

Australia/New Zealand Weed Risk Assessment adapted for United States.

Data used for analysis published in: Gordon, D.R. and C.A. Gantz. 2008. Potential impacts on the horticultural industry of screening new plants for invasiveness. Conservation Letters 1: 227-235. Available at: <http://www3.interscience.wiley.com/cgi-bin/fulltext/121448369/PDFSTART>

<i>Cerastium purpurascens</i>			
Question number	Question	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 U.S. climates (USDA hardiness zones; 0-low, 1-intermediate, 2-high)	2	
2.02	Quality of climate match data (0-low; 1-intermediate; 2-high)	2	
2.03	Broad climate suitability (environmental versatility)	n	0
2.04	Native or naturalized in regions with an average of 11-60 inches of annual precipitation	y	1
2.05	Does the species have a history of repeated introductions outside its natural range?	y	
3.01	Naturalized beyond native range	n	-2
3.02	Garden/amenity/disturbance weed	n	0
3.03	Weed of agriculture	n	0
3.04	Environmental weed	n	0
3.05	Congeneric weed	y	2
4.01	Produces spines, thorns or burrs	n	0
4.02	Allelopathic		
4.03	Parasitic	n	0
4.04	Unpalatable to grazing animals		
4.05	Toxic to animals	n	0
4.06	Host for recognised pests and pathogens		
4.07	Causes allergies or is otherwise toxic to humans	n	0
4.08	Creates a fire hazard in natural ecosystems		
4.09	Is a shade tolerant plant at some stage of its life cycle	n	0
4.1	Grows on one or more of the following soil types: alfisols, entisols, or mollisols	y	1
4.11	Climbing or smothering growth habit	?	
4.12	Forms dense thickets	?	

5.01	Aquatic	n	0
5.02	Grass	n	0
5.03	Nitrogen fixing woody plant	n	0
5.04	Geophyte		
6.01	Evidence of substantial reproductive failure in native habitat	n	0
6.02	Produces viable seed	y	1
6.03	Hybridizes naturally		
6.04	Self-compatible or apomictic		
6.05	Requires specialist pollinators		
6.06	Reproduction by vegetative fragmentation		
6.07	Minimum generative time (years)	1	1
7.01	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)		
7.02	Propagules dispersed intentionally by people	y	1
7.03	Propagules likely to disperse as a produce contaminant	n	-1
7.04	Propagules adapted to wind dispersal	n	-1
7.05	Propagules water dispersed		
7.06	Propagules bird dispersed		
7.07	Propagules dispersed by other animals (externally)	n	-1
7.08	Propagules dispersed by other animals (internally)		
8.01	Prolific seed production		
8.02	Evidence that a persistent propagule bank is formed (>1 yr)		
8.03	Well controlled by herbicides		
8.04	Tolerates, or benefits from, mutilation or cultivation		
8.05	Effective natural enemies present in U.S.		
Total Score			2

Outcome	Accept*
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*Used secondary screen from: Daehler, C. C., J.L. Denslow, S. Ansari, and H. Kuo. 2004. A risk assessment system for screening out harmful invasive pest plants from Hawaii's and other Pacific islands. *Conserv. Biol.* 18: 360-368.

section	# questions answered	satisfy minimum?
A	11	Yes
B	6	Yes
C	10	Yes
total	27	yes

Data collected 2008

Question number	Reference	Source data
1.01		used horticulturally, but no evidence of significant modification
1.02		
1.03		
2.01	<p>1. PERAL NAPPFAST Global Plant Hardiness (http://www.nappfast.org/Plant_hardiness/NAPPFAST%20Global%20zones/10-year%20climate/PLANT_HARDINESS_10YR%20Ign d.tif). 2. Shulkina, T. 2004. Ornamental Plants from Russia and Adjacent States of the Former Soviet Union. Rostok, St. Petersburg, Russia. [in English]. http://www.efloras.org/florataxon.aspx?flora_id=120&taxon_id=242442376. Accessed December, 2007. 3. Shishkin, BK (1936) Flora of the U.S.S.R. Volume VI. Pp. 330-333, 348. Izdatel'stvo Akademii Nauk SSSR, Moskva-Leningrad and Israel Program for Scientific Translations, Jerusalem (1970).</p>	<p>1. Global hardiness zones 5-8. 2. "Caucasus, northwestern Iran and Turkey. Alpine and subalpine meadows, stony screes." 3. "Caucasus: Greater Caucasus, Dag., E., W., and S. Transc., Tal. Gen. distr.: Arm.-Kurd." [occurs within the same latitudes as much of the United States]</p>
2.02		
2.03	<p>1. Köppen-Geiger climate map (http://www.hydrol-earth-syst-sci.net/11/1633/2007/hess-11-1633-2007.pdf). 2. Shulkina, T. 2004. Ornamental Plants from Russia and Adjacent States of the Former Soviet Union. Rostok, St. Petersburg, Russia. [in English]. http://www.efloras.org/florataxon.aspx?flora_id=120&taxon_id=242442376. Accessed December, 2007. 3. Shishkin, BK (1936) Flora of the U.S.S.R. Volume VI. Pp. 330-333, 348. Izdatel'stvo Akademii Nauk SSSR, Moskva-Leningrad and Israel Program for Scientific Translations, Jerusalem (1970).</p>	<p>1. Two climatic regions. 2. "Caucasus, northwestern Iran and Turkey. Alpine and subalpine meadows, stony screes." [3 biomes] 3. "Caucasus: Greater Caucasus, Dag., E., W., and S. Transc., Tal. Gen. distr.: Arm.-Kurd."</p>
2.04	<p>Microsoft Encarta World Precipitation and Average Rainfall (http://uk.encarta.msn.com/encnet/RefPages/RefMedia.aspx?refid=461530746&artrefid=761554737&pn=3&sec=-1).</p>	<p>For Iran, average annual precipitation ranges from less than 10 inches/year to 20 inches/year; For Turkey, average annual precipitation ranges from less than 10 inches/year to 40 inches/year.</p>
2.05	<p>Shulkina, T. 2004. Ornamental Plants from Russia and Adjacent States of the Former Soviet Union. Rostok, St. Petersburg, Russia. [in English]. http://www.efloras.org/florataxon.aspx?flora_id=120&</p>	<p>Used horticulturally.</p>

	taxon_id=242442376. Accessed December, 2007.	
3.01		no evidence
3.02		no evidence
3.03		no evidence
3.04		no evidence
3.05	Holm, L, JV Pancho, JP Herberger, and DL Plucknett (1979) A Geographical Atlas of World Weeds. John Wiley and Sons, New York.	Four congeners are principal weeds in 4 countries.
4.01	Shulkina, T. 2004. Ornamental Plants from Russia and Adjacent States of the Former Soviet Union. Rostok, St. Petersburg, Russia. [in English]. http://www.efloras.org/florataxon.aspx?flora_id=120&taxon_id=242442376 . Accessed December, 2007.	no description of these traits
4.02		
4.03	Shulkina, T. 2004. Ornamental Plants from Russia and Adjacent States of the Former Soviet Union. Rostok, St. Petersburg, Russia. [in English]. http://www.efloras.org/florataxon.aspx?flora_id=120&taxon_id=242442376 . Accessed December, 2007.	no description of parasitism
4.04		
4.05	1. Shulkina, T. 2004. Ornamental Plants from Russia and Adjacent States of the Former Soviet Union. Rostok, St. Petersburg, Russia. [in English]. http://www.efloras.org/florataxon.aspx?flora_id=120&taxon_id=242442376 . Accessed December, 2007. 2. Shishkin, BK (1936) Flora of the U.S.S.R. Volume VI. Pp. 330-333, 348. Izdatel'stvo Akademii Nauk SSSR, Moskva-Leningrad and Israel Program for Scientific Translations, Jerusalem (1970).	no evidence
4.06		
4.07	1. Shulkina, T. 2004. Ornamental Plants from Russia and Adjacent States of the Former Soviet Union. Rostok, St. Petersburg, Russia. [in English]. http://www.efloras.org/florataxon.aspx?flora_id=120&taxon_id=242442376 . Accessed December, 2007. 2. Shishkin, BK (1936) Flora of the U.S.S.R. Volume VI. Pp. 330-333, 348. Izdatel'stvo Akademii Nauk SSSR, Moskva-Leningrad and Israel Program for Scientific Translations, Jerusalem (1970).	no evidence
4.08		

4.09	Shulkina, T. 2004. Ornamental Plants from Russia and Adjacent States of the Former Soviet Union. Rostok, St. Petersburg, Russia. [in English]. http://www.efloras.org/florataxon.aspx?flora_id=120&taxon_id=242442376 . Accessed December, 2007.	"Requires a sunny location."
4.1	1. USDA, National Resources Conservation Services (NRCS), Soil Survey Division, World Soil Resources (http://soils.usda.gov/use/worldsoils/mapindex/order.html). 2. Rock Garden Plant Database (http://web.kadel.cz/flora/g/kvCard.asp-Id=10363.htm)	1. All three soil orders are found in these regions. 2. "Mesic, slightly humous".
4.11	1. Shulkina, T. 2004. Ornamental Plants from Russia and Adjacent States of the Former Soviet Union. Rostok, St. Petersburg, Russia. [in English]. http://www.efloras.org/florataxon.aspx?flora_id=120&taxon_id=242442376 . Accessed December, 2007. 2. Shishkin, BK (1936) Flora of the U.S.S.R. Volume VI. Pp. 330-333, 348. Izdatel'stvo Akademii Nauk SSSR, Moskva-Leningrad and Israel Program for Scientific Translations, Jerusalem (1970). 3. Walters, SM (1984) The European Garden Flora. Volume III. Dicotyledons (Part I). P. 191. Cambridge University Press, Cambridge (Cambridgeshire) and New York.	1. "Mat-forming plant, carpet of 20-30 cm thick". 2. "Perennials...stems ascending, 2-50 cm long, branched at summit". 3. "Perennial (ours)...(the cultivated species tufted or mat-forming)" [genus description].
4.12	1. Shulkina, T. 2004. Ornamental Plants from Russia and Adjacent States of the Former Soviet Union. Rostok, St. Petersburg, Russia. [in English]. http://www.efloras.org/florataxon.aspx?flora_id=120&taxon_id=242442376 . Accessed December, 2007. 2. Shishkin, BK (1936) Flora of the U.S.S.R. Volume VI. Pp. 330-333, 348. Izdatel'stvo Akademii Nauk SSSR, Moskva-Leningrad and Israel Program for Scientific Translations, Jerusalem (1970). 3. Walters, SM (1984) The European Garden Flora. Volume III. Dicotyledons (Part I). P. 191. Cambridge University Press, Cambridge (Cambridgeshire) and New York.	1. "Mat-forming plant, carpet of 20-30 cm thick". 2. "Perennials...stems ascending, 2-50 cm long, branched at summit". 3. "Perennial (ours)...(the cultivated species tufted or mat-forming)" [genus description].
5.01		terrestrial
5.02	Shulkina, T. 2004. Ornamental Plants from Russia and Adjacent States of the Former Soviet Union. Rostok, St. Petersburg, Russia. [in English]. http://www.efloras.org/florataxon.aspx?flora_id=120&taxon_id=242442376 . Accessed December, 2007.	Caryophyllaceae
5.03	Shulkina, T. 2004. Ornamental Plants from Russia and Adjacent States of the Former Soviet Union.	Caryophyllaceae

	Rostok, St. Petersburg, Russia. [in English]. http://www.efloras.org/florataxon.aspx?flora_id=120&taxon_id=242442376 . Accessed December, 2007.	
5.04		
6.01		no evidence
6.02	Shulkina, T. 2004. Ornamental Plants from Russia and Adjacent States of the Former Soviet Union. Rostok, St. Petersburg, Russia. [in English]. http://www.efloras.org/florataxon.aspx?flora_id=120&taxon_id=242442376 . Accessed December, 2007.	"By seed or cuttings".
6.03		
6.04		
6.05		
6.06		
6.07	Shulkina, T. 2004. Ornamental Plants from Russia and Adjacent States of the Former Soviet Union. Rostok, St. Petersburg, Russia. [in English]. http://www.efloras.org/florataxon.aspx?flora_id=120&taxon_id=242442376 . Accessed December, 2007.	"Flowering the year after sowing."
7.01		
7.02	Shulkina, T. 2004. Ornamental Plants from Russia and Adjacent States of the Former Soviet Union. Rostok, St. Petersburg, Russia. [in English]. http://www.efloras.org/florataxon.aspx?flora_id=120&taxon_id=242442376 . Accessed December, 2007.	Used horticulturally.
7.03		no evidence
7.04	1. Shishkin, BK (1936) Flora of the U.S.S.R. Volume VI. Pp. 330-333, 348. Izdatel'stvo Akademii Nauk SSSR, Moskva-Leningrad and Israel Program for Scientific Translations, Jerusalem (1970). 2. Walters, SM (1984) The European Garden Flora. Volume III. Dicotyledons (Part I). P. 191. Cambridge University Press, Cambridge (Cambridgeshire) and New York.	1. "Capsule cylindrical...seeds sharply tuberculate [warty], 0.8-2 mm long." 2. "Fruit a many-seeded capsule, usually more or less cylindrical and somewhat curved" [genus description].
7.05		
7.06		
7.07	1. Shishkin, BK (1936) Flora of the U.S.S.R. Volume VI. Pp. 330-333, 348. Izdatel'stvo Akademii Nauk SSSR, Moskva-Leningrad and Israel Program for Scientific Translations, Jerusalem (1970). 2. Walters, SM (1984) The European Garden Flora. Volume III. Dicotyledons (Part I). P. 191. Cambridge University Press, Cambridge (Cambridgeshire) and New York.	1. "Capsule cylindrical...seeds sharply tuberculate [warty], 0.8-2 mm long." 2. "Fruit a many-seeded capsule, usually more or less cylindrical and somewhat curved" [genus description].
7.08		

8.01		
8.02		
8.03		
8.04		
8.05		