Taxon: Drosera capensis L. **Family:** Droseraceae

Common Name(s): Cape sundew **Synonym(s):**

Assessor: Chuck Chimera **Status:** Approved **End Date:** 19 Oct 2023

WRA Score: 11.0 **Designation:** H(HPWRA) **Rating:** High Risk

Keywords: Carnivorous Herb, Naturalized Elsewhere, Weedy, Self-Seeds, Spreads Vegetatively

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)	Intermediate
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	n
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	y
301	Naturalized beyond native range	y = 1*multiplier (see Appendix 2), n = question 205	y
302	Garden/amenity/disturbance weed	y = 1*multiplier (see Appendix 2), n = 0	y
303	Agricultural/forestry/horticultural weed		
304	Environmental weed		
305	Congeneric weed	y = 1*multiplier (see Appendix 2), n = 0	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		
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		
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

Qsn #	Question	Answer Option	Answer
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		
704	Propagules adapted to wind dispersal		
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	y = 1, n = -1	n
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	y = 1, n = -1	y
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
	Codd, L.E, De Winter, B., Killick, D.J.B. & Rycroft, H.B. (1970). Flora of Southern Africa Volume 13. National Botanic Gardens, Kirstenbosch, Cape Town	[No evidence] "Fairly common in the south-western Cape, in marshes or fynbos."
	Jobson, R. W., & Conn, B. (2012). Drosera capensis (Droseraceae), a new naturalised record for Australia. Telopea, 14, 89-92	[Not domesticated] "This species is commonly cultivated by carnivorous plant enthusiasts and is readily available for purchase in many Australian plant nurseries. In New Zealand, this species is listed as an invasive species (Heenan et al. 2004; NPPA 2008). It is also recorded as a naturalised weed in California (United States of America) (GCW 2007; USDA 2012). It is here regarded as probably invasive in Australia."

102	Has the species become naturalized where grown?	
	Source(s)	Notes
	WRA Specialist. (2023). Personal Communication	NA

103	Does the species have weedy races?	
	Source(s)	Notes
	WRA Specialist. (2023). 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"	Intermediate
	Source(s)	Notes
	Codd, L.E, De Winter, B., Killick, D.J.B. & Rycroft, H.B. (1970). Flora of Southern Africa Volume 13. National Botanic Gardens, Kirstenbosch, Cape Town	"Fairly common in the south-western Cape, in marshes or fynbos."
	McQuillan, M. (2008). Drosera capensis L. PlantZAfrica. SANBI. http://pza.sanbi.org/drosera-capensis. [Accessed 17 Oct 2023]	"Zone 2: Coastal winter rainfall. Frost free: Mean monthly minimum temperature for coldest month: 0°C to 10°C This region is virtually frost free, and when frost occurs it is very light and of short duration. Many subtropical plants grow well here. Close to the coast wind is stronger, especially the prevailing summer southeasterly winds. The soils are generally poor and mainly derived from the Table Mountain group (Cape Supergroup), which also limits the choice of plants in this zone."

202	Quality of climate match data	High
	Source(s)	Notes
	Codd, L.E, De Winter, B., Killick, D.J.B. & Rycroft, H.B. (1970). Flora of Southern Africa Volume 13. National Botanic Gardens, Kirstenbosch, Cape Town	"Fairly common in the south-western Cape, in marshes or fynbos."

203	Broad climate suitability (environmental versatility)	n
	Source(s)	Notes

Qsn #	Question	Answer
	McQuillan, M. (2008). Drosera capensis L. PlantZAfrica. SANBI. http://pza.sanbi.org/drosera-capensis. [Accessed 17 Oct 2023]	"Zone 2 Coastal winter rainfall, frost free" ... "Zone 2: Coastal winter rainfall. Frost free: Mean monthly minimum temperature for coldest month: 0°C to 10°C This region is virtually frost free, and when frost occurs it is very light and of short duration. Many subtropical plants grow well here. Close to the coast wind is stronger, especially the prevailing summer southeasterly winds. The soils are generally poor and mainly derived from the Table Mountain group (Cape Supergroup), which also limits the choice of plants in this zone."
	Missouri Botanical Garden. (2023). Drosera capensis. http://www.missouribotanicalgarden.org. [Accessed 17 Oct 2023]	"Zone: 7 to 9"

204	Native or naturalized in regions with tropical or subtropical climates	y
	Source(s)	**Notes**
	McQuillan, M. (2008). Drosera capensis L. PlantZAfrica. SANBI. http://pza.sanbi.org/drosera-capensis. [Accessed 17 Oct 2023]	[Occurs in a zone where subtropical plants are able to grow] "Drosera capensis occurs naturally in the southwestern Cape and can be found in marshes, along streams, permanent seeps or damp areas of fynbos." ... "Zone 2: Coastal winter rainfall. Frost free: Mean monthly minimum temperature for coldest month: 0°C to 10°C. This region is virtually frost free, and when frost occurs it is very light and of short duration. Many subtropical plants grow well here. Close to the coast wind is stronger, especially the prevailing summer southeasterly winds. The soils are generally poor and mainly derived from the Table Mountain group (Cape Supergroup), which also limits the choice of plants in this zone."
	Gallaher, T.J., Brock, K., Kennedy, B.H., Imada, C.T., Imada, K., & Walvoord, N. (2023). Plants of Hawai'i. http://www.plantsofhawaii.org.. [Accessed 19 Oct 2023]	No evidence in the Hawaiian Islands to date

205	Does the species have a history of repeated introductions outside its natural range?	y
	Source(s)	**Notes**
	Rice, B. A. (2019). The genus Drosera L. (Droseraceae) in the western USA. Phytologia, 101, 25-37	"Global range: Native to South Africa, but may be encountered elsewhere as a non-native species introduced by horticulturists." ... "This commonly cultivated African species (Robinson et al. 2017) is the most frequently encountered non-native Drosera in the western USA."
	Jobson, R. W., & Conn, B. (2012). Drosera capensis (Droseraceae), a new naturalised record for Australia. Telopea, 14, 89-92	"This species is commonly cultivated by carnivorous plant enthusiasts and is readily available for purchase in many Australian plant nurseries. In New Zealand, this species is listed as an invasive species (Heenan et al. 2004; NPPA 2008). It is also recorded as a naturalised weed in California (United States of America) (GCW 2007; USDA 2012). It is here regarded as probably invasive in Australia."

301	Naturalized beyond native range	y
	Source(s)	**Notes**
	Jobson, R. W., & Conn, B. (2012). Drosera capensis (Droseraceae), a new naturalised record for Australia. Telopea, 14, 89-92	"Drosera capensis L. (Droseraceae) is reported as a naturalised new record for Australia, occurring in the Central Coast bioregion of New South Wales. Although the full extent of the distribution of this species is not known, it is currently thought to be isolated to a small creek-side community within the Royal National Park, New South Wales, south of Sydney. The full extent of the invasion is being evaluated and control measures are being enacted to eradicate the known population within the park. A key to the species of Drosera occurring in New South Wales, amendments to the key to species occurring in Australia, together with a description of D. capensis, are provided."

Qsn #	Question	Answer
	Rice, B. A. (2019). The genus Drosera L. (Droseraceae) in the western USA. Phytologia, 101, 25-37	"Western States reported: CA: Mendocino County, Del Norte County (Rice 2002; pers. obs.)." ... "In Mendocino County (CA), D. capensis is certainly an intractable weed at one site (Rice 2002). It is occasionally encountered in Del Norte County (CA), where horticulturists have repeatedly introduced plants into Darlingtonia seepages (pers. obs.). This is the origin of reports of D. linearis in Del Norte County (Stone 1993). Plants are usually top-killed by freezing conditions, but can readily regenerate from seeds or root systems. Populations are likely to be detected in coastal OR, WA, and BC (Canada)."
	Heenan, P. B., de Lange, P. J., Cameron, E. K., Ogle, C. C., & Champion, P. D. (2004). Checklist of dicotyledons, gymnosperms, and pteridophytes naturalised or casual in New Zealand: additional records 2001–2003. New Zealand Journal of Botany, 42(5): 797-814	[New Zealand] "Well established at Christian Road, and sparingly so at the Pararaha Stream, this species is actively spreading from seed probably distributed by waterfowl. The Christian Road population resulted from deliberate plantings and further occurrences stemming from deliberate attempts at naturalisation are anticipated. Drosera capensis has proved to be very adaptable to New Zealand wetland environments and spreads rapidly from seed, which is freely produced. Most garden centres and nurseries dealing with carnivorous plants sell this species."
	Almeida, J.D.& Freitas, H. (2006). Exotic naturalized flora of continental Portugal – A reassessment. Botanica Complutensis 30: 117-130	[Portugal] "Table 2 Exotic vascular plant species (invasive, potentially invasive or more or less naturalized) in continental Portugal." [Year of first reported naturalization of exotic species for Drosera capensis = 2001]
	Gallaher, T.J., Brock, K., Kennedy, B.H., Imada, C.T., Imada, K., & Walvoord, N. (2023). Plants of Hawai'i. http://www.plantsofhawaii.org.. [Accessed 17 Oct 2023]	No evidence in the Hawaiian Islands

Qsn #	Question	Answer
302	Garden/amenity/disturbance weed	y
	Source(s)	**Notes**
	Rice, B. A. (2019). The genus Drosera L. (Droseraceae) in the western USA. Phytologia, 101, 25-37	"In Mendocino County (CA), D. capensis is certainly an intractable weed at one site (Rice 2002). It is occasionally encountered in Del Norte County (CA), where horticulturists have repeatedly introduced plants into Darlingtonia seepages (pers. obs.)."
	Official New Zealand Pest Register. (2023). Drosera capensis. https://pierpestregister.mpi.govt.nz/pests-of-concern/pest-details?id=90609. [Accessed 19 Oct 2023]	"Regulatory status: Not assessed Unwanted: Yes Date determined: 09 October 2006 Category: Other Endemic Organism Govt dept: Ministry for Primary Industries - MPI" [Unwanted (NZ) Status defined in the Biosecurity Act 1993. An unwanted organism is any organism that a chief technical officer believes is capable or potentially capable of causing unwanted harm to any natural and physical resources or human health.]
	Rice, B. A., Johnson, P., Newhouse, B., Brainerd, R., Pivorunas, D., Zika, P. F., & Stansell, V. (2002). Noteworthy collections. Madroño, 49(3), 193-197	[A common greenhouse weed] "Drosera capensis L. (Droseraceae).- Mendocino county, CA, 39°15'N, 123°45'W, elevation 160 m, 2 November 1997. A few hundred meters west of Albion Little River Road, just south of the County Airport. Large colonies of plants were found growing in wet depressions and Sphagnum mounds in a pine/cypress pygmy forest. Previous knowledge. Native to South Africa, Drosera capensis is a common greenhouse weed in collections where carnivorous plants are grown. It is not listed in the various floristic works of California."
	Jobson, R. W., & Conn, B. (2012). Drosera capensis (Droseraceae), a new naturalised record for Australia. Telopea, 14, 89-92	[Here designated as a weed of unknown environmental impacts] "It is here regarded as probably invasive in Australia. Unfortunately, naturalised species frequently only become recognised problems after they are widespread and the costs of control and elimination are prohibitive (Sheil 1994). As yet, it is not known if plants of D. capensis in the Royal National Park will adversely affect the invaded habitat(s) environmentally and/or ecologically."
	WRA Specialist. (2023). Personal Communication	Suspected of being an environmental weed in New Zealand and Australia, and a greenhouse weed or weed of unspecified impacts in California. Here designated as a weed of uncertain impacts, although the potential exists that it could compete, and possibly hybridize with the native Drosera anglica that occurs in bogs on the island of Kaua'i.

303	Agricultural/forestry/horticultural weed	
	Source(s)	**Notes**
	Rice, B. A., Johnson, P., Newhouse, B., Brainerd, R., Pivorunas, D., Zika, P. F., & Stansell, V. (2002). Noteworthy collections. Madroño, 49(3), 193-197	[Greenhouse weed. Impacts to horticultural industry unspecified] "Native to South Africa, Drosera capensis is a common greenhouse weed in collections where carnivorous plants are grown."

304	Environmental weed	
	Source(s)	**Notes**
	Weedbusters. (2023). Cape sundew - Drosera capensis. https://www.weedbusters.org.nz/what-are-weeds/weed-list/cape-sundew/. [Accessed 19 Oct 2023]	"What damage does it do? Grows well in a range of New Zealand wetlands, displacing small native plant species including native sundews." [Could similarly compete with and displace native Hawaiian sundew (Drosera anglica)]
	Jobson, R. W., & Conn, B. (2012). Drosera capensis (Droseraceae), a new naturalised record for Australia. Telopea, 14, 89-92	[An Australian weed of undetermined impacts] "As yet, it is not known if plants of D. capensis in the Royal National Park will adversely affect the invaded habitat(s) environmentally and/or ecologically."

305	Congeneric weed	y

Qsn #	Question	Answer
	Source(s)	Notes
	Vidal□Russell, R., Fernández Cánepa, G., Nuñez, C. I., & Ezcurra, C. (2019). First report of alien Drosera rotundifolia in a high conservation value Patagonian peat bog. Weed Research, 59(6), 458-466	"The presence of an exotic species represents a threat to this particular ecosystem – the peat bog – because although D. rotundifolia has not been previously mentioned as a species of invasive nature, other species in the genus have become naturalised in other countries, and in other parts of the world, alien carnivorous plants have become a problem. For example, Drosera capensis L. from South Africa has become naturalised in Australia, New Zealand and California (Jobson & Conn, 2012). Other six species of Drosera have been reported as naturalised in other countries and are listed in the Global Compendium of Weeds 2007 (http:// www.hear.org/gcw/ Accessed February 2019). In this Patagonian peat bog, the presence of D. rotundifolia threatens the native carnivorous plant, Pinguicula australandina Gluch (Lentibulariaceae), as they share similar ecological functions and life strategies. It is worth mentioning that D. rotundifolia individuals were found growing in close contact with P. australandina individuals in this site. As a predatory species, D. rotundifolia might also pose a threat for tiny native insects, with consequences difficult to predict."

401	Produces spines, thorns or burrs	n
	Source(s)	Notes
	Codd, L.E, De Winter, B., Killick, D.J.B. & Rycroft, H.B. (1970). Flora of Southern Africa Volume 13. National Botanic Gardens, Kirstenbosch, Cape Town	[No evidence] "Fairly robust plants with well developed roots. Stems short, woody, rhizomatous below. Leaves congested, the young leaves erect, the old ones spreading; petiole about as long as the lamina, flattened, glabrescent; stipules ovate, c. 1 cm long, brown, lamina linear, up to 15 cm long, 4 mm broad, apex truncate to obtuse, tentacles of the knob-shaped type only, forming a dense fringe along the margin, fewer and shorter in the centre; lower surface smooth, glabrous. Inflorescence with the leafless, axillary scape curved outwards below, about 25 cm long, firm, bearing some small broad-based setae beside the glandular pubescence; pedicels up to 8 mm long, ascending; flowers 15-30, secund, close together. Calyx-lobes c. 5 mm long, sparsely setose. Petals broadly obovate, up to 15 mm long, pink to reddish purple or mauve. Stamens short with a rhomboid connective, the locules diverging below. Styles divided from the base, stigma apical, swollen. Capsule oblong, 4 mm; seeds fusiform, 0-8 mm long with the testa beaded-papillate, with an oblong pale extension of the testa at the apex, the basal extension small."

402	Allelopathic	
	Source(s)	Notes
	WRA Specialist. (2023). Personal Communication	Unknown. No evidence found

403	Parasitic	n
	Source(s)	Notes
	Codd, L.E, De Winter, B., Killick, D.J.B. & Rycroft, H.B. (1970). Flora of Southern Africa Volume 13. National Botanic Gardens, Kirstenbosch, Cape Town	"Fairly robust plants with well developed roots. Stems short, woody, rhizomatous below. [Droseraceae. No evidence]

404	Unpalatable to grazing animals	
	Source(s)	Notes

Qsn #	Question	Answer
	Crowder, A. A., Pearson, M. C., Grubb, P. J., & Langlois, P. H. (1990). Drosera L. Journal of Ecology, 78(1), 233-267	[Unknown. Related species, D. rotundifolia, appears to tolerate some grazing, but the palatability of plants in the genus is not addressed] "Grazing does not eradicate the plant; it can be found in wet grasslands grazed by both sheep and cattle, e.g. in County Galway. It also appears to withstand some trampling, being abundant on peaty mud in gaps between fields in County Donegal."
	WRA Specialist. (2023). Personal Communication	Unknown

405	Toxic to animals	n
	Source(s)	**Notes**
	Gardenersworld.com (2023). Drosera capensis. https://www.gardenersworld.com/how-to/grow-plants/drosera-capensis/. [Accessed 19 Oct 2023]	"Drosera has no toxic effects reported."
	McQuillan, M. (2008). Drosera capensis L. PlantZAfrica. SANBI. http://pza.sanbi.org/drosera-capensis. [Accessed 19 Oct 2023]	[No evidence] "Drosera has also been recorded for use against various ailments. Extracts of the leaves were used externally for warts, corns and sunburn. Disorders such as tuberculosis, asthma, coughs, eye and ear infection, liver pain, morning sickness, stomach conditions, syphilis, toothache and intestinal problems were treated internally with teas or extracts made from the leaves. The tea was also used as a tranquilizer and some believe that it has aphrodisiac properties. Anti-spasmodic agents have been found by scientists in some Drosera species."
	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**
	Missouri Botanical Garden. (2023). Drosera capensis. http://www.missouribotanicalgarden.org. [Accessed 19 Oct 2023]	"No major pest or disease problems of note."
	McQuillan, M. (2008). Drosera capensis L. PlantZAfrica. SANBI. http://pza.sanbi.org/drosera-capensis. [Accessed 19 Oct 2023]	[Reported to be attacked by common insect pests] "Ironically, the carnivorous plants are attacked by insect pests. Aphids, mealy bug and thrips cause deformity in new growth. Treat with a diluted pesticide or remove pests by hand. Never use a soap-based insecticide. Drying out can cause drooping and the decrease in mucilage production. Watering and keeping the plant moist will revive them. Dew production may stop after transplanting or if the leaf comes into contact with inquisitive hands. New foliage will, however, grow and continue to produce dew. Mature plants die off from time to time, but usually young shoots develop off their rhizomatous stems, so wait a few weeks before you throw them out!"

407	Causes allergies or is otherwise toxic to humans	n
	Source(s)	**Notes**
	Gardenersworld.com (2023). Drosera capensis. https://www.gardenersworld.com/how-to/grow-plants/drosera-capensis/. [Accessed 19 Oct 2023]	"Drosera has no toxic effects reported."

Qsn #	Question	Answer
	McQuillan, M. (2008). Drosera capensis L. PlantZAfrica. SANBI. http://pza.sanbi.org/drosera-capensis. [Accessed 19 Oct 2023]	[No evidence] "Drosera has also been recorded for use against various ailments. Extracts of the leaves were used externally for warts, corns and sunburn. Disorders such as tuberculosis, asthma, coughs, eye and ear infection, liver pain, morning sickness, stomach conditions, syphilis, toothache and intestinal problems were treated internally with teas or extracts made from the leaves. The tea was also used as a tranquilizer and some believe that it has aphrodisiac properties. Anti-spasmodic agents have been found by scientists in some Drosera species."
	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

408	Creates a fire hazard in natural ecosystems	n
	Source(s)	**Notes**
	McQuillan, M. (2008). Drosera capensis L. PlantZAfrica. SANBI. http://pza.sanbi.org/drosera-capensis. [Accessed 19 Oct 2023]	[No evidence. Unlikely based on growth habit and habitat] "Drosera capensis occurs naturally in the southwestern Cape and can be found in marshes, along streams, permanent seeps or damp areas of fynbos."
	Van Wilgen, B. W., & Forsyth, G. G. (1992). Regeneration strategies in fynbos plants and their influence on the stability of community boundaries after fire. In Fire in South African Mountain Fynbos: ecosystem, community and species response at Swartboskloof (pp. 54-80). Springer Berlin Heidelberg	[Resprouts after fire. No evidence of that this plant increases fire risk] "Appendix 4.1. Life-forms, fire survival types and vital c1ttributes for 210 species in Swartboskloof. Seed longevity is only given for specie which rely on soil-stored seed bank for survival" [Drosera capensis - Fire survival type = Autoregenerating long-lived sprouters (ALS)]

409	Is a shade tolerant plant at some stage of its life cycle	
	Source(s)	**Notes**
	McQuillan, M. (2008). Drosera capensis L. PlantZAfrica. SANBI. http://pza.sanbi.org/drosera-capensis. [Accessed 19 Oct 2023]	"Aspect: Full Sun, Morning Sun (Semi Shade), Afternoon Sun (Semi Shade)"
	Les, D. H. (2017). Aquatic Dicotyledons of North America: Ecology, Life History, and Systematics. CRC Press, Boca Raton, FL	"Drosera capensis L. is a nonindigenous perennial species that occurs in wet depressions at elevations of up to 160 m. The plants will tolerate exposures of full to filtered sunlight."
	Missouri Botanical Garden. (2023). Drosera capensis. http://www.missouribotanicalgarden.org. [Accessed 19 Oct 2023]	"Sun: Full sun" ... "Best grown in consistently moist, well-draining soils in full sun."

Qsn #	Question	Answer
410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)	y
	Source(s)	**Notes**
	McQuillan, M. (2008). Drosera capensis L. PlantZAfrica. SANBI. http://pza.sanbi.org/drosera-capensis. [Accessed 19 Oct 2023]	"Drosera capensis is one of the hardiest carnivorous plants to grow. It tolerates a variety of soils which low in nutrients. General growth media, 1 part sand or silica grit: 1 peat or sphagnum moss in 10-15 cm pots are ideal. Place the potted plants in a 1-3 cm saucer filled with fresh water to remain moist at all times. Place in a northern or eastern direction for best sunlight if growing indoors."
	Les, D. H. (2017). Aquatic Dicotyledons of North America: Ecology, Life History, and Systematics. CRC Press, Boca Raton, FL	"Drosera capensis L. is a nonindigenous perennial species that occurs in wet depressions at elevations of up to 160 m. The plants will tolerate exposures of full to filtered sunlight. The substrates include peat or sand. The plants generally grow under phosphorous limited conditions, a deficit that is alleviated by carnivory, which results in improved photosynthetic performance."
	Missouri Botanical Garden. (2023). Drosera capensis. http://www.missouribotanicalgarden.org. [Accessed 19 Oct 2023]	"Tolerant of a wide variety of soil conditions."

411	Climbing or smothering growth habit	n
	Source(s)	**Notes**
	Codd, L.E, De Winter, B., Killick, D.J.B. & Rycroft, H.B. (1970). Flora of Southern Africa Volume 13. National Botanic Gardens, Kirstenbosch, Cape Town	"Fairly robust plants with well developed roots. Stems short, woody, rhizomatous below."

412	Forms dense thickets	n
	Source(s)	**Notes**
	Maneveldt, G. W. (1998). Sundews. Veld & Flora, 84(1), 10-11	[No evidence] "Drosera capensis is very common in the south-western Cape in marshes or along permanent seeps in mountain fynbos areas."
	Jobson, R. W., & Conn, B. (2012). Drosera capensis (Droseraceae), a new naturalised record for Australia. Telopea, 14, 89-92	[No evidence] "Drosera capensis L. (Droseraceae) is reported as a naturalised new record for Australia, occurring in the Central Coast bioregion of New South Wales. Although the full extent of the distribution of this species is not known, it is currently thought to be isolated to a small creek-side community within the Royal National Park, New South Wales, south of Sydney. The full extent of the invasion is being evaluated and control measures are being enacted to eradicate the known population within the park. A key to the species of Drosera occurring in New South Wales, amendments to the key to species occurring in Australia, together with a description of D. capensis, are provided."
	Codd, L.E, De Winter, B., Killick, D.J.B. & Rycroft, H.B. (1970). Flora of Southern Africa Volume 13. National Botanic Gardens, Kirstenbosch, Cape Town	[No evidence] "Fairly common in the south-western Cape, in marshes or fynbos."

501	Aquatic	n
	Source(s)	**Notes**
	Codd, L.E, De Winter, B., Killick, D.J.B. & Rycroft, H.B. (1970). Flora of Southern Africa Volume 13. National Botanic Gardens, Kirstenbosch, Cape Town	[Terrestrial] "Fairly common in the south-western Cape, in marshes or fynbos."

502	Grass	n

Qsn #	Question	Answer
	Source(s)	**Notes**
	Codd, L.E, De Winter, B., Killick, D.J.B. & Rycroft, H.B. (1970). Flora of Southern Africa Volume 13. National Botanic Gardens, Kirstenbosch, Cape Town	Droseraceae

503	Nitrogen fixing woody plant	n
	Source(s)	**Notes**
	Codd, L.E, De Winter, B., Killick, D.J.B. & Rycroft, H.B. (1970). Flora of Southern Africa Volume 13. National Botanic Gardens, Kirstenbosch, Cape Town	Droseraceae

504	Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)	n
	Source(s)	**Notes**
	McQuillan, M. (2008). Drosera capensis L. PlantZAfrica. SANBI. http://pza.sanbi.org/drosera-capensis. [Accessed 19 Oct 2023]	"Drosera capensis is a free-flowering, robust, carnivorous, evergreen perennial, of varying height, but usually around 150 mm. The short, woody stems are rhizomatous below with well-developed roots."
	Codd, L.E, De Winter, B., Killick, D.J.B. & Rycroft, H.B. (1970). Flora of Southern Africa Volume 13. National Botanic Gardens, Kirstenbosch, Cape Town	"Fairly robust plants with well developed roots. Stems short, woody, rhizomatous below."

601	Evidence of substantial reproductive failure in native habitat	n
	Source(s)	**Notes**
	Foden, W. & Potter, L. (2005). Drosera capensis L. National Assessment: Red List of South African Plants version 2020.1. http://redlist.sanbi.org/species.php?species=1776-8. [Accessed 19 Oct 2023]	"Status and Criteria: Least Concern"
	Jobson, R. W., & Conn, B. (2012). Drosera capensis (Droseraceae), a new naturalised record for Australia. Telopea, 14, 89-92	"This species is commonly cultivated by carnivorous plant enthusiasts and is readily available for purchase in many Australian plant nurseries. In New Zealand, this species is listed as an invasive species (Heenan et al. 2004; NPPA 2008). It is also recorded as a naturalised weed in California (United States of America) (GCW 2007; USDA 2012). It is here regarded as probably invasive in Australia."

Qsn #	Question	Answer
602	Produces viable seed	y
	Source(s)	**Notes**
	McQuillan, M. (2008). Drosera capensis L. PlantZAfrica. SANBI. http://pza.sanbi.org/drosera-capensis. [Accessed 17 Oct 2023]	"The Cape sundew is easily propagated by seed or vegetative means. Prepare a 9 cm pot with growth media, water well. Sow fresh seeds on the surface in moist growth media. Do not cover with soil."
	Jobson, R. W., & Conn, B. (2012). Drosera capensis (Droseraceae), a new naturalised record for Australia. Telopea, 14, 89-92	"This species spreads rapidly by seed." ... "In New South Wales flower and seed production is profuse (Fig. 1 b, c), though many of the inflorescences were infested with aphids (Fig. 1d)."
	Heenan, P. B., de Lange, P. J., Cameron, E. K., Ogle, C. C., & Champion, P. D. (2004). Checklist of dicotyledons, gymnosperms, and pteridophytes naturalised or casual in New Zealand: additional records 2001-2003. New Zealand Journal of Botany, 42(5): 797-814	"Well established at Christian Road, and sparingly so at the Pararaha Stream, this species is actively spreading from seed probably distributed by waterfowl. The Christian Road population resulted from deliberate plantings and further occurrences stemming from deliberate attempts at naturalisation are anticipated. Drosera capensis has proved to be very adaptable to New Zealand wetland environments and spreads rapidly from seed, which is freely produced. Most garden centres and nurseries dealing with carnivorous plants sell this species."

603	Hybridizes naturally	
	Source(s)	**Notes**
	May, A. (2023). The Sundew Flowering and Seed-collecting Process. http://www.growsundews.com/sundews/drosera_seed_collecting_sundew_seed_harvesting.html. [Accessed 19 Oct 2023]	[Artificial hybrids may be possible] "Some crosses, like D. brevifolia (2n=20) and D. rotundifolia (2n=40) produce a sterile but vigorous hybrid, while others can have the same chromosome counts, (ie 2n=20) and will not be viable (such as D. filiformis x D. burmannii). This is likely due to their positioning on the Drosera phylogenetic tree, which shows the relative genetic relatedness between different species of sundews. There are a ton of different crosses that Ivan Snyder tried in this CPN paper (scroll down to the bottom) and you can compare that with the "phylogeny of the sundews" paper online, or send me an email and i'll send you a compilation of different Drosera chromosome counts. You can see in the paper that 2 different people who try the same cross can get different results using the same plants (ie D. capensis x D. spatulata, which is a common sterile sundew in cultivation failed to germinate for Ivan, while others usually have had success)."
	Crowder, A. A., Pearson, M. C., Grubb, P. J., & Langlois, P. H. (1990). Drosera L. Journal of Ecology, 78(1), 233-267	[Unknown. Hybrids reported between other species in genus] "Hybrids. The hybrid D. rotundifolia x D. anglica (=D. obovata Mert. & Koch) has been found frequently in continental Europe, and sporadically throughout the British Isles. D. obovata is easily confused with growth forms of all three British species, but was established as a hybrid by Rosenberg (1903, 1904a) who found that the 2n chromosome number was 30, rarely 40 (cf. D. rotundifolia with 2n=20, and D. anglica with 2n=40). Shimamura (1941) confirmed Rosenberg's cytological findings."

604	Self-compatible or apomictic	y
	Source(s)	**Notes**
	Maneveldt, G. W. (1998). Sundews. Veld & Flora, 84(1), 10-11	"Drosera species are all bisexual, bearing both male and female parts and self-pollination is common and often the only form of pollination. Ironically, cross-pollination by insects, their very prey, also occurs as I have seen ants and very small winged insects on the flowers."
	Les, D. H. (2017). Aquatic Dicotyledons of North America: Ecology, Life History, and Systematics. CRC Press, Boca Raton, FL	"Flowering occurs during the spring. The flowers are believed to be largely self-pollinating, because of the entanglement of their anthers and stigmatic papillae as the petals wither and wrinkle."

Qsn #	Question	Answer
	McQuillan, M. (2008). Drosera capensis L. PlantZAfrica. SANBI. http://pza.sanbi.org/drosera-capensis. [Accessed 19 Oct 2023]	"Flowers are open very briefly for a few hours with good sunlight. The flowers can be pollinated by insects, but are usually self pollinated."
	May, A. (2023). The Sundew Flowering and Seed-collecting Process. http://www.growsundews.com/sundews/drosera_seed_collecting_sundew_seed_harvesting.html. [Accessed 19 Oct 2023]	"For self-fertile Drosera species, no help is required, but it can increase seed set. For example, some South American sundew are self-compatible, but their stigmas and anthers don't brush against each other as the flower closes. Thus, very few to no seeds will be produced when left alone. In this case, aiding in pollination will allow for a much larger seed set. But in the case of D. capensis, D. spatulata or D. burmannii (etc.), they are so efficient at self-pollination that aiding will only increase the seed set minimally. "

605	Requires specialist pollinators	n
	Source(s)	**Notes**
	Crowder, A. A., Pearson, M. C., Grubb, P. J., & Langlois, P. H. (1990). Drosera L. Journal of Ecology, 78(1), 233-267	"Floral biology. The species is self-pollinated or wind-pollinated. Pollen and ovules ripen simultaneously and the flowers are self-compatible. Xenogamous experimental pollination was also successful. Apomixis occurred in one of twelve plants tested."
	McQuillan, M. (2008). Drosera capensis L. PlantZAfrica. SANBI. http://pza.sanbi.org/drosera-capensis. [Accessed 19 Oct 2023]	"The flowers can be pollinated by insects, but are usually self-pollinated. "

606	Reproduction by vegetative fragmentation	y
	Source(s)	**Notes**
	Maneveldt, G. W. (1998). Sundews. Veld & Flora, 84(1), 10-11	"Drosera capensis sprouts new plants from its woody rhizomatous stem and sexual reproduction is thus not essential. Vegetative propagation is so well established in this species that often long chains of D. capensis plants can be seen hanging from ledges with permanent seeps."
	McQuillan, M. (2008). Drosera capensis L. PlantZAfrica. SANBI. http://pza.sanbi.org/drosera-capensis. [Accessed 19 Oct 2023]	"The Cape sundew is easily propagated by seed or vegetative means." ... "The Cape sundew is fast growing and single plants can live for many years with young suckers forming at the base."

607	Minimum generative time (years)	1
	Source(s)	**Notes**
	Van Wilgen, B. W., & Forsyth, G. G. (1992). Regeneration strategies in fynbos plants and their influence on the stability of community boundaries after fire. In Fire in South African Mountain Fynbos: ecosystem, community and species response at Swartboskloof (pp. 54-80). Springer Berlin Heidelberg	"Appendix 4.1. Life-forms, fire survival types and vital c1ttributes for 210 species in Swartboskloof." [Drosera capensis - Age to maturity (yrs) = 1]

Qsn #	Question	Answer
701	**Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)**	
	Source(s)	**Notes**
	McQuillan, M. (2008). Drosera capensis L. PlantZAfrica. SANBI. http://pza.sanbi.org/drosera-capensis. [Accessed 19 Oct 2023]	"When the seeds are ripe, their capsules open to release the fine, light-weight seeds which fall out and are dispersed near the parent plants." [Unknown. Other species may be dispersed in mud attached to equipment, footwear or vehicles]
	Vidal□Russell, R., Fernández Cánepa, G., Nuñez, C. I., & Ezcurra, C. (2019). First report of alien Drosera rotundifolia in a high conservation value Patagonian peat bog. Weed Research, 59(6), 458-466	[Related probably species dispersed through attachment to shoes] "The role of humans acting as long-distance dispersal vectors of this species is supported by the fact that D. rotundifolia individuals were found growing just less than 2 m from the board path. Thus, the likelihood of dispersion from propagules carried in clothes, shoes or elsewhere appears to be high."

702	**Propagules dispersed intentionally by people**	**y**
	Source(s)	**Notes**
	Rice, B. A. (2019). The genus Drosera L. (Droseraceae) in the western USA. Phytologia, 101, 25-37	"Global range: Native to South Africa, but may be encountered elsewhere as a non-native species introduced by horticulturists." ... "This commonly cultivated African species (Robinson et al. 2017) is the most frequently encountered non-native Drosera in the western USA."
	Jobson, R. W., & Conn, B. (2012). Drosera capensis (Droseraceae), a new naturalised record for Australia. Telopea, 14, 89-92	"This species is commonly cultivated by carnivorous plant enthusiasts and is readily available for purchase in many Australian plant nurseries. In New Zealand, this species is listed as an invasive species (Heenan et al. 2004; NPPA 2008). It is also recorded as a naturalised weed in California (United States of America) (GCW 2007; USDA 2012). It is here regarded as probably invasive in Australia."

703	**Propagules likely to disperse as a produce contaminant**	
	Source(s)	**Notes**
	Rice, B. A., Johnson, P., Newhouse, B., Brainerd, R., Pivorunas, D., Zika, P. F., & Stansell, V. (2002). Noteworthy collections. Madroño, 49(3), 193-197	[Suggests Drosera capensis could become a contaminant of other greenhouse plants] "Native to South Africa, Drosera capensis is a common greenhouse weed in collections where carnivorous plants are grown."

704	**Propagules adapted to wind dispersal**	
	Source(s)	**Notes**
	Crowder, A. A., Pearson, M. C., Grubb, P. J., & Langlois, P. H. (1990). Drosera L. Journal of Ecology, 78(1), 233-267	[Possibly wind-dispersed] "Little is known about dispersal but wind and the feet of birds are probably important agents. When placed on water, the seeds continue to float for several months."

705	**Propagules water dispersed**	**y**
	Source(s)	**Notes**
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	"Dispersed by: Humans, Water"
	McQuillan, M. (2008). Drosera capensis L. PlantZAfrica. SANBI. http://pza.sanbi.org/drosera-capensis. [Accessed 19 Oct 2023]	"Drosera capensis occurs naturally in the southwestern Cape and can be found in marshes, along streams, permanent seeps or damp areas of fynbos." ... "When the seeds are ripe, their capsules open to release the fine, light-weight seeds which fall out and are dispersed near the parent plants." [Possibly water dispersed if occurring in near aquatic habitats]

Qsn #	Question	Answer
	Crowder, A. A., Pearson, M. C., Grubb, P. J., & Langlois, P. H. (1990). Drosera L. Journal of Ecology, 78(1), 233-267	"Little is known about dispersal but wind and the feet of birds are probably important agents. When placed on water, the seeds continue to float for several months."
	Maneveldt, G. W. (1998). Sundews. Veld & Flora, 84(1), 10 -11	[Potentially water dispersed when occurring in proximity to riparian habitats] "Drosera capensis is very common in the south-western Cape in marshes or along permanent seeps in mountain fynbos areas."

706	Propagules bird dispersed	
	Source(s)	**Notes**
	Wagner, W.L., Herbst, D.R.& Sohmer, S.H. (1999). Manual of the flowering plants of Hawaii. Revised edition. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	[Native species suspected to have been dispersed by birds] "Drosera anglica undoubtedly was brought to Hawai'i embedded in mud on the feet of shorebirds, probably by the Lesser Golden-Plover (Pluvialis dominica) that migrate annually between the Hawaiian Islands and far north temperate regions, especially Alaska."
	Weedbusters. (2023). Cape sundew - Drosera capensis. https://www.weedbusters.org.nz/what-are-weeds/weed-list/cape-sundew/. [Accessed 19 Oct 2023]	[Suspected bird dispersal] "How does it spread? Seed spread, possibly assisted by birds. Likely to have been deliberately planted in some natural areas."

707	Propagules dispersed by other animals (externally)	
	Source(s)	**Notes**
	New Zealand Plant Conservation Network. (2023). Drosera capensis. https://www.nzpcn.org.nz/flora/species/drosera-capensis/. [Accessed 19 Oct 2023]	"Deliberate planting, with subsequent seed dispersal by animals or water." [Possibly through external attachment]
	Weedbusters. (2023). Cape sundew - Drosera capensis. https://www.weedbusters.org.nz/what-are-weeds/weed-list/cape-sundew/. [Accessed 19 Oct 2023]	[Suspected bird dispersal through external attachment] "How does it spread? Seed spread, possibly assisted by birds. Likely to have been deliberately planted in some natural areas.

708	Propagules survive passage through the gut	n
	Source(s)	**Notes**
	Crowder, A. A., Pearson, M. C., Grubb, P. J., & Langlois, P. H. (1990). Drosera L. Journal of Ecology, 78(1), 233-267	"Little is known about dispersal but wind and the feet of birds are probably important agents. When placed on water, the seeds continue to float for several months."
	McQuillan, M. (2008). Drosera capensis L. PlantZAfrica. SANBI. http://pza.sanbi.org/drosera-capensis. [Accessed 19 Oct 2023]	"When the seeds are ripe, their capsules open to release the fine, light-weight seeds which fall out and are dispersed near the parent plants."
	WRA Specialist. (2023). Personal Communication	Zoochory or internal dispersal by animals is not listed among the dispersal vectors of members of this genus

801	Prolific seed production (>1000/m2)	
	Source(s)	**Notes**
	May, A. (2023). The Sundew Flowering and Seed-collecting Process. http://www.growsundews.com/sundews/drosera_seed_collecting_sundew_seed_harvesting.html. [Accessed 19 Oct 2023]	"Sundews generally produce 3-20+ flowers on a single scape. In the extreme, D. capensis can have as more than 40-50 flowers per stalk when it's very healthy/fed!" [Numbers unknown]
	Jobson, R. W., & Conn, B. (2012). Drosera capensis (Droseraceae), a new naturalised record for Australia. Telopea, 14, 89-92	[Densities unknown] "This species spreads rapidly by seed." ... "In New South Wales flower and seed production is profuse (Fig. 1 b, c), though many of the inflorescences were infested with aphids (Fig. 1d)."

Qsn #	Question	Answer
802	**Evidence that a persistent propagule bank is formed (>1 yr)**	
	Source(s)	**Notes**
	Crowder, A. A., Pearson, M. C., Grubb, P. J., & Langlois, P. H. (1990). Drosera L. Journal of Ecology, 78(1), 233-267	[Unknown. Some species may have dormant seeds] "Viability of seeds: germination. At least some seeds are capable of germination without a period of dormancy as vivipary has been recorded (Section VIia). The longest period of dormancy recorded has been four years (Kinzel 1913); seeds were kept in damp soil in a glasshouse."

803	**Well controlled by herbicides**	
	Source(s)	**Notes**
	Weedbusters. (2023). Cape sundew - Drosera capensis. https://www.weedbusters.org.nz/what-are-weeds/weed-list/cape-sundew/. [Accessed 19 Oct 2023]	"What can I do to get rid of it? Contact Department of Conservation if you find this plant growing in natural areas. No control methods found."

804	**Tolerates, or benefits from, mutilation, cultivation, or fire**	**y**
	Source(s)	**Notes**
	Rice, B. A. (2019). The genus Drosera L. (Droseraceae) in the western USA. Phytologia, 101, 25-37	[Can regenerate after top kill. May tolerate mutilation] "Plants are usually top-killed by freezing conditions, but can readily regenerate from seeds or root systems. Populations are likely to be detected in coastal OR, WA, and BC (Canada)."
	Van Wilgen, B. W., & Forsyth, G. G. (1992). Regeneration strategies in fynbos plants and their influence on the stability of community boundaries after fire. In Fire in South African Mountain Fynbos: ecosystem, community and species response at Swartboskloof (pp. 54-80). Springer Berlin Heidelberg	[Resprouts after fire] "Appendix 4.1. Life-forms, fire survival types and vital c1ttributes for 210 species in Swartboskloof. Seed longevity is only given for specie which rely on soil-stored seed bank for survival" [Drosera capensis - Fire survival type = Autoregenerating long-lived sprouters (ALS)]

805	**Effective natural enemies present locally (e.g. introduced biocontrol agents)**	
	Source(s)	**Notes**
	WRA Specialist. (2023). Personal Communication	Unknown

Summary of Risk Traits:

Drosera capensis (Cape sundew), is a carnivorous plant species native to South Africa. The Cape sundew is one of the most well-known and widely cultivated species within the Drosera genus and has since become naturalized in New Zealand, Australia, California, and Portugal. In Australia and New Zealand, there is concern that Cape sundew could compete with native sundews and other native plant species. The New Zealand Biosecurity Act 1993 classifies Cape sundew as “Unwanted”, defined as “any organism that a chief technical officer believes is capable or potentially capable of causing unwanted harm to any natural and physical resources or human health.” Cape Sundew is currently cultivated, but not known to be naturalized in the Hawaiian Islands, although there is concern that it could negatively impact the native Hawaiian sundew, Drosera anglica (Mikinalo).

High Risk / Undesirable Traits
• Capable of growing in regions with subtropical to temperate climates.
• Naturalized in New Zealand, Australia, California, and Portugal, but no evidence in the Hawaiian Islands to date.
• Regarded as a greenhouse weed in California, and a potential environmental weed in New Zealand and Australia.
• May compete with and impact the native Hawaiian sundew, Drosera anglica (Mikinalo), found in bogs on the island of Kaua'i.
• Other Drosera species are naturalized, and at least one, Drosera rotundifolia, is regarded as a weed in Patagonia (Argentina) that may impact native carnivorous plants and invertebrates.
• Tolerates many soil types.
• Drosera species are capable of hybridization. There may be a risk of hybridization and genetic contamination of the native Hawaiian species.
• Reproduces by seeds and vegetatively by rhizomes and suckers.
• Self-fertile.
• Can reach maturity in one growing season.
• Seeds dispersed by gravity, water, and possibly by adhering to birds, other animals, footwear, equipment or vehicles, as well as through intentional cultivation.
• Prolific seed production (exact numbers unknown)
• Tolerates and resprouts after top-kill from freezing, and fires.

Low Risk Traits
• Negative impacts of this species to native vegetation have not been quantified and are largely speculative at this point.
• Unarmed (no spines, thorns, or burrs)
• Non-toxic
• Grows best in high light environments (dense shade may inhibit spread).