Annexure 3 - 2: Aquatic Assessment

Section 24 G Application for activities on Portions 10 and 14 of Farm Tregaron 92, Sundays River Valley Municipality, Eastern Cape

WETLAND / AQUATIC ASSESSMENT

FOR
EAP Services (Pty) Ltd

BY

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DATE
20 May 2026

REVISION 1

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SPECIALIST REPORT DETAILS

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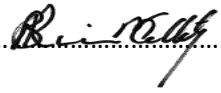
Expertise / Field of Study: BSc (Hons) Zoology, MSc Botany (Rivers), Ph.D Botany Conservation Importance rating, and has worked as an independent consulting specialist from 1996 to present.

I, **Dr. Brian Michael Colloty** declare that this report has been prepared independently of any influence or prejudice as may be specified by the National Department of Environmental Affairs Fisheries and Forestry and or Department of Water and Sanitation

Signed:… ……  …… Date:…20 May 2026……

1 Introduction

EAP Services on behalf of their client appointed EnviroSci (Pty) Ltd to conduct an aquatic impact assessment for the Section 24G application for unauthorised activities on Portions 10 and 14 of Farm Tregaron 92 in the Sundays River Municipality, Eastern Cape Province (Figure 1).

The area is therefore high lying areas typically covered by thicket areas on the plateaux adjoining the Sundays River (Figure 1). This assessment adheres to criteria contained in the DWAF 2005 / 2008 delineation manuals and the Wetland / Riverine Classification System. The site-specific survey was thus conducted in late summer in December 2025/January 2026, but supported by wetland and riverine assessments conducted by the author since 1996 in the region.

1.1 Location & Project description

Project Background

Agricultural activities are in place on Portions 10 (189 ha) and 14 (128 ha) of farm Tregaron No 92 located approximately 6.5 km north of the town of Sunland in ward 8 of the Sundays River Local Municipality, Eastern Cape. The combined footprint is an estimated 317 ha, of which approximately 124.5 ha is currently in place.

Approximate central coordinates: 33° 27.102'S; 25° 35.758'E
Water is currently sourced directly from the Lower SRVM canal. Electricity reticulation is in place. Access to the site is in place from the R336.

Water is proposed to be sourced directly from the SRVM canal. Electricity reticulation is in place. Access to the site is in place from the R336. A stormwater management plan will likely be required to manage runoff and prevent erosion on the farming area.

Existing and expanded footprints

1989 – 2006
The current dwellings and dam (4.5 ha) and approximately 38 ha of cultivated farming (mostly citrus) were in place at the time of purchase. Water rights were in place; water is sourced directly from the SRVM canal. Electricity reticulation was in place; access to the site was in place from the R336.

2006 – 2010
Cultivated land was expanded by approximately 7.5 ha

2010 - 2014
Additional Infrastructure was put in place
Cultivated land was expanded by approximately 36 ha

2014 - 2017
Cultivated land was expanded by approximately 8.5 ha

2017 - 2025
Cultivated land was expanded by approximately 30 ha

Total expansion area: 82 ha
Total current farmed area: 124.5 ha
Remaining natural area: 192.5 ha

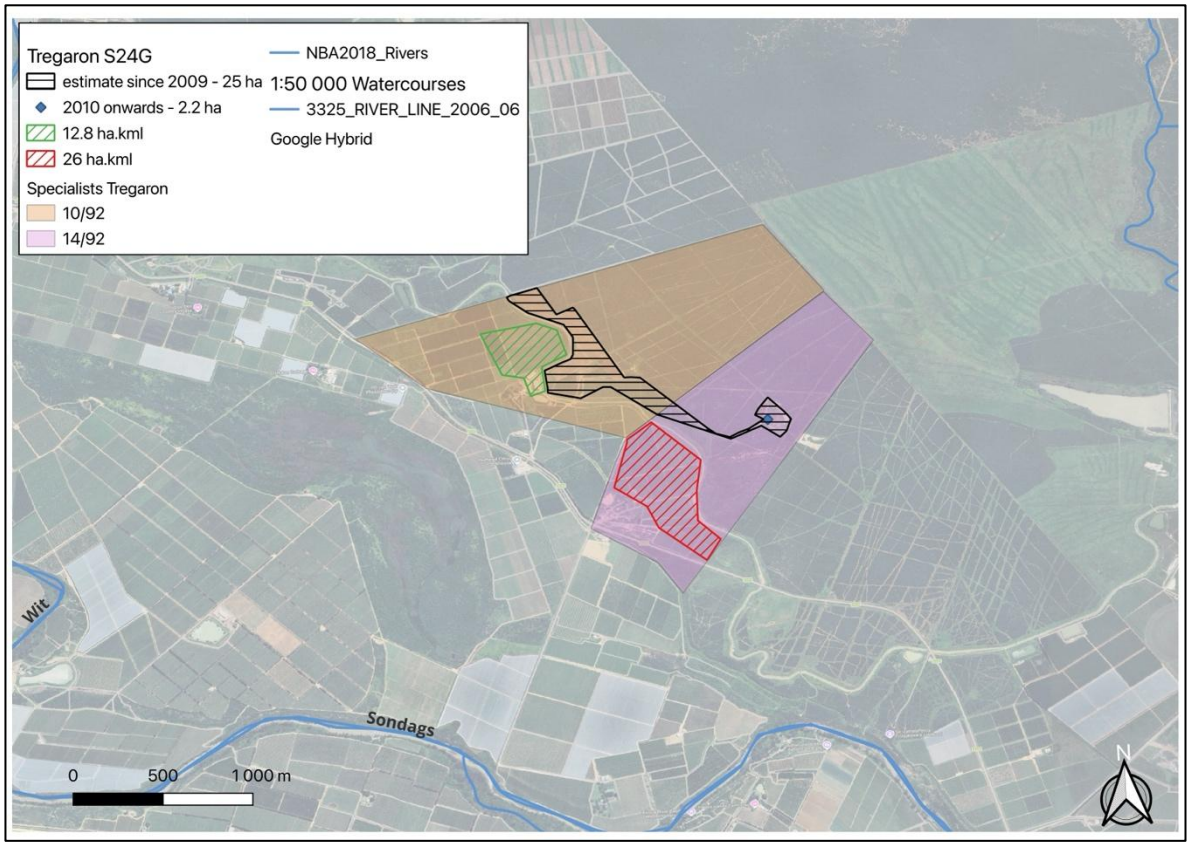


Figure 1: Google satellite imagery showing the location of site in relation to the general environment and mainstem rivers

1.2 Relevant legislation and policy

The following is pertinent to this study:

- Section 24 of The Constitution of the Republic of South Africa;
- Agenda 21 – Action plan for sustainable development of the Department of Environmental Affairs and Tourism (DEAT) 1998;
- National Environmental Management Act (NEMA), 1998 (Act No. 107 of 1998) inclusive of all amendments, as well as the NEM: Biodiversity Act;
- National Water Act, 1998 (Act No. 36 of 1998);
- Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983) (CARA);
- Minerals and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002);
- Nature and Environmental Conservation Ordinance (No. 19 of 1974);
- National Forest Act (No. 84 of 1998); and
- National Heritage Resources Act (No. 25 of 1999).

2 Terms of Reference

Based on the request by EAPServices for an aquatic impact assessment this report contains the following (minimum):

- Delineate the wetlands and watercourse within 500m of the site according to relevant DWS guidelines. Provide the required watercourse buffers.
- Determine ecological status of the receiving aquatic environment, including the identification of endangered or protected species. Determine the PES and REC of affected watercourses.
- Provide a concise description of the importance of the affected wetlands or watercourses in terms of pattern and process, ecosystem goods and services, as appropriate.
- Identify potential impacts of the project on the aquatic environment and suggest suitable mitigation measures to address the identified impacts.
- The report must include the appropriate mapping.
- Prepare a sensitivity map (GIS-based), based on the findings of the study. All SHP files must be provided by the Specialist.

3 Knowledge Gaps

To obtain a comprehensive understanding of the dynamics of both the flora and fauna of communities within a study site, as well as the status of endemic, rare or threatened species in any area, assessments should always consider investigations at different time scales (across seasons/years) and through replication. However, due to time constraints these long-term studies are not always feasible and are thus mostly based on instantaneous sampling. This limitation is common to many impact assessment type studies, but the findings are deemed adequate for the purposes of decision-making support regarding project acceptability, unless otherwise stated.

Therefore, due to the scope of the work presented in this report, a long-term investigation of the proposed site was not possible and as such not perceived as part of the Terms of Reference. However, a concerted effort was made to assess as much of the potential site, as well as make use of any available literature, species distribution data and aerial photography.

It should be emphasised that information, as presented in this document, only has reference to the study area as indicated on the accompanying maps. Therefore, this information cannot be applied to any other area without detailed investigation.

4 Study Area

4.1 Climate

The site is located within the undifferentiated rainfall region of South Africa, with small rainfall peaks in March and November, with a Mean Annual Precipitation (MAP) for the region at ca. 350 mm per annum. Annual average temperatures range of 18 °C, with frost a rare occurrence (Mucina & Rutherford, 2007). (Mucina & Rutherford, 2007).

4.2 Geology and soils

The site is predominantly underlain with soils associated with the siltstone, grey shale and sandstones (subordinate) derived from the Sundays Formation of the Uitenhage Group (Council of Geoscience, 2020). .

4.3 Slope and aspect

The region is characterised by a higher lying area plateaus between the Sundays, Wit and Coerney rivers, between 110 to 137mASL (Above Sea Level).

4.4 Terrestrial environment

Two vegetation units as defined by the National Vegetation Map (revised 2024), and includes the following (Figure 2 – Plate 1):

- Sundays Valley Thicket
- Albany Alluvial vegetation

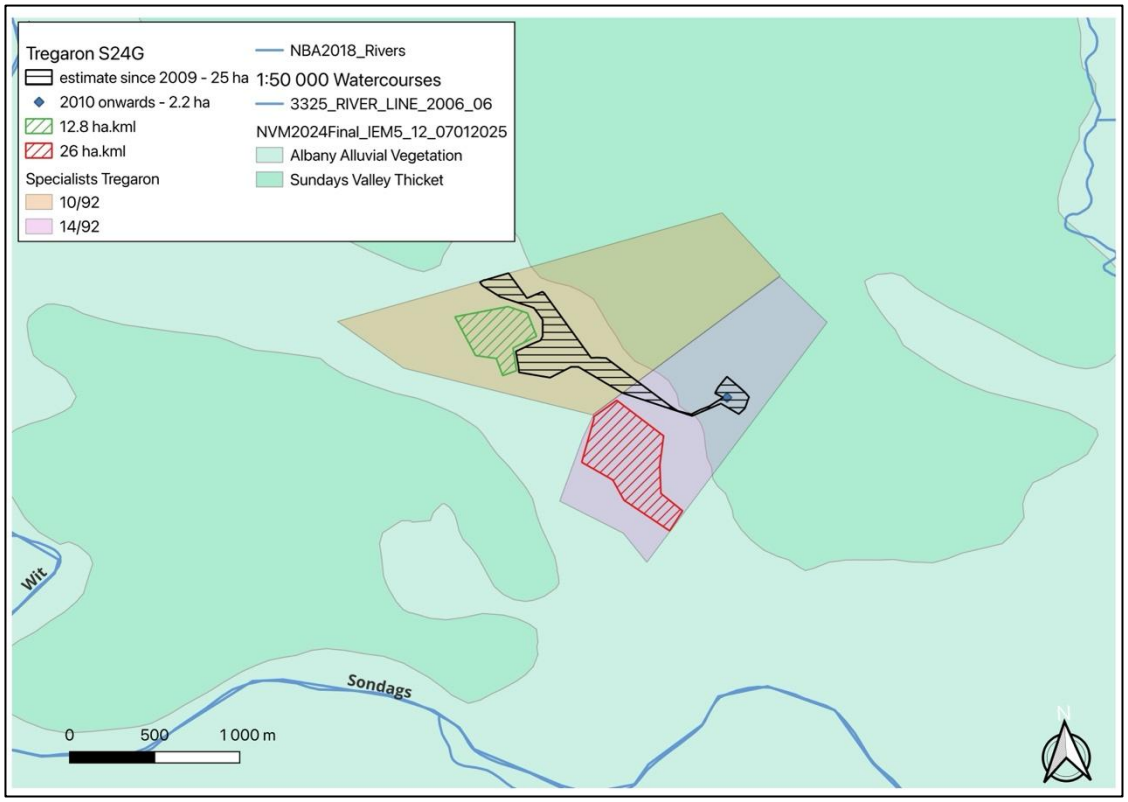


Figure 2: Vegetation South Africa VegMap as per Mucina & Rutherford (2007) revised 2025

Plate 1: Aerial views of the site, showing the overall lack of any natural aquatic features, and the canal system and dam on site (bottom)

4.5 Drainage network

The site is located in within the lower catchment areas of the Sundays River (N40E) and Coernay Rover (N40D) (Figure 3), no other drainage features are located within 100m of the farm portions, now or historically

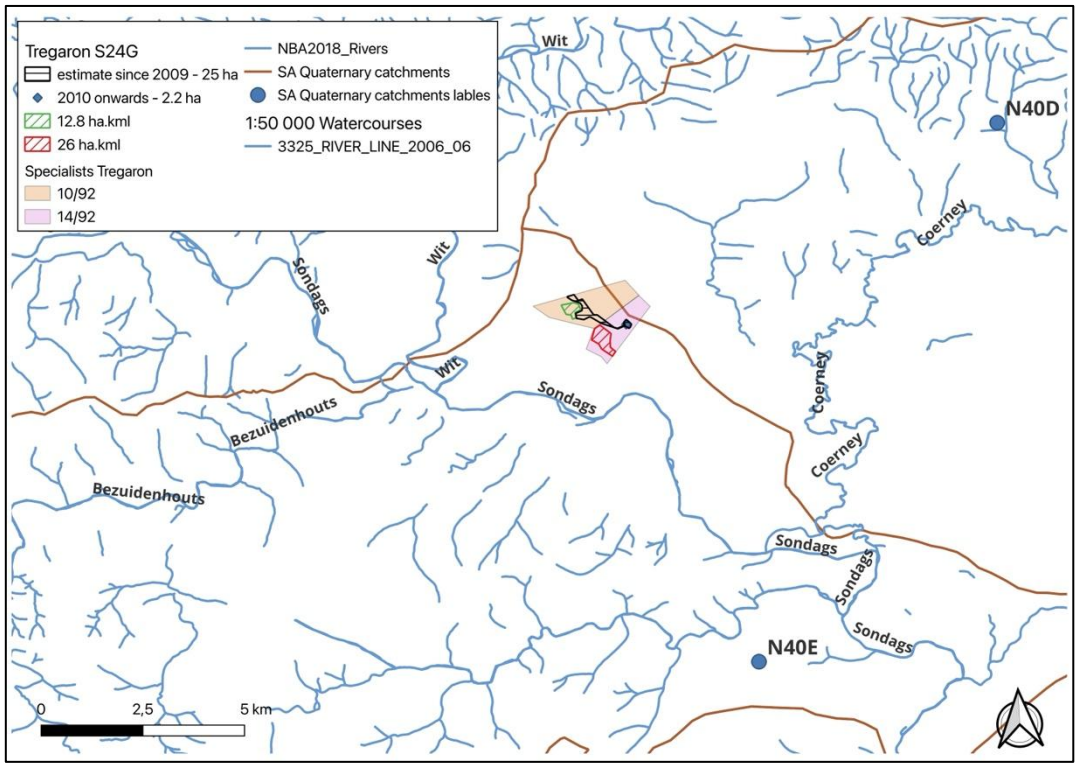


Figure 3: Watercourses and mainstem rivers known within the greater catchments

4.6 South African Inventory of Inland Aquatic Ecosystems

The latest available river and wetland spatial datasets (Van Deventer *et al.* 2020) were used to identify the aquatic features likely to be present on site, on a desktop level, prior to groundtruthing and field delineation. The National Rivers Map and South African National Wetland Map 5.1 are GIS layers produced as part of the South African Inventory of Inland Aquatic Ecosystems (SAIIAE) during the National Biodiversity Assessment (SANBI 2025). Figure 4 shows the project site in relation to the above-mentioned wetland and river inventories.

According to the National Wetland Map, the lack of any watercourses and or wetlands within 500m of the site, was substantiated by the National Wetland Inventory (SAIIE) spatial data (Figure 4).

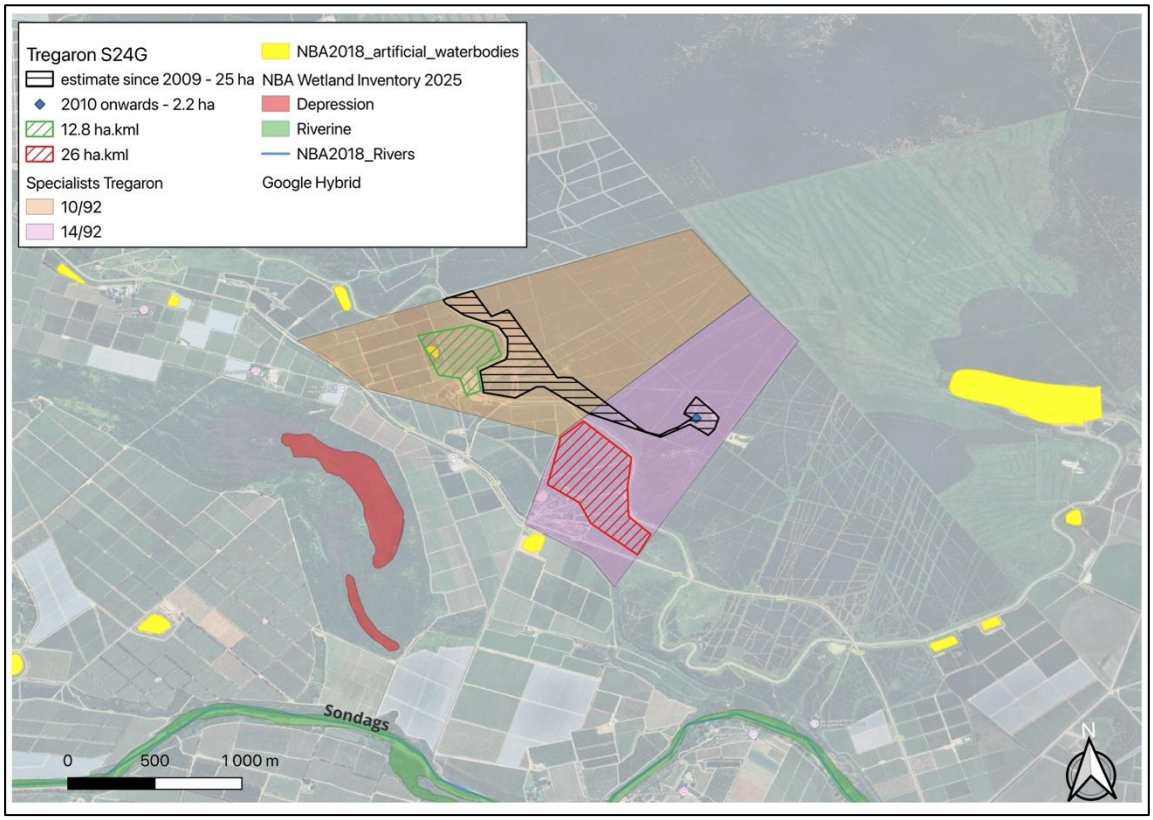


Figure 4: Potential wetland as identified in the National Wetland Inventory (NBA, 2025)

4.7 Conservation context

The affected areas were excluded from any National Freshwater Ecosystems Priority Atlas areas (NFEPA - Nel et al., 2011, and is also not located within a Strategic Water Resource Areas. However the 26ha area cleared did form part of a 500m boundary zone of a NFEPA Wetland Cluster (Figure 5). The site is also not considered a Fish Support Area, and thus any impacts on surface runoff would be limited, which is further exacerbated by the fact that it is separated by the road and canal networks from making any contribution to downstream hydrology. However the site does contain Ecological Support Areas identified in the Eastern Cape Biodiversity Conservation Plan (2019) (Figure 6), but no Aquatic Critical Biodiversity Areas would be affected. Further no listed or protected aquatic plant species would occur due to the general lack of any aquatic habitats. This would also apply to the dams on site as they contained no aquatic habitat or species during the time of the survey.

With regard the potential ESA, these were based on modelled drainage features, based on very high level contour data, and based on in field observations, no drainage features or watercourses were observed on site or seemed to have ever existed, especially any features that would have been true watercourses or watercourse with aquatic attributes (Plate 2 & 3).

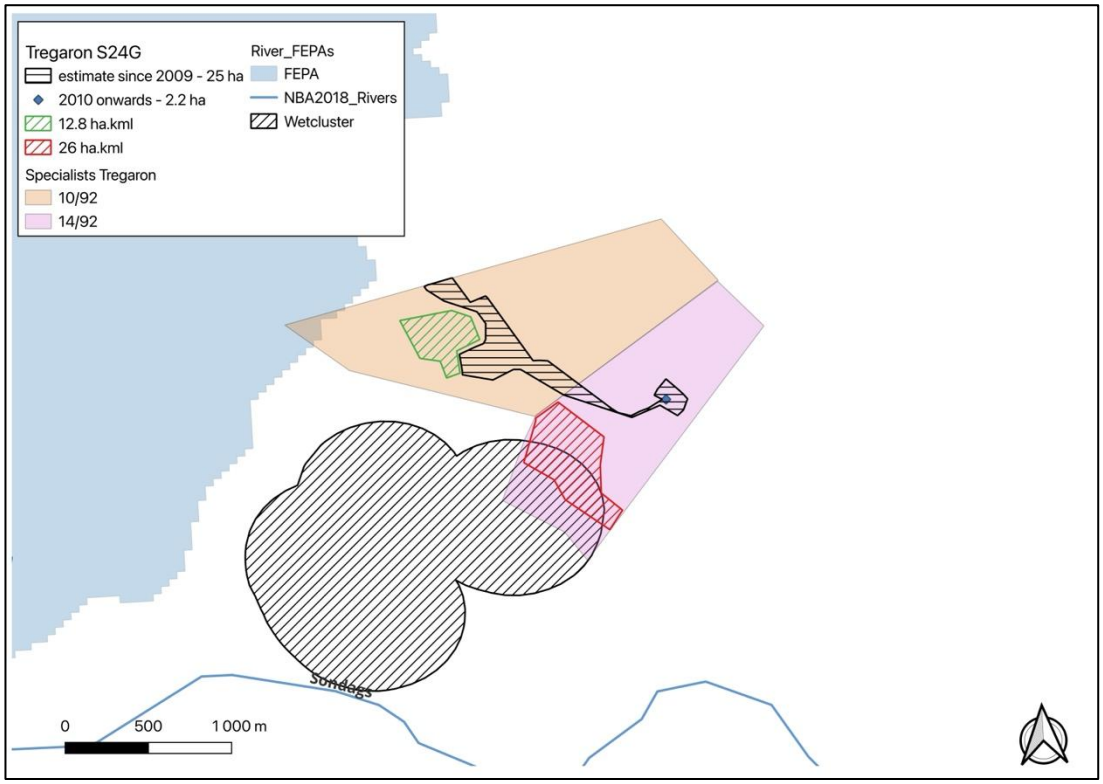


Figure 5: The study area in relation to NFEPA catchments, potential Wetland Clusters and Strategic Water Resources Areas of South Africa

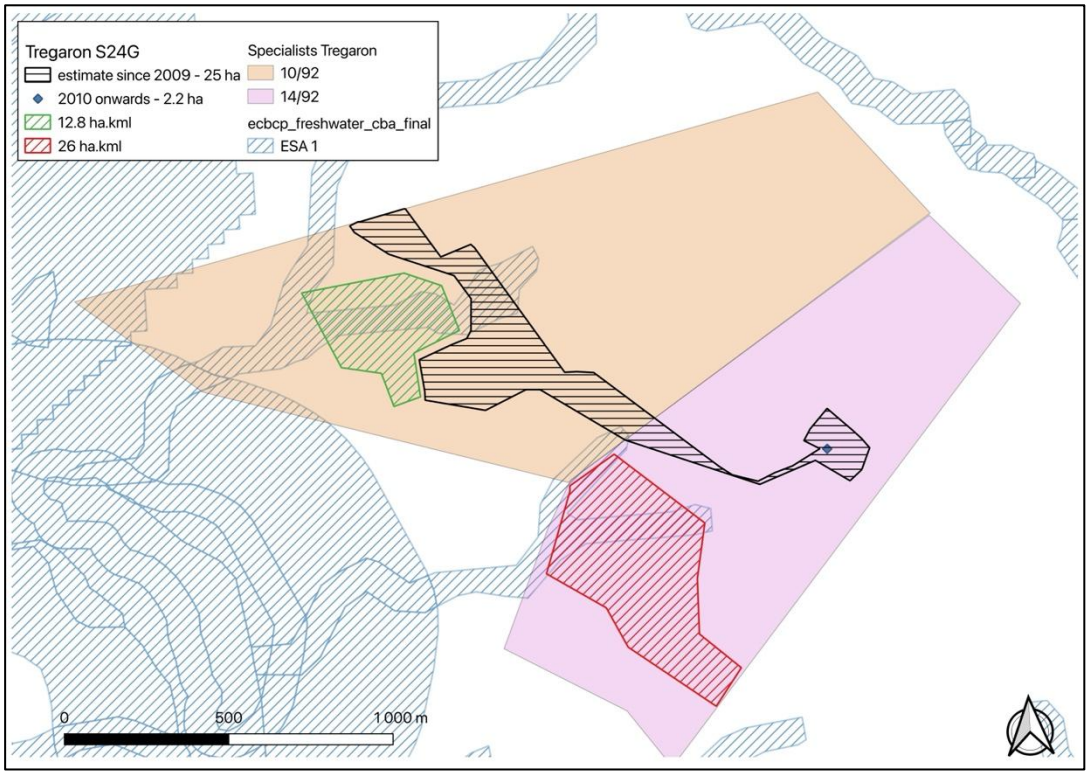


Figure 6: Results of the ECBCP 2019, for the Aquatic Environment

5 Expertise of the specialist

Dr Brian Michael Colloty is a SACNASP registered Ecologist & Environmental Assessment Practitioner (Pr. Sci. Nat. 400268/07). He is a member of South African Wetland Society and specialises in ecology and conservation importance rating of inland habitats, wetlands, rivers & estuaries. Specialist CV is attached in Appendix 1.

Brian has over 30 years' experience in environmental sensitivity and conservation assessment of aquatic and terrestrial systems inclusive of Index of Habitat Integrity (IHI), WET Tools, Riparian Vegetation Response Assessment Index (VEGRAI) for Reserve Determinations, estuarine and wetland delineation throughout Africa. He also has 15 years' experience in the coordination and management of multi-disciplinary teams, such as specialist teams for small to large scale EIAs and environmental monitoring programmes, throughout Africa and inclusive of marine, coastal and inland systems.

TERTIARY EDUCATION

- 1994: B Sc Degree (Botany & Zoology) - NMU
- 1995: B Sc Hon (Zoology) - NMU
- 1996: M Sc (Botany - Rivers) - NMU
- 2000: Ph D (Botany – Estuaries & Mangroves) – NMU

6 Aims and objectives

The aim of this report is to provide an assessment of the aquatic habitats and provide suitable mitigation to minimise potential impacts should any be observed. The potential impacts associated with the development are formally assessed, and where possible, means to avoid these are also provided (i.e., rehabilitation management recommendations based on aquatic considerations). This assessment is based on a site visit conducted in December 2025 and January 2026.

7 Methodology

This study followed the approaches of several national guidelines with regards to wetland assessment. These have been modified by the author, to provide a relevant mechanism of assessing the present state of the study area aquatic systems, applicable to the specific environment and, in a clear and objective manner, identify and assess the potential impacts associated with the development site based on information collected within the relevant farm portions. See Appendix 2. For reference the following definitions are as follows:

Drainage line: A drainage line is a lower category or order of watercourse that does not have a clearly defined bed or bank. It carries water only during or immediately after periods of heavy rainfall i.e. non-perennial, and riparian vegetation may not be present.

Perennial and non-perennial: Perennial systems contain flow or standing water for all or a large proportion of any given year, while non-perennial systems are episodic or ephemeral and thus contains flows for short periods, such as a few hours or days in the case of drainage lines.

Riparian: the area of land adjacent to a stream or river that is influenced by stream-induced or related processes. Riparian areas which are saturated or flooded for prolonged periods would be considered wetlands and could be described as riparian wetlands. However, some riparian areas are not wetlands (e.g. an area where alluvium is periodically deposited by a stream during floods but which is well drained).

Wetland: land which is transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is periodically covered with shallow water, and which under normal circumstances supports or would support vegetation typically adapted to life in saturated soil (Water Act 36 of 1998); land where an excess of water is the dominant factor determining the nature of the soil development and the types of plants and animals living at the soil surface (Cowardin *et al*., 1979).

Water course: as per the National Water Act means -

(a) a river or spring;

(b) a natural channel in which water flows regularly or intermittently;

(c) a wetland, lake or dam into which, or from which, water flows; and

(d) any collection of water which the Minister may, by notice in the Gazette, declare to be a watercourse, and a reference to a watercourse includes, where relevant, its bed and banks

7.1 Wetland identification and mapping

Terminology currently strives to characterise a wetland not only on its structure (visible form), but also to relate this to the function and value of any given wetland. The Ramsar Convention definition of a wetland is widely accepted as *"areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres"* (Davis 1994). South Africa is a signatory to the Ramsar Convention and therefore its extremely broad definition of wetlands has been adopted for the NWCS, with a few modifications. The adapted definition for the NWCS is, therefore, as follows (Ollis *et al*., 2013):

WETLAND: an area of marsh, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed ten metres.

This definition encompasses all ecosystems characterised by the permanent or periodic presence of water other than marine waters deeper than ten metres. The only legislated definition of wetlands in South Africa, however, is contained within the National Water Act (Act No. 36 of 1998) (NWA), where wetlands are defined as *"land which is transitional between terrestrial and aquatic systems, where the water table is usually at, or near the surface, or the land is periodically covered with shallow water and which land in normal circumstances supports, or would support, vegetation adapted to life in saturated soil."* This definition is consistent with more precise working definitions of wetlands and therefore includes only a subset of ecosystems encapsulated in the Ramsar definition

Wetlands must therefore have one or more of the following attributes to meet the above definition (DWAF, 2005):

- A high-water table that results in the saturation at or near the surface, leading to anaerobic conditions developing in the top 50 cm of the soil.
- Wetland or hydromorphic soils that display characteristics resulting from prolonged saturation, i.e. mottling or grey soils
- The presence of, at least occasionally, hydrophilic plants, i.e. hydrophytes (water loving plants).

7.2 Wetland delineation

Wetland delineation includes the confirmation of the occurrence of wetland and a determination of the outermost edge of the wetland. The outer boundary of wetlands was identified and delineated according to the Department of Water Affairs wetland delineation manual 'A Practical Field Procedure for Identification and Delineation of Wetland and Riparian Areas' (DWAF, 2005a).

Wetland indicators were used in the field delineation of the wetlands: position in landscape, vegetation and soil wetness (determined through soil sampling with a soil auger and the examining the degree of mottling). Figure 7 shows the different wetness and soil characteristics in a typical wetland.

Four specific wetland indicators were used in the detailed field delineation of wetlands, which include:

- The Terrain Unit Indicator helps to identify those parts of the landscape where wetlands are more likely to occur.
- The Soil Form Indicator identifies the soil forms, as defined by the Soil Classification Working Group (1991), which are associated with prolonged and frequent saturation.
- The Soil Wetness Indicator identifies the morphological "signatures" developed in the soil profile as a result of prolonged and frequent saturation.
- The Vegetation Indicator identifies hydrophilic vegetation associated with frequently saturated soils.

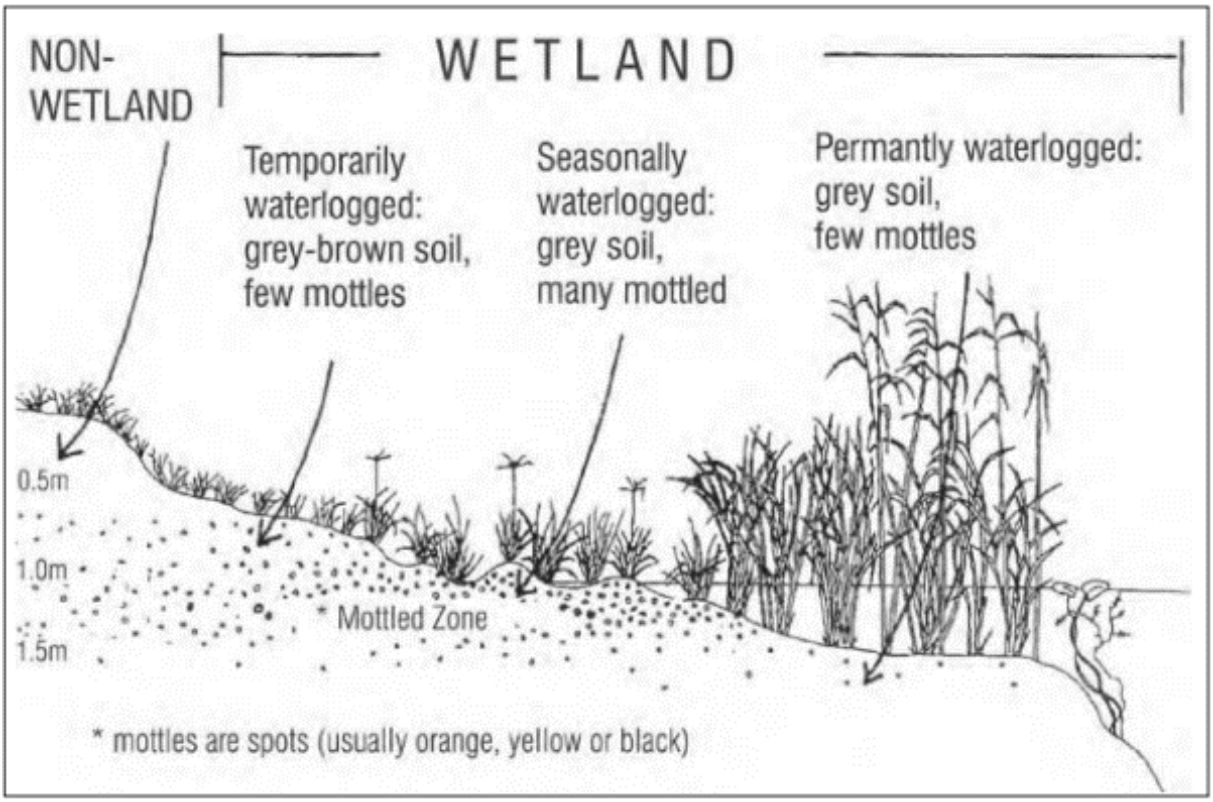


Figure 7: Cross section through a wetland, indicating how the soil wetness and vegetation indicators change as one moves along a gradient of decreasing wetness, from the middle to the edge of the wetland. Source: Donovan Kotze, University of KwaZulu-Natal.

According to the wetland definition used in the National Water Act, vegetation is the primary indicator, which must be present under normal circumstances. However, in practise the soil wetness indicator tends to be the most important, and the other three indicators are used in a confirmatory role. The reason is that vegetation responds relatively quickly to changes in soil moisture regime or management and may be transformed; whereas the morphological indicators in the soil are far more permanent and will hold the signs of frequent saturation long after a wetland has been drained (perhaps for several centuries).

7.3 Wetland functional assessment

In order to identify the wetland types, using Kotze *et al.* (2009) and Ollis *et al*. (2013), a characterisation of hydrogeomorphic (HGM) types was conducted. These have been defined based on the geomorphic setting of the wetland in the landscape (e.g. hillslope or valley bottom, whether drainage is open or closed), water source (surface water dominated or sub-surface water dominated), how water flows through the wetland (diffusely or channelled) and how water exits the wetland (Figure 8).

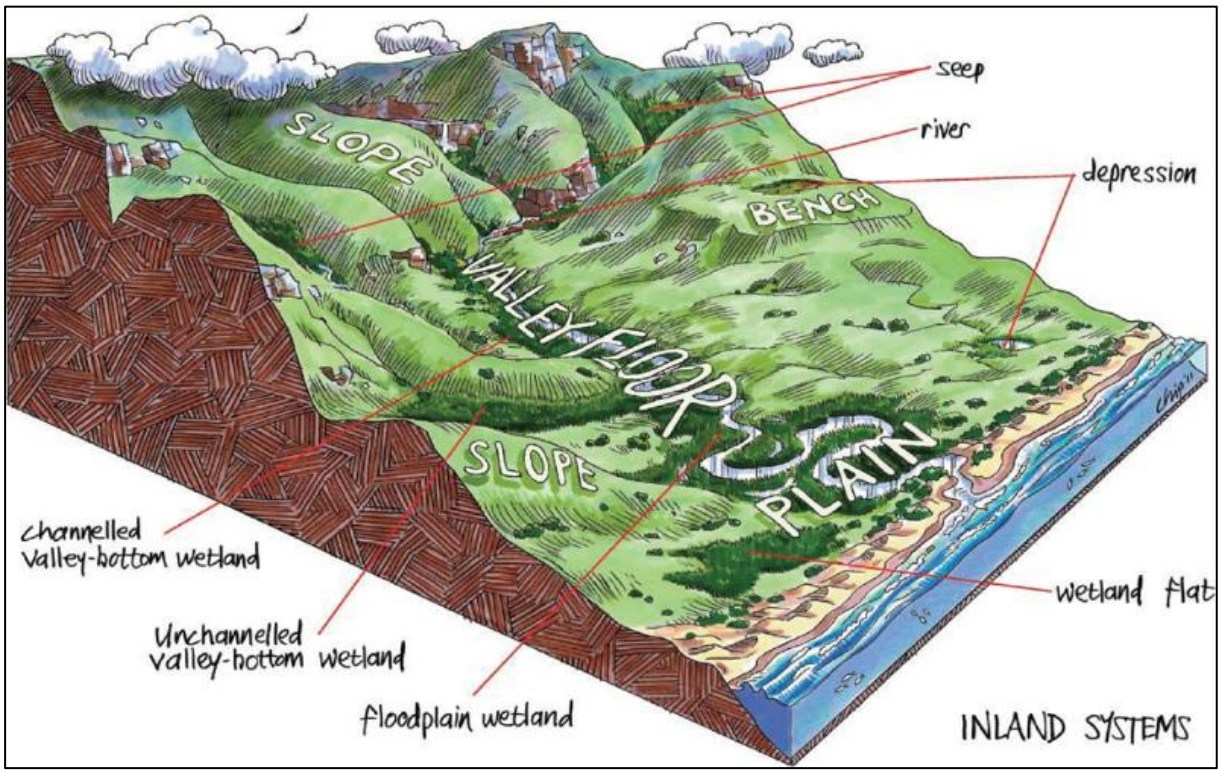


Figure 8: Illustration of wetland types and their typical landscape setting (From Ollie et al. 2013)

The classification system of Ollis *et al*. (2013) uses hydrological and geomorphological traits to distinguish the primary wetland units, i.e. direct factors that influence wetland function. Other wetland assessment techniques, such as the DWAF (2005) delineation method, only infer wetland function based on abiotic and biotic descriptors (size, soils & vegetation) stemming from the Cowardin approach (Ollis *et al.,* 2013). The classification system is summarised below:

There is a six-tiered hierarchical structure, with four spatially nested primary levels of classification (Figure 9 & 10). The hierarchical system firstly distinguishes between Marine, Estuarine and Inland ecosystems (**Level 1**), based on the degree of connectivity the particular system has with the open ocean (greater than 10 m in depth). Level 2 then categorises the regional wetland setting using a combination of biophysical attributes at the landscape level, which operate at a broad bioregional scale. This is opposed to specific attributes such as soils and vegetation.

Level 2 has adopted the following systems:

- Inshore bioregions (marine)
- Biogeographic zones (estuaries)
- Ecoregions (Inland)

Level 3 of the NWCS assess the topographical position of inland wetlands as this factor broadly defines certain hydrological characteristics of the inland systems. Four landscape units based on topographical position are used in distinguishing between Inland systems at this level. No subsystems are recognised for Marine systems, but estuaries are grouped according to their periodicity of connection with the marine environment, as this would affect the biotic characteristics of the estuary.

Level 4 classifies the hydrogeomorphic (HGM) units discussed earlier. The HGM units are defined as follows:

- Landform – shape and localised setting of wetland
- Hydrological characteristics – nature of water movement into, through and out of the wetland

- Hydrodynamics – the direction and strength of flow through the wetland

These factors characterise the geomorphological processes within the wetland, such as erosion and deposition, as well as the biogeochemical processes.

Level 5 of the assessment pertains to the classification of the tidal regime within the marine and estuarine environments, while the hydrological and inundation depth classes are determined for inland wetlands. Classes are based on frequency and depth of inundation, which are used to determine the functional unit of the wetlands and are considered secondary discriminators within the NWCS.

Level 6 uses six descriptors to characterise the wetland types based on biophysical features. As with Level 5, these are non-hierarchal in relation to each other and are applied in any order, dependent on the availability of information. The descriptors include:

- Geology;
- Natural vs. Artificial;
- Vegetation cover type;
- Substratum;
- Salinity; and
- Acidity or Alkalinity.

It should be noted that where sub-categories exist within the above descriptors, hierarchical systems are employed, and these are thus nested in relation to each other. The HGM unit (Level 4) is the focal point of the system, with the upper levels (Figure 10– Inland systems only) providing means to classify the broad bio-geographical context for grouping functional wetland units at the HGM level, while the lower levels provide more descriptive detail on the particular wetland type characteristics of a particular HGM unit. Therefore Level 1 – 5 deals with functional aspects, while Level 6 classifies wetlands on structural aspects.

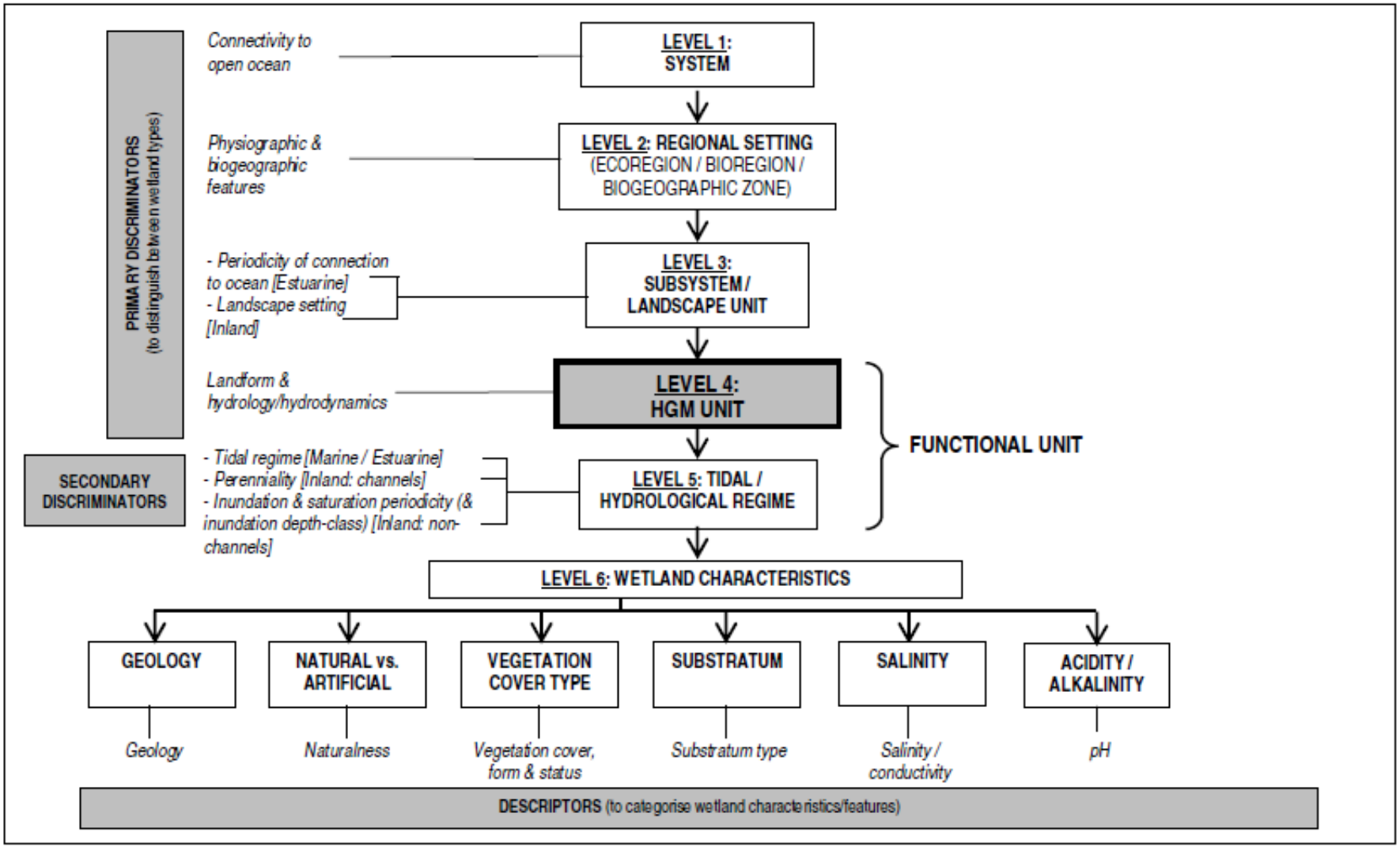


Figure 9: Basic structure of the NWCS, showing how 'primary discriminators' are applied up to Level 4 to classify Hydrogeomorphic (HGM) Units, with 'secondary discriminators' applied at Level 5 to classify the tidal/hydrological regime, and 'descriptors' applied

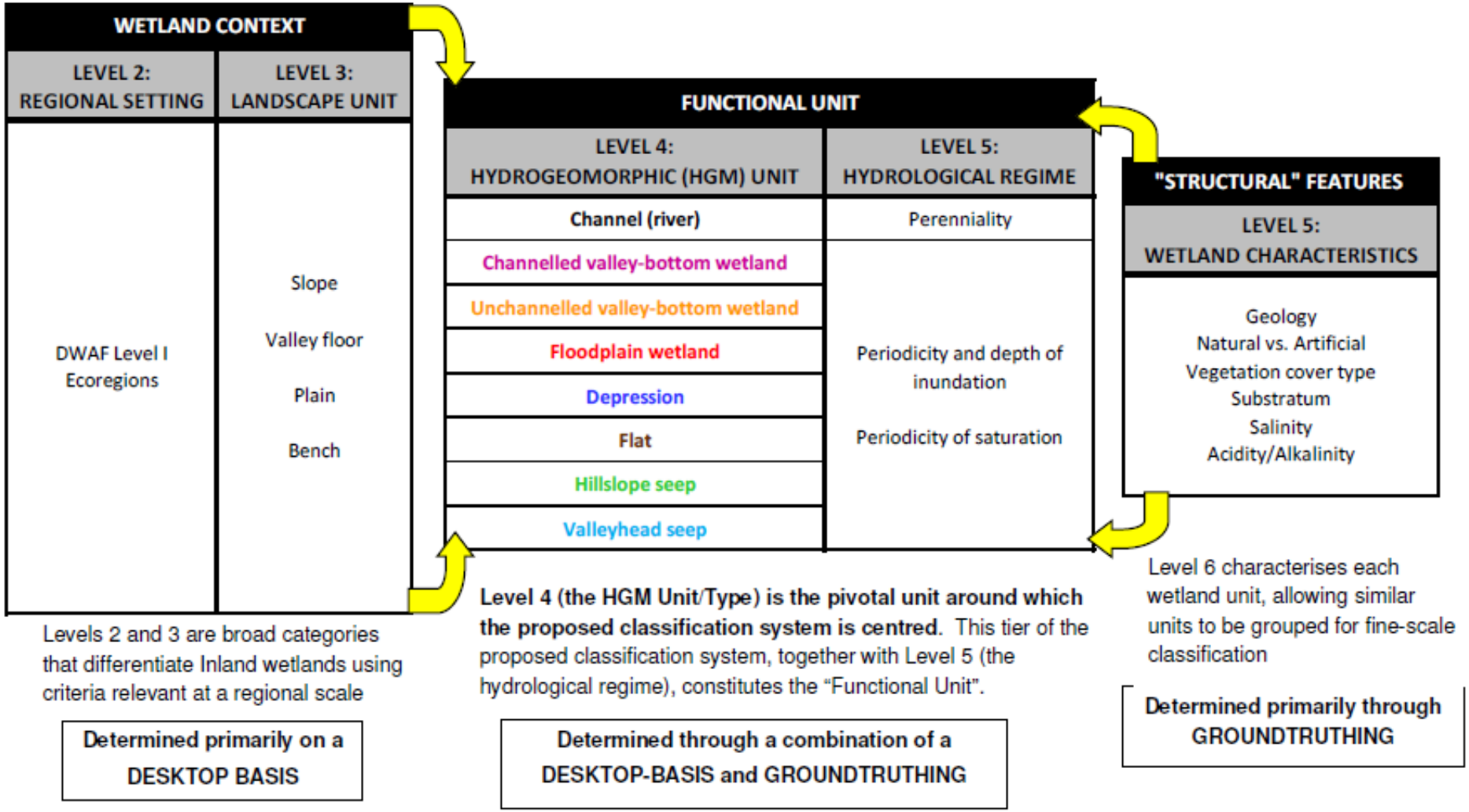


Figure 10: Illustration of the conceptual relationship of HGM Units (at Level 4) with higher and lower levels (relative sizes of the boxes show the increasing spatial resolution and level of detail from the higher to the lower levels) for Inland Systems (from Ollis et al., 2013)

7.4 Determining the ecological integrity of wetlands

The Wetland Index of Habitat Integrity (WETLAND-IHI) is a tool developed for use in the National Aquatic Ecosystem Health Monitoring Programme (NAEHMP), formerly known as the River Health Programme (RHP). The output scores from the WETLAND-IHI model are presented in the standard DWAF A-F ecological categories (Table 1)

Table 1: Description of A – F ecological categories based on Kleynhans et al., (2005)

ECOLOGICAL CATEGORY	ECOLOGICAL DESCRIPTION	MANAGEMENT PERSPECTIVE
A	Unmodified, natural.	Protected systems; relatively untouched by human hands; no discharges or impoundments allowed
B	Largely natural with few modifications. A small change in natural habitats and biota may have taken place but the ecosystem functions are essentially unchanged.	Some human-related disturbance, but mostly of low impact potential
C	Moderately modified. Loss and change of natural habitat and biota have occurred, but the basic ecosystem functions are still predominantly unchanged.	**Multiple disturbances associated with need for socio-economic development, e.g. impoundment, habitat modification and water quality degradation**
D	Largely modified. A large loss of natural habitat, biota and basic ecosystem functions has occurred.	
E	Seriously modified. The loss of natural habitat, biota and basic ecosystem functions is extensive.	**Often characterized by high human densities or extensive resource exploitation. Management intervention is needed to improve health, e.g. to restore flow patterns, river habitats or water quality**
F	Critically / Extremely modified. Modifications have reached a critical level and the system has been modified completely with an almost complete loss of natural habitat and biota. In the worst instances the basic ecosystem functions have been destroyed and the changes are irreversible.	

The WETLAND-IHI model is composed of four modules. The “Hydrology”, “Geomorphology” and “Water Quality” modules all assess the contemporary driving processes behind wetland formation and maintenance. The last module, “Vegetation Alteration”, provides an indication of the intensity of human land use activities on the wetland surface itself and how these may have modified the condition of the wetland. The integration of the scores from these 4 modules provides an overall PES score for the wetland system being examined. The WETLAND-IHI model is an MS Excel-based model, and the data required for the assessment are generated during a site visit.

Additional data may be obtained from remotely sensed imagery (aerial photos; maps and/or satellite imagery) to assist with the assessment.

7.5 Determining the Present Ecological State of wetlands

WET-Health assists in assessing the health of wetlands using indicators based on geomorphology, hydrology and vegetation. WET-Health is a tool designed to assess the health or integrity of a wetland. Wetland health is defined as a measure of the deviation of wetland structure and function from the wetland's natural reference condition. This technique attempts to assess hydrological, geomorphological and vegetation health in three separate modules.

- **Hydrology** is defined in this context as the distribution and movement of water through a wetland and its soils. This module focuses on changes in water inputs as a result of changes in catchment activities and characteristics that affect water supply and its timing, as well as on modifications within the wetland that alter the water distribution and retention patterns within the wetland.
- **Geomorphology** is defined in this context as the distribution and retention patterns of sediment within the wetland. This module focuses on evaluating current geomorphic health through the presence of indicators of excessive sediment inputs and/or losses for clastic (minerogenic) and organic sediment (peat).
- **Vegetation** is defined in this context as the vegetation structural and compositional state. This module evaluates changes in vegetation composition and structure as a consequence of current and historic onsite transformation and/or disturbance.

The overall approach is to quantify the impacts of human activity or clearly visible impacts on wetland health, and then to convert the impact scores to a Present State score. The tool attempts to standardise the way that impacts are calculated and presented across each of the modules. This takes the form of assessing the spatial extent of impact of individual activities and then separately assessing the intensity of impact of each activity in the affected area. The extent and intensity are then combined to determine an overall magnitude of impact.

Impact scores obtained for each of the modules reflect the degree of change from natural reference conditions. Resultant health scores fall into one of six health categories (A-F) on a gradient from "unmodified/natural" (Category A) to "severe/complete deviation from natural" (Category F) as depicted in Table 2, below. This classification is consistent with DWAF categories used to evaluate the present ecological state of aquatic systems.

An overall wetland health score was calculated by weighting the scores obtained for each module and combining them to give an overall combined score using the following formula:

Overall health rating = [(Hydrology*3) + (Geomorphology*2) + (Vegetation*2)] / 7

This overall score assists in providing an overall indication of wetland health/functionality which can in turn be used for recommending appropriate management measures.

Table 2: Health categories used by WET-Health for describing the integrity of wetlands (after Macfarlane *et al.*, 2008).

IMPACT CATEGORY	DESCRIPTION	RANGE	PES
None	Unmodified, natural.	0 – 0.9	**A**
Small	Largely natural with few modifications. A slight change in ecosystem processes is discernible and a small loss of natural habitats and biota may have taken place.	1 – 1.9	**B**
Moderate	Moderately modified. A moderate change in ecosystem processes and loss of natural habitats has taken place but the natural habitat remains predominantly intact	2 – 3.9	**C**
Large	Largely modified. A large change in ecosystem processes and loss of natural habitat and biota and has occurred.	4 – 5.9	**D**
Serious	The change in ecosystem processes and loss of natural habitat and biota is great but some remaining natural habitat features are still recognizable.	6 – 7.9	**E**
Critical	Modifications have reached a critical level and the ecosystem processes have been modified completely with an almost complete loss of natural habitat and biota.	8 – 10	**F**

7.6 Determining the Ecological Importance and Sensitivity of wetlands

South Africa is a Contracting Party to the Ramsar Convention on Wetlands, signed in Ramsar, Iran, in 1971, and has thus committed itself to this intergovernmental treaty, which provides the framework for the national protection of wetlands and the resources they could provide. Wetland conservation is now driven by the South African National Biodiversity Institute, a requirement under the National Environmental Management: Biodiversity Act (No 10 of 2004).

Wetlands are among the most valuable and productive ecosystems on earth, providing important opportunities for sustainable development (Davies and Day, 1998). However, wetlands in South Africa are still rapidly being lost or degraded through direct human induced pressures (Nel et al., 2004).
The most common attributes or goods and services provided by wetlands include:

- Improve water quality;
- Impede flow and reduce the occurrence of floods;
- Reeds and sedges used in construction and traditional crafts;
- Bulbs and tubers, a source of food and natural medicine;
- Store water and maintain base flow of rivers;
- Trap sediments; and
- Reduce the number of water-borne diseases.

In terms of this study, the wetlands provide ecological (environmental) value to the area acting as refugia for various wetland associated plants, butterflies and birds. In the past wetland conservation has focused on biodiversity as a means of substantiating the protection of wetland habitat. However not all wetlands provide such motivation for their protection, thus wetland managers and conservationists began assessing the importance of wetland function within an ecosystem.

WET-EcoServices is used to assess the goods and services that individual wetlands provide, thereby aiding informed planning and decision making. It is designed for a class of wetlands known as palustrine wetlands (i.e. marshes, floodplains, vleis or seeps). The tool provides guidelines for scoring the importance of a wetland in delivering each of 15 different ecosystem services (including flood attenuation, sediment trapping and

provision of livestock grazing). The first step is to characterise wetlands according to their hydro-geomorphic setting (e.g. floodplain). Ecosystem service delivery is then assessed either at Level 1, based on existing knowledge or at Level 2, based on a field assessment of key descriptors (e.g. flow pattern through the wetland). The overall goal of WET-EcoServices is to assist decision makers, government officials, planners, consultants and educators in undertaking quick assessments of wetlands, specifically in order to reveal the ecosystem services that they supply. This allows for more informed planning and decision making.

Table 3 below summarises the importance of wetland function when related to ecosystem services or ecoservices (Kotze *et al.,* 2008). One such example is emergent reed bed wetlands that function as transformers converting inorganic nutrients into organic compounds (Mitsch and Gosselink, 2000).

Table 3: Summary of direct and indirect ecoservices provided by wetlands from Kotze et al., 2008

Ecosystem services supplied by wetlands	Indirect benefits	Hydro-geochemical benefits	Flood attenuation	
			Stream flow regulation	
			Water quality enhancement benefits	Sediment trapping
				Phosphate assimilation
				Nitrate assimilation
				Toxicant assimilation
				Erosion control
			Carbon storage	
		Biodiversity maintenance		
	Direct benefits	*Provision of water for human use*		
		Provision of harvestable resources[2]		
		Provision of cultivated foods		
		Cultural significance		
		Tourism and recreation		
		Education and research		

Conservation importance of the individual wetlands was based on the following criteria:
Habitat uniqueness;
Species of conservation concern;
Habitat fragmentation or rather, continuity or intactness with regards to ecological corridors; and
Ecosystem service (social and ecological).

7.7 Ecological classification and description

The presence of any or a combination of the above criteria would result in a HIGH conservation rating if the wetland was found in a near natural state (high PES). Should any of the habitats be found modified the conservation importance would rate as MEDIUM, unless a Species of Conservation Concern (SCC) was observed, in which case it would receive a HIGH rating. Any system that was highly modified (low PES) or had none of the above criteria, received a LOW conservation importance rating. Wetlands with HIGH and MEDIUM ratings should thus be excluded from development with incorporation into a suitable open space system, with the maximum possible buffer being applied. Natural wetlands or Wetlands that resemble some form of the past landscape but receive a LOW conservation importance rating could be included into stormwater management features and should not be developed to retain the function of any ecological corridors.

8 Results

8.1 Wetland delineation

Following the contextualisation of the study area with the available desktop data, site visits were conducted (12 December 2025 and 10 January 2026), to groundtruth the findings and confirm delineated the aquatic habitat and then map the associated 500m and 100m Regulated areas as required. Subsequent screening provided an indication of which of these systems may potentially be impacted upon by the project. There are a number of factors which influence the level of impact, such as type of system, position of the system in relation to the project and position the system is located in the landscape, i.e. hydrological connection.

8.2 Wetland unit identification

In order to identify the wetland types, using Kotze *et al.* (2009) and Ollis *et al*. (2013), a characterisation of hydrogeomorphic (HGM) types was conducted. For reference purposes, the freshwater HGM units were named Wetlands 1 and the Sundays River.

Water inputs for these systems, are naturally dominated by surface water flows only, Groundwater inflow, which would follow the subsurface flows would be limited due the locally geology (semi permeable rock, with limited top soils and subsoils) and topography.

With regard the watercourses / drainage lines, no clear aquatic features, instream aquatic vegetation units were observed within the site. Similarly no impacts are expected within or near any of the wetlands areas due to the lack of any connectivity within the respective catchments of these systems.

Plate 2: A view activities within the site along the canal with no natural aquatic features evident

Plate 3: A transformation and fragmented nature of the downstream area, i.e. disconnection between the site (top portion of the image) and the Sundays River due to roads, canal and orchards

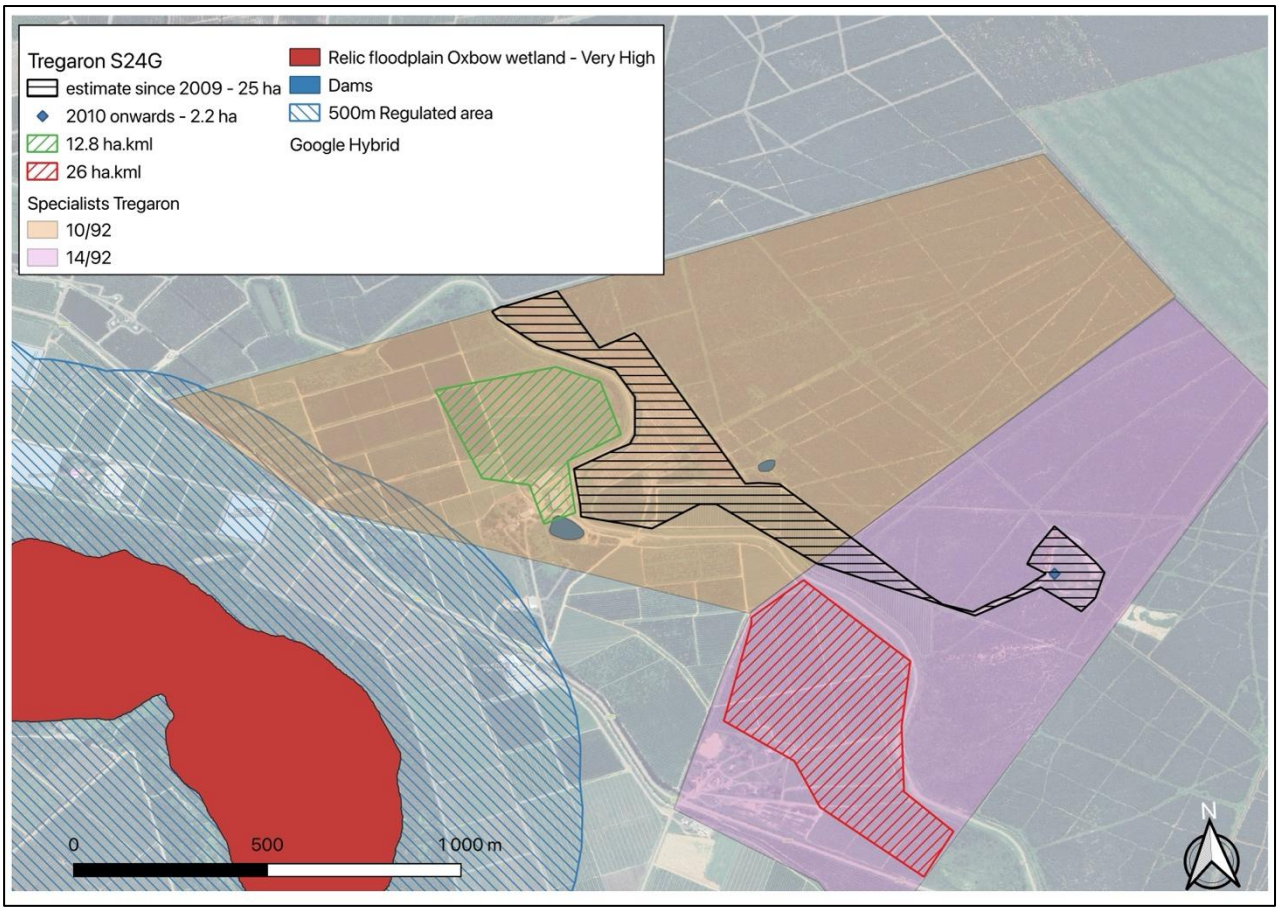


Figure 11: The aquatic features present within the study area

The wetland and drainage line units were screened according to their proximity to the disturbance and their landscape setting (Figure 11 & Table 4).

Table 4: Summary of screening assessment

Unit	Type	Impacted by the project and/or requires further assessment?	Reason
Wetland 1	Oxbow feature	No	No direct impact, and the site is well outside the 500m regulated zone of the system
Sundays Rivers	Riverine	No	No direct impact due being more than 1Km away and catchment fragmentation

8.3 Wetland soils

Due to the lack of any directly affected wetlands no soils sampling was required.

8.4 Description of wetland type

All of the identified systems were classified as show in Table 4 and Table 7

8.5 General functional description of aquatic types

The riparian zones associated with the Sundays River comprised mostly of thicket, small areas (narrow bands 2- 5 m) associated with the riverbanks would be considered riparian, i.e. species include associated species such as *Cynodon dactylon, Cyperus textilis* on the river edge, while trees on the steep banks (*Searsia lancea*, *Combretum caffrum)*, and thicket trees and shrubs on the upper slope of the banks included *Azima tetracantha, Buddleja saligna, Ehretia rigida, Gymnosporia heterophylla, Lycium* spp., *Olea europea* subsp. *africana*, *Vachellia karroo and Ziziphus mucronata*.

However these areas were more than 1km from the site and disconnected from any potential flows generated by the site, which included the floodplain associated Oxbow wetland, which is further isolated by developed orchards.

8.6 Wetland ecological functional assessment

No endemic or conservation worthy species (Listed or Protected) were observed or have been recorded within the wetlands near the site.

8.7 The ecological heath assessment of the project area

The Present Ecological State (PES) of a river, watercourse or wetland represents the extent to which it has changed from the reference or near pristine condition (Category A) towards a highly impacted system where there has been an extensive loss of natural habit and biota, as well as ecosystem functioning (Category E).

The PES scores have been revised for the country and based on the new models, aspects of functional importance as well as direct and indirect impacts were included (DWS, 2014). The updated PES system also incorporates Ecological Importance (EI) and Ecological Sensitivity (ES) separately as opposed to Ecological Importance and Sensitivity (EIS) in the old model, although the new model is

still heavily centred on rating rivers using broad fish, invertebrate, riparian vegetation and water quality indicators. The Recommended Ecological Category (REC) is still contained within the new models, with the default REC being B, when little or no information is available to assess the system or when only one of the parameters are assessed or the overall PES is rated between a C or D.

8.8 The PES assessment of the remaining freshwater wetland areas

The following summary represents the PES/EIS score of the natural wetlands found within or adjacent to the development area.

Table 5: PES / EIS summary of the respective units

Feature number	Hydrogeomorphic Type	Present Ecological Sate	Ecological Importance and Sensitivity	Overall Sensitivity	Buffer as per Macfarlane & Bredin (2017) Model (m)
1	Oxbow wetland – Riverine Floodplain	D	Moderate	Moderate	N/A
Sundays River	Riverine	D	Moderate	Moderate	N?A

Any activities within the observed aquatic systems, the 100m regulated zone of the rivers and drainage lines or 500 m from the boundary of the wetlands will require a Section 21 c and i Water Use License, however no natural systems with these respective regulated areas affected the site.

8.9 The EIS assessment of the remaining freshwater areas

Table 6 indicates the results of the EIS assessment conducted by DWS for Subquaternary reach of the Sundays River (8640), where the results indicated that system had a moderate EIS.

Table 6: DWS EIS assessment 2014

SQ REACH DESCRIPTION	**SQ REACH**	N40E-08640	**FREQUENCY(%) OF "VERY HIGH" RATINGS**	15,4
	SQR NAME	Sondags	**FREQUENCY(%) OF "HIGH" RATINGS**	15,4
	MEAN EI CLASS	MODERATE	**FREQUENCY(%) OF "MODERATE" RATINGS**	30,8
	MAX EI CLASS	VERY HIGH	**FREQUENCY(%) OF "LOW/VERY LOW" RATINGS**	38,5
			NUMBER OF METRICS ASSESSED	13
ECOLOGICAL IMPORTANCE SUMMARY	**METRICS: FISH**	**RATINGS**	**METRICS: MACRO-INVERTEBRATES**	**RATINGS**
	FISH SPP ESTIMATED	AMAR AMOS BANO BPAL GAES GCAL LUMB MCAP MCEP OMOS	**INVERT TAXA ESTIMATED**	COELENTERATA POTAMONAUTIDAE BAETIDAE 1 SP CAENIDAE COENAGRIONIDAE AESHNIDAE LIBELLULIDAE CORIXIDAE GERRIDAE NAUCORIDAE NOTONECTIDAE PLEIDAE ECNOMIDAE HYDROPSYCHIDAE 1 SP DYTISCIDAE GYRINIDAE HYDROPHILIDAE CERATOPOGONIDAE CHIRONOMIDAE CULICIDAE EPHYDRIDAE PSYCHODIDAE SIMULIIDAE TABANIDAE ANCYLIDAE
	ENTER FISH SPP ABBREVIATION		**SELECT OR ENTER INVERTEBRATE TAXON NAME**	
	FISH SCIENTIFIC NAME	#N/A	**CONFIDENCE OF PRESENCE OF SELECTED TAXON IN SQ REACH**	#N/A
	CONFIDENCE OF PRESENCE OF SELECTED SPP IN SQ REACH	#N/A	**SASS5 VALUE FOR TAXON SELECTED**	#N/A
	FISH: AVERAGE CONFIDENCE	3,0	**INVERT TAXA/SQ**	25,0
	FISH SPP/SQ	10,0	**INVERT AVERAGE CONFIDENCE**	4,7
	FISH REPRESENTIVITY PER SECONDARY: CLASS	HIGH	**INVERT REPRESENTIVITY PER SECONDARY, CLASS**	MODERATE
	FISH RARITY PER SECONDARY: CLASS	VERY HIGH	**INVERT RARITY PER SECONDARY: CLASS**	VERY HIGH
	METRICS: RIPARIAN-WETLAND VEGETATION & VERTEBRATES (NON-FISH)	**RATINGS & COMMENTS**	**HABITAT**	**RATINGS & COMMENTS**
	ECOLOGICAL IMPORTANCE: RIPARIAN-WETLAND-INSTREAM VERTEBRATES (EX FISH) RATING	LOW	**HABITAT DIVERSITY CLASS**	VERY LOW

	ECOLOGICAL IMPORTANCE: RIPARIAN-WETLAND-INSTREAM VERTS (EX FISH) COMMENTS	Species are either common/abundant within the region.	**HABITAT DIVERSITY COMMENTS**	Geomorph zone is a E (low gradient river typically characterised by mixed alluvial substrate pool-run/riffles): habitat-flow sensitivity = low; mean low-flow width approx. 18m, which is considered a wide-sized river (10 to 20m): width-flow sensitivity = low. Reach length 15.4 km: length-flow sensitivity = low. Overall size/habitat-flow sensitivity = low.
	RIPARIAN-WETLAND NATURAL VEG RATING BASED ON % NATURAL VEG IN 500m (100%=5)	VERY LOW	**HABITAT SIZE (LENGTH) CLASS**	LOW
	RIPARIAN-WETLAND NATURAL VEG IMPORTANCE BASED ON EXPERT RATING	LOW	**INSTREAM MIGRATION LINK CLASS**	HIGH
	ECOLOGICAL IMPORTANCE: RIPARIAN-WETLAND VEG COMMENTS	Plant species are widespread/common within the Eastern Cape.	**RIPARIAN-WETLAND ZONE MIGRATION LINK**	MODERATE
			RIPARIAN-WETLAND ZONE HABITAT INTEGRITY CLASS	MODERATE
			INSTREAM HABITAT INTEGRITY CLASS	MODERATE

9 DFFE National Web-Based Environmental Screening Tool

Site verification statement

Government Notice No. 645, dated 10 May 2019, includes the requirement that an Initial Site Sensitivity Verification Report must be produced for a development footprint. As per Part 1, Section 2.3, the outcome of the Initial Site Verification must be recorded in the form of a report that-

(a) Confirms or disputes the current use of the land and environmental sensitivity as identified by the national web based environmental screening tool;
(b) Contains a motivation and evidence of either the verified or different use of the land and environmental sensitivity;
(c) Is submitted together with the relevant reports prepared in accordance with the requirements of the Environmental Impact Assessment Regulations.

This report has been produced specifically to consider the aquatic ecology theme and addresses the content requirements of (a) and (b) above.

Based on the DFFE Screening Tool, the site contains areas of very high and Low sensitivity due to the presence of the following (Figures 12).

- Ecological Support Areas 1
- NFEPA Subcatchment

Figure 12: DFFE Screening Tool outcome for the aquatic biodiversity theme = Very High or Low

Based on the above outcomes of this report, the specialist agrees with the certain environmental sensitivities identified on site. The findings have been informed by site visits undertaken in correct

time period, however the spatial delineation of these systems was conducted at a finer scale to produce a sensitivity map.

Figure 11 above shows the sensitivity map produced following the groundtruthing exercises, with mapping of the observed features at a finer scale and none were impacted directly within the site.

Motivation of the outcomes of the sensitivity map and key conclusions

In conclusion, the DFFE Screening Tool identified several sensitivity ratings within the study area, namely, Very High and Low. Although there is some overlap with the findings on site and the Screening Tool's outcome, the development footprint is well removed from the Sundays River, drainage lines and any catchments that function in support of these systems.

Therefore, environmental sensitivity input received from the ecology specialist will be taken forward and considered within the EA process and the impact to these areas assessed. No layout and development restrictions are thus required.

10 Impact assessment discussions

The site development avoided any of the aquatic features shown in this assessment as well as any of the respective 500m and 100m regulates areas, largely due to the fact that these are largely absent from the region.

Therefore this impact assessment focuses mainly on the potential impacts surface water runoff generated by the current activities, so hydrological impacts as well as well any potential water quality impacts in the operational phase

10.1 Potential pollution of all water resources within and surrounding the development footprint during the operational phases

Nature of the Impact	There is the possibility of pollution of surrounding watercourses during operations from accidental spillages associated with poor storage, handling and disposal of both general and hazardous waste including any on-site sanitation facilities. This impact is also related to the use of herbicides, pesticides and fertilisers. The use of these substances must occur under strict control and not be allowed to pool and or runoff from the site. Due to the costs of these substances this impact on surface water runoff is monitored as this would be seen as wastage.
Extent	**Site-specific** .
Duration	**Short-term** during construction activities.
Consequence / Intensity	**Low**
Probability	**Probable**
Reversibility	**Reversible** as not highly impacting.
Degree of Confidence	**High**
Irreplaceable Loss of Resources	**Replaceable**
Status and Significance (without mitigation)	**Medium Negative (-)** –
Mitigation	• All hazardous substances and hazardous waste (if any) must be stored in impermeable structures placed at the logistical services area. • No hazardous substances and hazardous waste should be placed in high and moderate sensitivity areas associated with the water resources within the study area. • Emergency response plan must be drawn up to deal with any hazardous spillages/accidental leakages. • Spill kit and drip tray must be kept on site at all times during the construction phase. • All temporary chemical toilets/ablution facilities (if any) must be properly secured so that they cannot be windblown, be regularly serviced and should be placed outside of the moderate and high sensitivity areas associated with water resources within the study area. • All staff to undergo continual environmental awareness training during toolbox talks in use of pesticides, herbicides and fertilisers etc. These substances should also form part of a strict monitoring programme that will not only prevent wastage but also prevent these from accumulating in any runoff from site.
Significance and Status (with mitigation)	**Very to very low Negative (-) –** prevention of accidental spillages can be drastically mitigated with very low likelihood of occurrence through appropriate housekeeping and management and training of all staff.

10.2 Changes to the hydrological regime, that could result in an increase in sedimentation and turbidity levels of instream habitats (non-perennial rivers, drainage lines and Sundays River) during the operational phase

Nature of the Impact	This is typically limited to unmanaged runoff generated during the operational phase, but as the farm activities are strictly managed in terms of irrigation needs, this is usually unlikely or limited to extreme rainfall events.
Extent	**Site-specific**
Duration	**Permanent**
Consequence / Intensity	**Low-Medium**
Probability	**Probable**
Reversibility	**Partially Reversible**
Degree of Confidence	**Medium**
Irreplaceable Loss of Resources	**Replaceable**
Status and Significance (without mitigation)	**Moderate Negative (-)**
Mitigation	• Stormwater and erosion control infrastructure must be put in place and monitored during the operational phase. Should any erosion channels become evident these must be backfilled, compacted and re-vegetated as soon as possible.
Significance and Status (with mitigation)	**Low Negative (-)**

10.3 Aquatic buffer zone

An aquatic impact buffer zone is defined as a zone of vegetated land designed and managed so that sediment and pollutant transport carried from source areas via diffuse surface runoff is reduced to acceptable levels (Macfarlane & Bredin 2017). Aquatic buffer zones are designed to act as barriers between human activities and sensitive water resources in order to protect them from adverse negative impacts. Buffer zones associated with water resources have been shown to perform a wide range of functions and have therefore been adopted as a standard measure to protect water resources and associated biodiversity.

Currently there are no formalised riverine or wetland buffer distances provided by the provincial authorities and as such the buffer model as described Macfarlane & Bredin (2017) for wetlands, rivers and estuaries was used.

However, no works took place near any of the aquatic systems, which are also isolated from the developed areas, so none would have been required.

11 Conclusions and Recommendations

Based then on this assessment all the impacts with mitigation will be LOW and the report author has no objection to the authorisation of the this project relating to the current activities has these seem to have had a minimal impact on the aquatic environment, assuming all recommendations and mitigations are implemented.

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Province of the
EASTERN CAPE
ECONOMIC DEVELOPMENT,
ENVIRONMENTAL AFFAIRS & TOURISM

DETAILS OF SPECIALIST AND DECLARATION OF INTEREST IN TERMS OF REGULATIONS 12 AND 13 OF THE AMENDMENTS TO THE ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS, 2014 AS AMENDED.

	(For official use only)
File Reference Number:	
NEAS Reference Number:	
Date Received:	

Application for environmental authorization in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Amendments to the Environmental Impact Assessment Regulations, 2014. This form is valid as of 4 May 2026.

PROJECT TITLE

Agricultural Activities carried out on portions 10 and 14 of Farm Tregaron No 92,

Sunland, Ward 8 of the Sundays River Local Municipality, Sarah Baartman District Municipality, Eastern Cape

SPECIALIST [1]	EnviroSci (Pty) Ltd		
Contact Person	Dr Brian Colloty		
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Telephone:	claire@eapservices.co.za	Fax:	-
E-mail:			

4.2 The SPECIALIST

I, Brian Colloty, declare that –

General declaration:

- I act as the independent Specialist in this application
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting environmental impact assessments, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, regulations and all other applicable legislation;
- I will take into account, to the extent possible, the matters listed in regulation **8** of the regulations when preparing the application and any report relating to the application;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority 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 the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- I will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application;
- I will ensure that the comments of all interested and affected parties are considered and recorded in reports that are submitted to the competent authority in respect of the application, provided that comments that are made by

  interested and affected parties in respect of a final report that will be submitted to the competent authority may be attached to the report without further amendment to the report;

- I will keep a register of all interested and affected parties that participated in a public participation process; and
- I will provide the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not
- all the particulars furnished by me in this form are true and correct;
- will perform all other obligations as expected from an environmental assessment practitioner in terms of the Regulations; and
- I realise that a false declaration is an offence and is punishable in terms of section 24F of the Act.

Disclosure of Vested Interest (delete whichever is not applicable)

- I do not have and will not have any vested interest (either business, financial, personal or other) in the proposed activity proceeding other than remuneration for work performed in terms of the Amendments to Environmental Impact Assessment Regulations, 2014 as amended.
- ~~I have a vested interest in the proposed activity proceeding, such vested interest being:~~

Signature of the environmental assessment practitioner:

Enviro Sci

Name of company:

10 August 2026

Date:

Signature of the Commissioner of Oaths:

Date: 2026-08-10

CONSTABLE

Designation:

[1] Curriculum Vitae (CV) attached

Official stamp (below).

SOUTH AFRICAN POLICE SERVICE
P.O.BOX 5019, WALMER 6065
2026 -08- 10
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SOUTH AFRICAN POLICE SERVICE

Annexure 1

CV

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Years experience: 30 years

SKILLS BASE AND CORE COMPETENCIES

- 30 years experience in environmental sensitivity and conservation assessment of aquatic and terrestrial systems. With the past 10 years focused on the assessment of various renewable projects in Southern Africa (ca 200 projects). A deep interest in the functioning of Karoo and Thicket systems (arid zone ecology), particularly how aquatic systems function, led to an interest in the general ecology of the systems, which has resulted in several long term plant and animal search and rescue projects for 15 wind farms in the Western, Eastern and Northern Cape areas for EGP. Red Rocket & Power Construction.
- Countries include Mozambique, Kenya, Namibia, Central African Republic, Zambia, Eritrea, Mauritius, Madagascar, Angola, Ghana, Guinea-Bissau and Sierra Leone. Current projects also span all nine provinces in South Africa.
- 15 years experience in the coordination and management of multi-disciplinary teams, such as specialist teams for small to large scale EIAs and environmental monitoring programmes, throughout Africa and inclusive of marine, coastal and inland systems. This includes project and budget management, specialist team management, client and stakeholder engagement and project reporting.
- GIS mapping and sensitivity analysis

TERTIARY EDUCATION

- 1994: B Sc Degree (Botany & Zoology) - NMU
- 1995: B Sc Hon (Zoology – restoration ecology) - NMU
- 1996: M Sc (Botany – Rivers conservation importance and restoration) - NMU
- 2000: Ph D (Botany – Estuaries & Mangroves conservation rating and management plan) – NMU

EMPLOYMENT HISTORY

- 1996 – 2000 Researcher at Nelson Mandela University – SAB institute for Coastal Research & Management. Funded by the WRC to develop estuarine importance rating methods for South African Estuaries
- 2001 – January 2003 Training development officer AVK SA (reason for leaving – sought work back in the environmental field rather than engineering sector)
- February 2003- June 2005 Project manager & Ecologist for Strategic Environmental Focus (Pretoria) – (reason for leaving – sought work related more to experience in the coastal environment)
- July 2005 – June 2009 Principal Environmental Consultant Coastal & Environmental Services (reason for leaving – company restructuring)
- June 2009 – August 2018 Owner / Ecologist of Scherman Colloty & Associates cc
- August 2018 to present Owner / Ecologist - EnviroSci (Pty) Ltd

SELECTED RELEVANT PROJECT EXPERIENCE

World Bank IFC Standards

- Botswana South Africa 400kv transmission line (400km) biodiversity assessment on behalf of Aurecon (2022)
- Farim phosphate mine and port development, Guinea Bissau – biodiversity and estuarine assessment on behalf of Knight Piesold Canada – 2016.
- Tema LNG offshore pipeline EIA – marine and estuarine assessment for Quantum Power (2015).
- Colluli Potash South Boulder, Eritrea, SEIA marine baseline and hydrodynamic surveys co-ordinator and coastal vegetation specialist (coastal lagoon and marine).
- Wetland, estuarine and riverine assessment for Addax Biofeuls Sierra Leone, Makeni for Coastal & Environmental Services: 2009
- ESHIA Project manager and long-term rehabilitation and monitoring phase coordinator with regards the dredge works required in Luanda bay, Angola. Monitoring included water quality and biological changes in the bay and at the offshore disposal outfall site, 2005-2011

South African (selection)

- Plant and animal search and rescue for the Witberg, Rietkloof, Brand Valley, Sankraal, Phezukomoyo, Wind Garden. Dassiesridge, Karusa, Soetwater, Nxuba, Oyster Bay, Impofu East, Impofu North and Impofu West and Garob Wind Farms for Power Construction. WBHO and Concor on behalf of their clients, 2018 – 2025.
- Plant and Animal Search and Rescue for the Port of Ngqura, Transnet Landside infrastructure Project, with development and management of on-site nursery.
- Plant and Animal Search and Rescue for the Port of Ngqura, OTGC Tank Farm Project (2019)
- Plant search and rescue, for NMBM (Driftsands sewer, Glen Hurd Drive), 2018
- Department of Social Development (Military veterans housing, Despatch), - 2018
- Plant Search and Rescue for the 400kV Eskom grid connection between Harding and East London (2017)
- Wetland specialist appointed to update the Eastern Cape Biodiversity Conservation Plan, for the Province on behalf of EOH CES appointment by SANBI – current. This includes updating the National Wetland Inventory for the province, submitting the new data to CSIR/SANBI.
- CDC IDZ Alien eradication plans for three renewable projects Coega Wind Farm, Sonop Wind Farm and Coega PV, on behalf of JG Afrika (2016 – 2017).
- Nelson Mandela Bay Municipality Baakens River Integrated Wetland Assessment (Inclusive of Rehabilitation and Monitoring Plans) for CEN IEM Unit - 2017
- Rangers Biomass Gasification Project (Uitenhage), biodiversity and wetland assessment and wetland rehabilitation / monitoring plans for CEM IEM Unit – 2017.
- Gibson Bay Wind Farm implementation of the wetland management plan during the construction and operation of the wind farm (includes surface / groundwater as well wetland rehabilitation & monitoring plan) on behalf of Enel Green Power - current
- Gibson Bay Wind Farm 133kV Transmission Line wetland management plan during the construction of the transmission line (includes wetland rehabilitation & monitoring plan) on behalf of Eskom – 2016.
- Tsitsikamma Community Wind Farm implementation of the wetland management plan during the construction of the wind farm (includes surface / biomonitoring, as well wetland rehabilitation & monitoring plan) on behalf of Cennergi – completed May 2016.
- Alicedale bulk sewer pipeline for Cacadu District, wetland and water quality assessment, 2016
- Mogalakwena 33kv transmission line in the Limpopo Province, on behlaf of Aurecon, 2016
- Cape St Francis WWTW expansion wetland and passive treatment system for the Kouga Municipality, 2015
- Macindane bulk water and sewer pipelines wetland and wetland rehabilitation plan 2015
- Eskom Prieska to Copperton 132kV transmission line aquatic assessment, Northern Cape on behalf of Savannah Environmental 2015.
- Joe Slovo sewer pipeline upgrade wetland assessment for Nelson Mandela Bay Municipality 2014
- Cape Recife Waste Water Treatment Works expansion and pipeline aquatic assessment for Nelson Mandela Bay Municipality 2013
- Pola park bulk sewer line upgrade aquatic assessment for Nelson Mandela Bay Municipality 2013
- Transnet Freight Rail – Swazi Rail Link (2013) wetland and ecological assessment on behalf of Aurecon for the proposed rail upgrade from Ermelo to Richards Bay
- Eskom Transmission wetland and ecological assessment for the proposed transmission line between Pietermaritzburg and Richards Bay on behalf of Aurecon (2012).
- Port Durnford Exarro Sands biodiversity assessment for the proposed mineral sands mine on behalf of Exxaro (2009)
- Fairbreeze Mine Exxaro (Mtunzini) wetland assessment on behalf of Strategic Environmental Services (2007).
- Wetland assessment for Richards Bay Minerals (2013) – Zulti North haul road on behalf of RBM.
- Biodiversity and aquatic assessments for 200 renewable projects in the past 12 years in the Western, Eastern, Northern Cape, Mpumalanga, KwaZulu-Natal and Free State provinces. Clients included RES-SA, Red Cap, ACED Renewables, Mainstream Renewable, GDF Suez, Globeleq, ENEL, Abengoa amongst others. Particular aquatic sensitivity assessment and Water Use License Applications on behalf of Mainstream Renewable Energy (8 wind farms and 15 PV facilities.), Cennergi / Exxaro (2 Wind farms), WKN Wind current (4 wind farms & 4 PV facilities), ACED (10 wind farms) and Windlab (3 Wind farms) were also conducted. Several of these projects also required the assessment of the proposed transmission lines and switching stations, which were conducted on behalf of Eskom.
- Vegetation assessments on the Great Brak rivers for Department of Water and Sanitation, 2006 and the Gouritz Water Management Area (2014)
- Proposed FibreCo fibre optic cable vegetation assessment along the PE to George, George to Graaf Reinet, PE to Colesburg, and East London to Bloemfontein on behalf of SRK (2013-2015).

SACNASP

South African Council for Natural Scientific Professions

herewith certifies that

Brian Michael Colloty

Registration Number: 400268/07

is a registered scientist

in terms of section 20(3) of the Natural Scientific Professions Act, 2003
(Act 27 of 2003)
in the following field(s) of practice (Schedule 1 of the Act)

Ecological Science (Professional Natural Scientist)

Effective **7 November 2007** Expires **31 March 2027**

President of Council

Chief Executive Officer

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