

Family: *Xanthorrhoeaceae*

Taxon: *Bulbine frutescens*

Synonym: *Anthericum frutescens* L.

Common Name: orange bulbine
bulbinella
burn jelly plant
cat's tail
snake flower

Questionnaire : current 20090513 **Assessor:** Assessor **Designation:** EVALUATE
Status: Assessor Approved **Data Entry Person:** Assessor **WRA Score** 2

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)	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	n
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	n
302	Garden/amenity/disturbance weed	n=0, y = 1*multiplier (see Appendix 2)	
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)	
401	Produces spines, thorns or burrs	y=1, n=0	n
402	Allelopathic	y=1, n=0	
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	
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	y
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	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)	y=1, n=-1	
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	y
705	Propagules water dispersed	y=1, n=-1	n
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/m ²)	y=1, n=-1	
802	Evidence that a persistent propagule bank is formed (>1 yr)	y=1, n=-1	
803	Well controlled by herbicides	y=-1, n=1	
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: EVALUATE

WRA Score 2

Supporting Data:

101	2006. Harrison, M.. Groundcovers for the South. Pineapple Press Inc., Sarasota, FL	[Is the species highly domesticated? No. Cultivars may be less likely to spread, however] "The cultivar 'Hallmark' is self-sterile, so seedlings will not be produced. It is smaller and more tidy than the species."
102	2014. WRA Specialist. Personal Communication.	NA
103	2014. WRA Specialist. Personal Communication.	NA
201	2014. Iwu, M.M.. Handbook of African Medicinal Plants, Second Edition. CRC Press, Boca Raton, FL	[Species suited to tropical or subtropical climate(s) 2-High] "Bulbine frutescens is widespread throughout Southern Africa."
202	2014. Iwu, M.M.. Handbook of African Medicinal Plants, Second Edition. CRC Press, Boca Raton, FL	[Quality of climate match data 2-High]
203	2014. Dave's Garden. PlantFiles: Stalked Bulbine, Orange Bulbine - Bulbine frutescens. http://davesgarden.com/guides/pf/go/453/ [Accessed 12 Jan 2014]	[Broad climate suitability (environmental versatility)? No] "Hardiness: USDA Zone 9a: to -6.6 °C (20 °F) USDA Zone 9b: to -3.8 °C (25 °F) USDA Zone 10a: to -1.1 °C (30 °F) USDA Zone 10b: to 1.7 °C (35 °F) USDA Zone 11: above 4.5 °C (40 °F)"
204	2012. Randall, R.P.. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	[Native or naturalized in regions with tropical or subtropical climates? No evidence]
205	2014. Dave's Garden. PlantFiles: Stalked Bulbine, Orange Bulbine - Bulbine frutescens. http://davesgarden.com/guides/pf/go/453/ [Accessed 12 Jan 2014]	[Does the species have a history of repeated introductions outside its natural range? Yes] "This plant has been said to grow in the following regions: , Florida, Alabama Gilbert, Arizona Phoenix, Arizona Aliso Viejo, California Brentwood, California Carmichael, California Casa De Oro-mount Helix, California Clayton, California Lemoore, California San Diego, California San Jose, California Atlantis, Florida Boyette, Florida Chiefland, Florida Crystal River, Florida De Land, Florida Fernandina Beach, Florida Hobe Sound, Florida Holt, Florida Jacksonville, Florida (2 reports) Lake City, Florida Melbourne Beach, Florida Niceville, Florida North De Land, Florida Oakland, Florida Ocoee, Florida Palm Coast, Florida (2 reports) Pebble Creek, Florida Pensacola, Florida Port Charlotte, Florida Siesta Key, Florida Spring Hill, Florida Wellborn, Florida Zephyrhills South, Florida Kihei, Hawaii Baton Rouge, Louisiana (2 reports) Alamogordo, New Mexico Oklahoma City, Oklahoma Fair Play, South Carolina Alice, Texas Austin, Texas (3 reports) Briarcliff, Texas Dallas, Texas Deer Park, Texas Desoto, Texas Dripping Springs, Texas Elgin, Texas Fort Worth, Texas Haltom City, Texas Hideaway, Texas Houston, Texas Humble, Texas Mckinney, Texas New Braunfels, Texas Palm Valley, Texas Port Lavaca, Texas Redwood, Texas Richmond, Texas Rockport, Texas Round Rock, Texas Royse City, Texas San Angelo, Texas San Antonio, Texas Santa Fe, Texas Sunset Valley, Texas (2 reports)
301	2007. McLaughlin, J.. Ground Cover for South Florida: Full Sun to Limited to Limited Shade. University of Florida IFAS Extension, Homestead, FL http://miami-dade.ifas.ufl.edu/Pubs_LnG2.shtml	[Naturalized beyond native range? No evidence in Florida] "Not widely used - so far not known to be invasive in Florida"
301	2009. Chong, K.Y./Tan, H.T.W./Corlett, R.T.. A Checklist of the Total Vascular Plant Flora of Singapore: Native, Naturalized and Cultivated Species. Raffles Museum of Biodiversity Research, National University of Singapore, Singapore	[Naturalized beyond native range? No evidence in Singapore] "Bulbine frutescens (L.) Willd.; herb; exotic; cultivated only"
301	2012. Randall, R.P.. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	[Naturalized beyond native range? No evidence]
302	2006. Barker, J./Randall, R./Grice, T.. Weeds of the future? Threats to Australia's grazing industries by garden plants. CRC for Australian Weed Management, Glen Osmond SA	[Garden/amenity/disturbance weed? Quarantine weed, but no impacts to date] "Table 4. 77 species controlled by state/territory and/or federal legislation." ... "Bulbine frutescens - Legislation applicable (state/territory) = Quarantine Weed WA" [under Western Australia's state-wide quarantine system which means they are prohibited from entering the state.]
302	2007. McLaughlin, J.. Ground Cover for South Florida: Full Sun to Limited to Limited Shade. University of Florida IFAS Extension, Homestead, FL http://miami-dade.ifas.ufl.edu/Pubs_LnG2.shtml	[Garden/amenity/disturbance weed? Impacts unspecified] "Not widely used – so far not known to be invasive in Florida. Reported as invasive in parts of Australia."

303	2012. Randall, R.P.. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	[Agricultural/forestry/horticultural weed? Possibly] Listed as an agricultural weed [Reference from native range of South Africa. However, no evidence of specific impacts have been found]
304	2012. Randall, R.P.. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	[Environmental weed? No evidence]
305	2012. Randall, R.P.. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	[Congeneric weed? Possibly] <i>Bulbine bulbosa</i> , <i>Bulbine narcissifolia</i> , and <i>Bulbine semibarbata</i> listed as weeds [No evidence of impacts found]
401	2003. South African National Biodiversity Institute. PlantzAfrica.com - <i>Bulbine frutescens</i> . http://www.plantzafrika.com/plantab/bulbinefrut.htm [Accessed 12 Jan 2014]	[Produces spines, thorns or burrs? No evidence] "a fast growing, branched, succulent perennial with fleshy, linear green leaves in opposite rows and clasping the stems at the base. It forms spreading clumps with greyish stems often bearing adventitious roots. "
401	2014. Bouquet Garni Nursery. Snake Flower - <i>Bulbine frutescens</i> . http://www.herb.co.za/herbal/bulbine.htm [Accessed 13 Jan 2014]	[Produces spines, thorns or burrs? No] " <i>Bulbine frutescens</i> is an aloe-like succulent plant with a rosette of fleshy, thorn less, straw coloured leaves. "
402	2014. WRA Specialist. Personal Communication.	[Allelopathic? Unknown]
403	2003. South African National Biodiversity Institute. PlantzAfrica.com - <i>Bulbine frutescens</i> . http://www.plantzafrika.com/plantab/bulbinefrut.htm [Accessed 12 Jan 2014]	[Parasitic? No evidence] "It is a fast growing, branched, succulent perennial with fleshy, linear green leaves in opposite rows and clasping the stems at the base. "
404	1994. Moolman, H.J./Cowling, R.M.. The impact of elephant and goat grazing on the endemic flora of South African succulent thicket. <i>Biological Conservation</i> . 68(1): 53-61.	[Unpalatable to grazing animals? Browsed by goats and elephants] "Succulent thicket is an important centre of endemism for succulents and geophytes. Both inside and outside reserves, this component is threatened by megaherbivore and goat grazing, respectively. Goat grazing has greatly reduced the cover and diversity of endemic geophytes and succulent shrubs in succulent thicket has in the Addo Elephant National Park. Elephant grazing has had a more moderate effect on these plants and has not reduced the rich Crassulaceae flora in shrub microsites. All endemics noted in the study were present in ungrazed sites but fewer were recorded in the elephant- (63%) and goat- (53%) grazed treatments. There are several solutions to this problem: more botanical (ungrazed) reserves should be established; reserves should be enlarged to reduce the stocking density of elephants; and elephant and other game farming should be encouraged as an alternative to goat-farming outside reserves."
404	2014. Monrovia. Orange Stalked Bulbine - <i>Bulbine frutescens</i> 'Orange'. http://www.monrovia.com/plant-catalog/plants/2918/orange-stalked-bulbine.php [Accessed 12 Jan 2014]	[Unpalatable to grazing animals? Possibly Yes] "Deer Resistant"
405	2013. Hodgkiss, R.J.. The Succulent Plant Page - The Bulbine Page. http://www.succulent-plant.com/families/aloaceae/bulbine.html	[Toxic to animals? Unknown] "Some species of <i>Bulbine</i> have toxic foliage (e.g. <i>Bulbine bulbosa</i> , Australia) especially to livestock, although the tubers of this and other species are roasted and eaten by bushmen. "
406	2006. Nassau County Extension. Bulbine - <i>Bulbine frutescens</i> . http://nassau.ifas.ufl.edu/horticulture/demogarden/plants/bulbine.html [Accessed 14 Jan 2014]	[Host for recognized pests and pathogens? No] "Freedom from pests and diseases and low nutrient needs make it an easy-to-care-for addition to the garden."
406	2014. Martin, C.A.. Virtual Library of Phoenix Landscape Plants - <i>Bulbine frutescens</i> . Arizona State University, http://www.public.asu.edu/~camartin/plants/Plant%20html%20files/bulbinefrutescens.html [Accessed 14 Jan 2014]	[Host for recognized pests and pathogens? No] "Disease and pests: None"
407	2014. Bouquet Garni Nursery. Snake Flower - <i>Bulbine frutescens</i> . http://www.herb.co.za/herbal/bulbine.htm [Accessed 13 Jan 2014]	[Causes allergies or is otherwise toxic to humans? No evidence, but possibly if taken at incorrect dosage] "Used externally <i>Bulbine</i> species are reasonably safe. Check for allergic reactions. Use with caution internally."
407	2014. Iwu, M.M.. Handbook of African Medicinal Plants, Second Edition. CRC Press, Boca Raton, FL	[Causes allergies or is otherwise toxic to humans? No evidence] "No serious toxicity has been reported from the use of <i>Bulbine</i> . A temporary sensitivity to the topical application of <i>Bulbine</i> gel was observed in 2 of the total of about 300 patients during a clinical study."

408	2003. South African National Biodiversity Institute. PlantzAfrica.com - Bulbine frutescens. http://www.plantzafrica.com/plantab/bulbinefrut.htm [Accessed 12 Jan 2014]	[Creates a fire hazard in natural ecosystems? No evidence] "...a fast growing, branched, succulent perennial with fleshy, linear green leaves in opposite rows and clasping the stems at the base." [Unlikely given succulent, fleshy habit]
409	2000. Irish, M.. Gardening in the Desert: A Guide to Plant Selection & Care. University of Arizona Press, Tucson, AZ	[Is a shade tolerant plant at some stage of its life cycle? Possibly] "Bulbine will bloom and grow in full sun but does better in shade, particularly the apricot ones. In fact, bulbine will bloom beautifully in full shade and is a great choice for dry shade."
409	2003. South African National Biodiversity Institute. PlantzAfrica.com - Bulbine frutescens. http://www.plantzafrica.com/plantab/bulbinefrut.htm [Accessed 12 Jan 2014]	[Is a shade tolerant plant at some stage of its life cycle? Possibly] "These plants prefer full sun, but they will also grow in semi-shade for part of the day. Although it will grow indoors, it requires maximum light."
409	2014. Martin, C.A.. Virtual Library of Phoenix Landscape Plants - Bulbine frutescens. Arizona State University, http://www.public.asu.edu/~camartin/plants/Plant%20html%20files/bulbinefrutescens.html [Accessed 14 Jan 2014]	[Is a shade tolerant plant at some stage of its life cycle? Possibly] "Light: Partial to full sun, only moderately tolerates reflective heat in low desert. Shade inhibits flowering." [Contradicts Irish (2000)]
410	2014. Bouquet Garni Nursery. Snake Flower - Bulbine frutescens. http://www.herb.co.za/herbal/bulbine.htm [Accessed 13 Jan 2014]	[Tolerates a wide range of soil conditions? Yes] "It thrives in any soil and is extensively used by the landscape industry in places where little else seems to grow such as road islands and rocky hillsides."
410	2014. Dave's Garden. PlantFiles: Stalked Bulbine, Orange Bulbine - Bulbine frutescens. http://davesgarden.com/guides/pf/go/453/ [Accessed 12 Jan 2014]	[Tolerates a wide range of soil conditions? Yes] "...not fussy about soil (except it must be well drained)"
411	2003. South African National Biodiversity Institute. PlantzAfrica.com - Bulbine frutescens. http://www.plantzafrica.com/plantab/bulbinefrut.htm [Accessed 12 Jan 2014]	[Climbing or smothering growth habit? No] "It is a fast growing, branched, succulent perennial with fleshy, linear green leaves in opposite rows and clasping the stems at the base."
411	2014. Martin, C.A.. Virtual Library of Phoenix Landscape Plants - Bulbine frutescens. Arizona State University, http://www.public.asu.edu/~camartin/plants/Plant%20html%20files/bulbinefrutescens.html [Accessed 14 Jan 2014]	[Climbing or smothering growth habit? No] "Growth Habit: Low growing herbaceous perennial forming basal clumps"
412	2009. Bredin, I./Niemand, L./Abell, S.. Transect Railway Line EIA. Terrestrial Ecological Assessment. Natural Scientific Services, Johannesburg, South Africa	[Forms dense thickets?] "Table 4.5.2 Important flora species of the Sundays Thicket vegetation type" [Bulbine frutescens is a component of thicket vegetation, but no evidence in this report that it forms monocultures]
501	2003. South African National Biodiversity Institute. PlantzAfrica.com - Bulbine frutescens. http://www.plantzafrica.com/plantab/bulbinefrut.htm [Accessed 12 Jan 2014]	[Aquatic? No] "Bulbine frutescens occurs widespread throughout parts of Northern Cape, Western and Eastern Cape; however, it reaches its peak in the succulent-rich, dry valleys of Eastern Cape."
502	2014. USDA ARS National Genetic Resources Program. Germplasm Resources Information Network - (GRIN). http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl	[Grass? No] Xanthorrhoeaceae [Also placed in: Asphodelaceae Liliaceae]
503	2014. USDA ARS National Genetic Resources Program. Germplasm Resources Information Network - (GRIN). http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl	[Nitrogen fixing woody plant? No] Xanthorrhoeaceae [Also placed in: Asphodelaceae Liliaceae]
504	2009. Bredin, I./Niemand, L./Abell, S.. Transect Railway Line EIA. Terrestrial Ecological Assessment. Natural Scientific Services, Johannesburg, South Africa	[Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)? Yes] "APPENDIX B - A LIST OF PLANT SPECIES OBSERVED DURING THE SURVEY" ... "Bulbine frutescens - Growth Form = Succulent Geophyte"
601	2003. South African National Biodiversity Institute. PlantzAfrica.com - Bulbine frutescens. http://www.plantzafrica.com/plantab/bulbinefrut.htm [Accessed 12 Jan 2014]	[Evidence of substantial reproductive failure in native habitat? No] "Bulbine frutescens occurs widespread throughout parts of Northern Cape, Western and Eastern Cape; however, it reaches its peak in the succulent-rich, dry valleys of Eastern Cape."
602	2000. Irish, M.. Gardening in the Desert: A Guide to Plant Selection & Care. University of Arizona Press, Tucson, AZ	[Produces viable seed? Yes] "Seeds explode all over the place, and I find little seedlings in the most interesting places - under the stairs, at the base of the redbud."

602	2003. South African National Biodiversity Institute. PlantzAfrica.com - Bulbine frutescens. http://www.plantzafrica.com/plantab/bulbinefrut.htm [Accessed 12 Jan 2014]	[Produces viable seed? Yes] "Propagation is from seed, cuttings or either division of clumps, and should be done in spring. Once the seedlings have four leaves and the cuttings have a well-formed root system, they can be transplanted."
602	2006. Harrison, M.. Groundcovers for the South. Pineapple Press Inc., Sarasota, FL	[Produces viable seed? Yes] "Bulbine self-sows freely, so unwanted seedlings might appear."
603	2014. WRA Specialist. Personal Communication.	[Hybridizes naturally? Unknown]
604	2008. Vaughton, G./Ramsey, M./Simpson, I.. Does selfing provide reproductive assurance in the perennial herb <i>Bulbine vagans</i> (Asphodelaceae)?. <i>Oikos</i> . 117(3): 390–398.	[Self-compatible or apomictic? Unknown for <i>Bulbine frutescens</i> . Other members of genus are self-compatible] "Here we investigate whether selfing provides reproductive assurance and whether inbreeding depression offsets any benefits in <i>Bulbine vagans</i> , a self compatible perennial herb."
605	2003. South African National Biodiversity Institute. PlantzAfrica.com - Bulbine frutescens. http://www.plantzafrica.com/plantab/bulbinefrut.htm [Accessed 12 Jan 2014]	[Requires specialist pollinators? No evidence] "The brightly coloured flowers attract bees. The plants are very variable in leaf length."
606	2006. Harrison, M.. Groundcovers for the South. Pineapple Press Inc., Sarasota, FL	[Reproduction by vegetative fragmentation? Possibly] "Starting new plants I easy - simply break off plantlets and pot them up until they are large enough to be planted in the garden. Division of clumps yields many new plants." [Suggests that natural spread by vegetative fragmentation may be possible]
606	2014. Bouquet Garni Nursery. Snake Flower - <i>Bulbine frutescens</i> . http://www.herb.co.za/herbal/bulbine.htm [Accessed 13 Jan 2014]	[Reproduction by vegetative fragmentation? Yes] "Propagation is very easy from seed or from the division of clumps. Any piece pulled off a clump with a bit of stem will root in no time at all."
606	2014. Monrovia. Orange Stalked Bulbine - <i>Bulbine frutescens</i> 'Orange'. http://www.monrovia.com/plant-catalog/plants/2918/orange-stalked-bulbine.php [Accessed 12 Jan 2014]	[Reproduction by vegetative fragmentation? Yes] "Spreads quickly by rhizomes to create wide spreading clumps."
607	2006. Nassau County Extension. Bulbine - <i>Bulbine frutescens</i> . http://nassau.ifas.ufl.edu/horticulture/demogarden/plants/bulbine.html [Accessed 14 Jan 2014]	[Minimum generative time (years) 1] "Division of clumps in spring yields many new plants. One gardener from Texas reports that she grows Bulbine in containers and divides it every 3-4 months, at which time it has filled her containers to capacity." [Able to reproduce vegetatively in under 1 year]
701	2014. WRA Specialist. Personal Communication.	[Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)? Unknown] Seeds adapted for wind dispersal, but small and maybe able to adhere to mud on vehicles, clothing, or shoes
702	2003. South African National Biodiversity Institute. PlantzAfrica.com - Bulbine frutescens. http://www.plantzafrica.com/plantab/bulbinefrut.htm [Accessed 12 Jan 2014]	[-Propagules dispersed intentionally by people? Yes] " <i>Bulbine frutescens</i> is often used in landscaping where a drought-resistant, tough groundcover is required. It also has its value in the home garden."
703	2006. Nassau County Extension. Bulbine - <i>Bulbine frutescens</i> . http://nassau.ifas.ufl.edu/horticulture/demogarden/plants/bulbine.html [Accessed 14 Jan 2014]	[Propagules likely to disperse as a produce contaminant? Unknown] "Bulbine self sows freely, so seedlings may appear around the mother plant." [No evidence, but possible that seeds could contaminate other potted plants if grown in proximity]
704	2003. South African National Biodiversity Institute. PlantzAfrica.com - Bulbine frutescens. http://www.plantzafrica.com/plantab/bulbinefrut.htm [Accessed 12 Jan 2014]	[Propagules adapted to wind dispersal? Yes] "The fruit is a small, rounded capsule and contains black seeds which are dispersed by wind (Ernst van Jaarsveld pers.comm.)."
705	2003. South African National Biodiversity Institute. PlantzAfrica.com - Bulbine frutescens. http://www.plantzafrica.com/plantab/bulbinefrut.htm [Accessed 12 Jan 2014]	[Propagules water dispersed? No] "The fruit is a small, rounded capsule and contains black seeds which are dispersed by wind" [Possible that seeds may be moved by water, but wind is the primary means of dispersal]
706	2003. South African National Biodiversity Institute. PlantzAfrica.com - Bulbine frutescens. http://www.plantzafrica.com/plantab/bulbinefrut.htm [Accessed 12 Jan 2014]	[Propagules bird dispersed? No] "The fruit is a small, rounded capsule and contains black seeds which are dispersed by wind (Ernst van Jaarsveld pers.comm.)."
707	2009. Weatherall-Thomas, C.R.. Seed Dynamics and Seedling Survival in Mainland Thicket of the Eastern Cape. MSc. Thesis. Nelson Mandela Metropolitan University, Port Elizabeth, South Africa	[Propagules dispersed by other animals (externally)? No evidence] "Appendix 3 Mean (n = 4) Frequencies, Growth form (G) and dispersal mechanism (D) of individuals per plant species (m-2) in the germinable seed bank underneath the canopy (C), at the edge (E) and in openings (O) of all sites" [<i>Bulbine frutescens</i> - A = autochory, W = anemochory]
708	2014. WRA Specialist. Personal Communication.	[Propagules survive passage through the gut? Unknown] Fruits capsular, and seeds wind-dispersed, so unlikely to be consumed by animals.

801	2003. Pienaar, K.. South African 'What Flower Is That?'. Struik Publishers, Cape Town, South Africa	[Prolific seed production (>1000/m2)? Unknown] "A vigorous spreading plant which seeds itself freely and can be grown easily from cuttings."
802	2008. Royal Botanic Gardens Kew. Seed Information Database (SID). Version 7.1. http://data.kew.org/sid/	[Evidence that a persistent propagule bank is formed (>1 yr)? Unknown] "Storage Behaviour: Orthodox"
802	2009. Weatherall-Thomas, C.R.. Seed Dynamics and Seedling Survival in Mainland Thicket of the Eastern Cape. MSc. Thesis. Nelson Mandela Metropolitan University, Port Elizabeth, South Africa	[Evidence that a persistent propagule bank is formed (>1 yr)? Present in seed bank, but persistence unknown] "Appendix 2 Species identified from the germinable seed bank of Mainland Thicket." [Includes <i>Bulbine frutescens</i>]
803	2014. WRA Specialist. Personal Communication.	[Well controlled by herbicides? Unknown] No information on herbicide efficacy or chemical control of this species
804	2014. Bouquet Garni Nursery. Snake Flower - <i>Bulbine frutescens</i> . http://www.herb.co.za/herbal/bulbine.htm [Accessed 13 Jan 2014]	[Tolerates, or benefits from, mutilation, cultivation, or fire? Possibly. Tolerates regular pruning] "It grows so easily that it can become untidy. So it needs regular pruning."
804	2014. Learn 2 Grow. <i>Bulbine frutescens</i> . http://www.learn2grow.com/plants/bulbine-frutescens/ [Accessed 15 Jan 2014]	[Tolerates, or benefits from, mutilation, cultivation, or fire? Unknown] "Bulbine is a tough, evergreen perennial native to South Africa. It is a low-growing plant, which spreads slowly by underground stems to form large clumps."
805	2014. WRA Specialist. Personal Communication.	[Effective natural enemies present locally (e.g. introduced biocontrol agents)? Unknown]

Summary of Risk Traits

High Risk / Undesirable Traits

- A potential weed (Listed as a “Quarantine Weed” under Western Australia’s state-wide quarantine system which means they are prohibited from entering the state)
- Related Bulbine species regarded as weeds
- Tolerates many soil types
- Spreads vegetatively and by wind-dispersed seeds
- Starts to spread vegetatively after 1 year
- A geophyte (may persist in soil if above ground vegetation is removed)
- Limited biological and ecological information outside native range makes accurate risk predication difficult

Low Risk Traits

- No reports of naturalization or invasiveness reported to date
- Medicinal and ornamental uses