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## GUIDELINES

# Field Assessment Guidelines

## SUMMARY

This document is designed to help Developers assess the state of the Reference Site(s) and the Restoration Site(s), and inform their capacity to recover. It is also intended to help the Developer understand the ERS App questionnaire, which aims to determine the state of specific ecosystem attributes through several indicators.



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## NORMATIVE REFERENCES

This document must be read in conjunction with the following documents:

- [Zonation Guidelines](#)
- [Community Consultation Guidelines](#)

## TEMPLATES

This document is linked with the following templates:

- [Ecological Recovery Assessment Tool](#)
- [Restoration Plan](#)
- [Project Budget](#)



# Introduction

This Field Assessment approach is based on the work of the Society for Ecological Restoration (SER)<sup>1</sup> and has been adapted to meet the specific requirements and tools of ERS.

The data collected must support the identification of interventions for the [Restoration Plan](#). Indicators must be used to monitor progress over time as a proxy for ecosystem recovery, habitat capacity and biodiversity uplift.

This document contains guidelines and should not be used as a template. The Field Assessment must be performed using the ERS App. After completing the Field Assessment, the analysis must be done using the [Ecological Recovery Assessment Tool](#).

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<sup>1</sup> Gann, G. D., et al. (2019). International Principles and Standards for the Practice of Ecological Restoration. Available at: <https://www.ser.org/page/SERStandards/International-Standards-for-the-Practice-of-Ecological-Restoration.htm>



# Field Assessment *Guidelines*

The Ecological Recovery Assessment is to be completed using the ERS App.

## METHODS

1. The Field Assessment must be completed first at the Reference Site and then at the Restoration Site(s), including Pre-submission activity zones if applicable, to allow comparison.
2. ERS must assign 3 random 50-metre radius plots for each Restoration Site indicated during the [Zonation](#). If the zone cannot host 3 plots, the number is reduced accordingly, with 1 plot being the minimum amount allowed.
3. Where undesirable species are present, and their removal is forecasted as part of the Restoration Plan, they must be indicated during the Field Assessment. Developers must provide a picture of each species and its scientific name, allowing the ERS Certification Agent to confirm the species' presence.

## ERS APP USAGE GUIDELINES

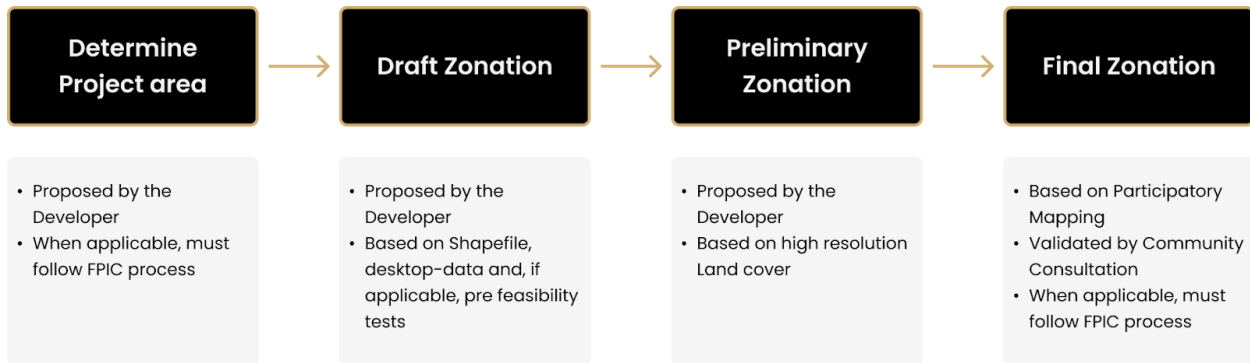
1. For each attribute, two (2) to three (3) indicators are assessed.
2. Developers may add indicators at the end of the assessment based on the specifics of the ecosystem and Restoration Site(s).
3. Each sub-attribute must be rated on a scale from one (1) to five (5) using a rating guideline provided for both the Reference Site(s) and the Restoration Site(s). A general description and guiding questions are included to help with the rating. If elements to rate a sub-attribute are unavailable, it can be skipped.

Once the field assessment has been completed, the responses must be accessible in the ERS Back Office. Once the responses are submitted, an ERS Certification Agent must transfer the information to the [Ecological Recovery Assessment Tool](#) in the



baseline tab. The Recovery Wheel should be generated for better data visualisation during the [Community Consultation on Ecological Recovery](#).

This assessment must be performed every four (4) years to track the Project's progress and provide an update on the [Restoration Plan](#) and [Project Budget](#).





# Field Assessment *Content*

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💡 This is **not** a template to be filled. The content of the Field Assessment is included in this Guideline so Developers can familiarise themselves with it, and ensure the qualification of the person who will perform the assessment on the field.

The field assessment **must be** completed exclusively using ERS' Mobile Application.

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## ABSENCE OF THREATS

### Over-utilization

### Rating:

- **Description:** Exploitation or unsustainable use of natural resources exceeding the ecosystem's regeneration capacity. This leads to ecological damage and potential harm to biodiversity and the ecosystem's capacity to provide goods and services that satisfy human needs, directly or indirectly.
- **Guiding questions:** Can you observe habitat degradation that has caused the loss of key species (or decline of the population size) or ecological functions?

### Active Contamination

### Rating:

- **Description:** Presence of pollutants in the environment or its surroundings.
- **Guiding questions:** Are there sources of contamination within the Project zone or nearby?



## Rating Guideline

1 ★	2 ★★	3 ★★★	4 ★★★★★	5 ★★★★★★
Some direct degradation causes (e.g. over-harvesting, overgrazing, active contamination) are absent, but others remain high in number and extent.	Direct degradation causes (including, e.g., sources of invasive species) are intermediate in number and extent.	The number of direct degradation causes is low overall, but some may remain intermediate in extent.	Direct degradation causes, both external and in the project zone, are low in number and extent.	Threats from direct degradation causes are minimal or absent.

## PHYSICAL CONDITIONS

### Substrate

### Rating:

- **Description:** The soil surface or bottom layer.
- **Guiding questions:** How is the texture, composition and structure of the soil compared to the Reference Ecosystem? Is there evidence of erosion?

### Hydrology

### Rating:

- **Description:** Refers to the ecosystem's quality, availability and all water-related processes.
- **Guiding questions:** How can hydrology be compared to that of the Reference Ecosystem? Are there biological indicators of water quality? Are there evident indicators of contamination?





## Rating Guideline

1★	2★★	3★★★	4★★★★	5★★★★★
Most physical properties of the site's substrates and hydrology (e.g. soil structure, nutrients, and hydrological conditions) differ greatly from those of the reference ecosystem.	Physical and chemical properties of substrates and hydrology remain at low similarity levels compared to the reference ecosystem but are capable of supporting some reference animal and plant life.	The physical and chemical properties of substrates and hydrology are intermediately similar to those of the reference ecosystem and capable of supporting the growth of many characteristic native animal and plant life.	The physical and chemical conditions of substrates and hydrology are highly similar to the reference ecosystem and suitable for the continuous growth of characteristic native animal and plant life.	The physical and chemical conditions of substrates and hydrology are highly similar to those of the reference ecosystem, and there is evidence that they can indefinitely sustain all characteristic species and processes.

## SPECIES COMPOSITION

### No Undesirable Species

**Rating:**

- **Description:** Invasive or non-native species that could negatively impact the ecosystem, its native biodiversity and ecological balance.
- **Guiding question:** Can you observe undesirable or invasive species, or evidence of their presence, that are absent in the Reference Ecosystem?

### Desirable Animals

**Rating:**



- **Description:** Native or introduced animals that are considered beneficial to the ecological balance, biodiversity, or human well-being.
- **Guiding question:** What key native species groups are present? How similar is it to the Reference Ecosystem?

## Desirable Plants

## Rating:

- **Description:** Native or introduced plants considered beneficial for the ecosystem balance, biodiversity, or human well-being.
- **Guiding question:** What key native species groups are present? How similar is it to the Reference Ecosystem?

## Rating Guideline

1 ★	2 ★★	3 ★★★	4 ★★★★	5 ★★★★★
<p>Very high levels of non-native invasive or undesirable species.</p> <p>Some colonising native species are present (~2% if compared with the reference ecosystem).</p>	<p>Moderate levels of non-native invasive or undesirable species.</p> <p>A small amount of characteristic native species are present (~10% if compared with the reference ecosystem).</p>	<p>A subgroup of key native species is present. (up to 40% compared with the reference ecosystem)</p>	<p>The site has a significant diversity of characteristic species (up to 60% compared with the reference ecosystem), representing a wide diversity of species groups.</p>	<p>The site has a high diversity of characteristic species, and it is highly similar to the reference ecosystem (&gt;80% compared with the reference ecosystem). There is potential for the colonisation of more species</p>



				over time.
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## STRUCTURAL DIVERSITY

### All Vegetation Strata (Layers)

#### Rating:

- **Description:** Vertical layers of vegetation are observed in each particular zone.
- **Guiding questions:** What are the different vertical layers? What is the dominant vegetation at each layer? What is the similarity to the Reference Ecosystem? Are there specific ecological roles associated with each layer? Do they influence habitat complexity?

### Faunal Trophic Level

#### Rating:

- **Description:** Hierarchical positions in the ecosystem's food chain (producers, primary consumers, secondary consumers, tertiary consumers)
- **Guiding questions:** Is the trophic composition and structure similar to the Reference Ecosystem?

### Spatial Mosaic

#### Rating:

- **Description:** Spatial distribution of different habitats and/or land cover types within the ecosystem.
- **Guiding questions:** What is the spatial arrangement and distribution of different habitats, vegetation patches or land cover types? Is it similar to that observed in the Reference Ecosystem?



## Rating Guideline

1★	2★★	3★★★	4★★★★	5★★★★★
One horizontal layer of the reference ecosystem is present, but the spatial arrangement and trophic complexity differ greatly from those of the reference ecosystem.	More than one layer of the reference ecosystem is present, and there is some similarity in spatial arrangement and trophic complexity relative to the reference ecosystem.	Most layers of the reference ecosystem are present with intermediate similarity of spatial arrangement and trophic complexity relative to the reference ecosystem.	All layers of the reference ecosystem are present, and there is substantial similarity in spatial arrangement and trophic complexity relative to the reference ecosystem.	All layers of the reference ecosystem are present with high similarity of spatial arrangement and trophic complexity. Further complexity and spatial arrangement can self-organise to highly resemble the reference ecosystem.

## ECOSYSTEM FUNCTION

### Productivity

### Rating:

- **Description:** Capacity to produce biomass or organic matter through photosynthesis or other biological processes. It can be linked to biotic (e.g. species present) and abiotic (e.g. environmental conditions) factors. It helps to understand the energy flows and nutrient cycling in the ecosystem.
- **Guiding questions:** What is the zone's productivity relative to the Reference Ecosystem?



## Habitat & Interactions

### Rating:

- **Description:** Refers to the diverse habitats in which species live and how these organisms interact with one another and their environment, influencing ecological processes.
- **Guiding questions:** What types of habitats are present? What is the similarity of the habitats present and the interactions between species with the Reference Ecosystem?

## Resilience

### Rating:

- **Description:** The ecosystem's ability to resist and recover from disturbances and return to its original state or adapt over time.
- **Guiding questions:** What has been the capacity of the ecosystem to resist and recover from disturbances (e.g. extreme weather events) in the past? Is there a variety of species with different ecological traits? Are there species that perform the same functions? How similar is it to the Reference Ecosystem?

## Rating Guideline

1 ★	2 ★★	3 ★★★	4 ★★★★	5 ★★★★★
Processes and functions are at a foundational stage only, highly different from the	The number and level of physical and biological processes and functions (including	Compared to the reference ecosystem, there are intermediate numbers and	Substantial levels of physical and biological processes and functions are	All functions and processes are on a trajectory towards the reference ecosystem



reference ecosystem.	growth, decomposition, and soil processes) are low compared to the reference ecosystem.	levels of physical and biological processes and functions, including reproduction and dispersal.	present compared to the reference ecosystem.	levels and showing evidence of being sustained.
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## EXTERNAL EXCHANGES

### Landscape Flows

### Rating:

- **Description:** Movement (e.g. materials and organisms) across habitats and landscapes. How ecological processes (e.g. nutrient cycling, water flows, and species dispersal) shape the connectivity and interactions across the Project zones and its surroundings.
- **Guiding questions:** How do organisms move within the Project Area and the surrounding environment? How do these exchanges between areas contribute to ecological processes in the ecosystem?

### Habitat Links

### Rating:

- **Description:** Connectivity between different habitats within the ecosystem. Connectivity can contribute to landscape flows and exchanges.
- **Guiding questions:** Are barriers or corridors (e.g. roads, ponds, rivers, habitat fragmentation) blocking connectivity between this and other zones or the surrounding environment? Are barriers similar to the ones in the Reference Ecosystem?



## Rating Guideline

1★	2★★	3★★★	4★★★★	5★★★★★
Positive exchanges and flows with the surrounding environment (e.g., species, genes, water, fire) exist for very few species and processes.	Positive exchanges with the surrounding environment exist for a few characteristic species and processes.	Positive exchanges exist between the site and surrounding environment for intermediate levels of characteristic species and processes.	Positive exchanges with the surrounding environment are in place for most characteristic species and processes and are likely to be sustained.	There is evidence that exchanges with the surrounding environment are highly similar to the reference ecosystem for all species and processes and are likely to be sustained.

## OTHERS

- **Description:** Are there other indicators to assess the state of the ecosystem and the progress of ecosystem recovery over time relative to the Reference Ecosystem? If yes, describe which ones.



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