Nomination to change the conservation class of a species under the Queensland *Nature Conservation Act* 1992

Complete this form to nominate a species for assessment of its conservation class under the *Nature Conservation Act 1992* (NC Act). Any subspecies, variety, race, hybrid, mutation or geographically separate population (hereafter 'species') can be nominated. The appropriate conservation class will be selected during an expert assessment process and, following approval processes, reflected in the next suitable update of the NC Act.

A species may be nominated to an appropriate conservation class from any other conservation class. The nomination assessment process may result in a species being recommended to the conservation class as nominated, or to a class better supported by scientific data and expert opinion. Assessments and nominations will be shared with the Commonwealth and other Australian jurisdictions within the species' distribution.

All plant and vertebrate species native to Queensland are protected under the NC Act and classified as Least Concern unless found eligible for a different conservation class. Invertebrate species are only protected under the NC Act if specifically named under a conservation class. A species can be nominated for listing or reassignment from any conservation class to:

A national threat category:

 Extinct (EX), Extinct in the Wild (EW), Critically Endangered (CR), Endangered (E) or Vulnerable (V) if it meets at least one of the International Union for Conservation of Nature (IUCN) criteria for species at risk of extinction

A state threat class:

- Near Threatened (NT) if the species meets at least one of the criteria for species at risk of becoming threatened in the future based on concerns relating to population dynamics or threats
- Least Concern (LC) if evidence is provided that no criteria for a higher class have been met, and the species won't become eligible for a higher class in the foreseeable future should conservation actions cease due to reclassification.

The assessment of species against the national threat categories reflected in this form complies with the <u>Memorandum of Understanding</u> for the Common Assessment Method (CAM) between the Commonwealth and Australian states and territories. The objective of the CAM is for partner jurisdictions to adopt each other's national assessments as appropriate. Information about the CAM can be found at <u>https://www.qld.gov.au/environment/plants-animals/wildlife-permits/common-assessment</u>.

To nominate a species with an Australian distribution that is not restricted to Queensland, use the nomination form and guidelines at

http://www.environment.gov.au/biodiversity/threatened/nominations/forms-and-guidelines_and email the completed form to the Australian Government at <u>EPBC.nominations@environment.gov.au</u>.



Important notes for completing this form

- To enable a species eligibility for listing to be assessed against the criteria, please complete the form as comprehensively as possible by providing a response in each box with an orange border.
- Completing a nomination is a demanding task. Nominators are encouraged to seek advice from experts where appropriate to assist in completing the nomination form.
- The opinion of scientific experts may be cited as <u>personal communication</u> with their approval. Please provide the experts names, qualifications and contact details (including employment in a government agency if relevant) in the reference list at the end of the form.
- Include any available information and analysis or state when the required information is not available.
- Figures, tables and maps can be included at the end of the form or provided as separate electronic files or hardcopy documents (referenced as appendices or attachments in your nomination).
- Cross-reference relevant areas of the nomination form where needed.
- **Reference all information sources**, both in the text and in a reference list at the end of the form.
- Identify confidential material and the reason it is sensitive. With the exception of information you have identified as confidential, nominations under the CAM process may be made available by a state, territory or the Commonwealth Government to experts or the public for comment.
- If the species is listed nationally, the Australian Government will publish nomination information on its website. Your details as nominator will not be released and will be treated as confidential information.
- Guidance on interpreting this nomination form can be found in the "*Guidelines for Assessing the Conservation Status of Native Species*" developed by the Australian Government under the EPBC Act here

<u>http://www.environment.gov.au/biodiversity/threatened/nominations/forms-and-guidelines</u>. Although not fully relevant under the NC Act, the guidelines provide assistance on several aspects of this form. Please email <u>SpeciesTechnical.Committee@des.gld.gov</u> for further advice on completing the nomination.

Further information on selected questions

INTRODUCTION

Species native to Queensland may be nominated to any conservation class under the NC Act, including to transfer between classes. If the taxon at risk is a population or hybrid, or if you wish to know if it has been unsuccessfully nominated under the NC Act in the past, please contact the Queensland Department of Environment and Science for advice at SpeciesTechnical.committee@des.qld.gov.au.

To search for a species' conservation class under the NC Act please refer to the *Nature Conservation (Wildlife) Regulation 2006*: <u>https://www.legislation.qld.gov.au/view/html/inforce/current/sl-2006-0206</u>.

You can also search the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) list of threatened species in the Species Profile and Threats Database (SPRAT) at <u>www.environment.gov.au/cgi-bin/sprat/public/sprat.pl</u>.

The full lists of threatened fauna and flora under the EPBC Act are available here: www.environment.gov.au/cgi-bin/sprat/public/publicthreatenedlist.pl?wanted=flora.

You can find a list of nominated species that did not meet the assessment criteria for listing under the EPBC Act at www.environment.gov.au/biodiversity/threatened/unsuccessful-species.html.

A nomination to transfer a species from a threatened conservation class to Least Concern or Near Threatened under the NC Act need not address sections marked with an asterisk (*).

SCIENTIFIC AND COMMON NAMES OF NOMINATED SPECIES

• Provide the currently accepted scientific and common name(s) for the species (including Indigenous names, where known). Note any other scientific names that have been used recently such as superseded names.

TAXONOMY

- Record the species' authority and the taxonomic group to which it belongs (Family name is sufficient for plants; both Order and Family name are required for fauna).
- Is the species known to hybridise with other species? Describe any cross-breeding with other species in the wild, indicating where and how frequently this occurs.

DISTRIBUTION

- In accordance with the CAM, the Commonwealth is the default assessment 'lead' for species occurring across multiple Australian jurisdictions, and the nomination will be subject to the prioritisation and assessment process under the EPBC Act. Download the nomination form here http://www.environment.gov.au/system/files/pages/d72dfd1a-f0d8-4699-8d43-5d95bbb02428/files/nomination-form-species.pdf, and email it to epbc.nomination@environment.gov.au. Further information on the EPBC Act nomination, prioritisation and assessment process is available at http://www.environment.gov.au/biodiversity/threatened/nominations. Further information on the EPBC Act nomination, prioritisation and assessment process is available at http://www.environment.gov.au/biodiversity/threatened/nominations. Note: where the relevant jurisdictions agree, a State or Territory (rather than the Commonwealth) may take the lead on assessing a cross-jurisdictional species, in consultation with the Commonwealth and other jurisdictions.
- A nomination for a species endemic to Queensland or with its only Australian distribution in Queensland, for example a species only occurring in Queensland and Papua New Guinea, can be assessed under the NC Act. Please submit your completed nomination form to <u>SpeciesTechnical.Committee@des.gld.gov.au</u>.
- Describe the species' current geographic distribution within Queensland, and where applicable, outside Australia.
- Provide a map, if available, indicating latitude, longitude, map datum and location names
 - Indicate the percentage of the global population that occurs in Queensland, and what is its significance?
 - Is the Queensland population distinct, geographically isolated, or does part or all of the population migrate into/out of the Queensland jurisdiction?
 - Explain the relationship between the Queensland population and the global population.
 - Do global threats affect the Queensland population?
- Give locations of other existing or proposed populations such as populations that are captive, propagated, naturalised outside their range, recently re-introduced to the wild, and planned to be re-introduced. Note if these sites have been identified in recovery plans. Provide latitude, longitude, map datum and location name, where available, in an attached table.
- Give details of fauna species' home ranges/territories including any relevant daily and seasonal or irregular movement patterns, such as arrival/departure dates if migratory.
- Does the species occur within an EPBC Act listed ecological community? You will find a list of EPBC Act listed ecological communities here: www.environment.gov.au/cgi-bin/sprat/public/publiclookupcommunities.pl.

BIOLOGY/ECOLOGY

- Life cycle: Provide detail on the age at sexual maturity, average life expectancy, natural mortality rates, and generation length
 - "Generation length" is defined as the average age of parents of the current cohort (i.e. newborn individuals in the population), and reflects the turnover rate of breeding individuals in a population. Generation length is greater than the age at first breeding and less than the age of the oldest breeding individual, except in species that breed only once. Where generation length varies under threat, use the more natural pre-disturbance generation length. It is often calculated as = (longevity + age at maturity)/2. Provide details of the method(s) used to calculate the generation length.
- Reproduction: Provide detail on the reproductive requirements of this species.
 - Flora: When does the species flower and set fruit? What conditions are needed for this? What are the
 pollinating and seed dispersal mechanisms? If the species reproduces vegetatively, describe when, how
 and what conditions are needed. Does the species require a disturbance regime (e.g. fire, cleared
 ground) to reproduce?
 - Fauna: provide an overview of the species' breeding system and breeding success, including: when it breeds; what conditions are needed for breeding; whether there are any breeding behaviours that may make it vulnerable to a threatening process.
- Habitat
 - Provide information on aspect, topography, substrate, climate, forest type, associated species, sympatric species and anything else that is relevant to the species' habitat.
 - Explain how habitats are used (e.g. breeding, feeding, roosting, dispersing, basking, etc.).
 - Does the species use refuge habitat (e.g. in times of fire, drought or flood)? Describe this habitat.
- Feeding (fauna):

- Summarise the feeding behaviours, diet, and the timing/seasonality associated with these. Include any behaviour that may make the species vulnerable to a threatening process.
- Movement (fauna): provide information on daily and seasonal movement patterns.

IDENTIFICATION OF KNOWN THREATS AND IMPACTS OF THE THREATS

- For each threat, describe:
 - a. whether it is actual or potential
 - b. how and where it impacts on this species
 - c. what its effect has been so far (is the threat known or suspected?, does it only affect certain populations?) Present supporting information/research).
 - d. its expected effect in the future (is the threat known or suspected?, does it only affect certain populations?, is there supporting research/information?) Present supporting information/research).
 - e. its relative importance or the magnitude of the impact on the species.
- Identify and explain any additional biological characteristics particular to the species that are threatening to its survival (e.g. low genetic diversity).
- If subject to natural catastrophic events, i.e. events with a low predictability that are likely to severely affect the species, identify the type of event, its likely impact, and its likelihood of occurrence (e.g. a drought/cyclone in the area every 100 years). If climate change is an important threat to the species, provide referenced information on how climate change might significantly increase the species' vulnerability to extinction. Please refer to the *Guidelines for Assessing the Conservation Status of Native Species*:
 http://www.environment.gov.au/system/files/pages/d72dfd1a-f0d8-4699-8d43-5d95bbb02428/files/tssc-guidelines-assessing-species-2018.pdf.

***CONSERVATION ADVICE: THREAT ABATEMENT AND RECOVERY ACTIONS**

- Describe how threats are or could be abated and/or species recovered.
- Identify who is undertaking these activities and how successful the activities have been to date.
- Describe any mitigation measures or approaches that have been developed specifically for the species at identified locations. Identify who is undertaking these activities and how successful the activities have been to date.
- For species nominated as Extinct in the Wild, provide location details for any naturalised or captive populations and the level of human intervention required to sustain the species.

IMPACT OF TRANSFERRING A THREATENED SPECIES TO NEAR THREATENED OR LEAST CONCERN

- Only complete this section if you are nominating a species for transfer to Near Threatened or Least Concern from a class of nationally threatened wildlife (Extinct, Extinct in the Wild, Critically Endangered, Endangered or Vulnerable).
- Provide details of the expected impact on the species if conservation actions ceased following its transfer out of a threatened wildlife class.

CURRENT LISTING CLASS AND CATEGORY

- Note: The term 'class' under the NC Act is equivalent to the term 'category' under the EPBC Act.
- Select the species' current class under the NC Act where applicable. Search the species' NC Act class here: <u>https://www.legislation.qld.gov.au/view/html/inforce/current/sl-2006-0206</u>.
- Select the species' current category under the EPBC Act where applicable. Search the Australian Government SPRAT Database here: <u>www.environment.gov.au/cgi-bin/sprat/public/sprat.pl</u>.

NOMINATED LISTING CLASS

• After completing the section 'Eligibility against the criteria' sufficient evidence should be available to determine your response to this section. Please select the NC Act class to which the species is being nominated.

REASONS FOR A NOMINATION TO TRANSFER TO ANOTHER CLASS

Please describe why the species is being nominated to transfer to another conservation class in Queensland:

- *Genuine.* The change in class is the result of a genuine status change that has taken place since the previous assessment. For example, the change is due to an increase in the rate of decline, a decrease in population or range size or habitat, or declines in these for the first time (owing to increasing/new threats).
- *Knowledge.* The change in class is the result of new knowledge, e.g. owing to new or newly synthesised information about the status of the taxon (e.g. better estimates for population size, range size or rate of decline).
- *Taxonomy.* The change in class is due to a taxonomic change adopted during the period since the previous assessment. Such changes include:

- *newly split* (the taxon is newly elevated to species level)
- newly described (the taxon is newly described as a species)
- *newly lumped* (the taxon is recognised following lumping of two previously recognised taxa)
- *no longer valid/recognised* (either the taxon is no longer valid, e.g. because it is now considered to be a hybrid, variant form or subspecies of another species, or the previously recognised taxon differs from a currently recognised one as a result of a split or lump).
- Mistake. The previous class was applied in error.
- Other. The change in class is the result of other reasons not easily covered by the above, and/or requires further explanation. Examples include change in assessor's attitude to risk and uncertainty.

INITIAL LISTING

- The reasons for the initial NC Act listing may be available in the original nomination for the species. This can be
 obtained by emailing the Department of Environment and Science's Species Technical Committee at
 <u>SpeciesTechnical.Committee@des.qld.gov.au</u>.
- The reasons for EPBC Act listing may also be available. Search for the species' EPBC Act listing and conservation advice for threatened species in the SPRAT Database <u>www.environment.gov.au/cgibin/sprat/public/sprat.pl</u>.
- If there is insufficient information to provide details of the reasons for the original listing, please state this.

CHANGES IN SITUATION LEADING TO THE NOMINATION TO TRANSFER TO ANOTHER CLASS

• Describe the changes that have occurred or are likely to occur to the species' population, range or habitat that influence the nomination to change the species' conservation class.

ELIGIBILITY AGAINST CRITERIA

- For a species to be eligible as Near Threatened or a class of threatened wildlife, it must be assessed as meeting **at least one** of the five 'criteria' on this nomination form. For example, for a species listed as Vulnerable to be transferred to the Endangered class, it must meet the threshold/s for at least one of the five criteria for Endangered.
- A species does not have to be found eligible for the same class under all criteria; however, all questions must be answered. If information is not available for a particular criterion, a statement to this effect is required.
- If you hold unpublished data that support assessment of a criterion, you must provide them with the nomination.
- Standards for assessing a species' conservation status in Australia align with the IUCN Red List Criteria and Categories. Please refer to the IUCN guidelines for explanations of how to address the criteria <u>http://s3.amazonaws.com/iucnredlist-newcms/staging/public/attachments/3151/redlistguidelines.pdf</u>.

DECLARATION

In signing this nomination form, you agree to grant the Queensland Government (as represented by the Department of Environment and Science) a perpetual, non-exclusive, worldwide, royalty-free licence to use, reproduce, publish, communicate and distribute information that you have provided in the nomination form that is not referenced to other sources with the exception of information specifically identified by you as confidential, in websites and publications and to promote those websites and publications in any medium.

As nominator, your details are automatically subject to the provisions of the *Privacy Act 1988* and will not be divulged to third parties. The Commonwealth, State and Territory governments have agreed to collaborate on national threatened species assessments using the CAM. As part of this collaboration, your nomination, including your details as nominator, may be provided to other government jurisdictions, who will also observe these privacy and confidentiality arrangements.

If you subsequently agree to be cited as the author of specific, cited information, you will be acknowledged in all publications and websites in which that information appears, in a manner consistent with the *Style Manual for Authors, Editors and Printers* (latest edition).

Nomination form to change the conservation class of a species in Queensland

Details of the nominated species

SCIENTIFIC NAME OF SPECIES (SUBSPECIES, VARIETY, ETC. TO BE SPECIFIED WHERE RELEVANT)

Decaspermum struckoilicum N. Snow & Guymer

COMMON NAME(S)

Struck Oil myrtle

TAXONOMY

Provide any relevant detail on the species' taxonomy (e.g. authors of taxon or naming authority, year and reference; synonyms; Family and Order).

Myrtales: Myrtaceae

Snow, N., and Guymer, G. (2001). A New and Endangered Species of Decaspermum (Myrtaceae) from East-Central Queensland. *Novon* **11**(4), 475-478.

*CONVENTIONAL ACCEPTANCE OF TAXONOMY

Is the species' taxonomy conventionally accepted?

Χ	Y	es

□No

If the species is not conventionally accepted, please provide the following information:

• a taxonomic description of the species in a form suitable for publication in conventional scientific literature

OR

evidence that a scientific institution has a specimen of the species, and a written statement signed by a
person who is a taxonomist and has relevant expertise (has worked with, or is a published author on, the
group of species nominated) that the species is considered to be a new species.

Click or tap here to enter text.

*DESCRIPTION

Provide a description of the species. Include where relevant its distinguishing features, size and social structure.

How distinct is this species in its appearance from other species? How likely is it to be misidentified?

Short description

Erect, multi-stemmed shrub or small tree to 4 m with smooth to flaky, grey-brown bark (Snow and Guymer 2001). Leaves discolorous, opposite, elliptic, pinnately-nerved 18-55 mm long, 10-35 mm wide, with an acute apex and prominent oil glands. Terminal or axillary inflorescence of yellow-white flowers. Fruit is a soft, subglobose to globose berry, to 7.5 mm long and 8.5 mm wide, that is dark blue-black when mature. Each fruit contains up to 8 seeds that are flattened, dark-brown and 2.2-3.7 mm long.

Full description (as in Snow and Guymer 2001):

"Erect multi-stemmed shrubs or small trees, up to 4 m tall. Bark smooth to somewhat flaky, gray or brown. Branchlets of current year round, gray to reddish brown, smooth, sparsely short sericeous; oil glands indistinct, sparse to common. Leaves discolorous, matte or slightly glossy above, matte below, decussate, opposite, evenly distributed along branches, coriaceous. Leaf axils bearing 2 to several setose, ferrugineous hairs. Petioles glabrous to sparsely sericeous, 1.5-4.5 mm long, glandular when young and becoming somewhat rugulose with age, olive-green to reddish, smooth to channeled above. Leaves elliptic, pinnately nerved, 18-55 x 10-35 mm, base cuneate, apex acute, uppermost tip pointed to mucronate, margins flat; upper sur- face glabrous, oil glands prominent, visible without magnification or requiring 10x magnification, dense, midvein flush; lower surface glabrous, oil glands prominent without magnification, dense, midrib slightly raised, lateral veins not visible or indistinct, intramarginal veins tinct, up to 1.2 mm from margin. minal or axillary, solitary or paired, ryoid or metabotryoid sensu 1979), anthopodia occasionally subtending each flower rigid, sparsely sericeous. Bracteoles 2, triangular, 1.0-1.4 mm long, 0.3-cending to erect, shorter than sparsely sericeous, soon deciduous panthium cupulate, smooth, sparsely sericeous (particularly at base), tube not extending beyond ovary apex, oil glands common to dense. Calyx lobes 4 or 5 (sometimes both on a single plant), fused proximally beyond ovary, separate in bud, mostly greenish or somewhat petaloid on margins, broadly ovate to rounded, apex obtuse, free portions of lobes 1.2-1.5 mm long, glabrous to sparsley ciliate, glabrous below, persistent in fruit, erect. Petals 4 or 5, yellowish white, widely ovate to oblate, 3.0-3.5 X 2.5-3.5 mm, glabrous to minutely ciliate, glabrous below, oil glands common. Stamens 16 to 25, in 1 to 3 whorls, included, filaments up to 3.5 mm long; staminal disk glabrous; ovary apex glabrous; anthers subglobose, dorsifixed, versatile, 0.5-0.8 mm long, dehiscing via longitudinal slits, eglandular. Style 2.5-3.5 mm long, glabrous; stigma terete to slightly capitate by virtue of subapical constriction of style. Fruit a soft berry, subglobose to globose, base rounded, up to 7.5 mm long and 8.5 mm wide, glabrous, dark bluish black at maturity. Ovaries 3- to 4-locular; placenta capitate, axile; ovules usually 3(2) per placenta, in 1 horizontal row, the seeds of each locule becoming surrounded by an encapsulating membrane in mature fruit (Snow, 1999, 2000); seeds up to 8 in mature fruit, rounded to somewhat reniform, flattened, dark brown, 2.2-3.7 mm long, adjacent seeds weakly fused, long (embryonic) axis oriented vertically, outer testa hard, bony; cells of testa relatively large and irregularly elliptic. Embryo slightly curved, oil glands absent, starchy, endosperm absent, hypocotyl relatively thin and not swollen at tip and held on same plane as cotyledons, cotyledons straight, shorter than hypocotyl, folded backward sharply toward hypocotyl".

Decaspermum is a genus of ~30 species, with only two occurring in Australia. *Decaspermum struckoilicum* is distinguished from *D. humile* by its narrower and more acute leaves, shorter petioles and unlobed mature fruits. *Decaspermum struckoilicum* also lacks the 'vertical false septum' that defines the genus (Snow and Guymer 2001).

DISTRIBUTION

Provide a succinct overview of the species' known or estimated current and past distribution, including international/national distribution. Provide a map if available.

Is the species' habitat protected within the reserve system (e.g. national parks, Indigenous Protected Areas, or other conservation estates, private land covenants, etc.)? If so, which populations? Which reserves are actively managed for this species? To your knowledge, which reserves are being actively managed in way that provides incidental benefits for this species? Give details.

Decaspermum struckoilicum is known from a very restricted range near Struck Oil, approximately 8 km east of Mt Morgan in the Brigalow Belt North bioregion of Queensland (Department of Environment 2012). The Extent of occurrence (EOO) and Area of occupancy (AOO) are calculated as 4 km² using unpublished survey data (I. Herbert, 2020) and a 2 km x 2 km grid cell method (Figure 1; IUCN 2019).

Decaspermum struckoilicum is currently known from a single subpopulation of 41 mature individuals (I. Herbert, pers. comm. 2020). Although population trends are poorly understood, the species may have undergone decline in the broader landscape due to land clearing associated with agriculture, mining and residential development. Future declines are predicted due to ongoing threats. The species has not been located in surrounding habitat despite extensive searches through similar habitat (I. Herbert and N. Hoy, pers. comm. 2020).

Decaspermum struckoilicum occurs in regional ecosystems mapped as 11.3.26, 11.11.3 and 11.11.5 (Queensland Government 2019). The species partially occurs in Bouldercombe Gorge Resources Reserve (Figure 2) in vegetation mapped as 'remnant'. The remaining individuals occur on freehold tenure in both 'remnant' and 'non-remnant' vegetation (Figure 2). There are two mineral exploration permits over the population. The species does not occur in any conservation estate.



Figure 1. The current distribution of *Decaspermum struckoilicum* is calculated as 4 km² (AOO and EOO) using GeoCat (Bachman et al. 2011). Note the AOO is auto-calculated as 8 km², but adjusted to 4 km² as the smallest estimate across the grid layer.



Figure 2. *Decaspermum struckoilicum* predominantly occurs in areas of vegetation mapped as 'remnant' and adjacent to areas mapped as 'non-remnant'. Some records occur on land that has been cleared in the past.

BIOLOGY/ECOLOGY

Provide a summary of biological and ecological information.

Include information on:

- life cycle including age at sexual maturity, life expectancy and natural mortality rates
- specific biological characteristics
- the species' habitat requirements
- for fauna: feeding behaviour and food preference and daily/seasonal movement patterns
- for flora: pollination and seed dispersal patterns

Decaspermum struckoilicum occurs in semi-evergreen vine thickets on reddish-brown soils, often in disturbed areas at elevations below 300 m (Snow and Guymer 2001). The species occurs in regional ecosystems mapped as 11.11.5 (Microphyll vineforest on old sedimentary rocks with varying degrees of metamophism), 11.11.3 (*Corymbia citriodora, Eucalyptus crebra, E. acmenoides* open forest on old sedimentary rocks with varying degrees of metamophism) and 11.3.26 (*Eucalyptus moluccana* or *E. macrocarpa* to open forest on margins of alluvial plains) (Queensland Government 2019).

Little is known of the ecology of *D. struckoilicum*. The species grows within a fire-sensitive vegetation tpe (semi-evergreen vinethickets). While other species in the genus can re-sprout after disturbance such as small fires, the capacity of *D. struckoilicum* to recover after fire has not been documented. It is known to re-sprout after fires, however its capacity to persist with repeated wildfires with recurrent burn incursion is thought to be unlikely. This is because semi-evergreen vinethickets are fire-sensitive (Fensham 1995). Flowering has been observed in summer and mature fruit in February (Queensland Herbarium 2020). Despite the heavy crops of seed produced, limited recruitment has been observed (N. Hoy, pers. comm. 2020). The reasons for this are not well-understood and require further study. The *Decaspermum* genus has soft berry-like fruits (Snow and Guymer 2001) that are presumably dispersed by frugivores, especially birds.

Threats

IDENTIFICATION OF KNOWN THREATS AND IMPACT OF THE THREATS

Identify any known threats to the species in the table below. Describe **past, current or future** threats, whether the threats are **actual or potential**, and the **type and level of impact** you believe each threat is having on the species.

Past threats	Impact of threat
Land clearing (pre- Vegetation Management Act 1999)	Land clearing has highly likely resulted in the decline and fragmentation of available habitat for the species. Small-scale agriculture has been the dominant driver of land clearing within the distribution of the species as the species occurs on fertile soils (N. Hoy, pers. comm. 2020).
	Land clearing for mining and residential development has also occurred at a small scale (N. Hoy, pers. comm. 2020), as part of the population occurs in vegetation that has been mapped as 'non-remnant' (Figure 2).
Mining activities	<i>Decaspermum struckoilicum</i> occurs in an area where mineral exploration permits (other than coal) have presided since at least the 1960s (Queensland Government 2020). It is probable that individuals have been directly lost or habitat degraded due to past mining activities (N Hoy, pers. comm. 2020).
Accidental/incidental destruction	A firebreak was constructed in 2009 within 2 m of <i>D. struckoilicum</i> individuals (I. Herbert, pers. comm. 2020). The individuals were not known to the construction team and fortunately remained undamaged (I. Herbert, pers. comm. 2020).
Current threats	Impact of threat
Inappropriate fire regimes	Decaspermum struckoilicum occurs in patches of fire-sensitive vinethicket within a broader landscape of flammable sclerophyll forests. It tends to occur on up-slopes and ridgetops that are particularly vulnerable to fire as it travels through the landscape (N. Hoy, pers. comm. 2020). There is an increasing shift to uncontrolled, hot fires in the vicinity of the population that are exacerbated by invasive weeds (N. Hoy, pers. comm. 2020). For example, wildfires at The Caves in November 2018 burnt through semi-evergreen vine thicket that is not known to have burnt in recent history (N. Hoy, pers. comm. 2020). Repeated, hot wildfires are likely to kill mature indiviudals, and limit the capacity of the species, and other species within the ecosystem in which it grows, to recover post-fire.
	increases competition within the ecosystem (with impacts such as limiting

	recruitment), and further increases the flammability of the ecosystem and thus susceptibility to future fires.
	As re-sprouting or regenerating foliage is particularly susceptible to myrtle rust, this threat may interact to further threaten the species.
Land-clearing post VMA	The largest number of individuals (80%) occur on freehold tenure. Most occur in areas mapped as 'remnant' vegetation, which is afforded certain protections under the VM Act 1999. However, clearing can still occur in some circumstances such as for urban development, agriculture or mining and associated activities. Some mature individuals occur in an adjacent area which is mapped as 'non-remnant' vegetation and thus are not protected under the VM Act.
	Regardless of legislation to regulate land clearing, the species is vulnerable to illegal clearing.
Invasive weeds	Weed invasion by lantana (<i>Lantana camara</i>), guinea grass (<i>Megathyrsus maximus</i>) and rubber vine (<i>Cryptostegia grandiflora</i>) increase competition and alter fuel loads and thus fire regimes. Dry rainforest thickets that are invaded by lantana and invasive grasses are particularly vulnerable to burn incursion (Fensham 1995).
Introduced pathogens Unknown	Decaspermum struckoilicum is a confirmed host of the introduced pathogen myrtle rust <i>Austropuccinia psidii</i> , which causes dieback of new shoots and can infect flowers and fruit, thus limiting regeneration and recruitment (Pegg et al. 2014). The severity of this threat to <i>D. struckoilicum</i> is not well-understood. Both metapopulations of <i>D. humile</i> (which are probably separate species, G. Guymer, pers. comm. 2019) are myrtle rust hosts, although the southern population has a substantially higher infection rate (Makinson 2018). One specimen of <i>D. struckoilicum</i> in cultivation had relatively minimal infection while a co-occurring individual of <i>Eugenia reinwardtiana</i> was severely infected (N. Hoy, pers. comm. 2020). There are similar reports of <i>D. struckoilicum</i> in cultivated settings with minimal or no myrtle rust (T. Collingwood, pers. comm. 2020). The susceptibility of the wild population of <i>D. struckoilicum</i> to myrtle rust and associated impacts are yet to be documented via direct survey or monitoring. In addition, <i>Decaspermum struckoilicum</i> may occur outside the climatic envelope
	that is currently suitable for severe myrtle rust infection (Kriticos et al. 2013), although this may change in the future.
Small population – genetic effects	Given the small population size, <i>D. struckoilicum</i> is vulnerable to genetic effects such as inbreeding depression.
Grazing (domestic stock)	Domestic stock grazing occurs within the habitat of <i>D. struckoilicum</i> . Domestic stock are thought to have killed a number of young seedlings via trampling or browsing, thereby limiting natural regeneration (I. Herbert, pers. comm. 2020). Domestic stock may also contribute to the spread of invasive weeds. At the same time, grazing has been suggested as a management strategy to reduce the fuel loads of invasive weeds and thus the threat of wildfires (N. Hoy, pers. comm. 2020).
Mining activities	Decaspermum struckoilicum occurs in an area where mineral exploration permits (other than coal) have presided since at least the 1960s (Queensland Government 2020). There are two mineral exploration permits that cover the distribution of the species currently.
Future threats – actual	Impact of threat
Small population - Stochastic events	Given the very small population size and restricted range, <i>D. struckoilicum</i> is vulnerable to stochastic events such as unprecedented/repeated wildfire or prolonged drought.
Climate change	Climate change is projected to cause an increase in frequency of prolonged droughts and extreme fire weather in the region where <i>D. struckoilicum</i> occurs. Given the species grows within a fire-sensitive ecosystem (Fensham 1995), this renders the species vulnerable to declines associated with burn incursion, and repeated wildfires. As re-sprouting or regenerating foliage (after fire) is particularly susceptible to
	myrtle rust, this threat may interact to cause population declines. <i>Decaspermum struckoilicum</i> may also occur outside the climatic envelope that is currently

suitable for severe myrtle rust infection. Future climate change may increase the infection levels of the species in the wild.

***CONSERVATION ADVICE: THREAT ABATEMENT AND RECOVERY ACTIONS**

Give an overview of recovery and threat abatement/mitigation actions that are underway, have been formally proposed or that you would like to recommend. Address all threats listed or state threats that lack conservation advice.

Current threats	Abatement or recovery action underway
Inappropriate fire regimes	No recovery actions currently address this threat.
Land clearing (post-VMA)	The mature individuals of <i>D. struckoilicum</i> on freehold tenure are partially protected in 'remnant' vegetation that is afforded some protections under the VM Act 1999. However, no targeted recovery actions currently address this threat for the species.
Incidental/accidental destruction	No recovery actions currently address this threat.
Invasive weeds	No recovery actions currently address this threat.
Grazing (domestic stock)	The majority of individuals occur in vegetation mapped as 'remnant' that is afforded certain protections under the VM Act 1999.
Introduced pathogens	The susceptibility of the species to myrtle rust infection has been confirmed through observation of individuals in <i>ex situ</i> collections. These initial observations are included in the national myrtle rust database (Threatened Species Recovery Hub, unpublished data).
Small population – genetic effects	The majority of individuals occur in vegetation mapped as 'remnant' that is afforded certain protections under the VM Act 1999.
Mining activities	The majority of individuals occur in vegetation mapped as 'remnant' that is afforded certain protections under the VM Act 1999.
	Abatement or recovery action proposed
Inappropriate fire regimes	Research the species' fire ecology and optimum of the species' inter-fire-interval range.
	Determine appropriate fire management plan to exclude fire from the habitat of <i>D. struckoilicum.</i> This may include hazard reduction burning in neighbouring sclerophyll remnants prior to severe fire conditions.
	Control invasive weeds (especially lantana) within the habitat of <i>D. struckoilicum</i> to reduce the hazard of wildfire spread and allow regeneration following burns.
	In some locations, controlled grazing has been effective in reducing the fire threat from tall grasses (N. Hoy, pers. comm. 2020). Investigate the feasibility of using controlled grazing to manage fire threats.
Land clearing (post-VMA)	Protect populations of <i>D. struckoilicum</i> on freehold properties under appropriate conservation agreements such as a nature reserve or acquire land as National Park. Gazette Bouldercombe Resources Reserve as a National Park (conservation purposes) as a matter of urgency.
	Engage with relevant stakeholders (landholders, rangers, fire brigade) in the local area to raise awareness of the species. In particular, ensure that these stakeholders know the location of the species to prevent accidental destruction.
Incidental/accidental destruction	Engage with relevant stakeholders (landholders, rangers) in the local area to raise awareness of the species. In particular, ensure that these stakeholders know the location of the species to prevent accidental destruction.
	Install and maintain interpretive signage advising landholders/users of the species' presence and the significance of its conservation.
	Ensure the location of any future firebreaks is planned in advance and allows a sufficient buffer to avoid direct losses of <i>D. struckoilicum</i> and indirect habitat degradation (e.g. edge effects).
Invasive weeds	Control invasive weeds, especially lantana, guinea grass and rubber vine within the immediate vicinity of individuals to reduce competition.
	Control invasive weeds within the habitat of the population to reduce competition and the possibility of wildfire spread (Fensham 1995).

	In some locations, controlled grazing has been effective in reducing the fire threat from tall invasive grasses (N. Hoy, pers. comm. 2020). Investigate the feasibility of using controlled grazing to manage fire threats while considering the potential negative effects on seedling survival due to trampling/browsing.
Grazing (domestic stock)	Minimise grazing pressure by reducing stocking rates or installing and maintaining appropriate fencing to exclude domestic stock from the immediate habitat of the species, especially after recruitment events.
	In some locations, controlled grazing has been effective in reducing the fire threat from tall invasive grasses (N. Hoy, pers. comm. 2020). Investigate the feasibility of using controlled grazing to manage fire threats while considering the potential negative effects on seedling survival due to trampling/browsing.
Introduced pathogens	Conduct comprehensive monitoring surveys to determine the impact of myrtle rust on the wild population including mature individuals and recruitment levels.
	Establish an <i>ex situ</i> collection of <i>D. struckoilicum</i> representing the maximum range of genetic diversity possible. Collect and propagate cuttings from all known wild individuals. Protect <i>ex situ</i> collection from myrtle rust infection with fungicide (if necessary), with view to collect and propagate seed to expand the <i>ex situ</i> collection.
	If necessary, investigate feasibility of establishing genetically representative translocated populations of <i>D. struckoilicum</i> in location(s) outside the climatic envelope of myrtle rust, or to a location where the impacts of myrtle rust are less severe.
Small population – genetic effects	Protect populations of <i>D. struckoilicum</i> on freehold properties under appropriate conservation agreements such as a nature reserve or acquire land as National Park. Gazette Bouldercombe Resources Reserve as a National Park (conservation purposes) as a matter of urgency.
	Conduct further targeted surveys in attempts to locate additional populations.
	Regularly monitor population to determine response to recovery actions and threats.
	Undertake research to better understand the conservation biology (genetic diversity) and ecology (fire ecology, pollination, habitat requirements, germination requirements, recruitment rates) of the species to inform targeted conservation actions.
	Establish <i>ex situ</i> collection of <i>D. struckoilicum</i> representing maximum range of genetic diversity possible. Collect and propagate cuttings from all known wild individuals. Protect <i>ex situ</i> collection from myrtle rust infection with fungicide (if necessary), with view to collect and propagate seed to expand the <i>ex situ</i> collection.
Mining activities	Protect populations of <i>D. struckoilicum</i> on freehold properties under appropriate conservation agreements such as a nature reserve or acquire land as National Park. Gazette Bouldercombe Resources Reserve as a National Park (conservation purposes) as a matter of urgency.
	Engage with relevant mining entities if required to the species is not accidentally destroyed.
Future threats –	Abatement or recovery action underway
Climate change	No recovery actions currently address this threat.
Small population – stochastic events	No recovery actions currently address this threat.
	Abatement or recovery action proposed
Climate change	Conduct further targeted surveys in attempts to locate additional subpopulations.
-	Undertake research to better understand the species biology and ecology including life cycle processes (gerimation and seedling establishment), fire ecology, response to drought, pollination and conservation genetics.

Regularly monitor population to determine response to recovery actions and threat,s especially myrtle rust, the frequency and severity of droughts and wildfire.
Establish <i>ex situ</i> collection of <i>D. struckoilicum</i> representing maximum range of genetic diversity possible. Collect and propagate cuttings from all known wild individuals. Protect <i>ex situ</i> collection from myrtle rust infection with fungicide (if necessary), with view to collect and propagate seed to expand the <i>ex situ</i> collection.
Conduct further targeted surveys in attempts to locate additional subpopulations.
Regularly monitor population to determine response to recovery actions and threats especially myrtle rust and wildfire.
Undertake research to better understand the conservation biology (genetic diversity) and ecology (fire ecology, pollination, habitat requirements, germination requirements, recruitment rates) of the species to inform targeted conservation actions.
Establish <i>ex situ</i> collection of <i>D. struckoilicum</i> representing maximum range of genetic diversity possible. Collect and propagate cuttings from all known wild individuals. Protect <i>ex situ</i> collection from myrtle rust infection with fungicide (if necessary), with view to collect and propagate seed to expand the <i>ex situ</i> collection.

Listing class/category

CURRENT LISTING CLASS/CATEGORY

[Please mark the boxes that apply by double clicking them with your mouse.]

In what class is the species currently listed under the NC Act?

□Extinct	\Box Extinct in the Wild	□Critically Endangered	⊠Endangered
□Vulnerable	□Near Threatened	□Least Concern	□Not listed

In what category is the species currently listed under the EPBC Act?

□Vulnerable	□Conservation Dependent		□Not listed
	□Extinct in the Wild	□Critically Endangered	⊠Endangered

NOMINATED LISTING CLASS

To what class under the NC Act is the species being nominated?

□Extinct	\Box Extinct in the Wild	⊠Critically Endangered	□Endangered
□Vulnerable	□Near Threatened	□Least Concern	□Not listed

Nominating a species to transfer to another class

REASON FOR A NOMINATION TO TRANSFER TO ANOTHER CLASS

What is the reason for the nomination?

⊠Genuine change of status	⊠New knowledge	□Mistake	□Other
Taxonomic change - 🗆 'split'	□newly described	□'lumped'	□no longer valid

INITIAL LISTING

Describe the reasons for the species' initial listing under the NC Act and/or the EPBC Act and, if available, the criteria under which it was formerly considered eligible.

The species was initially listed and EN under the NC Act and EPBC Act in 2017, although the listing criteria are not available.

CHANGES IN SITUATION LEADING TO THE NOMINATION TO TRANSFER TO ANOTHER CLASS

Please complete (a), (b) OR (c) as appropriate to the nomination.

(a) Critically Endangered, Endangered, Vulnerable or Near Threatened

Describe the change in circumstances that make the species eligible for listing in a class other than Extinct and Extinct in the Wild.

Given the impending threat of wildfire incursion and range of other threatening processes (including the novel potential threat of myrtle rust), this species now qualifies as CE.

(b) Extinct in the Wild

A native species is eligible to be included in the Extinct in the Wild class if: (a) thorough searches have been conducted for the species; and (b) the species has not been seen in the wild over a period appropriate for its life cycle or form. The species may still survive in cultivation, captivity or as a naturalised population (or populations) well outside the historic range.

Describe how circumstances have changed that now make the species eligible for listing as Extinct in the Wild. Provide details of the last valid record or observation of the species in the wild.

Click or tap here to enter text.

(c) Extinct

A native species is eligible to be included in the Extinct class if there is no reasonable doubt that the last member of the species has died. A taxon is presumed Extinct when exhaustive surveys in the known and/or expected habitat, at appropriate times (diurnal, seasonal, annual), throughout its historic range have failed to record an individual.

Describe how circumstances have changed that now make the species eligible for listing as Extinct. Provide details of the last valid record or observation for the species in the wild and captivity.

Click or tap here to enter text.

Eligibility against the criteria

Standard of scientific evidence and adequacy of survey

Please complete as appropriate to the nomination

For this assessment it is considered that the survey of the species has been adequate and there is sufficient scientific evidence to support the listing outcome.

CRITERION A

Population size reduction (reduction in total numbers) measured over the longer of 10 years or 3 generations based on any of A1 to A4

	Critically Endangered (CR)	Endangered (EN)	Vulnerable (VU)	Near Threatened (NT)
A1	≥ 90%	≥ 70%	≥ 50%	≥ 20%
A2, A3, A4	≥ 80%	≥ 50%	≥ 30%	≥ 20%

based

on any

of (a)

to (e)

- A1 Population reduction observed, estimated, inferred or suspected in the past and the causes of the reduction are clearly reversible AND understood AND ceased.
- A2 Population reduction observed, estimated, inferred or suspected in the past where the causes of the reduction may not have ceased OR may not be understood OR may not be reversible.
- A3 Population reduction, projected or suspected to be met in the future (up to a maximum of 100 years) [(*a*) cannot be used for A3]
- A4 An observed, estimated, inferred, projected or suspected population reduction where the time period must include both the past and the future (up to a max. of 100 years in future), and where

- (a) direct observation [*except A3*]
- (b) an index of abundance appropriate to the taxon
- (c) a decline in area of occupancy, extent of occurrence and/or quality of habitat
- (d) actual or potential levels of exploitation
- (e) the effects of introduced taxa, hybridisation, pathogens, pollutants, competitors or parasites

Please identify whether the species meets A1, A2, A3 or A4. Include an explanation, supported by data and information, on how the species meets the criterion (A1 - A4). If available include information on:

whether the population trend is increasing, decreasing or static

• estimated generation length and method used to estimate the generation length

You must provide a response. If there is no evidence to demonstrate a population size reduction, this must be stated.

Data Deficient

Population decline relative to generation length is unknown.

CRITERION B:

Geographic distribution is precarious for either extent of occurrence AND/OR area of occupancy

	Critically Endangered (CR)	Endangered (EN)	Vulnerable (VU)	Near Threatened (NT)
B1. Extent of occurrence (EOO)	< 100 km²	< 5,000 km²	< 20,000 km²	< 40,000 km²
B2. Area of occupancy (AOO)	< 10 km²	< 500 km²	< 2,000 km²	< 4,000 km²
AND at least 2 of the following 3 con-	ditions for CR, EN or V	U:		AND (b) for NT
(a) Severely fragmented OR Number of locations	= 1	≤ 5	≤ 10	Not applicable
(b) Continuing decline observed, estimated, inferred or projected in any of: (i) extent of occurrence; (ii) area of occupancy; (iii) area, extent and/or quality of habitat; (iv) number of locations or subpopulations; (v) number of mature individuals				≥ 10% within the longer of 10 years or 3 generations
(c) Extreme fluctuations in any of: (i) extent of occurrence; (ii) area of occupancy; (iii) number of locations or subpopulations; (iv) number of mature individuals				Not applicable

Please refer to the 'Guidelines for Using the IUCN Red List Categories and Criteria' for assistance with interpreting the criterion particularly in relation to calculating 'extent of occurrence', 'area of occupancy' and understanding of the definition and use of 'severely fragmented', 'locations', 'continuing decline' and 'extreme fluctuations'.

Please identify whether the species meets B1 or B2. Except for Near Threatened species, include an explanation, supported by data and information, on how the species meets at least 2 of (a), (b) or (c). For Near Threatened species, include an explanation, supported by data and information, on how the species meets (b).

Please note that locations must be defined by a threat. A location is a geographically or ecologically distinct area in which a single threatening event can rapidly affect all individuals of the species present.

If available, include information on:

- Whether there are smaller populations of the species within the total population and, if so, the degree of geographic separation between the smaller populations within the total population
- Any biological, geographic, human induced or other barriers enforcing separation

You must provide a response. If there is no evidence to demonstrate that the geographic distribution is precarious for either extent of occurrence AND/OR area of occupancy, this must be stated.

Decaspermum struckoilicum meets the thresholds for listing as Critically Endangered under Criterion B1+2ab(i-v).

The EOO and AOO of the species are 4 km².

There are a number of serious plausible threats implicated in continuing decline of the species. Past decline is inferred due to land clearing that has been extensive in the area. Continuing decline is projected given the threat of future land clearing, myrtle rust, invasive weeds, inappropriate fire regimes and possible effects of climate change. Given the extremely restricted AOO and EOO of the species, these threats could cause localised extinction of the species thereby reducing the AOO and EOO of the species. Invasive weeds are reducing habitat quality for the species. Considering there are no viable options for controlling myrtle rust in the wild and wildfire could rapidly decimate the population, a continuing decline is projected in the number of locations/subpopulations, and the number of mature individuals.

When assessed against each/any of these threats (e.g. unprecedented wildfire, myrtle rust, land clearing) the species occurs at a single location. Given the restricted distribution of the species, a wildfire could simultaneously impact all indivduals in the population. Similarly, the population occurs within the climatically suitable envelope for myrtle rust, and there are no viable control options, therefore all indivduals will be simultaneously impacted by this threat. Finally, as all individuals occur on freehold land, they could be simultaneously impacted by land clearing activities.

The species is a perennial tree, therefore extreme fluctuations are unlikely.

CRITERION C

Small population size and decline					
		Critically Endangered (CR)	Endangered (EN)	Vulnerable (VU)	Near Threatened (NT)
Estimated number of mature individuals		< 250	< 2,500	< 10,000	< 20,000
AND either (C1) or (C2) is true					AND (C1) is true
C1 An observed, estimated or projected continuing decline of at least (up to a max. of 100 years in the future		25% in 3 years or 1 generation (whichever is longer)	20% in 5 years or 2 generations (whichever is longer)	10% in 10 years or 3 generations (whichever is longer)	10% in 10 years or 3 generations (whichever is longer)
C2 prec	An observed, estimated, projected arious for its survival based on at l	l or inferred continuing east 1 of (a) or (b):	decline AND its geo	graphic distribution is	
	(i) Number of mature individuals in each subpopulation	≤ 50	≤ 250	≤ 1,000	Not applicable
(a)	OR				
	(ii) % of mature individuals in one subpopulation =	90 – 100%	95 – 100%	100%	Not applicable
(b) Extreme fluctuations in the number of mature individuals		Applicable	Applicable	Applicable	Not applicable

Please identify the estimated total number of mature individuals and either an answer to C1 or C2. Include an explanation, supported by data and information, on how the species meets the criteria. Note: If the estimated total number of mature individuals is unknown but presumed to be likely to be >10 000, you are not required to provide evidence in support of C1 or C2, just state that the number is likely to be >10 000.

You must provide a response. If there is no evidence to demonstrate small population size and decline this must be stated.

Decaspermum struckoilicum meets the thresholds for listing as Critically Endangered under Criterion C2a(i,ii).

The population of *D. struckoilicum* is currently estimated at 41 mature individuals.

Past decline is inferred due to land clearing and continuing decline is projected given the threat of future land clearing, myrtle rust, invasive weeds, inappropriate fire regimes and possible effects of climate change.

All individuals (100%) occur in a single subpopulation.

Extreme fluctuations have not been documented for the species.

CRITERION D:

Very small population				
	Critically Endangered (CR)	Endangered (EN)	Vulnerable (VU)	Near Threatened (NT)
D1. Number of mature individuals	< 50	< 250	D1. < 1,000	D1. < 3,000
OR				
D2. [Only applies to the VU and NT categories] Restricted area of occupancy or number of locations with a plausible future threat that could drive the taxon to CR or EX in a very short time.	Not applicable	Not applicable	D2. Typically: AOO < 20 km² or number of locations ≤ 5	D2. Typically: AOO < 40 km² or number of locations ≤ 10

Please identify the estimated total number of mature individuals and evidence of how the figure was derived.

For Criterion D2, please provide information on the species' area of occupancy, number of locations and plausible threats.

You must provide a response. If there is no evidence to demonstrate eligibility, this must be stated.

Decaspermum struckoilicum meets the thresholds for listing as Critically Endangered under Criterion D and Vulnerable under Criterion D2.

There are 41 mature individuals of *D. struckoilicum* currently known (D).

The AOO of *D. struckoilicum* is currently estimated as 4 km².

When assessed against each/any of the serious plausible threats (e.g. unprecedented wildfire, myrtle rust, land clearing) the species occurs at a single location. Given the restricted distribution of the species, a wildfire could simultaneously impact all indivduals in the population. Similarly, the population occurs within the climatically suitable envelope for myrtle rust, and there are no viable control options, therefore all indivduals will be simultaneously impacted by this threat. Finally, as all individuals occur on freehold land, they could be simultaneously impacted by land clearing activities.

CRITERION E:

Quantitative Analysis				
	Critically Endangered (CR)	Endangered (EN)	Vulnerable (VU)	Near Threatened (NT)
Indicating the probability of extinction in the wild to be:	≥ 50% in 10 years or 3 generations, whichever is longer (100 years max.)	≥ 20% in 20 years or 5 generations, whichever is longer (100 years max.)	≥ 10% within 100 years	≥ 5% within 100 years

Please identify the probability of extinction and evidence of how the analysis was undertaken.

You must provide a response. If there has been no quantitative analysis undertaken this must be stated.

Data Deficient

Quantitative analysis has not been undertaken.

SUMMARY OF CRITERIA UNDER WHICH THE SPECIES IS ELIGIBLE FOR LISTING AS: CR, EN, V, NT, EW or EX

Please mark the criteria and sub-criteria that apply.

□Criterion A	\Box A1 (specify at least one of the following) \Box a) \Box b) \Box c) \Box d) \Box e); AND/OR
Data deficient	\Box A2 (specify at least one of the following) \Box a) \Box b) \Box c) \Box d) \Box e); AND/OR
	\Box A3 (specify at least one of the following) \Box a) \Box b) \Box c) \Box d) \Box e); AND/OR
	\Box A4 (specify at least one of the following) \Box a) \Box b) \Box c) \Box d) \Box e)

⊠Criterion B Critically Endangered	\boxtimes B1 (specify at least two of the following) \boxtimes a) \boxtimes b) \square c); AND/OR \boxtimes B2 (specify at least two of the following, other than NT) \boxtimes a) \boxtimes b) \square c)
⊠Criterion C	□estimated number of mature individuals AND
Critically Endangered	$\square C1 OR$ $\square C2 \square a (i) OR \square a (ii) OR$ $\square C2 \square b)$
⊠Criterion D Critically Endangered	⊠D OR □D1 OR ⊠ D2
□Criterion E Data Deficient	
□EX	
□EW	
□LC	Species nominated to change from a higher conservation class to Least Concern. No above boxes apply.

Other Considerations

***INDIGENOUS CULTURAL SIGNIFICANCE**

Is the species known to have cultural significance for Indigenous groups within Australia? If so, to which groups? Provide information on the nature of this significance if publicly available.

The cultural, customary and spiritual significance of species and the ecological communities they form are diverse and varied for Indigenous Australians and their stewardship of Country. This section describes some examples of this significance but is not intended to be comprehensive or applicable to, or speak for, Indigenous Australians. Such knowledge may be held by Indigenous Australians who are the custodians of this knowledge and have the rights to decide how this knowledge is shared and used.

Decaspermum struckoilicum is known from occurrences on the lands of the Gaangalu Nation People (whilst acknowledging that other peoples may have a connection to the Country). There is little published information on how the Gaangalu Nation People relate to Country in this region and what that may mean for the cultural significance of *D. struckoilicum*.

FURTHER STUDIES

Identify relevant studies or management documentation that might relate to the species (e.g. research projects, national park management plans, recovery plans, conservation plans, threat abatement plans, etc.).

The species is identified as a priority species for threat management by Ponce Reyes (2016).

Makinson, R. O. (2018). *Myrtle rust in Australia: a draft action plan.* Presented at the Plant Biosecurity Cooperative Research Centre's National Science Exchange, Melbourne.

Makinson, R. O. (2018). *Myrtle rust reviewed: the impacts of the invasive plant pathogen Austropuccinia psidii on the Australian environment.* Plant Biosecurity Cooperative Research Centre, Canberra.

ADDITIONAL COMMENTS/INFORMATION

Please include any additional comments or information on the species such as survey or monitoring information, and maps that would assist with the consideration of the nomination.

Click or tap here to enter text.

IMAGES OF THE SPECIES

Please include or attach images of the species if available, and indicate if you are in a position to authorise their use.

Click or tap here to enter text.

Reviewers and references

REVIEWER(S)

Has this nomination been peer-reviewed? Have relevant experts been consulted on this nomination? If so, please include their names, current professional positions and contact details.

Neil Hoy, Department of Natural Resources, Mines and Energy, Queensland. Ian and Cathy Herbert, Private Landholders.

REFERENCE LIST

Please list key references/documentation you have referred to in your nomination.

- Department of the Environment (2012). *Interim biogeographic regionalisation for Australia (regions states and territories) v.* 7 (*IBRA*). Commonwealth of Australia. Canberra. Available at https://www.environment.gov.au/land/nrs/science/ibra#ibra.
- Fensham, R. J. (1995). Land clearance and conservation of inland dry rainforest in north Queensland, Australia. *Biological Conservation* **75**, 289-298.
- IUCN Standards and Petitions Committee (2019). Guidelines for Using the IUCN Red List Categories and Criteria. Version 14. Prepared by the Standards and Petitions Committee. <u>http://www.iucnredlist.org/documents/RedListGuidelines.pdf</u>.
- Kriticos, D. J., Morin, L., Leriche, A., Anderson, R. C., and Caley, P. (2013). Combining a climatic niche model of an invasive fungus with its host species distributions to identify risks to natural assets: *Puccinia psidii* Sensu Lato in Australia. *PLOS ONE*, **8**(5), e64479.
- Pegg, G. S., Giblin, F. R., McTaggart, A. R., Guymer, G. P., Taylor, H., Ireland, K. B., Shivas, R. G., and Perry, S. (2013). Puccinia psidii in Queensland, Australia: disease symptoms, distribution and impact. *Plant Pathology*, 1-17.
- Ponce Reyes, R., Firn, J., Nicol, S., Chades, I., Martin, T., Stratford, D., Whitten, S., and Carwardine, J. (2016). Priority threat management for imperilled species of the Queensland Brigalow Belt. CSIRO, Brisbane.
- Snow, N., and Guymer, G. (2001). A New and Endangered Species of Decaspermum (Myrtaceae) from East-Central Queensland. *Novon* **11**(4), 475-478.

Nominator's Details

Note: Your details are subject to the provisions of the *Privacy Act 1988* and will not be divulged to third parties, except for state and territory governments and scientific committees that have agreed to collaborate on national threatened species assessments using a CAM. If there are multiple nominators please include details below for all nominators.

TITLE (e.g. Mr/Mrs/Dr/Professor/etc.)

Ms

FULL NAME

Teghan D. Collingwood

ORGANISATION OR COMPANY NAME (IF APPLICABLE)

School of Biological Sciences, The University of Queensland. Queensland Herbarium, Department of Environment and Science.

CONTACT DETAILS

DECLARATION

I declare that, to the best of my knowledge, the information in this nomination and its attachments is true and correct.

 Signed: Click here to enter text.
 Date: 2/03/2020

 * If submitting by email, please attach an electronic signature

Lodging your nomination

Completed nominations may be lodged either:

1. by email in Microsoft Word format to: SpeciesTechnical.Committee@des.qld.gov.au

2. by mail to: The Chair

Species Technical Committee Queensland Herbarium Mount Coot-tha Rd Toowong QLD 4066

* If submitting by mail, you must include an electronic copy on a memory stick.

Suggested Citation:

Collingwood, T. D. (2020). Nomination to change the conservation class of *Decaspermum struckoilicum* under the Queensland Nature Conservation Act 1992. Department of Environment and Science, Brisbane.