## Appendix 8: Aquatic Biodiversity Assessment

### 8.1 Site Sensitivity Verification

# Tate Environmental

Specialist Services

Transkei Quarries – Mthatha Quarry

Site Sensitivity Verification Report

Aquatic Biodiversity Theme

Eastern Cape, South Africa

October 2025

TATE ENVIRONMENTAL SPECIALIST SERVICES

Hydrology Biodiversity Ecology

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| **Submitted to** | Umhlaba Environmental Consulting |
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# Declaration

I, Russell Tate, declare that:

- I act as the independent specialist in this study;
- I will perform the work relating to the study 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 the science relevant to this study, including knowledge of the Act, regulations and any guidelines that have relevance to the study;
- I will comply with the Act, regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the study;
- All the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 71 and is punishable in terms of Section 24F of the Act.

Russell Tate

Specialist – Freshwater Biodiversity

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Pr. Sci. Nat – Aquatic Science (Pr. Sci. Nat. 400089/15)

TESS

October 2025

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# 1 Introduction

Tate Environmental Specialist Services (TESS) was appointed by Umhlaba Environmental Consulting to undertake Site Sensitivity Verification (SSV) specialist study for the proposed expansion of the existing Transkei Quarries – Mthatha Quarry. The study was in the city of Mthatha in the Eastern Cape Province, South Africa.

The aim of this report was to provide the findings of the result of a SSV survey which took place on the 16th of October 2025. The objective of the study was to comply with the requirements of the Department of Forestry, Fisheries and the Environment (DFFE). In line with the aims of the study, the following Scope of Work (SoW) was established:

1. Comply with Section 2 of the Aquatic Biodiversity Protocol (Government Notice (GN) 320) and Animal and Plant Species Protocol (GN 1150, as amended in GN 3717)
2. Comply with GN No. 320, published in Government Gazette No. 43110 on the 20th of March 2020.
3. Adhere to the SANBI Species Environmental Assessment Guideline (SANBI, 2020).
4. Verify the land use activities and sensitivities identified in the DFFE screening tool report.

This report presents the findings of the aquatic biodiversity theme specialist study. According to the Species Environmental Assessment Guideline (SANBI, 2020), an Area of Influence (AoI) is defined according to the important ecosystem processes and functions that may be plausibly affected by a proposed development and its associated activities.

Specialists are required in terms of the guidelines to evaluate an appropriate AoI based on the identification of taxon-specific impact receptors (SANBI, 2020). The surveys conducted as part of this specialist study include an AoI of 500 m around Proposed Development Areas (PDA).

# 2 Site Sensitivity Verification Methods

## 2.1 Desktop Analysis

The following literature and spatial databases which were utilised to inform this study are presented below:

- Wetland Map 5 (NBA, 2018) (Figure 4-3).
- National Freshwater Ecosystem Priority Areas (Nel, et al., 2011) (Figure 4-2).
- Eastern Cape Critical Biodiversity Area's Spatial Dataset.
- International Union for the Conservation of Nature (IUCN) spatial datasets.
- Global Biodiversity Information Facility (GBIF) Datasets.

- Aerial Imagery (Google Earth™).

## 2.2 Survey

A survey was completed by an aquatic biodiversity specialist on the 17th of October 2025.

## 2.3 Approach

The following approach was utilised in this study:

- Aquatic Biodiversity Field Survey and Condition Assessment:
  - Wetland Delineation and Classification (DWS, 2008).
  - Wetland Condition Assessment (Macfarlane et al. 2020, DWS, 1999).
  - Riverine Assessment (Dickens and Graham, 2002), Kleynhans and Louw, 2007).

## 2.4 Limitations and Assumptions

The following limitations and assumptions were applicable to this study:

- There are no specific assumptions or gaps in knowledge applicable to this study.
- Watercourses are defined by dynamic processes. Temporal variation of the extent and condition of the watercourses is a naturally occurring process. Therefore, the spatial extent of the watercourses provided in this study should be reconsidered within at least 5-10 years from the publishing of this study.

# 3 Results

## 3.1 Screening Tool Results

The results of the DFFE screening tool assessment are provided in Figure 3-1. The summary of results of the screening tool assessment are provided in Table 3-1.

Table 3-1: Screening tool summary

| Screening Theme | Sensitivity | Rationale |
|---|---|---|
| Aquatic biodiversity | Very High and Low | There are Ecological Support Areas and Rivers associated with the project. |

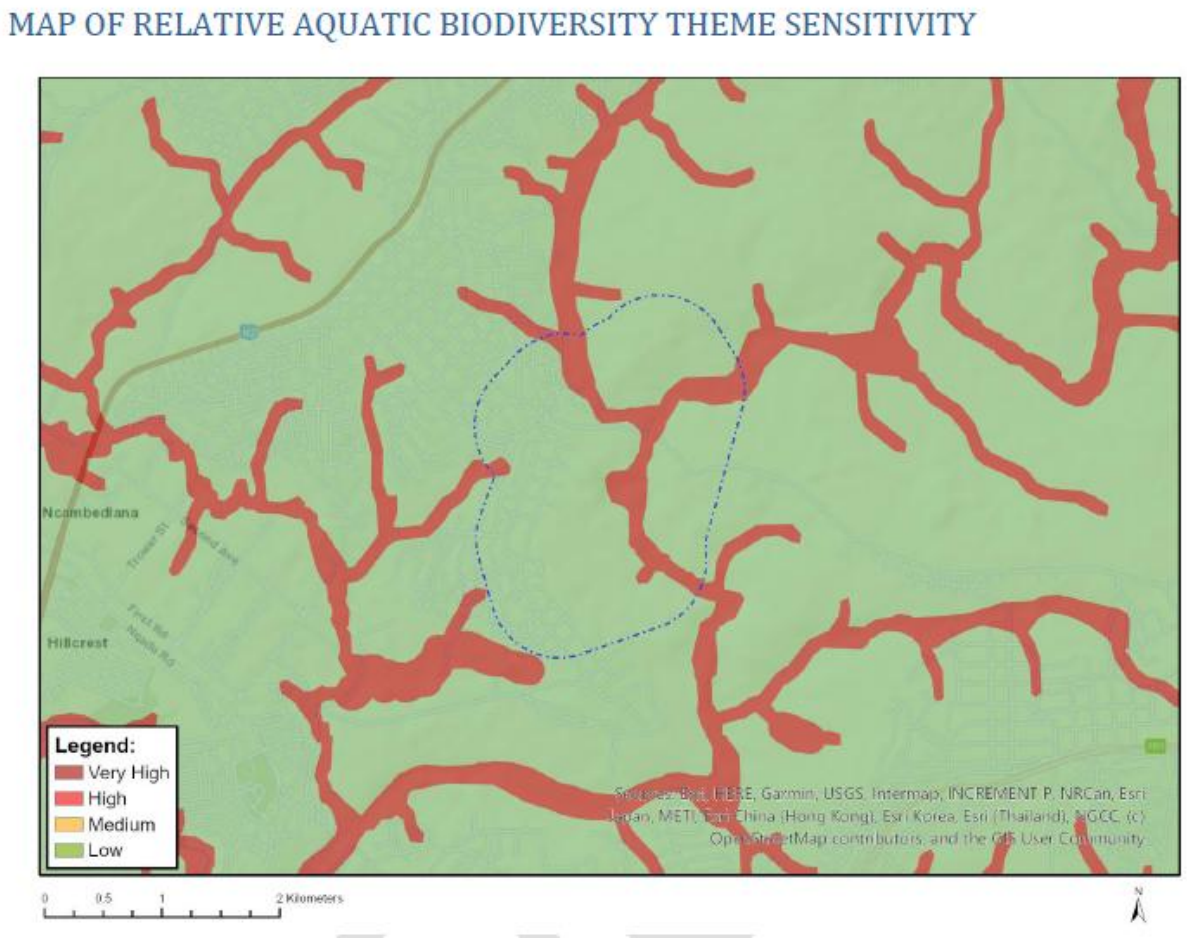


Figure 3-1: DFFE Screening Tool extract for the 500m project radius

## 3.2 Site Sensitivity Verification Summary

The specialist tracks for the survey are presented in Figure 4-1. The outcomes of this SSV study have confirmed and provided evidence which supports the results of the screening tool results. The following recommendations were provided:

- Aquatic biodiversity:
  - Impact assessment recommended.

A summary of the site sensitivity findings is provided in Table 3-2.

Table 3-2: Site sensitivity summary

| **Aquatic Biodiversity Theme** | |
|---|---|
| **Study Completed By** | Russell Tate |
| **Professional Registration** | South African Council for Natural Scientific Professions.<br>Professional Natural Scientist (Pr. Sci. Nat.) 400089/15 – Aquatic Health |

| | |
|---|---|
| **Specialist Affiliation** | Independent Consultant - Tate Environmental Specialist Services |
| **Date of Survey** | 16 October 2025. |
| **Recommendation** | High sensitivity – Impact Assessment Recommended |

The assessment and delineation of watercourse's associated with the Mthatha Quarry AoI is presented in Figure 4-4. The following watercourse types were identified in the AoI:

- Seep Wetlands
- Riverine Ecosystems

Examples and evidence of the delineated watercourses are provided in Figure 3-2 and Figure 3-3.

Figure 3-2: River associated with the Mthatha Quarry AoI (October 2025)

Figure 3-3: Seep Wetland associated with the Mthatha Quarry AoI (October 2025)

# 4 Conclusion

The outcomes of this SSV report have confirmed and provided evidence which supports the results of the screening tool for the aquatic biodiversity theme. The outcomes of the survey have indicated the presence of habitat which is defined as High Sensitivity (Figure 4-5).

Further assessment of the ecological condition, ecological sensitivity and the scientifically calculated buffer zones will be provided in the impact assessment component of the upcoming study.

## 4.1 Reasoned Specialist Opinion

It is recommended that a specialist impact assessment is completed for this project.

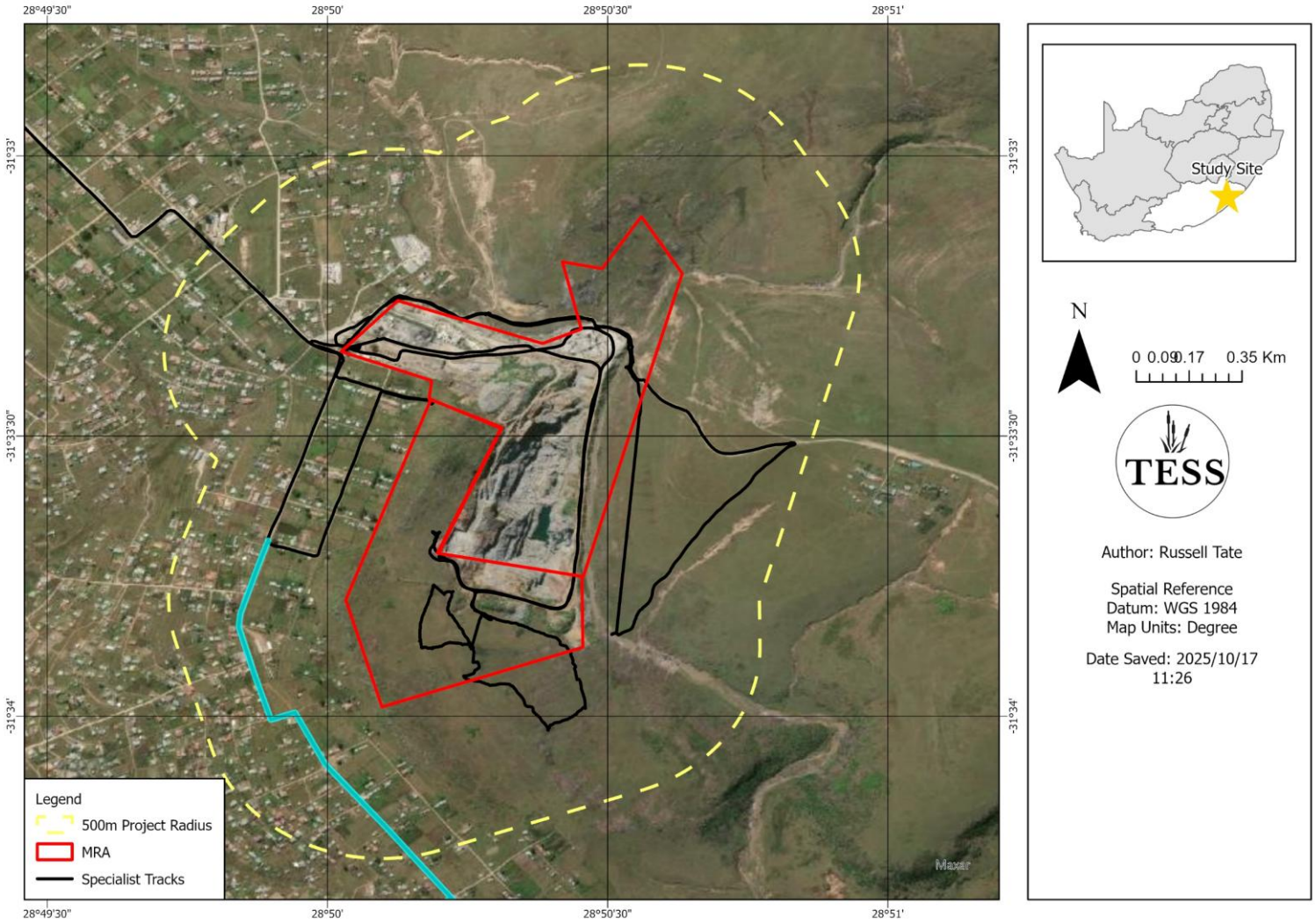


Figure 4-1: Specialist tracks for the October 2025 Survey

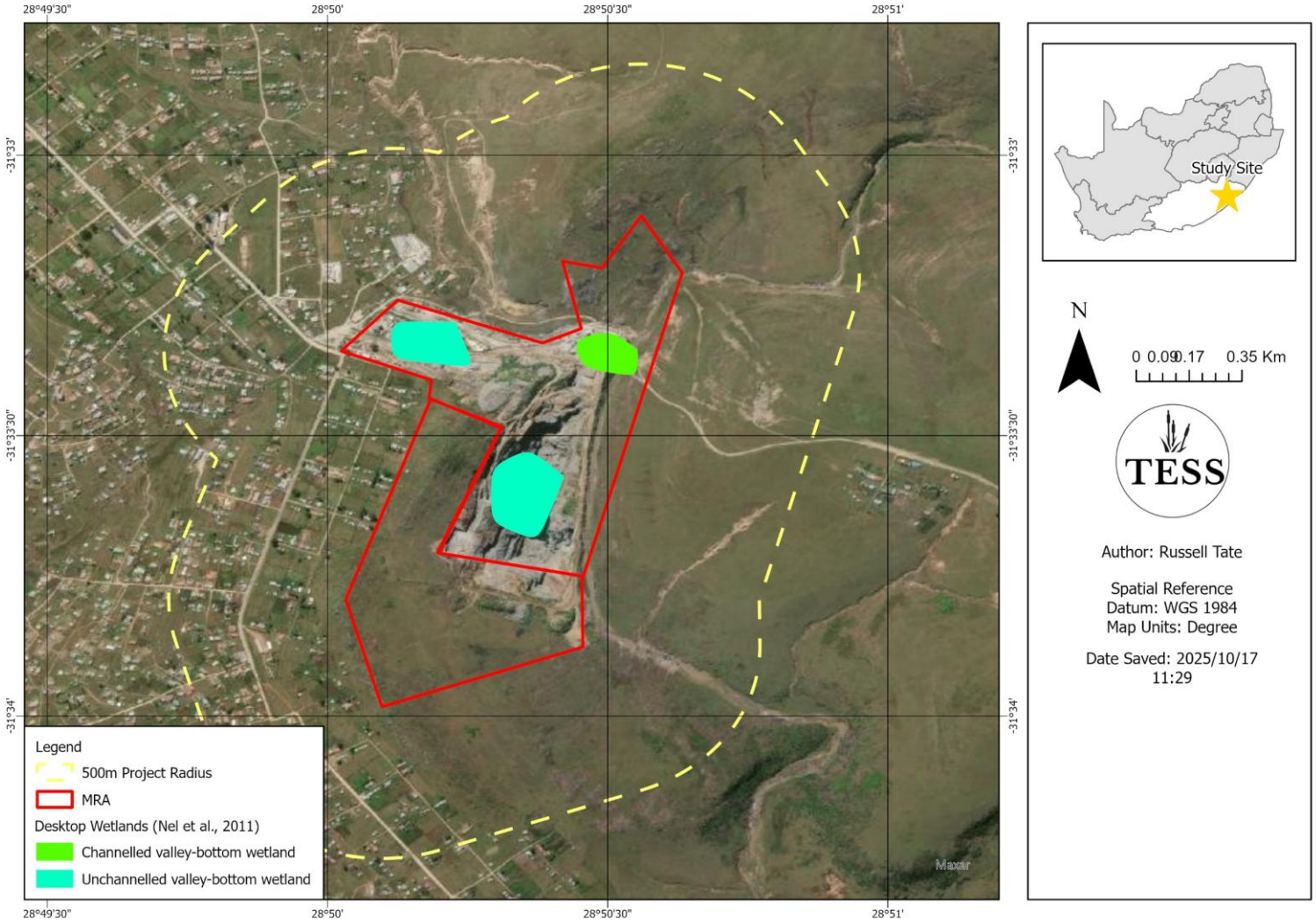


Figure 4-2: Desktop Wetlands in the AoI (NFEPA, Nel et al., 2011)

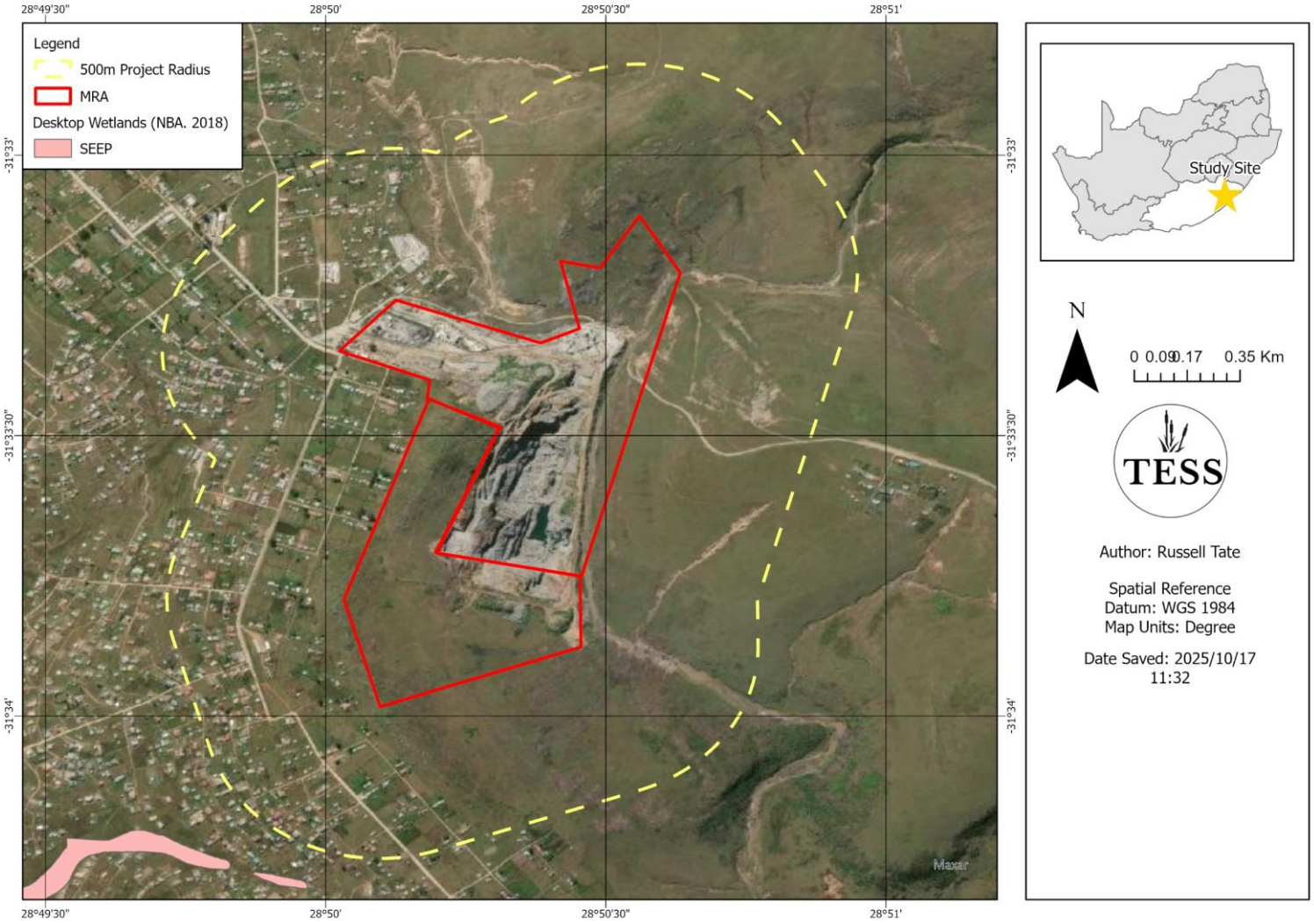


Figure 4-3: Desktop Wetlands in the AoI (National Biodiversity Assessment Nel et al., 2011)

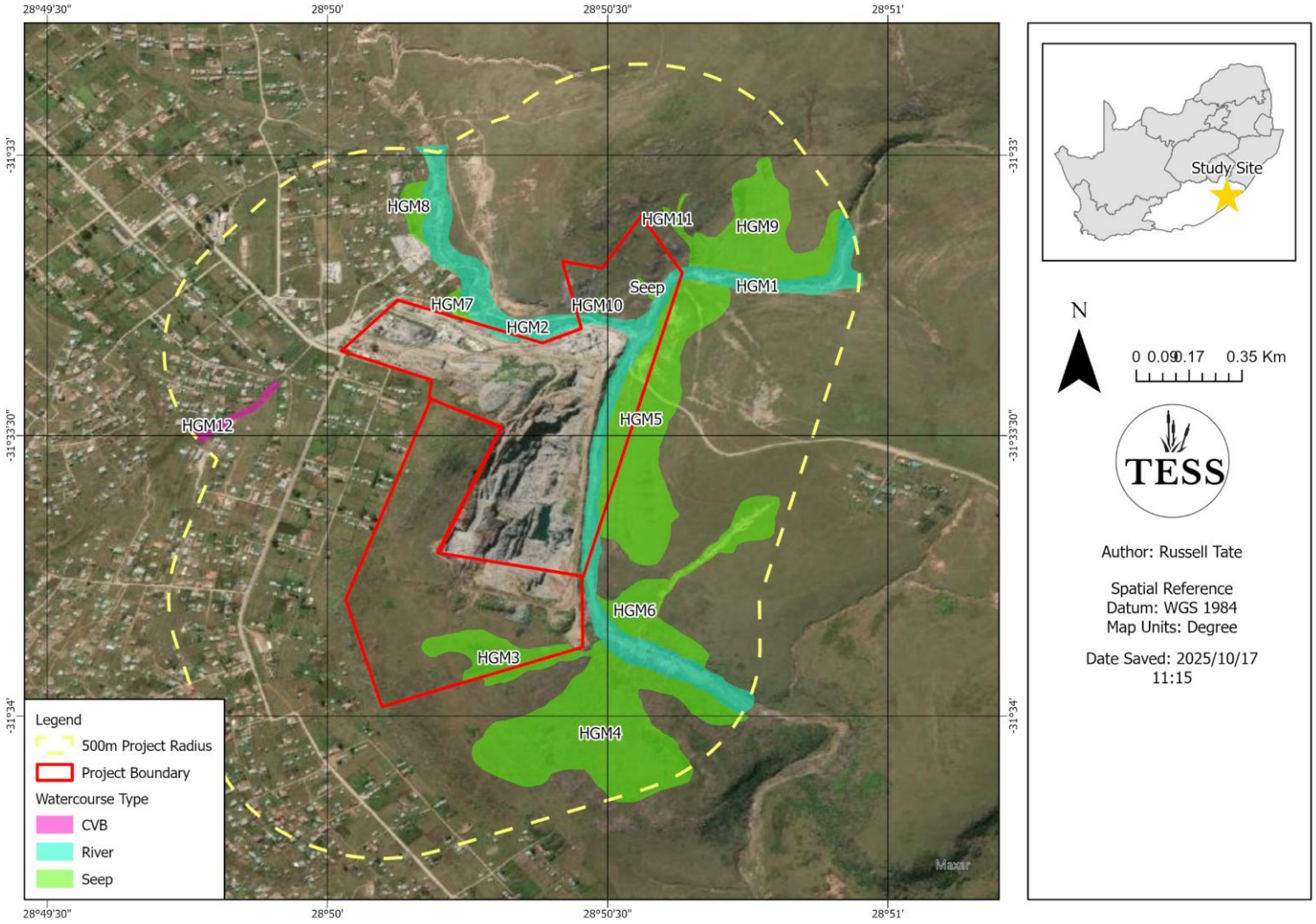


Figure 4-4: Watercourses identified within the AoI

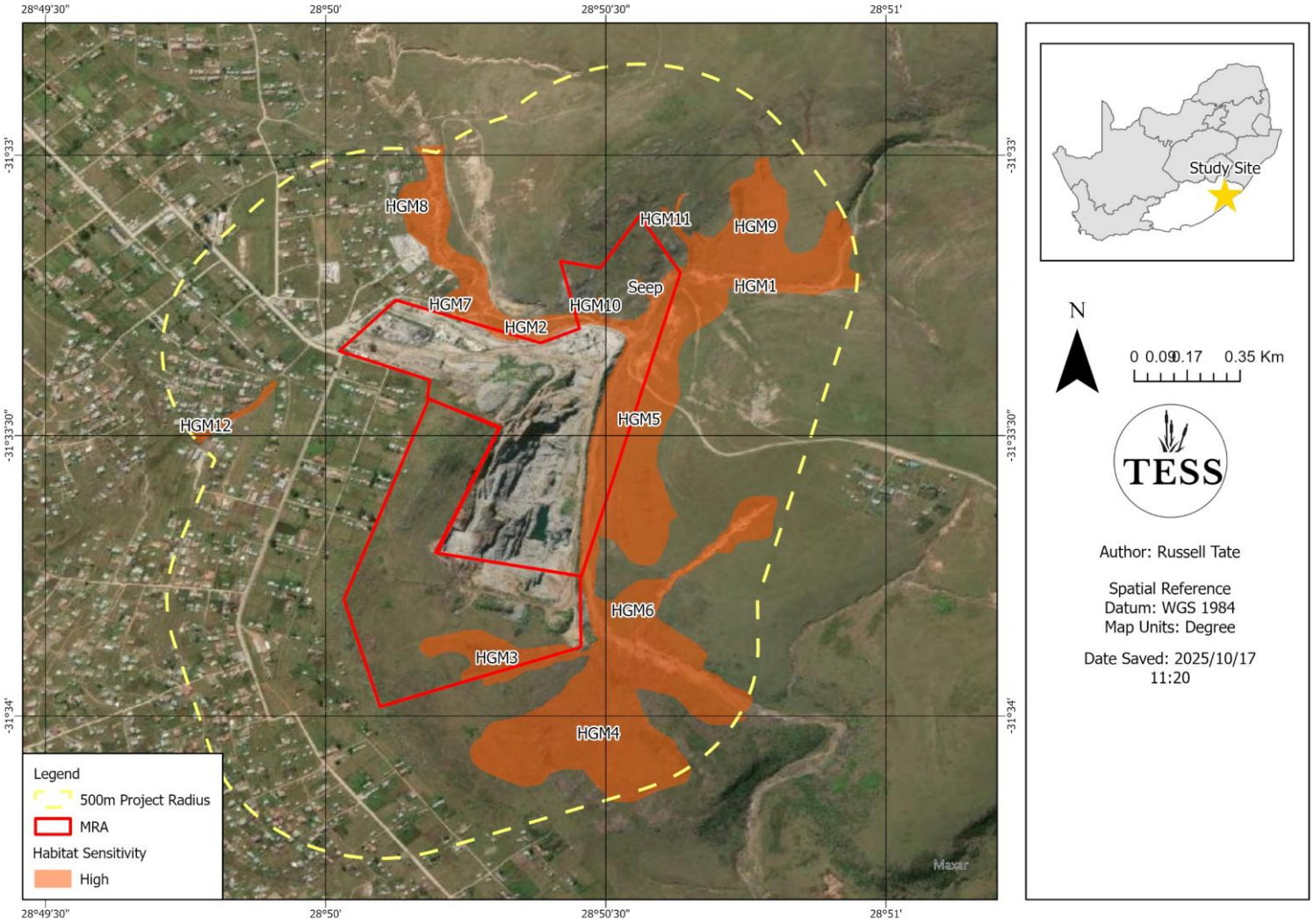


Figure 4-5: Habitat Sensitivity identified within the AoI

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