Biodiversity and ethnobotanical assessment of Erf 657, Still Bay, Hessequa Municipality

Report prepared by:

Dr B. Adriaan Grobler

and

Mrs Susan Botha

Report prepared for:

Still Bay Interest Forum

February 2019

Table of Contents

Abbreviations and Acronyms

AIP(s)	Alien Invasive Plant(s)
CBA(s)	Critical Biodiversity Area(s)
CCR	Core Cape Subregion (of the Greater Cape Floristic Region)
ESA(s)	Ecological Support Area(s)
FRI	Fire Return Interval
GCFR	Greater Cape Floristic Region
NEMBA	National Environmental Management: Biodiversity Act (10/2004)
ONA(s)	Other Natural Area(s)
SCC(s)	Species of Conservation Concern
TEK	Traditional Ecological Knowledge
WCBSP	Western Cape Biodiversity Spatial Plan

Acknowledgements

We thank Prof Richard Cowling of Nelson Mandela University's African Centre for Coastal Palaeoscience (ACCP) for his inputs to this project, especially his help in the field and for reviewing this report. Thank you also to Christina Mars for joining us in the field and for her help during the survey. The ACCP is thanked for the use of its equipment during fieldwork.

Opsomming

Hierdie studie is in opdrag van die 'Still Bay Interest Forum' (SBIF) saamgestel om hulle en die Hessequa Munisipaliteit in staat te stel om 'n strategiese plan te ontwikkel vir 'n munisipale eiendom, Erf 657, in die dorp van Stilbaai aan die Kaapse suidkus. Die doel van hierdie studie was om die biodiversiteits- en etnobotaniese-belang van hierdie eiendom in 'n plaaslike- en streeks-konteks te bepaal, en om maniere aan te beveel waarvolgens hierdie eiendom op 'n volhoubare wyse gebruik kan word. Ons rapporteer die bevindinge van 'n opname om die flora, plantegroei, en etnobotaniese rykdom van Erf 657 te dokumenteer. Die potensiële gebruike van die eiendom, wat hierdie etnobotaniese kennis in ag neem, was soos volg ondersoek:

a) die geskiktheid van die eiendom om die belangrikheid van die Kaapse suidkus tot die oorlewing en kognitiewe ontwikkeling van die eerste moderne mense uit te beeld;
b) die geskiktheid van die eiendom om die etnobotaniese kennis van die Kaapse suidkus se plaaslike mense te bewaar; en
c) die toerismepotensiaal van veldkoskook, inheemse kennis, en veldmedisyne.

Alhoewel die grootste deel van Erf 657 nie deur die 'Western Cape Biodiversity Spatial Plan' (Pool-Stanvliet et al. 2017) as 'n Kritiese Biodiversiteitsarea herken word nie, en dus nie 'n prioriteit vir biodiversiteitsbewaring in die provinsiale konteks is nie, het ons opname aangedui dat Erf 657 botanies ryk is: die eiendom huisves 'n verskeidenheid plante (176 inheemse spesies)—waarvan die meerderheid (55 %) slegs in die Groter Kaapse Floristiese Streek voorkom—asook drie plantegroeigemeenskappe. Verskeie plantspesies van bewaringsbelang, waaronder vier plaaslik endemies en bedreig is, kom hier voor. Die oorheersende plantegroei-tipe—strandveld wat op antieke duine voorkom—is tans swak gekarakteriseer, en min betroubare inligting is beskikbaar om die bewaringsbelang van hierdie plantegroei te bepaal. Verder verbind die eiendom binnelandse gedeeltes van die landskap aan die kusduine van Skulpiesbaai Natuurreservaat en, in mindere mate, aan die oewersone van die Goukourivier. Om die bewaring van biodiversiteit op Erf 657 te bevorder beveel ons die ontwikkeling van 'n geïntegreerde brand-en-indringerplante-bestuursplan aan, asook die voorkoming van onwettige storting.

Stilbaai is tussen Pinnacle Point en Blombos grot geleë, en Erf 657 is op die hoofstraat van Stilbaai geleë. Soos ons opname gewys het, kom daar 'n groot verskeidenheid plante op die eiendom voor wat 'n rykdom etnobotaniese kennis bied. Dit is egter die breër konteks van hierdie kennis in die antropologiese geskiedenis van die streek wat die moontlikheid bied dat

die eiendom 'n paleo-toerisme-sentrum van die Suidkaap kan wees. Ons glo dat Erf 657 gebruik kan word om toeriste na Stilbaai te lok deur: (1) die verhaal te vertel van hoe mense hier in 'n harde klimaat oorleef het toe hulle nie in ander dele van die wêreld kon oorleef nie; en (2) begeleide en/of selfgeleide roetes deur die eiendom aan te bied wat die eetbare en medisinale plantspesies wat algemeen in die area voorkom beklemtoon. Verder bied Erf 657 die moontlikheid van 'n buitelugse leerfasiliteit vir skooluitstappies waar kinders oor nuttige plantspesies kan leer, en sodoende kan die tradisionele ekologiese kennis van die streek oorgedra en bewaar word. Die aanbevole area vir hierdie aktiwiteite is die oostelike hoek van die eiendom (op die hoek van die hoofstraat en Hofmeyer/Arend Straat) omdat:

a) dit die hoogste aantal nuttige spesies per area bied;
b) dit afgesonder is van die verkeerslawaai wat langs die Stilbaai–Jongensfontein-pad voorkom; en
c) die gemiddelde boomgrootte groter is in hierdie area, wat 'n gevoel van verdieping in die natuur skep.

Langer roetes kan deur die res van die eiendom ontwikkel word en kan ander aktiwiteite insluit, byvoorbeeld veldfietsry. Toeriste word deur niservarings aangelok, byvoorbeeld die Grootboom in die Tsitsikamma-gebied, en die kreatiewe ontwikkeling van Erf 657 sal Stilbaai bo ander Suidkaapse kusdorpies verhef.

1 Introduction

This study was commissioned by the Still Bay Interest Forum (SBIF) to help them and the Hessequa Municipality formulate a strategic plan for a municipally-owned property, Erf 657, near the centre of Still Bay on the Cape south coast. The aim of this study was to determine the biodiversity and ethnobotanical importance of this erf, in both a local and regional context, and to recommend ways in which this property could best be used in a sustainable manner.

In this study, we report the findings of a survey of the property to document the flora, vegetation, and ethnobotanical richness of these biodiversity components. The potential uses of the site, bearing this ethnobotanical knowledge in mind, is explored as follows:

a) the potential of the site to showcase the significance of the Cape south coast to the survival and cognitive development of the first modern humans;
b) the potential of the site to preserve the rich ethnobotanical knowledge of the Cape south coast's local people; and
c) tapping the tourism potential of wild food cooking, indigenous knowledge and medicine.

2 Study Area

The study area, Erf 657, lies in the south-west of the coastal town of Still Bay in the Hessequa Municipality, Western Cape Province (Figure 1; centred around –34.382424°, 21.409887°). The erf covers approximately 61.5 ha, and is bounded by roads along all its boundaries (Main Road, Arend Street, Bosbokduin Avenue, and the Jongensfontein Road). The terrain slopes moderately in a north-easterly direction toward the Goukou River, with the highest point of 70 masl occurring in the western corner of the erf, and the lowest point of 17 masl occurring in the eastern corner. Most of the land to the west, north, and east of Erf 657 has been developed for residential housing; to the south-east, some intact vegetation remains on undeveloped land, although some of this area is in the process of being cleared for development; and the Still Bay Golf Course lies along the south-western boundary (along Arend Street) of the study area (Figure 1). The nearest protected area, Skulpiesbaai Nature Reserve, occurs along the coastal dunes some 500 m to the south-west of Erf 657.

Figure 1: The study area (yellow outline), Erf 657, in the south-west of Still Bay. The Still Bay Golf Course abuts Erf 657 to the south. Two protected area complexes (highlighted in green) occur in the surrounding landscape, with the Skulpiesbaai Nature Reserve located to the south-east of Erf 657.

3 Methodology

Fieldwork for this study was conducted from 16–19 September 2018. This coincided with the spring peak flowering period for the winter rainfall region of the southern Cape; however, due to the prolonged drought that the region has experienced over the past few years, several plant species that were encountered during the survey were not in flower or in fruit. This hindered the identification of some species, and some were thus only identified to generic level (4 of 184 species). In other cases, vegetative material was enough to identify certain non-flowering plants to species level with moderate confidence (11 of 184 species; these are indicated with the prefix 'cf.' in Appendix 1). Note that some of the plant species recorded during this study comprise subspecific taxa (i.e. subspecies or varieties); these were identified to the lowest taxonomic level where possible, but in the remainder of this report, we refer to specific and subspecific taxa as 'species'.

We attempted to survey as much of Erf 657 as possible during the four-day survey period, and aimed to identify and map the different habitats (vegetation types) that occur in the study area, as well as to compile a comprehensive checklist of plant species that occur in the study area (Appendix 1). Photos of most plant species that were recorded during the survey were uploaded to the iNaturalist database (available online at https://www.inaturalist.org/observations?q=SB_Erf_657&search_on=tags). To supplement the species list generated during the survey, additional species records that were previously submitted to the iNaturalist database were extracted (full list available online at https://www.inaturalist.org/places/erf-657). Species of conservation concern were identified from the Red List of South African Plants v. 2017.1 (SANBI 2010–2012).

A wide literature review was done to summarise the known ethnobotanical uses of the plant species found at the study site. With the help of a "local expert" who is familiar with wild plants, including veldkos, we determined the distribution of the most commonly-known useful indigenous plants throughout the study site. This was done by standing at 30 fixed points randomly distributed within the study site and recording the known plant species within a 10 m radius of each point. To determine the status of traditional ecological knowledge (TEK) of Cape south coast residents, we reviewed published literature. To gauge public interest in learning about indigenous plant uses, we determined the popularity of Instagram (https://www.instagram.com/) hashtag phrases around "indigenous wild foods".

4 Biodiversity Importance

4.1 Regional Context

The study area forms part of the Core Cape Subregion (CCR; Manning and Goldblatt 2012) of the Greater Cape Floristic Region (Born et al. 2007). The subregion (previously the Cape Floristic Region) is recognised as one of 34 global biodiversity hotspots (Mittermeier et al. 2004), while the South African National Spatial Biodiversity Assessment (Rouget et al. 2004) also identified the CCR as one of the country's nine priority areas for biodiversity conservation. The subregion is extremely species-rich, with high levels of endemism and species turnover (Cowling and Holmes 1992; Manning and Goldblatt 2012). In terms of number of endemic plant and vertebrate genera and families, the CCR ranks fifth in the world among biodiversity hotspots (Mittermeier et al. 2004). It harbours around 9,400 vascular plant species, 69% of which are endemic, making it the region with the highest concentration of plant species outside of the tropics (Manning and Goldblatt 2012; Mittermeier et al. 2004). Much of the biodiversity in the CCR is seriously threatened by anthropogenic impacts, especially in lowland areas. Overall, about a third of the region has been transformed by agriculture, alien plant invasions, and urbanization (Rouget et al. 2003). However, of the remaining untransformed areas, only about 20% remains in a pristine state (Mittermeier et al. 2004). Consequently, most of South Africa's threatened plant species (Raimondo and Von Staden 2009) and threatened ecosystems (Driver et al. 2012) occur in the CCR.

The coastal lowland areas of the CCR, including those on the Riversdale Coastal Plain on which Still Bay occurs, represent some of the most threatened regions of natural vegetation because of intensive agriculture, urbanization, and alien plant invasion (Rouget et al. 2003). In a recent study, Bradshaw et al. (2015) identified the coastal areas around Still Bay as a centre of endemism. This centre, called the Eastern Riversdale Plains Centre, forms part of the broader Agulhas Plains Biogeographic Region, and comprises the coastal forelands south of the Langeberg and between the Duiwenhoks and Gouritz Rivers (Bradshaw et al. 2015). The Agulhas Plains Biogeographic Region roughly corresponds to the Bredasdorp–Riversdale Centre recognised by Cowling et al. (1992), which hosts a unique and diverse flora associated with limestone. The Still Bay area in particular (including Melkhoutsfontein) has an unusually high concentration of limestone-endemic rare and threatened plant species (Willis et al. 1996).

4.2 Conservation Planning

The 2017 Western Cape Biodiversity Spatial Plan (WCBSP) (Pool-Stanvliet et al. 2017) is the most up-to-date and comprehensive biodiversity spatial plan available for the study area. The WCBSP provides a map of biodiversity importance for the entire Western Cape Province. This map is the product of a systematic conservation plan that identified Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs)—spatial representations of biodiversity features that require safeguarding to ensure the continued existence and functioning of local species and ecosystems.

The WCBSP identified most of Erf 657 as Other Natural Areas (ONAs) (Figure 2). Areas demarcated as ONAs were not identified as a priority in the systematic conservation plan, but they retain most of their natural character and perform a range of biodiversity and ecological infrastructure functions (Pool-Stanvliet et al. 2017). Although they have not been prioritised for biodiversity conservation, they remain an important part of natural ecosystems. The desired management objective for ONAs is to minimise habitat and species loss and ensure ecosystem functionality through strategic landscape planning (Pool-Stanvliet et al. 2017). ONAs thus offer flexibility in permissible land uses, but some authorisation may still be required for high-impact land uses.

The WCBSP also identified a CBA 1 along the north-western boundary of Erf 657 (Figure 2). This CBA category encompasses areas that remain in a natural condition that are required to meet conservation targets for species, ecosystems or ecological processes and infrastructure (Pool-Stanvliet et al. 2017). This small portion of land was identified as a CBA 1 because: (1) it hosts a nationally threatened vegetation type (Vulnerable Albertinia Sand Fynbos); (2) it falls within the natural distribution and hosts habitat of a threatened vertebrate (bontebok); and (3) it contributes to the protection of water resources (Southern Coastal Belt watercourses). The desired management objective for CBA 1 is to maintain the area in a natural or near-natural state, with no further loss of habitat (Pool-Stanvliet et al. 2017). Furthermore, degraded areas should be rehabilitated, and only low-impact land use options that are compatible with biodiversity conservation are appropriate.

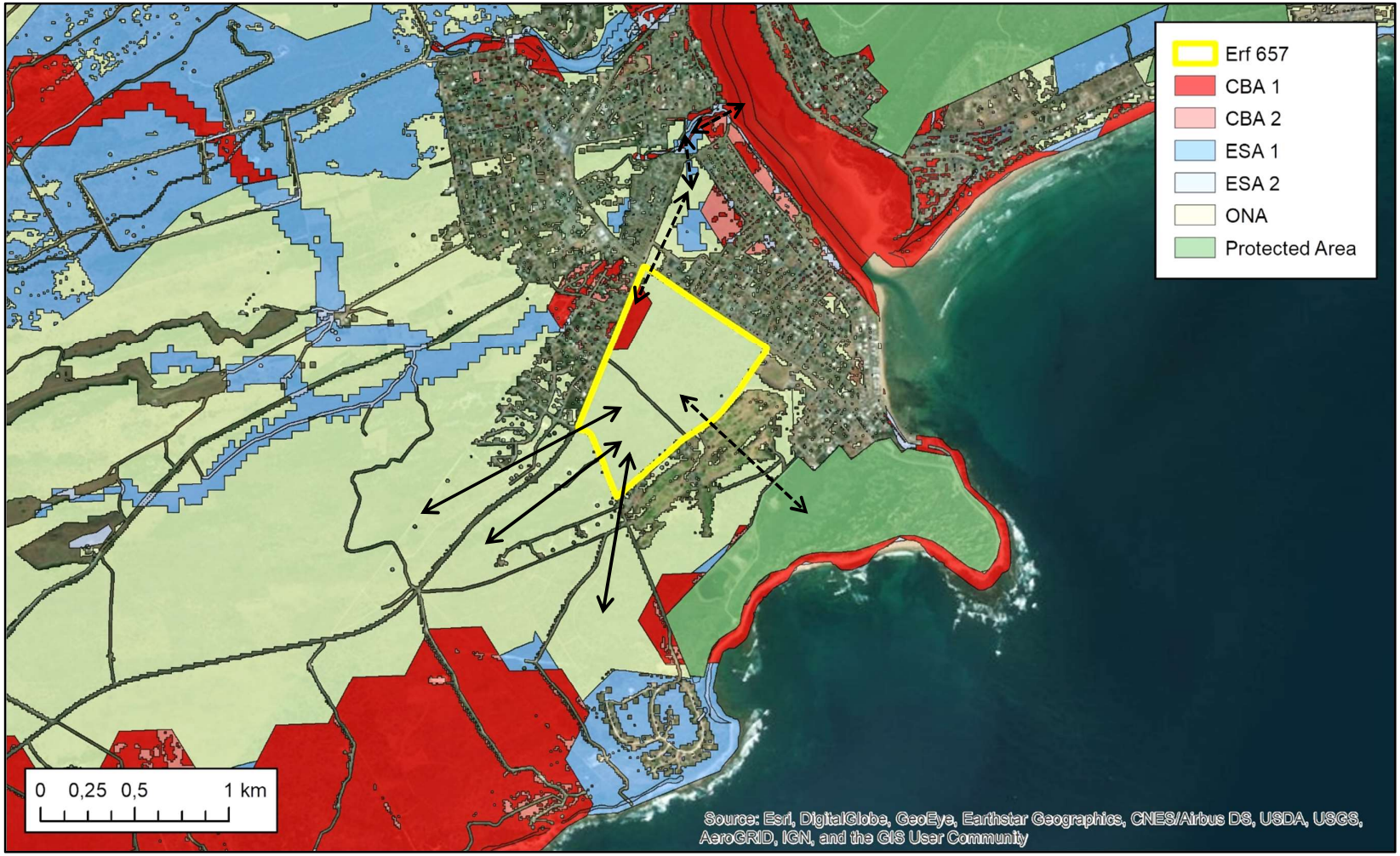

Figure 2: Critical Biodiversity Areas (CBA), Ecological Support Areas (ESA), and Other Natural Areas (ONA) identified by the 2017 Western Cape Biodiversity Spatial Plan (WCBSP) (Pool-Stanvliet et al. 2017) in the landscape surrounding Erf 657 (yellow outline) in Still Bay. Protected areas are also indicated. Solid arrows indicate paths of reasonable connectivity between Erf 657 and the surrounding landscape, while dashed arrows indicate paths of limited landscape connectivity.

4.3 Vegetation

4.3.1 General Patterns

Mucina et al. (2012) mapped two vegetation types on Erf 657, namely Albertinia Sand Fynbos and Canca Limestone Fynbos (Figure 3). Albertinia Sand Fynbos occupies most of the site, while Canca Limestone Fynbos occupies a relatively small sliver (< 100 m wide) along the north-western boundary of the erf. Nationally, Albertinia Sand Fynbos is found between Potberg in the west and the Gouritz River in the east where it occurs on deep neutral to acid, usually red, Tertiary sands associated with limestone of the Bredasdorp Formation (Rebelo et al. 2006). Structurally, it is predominantly proteoid fynbos (dominated by *Leucadendron eucalyptifolium*, *L. galpinii*, *Leucospermum praecox*, *Protea repens*, and *P. susannae*), but restioid fynbos (dominated by *Elegia stipularis*, *Mastersiella purpurea*, *Restio adpressus*, *R. leptoclados*, and *Thamnochortus insignis*) also occurs along watercourses and coastal edges (Rebelo et al. 2006). Albertinia Sand Fynbos is categorised as a Vulnerable ecosystem in terms of the National Environmental Management: Biodiversity Act (10/2004) (NEMBA). Canca Limestone Fynbos is found along the coastal forelands between Witsand in the west and Mossel Bay in the east—stretching up to 25 km inland from the coast—where it occurs on shallow, alkaline to neutral grey regic sands on Limestone of the Bredasdorp Formation (Rebelo et al. 2006). Structurally, it is mainly proteoid and asteraceous fynbos, but restioid fynbos occurs on skeletal soils. Dominant species in this fynbos type include *Protea obtusifolia*, *Leucadendron meridianum*, *L. muirii*, and *Restio leptoclados*. Canca Limestone Fynbos is not recognised as a threatened ecosystem in terms of NEMBA.

Rebelo et al. (1991) mapped the vegetation of Erf 657 as Dune Ateraceous Fynbos. This fynbos type is characterised by a high cover of non-ericaceous ericoid shrubs and the absence of proteoids. It may have a high cover of Rutaceae (especially *Agathosma* spp.) and low (< 0.25 m high) Restionaceae, but Ericaceae are rare. Floristically, Dune Asteraceous Fynbos is characterised by the dominance of *Restio eleocharis*, *Agathosma apiculata*, and *Carpobrotus acinaciformis* (Rebelo et al. 1991). Along the Still Bay coast, Dune Asteraceous Fynbos is flanked by Dune Thicket (a term used in place of Strandveld) to the north and south, and these two vegetation types occur on the same soil type (arid sites on recent, coarse sands with relatively low organic matter levels) (Rebelo et al. 1991). Dune Thicket is characterised by a high cover of fleshy-leaved shrubs and non-proteoids (< 2 m tall), as well as a low cover of succulents and the absence of *Aloe* spp. Species typical of this vegetation type include *Carissa bispinosa*, *Sideroxylon inerme*, *Roepera morgsana*, and *Salvia africana-lutea*.

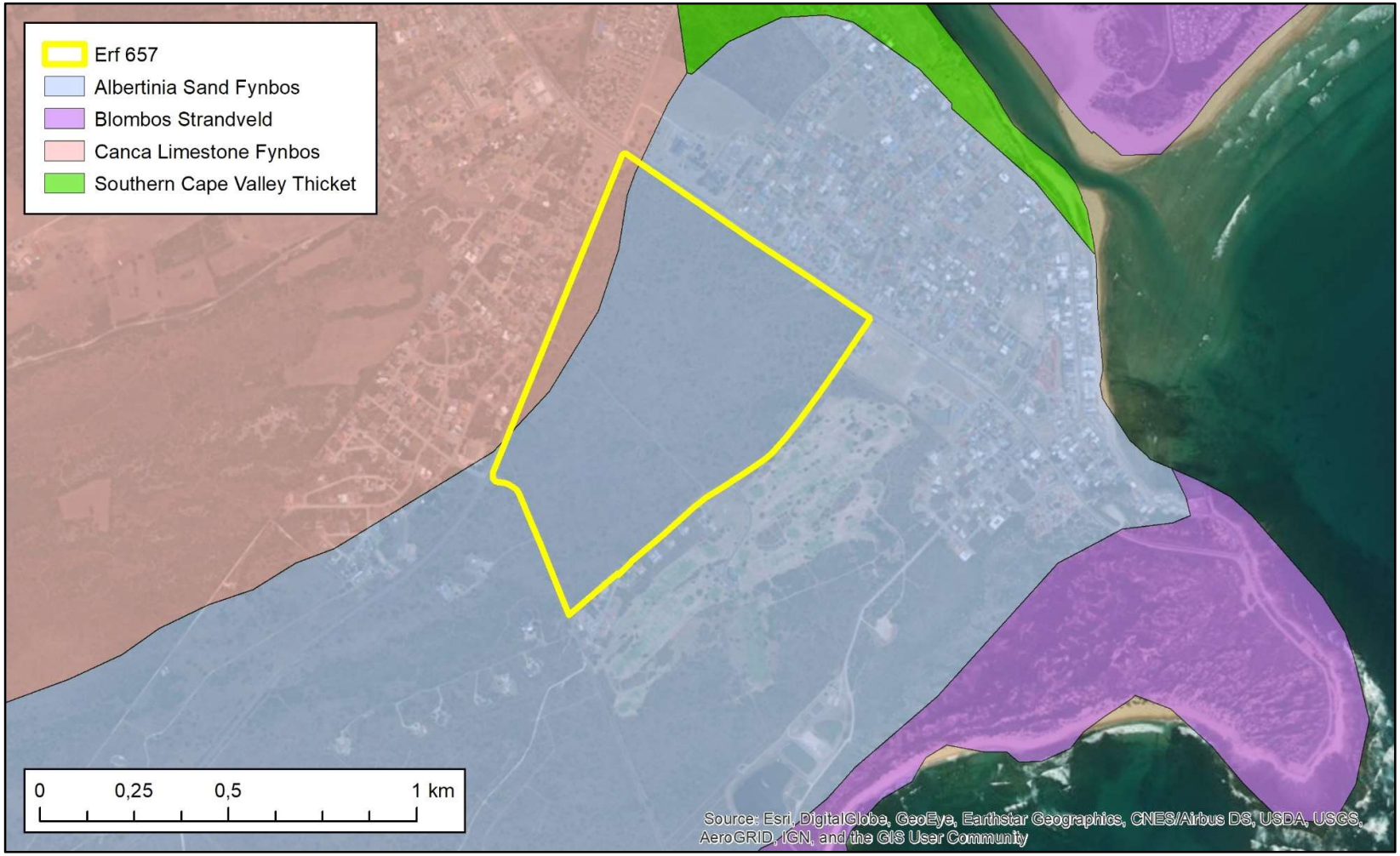

Figure 3: Vegetation types found on Erf 657 (yellow outline) in Still Bay and the surrounding landscape according to Mucina et al. (2012). Of the four vegetation types found in the area, two—Albertinia Sand Fynbos and Canca Limestone Fynbos—have been mapped in the study area. Note that only terrestrial types are shown here.

It should be noted that the vegetation associations of the Cape south coast, particularly those associated with calcareous sands of Holocene to Pleistocene age, are currently poorly characterised and are the subject of ongoing investigation. As such, most existing vegetation maps are unreliable to spatially differentiate between different vegetation types occurring on these substrates, and ground-truthing of these spatial data is vital.

4.3.2 Local Patterns

At a scale that is practical for the scope of this report, we were able to recognise two vegetation types in the study area, namely Strandveld and Limestone Fynbos (Table 1; Figure 4). Strandveld occupies the great majority of Erf 657, while Limestone Fynbos covers a significantly smaller area. Characteristics of these two vegetation types are discussed in more details in the following sections, while a summary of this is provided in Table 1.

Table 1: Vegetation types and communities occurring on Erf 657, Still Bay, with typical component species (divided into communities where applicable), substrate it occurs on, and area occupied for each type.

Vegetation type	**Community**	**Typical species**	**Substrate**	**Area (% of study area)**
Strandveld:	Strandveld thicket	*Sideroxylon inerme*, *Pterocelastrus tricuspidatus*, *Searsia glauca*, *Olea exasperata*	Deep, reddish sand, becoming rich in organic matter under large thicket clumps	61.36 ha (99.78%)
	Strandveld fynbos	*Thamnochortus erectus*, *T. insignis*, *Agathosma muirii*, *Hellmuthia membranacea*		
Limestone Fynbos:	-	*Berkheya coriacea*, *Ficinia truncata*, *Themeda triandra*	Skeletal, grey, calcareous sand over limestone	0.14 ha (0.22%)

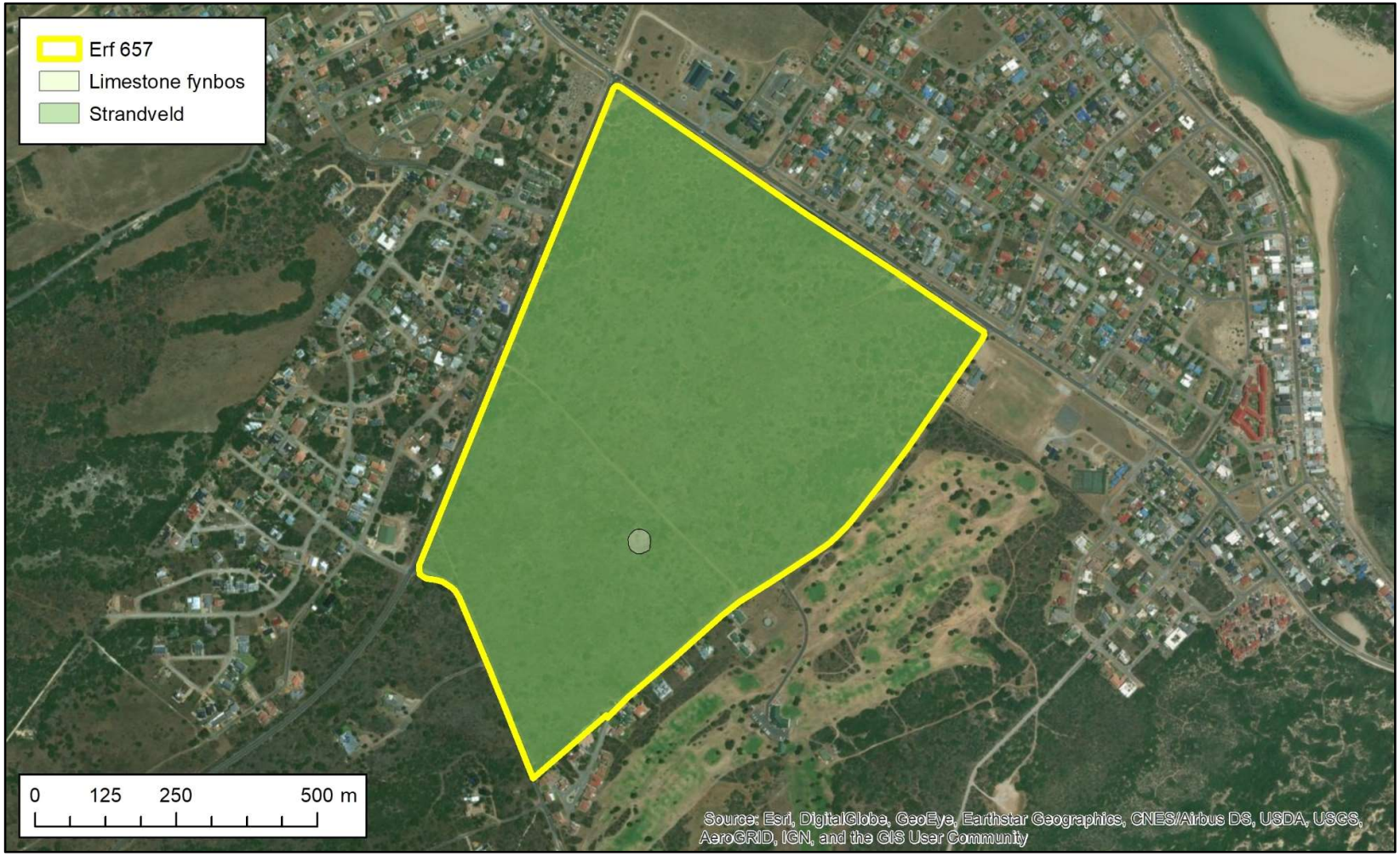

Figure 4: Vegetation types identified on Erf 657 (yellow outline), Still Bay during the present study. Most of the study area is occupied by strandveld—a mosaic of coastal fynbos and thicket vegetation—while a very small outcrop of limestone rock hosts limestone fynbos.

Strandveld

Strandveld is the dominant vegetation type on Erf 657, occupying more than 99% of the study area (Figure 4; Table 1) and occurring predominantly on deep, reddish sands. This vegetation comprises two distinct components (communities), namely a fynbos and a thicket component. The strandveld fynbos is the dominant component and forms a matrix within which strandveld thicket clumps of varying sizes occur (Figure 5). These two components are discussed in more detail in the following sections.

Figure 5: Typical Strandveld vegetation on Erf 657, with large thicket clumps (*Sideroxylon inerme*, *Pteroxelastrus tricuspidatus*) in the background, small thicket clumps (*Polygala myrtifolia*, *Searsia glauca*) in the foreground, and fynbos (*Thamnochortus insignis*, *Seriphium plumosum*) in the middle ground.

Strandveld Thicket

The larger thicket clumps in the strandveld are dominated by trees (Figure 5), usually 2–3 m tall, especially milkwood (*Sideroxylon inerme* subsp. *inerme*) and kershout (*Pterocelastrus tricuspidatus*), but kuskanverbos (*Tarchonanthus littoralis*), poison star-apple (*Diospyros dichrophylla*), dune gwarrie (*Euclea racemosa*), and pokysterhout (*Chionanthus foveolatus*

subsp. *tomentellus*) are also common. Tall shrubs (1.5–2 m tall) dominate the smaller thicket clumps and form the fringe of larger thicket clumps. Here, dune olive (*Olea exasperata*) and bloukoeniebos (*Searsia glauca*) are the dominant species, with kubusbessie (*Mystroxylon aethiopicum* subsp. *aethiopicum*), Septemberbos (*Polygala myrtifolia* var. *myrtifolia*), duinekraaibessie (*Searsia crenata*), blinktaaibos (*Searsia lucida*), bietou (*Osteospermum moniliferum*), and the semiparasitic Cape sumach (*Colpoon compressum*) also being abundant. Spinescent shrubs like pendoringtaaibos (*Searsia pterota*), num-num (*Carissa bispinosa*), stinkpendoring (*Gymnosporia buxifolia*), basterpendoring (*Putterlickia pyracantha*), and slangbessie (*Lycium ferocissimum*) are a common component of the thicket, especially along the fringe of thicket clumps. A few low shrubs (< 1 m tall), for example Cape myrtle (*Myrsine africana*), climbing saffron (*Lauridia tetragona*), and klimopkinkelbossie (*Tetragonia fruticosa*), are also found along the thicket fringes, as are the succulent shrubs soetmelkbos (*Euphorbia burmannii*) and slaaibos (*Roepera morgsana*).

Several climbing and sprawling plants grow up through the shrub and tree layers to the thicket canopy, forming a dense tangle that is typical of this vegetation community; these include the lianes *Asparagus aethiopicus*, *Asparagus asparagoides*, and dronkbessie (*Solanum africanum*), the vines *Cynanchum obtusifolium*, bosklimop (*Dipogon lignosus*), *Pelargonium peltatum*, dawidjiesworttel (*Cissampelos capensis*), ystervarkpatat (*Kedrostis nana*), and *Zehneria scabra*, as well as the succulent climber spantou (*Cynanchum viminale*). Geophytes are uncommon in the thicket, with only two species, small cobra-lily (*Chasmanthe aethiopica*) and bush orchid *(Bonatea speciosa*), occurring sporadically, while a few herbs (*Cineraria geifolia*, *Geranium incanum*, and *Didymodoxa capensis*) grow in shady places under the thicket shrubs.

Strandveld Fynbos

The tall, tufted restioids wyfieriet (*Thamnochortus erectus*) and mannetjiesriet (*Thamnochortus insignus*) are dominant components of the strandveld fynbos (Figures 5 and 6), with the former species being most abundant and more common in the western portion of the erf toward the top of the hillslope, and the latter species being more common in the eastern portion on colluvial soils toward the base of the hillslope. The low, creeping restioid *Restio elechoaris* is also common in the strandveld fynbos, but not dominant. Low shrubs (0.8–1.5 m tall) also form an important component of the strandveld fynbos, with kapkoppie (*Eriocephalus racemosus*), bruinsalie (*Salvia africana-lutea*), and the buchu *Agathosma muirii* being dominant. Other common low shrubs include duinetaaibos (*Searsia laevigata* var. *laevigata*), *Anginon difforme*, steekhaarbos (*Cullumia carlinoides*), blombos (*Metalasia muricata*), bankrotbos (*Seriphium*

plumosum), *Aspalathus arenaria*, *Aspalathus hispida* subsp. *albiflora*, *Aspalathus sanguinea* subsp. *foliosa*, skilpadbessie (*Muraltia spinosa*), hondegesig (*Trichocephalus stipularis*), and aandgonna (*Struthiola argentea*).

Figure 6: An example of Strandveld Fynbos on Erf 657 (middle ground), here dominated by the shrub *Cullumia carlinoides* and the restioid *Thamnochortus erectus*. The purple-flowered shrub is *Polygala myrtifolia* and typically occurs in thicket clumps.

Examples of medium shrubs (0.3–0.8 m tall) that are common in the strandveld fynbos include katdoring (*Asparagus capensis*), fire asparagus (*Asparagus lignosus*), bitterbos (*Chrysocoma ciliata*), *Helichrysum patulum*, *Helichrysum petiolare*, *Lessertia stenoloba*, *Tephrosia capensis*, aambeibossie (*Chironia baccifera*), kusmalva (*Pelargonium capitatum*), vaalbliksembos (*Clutia daphnoides*), and *Roepera flexuosa*. Although climbing plants are much more abundant in the thicket clumps, a few vines like bokhoring (*Cynanchum africanum*) and *Microloma sagittatum* can be found climbing through the shrub layer of the fynbos.

Several succulents occur in the strandveld fynbos, for example *Carpobrotus deliciosus*, *Carpobrotus edulis*, *Conicosia pugioniformis* subsp. *muirii*, *Cephalophyllum diversiphylllum*, *Mesembryanthemum canaliculatum*, *Ruschia macowanii*, *Crassula expansa* subsp. *filicaulis*,

Crassula nudicaulius var. *nudicaulis*, and vingerpol (*Euphorbia caput-medusae*). The fynbos is also rich in geophytes, including *Brunsvigia orientalis*, *Haemanthus sanguineus*, *Drimia capensis*, common Cape spinach (*Trachyandra ciliata*), kaneeltjie (*Pelargonium triste*), rotstert (*Babiana ringens* subsp. *australis*), *Babiana tubiflora*, krulletjie (*Ferraria crispa*), duine-freesia (*Freesia leichtlinii* subsp. *alba*), blou-afrikaner (*Gladiolus carinatus*), geeloogsuring (*Oxalis obtusa*), and geelsuring (*Oxalis pes-caprae*).

The sedge *Hellmuthia membranacea* can be locally dominant in the strandveld fynbos, while other commonly-occurring sedges include *Ficinia ramosissima* and *Ficinia secunda*. Grasses are widespread, but not dominant, with *Cynodon dactylon*, polgras (*Ehrharta calycina*), munniksgras (*Festuca scabra*), strandgras (*Koeleria capensis*), buffelsgras (*Stenotaphrum secundatum*), and rooigras (*Themeda triandra*) being the most common species.

Forbs are not abundant in this vegetation community, but *Heliophila linearis* var. *linearifolia*, hare-bell (*Wahlenbergia androsacea*), and wild tobacco (*Silene undulata* subsp. *undulata*) are widespread. In its current state, annuals are also not abundant in the strandveld fynbos and were mostly encountered in recently-disturbed areas. Annuals that are common here include Livingstone daisy (*Cleretum bellidiforme*), *Bulbine annua*, reënblommetjie (*Dimorphotheca pluvialis*), geelkruid (*Gymnodiscus capillaris*), veld cineraria (*Senecio elegans*), *Crassula campestris*, and *Crassula umbellata*.

Note that the species composition described above is significantly different from that of Rebelo et al.'s (1991) Dune Asteraceous Fynbos and from Rebelo et al.'s (2006) Blombos Strandveld, and the strandveld fynbos of Erf 657, which occurs on older, red sands, should not be classed as the same vegetation type as the aforementioned dune fynbos/strandveld types, which occur on geologically-young, white sands. While the strandveld fynbos of Erf 657 may fit in a very broad concept of Rebelo et al.'s (2006) Albertinia Sand Fynbos (e.g. the restiod fynbos variant of this vegetation type), the lack of typical Proteacea (*Leucadendron eucalyptifolium*, *L. galpinii*, *Leucospermum praecox*, *Protea repens*, and *P. susannae*), as well as the very prominent thicket component (strandveld thicket described above) of the strandveld vegetation sufficiently differentiates it from sand fynbos, and it should arguably be classed as a distinct, but as yet poorly-classified, vegetation type (i.e. strandveld on ancient dunes).

Limestone Fynbos

Limestone fynbos occurs on a small limestone rock outcrop toward the centre of the south-western boundary of the erf at an elevation of 55 masl (Figure 4). This vegetation only covers

about 0.14 ha, which equates to 0.23% of the total area of Erf 657 (Table 1). Due to the shallowness of the skeletal soils that overly the limestone, the tall shrubs and trees typical of thicket clumps elsewhere in the study area are unable to establish here, and the overall stature of the vegetation is much lower (0.1–0.3 m) than that of the surrounding strandveld fynbos (0.8–1.5 m) that occurs on deeper sands. The species composition of the limestone fynbos is also distinct from that of the strandveld, with several species restricted to this small rocky outcrop. This fynbos type is composed mainly of dwarf shrubs (< 0.3 m tall) like *Senecio lycopodioides*, *Dianthus* cf. *albens*, koggelmandervoet (*Limeum telephioides*), *Polygala ericaefolia*, and *Chaenostoma placidum*, and of graminoids like the sedge *Ficinia truncata* and the grasses *Pentameris calcicola* var. *hirsuta* and rooigras (*Themeda triandra*). The low shrub witdissel (*Berkheya coriacea*) is locally dominant (Figure 7), while stunted individuals of the buchu *Agathosma serpyllacea* occur sporadically. The geophytic herbs kaneelbol (*Pelargonium lobatum*), swarttee (*Gerbera piloselloides*), *Massonia* cf. *pustulata*, and the orchid *Holothrix* sp. are also common in the limestone fynbos. Other species that are restricted to this fynbos type were the geophytic herb *Brachystelma* cf. *occidentale* and the small succulent nentabos (*Adromischus caryophyllaceus*).

It should be noted that, on the Riversdale Coastal Plain, limestone fynbos (Canca Limestone Fynbos *sensu* Rebelo et al. (2006)) is typically dominated by *Leucadendron meridianum* and *Protea obtusifolia*, with *Leucospermum truncatum* and *Leucadendron muirii* co-dominant in skeletal soils overlying limestone (Rebelo et al. 1991). The small patch of limestone fynbos that occurs on Erf 657 is thus not a typical example of this vegetation type as it lacks all of these 'diagnostic' species. However, it does support several limestone-endemic species, including *Berkheya coriacea*, *Chaenostoma placidum*, *Ficinia truncata*, and *Senecio lycopodioides*.

Figure 7: Typical Limetsone Fynbos vegetation on Erf 657, showing the dominant shrub *Berkheya coriacea*, the sedge *Ficinia truncata* (left), and the grass *Themeda triandra* (right).

4.4 Flora

4.4.1 General Patterns

A total of 184 plant species were recorded on Erf 657 (Appendix 1); 176 of these are indigenous to the study area, while eight are alien species. The indigenous flora comprised 135 genera from 51 families. The largest families in terms of species numbers were Asteraceae (24 species), Aizoaceae (13 species), Asparagaceae *sensu lato* (10 species), Fabaceae (9 species), and Poaceae (9 species), while the largest genera were *Searsia* (5 species), *Asparagus* (4 species), *Crassula* (4 species), and *Pelargonium* (4 species). Six of the 176 indigenous plant species could not confidently be identified to species level, and so only 170 species were analysed for endemism. Of these, 94 (55%) are endemic to the GCFR and 54 (32%) are endemic to the CCR. Eight species (5%) had more restricted distributions and are subregional or local endemics (see Section 7.2 and Table 2).

4.4.2 Species of Conservation Concern

In total, eight of the plant species recorded in the study area are of national conservation concern, including four Threatened species—all of which are listed as Vulnerable—and three Near Threatened species (Table 2). All the species of conservation concern (SCCs) are endemic to the Cape south coast, and all are restricted to coastal sands and/or limestones (Table 2). Most of these species (six species) have more restricted distributions, occurring only between the Bredasdorp and Still Bay areas. For six of the SCCs that were found in the study area, the populations that occur around Still Bay are biogeographically important (Table 2) as these occur at the western (three species) or eastern (one species) limit of the species' distribution range, or the species (one species) is endemic to the Still Bay area.

Most of the SCCs were recorded in the strandveld fynbos habitat of Erf 657 (six species) where they were associated with deep sandy soils (Table 2). Of these species, *Agathosma muirii* (Vulnerable) and *Freesia leichtlinii* subsp. *alba* (Near Threatened) were the most widely distributed, occurring throughout the study area. *Aspalathus arenaria* (Vulnerable), *A. sanguinea* var. *foliosa* (Vulnerable), and *Cullumia carlinoides* (Near Threatened) were locally abundant, but largely restricted to the central and south-western portions of the study area. The Near-Threatened *Manulea caledonica* was recorded from a single locality in an area of recently-disturbed strandveld fynbos in the western corner of Erf 657. Two SCCs were restricted to the small area of limestone fynbos where they occurred in very shallow, sandy soils over limestone rock; these were the limestone-endemic grass *Pentameris calcicola* var. *hirsuta* (Vulnerable) and the dwarf shrub *Chaenostoma placidum*. Taxonomically, *Chaenostoma placidum* is a poorly-understood species, and it is assigned a conservation status of Data Deficient – Taxonomically Problematic; however, in a previous assessment (Hilton-Taylor 1994), this species was classified as Rare, and it is currently only known from limestone hills around Still Bay (Manning and Goldblatt 2012).

Table 2: Plant species of conservation concern that were recorded on Erf 657, Still Bay. Conservation status as per the Red List of South African Plants v. 2017.1 (SANBI 2010–2012): VU = Vulnerable, NT = Near Threatened, DDT = Data Deficient – Taxonomically Problematic. Information on species habitat and distribution are from the Red List of South African Plants v. 2017.1 (SANBI 2010–2012) and Manning and Goldblatt (2012). Endemism gives the most significant level of endemism (listed in order of ascending significance): CSC = Cape South Coast†, BRC = Bredasdorp–Riversdale Centre, RCP = Riversdale Coastal Plain, SB = Still Bay.

Family	Species	Conserv. status	Habitat and distribution	Endemism	Community on Erf 657
Asteraceae:	*Cullumia carlinoides*	NT	Coastal sands and limestone between Duiwenhoks River and Herold's Bay	CSC	Strandveld fynbos
Fabaceae:	*Aspalathus arenaria*	VU	Coastal sands between Still Bay[W] and Gouritz River Mouth	RCP	Strandveld fynbos
	Aspalathus sanguinea subsp. *foliosa*	VU	Coastal sands from Blombos to Albertinia	RCP	Strandveld fynbos
Iridaceae:	*Freesia leichtlinii* subsp. *alba*	NT	Coastal sands and limestone between Still Bay[W] and Plettenberg Bay	CSC	Strandveld fynbos
Poaceae:	*Pentameris calcicola* var. *hirsuta*	VU	Coastal limestone from Bredasdorp to Riversdale and Still Bay[W]	BRC	Limestone fynbos
Rutaceae:	*Agathosma muirii*	VU	Coastal sands, often associated with limestone, between Still Bay[E] and Mossel Bay	RCP	Strandveld fynbos
Scrophulariaceae:	*Chaenostoma placidum*	DDT	Coastal limestone hills around Still Bay[R]	SB	Limestone fynbos
	Manulea caledonica	NT	Coastal calcareous sands between Stanford and Still Bay[W]	BRC	Strandveld fynbos

† Here considered to encompass coastal forelands between Gansbaai and Plettenberg Bay.

[W] Still Bay biogeographic importance: western limit of species.

[E] Still Bay biogeographic importance: eastern limit of species.

[R] Still Bay biogeographic importance: species restricted (endemic) to area.

4.4.3 Alien Invasive Species

Of the eight alien species recorded on Erf 657, four are recognised as alien invasive plants (AIPs) in terms of NEMBA (Table 3), namely rooikrans (*Acacia cyclops*), Port Jackson (*Acacia saligna*), Scotch thistle (*Cirsium vulgare*), and pricky-pear (*Opuntia ficus-indica*). All these species are listed as Category 1b invaders. At present, the AIPs are sparsely distributed and mostly occur in disturbed areas of Erf 657, especially along roads and paths. According to the 2014 NEMBA Alien and Invasive Species Regulations, all these AIPs should be removed from Erf 657 and the material destroyed to prohibit further establishment and spread of these species.

Table 3: Alien invasive plant species recorded on Erf 657, Still Bay, their categories, and required actions as listed in the 2016 National List of Invasive Terrestrial and Fresh-Water Plant Species.

Species	Category	Required action
Acacia cyclops	1b	Remove from land and destroy material
Acacia saligna	1b	Remove from land and destroy material
Cirsium vulgare	1b	Remove from land and destroy material
Opunti ficus-indica	1b	Remove from land and destroy material

4.5 Recommendations for biodiversity conservation on Erf 657

We recommend the following to promote the persistence of biodiversity in the study area:

1. *Controlled burning of vegetation*

The development of a fire management plan will be critical to ensuring the persistence of biodiversity on Erf 657 and the safety of infrastructure and residents in the surrounding area. The dominance and abundance of typically fire-sensitive trees (e.g. *Chionanthus foveolatus* subsp. *tomentellus*, *Sideroxylon inerme*) in the strandveld thicket of Erf 657 suggests that the vegetation has not burned for a prolonged period. Further evidence of this is the moribund state of many perennial shrubs (*Agathosma muirii*, *Cullumia carlinoides*) and restioids (*Thamnochortus* spp.) that occur in the strandveld fynbos, and the accumulation of dead plant material (including thick branches and stems). Fire plays and important role in maintaining the structure of the fynbos–thicket mosaics that typify the strandveld here. In the absence of fire, thicket elements encroach on the fynbos and may eventually displace the fynbos altogether. Several strandveld fynbos species, including some SCCs that occur in the study area, also rely on intermittent fire for their regeneration. Furthermore, the strandveld is fire-prone and it is

inevitable that it will burn. The risk of fire increases as the vegetation matures and biomass (fuel load) accumulates. In addition to keeping the strandveld fynbos in a healthy state, controlled burning will help manage fuel loads and so reduce the risk of unmanageable wildfires. The recommended fire return interval (FRI) for fynbos vegetation in the area is 8–20 years (Esler et al. 2014); due to the lack of slow-maturing, reseeding Proteacea in the strandveld of Erf 657, this vegetation can be burned at a frequency toward the lower end of this recommended FRI (~10 years).

2. *Control of alien invasive plants*

Ongoing AIP management should be undertaken on an annual or biannual basis. All alien invasive shrubs, especially rooikrans (*Acacia cyclops*) and Port Jackson (*Acacia saligna*), should be removed from the erf. These woody alien plants not only outcompete native fynbos plant species for resources, but also significantly increase the fuel load in the study area and so increase the risk and potential severity of fire if left unchecked. Spraying of herbicides should be avoided as far as possible as this kills non-target species, and the focus should be on mechanical control options, for example through the use of 'poppers'. To efficiently manage alien invasive plants, an integrated fire and alien invasive plant management plan should be developed for Erf 657 that outlines alien clearing procedures following controlled burns of the vegetation.

3. *Prevention of illegal dumping*

The illegal dumping of waste on Erf 657 should be prohibited and existing waste should be removed. While this currently affects relatively small areas (Appendix 3), it leads to the killing of plants (through crushing and shading) and adds to the fuel load of the vegetation, thereby increasing the risk of fire. Furthermore, these dump sites are unsightly and impact negatively on peoples' experience of nature in this setting.

5 Ethnobotanical Importance

5.1 Survey Results

As mentioned in the preceding section on biodiversity of Erf 657, our survey identified 184 plant species in the study area. Of these plants, 78 have a published ethnobotanical record (Appendix 2). The commonly known plant species identified by a local Cape south coast resident were 94 plant species around 30 fixed points (Table 4). The aim of the local expert was to identify common, wide-spread species that are known and used by humans either for edible, medicinal, or other purposes.

Table 4: The plant species identified by a local resident around 30 fixed points that were randomly distributed throughout the study area.

Latin name	People's name	Latin name	People's name
Acacia cyclops	Rooikrans	*Microloma sagittatum*	Bokhoring
Acacia saligna	Port Jackson	*Muraltia spinosa*	Skilpadbessie
Aspalathus muri	Boegoe	*Myrsine africana*	Vlieebos
Asparagus aethiopicus	Haakdoring	*Mystroxylon aethiopicum*	Koeboebessie
Asparagus capensis	Katdoring	*Olea exasperata*	Olienhout
Berkheya coriacea	Witdissel	*Opuntia ficus-indica*	Turksvy
Thamnochortus erectus	Wyfiesriet	*Osteospermum moniliferum*	Bietoebos
Carissa bispinosa	Noem-noem	*Polygala myrtifolia*	Septemberbos
Carpobrotus acinaciformis	Suurvy	*Pterocelastrus tricuspidatus*	Kershout
Carpobrotus deliciosus	Ghoghum	*Searsia laevigata*	Duinetaaibos
Carpobrotus edulis	Goena	*Ruschia macowanii*	Vygieplant
Chironia baccifera	Bitterbos	*Searsia crenata*	Kraaibos
Clutia daphnoides	Vaalbossie	*Searsia glauca*	Taaibos
Colpoon compressum	Basbessie	*Searsia lucida*	Knakerbos
Conicosia pugioniformis	Varkwortel	*Searsia pterota*	Pendoring
Cynanchum sp.	Pok-Pok	*Sideroxylon inerme*	Melkhout
Diospyros dicrophylla	Jakkalstol	*Solanum linnaeanum*	Bitterappel
Eriocephalus africanus	Strandkapokbos	*Sutherlandia frutescens*	Kankerbos
Euclea racemosa	Duine gwarrie	*Thamnochortus insignis*	Mannetjiesriet
Euphorbia burmanii	melktou	*Trachyandra ciliata*	Veldkool
Euphorbia caputmedosa	Vingerpol	*Urtica urens*	Brandnetel
Gladiolus carinatus	Blou-afrikaner	*Asparagus asparagoides*	Krulkransie
Struthiola argentea	Gonna bos	*Zygophyllum morgsana*	Sklipadbos
Helichrysum petiolare	Kooigoed		

There was a fair representation of locally-known plant species across the site (average of 20 per fixed point), but the eastern corner was slightly richer (Figure 8). The most widely-distributed plant species belonged to the following growth forms: graminoids, trees, shrubs, succulents and creepers/climbers (Figure 9). In Instagram, the hashtag subjects *#foraging* and *#searchwandercollect* outrank the hashtag subject *#Serena Williams*. Other hashtag subjects including *#Wild food foraging*, *#useful wide plants*, *#Khoisan culture*, and *#Pinnacle Point* have more frequently been used as hashtag subjects than *#Still Bay* (Figure 10).

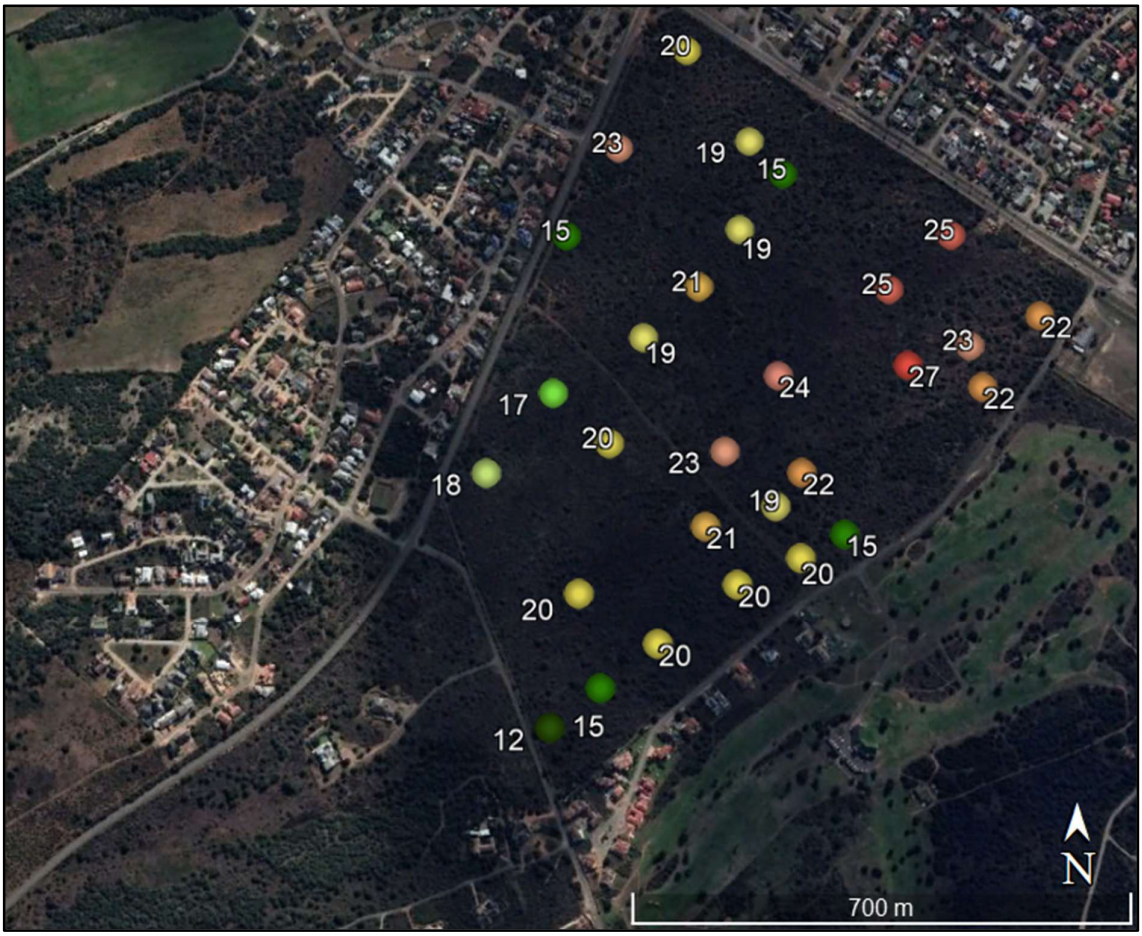

Figure 8: The number of plant species identified by a local expert in a 10 m radius around each fixed point. The points were randomly distributed throughout the site with the aim to cover most of the site. The number next to each point indicates the number of plant species identified around that point. Warmer colours (red) indicate higher useful species richness and cooler colours (green) indicate lower useful species richness.

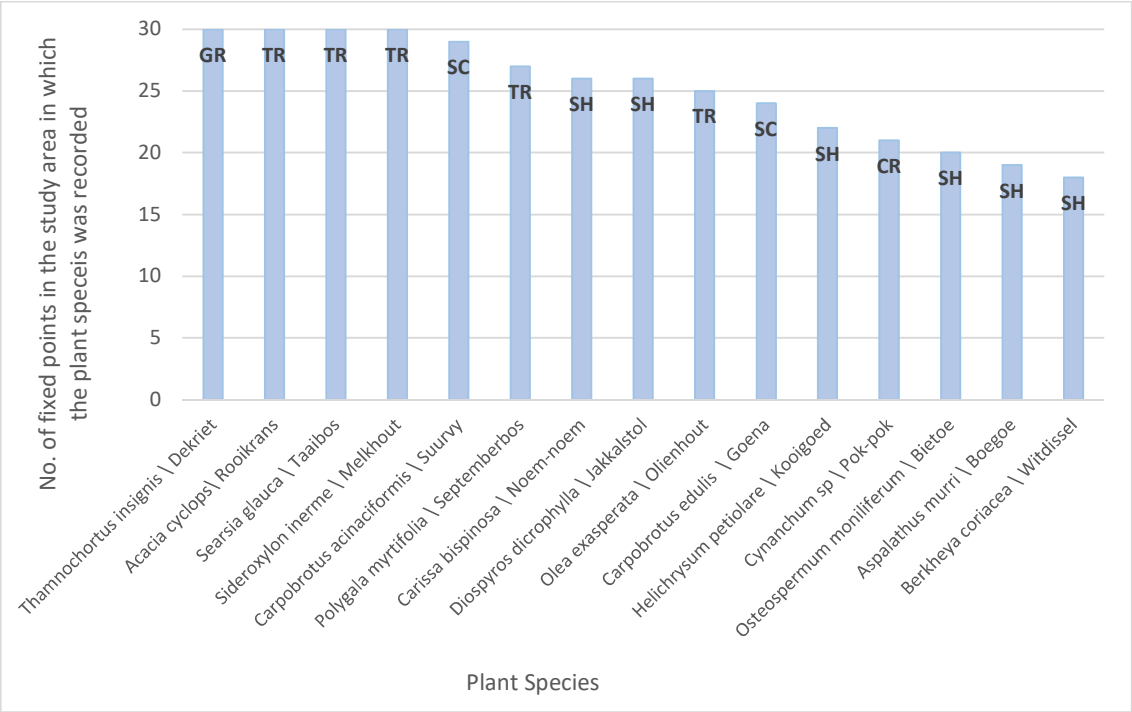

Figure 9: The most widely distributed plant species in the study area and their respective growth forms: GR = Graminoids; TR = Trees; SC = Succulents; SH = Shrubs; CR = Creeper.

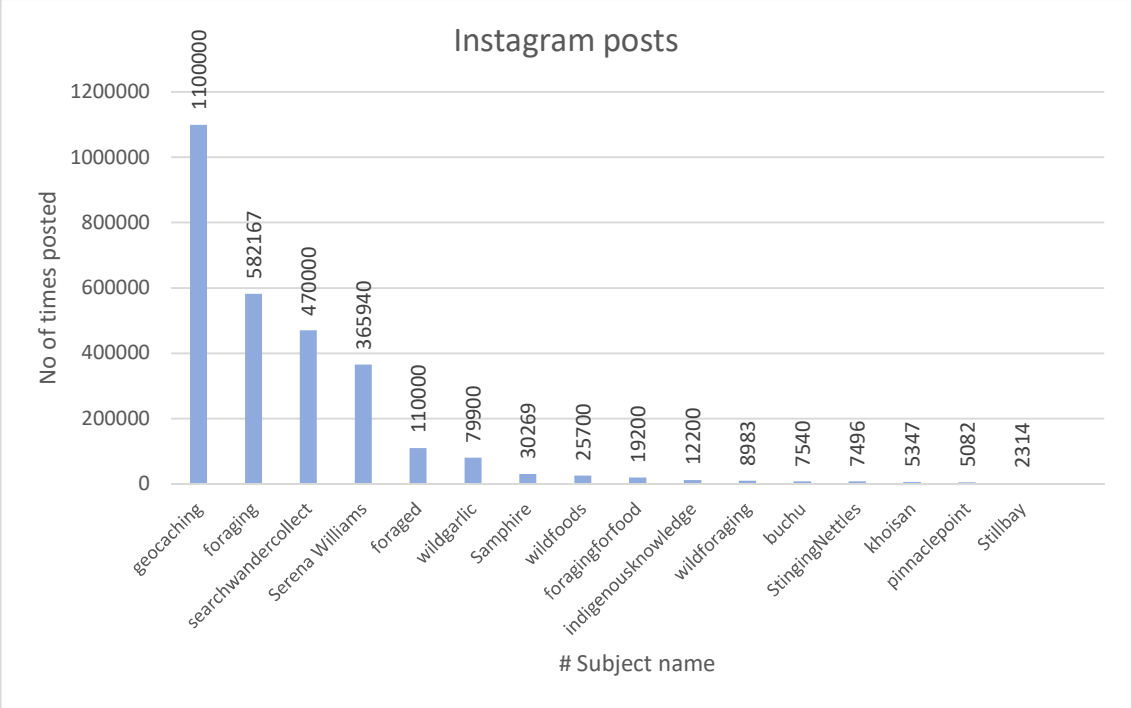

Figure 10: The popularity of different subjects on the Instagram social media platform as indicated by the number of times the hashtag phrase has been used.

5.2 Recommendations for realising the palaeo-tourism potential of Erf 657

1. *The importance of the Still Bay site within the context of the Cape south coast's archaeological and anthropological significance*

Humans were driven to refugia during the cold and dry glacial Marine Isotope Stage 6 (MIS6) (~195–125 ka); only a few places, including the Cape south coast, show archaeological evidence of continuous human occupation. It has been hypothesised that the Cape south coast provided the requisite shelter to ensure human's earliest survival because it provided all the right ingredients. The shores offer abundant shellfish, the land a diverse array of plants, and the climate was ameliorated due to the proximity of the then exposed Palaeo-Agulhas Plain to the warm Agulhas current. The potential of the Cape south coast to act as a refugia for the early survival of modern has inspired a plethora of research over the last decade focusing on the caves at Pinnacle Point (east of Still Bay) and Blombos cave (west of Still Bay), as well as on the indigenous knowledge of the original residents of this area.

Research at Pinnacle and Blombos cave have now added compelling evidence to refute the 'human revolution' argument (McBrearty and Brooks 2000). This argument, that modern human behaviour arose suddenly and throughout the world ~40-50 ka, lagging behind the emergence of modern, anatomical humans, does not hold true for Africa according to the fossil record (Henshilwood and Marean 2003; McBrearty and Brooks 2000).

Proposed archaeological evidence of modern human behaviour includes practices such as symbolic use of ochre, burying of the dead, fishing and fowling, complex hearth construction and fine blade technology (Henshilwood and Marean 2003). The oldest (164 ka) evidence of humans exploiting shellfish was found at Pinnacle Point where humans employed bladelet technology and the use and modification of pigment (Marean et al. 2007; Watts 2010). Small bladelets (microliths), used in composite tool components such as projectile weapons, were made from heat-treated silcrete from ~164–71 ka (Brown et al. 2012). This is the oldest evidence of heat-treatment of lithics, a process which requires sophisticated knowledge of fire and the ability to perform a complex, connected series of steps, both indicative of advanced cognitive ability (Brown et al. 2009).

In the neighbouring Blombos cave, artefacts that suggest modern human behaviour include engraved ochre dated to ~100–75 ka (Henshilwood et al. 2002; Henshilwood et al. 2009), Nassarius shell beads dated to ~76 ka (d'Errico et al. 2005), engraved bone dated to ~70 ka

(d'Errico et al. 2001) and bone tools (d'Errico and Henshilwood 2007). Blombos and Pinnacle Point thus provide evidence for human cognitive modernity and continuous human habitation during harsh climatic periods. This raises fascinating questions on what humans living in the Cape south coast, and the then exposed Agulhas Plain, survived on during a time that we would now refer to as an "apocalypse".

To answer these fascinating questions, researchers leaned on the original residents of the Cape south coast that still have genetic ancestry linking them to the Khoe-San. There has been a number of research studies to determine what edible plant species are known in the Cape south coast (De Vynck et al. 2016c), what the distribution of these plant resources are (Singels et al. 2016), their seasonal availability (De Vynck et al. 2016b) as well as the potential calorific returns that can be gained from foraging both the terrestrial flora (Botha 2019) and marine fauna on the rocky shores (De Vynck et al. 2016a). This exploratory research is unique to South Africa and provides a fascinating glimpse into how our ancestors lived off the land in times gone by.

Still Bay is uniquely positioned in-between the Pinnacle Point and Blombos cave sites and there is an opportunity to draw tourists to the town by showcasing the fascinating significance of this region to the survival of early humans.

2. *Transferring traditional indigenous knowledge to younger generations*

Traditional ecological knowledge (TEK) is defined as "a cumulative body of knowledge and beliefs, handed down through generations by cultural transmission, about the relationship of living beings with one another and with their environment" (Berkes 1993). The TEK of the Khoe-San is unique world-wide and has been captured in books dedicated to documenting their culture (e.g.Coetzee 2015; Coetzee et al. 2010). TEK of useful indigenous plants is well documented around Still Bay. Published ethnobotanical research with 18 participants who reside around Still Bay could identify 58 plant species with 69 different uses which is higher than some other intact hunter-gatherer communities (De Vynck et al. 2016c).

Some of this indigenous knowledge has eroded, particularly with regards to knowledge of edible geophytes (Botha et al. 2019; De Vynck et al. 2016c). This is likely due to the adoption of agrarian lifestyles and the use of cereal crops. There is the potential of accelerated TEK erosion with the recent trend towards urbanization in the Cape south coast (Turner and Turner 2008).

In the community of Mahosik' (Chiapas, Mexico), the Tzeltal people have retained the transfer of TEK of useful plants to their children over a 30-year period, despite drastic modernisation within the community (socio-political, environmental and economic) (Zarger and Stepp 2004). In 1968 a 'plant trail' was set out and children were asked to identify all the species found along the trail. The experiment was repeated 30 years later in 1998, with the same 'plant trail' set out and a new generation of children were asked to name the plants. The findings show that there was little or no change in the new children's ability to name useful plants along the 'plant trail' thirty years later. One reason highlighted for this retention of TEK knowledge is that children spend considerable amounts of time outside of school engaging with their natural environment because many of their parents still work on farms.

In the Cape south coast, TEK is most commonly transferred from parents and grandparents to children (De Vynck 2014). TEK transfer can be through a variety of actions that engages the child to their natural environment e.g. sending them out to find things or to do work (Zarger 2002). Today, many children spend a large proportion of their daily life in school, away from the natural landscapes where they have traditionally gained TEK. Some researchers argue that the amount of time spent engaged in daily activities in the non-human environment directly impacts the acquisition of TEK, due to the observational and participatory nature of the process (Zarger 2002). Spending more time engaging with their biophysical environment also improves imagination and social relations (Dowdell et al. 2011). The Still Bay study site could provide a space to facilitate school outings to acquire TEK which would ensure that indigenous plant knowledge is retained. In addition, it can provide a platform for children of Khoe-San descent to learn about their unique cultural heritage. The Activities can be action-driven e.g. learning how to build a plant-shelter or "kavi" or learning to flake a stone tool.

3. *Set trails and/or guided information walks exploring wild foods*

In the last few years there has been a phenomenal revival both internationally and locally (Coetzee 2015; Rood 2008; Van der Merwe and De Villiers 2014; Viljoen, 2018) in the utilisation of wild plants or "veld" foods (Figure 10). Kobus van der Merwe runs a wild-food inspired restaurant in Paternoster and google search declared over 2000 website links to his restaurant. Roushanna Gray is another person who has specialised in wild food foraging and cooking workshops in Cape Point, Cape Town, and has over 800 website links to her enterprise. There is the potential for this general interest to be utilised as a tourism drawcard to Still Bay, utilising the study site as a learning facility. It can either be done through a self-exploratory guided walk

where persons complete a walking trail that have nameboards associated with well-known indigenous plants that describe their uses. Attention can be drawn to plants that are commonly distributed throughout the site and have growth forms such as trees, shrubs, succulents or climbers (Figure 9). These growth forms are robust to foraging e.g. picking ripe fruits. A guided tour booked with a "local expert" will deepen the experience and could be a potential source of employment. Locals have unique knowledge that cannot be found in any published books. Examples that I have come across from my engagements with Cape south coast local people include: "soap can be made from the seedpods of *Acacia cyclops* (rooikrans) and the meristems of *Thamnochortus insignis* (dekriet) is eaten by pulling the individual "riet" out and chewing the soft part".

4. Geocaching

Geocaching is an activity whereby people hunt treasures that are hidden in different localities and found using published GPS coordinates. There are approximately 14 000 active geocaches in South Africa (https://www.geocachingsa.com/). Geocaches can be created to teach children GPS navigation skills and historical knowledge. For example, a geocache in the form of a shoe-shaped post box placed below a milkwood tree, could tell the historical story of the famous Mossel Bay milkwood tree that was used as a post box by passing sailors. During fruiting season, the explorers could be encouraged to try the milkwood berries, which children often eat as bubble-gum, because the latex contained in the berries sometimes makes your lips stick together.

6 Conclusion

While the greater part of Erf 657 is not recognised as a CBA by the WCBSP (Pool-Stanvliet et al. 2017), and is therefore not a priority for biodiversity conservation in the provincial context, our survey revealed that Erf 657 is botanically rich, supporting a diverse range of plants—most of which only occur in the GCFR—that constitute three major vegetation communities. The dominant vegetation type—strandveld occurring on ancient dunes—is currently poorly characterised, and little reliable information is available to assess its regional or national conservation importance. Several SCCs, including four local endemic threatened species, occur here. Furthermore, the erf contributes to connectivity in the greater landscape, connecting inland portions of land to the coastal dunes of Skulpiesbaai Nature Reserve and, to a lesser

extent, the riparian zones along the Goukou River. To promote the persistence of biodiversity on Erf 657, we recommend the development of an integrated fire and alien invasive plant management plan, as well as the prevention of illegal dumping.

Still Bay is located in-between Pinnacle Point and Blombos cave, and Erf 657 is located on the main road of Still Bay itself. As our survey showed, there is great diversity of plants that occur on the erf that provide a wealth of ethnobotanical knowledge. However, it is the context of this ethnobotanical knowledge in the larger anthropological history of the region that provides the potential for the site to be a palaeo-tourism hub of the Cape south coast. We believe that Erf 657 can be used to draw tourists to Still Bay by: (1) telling the story of how humans survived here during a harsh climatic period when they could not in other parts of the world; and (2) offering guided and/or self-guided trails through the study site that highlight the edible and medicinal plant species that are commonly found throughout the study area.

Erf 657 also has the potential to be used as an outdoor learning facility for school outings. Children can be taught about useful plant species to ensure the traditional ecological knowledge of the region is maintained. The recommended area for these activities is the eastern corner of the site (on the corner of Main Road and Hofmeyer/Arend Street) because:

a) it hosts the highest number of species per fixed point;
b) it is removed from the traffic noise created on the Still Bay–Jongensfontein road; and
c) the average tree size is larger in this area (visible on satellite imagery), which creates the sense of being fully immersed in the natural environment.

Longer trails can be developed throughout the rest of the property and could include other activities such as off-road bicycling. Tourists are drawn to niche experiences, for example the Big Tree in the Tsitsikamma area, and creative development of the study area will set Still Bay apart from other small coastal towns along the southern Cape.

7 References

Archer, F.M. 1982. A preliminary study of the edible plants in the Kamiesberge. Journal of South African Botany 48: 433-449.

Berkes, F. 1993. Traditional ecological knowledge in perspective. Traditional Ecological Knowledge Concepts and Cases.

Born, J., Linder, H.P. and Desmet, P. 2007. The Greater Cape Floristic Region. Journal of Biogeography 34: 147–162.

Botha, M.S. 2019. A gatherer's paradise? Early humans and plant foraging on the Cape south coast, South Africa, Botany. Nelson Mandela University, Port Elizabeth, 138 pp.

Botha, M.S., Cowling, R.M., Esler, K.J., De Vynck, J., and Potts, A.J. 2019. Have humans living within the Greater Cape Floristic Region been using the same plant species through time? In press.

Bradshaw, P.L., Colville, J.F. and Linder, H.P. 2015. Optimising regionalisation techniques: identifying centres of endemism in the extraordinarily endemic-rich Cape Floristic Region. PLoS One 10: e0132538. doi: 10.1371/journal.pone.0132538

Brown, K.S., Marean, C.W., Herries, A.I., Jacobs, Z., Tribolo, C., Braun, D., Roberts, D.L., Meyer, M.C., and Bernatchez, J. 2009. Fire as an engineering tool of early modern humans. Science 325: 859-862.

Brown, K.S., Marean, C.W., Jacobs, Z., Schoville, B.J., Oestmo, S., Fisher, E.C., Bernatchez, J., Karkanas, P., and Matthews, T. 2012. An early and enduring advanced technology originating 71,000 years ago in South Africa. Nature 491: 590-593.

Coetzee, R. 2015. A feast from nature: food culture of the first humans on planet earth. Penstock Publications.

Coetzee, R., Miros, V., Silke, E. 2010. Kukumakranka: Khoi-Khoin Culture, Customs and Creative Cooking. LAPA Publishers.

Cowling, R.M. and Holmes, P.M. 1992. Flora and vegetation. In Cowling, R.M. (ed.). The Ecology of Fynbos: Nutrients, Fire and Diversity. Oxford University Press, Cape Town.

Cowling, R.M., Holmes, P.M. and Rebelo, A.G 1992. Plant diversity and endemism. In Cowling, R.M. (ed.). The Ecology of Fynbos: Nutrients, Fire and Diversity. Oxford University Press, Cape Town.

d'Errico, F., Henshilwood, C., and Nilssen, P. 2001. An engraved bone fragment from c. 70,000-year-old Middle Stone Age levels at Blombos Cave, South Africa: implications for the origin of symbolism and language. Antiquity 75: 309-318.

d'Errico, F., Henshilwood, C., Vanhaeren, M., and Van Niekerk, K. 2005. Nassarius kraussianus shell beads from Blombos Cave: evidence for symbolic behaviour in the Middle Stone Age. J Hum Evol 48: 3-24.

d'Errico, F. and Henshilwood, C.S. 2007. Additional evidence for bone technology in the southern African Middle Stone Age. Journal of Human Evolution 52: 142-163.

De Vynck, J.C. 2014. Contemporary use and seasonal abundance of indigenous edible plants (with an emphasis on geophytes) available to human foragers on the Cape south coast, South Africa. MSc dissertation, Nelson Mandela University, Port Elizabeth, 128 pp.

De Vynck, J.C., Anderson, R., Atwater, C., Cowling, R.M., Fisher, E.C., Marean, C.W., Walker, R.S., and Hill, K. 2016a. Return rates from intertidal foraging from Blombos Cave to Pinnacle Point: Understanding early human economies. Journal of Human Evolution 92: 101-115.

De Vynck, J.C., Cowling, R.M., Potts, A.J., and Marean, C.W. 2016b. Seasonal availability of edible underground and aboveground carbohydrate resources to human foragers on the Cape south coast, South Africa. PeerJ 4: e1679.

De Vynck, J.C., Van Wyk, B.E., and Cowling, R.M. 2016c. Indigenous edible plant use by contemporary Khoe-San descendants of South Africa's Cape South Coast. South African Journal of Botany 102: 60-69.

Dowdell, K., Gray, T., and Malone, K. 2011. Nature and its influence on children's outdoor play. Australian Journal of Outdoor Education 15: 24-35.

Driver, A., Sink, K.J., Nel, J.N., Holness, S., Van Niekerk, L., Daniels, F., Jonas, Z., Majiedt, P.A., Harris, L. and Maze, K. 2012. National Biodiversity Assessment 2011: An assessment of South Africa's biodiversity and ecosystems. South African National Biodiversity Institute and Department of Environmental Affairs, Pretoria.

Esler, K.J., Pierce, S.M. and De Villiers, C. (Eds.). 2014. Fynbos: Ecology and Management. Briza Publications, Pretoria.

Fox, F.W. and Young, M.E.N. 1982. Food from the veld Edible wild plants of southern Africa. Delta Books, Johannesburg.

Goldblatt, P. 1978. An analysis of the flora of southern Africa: Its characteristics, relationships, and origins. Annals of the Missouri Botanical Garden 65: 369–436.

Henshilwood, C., d'Errico, F., Yates, R., Jacobs, Z., Tribolo, C., Duller, G.A.T., Mercier, N., Sealy, J.C., Valladas, H., Watts, I., and Wintle, A.G. 2002. Emergence of Modern Human Behavior: Middle Stone Age Engravings from South Africa. Science 295: 1278-1280.

Henshilwood, C.S., d'Errico, F., and Watts, I. 2009. Engraved ochres from the middle stone age levels at Blombos Cave, South Africa. Journal of Human Evolution 57: 27-47.

Henshilwood, C.S. and Marean, C.W. 2003. The origin of modern human behavior: critique of the models and their test implications. Current Anthropology 44: 627-651.

Hilton-Taylor, C. 1996. Red data list of southern African plants. Strelitzia 4. South African National Botanical Institute, Pretoria.

Manning, J.C. and Goldblatt, P. 2012. Plants of the Greater Cape Floristic Region 1: The Core Cape Flora, Strelitzia 29. South African National Biodiversity Institute, Pretoria.

Marean, C.W., Bar-Matthews, M., Bernatchez, J., Fisher, E., Goldberg, P., Herries, A.I., Jacobs, Z., Jerardino, A., Karkanas, P., Minichillo, T., Nilssen, P.J., Thompson, E., Watts, I., and Williams, H.M. 2007. Early human use of marine resources and pigment in South Africa during the Middle Pleistocene. Nature 449: 905-908.

McBrearty, S. and Brooks, A.S. 2000. The revolution that wasn't: a new interpretation of the origin of modern human behavior. Journal of Human Evolution 39: 453-563.

Mittermeier, R.A., Robles Gil, P., Hoffman, M., Pilgrim, J., Brooks, T., Goettsch Mittermeier, C., Lamereux, J. and Da Fonseca, G.A.B. 2004. Hotspots Revisited: Earth's Biologically Richest and Most Threatened Terrestrial Ecoregions. Conservation International, Washington.

Moffet, R.O. and Deacon, H.J. 1977. The Flora and Vegetation in the Surrounds of Boomplaas Cave: Cango Valley. The South African Archaeological Bulletin 32: 127-145.

Moodley, N., Crouch, N., Mulholland, D., Slade, D., Ferreira, D., 2006. 3-Benzyl-4-chromanones (homoisoflavanones) from bulbs of the ethnomedicinal geophyte Ledebouria revoluta (Hyacinthaceae). South African Journal of Botany 72, 517-520.

Mucina, L., Adams, J.B., Knevel, I.C., Rutherford, M.C., Powrie, L.W., Bolton, J.J., Van der Merwe, J.H., Anderson, R.J., Bornman, T.G., Le Roux, A. and Janssen, J.A.M. 2006. Coastal Vegetation of South Africa. In Mucina, L. and Rutherford, M.C. (eds.). The Vegetation of South Africa, Lesotho and Swaziland. Strelitzia 19. South African National Biodiversity Institute, Pretoria.

Mucina, L., Rutherford, M.C. and Powrie, L. (eds.). 2012. Vegetation map of South Africa, Lesotho and Swaziland, 1:1 000 000 scale sheet maps. South African National Biodiversity Institute, Pretoria.

Pool-Stanvliet, R., Duffell-Canham, A., Pence, G. and Smart, R. 2017. The Western Cape Biodiversity Spatial Plan Handbook. CapeNature, Stellenbosch. Available online at https://www.capenature.co.za/wp-content/uploads/2017/12/DEADP_CN_WCBSP_Handbook_2017.compressed-ilovepdf-compressed.pdf.

Raimondo, D. and Von Staden, L. 2009. Patterns and trends in the Red List of South African plants. In Raimondo, D., Von Staden, L., Foden, W., Victor, J.E., Helme, N.A., Turner, R.C., Kamundi, D.A. and Manyama, P.A. (eds.), Red List of South African Plants. South African National Biodiversity Institute, Pretoria.

Rebelo, A.G., Boucher, C., Helme, N., Mucina, L. and Rutherford, M.C. 2006. Fynbos Biome. In Mucina, L. and Rutherford, M.C. (eds.), The Vegetation of South Africa, Lesotho and Swaziland. Strelitzia 19. South African National Biodiversity Institute, Pretoria.

Rebelo, A.G., Cowling, R.M., Campbell, B.M. and Meadows, M.E. 1991. Plant communities of the Riversdale Plain. South African Journal of Botany 57: 10–28.

Rood, B. 2008. Kos uit die Veldkombuis. Pretoria Boekhuis, Pretoria.

Rouget, M., Reyers, B., Jonas, Z., Desmet, P., Driver, A., Maze, K., Egoh, B. and Cowling, R.M. 2004. South African National Spatial Biodiversity Assessment 2004: Technical Report. Volume 1: Terrestrial Component. South African National Biodiversity Institute, Pretoria.

Rouget, M., Richardson, D.M., Cowling, R.M., Lloyd, J.W. and Lombard, A.T. 2003. Current patterns of habitat transformation and future threats to biodiversity in terrestrial ecosystems of the Cape Floristic Region, South Africa. Biological Conservation 112: 63–85.

SANBI. 2010–2012. Red List of South African Plants v. 2017.1. South African National Biodiversity Institute. Available online at http://redlist.sanbi.org.

Singels, E., Potts, A.J., Cowling, R.M., Marean, C.W., De Vynck, J., and Esler, K.J. 2016. Foraging potential of underground storage organ plants in the southern Cape, South Africa. Journal of Human Evolution 101: 79-89.

Skead, C.J. 2009. Historical Plant Incidence in Southern Africa. Strelitzia 24, South African National Biodiversity Institute, Pretoria.

Thring, T.S. and Weitz, F.M. 2006. Medicinal plant use in the Bredasdorp/Elim region of the Southern Overberg in the Western Cape Province of South Africa. Journal of Ethnopharmacology 103: 261-275.

Turner, N.J. and Turner, K.L. 2008. “Where our women used to get the food”: cumulative effects and loss of ethnobotanical knowledge and practice; case study from coastal British Columbia. Botany 86: 103-115.

Van der Merwe, K. and De Villiers, J. 2014. Strandveldfood - A West Coast Odyssey. Jonathan Ball Publishers.

Van Wyk, B.E. and Gericke, N., 2000. People's plants. A guide to Useful plants of Southern Africa. Briza publications, Pretoria.

Van Wyk, B.E., van Oudsthoorn, B., and Gericke, N. 1997. Medicinal plants of South Africa. Briza publications, Pretoria.

Viljoen, M. 2018. Forage, Harvest, Feast: A Wild-Inspired Cuisine. Chelsea Green Publishing Company.

Watts, I. 2010. The pigments from Pinnacle Point Cave 13B, Western Cape, South Africa. J Hum Evol 59: 392-411.

Welcome, A. and Van Wyk, B.-E., 2018. An inventory and analysis of the food plants of southern Africa. South African Journal of Botany. In press.

Willis, C.K., Cowling, R.M., Lombard, A.T. 1996. Patterns of endemism in the limestone flora of South African lowland fynbos. Biodiversity and Conservation 5: 55–73.

Zarger, R. and Stepp, J. 2004. Persistence of botanical knowledge among Tzeltal Maya children. Current Anthropology 45: 413-418.

Zarger, R.K. 2002. Acquisition and transmission of subsistence knowledge by Q'eqchi'Maya in Belize. Ethnobiology and Biocultural Diversity, pp. 592-603.

Appendix 1: The 184 plant species recorded on Erf 657, Still Bay. Conservation status (Conserv. stat.) as per the Red List of South African Plants v. 2017.1. Origin indicates whether a species is indigenous (Ind) or exotic (Exo). Species endemism in the context of the Greater Cape Floristic Region (GCFR endem.) is indicated as follows: EXO = exotic, NE = not endemic, GCFR = GCFR endemic, CCR = Core Cape Region endemic, BRC = Bredasdorp–Riversdale Centre endemic, RCP = Riversdale Coastal Plain endemic, SB = Still Bay endemic, NA = not applicable (only identified to generic level).

Family	Species	Common name	Conserv. stat.	Origin	GCFR endem.
Aizoaceae	Carpobrotus cf. acinaciformis	duine-suurvy	LC	Ind	CCR
Aizoaceae	Carpobrotus deliciosus	delicious sourfig	LC	Ind	NE
Aizoaceae	Carpobrotus edulis	suurvy	LC	Ind	GCFR
Aizoaceae	Cephalophyllum diversiphyllum		LC	Ind	CCR
Aizoaceae	Cleretum bellidiforme	Livingstone daisy	LC	Ind	GCFR
Aizoaceae	Conicosia pugioniformis subsp. muiri		LC	Ind	GCFR
Aizoaceae	Drosanthemum hispidum		LC	Ind	NE
Aizoaceae	Galenia sp.		LC	Ind	NA
Aizoaceae	Mesembryanthemum aitonis		LC	Ind	NE
Aizoaceae	Mesembryanthemum canaliculatum		LC	Ind	NE
Aizoaceae	Mesembryanthemum crystallinum	crystalline ice plant	LC	Ind	NE
Aizoaceae	Ruschia macowanii	beach tentfig	LC	Ind	CCR
Aizoaceae	Tetragonia fruticosa	klimopkinkelbossie	LC	Ind	GCFR
Amaranthaceae	Atriplex cf. vestita		LC	Ind	NE
Amaranthaceae	Atriplex semibaccata	creeping saltbush	LC	Exo	EXO
Amaryllidaceae	Brunsvigia orientalis	candelabra lily	LC	Ind	CCR
Amaryllidaceae	Haemanthus sanguineus	April-fool	LC	Ind	NE
Anacardiaceae	Searsia crenata	crowberry; duinekraaibessie	LC	Ind	NE
Anacardiaceae	Searsia glauca	bloukoeniebos	LC	Ind	CCR
Anacardiaceae	Searsia laevigata var. laevigata	duinetaaibos	LC	Ind	CCR
Anacardiaceae	Searsia lucida	blinktaaibos	LC	Ind	NE
Anacardiaceae	Searsia pterota	pendoringtaaibos	LC	Ind	GCFR
Apiaceae	Anginon difforme		LC	Ind	NE
Apocynaceae	Astephanus triflorus		LC	Ind	GCFR

Family	Species	Common name	Conserv. stat.	Origin	GCFR endem.
Apocynaceae	Brachystelma cf. ocidentale		LC	Ind	CCR
Apocynaceae	Carissa bispinosa	num-num	LC	Ind	NE
Apocynaceae	Cynanchum africanum	goat's-horn; bokhoring	LC	Ind	GCFR
Apocynaceae	Cynanchum obtusifolium		LC	Ind	NE
Apocynaceae	Cynanchum viminale	caustic vine	LC	Ind	NE
Apocynaceae	Microloma sagittatum		LC	Ind	NE
Asparagaceae	Albuca cf. flaccida		LC	Ind	GCFR
Asparagaceae	Albuca goswinii		LC	Ind	CCR
Asparagaceae	Asparagus aethiopicus	African asparagus	LC	Ind	NE
Asparagaceae	Asparagus asparagoides	Cape smilax	LC	Ind	NE
Asparagaceae	Asparagus capensis	katdoring	LC	Ind	NE
Asparagaceae	Asparagus lignosus	fire asparagus	LC	Ind	CCR
Asparagaceae	Drimia capensis		LC	Ind	GCFR
Asparagaceae	Lachenalia cf. rubida	Cape cowslip	LC	Ind	GCFR
Asparagaceae	Ledebouria cf. ovalifolia		LC	Ind	CCR
Asparagaceae	Massonia cf. pustulata	hedgehog-lily	LC	Ind	CCR
Asphodelaceae	Bulbine annua	kopieva	LC	Ind	CCR
Asphodelaceae	Trachyandra ciliata	common Cape spinach	LC	Ind	GCFR
Asteraceae	Arctotheca calendula	Cape weed	LC	Ind	NE
Asteraceae	Berkheya coriacea	witdissel	LC	Ind	BRC
Asteraceae	Chrysocoma ciliata	bitterbos	LC	Ind	NE
Asteraceae	Cineraria geifolia		LC	Ind	CCR
Asteraceae	Cirsium vulgare	Scotch thistle	-	Exo	EXO
Asteraceae	Cullumia carlinoides	steekhaarbos	NT	Ind	CCR
Asteraceae	Dimorphotheca pluvialis	reënblommetjie	LC	Ind	NE
Asteraceae	Eriocephalus racemosus	kapkoppie	LC	Ind	GCFR
Asteraceae	Felicia amoena subsp. latifolia		LC	Ind	CCR
Asteraceae	Felicia echinata		LC	Ind	CCR

Family	Species	Common name	Conserv. stat.	Origin	GCFR endem.
Asteraceae	Gazania sp.		-	Ind	NA
Asteraceae	Gerbera piloselloides	swarttee	LC	Ind	NE
Asteraceae	Gymnodiscus capillaris	geelkruid	LC	Ind	GCFR
Asteraceae	Helichrysum patulum	bedding strawflower	LC	Ind	CCR
Asteraceae	Helichrysum petiolare	licorice plant	LC	Ind	NE
Asteraceae	Ifloga repens	naaldebossie	LC	Ind	CCR
Asteraceae	Metalasia muricata	blombos	LC	Ind	NE
Asteraceae	Osteospermum moniliferum	bietou	LC	Ind	NE
Asteraceae	Pseudognaphalium undulatum		LC	Ind	NE
Asteraceae	Senecio elegans	veld cineraria	LC	Ind	GCFR
Asteraceae	Senecio hastatus	groundsel	LC	Ind	NE
Asteraceae	Senecio lycopodioides		LC	Ind	BRC
Asteraceae	Seriphium plumosum	bankrotbos	LC	Ind	NE
Asteraceae	Tarchonanthus littoralis	coastal camphor tree; kuskanferbos	LC	Ind	NE
Asteraceae	Troglophyton sp.		-	Ind	NA
Boraginaceae	Anchusa capensis		LC	Ind	NE
Brassicaceae	Heliophila linearis subsp. linearifolia		LC	Ind	GCFR
Cactaceae	Opuntia ficus-indica	prickly-pear	-	Exo	EXO
Campanulaceae	Wahlenbergia androsacea	hare-bell	LC	Ind	NE
Caryophyllaceae	Cerastium capense	horingblom	LC	Ind	NE
Caryophyllaceae	Dianthus cf. albens		LC	Ind	GCFR
Caryophyllaceae	Polycarpon tetraphyllum	four-leaved allseed	LC	Exo	EXO
Caryophyllaceae	Silene aethiopica subsp. aethiopica		LC	Ind	GCFR
Caryophyllaceae	Silene undulata subsp. undulata	wild tobaco	LC	Ind	NE
Celastraceae	Gymnosporia buxifolia	common spikethorn; stinkpendoring	LC	Ind	NE
Celastraceae	Lauridia tetragona	climbing saffron	LC	Ind	NE
Celastraceae	Mystroxylon aethiopicum subsp. aethiopicum	kubusbessie	LC	Ind	NE
Celastraceae	Pterocelastrus tricuspidatus	candlewood; kershout	LC	Ind	NE

Family	Species	Common name	Conserv. stat.	Origin	GCFR endem.
Celastraceae	Putterlickia pyracantha	basterpendoring	LC	Ind	NE
Colchicaceae	Colchicum eucomoides		LC	Ind	GCFR
Crassulaceae	Adromischus caryophyllaceus	nentabos	LC	Ind	CCR
Crassulaceae	Crassula campestris		LC	Ind	NE
Crassulaceae	Crassula expansa subsp. filicaulis		LC	Ind	CCR
Crassulaceae	Crassula nudicaulis var. nudicaulis		LC	Ind	NE
Crassulaceae	Crassula umbellata		LC	Ind	NE
Cucurbitaceae	Kedrostis nana	ystervarkpatat	LC	Ind	NE
Cucurbitaceae	Zehneria scabra		LC	Ind	NE
Cyperaceae	Cyperus cf. brevis		LC	Ind	NE
Cyperaceae	Ficinia ramosissima		LC	Ind	GCFR
Cyperaceae	Ficinia secunda		LC	Ind	GCFR
Cyperaceae	Ficinia truncata		LC	Ind	GCFR
Cyperaceae	Hellmuthia membranacea	biesie	LC	Ind	GCFR
Cyperaceae	Isolepis sp.		-	Ind	NA
Ebenaceae	Diospyros dichrophylla	poison star-apple, poison peach; gifsterappel	LC	Ind	NE
Ebenaceae	Euclea racemosa	dune gwarrie; seegwarrie	LC	Ind	GCFR
Euphorbiaceae	Euphorbia burmannii	soetmelkbos, steenbokmelkbos	LC	Ind	NE
Euphorbiaceae	Euphorbia caput-medusae	Medusa's head; vingerpol	LC	Ind	GCFR
Euphorbiaceae	Euphorbia epicyparissias	pisgoed	LC	Ind	NE
Fabaceae	Acacia cyclops	rooikrans	-	Exo	EXO
Fabaceae	Acacia saligna	port jackson	-	Exo	EXO
Fabaceae	Aspalathus arenaria		VU	Ind	RCP
Fabaceae	Aspalathus hispida subsp. albiflora		LC	Ind	CCR
Fabaceae	Aspalathus sanguinea subsp. foliosa		VU	Ind	RCP
Fabaceae	Dipogon lignosus	Cape sweet pea; bosklimop	LC	Ind	NE
Fabaceae	Indigofera cf. heterophylla		LC	Ind	NE
Fabaceae	Lessertia stenoloba		LC	Ind	CCR

Family	Species	Common name	Conserv. stat.	Origin	GCFR endem.
Fabaceae	Lotononis pungens		LC	Ind	NE
Fabaceae	Otholobium bracteolatum		LC	Ind	CCR
Fabaceae	Tephrosia capensis		LC	Ind	CCR
Gentianaceae	Chironia baccifera	Christmas berry; aambeibossie	LC	Ind	NE
Geraniaceae	Geranium incanum	carpet crane's-bill	LC	Ind	CCR
Geraniaceae	Pelargonium capitatum	kusmalva	LC	Ind	NE
Geraniaceae	Pelargonium lobatum	kaneelbol	LC	Ind	CCR
Geraniaceae	Pelargonium peltatum	ivy geranium	LC	Ind	GCFR
Geraniaceae	Pelargonium triste	kaneeltjie	LC	Ind	GCFR
Iridaceae	Babiana ringens subsp. australis	rotstert	LC	Ind	CCR
Iridaceae	Babiana tubiflora		LC	Ind	CCR
Iridaceae	Chasmanthe aethiopica	small cobra-lily; suurkanolpypie, klein piempiempie	LC	Ind	CCR
Iridaceae	Ferraria crispa	krulletjie	LC	Ind	CCR
Iridaceae	Freesia leichtlinii subsp. alba	duine-freesia	NT	Ind	CCR
Iridaceae	Gladiolus carinatus	blou-afrikaner	LC	Ind	GCFR
Iridaceae	Romulea rosea	rooiknikkertjie	LC	Ind	GCFR
Lamiaceae	Ballota africana	kattekruie	LC	Ind	NE
Lamiaceae	Salvia africana-lutea	bruinsalie, strandsalie	LC	Ind	GCFR
Lamiaceae	Stachys aethiopica	katbossie	LC	Ind	NE
Lauraceae	Cassytha ciliolata	false dodder; nooienshaar	LC	Ind	CCR
Limeaceae	Limeum telephioides	lizard's foot; koggelmandervoet	LC	Ind	CCR
Malvaceae	Hermannia holosericea		LC	Ind	NE
Malvaceae	Hermannia joubertiana		LC	Ind	CCR
Menispermaceae	Cissampelos capensis	dawidjieswortel	LC	Ind	GCFR
Molluginaceae	Adenogramma glomerata		LC	Ind	GCFR
Oleaceae	Chionanthus foveolatus subsp. tomentellus	pokysterhout	LC	Ind	NE
Oleaceae	Olea exasperata	dune olive	LC	Ind	GCFR
Orchidaceae	Bonatea speciosa	bush orchid	LC	Ind	NE

Family	Species	Common name	Conserv. stat.	Origin	GCFR endem.
Orchidaceae	Holothrix sp.		-	Ind	NA
Oxalidaceae	Oxalis obtusa	geeloogsuring	LC	Ind	GCFR
Oxalidaceae	Oxalis pes-caprae	geelsuring	LC	Ind	GCFR
Oxalidaceae	Oxalis stellata		LC	Ind	CCR
Papaveraceae	Cysticapnos cracca		LC	Ind	GCFR
Peraceae	Clutia daphnoides	vaalbliksembos	LC	Ind	GCFR
Poaceae	Cynodon dactylon		LC	Ind	NE
Poaceae	Ehrharta calycina	polgras	LC	Ind	NE
Poaceae	Ehrharta villosa	pypgras	LC	Ind	CCR
Poaceae	Festuca scabra	munniksgras	LC	Ind	NE
Poaceae	Koeleria capensis	strandgras	LC	Ind	NE
Poaceae	Pentameris calcicola var. hirsuta		VU	Ind	RCP
Poaceae	Setaria sphacelata	golden Timothy	LC	Ind	NE
Poaceae	Stenotaphrum secundatum	buffelsgras	LC	Ind	NE
Poaceae	Themeda triandra	rooigras	LC	Ind	NE
Polygalaceae	Muraltia spinosa	tortoise berry; skilpadbessie	LC	Ind	NE
Polygalaceae	Polygala ericaefolia		LC	Ind	CCR
Polygalaceae	Polygala myrtifolia var. myrtifolia	Septemberbos	LC	Ind	NE
Polygonaceae	Emex australis	duiweltjie	LC	Ind	NE
Primulaceae	Lysimachia arvensis var. caerulea	Pimpernel	-	Exo	EXO
Primulaceae	Myrsine africana	Cape myrtle	LC	Ind	NE
Restionaceae	Restio eleocharis		LC	Ind	GCFR
Restionaceae	Thamnochortus erectus	wyfieriet	LC	Ind	CCR
Restionaceae	Thamnochortus insignis	mannetjiesriet, dekriet	LC	Ind	CCR
Rhamnaceae	Phylica axillaris		LC	Ind	CCR
Rhamnaceae	Trichocephalus stipularis	dogsface; hondegesig	LC	Ind	GCFR
Rubiaceae	Anthospermum prostratum		LC	Ind	CCR
Rubiaceae	Rubia petiolaris		LC	Ind	NE

Family	Species	Common name	Conserv. stat.	Origin	GCFR endem.
Rutaceae	Agathosma muirii		VU	Ind	RCP
Rutaceae	Agathosma serpyllacea		LC	Ind	CCR
Santalaceae	Colpoon compressum	Cape sumach	LC	Ind	NE
Santalaceae	Thesidium fragile		LC	Ind	NE
Sapotaceae	Sideroxylon inerme subsp. inerme	Milkwood; melkhout	LC	Ind	NE
Scrophulariaceae	Chaenostoma cf. placidum		DDT	Ind	SB
Scrophulariaceae	Dischisma ciliatum		LC	Ind	CCR
Scrophulariaceae	Hemimeris sabulosa		LC	Ind	GCFR
Scrophulariaceae	Jamesbrittenia stellata		LC	Ind	CCR
Scrophulariaceae	Manulea caledonica		NT	Ind	BRC
Scrophulariaceae	Nemesia bicornis		LC	Ind	GCFR
Solanaceae	Lycium ferocissimum	Slangbessie	LC	Ind	NE
Solanaceae	Solanum africanum	Dronkbessie	LC	Ind	NE
Solanaceae	Solanum linnaeanum	Bitterappel	LC	Ind	NE
Tecophilaeaceae	Cyanella sp.	Raaptol	-	Ind	NA
Thymelaeaceae	Struthiola argentea	Aandgonna	LC	Ind	CCR
Urticaceae	Didymodoxa capensis		LC	Ind	NE
Urticaceae	Urtica urens	Dwarf nettle	LC	Exo	EXO
Zygophyllaceae	Roepera flexuosa		LC	Ind	CCR
Zygophyllaceae	Roepera morgsana	Slaaibos	LC	Ind	NE

Appendix 2: A literature review that summarises the known uses for the plant species that occur on Erf 657, Still Bay.

Plant Species	People's name	Family	Plant uses	Reference source	Page
Carpobrotus acinaciformis	Suurvy	Aizoaceae	The fruits are eaten raw or dried (sometimes preferred) and made into a jam. Medicinally the fruits are eaten as a laxative. The leaf sap is used to treat oral thrush, sore throat, stomach, sunburn, mouth ulcers, tuberculosis & thrush.	Coetzee (2015)	p. 113
				Coetzee and Miros (2010)	p. 64
				de Vynck (2014)	p. 107
				Fox and Young (1982)	p. 266
				Rood (1994)	p. 76
				Thring and Weitz (2006)	
Carpobrotus deliciosus	Ghoghum	Aizoaceae	The fruits are eaten raw and made into a jam.	Coetzee (2015)	p. 112
				Coetzee and Miros (2010)	p. 64
Carpobrotus edulis subsp edulis	Goena	Aizoaceae	The fruits are eaten raw or cooked into a jam. The leaf juice is used for sores, wounds, gargled for mouth and throat infections, tonsillitis, dysentery, eczema, wounds, burns, oral thrush, sore throats, stomach acids in infants.	Ben-Erik van Wyk and Nigel Gericke (2000)	p. 36, p.122
				Coetzee (2015)	p. 113
				de Beer and van Wyk (2011)	p. 745
				de Vynck (2014)	p. 107
				Fox and Young (1982)	p. 267
				Rood (1994)	p. 75
				Skead (2009)	p. 13, 24, 43, 110, 163, 190, 198
				Thring and Weitz (2006)	
				van Wyk et al., (1997)	p. 70
Conicosia pugioniformis	Varkwortel	Aizoaceae	The roots and young fruit capsules are used in stews.	Ben-Erik van Wyk and Nigel Gericke (2000)	p. 68
Mesembryanthemum crystallinum	Slaaibos, soutslaai	Aizoaceae	The juice of the leaves is used to remove hair from hides.	Ben-Erik van Wyk and Nigel Gericke (2000)	p. 254
Tetragonia fruticosa	Soutslaai	Aizoaceae	The leaves are used as an ingredient in salads and was historically used to treat scurvy	Skead (2009)	p. 13
Searsia crenata	Kraaibessie	Anacardiaceae		Botha (unpublished data)	

Plant Species	People's name	Family	Plant uses	Reference source	Page
Searsia glauca	kraaikos, taaibos, konkeltaaibos, spreeubos	Anacardiaceae	Collected for firewood. The fruits are edible, and an infusion of the leaves have been used for stomach pain and diarrhoea.	Botha (unpublished data)	
				de Vynck (2014)	p. 116
Searsia laevigata	Duinetaaibos	Anacardiaceae	Collected for firewood. The fruits are preferred by children. Infusions are used to treat body pains and the plant has also been used to tan leather.	Botha (unpublished data)	
				Fox and Young (1982)	p. 78
				Moffet and Deacon (1977)	Appendix B
				Moffet and Deacon (1977)	Appendix A
Searsia lucida	Taaibos, knakerbos, knakertaaibos, knakerdopbos, knakers, appelgap	Anacardiaceae	Residents of the southern Cape have collected the branches of this species for firewood. Infusion of the leaves are used to treat stomach ailments. Galls called "knakers", made by insects on leaves are eaten after blowing out the insect. The plant has also been used to tan leather.	Botha (unpublished data)	
				de Vynck (2014)	p. 116
				Moffet and Deacon (1977)	Appendix A
Searsia pterota	Pendoringtaaibos	Anacardiaceae			
Astephanus triflorus	Vissies	Apocynaceae	The fruits/seedpods are edible.	de Vynck (2014)	p. 106
Carissa bispinosa	Noem-noem	Apocynaceae	The fruits are eaten raw or cooked and is used to make jam and wine and is also used as a preservative. The fruits are sought after by children and have been likened to chewing gum. The roots are used to treat toothache. The branches are used to enclose kraals.	Ben-Erik van Wyk and Nigel Gericke (2000)	p. 36
				Ben-Erik van Wyk and Nigel Gericke (2000)	p. 206
				Coetzee (2015)	p. 98, 109, 110, 149
				Coetzee and Miros (2010)	p. 70, 115
				de Vynck (2014)	p. 107
				Fox and Young (1982)	p. 88
				Moffet and Deacon (1977)	Appendix A
				Skead (2009)	p. 110, 112, 121, 222
Cynanchum obtusifolium	Klimop, pôka, pok-pôk, kapôke,	Apocynaceae	The seedpods are edible.	de Vynck (2014)	p. 109

Plant Species	People's name	Family	Plant uses	Reference source	Page
	papôk, papie				
Cynanchum viminale	Melktou	Apocynaceae			
Microloma sagittatum	Bokhoring, bokhorinkie	Apocynaceae	The young fruits are eaten raw.	Archer (1982)	p. 444
				de Beer and van Wyk (2011)	
				de Vynck (2014)	p. 113
Asparagus aethiopicus	Haakdoring	Asparagaceae	Young shoots are edible. Fruits are poisonous.	http://pza.sanbi.org	
Asparagus asparagoides	Breeblaarklimop, krulkransie	Asparagaceae	The plant has medicinal properties.	Moffet and Deacon (1977)	Appendix A
Asparagus capensis	Katdoring	Asparagaceae	Children eat the berries. A decoction/infusion of either the roots, leaves or stems are used to expel retained placenta, treat coughs, tuberculosis, abdominal pain, constipation, kidneys and diabetes.	Ben-Erik van Wyk and Nigel Gericke (2000)	p. 180
				de Vynck (2014)	p. 106
				Fox and Young (1982)	p. 249
Trachyandra ciliata	wilde groenboon, kool, veldkool	Asphodelaceae	The flower stalks/flower buds/leaves are cooked/blanched in hot water in stews.	Ben-Erik van Wyk and Nigel Gericke (2000)	p. 78
				Coetzee (2015)	p. 129
				Coetzee and Miros (2010)	p. 84
				de Vynck (2014)	p. 118
				Fox and Young (1982)	p. 253
Arctotheca calendula	Botterblom, Kaapse Madeliefie, Seepampoen, Tonteldoek, Tonteldoekblom	Asteraceae	The stems are edible. The sap is sucked which serves as a thirst quencher.	Archer (1982)	p. 440
Chrysocoma ciliata	Beesbos, Bitterbos, Bitterkaroo, Donkiebos, Kaalsiektebos	Asteraceae	The leaves are medicinal, and a decoction is used to treat colds, stomach and pain (especially in the legs).	de Beer and van Wyk (2011)	p. 745
				Moffet and Deacon (1977)	Appendix A
Gerbera piloselloides	Swarttee, Swartteebossie	Asteraceae	The plant is valued by traditional healers.	Dzerefos and Witkowski (2001)	
Helichrysum patulum		Asteraceae	Medicinally used to treat heart disorders, kidney ailments, backpain, respiratory diseases.	Lourens et al., 2008	

Plant Species	People's name	Family	Plant uses	Reference source	Page
Metalasia muricata	Blombos	Asteraceae	Residents of the southern Cape collected the branches for firewood. A beverage of the leaves is used as a tea. It has also been used for fumigation purposes.	Botha (unpublished data)	
				Fox and Young (1982)	p. 129
				Moffet and Deacon (1977)	Appendix A
Osteospermum moniliferum	Bietou	Asteraceae	The fruits are edible and a preferred snack by children. The species has been collected for firewood.	Ben-Erik van Wyk and Nigel Gericke (2000) Botha (unpublished data)	p. 36
				Coetzee (2015)	p. 100
				de Vynck (2014)	p. 113
				Fox and Young (1982)	p. 128
				Moffet and Deacon (1977)	Appendix A
Senecio elegans	Strandblommetjie	Asteraceae	The leaves are used as a spinach.	(Fox and Young, 1982)	p. 124
Tarchonanthus littoralis		Asteraceae	The plant has been collected for fuelwood.	Botha (unpublished data)	
Wahlenbergia androsacea		Campanulaceae	The plant is used as a vegetable.	(Welcome and Van Wyk, 2018)	
Cerastium capense	Horingblom	Caryophyllaceae	The plant is used as a vegetable.	Welcome and van-Wyk (2018)	
Silene undulata	Wildetabak	Caryophyllaceae	The plant is used as a charm.	(Moffet and Deacon, 1977)	Appendix A
Gymnosporia buxifolia	Pendoring	Celastraceae	The plant has been used to construct needles. Infusions are used to treat colds.	Moffet and Deacon (1977)	Appendix A
				Moffet and Deacon (1977)	Appendix B
Lauridia tetragona	Drolpeer	Celastraceae	The leaves are chewed to alleviate sudden pain and earache. The fruits are edible and is favoured by children.	de Vynck (2014)	p. 112
				Fox and Young (1982)	p. 149
Mystroxylon aethiopicum	Koeboebessie	Celastraceae	The fresh fruits are eaten.	Fox and Young (1982)	p. 148
Pterocelastrus tricuspidatus	Kershout	Celastraceae	The leaves and bark are used to tan hides. It is used for gum and resin and collected as fuelwood.	(Van Wyk and Gericke, 2000) Botha (unpublished data)	p. 256
				Moffet and Deacon (1977)	Appendix A
Diospyros dichrophylla	Jakkalsbessie	Ebenaceae	The branches are collected as fuelwood. The fruits are edible.	Botha (unpublished data)	
				de Vynck (2014)	p. 109

Plant Species	People's name	Family	Plant uses	Reference source	Page
				Moffet and Deacon (1977)	Appendix A
Euclea racemosa	Duine gwarrie	Ebenaceae	The leaves are chewed to alleviate stomach pain. The wood is collected as firewood. The fruits are eaten.	de Vynck (2014)	p. 110
				(Skead, 2009)	p. 14
Euphorbia burmannii	Lidjiesmelkbos, Riviermelkbos, Soetmelkbos, Steenbokmelkbos	Euphorbiaceae	The latex is used to remove warts.	de Vynck (2014)	p. 110
Acacia cyclops	Rooikrans	Fabaceae	Collected as fuelwood.		
Acacia saligna	Port Jackson	Fabaceae	Collected as fuelwood.		
Dipogon lignosus		Fabaceae	The bark is used to make rope.	Skead (2009)	p. 116
Tephrosia capensis		Fabaceae	The plant is used to make arrow poison.	Moffet and Deacon (1977)	Appendix A
Chironia baccifera	Bitterbos, bitterbessiebos, spreeubos, aambeibossie	Gentianaceae	Infusion/decoction/tinctures of fresh leaves, stems and fruits used to expel retained placenta, stomach ulcers, diarrhoea, syphilis, leprosy, kidney and bladder infections, dandruff, remove ring worm, stiff muscles, remove head lice, rashes, itches, eczema, sores, skin ailments, colds diabetes, haemorrhoids, "blood purifier" for skin conditions including acne, sores and boils. Diaphoretic, causes sleepiness & perspiration, combined with other herbs for art.	Ben-Erik van Wyk and Nigel Gericke (2000)	p. 182
				de Vynck (2014)	p. 108
				(Thring and Weitz, 2006)	
				van Wyk et al., (1997)	p. 80
Geranium incanum	vrouebossie, vrouetee	Geraniaceae	Infusions are used to treat bladder infections, venereal diseases, menstruation-related ailments, women's ailments, kidneys, colds, fertility, postnatal, irregular menstruation, high blood pressure, used as a sit bath by midwives.	Ben-Erik van Wyk and Nigel Gericke (2000)	p. 186
				Coetzee (2015)	p. 140
				de Vynck (2014)	p. 111
				Fox and Young (1982)	p. 235
				(Van Wyk et al., 1997)	p. 134
Pelargonium capitatum	malva	Geraniaceae	The fresh leaves are used to treat tooth- and earache. Also used as an essential oil.	Ben-Erik van Wyk and Nigel Gericke (2000)	p. 224
Pelargonium lobatum		Geraniaceae	The plant is edible.	Fox and Young (1982)	p. 236

Plant Species	People's name	Family	Plant uses	Reference source	Page
Pelargonium peltatum	Kolsuring, Malva	Geraniaceae	The fresh leaves are edible and used like sorrel.	de Vynck (2014)	p. 114
				Fox and Young (1982)	p. 236
				Skead (2009)	p. 199
Pelargonium triste	Kaneelbol	Geraniaceae	The roots are roasted, but not always popular. The roots are also used to treat stomach ailments, haemorrhoids and purification of female parts. The roots are also used as a dye and for tanning leather.	(Archer, 1982)	p. 446
				Ben-Erik van Wyk and Nigel Gericke (2000)	p. 92, p. 256
				de Vynck (2014)	p. 114
				Fox and Young (1982)	p. 236
				de Vynck (2014)	p. 114
Drimia capensis	Maerman	Hyacinthaceae	The bulb scales are used to alleviate itching, dropsy, asthma and as an emetic to treat poisoning.	de Vynck (2014)	p. 110
				Skead (2009)	p. 13
Ledebouria revoluta		Hyacinthaceae	The plant has been reported to have some medicinal properties including treating lumbago in pregnant women.	(Moodley et al., 2006)	
Chasmanthe aethiopica		Iridaceae	The corms are roasted in ash, boiled, boiled in milk and used as a vegetable and to make bread and porridge.	Rood (1994)	p. 73
Ferraria crispa	Spinnekopblom	Iridaceae	The corms are roasted in hot ash or boiled in milk.	Ben-Erik van Wyk and Nigel Gericke (2000)	p. 92
Romulea rosea	rooiknikkertjie	Iridaceae	The fresh fruits and seedpods are eaten and favoured by children.	Ben-Erik van Wyk and Nigel Gericke (2000)	p. 54
				Coetzee (2015)	p. 100
				Coetzee and Miros (2010)	p. 70
				de Vynck (2014)	p. 116
				Fox and Young (1982)	p. 243
Ballota africana	Kattekruie	Lamiaceae	Medicinally used for fever, flu, measles, asthma, tension headaches, haemorrhoids, insomnia, stress, thrush, hoarseness, knee joint pain, bronchitis, typhoid fever, guards against colds and influenza. Also taken after giving birth, stimulates milk production, fever, aching legs, heart trouble, hysteria and liver problems, sore throat, cough, back pain, stomach, high blood pressure, diabetes, bladder, wounds, burns, piles, arthritis. Used as a body wash for sores and pimples. Fresh leaves plugged for	Ben-Erik van Wyk and Nigel Gericke (2000)	p. 120
				Coetzee (2015)	p. 139
				Coetzee and Miros (2010)	p. 83, 85
				de Beer and van Wyk (2011)	p. 745
				de Vynck (2014)	p. 106

Plant Species	People's name	Family	Plant uses	Reference source	Page
			ear ache, also as a pest repellent. The burnt leaves wards off ghosts and evil spirits.	Moffet and Deacon (1977)	Appendix B
				Rood (1994)	p. 74
				Thring and Weitz (2006)	
				van Wyk et al., (1997)	p. 54
Salvia africana-lutea	Bruinsalie, strandsalie	Lamiaceae	The flowers and nectar are eaten raw. Cooked leaves are a traditional ingredient in stews. Oven-dried leaves used as beverage. Infusion made from the leaves used to treat colds, flu, bronchitis, abdominal cramps, indigestion, kidney stones, coughs, sinuses and chest complaints. Cosmetically, leaves are used as a hair shampoo.	Ben-Erik van Wyk and Nigel Gericke (2000)	p. 132
				Coetzee (2015)	p. 88
				Coetzee and Miros (2010)	p. 85
				de Vynck (2014)	p. 116
				Thring and Weitz (2006)	
Stachys aethiopica	Katbossie	Lamiaceae	An infusion of the leaves is used as a sedative, for treating high blood pressure and chest ailments.	de Vynck (2014)	p. 117
Cassytha ciliolata		Lauraceae	The leaves are used as a medical ointment to treat skin rashes and skin-related irritations and a decoction of the leaves also promotes hair growth.	de Vynck (2014)	p. 107
Cissampelos capensis		Menispermaceae	The rhizomes are dried, burnt, inhaled, chewed and used to make infusions. Used to treat headaches, sedative, pain, blood-purifiers, purgatives for diabetes, tuberculosis, stomach and skin cancer, dysentery, urinary stones, glandular swellings, constipation, colic, stomach pains, pimples, spasms, epilepsy and cholera. Pulped fresh leaves applied for bite, sores and boils. The leaves are used as a fan to repel midgets.	Ben-Erik van Wyk and Nigel Gericke (2000)	p. 124
				de Vynck (2014)	p. 108
				Moffet and Deacon (1977)	Appendix A
				van Wyk et al., (1997)	p. 86
Myrsine africana		Myrsinaceae	The plant has medicinal properties.	Moffet and Deacon (1977)	Appendix A
Oxalis obtusa	Geeloogsuring, Suring	Oxalidaceae	The leaves are added to warm milk, left to form curds, which is combed with a wooded comb the next morning and served as a porridge.	Coetzee (2015)	p. 135
Oxalis pes-caprae	Suring, Suringwortel, Tuinsuring, Varksuring, Wild Sorrel, Wildesuring	Oxalidaceae	The whole plant can be eaten fresh, but often cooked in milk to make porridge and added to stews for flavour. Traditionally used to treat scurvy eaten as a salad.	Ben-Erik van Wyk and Nigel Gericke (2000)	p. 72
				Coetzee (2015)	p. 80

Plant Species	People's name	Family	Plant uses	Reference source	Page
				Coetzee and Miros (2010)	p. 83
				de Vynck (2014)	p. 114
				Skead (2009)	p.4, 5
Cynodon dactylon	Witkweek, Witkweekgras, Ysterkweek, Vingergras	Poaceae	Fruit is edible.	Welcome and van-Wyk (2018)	
Setaria sphacelata	Kanariegras, Oulandgras, Mannagras	Poaceae	Used as a famine food.	Welcome and van-Wyk (2018)	
Themeda triandra	Rooigras	Poaceae	Used as thatching.	Moffet and Deacon (1977)	Appendix A
Muraltia spinosa	Skilpadbessie	Polygalaceae	The flowers and berries are eaten raw or dried as a thirst quencher or as a snack. The berries are fermented to make a beer. The berries medicinally, the leaves and stems are infused and used to treat colds, flu, bronchitis, tonic, tuberculosis, abdominal pain, suppress thirst, loosen chest phlegm, treat chest ailments, pain and digestive disorders.	Ben-Erik van Wyk and Nigel Gericke (2000)	p. 50
				Botha (unpublished data)	
				Coetzee (2015)	p. 103
				Coetzee and Miros (2010)	p. 63
				de Vynck (2014)	p. 113
				Fox and Young (1982)	p. 303
				Skead (2009)	p. 110
Polygala myrtifolia	Septemberbos	Polygalaceae	The branches are collected as fuelwood. The nectar is edible. The leaves are made into an infusion and used to treat stomach ulcers.	Botha (unpublished data)	
				de Vynck (2014)	p. 115
				Moffet and Deacon (1977)	Appendix A
Emex australis	Duiweltjie	Polygonaceae	The leaves are used like spinach.	Fox and Young (1982)	p. 304
				Moffet and Deacon (1977)	Appendix A
Thamnochortus insignis	Dekriet, mannetjiesriet, riet	Restionaceae	Used as thatching, knitting needles, to make torches, to smoke out bees and to start a fire.	Ben-Erik van Wyk and Nigel Gericke (2000)	p. 312
				de Vynck (2014)	p. 118

Plant Species	People's name	Family	Plant uses	Reference source	Page
Rubia petiolaris		Rubiaceae	It is a children's toy. You attach it to someone's back so that they will return soon.	de Vynck (2014)	p. 116
Agathosma muirii	Anysboegoe, boegoe	Rutaceae	Infusions of the leaves used to treat influenza. Used as a deodorant and the branches are spread on the floor for fragrance.	de Vynck (2014)	p. 104
Agathosma serpyllacea	Anysboegoe, boegoe	Rutaceae	Infusions of the leaves used to treat influenza. Used as a deodorant and the branches are spread on the floor for fragrance.	de Vynck (2014)	p. 104
Colpoon compressum	basbos, basboom, basbessie(boom), basbessiebos, bessiebos	Santalaceae	Collected as fuelwood. Fruits are eaten raw. Infusions of the leaves and bark are used to treat diarrhoea and stomach pain. The bark is used to tan leather.	Botha (unpublished data)	
				Coetzee and Miros (2010)	p. 59
				de Vynck (2014)	p. 114
				Fox and Young (1982)	p. 331
				Moffet and Deacon (1977)	Appendix A
				Moffet and Deacon (1977)	Appendix B
Sideroxylon inerme	Melkhoutboom	Sapotaceae	Collected as fuelwood. Decoctions of the bark and leaves used to treat diarrhoea, stomach pain, warts. The wood is used as fence posts. Leaves are made into a whistle. The juice is used as a poison on arrows and the whole plant is used to make shelter.	Botha (unpublished data)	
				de Vynck (2014)	p. 116
				Fox and Young (1982)	p. 339
				Skead (2009)	p. 8, p. 33
Lycium ferocissimum	Slangbessie	Solanaceae	The berries are eaten raw or fermented as an ingredient in honey beer. Historically used to treat scurvy.	Coetzee (2015)	p. 104
				Fox and Young (1982)	p. 344
				Skead (2009)	p.2, 231

Plant Species	People's name	Family	Plant uses	Reference source	Page
Solanum africanum	Dronkbessie	Solanaceae	The fruits are edible, and the leaves used for medicinal purposes.	de Vynck (2014)	p. 117
Solanum linnaeanum	Bitterappel	Solanaceae	The roots are used to treat tuberculosis and AIDS. The burnt juice of the fruits is inhaled for toothache and ringworm.	de Vynck (2014)	p. 117
Solanum sp		Solanaceae	Some species are thrown into water as a poison.	Skead (2009)	p. 224
Didymodoxa capensis		Urticaceae	Used as a vegetable.	Welcome and van-Wyk (2018)	p. 32
Urtica urens	Brandnetel	Urticaceae	The leaves are cooked like spinach in stews. Infusions of the leaves are used to treat cancer, stomach cancer, mild stroke, high blood pressure, diabetes, chicken pox, measles and sick chickens.	Coetzee (2015)	p. 131
				de Vynck (2014)	p. 118
				de Vynck (2014)	p.119
				Moffet and Deacon (1977)	Appendix A
				Moffet and Deacon (1977)	Appendix A
Zygophyllum flexuosum	Maerbossie, Spekbos, Spekbroodbossie	Zygophyllaceae	The leaves are used as an ointment to treat dry skin, ringworm, and persistent rashes.	de Vynck (2014)	p. 119
Zygophyllum morgsana	Spekbos, Vetbos, Skuimbos, Slaaibos, Vleisbos	Zygophyllaceae	The twigs and seeds are edible. The latex, fruits and juice are used as a poison.	de Vynck (2014)	p. 119
				van Wyk and Gericke (2000)	p. 238
				Fox and Young (1982)	p. 195
				Skead (2009)	p. 59

Appendix 3: Photographs showing areas of illegal dumping on Erf 657, Still Bay.