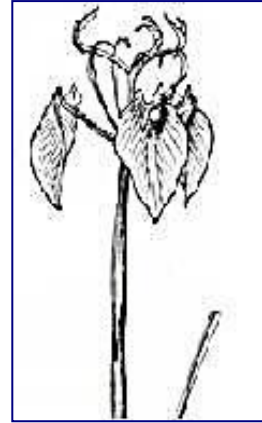


# *Regalis Environmental Services*

*102 Hope Street  
6620 Oudtshoorn  
Rep. of South Africa  
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20<sup>th</sup> December 2022

To Whom It May Concern

DEA&DP comments on botanical study for Portions 66 & 67 of farm 443, Plettenberg Bay

The purpose of this letter is to provide the additional information requested by the WC: Department of Environmental Affairs and Development Planning in their letter dated 5<sup>th</sup> December 2022 regarding the botanical study that was done for portions 66 & 67 of farm 443, Plettenberg Bay.

Three issues must be addressed:

1. More information regarding the return of natural vegetation is required.
2. Reasons for the identification of small portions of CBA and ESA' must be provided.
3. The identification of relevant vegetation type must be verified by CapeNature.

**On point One.** I made it clear in my report that the pre-fire high levels of infestation by alien vegetation and the post-fire high recruitment of the alien vegetation, despite a serious attempt to eradicate the post-fire alien plant recruitment, the altered ecology of the proposed development area did not allow for the natural re-establishment of the vegetation. There is also no point in attempting to re-establish the natural vegetation artificially (even if it was possible) as the proposed development area is an isolated area that has little biodiversity value or ecological function.

**On point Two.** Within the proposed development area small portions were identified as CBA and ESA's. These small spots were identified as areas located within an endangered vegetation type (which it is not – as the SAVEG type is incorrect in this respect) and as it is located in a coastal corridor (which the proposed development area is not, as it is an island located between two adjacent development sites). Small CBA and ESA's are furthermore an artefact of the rather crude data that were used to develop the conservation plan and by now officials of DEA&DP should know that they cannot use the plan beyond a scale of 1:30 000. Of importance here is to notice that the sensitivity of the foredune area and current ecological value thereof was clearly addressed in the report to ensure that the proposed development will have a minimal negative impact on this area.

**On point Three.** The plant species list provided from my field investigation clearly indicates that the crude SAVEG map is wrong for the affected area (note that you can use the latter resource at a scale of 1: 500 000 only). In their response CapeNature did not indicate that they differ from my conclusion regarding the affected vegetation type.

I hope the above clarifies all the uncertainties regarding my report.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'J. Vlok', with a stylized flourish on the left side.

Jan Vlok

**Terrestrial Plant Species Compliance Statement**  
**for portions 66 & 67 of erf 443**  
**of Plettenberg Bay.**

**This report was revised during October 2022 by:**

**Regalis Environmental Services CC**  
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## INTRODUCTION

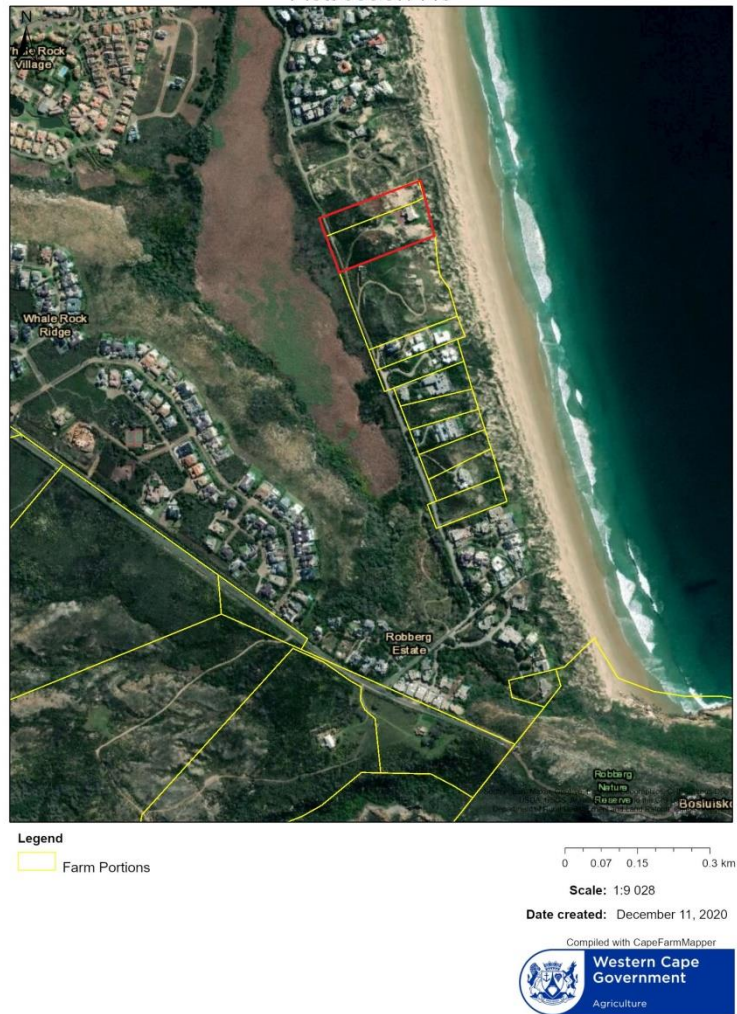
The landowner of portions 66 and 67 of erf 443 of Plettenberg Bay wishes to redevelop the properties and a botanical sensitivity analysis is required for the natural vegetation remaining on the properties to guide the proposed new development.

Regalis Environmental Services CC was appointed as an independent consultant (see CV as Appendix 1) to do a botanical sensitivity analysis of the property. The terms of reference for this assignment was to:

1. Evaluate the property regarding its environmental sensitivity for future potential development.
2. Prepare a map to indicate its botanical sensitivity at three levels; no-go area, moderately sensitive and not sensitive.
3. Prepare a document in which motivation is provided for the classification and mapping of the above three categories, in which the status of the affected vegetation types, occurrence of threatened plant species and the current Critical Biodiversity and Ecological Support Area maps are duly considered.

The location of the properties in Plettenberg Bay is indicated on Map 1.

Plett 66&67/443



**Map 1:** The boundaries of the properties are indicated in red.

Jan Vlok of RES surveyed the properties in November 2020 and the results of my field study and recommendations are provided here. In this revised report I also address all the comments provided by WC: Department of Environment Affair and Development Planning (DEA&DP).

## METHODOLOGY AND UNCERTAINTY REGARDING STUDY RESULTS

The national status of the affected vegetation type was determined by means of consulting Mucina *et al* (2006) and updates thereof [South African National Biodiversity Institute (2006-2019). The Vegetation Map of South Africa, Lesotho and Swaziland, Mucina, L., Rutherford, M.C. and Powrie, L.W. (Editors), Online, <http://bgis.sanbi.org/Projects/Detail/186>, Version 2018]. The regional conservation value of the affected vegetation was determined by means of consulting the fine-scale conservation plan for the region by Pence (2017) [and updates thereof on Elsenburg's Cape Farm Mapper program].

The property was surveyed during early December for several hours on foot to determine the ecological condition of the affected area and to establish if any rare or endangered plant species (*sensu* Raimondo *et al*, 2009 and updates thereof in [www.sanbi.redlist](http://www.sanbi.redlist)) are, or may be present on the properties. Most of the vegetation on the properties burned in the 2018 fire, but recovered well enough to identify all the plant species present, including fire ephemerals. A thorough search was done for rare and threatened species known to occur on the general area (e.g. *Disa hallackii*, etc.). I am confident that the survey was adequate to determine all the plant species present (including ephemerals such as annuals and geophytes) in the affected area and it is highly unlikely that any additional surveys will add to the species listed in this report.

I am thus confident that the methodology followed for a botanical sensitivity analyses complies with:

1. Appendix 6 of the 2014 National Environmental Management Act, 1998 (No. 107 of 1998) (NEMA) Environmental Impact Assessment (EIA) Regulations (and as amended), detailing the requirements for specialist's reports; and,
2. The principals outlined in the *Guideline for Biodiversity Specialists* (WC: DEA&DP, 2005) and those of the *Western Cape Biodiversity Spatial Plan Handbook* (Pool-Stanvliet et al, 2017).

## STUDY RESULTS

Following the 2018 national vegetation map the proposed development area consists of Goukamma Dune Thicket (status = Least Concerned) and a narrow strip of Garden Route Shale Fynbos (status = Vulnerable), see Map 2. The inclusion of Garden Route Shale Fynbos is, however, a mapping mistake due to the coarse scale of the national vegetation types. None of the species that are present on the properties are typical of Garden Route Shale Fynbos and the entire property consists of Goukamma Dune Thicket.

About half the extent of the properties was mapped as terrestrial Ecological Support Area in the 2017 regional conservation plan (see Map 3). In regarding the vegetation present as having a status of Vulnerable and Ecological Support Area 1 present, the screening tool assessed the biodiversity theme as being Very High.



**Map 2:** National vegetation types (2018) on the property.



**Map 3:** Regional conservation plan for the affected area (from Pence; 2017).

The vegetation on the property is not in a healthy ecological condition and the field study (complete species inventory) showed that the plant species richness is poor. The construction of the current infrastructure disturbed a major part of the affected area (See Photo 1). There is clear evidence that a major effort was made to combat alien plant species (mostly *Acacia cyclops*), but these plants returned in very dense stands over most of the property after the recent fire (See Photo 2).

The species recorded on the properties are typical of Goukamma Dune Thicket in being a mix of Thicket clumps in a Fynbos matrix. A total of 52 indigenous species were recorded and they are as follows:

**Trees:** *Apodytes dimidiata*, *Colpoon compressum*, *Euclea racemosa*, *Gymnosporia buxifolia*, *Searsia crenata*, *A. glauca*, *Hippobromus pauciflorus*, *Mystrozylon aethiopicum*, *Syderoxylon inerme* and *Tarchonanthus littoralis*.

**Shrubs and herbs:** *Agathosma apiculata*, *Anthospermum aethiopicum*, *Arctotis pinnatifida*, *Chaenostoma campanulatum*, *Grewia occidentalis*, *Helichrysum cymosum*, *H. teretifolium*, *Limoneum scabrum*, *Metalasia muricata*, *Osteospermum moniliferum*, *Passerina vulgaris*, *Pelargonium capitatum*, *Pharnaceum thunbergii*, *Polygala myrtillifolia*, *Salvia africana-lutea*, *Senecio elegans* *Tetragonia fruticosa* and *Zaluzianskya capensis*.



**Creepers:** *Asparagus aethiopicus*, *Cissampelos capensis*, *Cynanchum ellipticum*, *C. obtusifolium*, *Rhoicissus tridentata* and *Solanum africanum*.

**Graminoids:** *Cynodon dactylon*, *Cyperus ustitatus*, *Ehrharta villosa*, *Ficinia arenicola*, *F. oligantha*, *F. ramosissima*, *Hellmuthia membracacea*, *Imperata cylindrica*, *Melica racemosa*, *Pentameris pallida*, *Restio eleocharis* and *Stipagrostis zeyheri*.

**Geophytes:** *Anemone vesicatoria*, *Chasmanthe aethiopica* and *Cyanella lutea*.

**Succulents:** *Carpabrotus edulis*, *Crassula expansa* and *Mesembryanthemum crystallinum*.

The screening tool noted a number of rare and threatened plant species that may occur on the proposed development area (see Table 1), but no rare or threatened species were found or are suspected to occur on the proposed development site as the local habitat is not suitable for any of these species (see Table 2).

Table 1: List of rare and threatened species provided by the screening tool.

Sensitivity	Feature(s)
Medium	<i>Lampranthus pauciflorus</i>
Medium	<i>Ruschia duthiae</i>
Medium	<i>Lebeckia gracilis</i>
Medium	Sensitive species 131
Medium	<i>Leucospermum glabrum</i>
Medium	<i>Selago burchellii</i>
Medium	<i>Erica chloroloma</i>
Medium	<i>Erica glandulosa</i> subsp. <i>fourcadei</i>
Medium	<i>Hermannia lavandulifolia</i>
Medium	Sensitive species 657
Medium	Sensitive species 1032
Medium	<i>Pterygodium newdigateae</i>
Medium	<i>Osteospermum pterigoideum</i>
Medium	<i>Acmadenia alternifolia</i>
Medium	<i>Muraltia knysnaensis</i>
Medium	Sensitive species 800
Medium	<i>Erica glumiflora</i>
Medium	Sensitive species 500
Medium	Sensitive species 763
Medium	<i>Pterygodium cleistogamum</i>

Table 2: Evaluation of rare and threatened plant species provided by the screening tool.

Family	Taxon	Common name	IUCN status*	Distribution	Habitat	Probability of occurrence
RUTACEAE	<i>Acmadenia alternifolia</i>	None	VU	Plettenberg Bay to Knysna	Coastal rocky slopes.	<b>VERY LOW</b> No suitable habitat on site.
AIZOACEAE	<i>Lampranthus pauciflorus</i>	None	EN	Cape Infanto to Plettenberg bay.	Coastal rocky slopes.	<b>VERY LOW</b> No suitable habitat on site.
AIZOACEAE	<i>Ruschia duthiae</i>	None	VU	Sedgefield to Natures Valley.	Grassy fynbos.	<b>VERY LOW</b>
FABACEAE	<i>Lebeckia gracilis</i>	None	EN	Bredasdorp to Port Elizabeth.	Loamy soils in lowlands.	<b>LOW.</b> No suitable habitat on site.
PROTEACEAE	<i>Leucospermum glabrum</i>	None	EN	Outeniqua and Tsitsikamma mountains.	Moist Mountain Fynbos.	<b>ZERO.</b> No suitable habitat on site.
SCROPHULARIACEAE	<i>Selago burchellii</i>	None	VU	George to Plettenberg Bay.	Moist coastal sand.	<b>LOW.</b> No suitable habitat on site.
ERICACEAE	<i>Erica chromoloma</i>	None	VU	Wilderness to Fish River.	Coastal sands.	<b>VERY LOW</b>
ERICACEAE	<i>Erica glandulosa ssp. fourcadei</i>	None	VU	Mossel Bay to Cape St. Francis.	Moist coastal sands.	<b>LOW.</b> No suitable habitat on site.
MALVACEAE	<i>Hermannia lavadulifolia</i>	None	VU	Worcester to Plettenberg Bay.	Various substrates.	<b>VERY LOW</b>

ORCHIDACEAE	<i>Pterygodium newdigateae</i>	None	VU	Knysna to Grahamstown	Unknown, probably moist fynbos.	<b>VERY LOW</b>
ASTERACEAE	<i>Osteospermum pterogoideum</i>	None	CR	Plettenberg Bay	Stoney slopes.	<b>VERY LOW</b>
POLYGALACEAE	<i>Muraltia knysnaensis</i>	None	EN	Mossel Bay to Keurbooms.	Mostly Grassy Fynbos.	<b>VERY LOW</b> No suitable habitat on site.
ERICACEAE	<i>Erica glumiflora</i>	None	VU	Wilderness to East London.	Moist coastal sandy sites.	<b>LOW</b> Site too dry.
ORCHIDACEAE	<i>Pterygodium cleistogamum</i>	None	VU	Knysna to Grahamstown	Moist loamy soils.	<b>LOW</b> Site too dry
FABACEAE	Sensitive species 131	None	CR (PE)	Probably Knysna to Plettenberg Bay	Unknown, probably wet areas.	<b>VERY LOW</b> not seen since 1800's.
AMARYLLIDACEAE	Sensitive species 657	None	EN	Great Brak River to Port Elizabeth.	Moist coastal sandy sites.	<b>LOW</b> Site too dry.
ORCHIDACEAE	Sensitive species 1032	None	VU	Wilderness to Port Alfred.	Moist coastal sandy sites.	<b>LOW</b> Site too dry.
IRIDACEAE	Sensitive species 800	None	VU	Cape Peninsula to Knysna.	Moist coastal sandy sites.	<b>LOW</b> . Out of distribution range and site too dry.
ORCHIDACEAE	Sensitive species 500	None	EN	Cape Flats to Port Elizabeth.	Moist coastal sandy sites	<b>LOW</b> Site too dry
ORCHIDACEAE	Sensitive species 763	None	VU	Riversdale to Port St. Johns	Moist loamy soils, usually Grassy Fynbos.	<b>LOW</b> Site too dry and soils not loamy.



**Photo 1:** Disturbed vegetation in the vicinity of the existing infrastructure on the eastern side of the properties.



**Photo 2:** Dense regrowth of alien vegetation (*Acacia cyclops*) on the western part of the properties. Very few indigenous species were found in this dense stand of alien plants as it is the second rotation of dense infestation.

## CONCLUSIONS AND RECOMMENDATIONS

Regarding the local and regional botanical conservation value and sensitivity of the affected vegetation on the properties my general findings are as follows:

1. Despite the suggestion from DEA&DP that the affected area consists of Groot Brak Dune Strandveld, I am confident that the **only** affected vegetation type is Goukamma Dune Thicket (Status = Least Concerned). I myself identified and delineated these vegetation types originally. These data were used later by SANBI to develop the SAVEG map.
2. About half of the affected area has been identified as an Ecological Support Area (ESA1), but due to the transformed and low phytodiversity of the local vegetation, as well as development of the adjacent properties, the affected dune system has lost most of its ecological value, with little value to support either biodiversity or important ecological processes. The identification of the area as an ESA is most probably based on a poor transformation data layer.
3. The affected area is not very rich in indigenous plant species (only 52 species were found in a careful field survey of the entire affected area), as most of the vegetation has either been disturbed with the construction of previous infrastructure and/or dense invasion by alien plants (mostly *Acacia cyclops*) that is in their second rotation of invasion despite a concerted effort to eradicate these plants. DEA&DP questioned this result, but my results is based on a careful survey of the entire affected area, with no indication that additional surveys will come to a different result.
4. None of the rare or threatened species listed in the screening tool (or otherwise known to occur in the area) were found or are suspected to occur in the affected area as the local habitat is unsuitable for them.
5. I did not find any sensitive area to be mapped as 'No Go' areas on the properties, but the narrow strip of vegetation abutting the beach consists of a sensitive primary dune system.
6. From my fieldwork I hence find the suggestion of the screening tool that the Biodiversity Theme sensitivity as being Very High as incorrect as neither the affected vegetation is a threatened vegetation type, with little evidence that the area will have much value as an ESA.

7. From my fieldwork I can say with confidence that the screening tool suggestion for the Terrestrial Plant Theme sensitivity as being Medium as incorrect as none of the suggested rare and plant species were found or are suspected to be present in the affected area.

Regarding important ecological processes operating in the general area and potential ecological corridor value of the affected vegetation, my findings are as follows:

1. The terrestrial vegetation along the dune system east of the wetland is highly fragmented due to high density development on most of the properties. This dune system can hence now longer act as an important ecological corridor.
2. There are no known ecological processes acting between the wetland west of the properties and the beach east of the properties.
3. Although the vegetation is periodically exposed to fire, the development on this property will not negatively affect the natural spread of fire which the nearby wetland requires periodically.
4. I hence believe that additional development on the properties will not have a negative impact on any important ecological processes operating in the general area.

From a botanical point of view, I cannot find any reason why the revised proposed development layout plan for these two properties (please see Appendage 2) should not be supported. The only real concern I had was the narrow strip of the primary dune system that might be affected in the construction and operational phases. For the operational phase the primary concern is already addressed in the revised development layout plan.

The two mitigation actions that are proposed are;

1. Permission must be attained from the relevant authority (DEFF) to remove any of the specially protected Milkwood trees (*Sideroxynon inerme*) that still occur on the properties, even though they are small due to the recent fire.
2. The primary dune system at the beach front (mostly outside the properties) should not be disturbed during the construction or operational phases of the development. If access will be allowed to the beach, then a board walk system will have to be constructed to minimize disturbance of this sensitive area.

In their comments DEA&DP also suggested that a fire management plan may have to be provided. I believe this is not necessary as:

1. The proposed development will not have any flammable natural vegetation remaining.
2. The fire risk was mostly posed by alien vegetation, which will be removed by the development.
3. The previous fire on the affected area was largely due to dense infestation of flammable alien plants on these and adjacent properties.

I thus support the current proposed development and my impact assessment thereof is provided as Appendix 3.

## REFERENCES

Mucina, L., Rutherford, M.C. and Powrie, L.W. (eds.), 2006. Vegetation Map of South Africa, Lesotho and Swaziland. 1:1 000 000 scale sheet maps. SANBI, Pretoria.

Pence, G.Q.K., 2017. Western Cape Biodiversity Framework 2017. Status Update: Critical Biodiversity Areas of the Western Cape. Unpublished CapeNature report.

Pool-Stanvliet, R., Duffel-Canham, A., Pence, G. & Smart, R. 2017. Western Cape Biodiversity Spatial Plan Handbook. Stellenbosch, CapeNature.

Raimondo, D., Von Staden, L., Foden, W., Victor, J.E., Helme, N.A., Turner, R.C., Kamundi, D.A. & Manyama, P.A., 2009. Red List of South African plants. Strelitzia 25, SANBI, Pretoria.



**APPENDIX 1: CV OF CONSULTANT.**

***CURRICULUM VITAE***

**Johannes Hendrik Jacobus Vlok**

**Biographical Information**

Birth: 6<sup>th</sup> December 1957, Calvinia, South Africa.

Identity Number: 571206 5133 089

Criminal Record: None.

Married to Anne Lise Schutte-Vlok and we have one daughter, Marianne Helena Vlok.

**Education**

1975 Matriculated at Bellville High School.

1982 Diploma in Forestry, Saasveld Forestry College.

1997 MSc (*Cum Laude*), University of Natal.

**Employment**

1982-1990. Department of Forestry (later Water Affairs, Forestry and Environmental Affairs), as research technician.

1990-1997. Cape Nature Conservation, as regional botanist.

1997-present. Self-employed as environmental advisor (Regalis Environmental Services).

**Research Output**

One book and more than 50 scientific and popular articles published in international & national journals as primary or as co-author. Delivered several keynote and >20 other verbal papers at scientific forums on ecological and floristic studies. Delivered >300 presentations to civil society (public meetings, radio, newspaper and television) on plant ecology and conservation. Current ResearchGate rating > 26 and has > 1 700 citations.

**Awards**

2003. Leslie Hill medal. **Succulent Society of South Africa.**

2006. Gold award. **C.A.P.E.**

2006. Certificate of Appreciation. **Western Cape Conservation Stewardship Association.**

2008. Special Award. **CapeNature**

2010. Marloth medal. **Botanical Society of South Africa.**

**Consultation & Advisory Capacity**

Consultant to WWF-SA, Cape Nature and SANPARKS to determine conservation status of land. Several of the studies resulted in the purchase of the properties, now amounting to a value of >R30 million.

Consultant to National, Provincial and private institutions for vegetation restoration projects, environmental impact assessment and environmental management plans. Some of these assignments won national awards.

Referee for international and national scientific articles and donor funded grants.  
Classified, described and mapped Forest, Subtropical Thicket, Fynbos and Succulent  
Karoo vegetation units in four major donor funded projects.  
Expert witness in Magistrate and Supreme Court cases.  
Research Associate of Nelson Mandela University.

## **Membership**

### **Professional Membership**

Registered at South African Council for Natural Scientific Professions (SACNASP) as botanical scientist with membership number 130942.

### **Private Membership**

Life member of the Botanical Society of South Africa.

**APPENDIX 2: REVISED LAYOUT PLAN OF PROPOSED DEVELOPMENT EVALUATED IN THIS ASSESSMENT.**



**APPENDIX 3: BOTANICAL IMPACT ASSESMENT FOR THE PROPOSED DEVELOPMENT.**

<b>CONSTRUCTION &amp; OPERATIONAL PHASES</b>		
	<b>Without Mitigation</b>	<b>With Mitigation</b>
	<b>Impact:</b>	
Potential impact and risk (description):	<b>Loss of sensitive dune vegetation.</b>	<b>Minimal impact on dune vegetation.</b>
Nature of impact:	<b>Disturbance of primary dune vegetation.</b>	<b>Disturbance of primary dune vegetation.</b>
Extent and duration of impact:	<b>Local and permanent.</b>	<b>Local.</b>
Intensity	<b>High</b>	<b>Low.</b>
Consequence of impact or risk:	<b>Degradation of primary dune system.</b>	<b>Limited impact on primary dune system.</b>
Probability of occurrence:	<b>High</b>	<b>High</b>
Degree to which the impact may cause irreplaceable loss of resources:	<b>High</b>	<b>Low</b>
Degree to which the impact can be reversed:	<b>Irreversible</b>	<b>Reversible</b>
Indirect impacts:	<b>Moderate</b>	<b>Low</b>
Cumulative impact prior to mitigation:	<b>Moderate</b>	<b>Low</b>
<b>Significance rating of impact prior to mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)</b>	<b>Medium</b>	<b>Low</b>
Degree to which the impact can be avoided:	<b>Low</b>	<b>High</b>
Degree to which the impact can be managed:	<b>High</b>	<b>High</b>
Degree to which the impact can be mitigated:	<b>Medium</b>	<b>High</b>
Proposed mitigation:	<b>Disturbance to primary dune system.</b>	<b>Establish board walk to beach.</b>
Residual impacts:	<b>None</b>	<b>None</b>
Cumulative impact post mitigation:	<b>None</b>	<b>None</b>
<b>Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)</b>	<b>Medium</b>	<b>Low</b>