Coastal

ecosystem management plan: western cape

Prepared for:

Western Cape Conservation Stewardship Association (WCCSA) & CapeNature

By:

The Nature Conservation Corporation

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This Ecosystem Management Plan forms part of a set of 7, with an EMP Guide Tool for the implementation of these, all available from C.A.P.E. at Kirstenbosch, Cape Town.

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introduction

The coastal ecosystem is complex and dynamic with inputs from both the sea and the land. Although this EMP concentrates on the terrestrial component, the sea is a driving force in this system and has influenced and shaped not only the vegetation but the very landforms on which they grow. The often transient nature of the beach and associated dunes has created a perception that the coastal ecosystem is resilient and self-healing – true to an extent, but no excuse for abuse.

Holiday towns are growing daily, there is more development pressure and despite our advanced legislation and increased environmental awareness, the abuse continues. Often indiscretions are committed through a lack of understanding of coastal processes.

Through this Ecosystem Management Plan we hope to create an understanding of not only the essential processes that are often disrupted, but also management interventions to facilitate continued functioning of coastal ecosystems.

ecosystem description

landscape features

beaches

Sandy beaches are a dynamic and naturally unstable environment constantly reshaped by the sea and the wind. Changes in weather patterns greatly influence the beach, either through erosion during storms or deposition during calmer periods. Beaches consist of recent sands and sediments of marine origin and are nutrient rich, in most cases high in calcium and are therefore alkaline.

There is often a strandline along the beach i.e. an accumulation of deposited debris. This accumulation is important for nutrient cycling and as habitat for faunal activity in the sandy beach ecosystem.

dynamic & young dunes

The upper boundary of the beach forms the embryonic dunes. These dunes are highly dynamic and support plants that are adapted to these conditions, being mostly grasses and trailing succulent herbs.

Inland of the embryonic dunes are the older foredunes. These young dunes are more vegetated than the embryonic dunes, but still subject to intense action and may be reshaped and therefore denuded by a single storm event. The foredunes generally harbour what can be equated as the pioneer communities of Strandveld vegetation.

These dynamic and young dunes form the sand reservoir for the actual beach and this is reflected in their transient nature.

old stabilised dunes

Further away from intense wave action and where protected from wind erosion, the dunes are taller and support a denser and more species diverse vegetation. As one moves inland from the beach the vegetation appears zoned – these zones can be viewed as different stages or seres in the vegetation succession. Therefore, the mid- and late seral stages as well as climax stage vegetation occur on these dunes.

The oldest dunes are often fossilised or contain exposed limestone outcrops, supporting a unique flora.

dune slacks

Dune slacks are the damp interdune depressions usually found between old dunes in extensive dune fields. They often have an impervious calcrete lens or pan and are a source of fresh water. The plant growth here is characteristic of a wetland.

coastal cliffs & headlands

The rocky shores differ from sandy beaches in their complex geology, shallow soils and generally stable substrate; see photographs 1 and 2 above. The soils are subject to high salt deposition by seawater splash as well as salt spray. The soils are therefore more alkaline than those of the same geology not exposed to intense marine interaction.

vegetation description

The table below lists the vegetation units incorporated in this Coastal Ecosystem Management Plan. Vegetation units highlighted are those sampled during the biodiversity and management assessment programme.

Table 1 List of Coastal Vegetation Units in the Western Cape Province

Reference [1]	VEGETATION TYPES & UNIT	Status [2]	Target [3]
	Western Strandveld		
FS 1	Lambert's Bay Strandveld	VU	24%
FS 2	Saldanha Granite Strandveld	EN	24%
FS 3	Saldanha Flats Strandveld	EN	24%
FS 4	Saldanha Limestone Strandveld	EN	24%
FS 5	Langebaan Dune Strandveld	VU	24%
FS 6	Cape Flats Dune Strandveld	EN	24%
FS 7	Overberg Dune Strandveld	LT	36%
FS 8	Blombos Strandveld	LT	36%
FS 9	Groot Brak Dune Strandveld	EN	36%
	Seashore Vegetation		
AZd 3	Cape Seashore Vegetation	LT	20%

[1] Sourced from The Vegetation of South Africa, Lesotho and Swaziland (Mucina & Rutherford 2006)

[2] **Conservation Status of vegetation units defined as** LT = Least Threatened; VU = Vulnerable; EN = Endangered and CR = Critically Endangered

[3] The national target for securing representative vegetation for its conservation

Cape Seashore Vegetation is found on the dynamic young dunes, see photograph 3 above, and forms an ecotone with Strandveld on the foredunes. This vegetation unit comprises pioneer species and is often described as being an open, low growing, grassy to herbaceous, occasionally dwarf, shrubby vegetation that is often dominated by a single species.

Strandveld is a complex vegetation type that is widely accepted as being closely related to subtropical vegetation types. This is evidenced by the presence of and occasionally dominated by *Aloe*, *Cussonia*, *Euclea*, *Maytenus*, *Pterocelastrus*, *Rhus*, *Sideroxylon* and *Tarchonanthus*.

Across its range it shows affinities with various other vegetation types. In the northwest it shows affinities with Succulent Karoo and has a high proportion of succulent shrubs such as *Cotyledon*, *Euphorbia*, *Ruschia*, *Tetragonia*, *Tylecodon* and *Zygophyllum*. Further south and to the east it shows affinities with Fynbos and Renosterveld, inhabited by *Aspalathus*, *Ehrharta*, *Ischyrolepis*, *Metalasia*, *Thamnochortus* and *Thesium*.

It is generally a medium dense to closed, often impenetrable shrubland with a matrix of graminoids, herbaceous and succulent perennials. Displays of annuals are conspicuous in disturbed spaces dominated by shrubs with broad, hard leaves (sclerophyllous). Acocks (1988) quaintly described mature (climax) Strandveld as a "lilliputian forest"!

One of the characteristics of this vegetation is that it does not contain Proteaceae. Species of Restionaceae (restioids), Rutaceae (buchus) and Ericaceae (ericas) are occasionally present.

Where Strandveld has burnt, the initial stages of regrowth resemble fynbos and are dominated by Rutaceae and Restionaceae species, hence initially being classified as "dune fynbos". Strandveld proper replaces this after a lengthy successional period of twenty years plus.

FS 5 Langebaan Dune Strandveld

Elands Bay to Silwerstroomstrand

This is a dense evergreen shrubland, see photograph 4 on previous page, up to two metres tall, with spectacular displays of annuals in the openings. Tall bush clumps consisting of candlewood *Pterocelastrus tricuspidatus*, koeniebos *Rhus glauca* and Cape sumach *Osyris compressa* emerge above a matrix of restioids, fine- and broad-leaved, as well as succulent, shrubs. The dominant restioid is sonkwasriet *Willdenowia incurvata* and together with ganna *Lebeckia multiflora*, *Ruschia macowanii, R. tecta, Eriocephalus africanus* and *E. racemosus* form the bulk of the shrub matrix. Added to this are broad-leaved shrubs gwarrie *Euclea racemosa*, *Rhus laevigata* var. *incana* and firethorn *Putterlickia pyracantha,* and prominent succulent shrubs such as vark oor *Cotyledon orbiculata*, geelmelkbos *Euphorbia mauritanica* and botterboom *Tylecodon paniculatus*. Various climbers add to the diversity e.g. dikbeenmalva *Pelargonium gibbosum*, dawidjies *Cissampelos menispermes* and bryony *Kedrostis nana.* Groundcovers and low-growing succulent species prominent include *Grielum grandiflora*, sourfig *Carpobrotus acinaciformis* and *Euphorbia caput-medusae.*

FS 7 Overberg Dune Strandveld

Cape Hangklip to Cape Infanta

This unit occurs in extensive dunefields that support a low wind-shorn thicket and in sheltered dune slacks as a thicket up to four metres tall, see photographs 2 and 5 on previous page, 1 and 2 on page 12. The low shrubland thickets consist of the dominant dune olive *Olea exasperata*, *Rhus lucida, R. crenata, R. undulata*, waxberry *Morella cordifolia, Myrsine africana* and small-leaved shrubs including *Eriocephalus africanus, Phylica ericoides, Passerina corymbosa, P. paleacea* and *Metalasia muricata*. The restioid component is represented by *Ischyrolepis eleocharis* and dekriet *Thamnochortus erectus*. These can be dominant as either an understorey or in the case of *T. erectus,* after a fire as an emergent species.

The dune slack forest thicket is composed mostly of milkwood *Sideroxylon inerme*, gwarrie *Euclea racemosa*, pock iron *Chionathus foveolatus* and candlewood *Pterocelastrus tricuspidatus*.

This unit grades into Agulhas Limestone Fynbos and the two are easily differentiated by the presence of Proteaceae. Especially in the Walker Bay area, dune conebush *Leucadendron coniferum* indicates the presence of limestone fynbos.

FS 8 Blombos Strandveld

Between Witsand and Gouritsmond

This is dense, evergreen, sclerophyllous shrublands and thickets with a poorly developed undergrowth layer, see photographs 1 and 6 on page 9. As with the previous unit, the forest thickets are best developed away from the shearing effect of the wind. This unit is very similar to Southern Cape Valley Thicket and has a number of species in common e.g. needle bush *Azima tetracantha* and sneezewood *Ptaeroxylon obliquum,* but differs in that small-leaved fynbos type shrubs and restios occur in openings where the sclerophyllous thicket has been damaged by game paths or blowouts. The spatial transition from fynbos-like shrubland to the thickets is short, as little as five metres in places. There are large and well-developed forest thickets consisting of the same species as the previously described unit. This vegetation is in the transition zone where many species are at the most westerly of their distribution. It therefore contains a number of Thicket species and these add to the uniqueness and diversity of this vegetation unit.

FR 9 Groot Brak Dune Strandveld (GBDS)

Gouritz River mouth to Victoria Bay

This is the most easterly occurring unit of this vegetation type and in places, for example, Bogomsbaai on the South Coast it faces off with Southern Cape Valley Thicket and shares many characteristics with it, see photograph 3 on page 9. GB Dune Strandveld is a tall, up to three metres, dense, spiny sclerophyllous thicket and where there are openings it contains low, fine-leaved shrubland. As part of their matrix, these shrublands consist of amongst others *Eriocephalus africanus*, vaalbliksembos *Clutia daphnoides*, hardebos *Phylica axillaris*, dwarf shrubs including christmas bush *Chironia baccifera*, mat-forming succulents such as sourfig *Carpobrotus deliciosus* and cushion-forming succulents including *Crassula pubescens* and *C. expansa*.

Where Southern Cape Valley Thicket (SCVT) and Groot Brak Dune Strandveld (GBDS) occur together, it can be difficult to discern between them as they grade almost seamlessly into one another. The obvious difference is the soil, where GBDS occurs on white sand and SCVT on reddish-brown substrates, occasionally sand but generally fine grained loam or soils derived from conglomerate. Although GBDS contains *Aloe arborescens,* it does not contain *A. ferox* and this species alone is useful for differentiating between the two.

key issues

sand movement corridor/reservoir

Dunes, especially the dynamic foredunes form a sand reservoir for the beach and as such are vital for the process of beach migration as a result of long shore currents. Further to this, is the deposition of sand and its consequent migration inland as a result of onshore winds, see photographs 1 and 2 below. These shifting sands can migrate for kilometres inland and in so doing, alter the vegetation structure completely. In this way they create a disturbance, one of the fundamental processes in shaping an ecosystem, creating new opportunities and on a local scale increasing biodiversity.

Stabilisation of these corridors by invasive alien plants such as rooikrans *Acacia cyclops* prevents the movement of sand from the coast inland, a further reason as to why the eradication of invasive alien plants is important.

aquifer recharge

Dunes absorb large amounts of precipitation, partially due to the hygroscopic effect of salt. Furthermore, they retain water as a result of the surface layers drying and then forming a barrier to further evaporation. In so doing, dunes contribute to the recharge of aquifers and therefore help maintain the water table.

faunal interaction

Strandveld has a higher proportion of berry-producing plant species than other fynbos vegetation types. This is due to the higher nutrient load in the soils allowing for the production of fleshy fruits. The plants have a mutualistic relationship with frugivores. Most of these frugivores are in fact birds that aid dispersal and ultimately the creation of thicket and forest communities.

Compared to natural, undisturbed coastal ecosystems it has been shown that areas with an increase in human activity have a far lower diversity and abundance of birds. This has a significant impact on seed dispersal.

fire

Fire is essential in fynbos vegetation and it is widely accepted that it stimulates recruitment and helps maintain high species diversity. Strandveld vegetation is a mixture of fire dependent and independent communities. The thicket and succulent related Strandveld types are independent of fire. The frequency of fire is therefore dependent on the species composition and structure of the vegetation. Where the structure and species composition are similar to fynbos it is more fire dependent. Some areas, along Walker Bay and Cape St. Francis, contain dune fynbos as part of the Strandveld matrix. This fynbos contains species not found in climax Strandveld and should be burned on a regular fire cycle so as to maintain species diversity.

marine/terrestrial interface: nutrient cycling

The sandy beaches have a well-developed detrital food chain based on kelp and other marine biota. Both carrion and detritivores are consumed by inland dwelling animals and in this way marine nutrients are transported inland and made available.

management objectives

"Sensitive, vulnerable, highly dynamic or stressed ecosystems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure" (National Environmental Management Act, 1998).

site environmental management plan

objective: *To have a site specific Environmental/Conservation Management Plan (EMP) in place, to guide management actions required on a site scale.*

management actions:

- Commission a site specific EMP to be compiled;
- Use monitoring, observations and site specific requirements to inform further management actions required;
- Make recommendations for revision and highlight areas of under performance;
- Review site EMP as/when required, as defined in the EMP.

funding

objective: *To have an environmental management budget in place that allows for the implementation of this EMP and a site-specific EMP, through the development of a site Annual Plan of Operation (**APO**).*

management actions:

The landowner/manager is to prepare an APO. The APO will consist of the required operating and capital expenditure as well as planned funding sources through external agencies and programmes. The APO will consist of:

- A sustainable budget that is costed annually to allow for the implementation of the EMP.
- Complete an APO, using the template provided in the EMP Guide Tool, by year end of each year.

Opportunities for external funding and assistance do exist; see EMP Guide Tool for funding opportunities.

vegetation management

alien vegetation

objective: *To remove all invasive alien vegetation from the natural areas by the most cost-effective methods with the least amount of damage to the natural environment. Invasive alien vegetation transforms and replaces indigenous vegetation, adds to the fuel load, increasing the fire frequency and intensity, transforms the riparian zones, affects the functioning of aquatic ecosystems by altering water quality and flow, and stabilises sand movement corridors.*

The **Best Practice Guideline: Alien Vegetation Management** provides the information required for control of the invasive alien flora.

Before any clearing of alien vegetation is initiated, it must be understood that when the programme starts, it must be implemented until completion. There is no value in *ad hoc* clearing, with no follow-up program.

management actions:

- Obtain an aerial photograph of the area whenever an official survey is undertaken, to assess plant growth and extent of alien infestation.
- Identify areas for clearing to ensure compliance with the Conservation of Agricultural Resources Act (CARA) regulations.
- Demarcate areas that will not be cleared of alien plant species initially (ensuring that the CARA regulations are complied with at all times).
- Removal of all invasive alien plant species from the natural areas, excluding those identified above.
- Regular assessment of invasive species control and intensity of invasion.

It may be necessary to contract certain tasks such as extensive alien vegetation clearing to private contractors if there is insufficient capacity within the staff establishment or if it is economically beneficial. All private contractors on site must however be strictly controlled.

natural vegetation

objective: *To ensure that the remaining areas of natural vegetation are best managed so as to contribute towards biodiversity conservation, retaining representative samples of our natural vegetation to allow for biodiversity and ecological processes to persist.*

management actions:

- Identify the vegetation type/s present on your property;
- Familiarise yourself with best conservation management practices for the particular vegetation type e.g. prescribed ecological burns as per appropriate fire regime;

See the **Best Practice Guideline: Fire Management & Prevention** for more detail.

- Develop a plant species checklist;
- Contribute records of rare and threatened species and localities to SANBI;
- Map the location of rare and threatened plant species to inform management activities e.g. road/path placement;
- Make provision for seasonal monitoring, during spring and autumn months, of rare and threatened flora on site (where possible comment should be made on numbers of individuals and locality);

- A reintroduction plan must be prepared if areas are to be rehabilitated, stating species to be reintroduced and the source of material.

fauna management

objective: *To promote the conservation of indigenous fauna (the big and hairy and small and slimy alike), as an important component contributing to and maintaining ecosystem functioning.*

management actions:

- Develop faunal species lists including mammals, birds, reptiles, amphibians, arachnids and scorpions, and other invertebrates;
- Conduct at least *ad hoc* monitoring of faunal populations and maintain recordkeeping;
- Contribute significant records and localities of fauna to the Atlas databases at the Animal Demography Unit (**ADU**) at University of Cape Town (**UCT**);
- Ensure that management and recreational activities do not impact on sensitive species;
- Implement responsible problem animal management, where necessary, ensuring to be in possession of the relevant permits;
- Eradicate invasive exotic faunal species, where necessary, ensuring to be in possession of the relevant permits;
- Limit the impact (competition and predation) by domestic animals on indigenous species. Where residential estates abut natural areas, it may be necessary to compile a policy on pets. It is preferable to be proactive in this regard.
- Compile a policy on introduction (accidental or deliberate) of potentially invasive species (e.g. wildfowl) or wild animals previously kept as pets e.g. tortoises which could genetically pollute local races or harbour geographically isolated diseases.
- Commission a reintroduction policy and plan for species that used to occur in the area and the suitable carrying capacities. Investigate the potential for reintroductions, specifically small game, which may have previously occurred naturally in the area. Herbivores are essential for biodiversity and ecosystem processes to persist.

Before **reintroduction** the following points need to be considered:

- Was the desired species naturally resident in the area?
- Why did the animal become extinct in the area?
- Is that causal factor still a threat?
- Is the habitat still suitable for the species?
- What are the potential negative effects of the reintroduction?
- Where is the nearest existing population?

The careful reintroduction of species can enhance the conservation value of the area and increase the marketability of the site. All reintroductions must be based on sound ecological principles. CapeNature must be consulted on the translocation and reintroduction of all fauna.

groundwater management

objective: *To maintain groundwater quality and flow in a near natural state as possible, as per the National Water Act (NWA) 36 of 1998, as potable water resources and to prevent significant lowering of the water table that will adversely affect other ecosystem components and processes, such as wetlands.*

management actions:

- Commission a hydrological survey to establish the following: seasonal flow rates, current water usage and appropriate abstraction rates based on the Ecological Reserve;
- Audit and map potential points of pollution;
- Obtain qualified advice for placement and management of solid waste disposal systems, so as to prevent contamination;
- Have a pollution monitoring programme in place;
- Have a remediation procedure, in the event of pollution incidents.

maintain nutrient cycling

objective: *To retain areas where sea cast organic debris is allowed to be naturally consumed by scavengers and detritivores and thereby maintain the sandy beach ecosystem and the continued functioning of the marine/terrestrial nutrient cycling interface.*

management actions:

- Only allow the removal or harvesting of kelp from allocated sections of beaches further to a permit issued by Marine and Coastal Management;
- Organic beach debris (e.g. marine animal carcasses) should only be moved off popular recreation beaches and should be buried at the high water mark if possible.

access management

objective: *To inform the best placement and management of access points and pathways along the coastline, avoiding sensitive process areas such as dune slack wetlands or sand movement corridors, and prevent excessive path braiding and consequent destabilising of dune systems.*

management actions:

- Conduct an audit of the siting and condition of existing access points and pathways;
- Identify suitable access points and pathways, and decommission those in sensitive process areas;
- Maintain pathways/boardwalks to ensure its use and not the making of alternative routes;
- Implement a rehabilitation programme, where this is required.

use of living resources

objective: *To ensure sustainable use of natural resources and minimise adverse effects on biodiversity and ecosystem processes.*

See the **Best Practice Guideline: Sustainable Utilisation of Natural Resources** for more detail.

recreation & tourism management

objective: *To ensure the appropriate use of natural areas for recreation and tourism and minimise detrimental impact on biodiversity and sensitive processes.*

See the **Best Practice Guideline: Recreation & Tourism Use** for more detail.

road maintenance & erosion control

objective: *To ensure that geomorphological processes and soils are adequately understood and impacts thereon duly minimised, avoiding the consequent loss of natural resources and habitat.*

management actions:

- Identify and understand erosion sources;
- Prioritise erosion problems requiring control efforts;
- Where dune systems have sustained damage due to excessive trampling and/or past access by vehicles, implement a rehabilitation programme. Have measures in place to prevent further erosion damage;
- Road and footpath erosion control must be monitored and managed on an ongoing basis;
- Records should be kept (preferably photographs) of previous erosion management, in order to measure effectivity.

See the **Best Practice Guideline: Sensitive Development** for more detail.

signage & awareness

objective: *To inform of the sensitivity and value of biodiversity features and ecosystem processes, and to facilitate the appropriate use thereof.*

management actions:

- In order to achieve the above, three types of signage need to be considered: **directional**, **informational** and **interpretational**. The first guides visitors to and around the area, while the second provides information on some aspects of the area and management (such as erosion control). Interpretation of the environment, the third form of signage, would focus on aspects such as functioning of the ecosystem in the natural areas, emphasising the unique biodiversity and ecological processes.
- Where necessary, a signage policy and manual should be compiled;
- Signs indicating the name of the site should be erected at all vehicular and pedestrian access points;
- Signage must be set up to inform of areas being rehabilitated;

- Awareness programmes must be initiated for the purpose of informing and educating residents and visitors regarding environmental sensitivity and interaction (e.g. snake encounters, the value of biodiversity, biological monitoring and rehabilitation)

fencing

objective: *Where necessary, fence areas for access control and management.*

While a definite demarcation of the boundary of natural areas helps visually establish such areas as being of conservation value, rather than simply vacant open space, fencing also limits the natural transit of wildlife and therefore ecosystem processes. It is apparent that continuity of best practice conservation management is required across cadastral boundaries in order for the broader ecosystem to best benefit from holistic management.

management actions:

- Where possible, internal and common cadastral fencing should be removed to allow for connectivity;
- Appropriate fencing should be used, and where possible jackal-proof and electric fencing should be avoided;
- Public road-side boundaries should be well demarcated for access control and to prevent wildlife road kill;
- All roads not for public vehicular access must have locked gates;
- Stiles may be placed over fences to allow access along approved pedestrian paths;
- Where fencing hinders the natural transit of wildlife, provision must be made for thoroughfare e.g. bottom fence strand raised for tortoises;
- Fence line and access gates should be regularly inspected.

archaeological and heritage features

objective: *To ensure that the archaeological and heritage aspects of the site are protected as defined in the Natural Heritage Resources Act 25 of 1999.*

management actions:

- Inform SAHRA of potential heritage features on site and acquire advice on protection measures. These features may be of significant archaeological importance and damage to these features would lower their archaeological value and possibly their tourism value;
- Keep record of heritage features on site;
- Prevent any damage to these features;

monitoring and recordkeeping

objective: *To evaluate management actions of the site as well as monitor biodiversity components and ecological processes. Data can contribute towards regional conservation plans and initiatives and further highlight conservation priorities.*

management actions:

- It is critical that sites collect baseline information (resource inventory) as a priority;
- Establish a plan of action/objective for monitoring of specific features, components and processes;
- Describe methods used and maintain these;
- Map fixed monitoring sites or features to be monitored, preferably with a GPS;
- Keep data safe and have duplicates;
- All research activities (external studies) are to be controlled i.e. written permission granted with the condition that a copy of the final research report is provided;
- Manager to compile monthly report, incorporating all incidents, significant events and findings and operations that have taken place.

staff training and skills development

objective: *To continually capacitate and train staff in environmental knowledge and a range of skills and enhance their capacity.*

management actions:

- Staff training should include the following:
  - Regular fire training and fire exercises
  - Use of appropriate machinery, tools and technology
  - Public relations and interactions
  - Ecosystem components
  - Management training

- Waste management & recycling
- Use of herbicide application
- Methods for alien vegetation control

ecological connectivity

objective: *Identify suitable corridors or expansions for connecting natural and protected areas to improve the overall resilience of the protected area and allow processes to function at an appropriate scale and so allow for holistic management of the ecosystem.*

management actions:

- Liaise with CapeNature Regional Office regarding expansion and connectivity opportunities;
- Approach and liaise with neighbours in this regard;
- Draw up a Memorandum of Understanding or contractual agreement between neighbours detailing areas of responsibility amongst others.

voluntary conservation

objective: *Consider proclaiming natural areas for conservation in perpetuity, via the CapeNature Stewardship program.*

management actions:

- Familiarise with the three levels of **stewardship options** i.e. Voluntary Conservation Site, Biodiversity Agreement and Contract Nature Reserve;
- Landowner should contact local CapeNature stewardship coordinator to discuss options and benefits.