
Portion 30 of Farm 257 Misgunst aan de Gouritz, Fransmanshoek.

Specialist Aquatic Biodiversity Assessment



Prepared For: Cape EAPrac
Author: Dr. JM Dabrowski
Confluent Environmental Pty (Ltd)
7 St. Johns Street,
Dormehls Drift,
George, 6529
SACNASP: Pr. Sci. Nat. (Water Resources) – 114084
Date: 22 October 2024
Version: Final



DECLARATION OF SPECIALIST INDEPENDANCE

- I consider myself bound to the rules and ethics of the South African Council for Natural Scientific Professions (SACNASP);
- At the time of conducting the study and compiling this report I did not have any interest, hidden or otherwise, in the proposed development that this study has reference to, except for financial compensation for work done in a professional capacity;
- Work performed for this study was done in an objective manner. Even if this study results in views and findings that are not favourable to the client/applicant, I will not be affected in any manner by the outcome of any environmental process of which this report may form a part, other than being members of the general public;
- I declare that there are no circumstances that may compromise my objectivity in performing this specialist investigation. I do not necessarily object to or endorse any proposed developments, but aim to present facts, findings and recommendations based on relevant professional experience and scientific data;
- I do not have any influence over decisions made by the governing authorities;
- I undertake to disclose all material information in my possession that reasonably has or may have the potential of influencing any decision to be taken with respect to the application by a competent authority to such a relevant authority and the applicant;
- I have the necessary qualifications and guidance from professional experts in conducting specialist reports relevant to this application, including knowledge of the relevant Act, regulations and any guidelines that have relevance to the proposed activity;
- This document and all information contained herein is and will remain the intellectual property of Confluent Environmental. This document, in its entirety or any portion thereof, may not be altered in any manner or form, for any purpose without the specific and written consent of the specialist investigators.
- All the particulars furnished by me in this document are true and correct.



Specialist: Dr. James Dabrowski (Ph.D., Pr.Sci.Nat. Water Resources)

Date: 22 October 2024

TABLE OF CONTENTS

1.	INTRODUCTION	1
1.1	NATIONAL ENVIRONMENTAL MANAGEMENT ACT	1
1.2	SCOPE OF WORK	1
2.	APPROACH	1
3.	DESKTOP SURVEY	2
3.1	NATIONAL FRESHWATER ECOSYSTEM PRIORITY AREAS (NFEPA)	3
4.	SITE VISIT	4
5.	AQUATIC BIODIVERSITY COMPLIANCE STATEMENT	5
6.	REFERENCES	6

LIST OF FIGURES

Figure 2: Location of the property in relation to mapped freshwater features.	3
Figure 3: Location of site relative to FEPAs	4
Figure 4: Photograph of the vegetation on the site.	5

1. INTRODUCTION

Confluent Environmental was appointed by Cape EAPrac to undertake a site verification for Portion 30 of Farm Misgunst aan de Gourtitz No. 257. The site has been classified as having '**Very High**' aquatic biodiversity by the Department of Environmental Affairs (DEA) screening tool. The scope of work for this report is guided by the legislative requirements of the National Environmental Management Act (NEMA).

1.1 National Environmental Management Act

According to the protocols specified in GN 1540 (Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes in Terms of Sections 24(5)(A) and (H) and 44 of the National Environmental Management Act, 1998, when Applying for Environmental Authorisation), assessment and reporting requirements for aquatic biodiversity are associated with a level of environmental sensitivity identified by the national web-based environmental screening tool (screening tool). An applicant intending to undertake an activity identified in the scope of this protocol on a site identified by the screening tool as being of:

- **Very High** sensitivity for aquatic biodiversity, must submit an Aquatic Biodiversity Specialist Assessment; or
- **Low** sensitivity for aquatic biodiversity, must submit an Aquatic Biodiversity Compliance Statement.

The screening tool classified the site as being of **Very High** aquatic biodiversity due to its location with a river Freshwater Ecosystem Priority Area (FEPA). According to the protocol, prior to commencing with a specialist assessment a site sensitivity verification must be undertaken to confirm the sensitivity of the site as indicated by the screening tool:

- Where the information gathered from the site sensitivity verification differs from the screening tool designation of **Very High** aquatic biodiversity sensitivity, and it is found to be of a **Low** sensitivity, an Aquatic Biodiversity Compliance Statement must be submitted.
- Similarly, where the information gathered from the site sensitivity verification differs from the screening tool designation of **Low** aquatic biodiversity sensitivity, and it is found to be of a **Very High** sensitivity, an Aquatic Biodiversity Specialist Assessment must be submitted.

1.2 Scope of Work

The objectives of this assessment included the following:

- To undertake a desktop analysis and site inspection to verify the sensitivity of aquatic biodiversity as **Very High** or **Low**; and
- Compile an Aquatic Biodiversity Compliance Statement or Aquatic Biodiversity Specialist Assessment based on the site verification of the sensitivity of the site.

2. APPROACH

The following rationale was adopted to determine the sensitivity of aquatic biodiversity within the footprint of the site:

- The location of the site within a FEPA sub-quaternary catchment (SQC) flags the site as being of a **Very High** sensitivity. This is a precautionary approach and therefore requires that a site visit be undertaken to determine whether any watercourses that may not have been identified by widely available desktop mapping resources may in fact be present on the site;
- In the event that watercourses are confirmed to fall within the development footprint then the site sensitivity is confirmed as **Very High** and a full specialist freshwater assessment is required; and
- In the event that no watercourses are identified within the development footprint the site sensitivity is confirmed as **Low** and an Aquatic Compliance statement is required.

The determination of the site sensitivity relied upon the following approaches:

- Interrogation of available desktop resources including:
 - DWS spatial layers;
 - National Freshwater Ecosystem Priority Areas (NFEPA) spatial layers (Nel et al., 2011);
 - National Wetland Map 5 and Confidence Map (CSIR, 2018)
 - Western Cape Biodiversity and Spatial Plan (WCBSP) for Mossel Bay (CapeNature, 2017).
- A site visit was undertaken, during which time the following activities were undertaken:
 - Identification and classification of watercourses within the footprint of the site and within 500m of the site according to methods detailed in Ollis et al. (2013);
 - Soil augering to confirm the presence of soil indicators (DAAF, 2005) that may indicate the presence of a wetland (if applicable); and
 - Identification of hydrophilic plant species that may indicate the presence of wetland plant species (if applicable).

3. DESKTOP SURVEY

The site falls within Primary Catchment K (Kromme) area and in quaternary catchment K10A. No freshwater features are mapped to occur within the footprint of the property or within close proximity to the property (Figure 1).

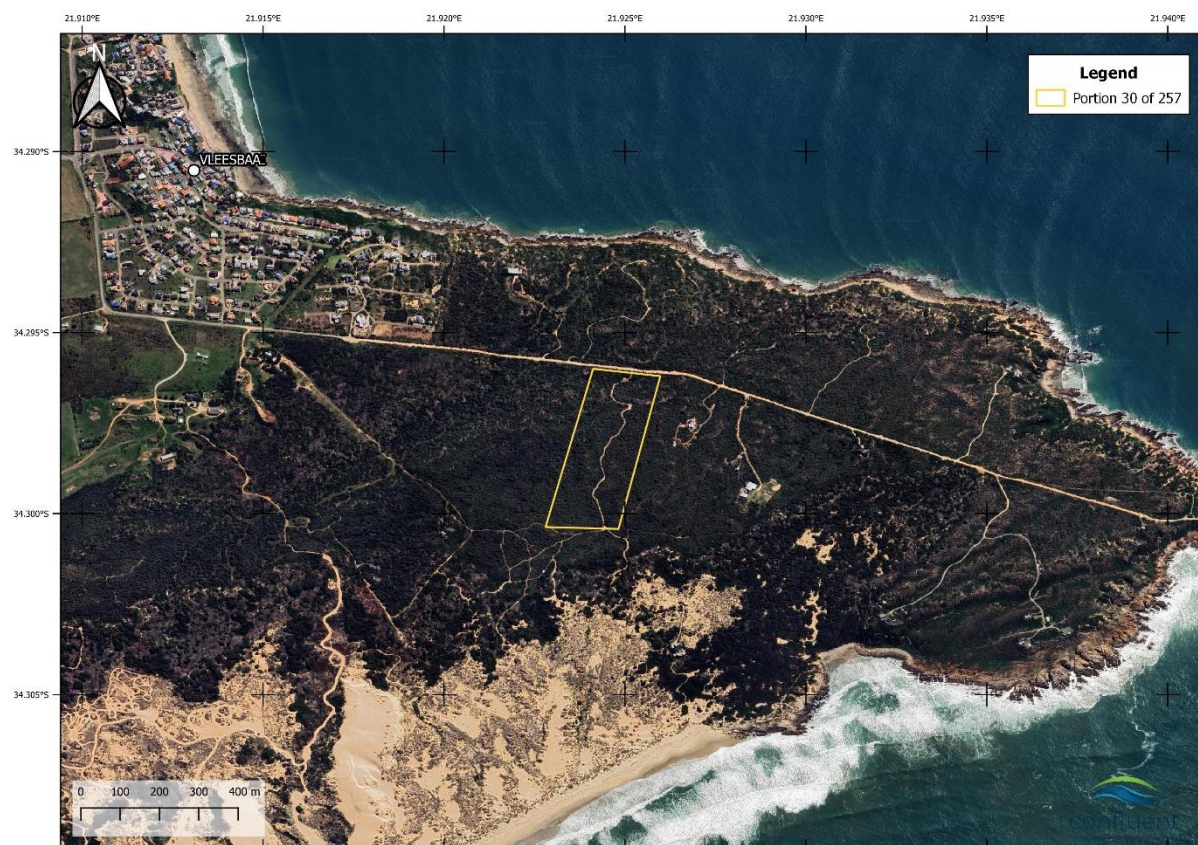


Figure 1: Location of the property in relation to mapped freshwater features.

3.1 National Freshwater Ecosystem Priority Areas (NFEPA)

Aquatic biodiversity within the site has been identified as **Very High** on the basis that the site falls within a Freshwater Ecosystem Priority Area (FEPA). Rivers FEPAs achieve biodiversity targets for river ecosystems and threatened/near-threatened fish species and were identified in rivers that are currently in a good condition (A or B ecological category). Their FEPA status indicated that they should remain in a good condition in order to contribute to national biodiversity goals and support sustainable use of water resources (Nel et al., 2011).

For river FEPAs, the whole sub-quaternary (or quinary) catchment is identified as a FEPA, although the FEPA status applies to the actual river reach within such a sub-quaternary catchment. The shading of the whole sub-quaternary catchment indicates that the surrounding land and catchment area needs to be managed in a way that maintains the good ecological condition of the river reach.

From the perspective of SQC 9292, the main unnamed river reach for which a FEPA status was assigned runs south of the Petro SA refinery into the Indian Ocean (Figure 2). Given its coastal location, the SQC includes numerous additional minor coastal rivers and streams that flow directly into the Indian Ocean, most of which do not flow into the main river reach that has been identified as a FEPA. The site and the associated freshwater features that are considered in this report fall well outside the catchment area of this main river reach. The **Very High** sensitivity, as specified by the screening tool, is therefore not necessarily applicable to all freshwater features that fall within the SQC.

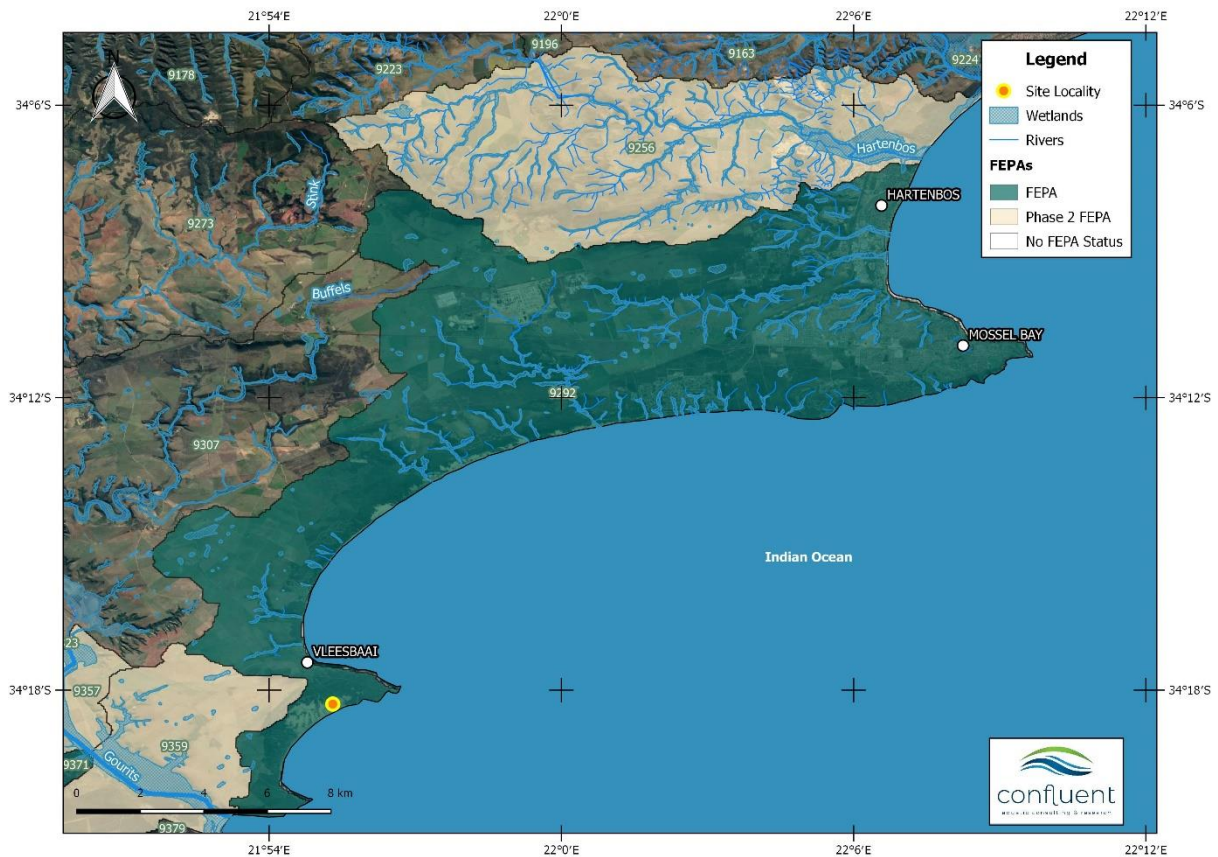


Figure 2: Location of site relative to FEPAs

4. SITE VISIT

According to the specialist botanical report (Fouche, 2024), the vegetation across the property was fairly uniform and is consistent with Hartenbos Dune Thicket – broadly described as a mosaic of strandveld thicket and fynbos. The property slopes gradually from the west down to the east and soil is sandy. There are no clear areas of natural drainage on the property and no hydro-geomorphological landscape features (depressions, confined valleys, channels etc.) indicating the presence of a watercourse (i.e. stream, river or wetland) (Figure 5). No freshwater features were identified within the footprint of the property or within 500m of the property.



Figure 3: Photograph of the vegetation on the site.

5. AQUATIC BIODIVERSITY COMPLIANCE STATEMENT

Based on the results of the desktop review and the site survey, the sensitivity of aquatic biodiversity on Portion 30 of Farm 257 can be regarded as **Low**. The main factors influencing the statement include the following:

- While the development falls within a FEPA the site falls well outside the catchment area of the river reach for which the FEPA status was determined; and
- No freshwater features were identified within the footprint area of the site or within close proximity (i.e. within 2 km) of the site.

6. REFERENCES

CapeNature (2017). *2017 WCBSP Mossel Bay [Vector] 2017*. Available from the Biodiversity GIS website, downloaded on 26 March 2019

Council for Scientific and Industrial Research (CSIR). (2018). *National Wetland Map 5 and Confidence Map [Vector] 2018*. Available from the Biodiversity GIS website, downloaded on 30 September 2020.

Department of Water Affairs and Forestry (DWAf) (2005). *Final Draft: A Practical Field Procedure for Identification and Delineation of Wetlands and Riparian Areas*.

Fouche, B (2024).

Nel, J.L., Driver, A., Strydom, W.F., Maherry, A., Peterson, C., Hill, L., Roux, D.J., Nienaber, S., van Deventer, H., Swartz, E. and Smith-Adao, L.B. (2011) Atlas of freshwater ecosystem priority areas in South Africa: Maps to support sustainable development of water resources. Water Research Commission Report No. TT 500/11.

Ollis, D., Snaddon, K., Job, N., & Mbona, N. (2013). Classification system for wetlands and other aquatic ecosystems in South Africa. South African National Biodiversity Institute.