i> . <a href="http://davesgarden.com/guides/pf/go/1065/">http://davesgarden.com/guides/pf/go/1065/</a>	[Requires specialist pollinators? No] "This plant is attractive to bees, butterflies and/or birds"
606	2011. Missouri Botanical Garden. Gardens & Gardening > Your Garden > Plant Finder > Plant Details - <i>Silene armeria</i> . <a href="http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/b278/silene-armeria.aspx">http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/b278/silene-armeria.aspx</a>	[Reproduction by vegetative fragmentation? No] "Plants may self seed in optimum growing conditions." [No evidence]
607	2005. Flora of North America Editorial Committee. Flora of North America: north of Mexico. Magnoliophyta: Caryophyllidae. Caryophyllales. Volume 5, Part 2. Oxford University Press, Oxford, UK	[Minimum generative time (years)? 1] "Plants annual, glabrous throughout..." [Annual. Can flower within 1 year]
607	2011. Outsidepride.com. <i>Silene - Armeria</i> . <a href="http://www.outsidepride.com/seed/flower-seed/silene/catchfly-wildflower-seed.html">http://www.outsidepride.com/seed/flower-seed/silene/catchfly-wildflower-seed.html</a>	[Minimum generative time (years)? <1] "Silene wildflowers will bloom in 6 - 8 weeks after germination."
701	1988. Webb, C. J./Sykes, W.R./Garnock-Jones, P.J.. Flora of New Zealand, Volume IV: Naturalised pteridophytes, gymnosperms, dicotyledons. Botany Division, DSIR, Christchurch, New Zealand <a href="http://FloraSeries.LandcareResearch.co.nz">http://FloraSeries.LandcareResearch.co.nz</a>	[Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)? Probably yes] "Capsule oblong, included in calyx, 5-7 mm long; teeth 6; carpophore c. 6 mm long. Seeds red-brown, reniform, finely warty, 0.6 mm long; faces hollowed; back grooved...Waste land, gardens, roadsides, stony ground. " [Occurrence along roadsides, and gardens, along with small seed size, makes inadvertent transport of seeds in soil likely]
702	2010. Albert, B.. Catchfly Plants in California. <a href="http://www.gardenguides.com">gardenguides.com</a> , <a href="http://www.gardenguides.com/90753-catchfly-plants-california.html">http://www.gardenguides.com/90753-catchfly-plants-california.html</a>	[Propagules dispersed intentionally by people? Yes. Grown as an ornamental garden plant] "The Sweet-William catchfly, also known as none-so-pretty (scientific name <i>Silene armeria</i> ) is native to Europe but has spread to most of the United States and Canada, including California. It's distribution throughout California is thought to be due to seeds from cultivated garden plants."

702	2011. Outsidepride.com. Silene - Armeria. <a href="http://www.outsidepride.com/seed/flower-seed/silene/catchfly-wildflower-seed.html">http://www.outsidepride.com/seed/flower-seed/silene/catchfly-wildflower-seed.html</a>	[Propagules dispersed intentionally by people? Yes] "Catchfly (Silene Armeria) - One of the easiest wildflowers to grow from seed, commonly called Catchfly or None-So Pretty, puts on a fabulous display of brilliant magenta colored blooms during mid summer. Silene Armeria is a native to Europe, but it has been grown here in the United States since the early 1800s and is an extremely popular wildflower. Catchfly wildflowers are good at reseeding if the blooms are left to go to seed and the wild flower seed falls on bare ground. Typically, Catchfly will grow quickly and bloom heavily before it is killed by frost, but in mild winters, it has been known to be a short-lived perennial. Silene Armeria wildflowers will grow in all regions of North America in full sun or partial shade. It is excellent in meadows or other naturalized settings. It's a must have for the wildflower garden as well."
703	2011. WRA Specialist. Personal Communication.	[Propagules likely to disperse as a produce contaminant? Unknown] No evidence, but small seed size, and popularity as an ornamental suggests that contamination of other produce (including greenhouse plants) is possible
704	2008. Ishida, S./Nakashizuka, T./Gonda, Y./Kamitani, T.. Effects of flooding and artificial burning disturbances on plant species composition in a downstream riverside floodplain. Ecological Restoration. 23: 745-755.	[Propagules adapted to wind dispersal? No] "Table 8 ... Silene armeria = bolochore" [a fruit with some adaptation for the mechanical propulsion of its seeds or spores, or a plant bearing such fruit; a sling-fruit; a ballistic or catapult fruit. Not adapted to wind dispersal, but probably airborne for short distances]
705	2010. Ishida, S./Yamazaki, A./Takanose, Y./Kamitani, T.. Off-channel temporary pools contribute to native riparian plant species diversity in a regulated river floodplain. Ecological Research. 25: 1045-1055.	[Propagules water dispersed? Yes] "Riverbanks that consist of a high amount of gravel, such as the gravel fields, are exposed to extreme high temperature and desiccation in summer, and their water retaining ability is poor (Okuda 1996). Few plant species are able to adapt to such a severe environment, and therefore the species richness of these habitats is typically low (Umehara 1996). On the other hand, the gravel fields had been preferentially invaded by many alien species: <i>So. altissima</i> , <i>E. canadensis</i> , <i>E. sumatrensis</i> , and <i>Si. armeria</i> . Predick and Turner (2008) indicated that low frequency of flooding disturbance might enable upland alien species to invade riparian areas." [Seeds apparently small enough that they are moved around riparian areas]
706	2005. Flora of North America Editorial Committee. Flora of North America: north of Mexico. Magnoliophyta: Caryophyllidae. Caryophyllales. Volume 5, Part 2. Oxford University Press, Oxford, UK	[Propagules bird dispersed? No] "Capsules oblong, 7-10 mm, opening by 6 (or 8) spreading teeth; carpophore 7-8 mm, glabrous. Seeds dark brown, reniform-rotund, less than 1 mm diam., rugose." [Not fleshy-fruited]
707	2005. Flora of North America Editorial Committee. Flora of North America: north of Mexico. Magnoliophyta: Caryophyllidae. Caryophyllales. Volume 5, Part 2. Oxford University Press, Oxford, UK	[Propagules dispersed by other animals (externally)? No] "Capsules oblong, 7-10 mm, opening by 6 (or 8) spreading teeth; carpophore 7-8 mm, glabrous. Seeds dark brown, reniform-rotund, less than 1 mm diam., rugose." [No evidence, and no means of external attachment, although small seed size makes this theoretically possible]
708	2011. WRA Specialist. Personal Communication.	[Propagules survive passage through the gut? Unknown] Unlikely to be consumed
801	1988. Webb, C. J./Sykes, W.R./Garnock-Jones, P.J.. Flora of New Zealand, Volume IV: Naturalised pteridophytes, gymnosperms, dicotyledons. Botany Division, DSIR, Christchurch, New Zealand <a href="http://FloraSeries.LandcareResearch.co.nz">http://FloraSeries.LandcareResearch.co.nz</a>	[Prolific seed production (>1000/m <sup>2</sup> )? Unlikely] "Taprooted annual or biennial. Stems 1 several, erect, glabrous, usually with a dark sticky patch c. 1 cm long beneath upper nodes, (10)-20-50 cm tall. Lvs glabrous, glaucous; basal lvs obovate to oblanceolate to spatulate, subacute to acute, cuneate at base, 3-6 x 0.5-1.5 cm; stem lvs ovate to lanceolate, sessile and amplexicaul at base, acute, (1.5)-2-7-(10) x (0.5)-1-2-(2.5) cm. Infl. A 10-30-flowered sub-capitate dichasium; pedicels 2-5-(9) mm long; bracts ovate, scarious. Fls ♀. Calyx glabrous, narrowly cylindric, broadest above middle, not or slightly contracted at mouth, 10-veined, often pinkish, 12-15 mm long; teeth oblong, obtuse, erect. Petals pink; limb obtuse to shallowly emarginate; claw not lobed; coronal scales linear-acuminate, c. 2 mm long. Styles 3, erect, c. 5 mm long. Capsule oblong, included in calyx, 5-7 mm long; teeth 6; carpophore c. 6 mm long. Seeds red-brown, reniform, finely warty, 0.6 mm long; faces hollowed; back grooved." [Plants not very large, and do not occur in dense populations. Unlikely to build up such high densities]
802	2008. Royal Botanic Gardens Kew. Seed Information Database (SID). Version 7.1. <a href="http://data.kew.org/sid/">http://data.kew.org/sid/</a>	[Evidence that a persistent propagule bank is formed (>1 yr)? Unknown] "Storage Conditions: Long-term storage under IPGRI preferred conditions at RBG Kew, WP. Oldest collection 24 years; average germination change 86 to 90.5%, mean storage period 22 years, 7 collections" [Seed longevity in field conditions unknown]
803	2004. Zandstra, B./Particka, M./Masabni, J.. Guide to Tolerance of Crops and Susceptibility of Weeds to Herbicides. Extension Bulletin E-2833. Michigan State University, East Lansing, MI	[Well controlled by herbicides? Yes] Multiple herbicides listed as giving excellent post-emergent control
804	2011. WRA Specialist. Personal Communication.	[Tolerates, or benefits from, mutilation, cultivation, or fire? Unknown]

