Nature Integrity Methodology for Biodiversity Conservation and Restoration

Version 1.3

Biodiversity Intelligence ®
No part of this document may be reproduced or used in any form or by any means, electronic or mechanical, including scanning, photocopying, and microfilming, without the written permission of Biodiversity Intelligence Corporation. All rights reserved.

Content

Index of tables **4**
Index of figures **4**
Acronyms and abbreviations **5**
Terms and definitions **6**
Introduction **10**
1 Principles **11**
2 Objective and application field **11**
2.1 Scope 11
2.2 Technical and programme compliance 13
2.3 Compliance with applicable legal provisions 13
3 Eligibility and inclusion requirement **13**
3.1 Area eligibility 14
3.1.1 Establishment of the reference condition for restoration projects 21
3.2 Ownership 22
3.3 BCP and BRP general objective 23
3.3.1 Biodiversity Conservation Projects 23
3.3.2 Biodiversity Restoration Projects 23
4 Additionality **23**
4.1 Additionality for Biodiversity Conservation Projects 24
4.2 Additionality for Biodiversity Restoration Projects 24
4.3 Compatible income-generating activities 24
4.4 Stacking and bundling 24
5 Project delimitation **24**
5.1 Temporal limits 25
5.2 Spatial boundaries 26
5.2.1 Spatial architecture and core definitions 26
5.3 Combined projects 29
5.4 Landscape-context assessment 29
6 Baseline scenario **30**
6.1 Baseline procedure 30
7 Project scenario outcomes **31**
7.1 Ecosystem Condition Score 31
7.1.1 General structure 31
7.1.2 Minimum requirements per ecosystem 33
7.2 Components and indicators of ecosystem condition 34
7.2.1 Compositional component (Ccomp) 35
7.2.2 Structural component and attributes (Cstr) 36
7.3 Calculation of the Ecosystem Condition Score 38
7.3.1 Calculation of the Compositional component (Ccomp) 38
7.3.2 Calculation of the Structural component (Cstr) 39
7.3.3 Calculation of the Ecosystem Condition Score for Ecosystems 40
7.3.4 Calculation of the Ecosystem Condition Score for the Project 40
7.4 Quantification of the Biodiversity Restoration Project scenario 41
7.5 Biodiversity credit calculation 42
7.6 Credit categorisation 47
8 Grouped projects **47**
8.1 Addition and exclusion of areas 48
8.2 Update of spatial boundaries 48

9 Risk identification and management 48
10 Project leakages 50
11 Monitoring plan 51
11.1 Scope and duration 52
11.2 Core components (to be included in the PMP) 52
11.3 Minimum documentation to be submitted with the PMP 54
11.4 Practical guidance and conservatism 54
11.5 Alignment with verification and Cercarbono tools 54
12 Safeguards 55
13 Stakeholder consultation 55
14 Information management 55
15 References 58
16 Document history 61

Index of tables

Table 1. Area selection summary for Biodiversity Conservation Projects (BCP). 17
Table 2. Area selection summary for Biodiversity Restoration Projects (BRP). 20
Table 3. Examples of Biological Groups and their possible structural indicators. 37
Table 4. Illustrative cumulative calculation of restoration credits (VBCrest,t) for a 100 ha project with ECSproj,0 = 0.30 and verification every 36 months. 44

Index of figures

Figure 1. Example of spatial delimitation of the total area in a Biodiversity Conservation Project (BCP). 27
Figure 2. Example of spatial delimitation of the total area in a Biodiversity Restoration Project (BRP). 28
Figure 3. Example of spatial delimitation of the total area in a Biodiversity Restoration Project and Biodiversity Conservation Projects. 29
Figure 4. Conceptual formulation of the Ecosystem Condition Score (ECS) for conservation projects using a static time-zero reference. 32
Figure 5. Conceptual formulation of the Ecosystem Condition Score (ECS) for restoration projects using an approved Reference Ecosystem. 32
Figure 6. Conceptual analysis scales and interrelation. 33
Figure 7. Conceptual architecture of the Ecosystem Condition Score with independent biological and structural branches. 34
Figure 8. Conceptual issuance of Voluntary Biodiversity Credits (VBC) based on ECS in conservation projects. 43
Figure 9. Illustrative ecological trajectory of ECS in restoration projects. 45
Figure 10. Illustrative ecosystem-condition trajectories for restoration and conservation projects. 47

Acronyms and abbreviations

BCP	Biodiversity Conservation Project
BRP	Biodiversity Restoration Project
CBCP	Cercarbono's Biodiversity Certification Programme
CBD	Convention on Biological Diversity
Ccomp	Compositional component
COP	Conference of the Parties
Cstr	Structural Component
ECS	Ecosystem Condition Score
IEP	Independent Expert Panel
MRV	Monitoring, Reporting and Verification
MSA	Mean Species Abundance
NIM	Nature Integrity Methodology
PDF	Potentially Disappeared Fraction of species
PMP	Project Management Plan
RE	Reference Ecosystem
VBC	Voluntary Biodiversity Credits

Terms and definitions

The terms and definitions contained in the document ***Terms and Definitions*** of the ***Cercarbono's Biodiversity Certification Programme***, available in www.cercarbono.com, section: Documents, shall apply.

For the purposes of this methodology, the following terms apply:

Accreditation / Crediting period: time interval during which verified biodiversity outcomes may be converted into issued units under this methodology.

Baseline / Baseline scenario: documented, evidence-based counterfactual describing the most plausible trajectory for the eligible area in the absence of the project.

Biodiversity and ecological value (demonstrable conservation value): verifiable presence of native biological composition and habitat structure characteristic of the ecosystem type, documented under criterion (a) of **Section 3.1** and quantified at project time zero through the indicators of Ccomp and Cstr. Examples include the presence of key species (keystone, endemic, range-restricted or flagship species); species listed as threatened (CR, EN, VU) in the IUCN Red List or national red lists; ecosystems assessed as threatened in the IUCN Red List of Ecosystems or equivalent national assessments; overlap with Key Biodiversity Areas, protected areas, Ramsar sites or recognised biological corridors; and structural attributes characteristic of the native ecosystem (e.g., canopy stratification, large trees, coarse woody debris, hydrological functioning, live coral or seagrass cover).

Biodiversity Conservation Project (BCP): project implemented in an ecosystem that retains demonstrable biodiversity and ecological value and is exposed to credible threats or risk of deterioration. Its primary objective is to protect those existing values and maintain, at a minimum, the ecological condition documented at project time zero.

Biodiversity Restoration Project (BRP): project whose primary objective is to restore degraded ecosystems to improve biodiversity and ecosystem function, using a reference condition as the ecological target.

Ccomp (Compositional component): mean condition of at least four representative biological groups, assessed relative to a reference condition.

Combined project: single project that includes both conservation (BCP) and restoration (BRP) areas within the same Total Project Area, each delimited, assessed, monitored and credited under the requirements of its pathway (**Section 5.3**).

Conserved Ecosystem Area / Conservation Area: portion of the Total Project Area actively conserved and eligible for accounting under this methodology.

Contingency reserve: financial or operational reserve established by the project to manage risks under **Section 9**. It is distinct from the Long-term Reserve and Guarantee Buffer of the CBCP Protocol (Section 7.3).

Credibly mitigated: a threat is credibly mitigated where the PMP demonstrates, with technical evidence, that protection actions within the project's control, or secured through binding

agreements with the competent authorities or resource users, can reduce the threat to a level that allows the ecological condition documented at project time zero to be maintained.

Crediting unit / Voluntary Biodiversity Credit (VBC): standardized unit representing biodiversity outcomes, calculated using project Integrity (I), operationalized as project ECS for conservation, or change in ECS (ΔECS) for restoration, together with eligible area and time.

Cstr (Structural component): mean condition of a complementary, non-redundant set of ecosystem-level structural indicators, assessed relative to a reference condition.

Degraded Ecosystem Area: polygon(s) within the Total Project Area that meet criteria for demonstrable degradation and restoration feasibility.

Demonstrably degraded: condition of an area whose degradation, relative to the native ecosystem it belongs to, is documented through the degradation diagnosis of **Section 3.1** using quantitative indicators and temporal evidence over the evidence period.

ΔECS (cumulative gain in Ecosystem Condition Score): difference between the verified project ECS and the project ECS at time zero; used to calculate restoration credits (**Section 7.5**).

Ecosystem Condition Score (ECS): dimensionless score from 0 to 1 that combines the Compositional component (Ccomp) and structural component (Cstr) to express ecosystem condition relative to a reference condition.

Eligible area(s): polygon(s) within the Total Project Area where activities are implemented and outcomes are eligible for accounting under this methodology.

Evidence period: period prior to project time zero over which the evidence required under **Section 3.1** (conservation value, threat or risk of deterioration, population trends, or degradation) is assessed. It is defined and justified in the PMP according to ecosystem dynamics and land-use history; a period of at least ten (10) years is recommended where data are available (see **Section 6.1**).

Grouped project: single PMP that aggregates multiple instances (sites/landholders) under a unified Monitoring, Reporting and Verification (MRV); all instances shall follow the same pathway (BCP or BRP) and include the same CBCP eligible activities, and each instance must individually meet eligibility, safeguard and methodological criteria.

Independent Expert Panel (IEP): panel established under the CBCP that validates and verifies projects in accordance with Section 11 of the CBCP Protocol and its Rules of Procedure.

Leakage: unintended net negative or positive effects outside project boundaries resulting from project activities; must be identified, monitored and managed.

Native ecosystem: ecosystem whose species composition and structure result predominantly from natural ecological and evolutionary processes in its biogeographic region, including semi-natural ecosystems maintained by natural or traditional disturbance regimes (e.g., fire, grazing). Plantations and ecosystems dominated by non-native species are not native ecosystems.

Non-eligible area(s): portions of the Total Project Area excluded from accounting (e.g., permanently converted lands, buildings, settlements, areas reserved for other programs without consent).

Permanence: expectation and measures ensuring biodiversity outcomes are sustained over the accreditation/crediting period, including mitigation, contingency plans, buffers and legal instruments.

Pristine (intact) ecosystem: ecosystem with no or negligible detectable human modification of its composition, structure or function. Native ecosystems are not required to be pristine under this methodology.

Project Ecosystem Condition Score (ECSproj): area-weighted mean of ecosystem-level ECS values across the eligible project area.

Project Management Plan (PMP): project document that includes the indicators, methods, schedules, QA/QC procedures and responsibilities required to support MRV and verification.

Project start date: date when the first direct on-the-ground action occurs that initiates biodiversity outcomes attributable to the project.

Project time zero: the initial measurement of the biological and structural indicators selected for Ccomp and Cstr, carried out at the start of the project or, where retroactive recognition applies, a complete historical measurement meeting all requirements of this methodology (**Section 5.1**). It documents the reference condition (BCP) or the initial condition of the restoration area (BRP), and is documented in the PMP as part of the baseline (**Section 6**).

Reconstructed reference condition: reference condition established from reliable historical, ecological or spatial evidence when no suitable physical Reference Ecosystem can be identified or accessed, in accordance with **Section 3.1**.

Reference condition: ecological benchmark used for ECS normalization. For conservation, it is the fixed time-zero condition of the same eligible ecosystem; for restoration, it is the ecological target derived from a physical Reference condition or, where allowed under **Section 3.1**, an approved reconstructed reference condition.

Reference Ecosystem (RE): physical internal or external ecosystem used to establish the reference condition for a restoration project.

Restoration feasibility: technical justification demonstrating the degraded site can recover within the project timeframe (e.g., propagule sources, hydrology, manageable threats).

Results period: period during which biodiversity outcomes attributable to project activities are monitored and verified.

Risk / Risk management: identification, assessment and mitigation/contingency of biophysical, socio-economic and operational threats that could affect project outcomes or issued units.

Stacking: earning separate credits for multiple environmental benefits from a single project, as permitted under Section 15.2 of the CBCP Protocol. Bundling of carbon and biodiversity credits is not permitted (see **Section 4.4**).

Introduction

The accelerating biodiversity crisis, driven by habitat destruction, climate change, and other anthropogenic pressures, demands a coordinated response grounded in solid evidence and measurable actions. Understanding and quantifying the web of life that sustains the planet is essential for designing, implementing, and evaluating effective conservation and restoration strategies. In this context, the development of reliable biodiversity crediting models emerges as a key tool to mobilize resources, incentivize sustainable investments, and generate verifiable positive impacts on ecosystems.

Within the framework of the Kunming-Montreal summit and the Conference of the Parties (COP) of the Convention on Biological Diversity (CBD), these topics have gained greater relevance, reaffirming the international commitment to biodiversity protection and the need to promote economic mechanisms that integrate conservation into development policies. Implementing such models also requires robust methodologies to measure, verify, and report progress in a transparent manner, thereby contributing to the achievement of global commitments and strengthening environmental governance.

Accordingly, the methodology is designed to be practical, scalable, precise and repeatable, and to support reliable and comparable baselines through documented, methodologically consistent reference conditions.

The Nature Integrity Methodology (NIM) is applicable to projects that may include conservation areas and restoration areas, or both within a common spatial boundary, providing a basis for the issuance of voluntary biodiversity credits. Where both occur, conserved habitats and restoration areas may operate as complementary components. They are assessed and credited under their respective rules; the resulting credits are not equivalent or fungible. It follows the ***Cercarbono's Biodiversity Certification Programme Protocol*** as a robust framework, in its innovative phase. This methodology distinguishes two categories of biodiversity credit that measure fundamentally different things and are not equivalent or comparable. Conservation credits reflect the maintenance of the biological and structural condition of an entire eligible ecosystem relative to its own documented time-zero state, and represent the mitigation of an objective, documented — though not separately quantified — risk of deterioration. Restoration credits reflect the verified ecological gain achieved since time zero relative to an approved reference condition, accounted for cumulatively (**Section 7.5**). Because they quantify different things — a sustained condition versus a gain in condition — conservation and restoration credits are issued as distinct, non-fungible classes, as detailed in **Section 7.5** (Biodiversity credit calculation).

1 Principles

The principles provide the foundation for issuing high integrity credits under the Cercarbono Biodiversity Certification Programme (CBCP). They are intended to ensure that certified initiatives deliver positive, verifiable biodiversity outcomes. Accordingly, all Biodiversity Restoration Projects (BRP) and Biodiversity Conservation Projects (BCP) must demonstrate compliance with these principles — including nature-orientation, additionality, local-to-global alignment, long-term outcomes, prioritisation of on-the-ground actions, community-based approaches and transparency — as established in the ***Cercarbono's Biodiversity Certification Programme Protocol*** (version 1.1.1). Compliance with these principles must be documented in the Project Management Plan (PMP) and supported by auditable evidence throughout validation and verification. In particular, the requirements on prioritisation of on-the-ground actions (Principle 5) and on the financing plan for actions and interventions (Section 13 of the CBCP Protocol) apply to all PMPs developed under this methodology.

2 Objective and application field

The main objective is to provide a framework for assessing maintenance and change in ecosystem condition through standardized, practical, transparent and repeatable measurements of biological composition and habitat structure.

2.1 Scope

The Convention on Biological Diversity, as the main international agreement for biodiversity conservation, establishes ambitious objectives aimed at mitigating biodiversity loss and restoring degraded ecosystems. The Kunming-Montreal Global Biodiversity Framework, adopted in 2022, represents a significant milestone in this effort, outlining specific goals for the protection and restoration of biodiversity at a global scale.

The NIM has been designed to support the achievement of the CBD objectives and the Kunming-Montreal Global Biodiversity Framework. It is proposed as a solution to drive biodiversity-enhancing projects such as **Biodiversity Conservation Projects (BCP)** and **Biodiversity Restoration Projects (BRP)**, and incorporate standardized measurement dimensions to monitor project progress and quantify biodiversity gains, providing a reference framework for:

- **Methodology for biodiversity monitoring indicators:** enable the generation of consistent and standardized ecosystem-condition values.
- **Quantifying progress toward restoration goals:** the methodology measures restoration success as change in ecosystem condition. Ecosystem services may be assessed separately where relevant, but they are not directly quantified by the ECS.
- **Tracking the impact of conservation activities:** the methodology facilitates the monitoring of biodiversity over time, evaluating the effectiveness of nature positive interventions.
- **Supporting decision-making:** the methodology provides valuable data and information that support informed decision-making in biodiversity management and land-use planning.

The NIM is aligned with the CBCP eligible Conservation Activities, where applicable activities are established and enumerated for each nature positive outcome situation.

For an effective planning and implementation of biodiversity projects, it is essential to identify the core activity from the list of CBCP eligible activities. Also, the project may include additional eligible activities that align with CBCP certification guidelines.

For the proposed eligible activities, projects must meet the specific conditions to be considered within the CBCP, where a detailed condition for each activity is mentioned and should be followed.

This methodology applies to biodiversity conservation and ecosystem restoration projects within the defined native-ecosystem scope. It applies exclusively to area-based eligible activities of the CBCP; non-area-based activities (e.g., ex-situ or species-specific conservation without a delimited area) are outside its scope.

The NIM methodology is based on:

- **Emphasis on measurement:** the methodology uses state-of-nature outcome indicators to calculate ecosystem condition. Pressure, response and governance indicators are recorded separately to support attribution, adaptive management and safeguards; they are not automatically included in the ECS.
- **Alignment with standards and reporting frameworks:** where an approved crosswalk is available, project data may support disclosure against relevant frameworks such as the Kunming-Montreal Global Biodiversity Framework, TNFD or GRI. Such disclosure is supplementary and does not replace the requirements of this methodology.
- **Scientific robustness:** the NIM is grounded in validated ecological principles, data analysis, and scientifically verified modelling.
- **Scalability and cost-efficiency:** the methodology allows the integration of remote analysis with strategic fieldwork to enable the effective monitoring of large-scale areas with an optimal cost-benefit ratio.
- **Adaptability:** the methodology can be applied across different ecosystem types and measurement technologies within the defined conservation and restoration scope, including native ecosystems located within productive landscapes (e.g., forest remnants, riparian corridors or wetlands embedded within an agricultural or silvopastoral matrix). Improvements to agricultural or other productive activities themselves are outside the scope of this methodology.

Ecosystem condition is assessed through evidence on composition, structure and function. The following are examples of relevant evidence dimensions:

Functional dimension: characterized by the variety and relative abundance of functional groups (pollinators, dispersers, predators, decomposers, among others) that play critical ecological roles in maintaining ecosystem processes.

Structural dimension: referring to the physical complexity of the ecosystem, including canopy stratification, understory cover and composition, patch connectivity, and spatial heterogeneity.

Taxonomic dimension: richness and relative abundance of species, with special emphasis on endemic, threatened, or keystone species.

2.2 Technical and programme compliance

The following regulatory and technical framework documents of the Cercarbono's Biodiversity Certification Programme, in their current versions, are complementary and essential for the application of this methodology:

- Cercarbono's Biodiversity Certification Programme Protocol.
- Cercarbono's Biodiversity Certification Programme Procedures.
- Terms and Definitions of the Cercarbono's Biodiversity Certification Programme.
- Guidelines for mapping presentation and analysis (cartography, GIS and geospatial products).
- Safeguarding Principles and Procedures of the Cercarbono Certification Programme.
- Rules of Procedure of the Independent Experts Panel.

Hierarchy and reading order. This methodology is applied within, and must be read together with, the CBCP Protocol and the other Programme documents listed above. Where this methodology does not address a matter, the Programme documents apply; where both address it, the more restrictive requirement applies. Eligibility under this methodology is conditional on compliance with all applicable activity-specific requirements of Section 3.1 of the Protocol and with the exclusions of its Section 3.2. No provision of this methodology permits biodiversity offsetting, the use of living modified organisms, or an exception to a Programme rule without an express, authorised Programme decision.

2.3 Compliance with applicable legal provisions

Within the scope of this methodology, BRP and BCP must identify, consider and fully comply with all applicable legal, regulatory and policy requirements at national, sub-national and local levels, as well as relevant social, environmental and technological obligations. Compliance must be supported by robust, auditable evidence.

BRP/BCP proponents shall adopt and implement the current ***Safeguarding Principles and Procedures of Cercarbono Certification Programme***, integrating these requirements into project design, implementation and monitoring.

Prior to commencement of field activities, the BRP/BCP proponent must demonstrate that intervention areas hold all required authorizations, permits, licenses and environmental management plans demanded by the competent jurisdiction, and that all legal and regulatory obligations related to the proposed interventions and applied technologies are met.
Where project outcomes are linked to nationally-recognized commitments or registries (for example, official national records of conservation actions or biodiversity-related contributions), relevant results shall be registered in the appropriate national systems, where applicable, and reported in a manner consistent with international Monitoring, Reporting and Verification (MRV) standards.

3 Eligibility and inclusion requirement

The methodology applies to biodiversity conservation and ecosystem restoration in native terrestrial and aquatic ecosystems. Biodiversity credits for agricultural or other productive activities themselves are outside the scope of this methodology.

The reference condition is the ecological condition used as the benchmark for comparison under this methodology.

For **Biodiversity Conservation Projects**, the reference condition is the documented condition of the same eligible ecosystem at project time zero. It is fixed at project start and remains the benchmark for subsequent assessments; it is not an external reference site. This reference condition is not required to be optimal or pristine: it is the static baseline documented at time zero, and the minimum condition the project must maintain. Accordingly, there is no minimum ecological condition threshold for an area to enter as a Biodiversity Conservation Project: eligibility depends on meeting the three conditions in **Section 3.1** (a)–(c) — demonstrable value, documented threat, and viability of maintenance — not on how close that documented condition is to an intact or pristine state. The 0.9 threshold established in **Section 7.5** applies solely as an ongoing performance requirement after project entry (evidence of significant degradation), and is not a condition of area eligibility.

For **Biodiversity Restoration Projects**, the reference condition represents the ecological target to be achieved. It is normally derived from an internal or external Reference Ecosystem that is ecologically comparable to the ecosystem being restored, demonstrably functioning and supported by sufficient ecological evidence.

The physical Reference Ecosystem does not need to be pristine. However, selection of a less-than-intact reference must not lower the ecological ambition of the project merely because higher-integrity examples are locally absent. The PMP must document the search and selection process, justify ecological comparability, explain any known limitations of the selected reference, and demonstrate that the resulting reference condition represents a credible restoration target for the relevant native ecosystem rather than simply the best condition currently available within a degraded landscape.

Where no suitable physical Reference Ecosystem can be identified or accessed, a reconstructed reference condition may be established using reliable historical, ecological or spatial evidence in accordance with **Section 3.1**.

3.1 Area eligibility

The area eligibility criteria are used to determine the areas of the project implementation for BCP and BRP. Eligible activities for each situation must follow the CBCP Scope and eligible activities section.

For **Biodiversity Conservation Projects** the area must meet the following criteria:

(a) **Demonstrable conservation value:** the area must show documented biodiversity and ecological value at project time zero (e.g., species records, habitat structure, satellite imagery, land-use records or technical reports). Examples of such values are given in the definition of biodiversity and ecological value (Terms and definitions). The evidence period and method must be specified in the PMP, justified by ecosystem dynamics and relevant land-use history, and applied consistently within the project.

(b) **Documented threat or risk of deterioration:** credible local or regional evidence of pressures or risk factors that could plausibly degrade the ecosystem absent the project. Relevant threats include deforestation, high-severity non-natural fires, land-use conversion pressure,

overgrazing, hydrological alterations, unsustainable offtake (of animal species, trees or other natural resources), invasive species at ecologically-damaging densities, or planned infrastructure. Illustrative types of verifiable evidence include conversion rates in comparable unprotected areas, land-market pressure and offers for agricultural use, documented enforcement or protection deficits in protected areas, changing landowner incentives and climate-related degradation risks. The absence of a formal deforestation or conversion plan for a specific parcel does not imply the absence of threats: other threats, such as fire, illegal hunting, illegal clearing, livestock grazing or unsustainable resource extraction, may be present and can be documented. In all cases, the threat must be substantiated with evidence.

(c) **Viability of maintaining those values through project actions:** technical justification that the planned protection or stewardship actions can plausibly maintain, at a minimum, the ecological condition documented at project time zero. Measured improvement in ecological condition beyond time zero is not precluded, though it does not generate additional conservation credits under this methodology (see **Section 7.5**).

Where the primary objective is to recover ecological values that have already been lost, toward a higher ecological condition — rather than to protect and maintain values that are currently present — the area must be treated under the restoration pathway rather than as a Biodiversity Conservation Project.

This determination must be based on the evidence documented under criterion (a), not solely on the proponent's stated intent. Where that evidence shows that the values or ecological functions to be credited are largely absent or substantially diminished at project time zero — such that achieving a materially higher ecological condition, rather than maintaining an existing one, is the realistic and intended outcome of the proposed actions — the area does not qualify as a Biodiversity Conservation Project and must be assessed under the restoration pathway.

Compliance with CBCP activity conditions. In addition to criteria (a)–(c), conservation areas must meet all requirements of the CBCP eligible activity under which the project is registered (Protocol Sections 3.1.3 to 3.1.5 and 3.1.7), including, where applicable, evidence that no other initiative claiming biodiversity credits addresses the same threats, evidence of a historical and continuing protection deficiency for officially protected areas, and a recent legal agreement or commitment to prevent further degradation.

Ecosystem-specific conservation eligibility criteria

The ecosystem types described below (native forests, grasslands and savannas, wetlands, mangroves, and marine ecosystems) are illustrative examples and do not constitute an exhaustive list. Biodiversity Conservation Projects may be developed in other native ecosystem types (e.g., deserts and xeric shrublands, tundra, freshwater/riverine systems, caves and subterranean habitats) provided the proponent defines and documents, in the PMP, ecosystem-specific eligibility criteria equivalent in rigor to those below.

Determination of native status. For each ecosystem in the eligible area, the PMP shall demonstrate native status by (a) classifying the ecosystem according to an official national or regional ecosystem or vegetation classification, or the IUCN Global Ecosystem Typology; and (b)

providing composition data showing that the ecosystem is dominated by species native to its biogeographic region.

1. For Native forests

- **Eligible:** native forest remnants or stands with demonstrable ecological and biodiversity value (canopy structure, regeneration, presence of key taxa), exposed to a documented threat or risk of deterioration.
- **Required evidence:** field survey data (e.g., plots or transects) or comparable surveys showing ecological condition and, where available, population trends of key taxa over the evidence period (where multi-year data are not available, a current survey combined with remote-sensing evidence of habitat change over the evidence period, or published regional trend data, may be used with justification), together with evidence of threat or risk of deterioration; connectivity assessment.
- **Exclusions:** active conversion to other land uses and non-native and monoculture plantations.

2. For Native grasslands and savannas

- **Eligible:** native grasslands and savannas with demonstrable ecological and biodiversity value (natural fire/grazing regimes or managed equivalents sustaining native composition), exposed to a documented threat or risk of deterioration.
- **Required evidence:** vegetation composition and cover demonstrating the ecological value of native communities, together with evidence of threat or risk of deterioration; documentation of grazing regimes where applicable.
- **Exclusions:** intensively managed pasture/agricultural grasslands lacking verifiable measures to sustain native ecosystem values.

3. For Native wetlands

- **Eligible:** wetlands (peatlands, marshes, swamps, floodplains) with demonstrable hydrological functioning and ecological value, exposed to a documented threat or risk of deterioration.
- **Required evidence:** documentation of hydrological and ecological functioning, together with evidence of threat or risk of deterioration.
- **Exclusions:** permanently infilled or urban/industrial conversions where no demonstrable wetland ecological value or function remains.

4. For Native mangroves

- **Eligible:** intertidal mangrove systems with demonstrable stand structure and ecological value, exposed to a documented threat or risk of deterioration.
- **Required evidence:** stand inventories, salinity/tidal data and indicators of recruitment and persistence, together with evidence of threat or risk of deterioration.
- **Exclusions:** exotic mangrove plantations, whether intertidal or non-intertidal; afforestation of mangrove on naturally open intertidal ecosystems (e.g., unvegetated mudflats, sandbanks or salt marshes) that would replace an existing native ecosystem rather than restore degraded mangrove habitat; and sites with irreversible physical constraints preventing maintenance of mangrove dynamics.

5. For Native marine ecosystems

- **Eligible:** subtidal and intertidal marine ecosystems (e.g., coral reefs, seagrass meadows, kelp forests, rocky reefs) with demonstrable structure and ecological value, exposed to a documented threat or risk of deterioration.
- **Required evidence:** benthic cover and community-composition surveys (in-situ or remote/acoustic sensing) showing ecological condition over the evidence period; assessment of relevant threats and risk of deterioration (e.g., destructive fishing, coastal development).
- **Exclusions:** sites subject to ongoing destructive extraction (e.g., blast/cyanide fishing, unmanaged bottom trawling) or affected by recurrent mass-mortality events (e.g., bleaching) that have eliminated the demonstrable ecological value required under criterion (a), or where the documented threat under criterion (b) cannot be credibly mitigated through the project's protection actions.

Table 1 is a reporting template to be completed in the PMP with the area (in hectares) corresponding to each category for the specific project.

Table 1. Area selection summary for Biodiversity Conservation Projects (BCP).

Eligible Area	**Baseline**	**Project**
Conservation-value ecosystem	Conservation-value ecosystem area	Conservation activities
Non-eligible areas		
Degraded ecosystems	Degraded ecosystem areas	
Buildings	Building areas	
Settlements	Settlement areas	
BCP Total Area		
Eligible area	Total eligible areas	
Non Eligible areas	Total non-eligible areas	
Total	Total eligible areas + Total non-eligible areas	

Note: all area measurement units are in hectares.

Degraded ecosystem areas identified within the Total Project Area are non-eligible for BCP accounting but may qualify for a Biodiversity Restoration Project, subject to the eligibility criteria in this Section.

For **Biodiversity Restoration Projects** the area must meet the following criteria:

The restoration area must be demonstrably degraded and present realistic potential for measurable ecological recovery through the project's actions. This methodology does not distinguish between active and passive restoration: actions may include active or assisted restoration (e.g., planting, reintroduction, hydrological rewetting), subject to Section 3.1.6 of the CBCP Protocol, or recovery through natural regeneration resulting from project actions that remove or control degradation drivers (e.g., closure, livestock exclusion, fire management, enforcement), subject to Section 3.1.7 of the CBCP Protocol. Recovery that would occur without any project action is not eligible (**Section 4.2**). Degradation may result from past conversion, fragmentation, selective logging, overgrazing, hydrological alteration, pollution, invasive species,

or other anthropogenic impacts. Areas already in a self-sustaining, non-degraded condition are not eligible for Biodiversity Restoration Projects.

Common eligibility requirements:

- The areas where Biodiversity Restoration Projects are implemented shall correspond to ecosystems that are demonstrably degraded.
- **Spatial definition:** georeferenced boundary file (shapefile/GeoJSON) and map products (current and retrospective imagery) with metadata (CRS, date, source).
- **Degradation diagnosis:** baseline assessment demonstrating degradation using quantitative indicators (e.g., canopy cover loss %, native species richness decline, soil erosion rates, altered hydrology, invasive species cover) and temporal evidence (satellite or field data showing decline over the last relevant period). The temporal evidence shall cover at least the five (5) years prior to the project start date, in order to demonstrate compliance with Section 3.1.6 of the CBCP Protocol. Where imagery or land-use records are insufficient to identify the original native ecosystem, it may be identified through converging lines of evidence (e.g., soils, hydrology, remnant vegetation, historical records and regional ecosystem maps).
- **Restoration feasibility:** technical justification that ecological restoration is feasible within a defined timeframe (ecological potential, source populations/seed bank, hydrological recovery potential).
- Prevention of deliberate degradation: the degradation used to establish restoration eligibility must not have resulted from actions taken, authorized or knowingly permitted by the project proponent for the purpose of establishing or increasing eligibility for restoration credits. Where evidence indicates that degradation was deliberately induced to create or inflate a restoration claim, the area is ineligible for this methodology.
- Compliance with CBCP Protocol Section 3.1.6: restoration areas must meet all requirements for ecosystem restoration established in Section 3.1.6 of the CBCP Protocol, namely: (i) degradation or transformation processes must not have occurred in the project area within the five (5) years prior to the project start date, regardless of their cause; (ii) the project must hold a recent legal or binding agreement to prevent further degradation of the ecosystem under restoration; (iii) only native species may be used in restoration activities under this methodology, which is more restrictive than the Protocol, and invasive species are prohibited; and (iv) the primary use of the area shall be non-commercial, with restrictions on clear-cutting and intensive harvesting. Where the requirements of this methodology and those of the Protocol differ, the more restrictive shall apply.
- Pathway allocation: each eligible area is allocated to the conservation or restoration pathway before the project starts, on the basis of the evidence required in this Section: areas whose biodiversity and ecological value is present and must be maintained are allocated to the conservation pathway; areas demonstrably degraded according to the degradation diagnosis are allocated to the restoration pathway. The time-zero measurement then quantifies the starting condition of each area. Pathway allocation is not modified by subsequent ECS results, except for the restoration-to-conservation transition established in **Section 7.5**.

Ecosystem-specific restoration eligibility criteria

1. For Native forests (restoration)

- **Degradation evidence:** reduced canopy cover or basal area relative to reference conditions, loss of regeneration, simplified vertical structure, presence/expansion of invasive or regeneration-suppressing species of any growth form (e.g., dense stands of aggressive grasses that prevent tree establishment), or recent conversion/clearance history.
- **Restoration potential:** availability of native propagules (seed sources, nearby intact stands), soil condition amenable to natural regeneration or enrichment planting, and feasibility of controlling relevant threats (e.g. illegal logging). Native propagules may be introduced through active interventions (e.g., nursery stock or direct seeding) and do not need to be present on site.
- **Restrictions:** conversion to or replacement by non-native species or monocultures; sites where soils are so degraded or contaminated that native forest recovery is infeasible within the project timeframe.

2. For Native grasslands and savannas (restoration)

- **Degradation evidence:** replacement by invasive grasses/woody encroachment, loss of native herbaceous diversity, soil compaction/erosion, altered fire/grazing regimes.
- **Restoration potential:** presence of remnant native species propagules or feasible sourcing of native seed, capacity to reinstate natural disturbance regimes (fire, grazing) or managed surrogate processes.
- **Restrictions:** areas converted to permanent intensive agriculture without feasible reconversion plan.

3. For Native wetlands (restoration)

- **Degradation evidence:** drained or channelized wetlands, lowered water table, sedimentation, pollution, lost native wetland vegetation, or peatland degradation (oxidation).
- **Restoration potential:** hydrological restorability (e.g., ability to rewet, dam removal feasibility), contaminant levels within remedial capacity, and landscape connectivity for recolonization.
- **Restrictions:** permanently converted (e.g., urbanized) areas or contamination that cannot be remediated to improve ecological functioning within a reasonable timeframe.

4. For Native mangroves (restoration)

- **Degradation evidence:** loss of mangrove cover, disrupted tidal/hydrological connectivity, substrate degradation, replacement by incompatible land uses, or unsustainable resource use impairing regeneration (e.g., fishing techniques that damage propagules, excessive grazing, poorly managed shellfish harvesting).
- **Restoration potential:** tidal/connectivity conditions that can be restored, presence of suitable substrate and propagule sources or feasible planting stock, and manageable anthropogenic pressures.
- **Restrictions:** areas with irreversible coastal modifications preventing hydrological restoration or where planting would create ecological mismatch.

5. For Native marine ecosystems (restoration)

- **Degradation evidence:** loss of live cover or structural complexity (e.g., coral, seagrass, kelp) relative to reference conditions, substrate degradation, disrupted connectivity, or decline linked to destructive fishing, pollution, sedimentation, or coastal development.
- **Restoration potential:** availability of propagule sources or feasible transplant/outplanting stock, water-quality and hydrological conditions within recoverable range, and manageable anthropogenic pressures (e.g., controllable fishing pressure, sedimentation sources).
- **Restrictions:** sites with irreversible physical or hydrological alteration (e.g., permanent coastal infrastructure, altered substrate) preventing recovery, or persistent conditions (e.g., recurrent unmanaged thermal stress) that would undermine restoration success.

Other native ecosystem types not listed above (e.g., deserts and xeric shrublands, tundra, freshwater/riverine systems) are eligible for restoration provided the proponent defines equivalent ecosystem-specific criteria in the PMP — degradation evidence, restoration potential, and restrictions specific to that ecosystem type — subject to review and approval prior to validation.

Table 2 is a reporting template to be completed in the PMP with the area (in hectares) corresponding to each category for the specific project.

Table 2. Area selection summary for Biodiversity Restoration Projects (BRP).

Eligible Area	**Baseline**	**Project**
Degraded ecosystem	Degraded ecosystem area	Restoration activities
Non Eligible areas		
Non-degraded (conservation-value) ecosystems	Non-degraded ecosystem areas	
Buildings	Building areas	
Settlements	Settlement areas	
BRP Total Area		
Eligible area	Total eligible areas	
Non Eligible areas	Total non-eligible areas	
Total	Total eligible areas + Total non-eligible areas	

Note: all area measurement units are in hectares.

Non-degraded ecosystem areas identified within the Total Project Area are non-eligible for BRP accounting but may qualify for a Biodiversity Conservation Project, subject to the eligibility criteria in this Section.

A Total Project Area may contain both conservation and restoration areas, where conservation and restoration activities are implemented in different eligible areas within the same landholding. In this case, they may be documented either as two separate Projects, each with its own PMP, or as a single combined project in accordance with **Section 5.3** (Combined projects), provided that each area is separately delimited, assessed, monitored and credited under its applicable BCP or BRP requirements.

3.1.1 Establishment of the reference condition for restoration projects

Where a physical Reference Ecosystem is used to establish the reference condition for a restoration project, it must meet the following criteria:

- Represent a credible, high-integrity ecological condition appropriate for the native ecosystem type being restored.
- The Reference Ecosystem should show minimal anthropogenic disturbance, functioning ecological processes and sufficient integrity to provide a credible restoration target.
- **Belong to the same ecoregion or functional ecological unit** as the project area, sharing the same biogeographical context, potential vegetation type, climatic regime, and ecosystem dynamics. The ecological unit shall be identified from an official national or regional ecosystem or vegetation classification or, where none exists, from a recognised global framework (e.g., terrestrial ecoregions or the IUCN Global Ecosystem Typology), and the source shall be cited in the PMP.
- **Preferably be located near** the project area to ensure both sites are exposed to comparable environmental conditions, especially during sampling periods.
- Be documented at selection with sufficient evidence to establish ecological condition and methodological reliability. Once approved, the reference condition functions as a fixed ecological target for the project's crediting period; it is not intended to track the ongoing condition of the physical reference site, since the object of monitoring under this methodology is the project site, not the reference site. Accordingly, localized or site-specific changes at the reference site (e.g., disturbance or management change confined to that site) do not automatically modify the approved benchmark. Where evidence indicates that broader environmental change (e.g., climate-driven shifts) affecting the reference ecosystem would equally affect the achievable ecological potential of the project site, a revision of the reference condition may be proposed, subject to technical justification and formal approval.
- Information on the legal status and site security may be documented where relevant as supporting evidence of reliability, but legal protection or long-term conservation of the reference site is not a requirement of this methodology and is not, by itself, evidence of ecological condition.

Where no suitable physical Reference Ecosystem can be identified after a documented search, a reconstructed reference condition may be established using existing evidence. It must represent the best-supported estimate of a credible target ecological condition for the same native ecosystem type and biogeographical context, consistent with the criteria above, and must not be set at a lower level merely because higher-integrity examples are locally absent. It may combine historical time series, scientific literature, long-term inventories or monitoring datasets, remote-sensing records, and data from ecologically analogous remnants.

The PMP must identify and document all sources, justify their representativeness and temporal relevance, define indicator-specific reference values, describe reconstruction and harmonization procedures, and explicitly report assumptions and uncertainty. Only indicators for which a methodologically compatible reference value can be established may be used in ECS calculation. The PMP shall also justify the historical period selected for the reconstructed reference,

document any irreversible changes (e.g., in fire or grazing regimes) and climate-related shifts, and explain how they were considered. The reference condition remains the ecological target and shall not be lowered because of these constraints; the realistically expected recovery trajectory is documented separately as part of the restoration feasibility assessment.

Compatibility must be demonstrated with respect to indicator definition, measurement units, spatial and temporal scale, taxonomic resolution and sampling or analytical method, as applicable. Differences in sampling effort or methodology may be accepted only where they can be reliably harmonized or standardized and do not introduce material bias. The reconstructed reference condition must be approved before crediting.

3.2 Ownership

The BCP/BRP holder must demonstrate the legal capacity to implement and manage activities within the BCP/BRP areas, either as the registered owner or by presenting explicit, written authorization from the current owner or their legal representative. Such authorization must cover the relevant areas during project preparation, implementation, monitoring periods that generate biodiversity results, and any post-implementation obligations. This requirement applies to individual, public, and collective land tenure arrangements.

For privately owned land, the owner or legal holder must provide an explicit written authorization permitting the execution of the BCP/BRP activities. The spatial delimitation of the project area shall be supported by legally valid documentation of ownership or administrative control. Parties claiming participation in, rights to, or transfer of biodiversity outcomes, credits, or related benefits must provide legally binding, signed agreements that evidence the allocation and transfer of those rights among the interested parties.

The BCP/BRP must also incorporate provisions on ownership, authorization, and benefit-sharing in accordance with the current ***Safeguarding Principles and Procedures of Cercarbono Certification Programme***.

Where the project area is subject to collective, customary or Indigenous tenure, the PMP must document how affected rights-holders and local communities participate meaningfully in project governance throughout the project cycle (e.g., as partners, decision-makers or beneficiaries), and must disclose the project's governance structure, including decision-making roles and accountability arrangements. The governance structure must also take into account gender and other vulnerable groups among the affected rights-holders and local communities. Benefit-sharing arrangements must be fair, equitable and transparent, co-designed with affected rights-holders, and documented in the PMP, in accordance with the current ***Safeguarding Principles and Procedures of Cercarbono Certification Programme***, and must be reviewed periodically (at minimum at each verification interval) to confirm they remain fair and effective.

Before validation, the PMP shall identify and assess historical and ongoing conflicts over land tenure, customary use and access to natural resources in the project area, covering both formal legal rights and legitimate customary claims, including claims not formally recognised by national authorities. Where such conflicts exist, the project shall carry out enhanced due diligence, meaningful consultation and, where applicable, free, prior and informed consent, and shall provide an accessible grievance mechanism, in accordance with the Safeguarding Principles and

Procedures. Areas subject to material unresolved disputes shall be excluded from the eligible area until adequate agreements and safeguards are in place.

3.3 BCP and BRP general objective

3.3.1 Biodiversity Conservation Projects

The objective of the BCP shall be presented in the Project Management Plan (PMP) and must summarize the principal conservation outcomes expected from implementing protection and stewardship actions, and the principal biodiversity values to be maintained. The statement shall, at minimum, specify: the core conservation activity(ies) (e.g., legal protection, enforcement, community guardianship); the precise geographic location (coordinates and maps); the implementing parties and local stakeholders; the project execution and monitoring period; and the principal indicators of success (e.g., maintenance of population for focal species, prevention of habitat loss, persistence of ecosystem structure). The objective must also describe how the conservation action demonstrates additionality relative to baseline, commitments to permanence, and the MRV framework to be applied for independent verification. The statement must also justify how the stated objectives are expected to conserve nature by maintaining the biodiversity and ecological value present at project time zero, and must include a theory of change linking the project's activities to the intended biodiversity outcomes, endorsed by the project's governance body.

The principal biodiversity outcome indicators shall correspond to, or be directly linked with, the biological and structural indicators selected for Ccomp and Cstr. Relevant pressure and response indicators may also be included in the PMP to track implementation, support attribution and inform adaptive management, but they are not included in the ECS calculation.

3.3.2 Biodiversity Restoration Projects

The objective of the BRP shall be described in the PMP and must succinctly state the principal ecological outcomes expected from implementing the restoration activities in relation to the approved reference condition, and the measurable biodiversity gains targeted within the project timeframe. The statement shall, at minimum, specify: the primary restoration activity(ies) to be undertaken; the geographic boundaries and coordinates of the project area; the key implementing and stakeholder actors (including landowners, local communities and partners); the period of execution and monitoring; and the principal measurable targets and associated indicators. The objective must also indicate how the proposed interventions demonstrate restoration additionality, the intended permanence of outcomes and the planned MRV approach for verification. The statement must also justify how the stated objectives are expected to restore nature, and must include a theory of change linking the project's activities to the intended biodiversity outcomes, endorsed by the project's governance body.

4 Additionality

Activities seeking certification under the Cercarbono CBCP must demonstrably satisfy the principles of additionality and permanence, in accordance with Section 6 of the ***Cercarbono's Biodiversity Certification Programme Protocol***.

Additionality must be demonstrated through evidence that the improved biodiversity outcome would not occur in the absence of the project. Novelty, innovation or exclusive credit revenue do not by themselves demonstrate additionality.

The pathway-specific tests in **Sections 4.1** and **4.2** are complementary to, and do not replace, the additionality demonstration required by Section 6 of the CBCP Protocol (legal framework analysis, specific additionality criteria and, where required, barrier, financial or alternative-scenario analysis). Additionality shall be reassessed at each renewal of the accreditation period (Protocol Section 7.2) and whenever a material change to the project occurs.

4.1 Additionality for Biodiversity Conservation Projects

For Biodiversity Conservation Projects, additionality is demonstrated through the documented threat or risk of deterioration required under Area eligibility, **Section 3**, criterion (b). Maintaining, at minimum, the ecological condition documented at project time zero — in an eligible area exposed to that credible threat — constitutes the additional outcome attributable to the project's protection and stewardship actions.

4.2 Additionality for Biodiversity Restoration Projects

For Biodiversity Restoration Projects, additionality is demonstrated where the eligible area's demonstrable degradation, required under Area eligibility (**Section 3**), would plausibly persist or continue in the absence of the project's restoration actions. Recovery that would occur without any project action does not meet this requirement. The verified increase in project ECS (ΔECS) toward the approved reference condition, calculated according to Equation (8) since time zero, constitutes the additional outcome attributable to the project.

4.3 Compatible income-generating activities

Compatible income-generating activities may be permitted only where they demonstrably do not compromise the conservation or restoration objective.

4.4 Stacking and bundling

In accordance with Section 15.2 of the CBCP Protocol, bundling of carbon and biodiversity credits is not permitted. Stacking of biodiversity activities on climate change mitigation projects is permitted under the conditions of the Protocol; where the mitigation project is registered with Cercarbono, its validated mitigation activities constitute the baseline scenario of the biodiversity project. The PMP shall declare any overlapping environmental-credit claims on the Total Project Area (programme, registry identifier, area, period and claimed outcome) and demonstrate that the same biodiversity outcome is not issued, claimed or attributed more than once. Consent of other parties is required but does not by itself demonstrate the absence of double counting.

5 Project delimitation

Project delimitation establishes the spatial, temporal and operational boundaries that define what a biodiversity project will measure, manage and account for. Clear delimitation transforms a conceptual intervention into an auditable framework: it identifies the Total Project Area and distinguishes the portions eligible for conservation or restoration from those excluded; it assigns pathway and activity typologies.

5.1 Temporal limits

This section defines the temporal boundaries used for accounting, monitoring and verification of biodiversity outcomes for both Biodiversity Conservation Projects (BCP) and Biodiversity Restoration Projects (BRP). All dates and periods must be recorded in the Project Management Plan (PMP) and supported by the methodological justification and evidence described below.

Project start date
The date on which the first direct on-the-ground action is implemented that initiates biodiversity outcomes attributable to the project (e.g., commencement of formal protection, enforcement patrols, or the start of restoration interventions). The Project start date marks the start of result attribution in accordance with this methodology. The project start date follows the completion of the project time-zero measurement; no biodiversity outcome prior to time zero may be attributed to the project.

Retroactive recognition
In accordance with Section 7.1 of the CBCP Protocol, conservation or restoration efforts undertaken within the five (5) years prior to the project start may be recognised only where a complete historical ECS measurement exists that meets all requirements of this methodology (at least four biological groups, the approved structural indicators, an approved reference condition and demonstrated sampling sufficiency). That measurement becomes the project time zero, from which elapsed time is counted for crediting. The project must also demonstrate additionality under Section 6 of the Protocol, disclose all existing financing and prior environmental-credit claims on the area, and demonstrate that no outcome is issued or claimed twice (**Section 4.4**).

Results period
The period during which biodiversity outcomes attributable to project activities are monitored and may be subject to verification. The Results period encompasses the full crediting period and includes all verification intervals. Monitoring data, inventories and reports supporting issuance of biodiversity units shall reference this period.

Crediting period / Accreditation duration
The interval during which verified biodiversity outcomes may be converted into issued units under this methodology and the applicable registry rules. The accreditation period is distinct from the project's operational lifespan. The programme establishes an initial accreditation period of ten (10) years, which may be renewed multiple times through the CBCP procedures; renewals may be granted for successive ten-year terms or for shorter intervals, and may continue until the end of the project's operational lifespan. The project's operational lifespan shall be a minimum of thirty (30) years. Monitoring, management and tenure obligations are binding for this period; exceptions may only be granted through the CBCP procedures.

Verification intervals
Outcome-monitoring and technical-review events shall occur at intervals not exceeding three (3) years (≤ 3 years) for both BCP and BRP. Validation and verification are conducted by the Independent Expert Panel (IEP) in accordance with Sections 11, 14.6 and 14.8 of the CBCP Protocol; certification and credit issuance are carried out by Cercarbono (Protocol Section 14.9). The PMP shall include a pre-established verification schedule based on the project's monitoring design. For BCP, credits are calculated independently for each verified interval, whereas for BRP the time variable is cumulative from time zero, as specified in **Section 7.5**. Accreditation-period

renewals shall follow the applicable CBCP requirements. The PMP shall also indicate conditions for exceptional or interim verifications (e.g., in response to alerts of significant reversals or material project changes).

5.2 Spatial boundaries

This section sets out the spatial delimitation requirements for BCP and BRP. Spatial boundaries define the total project extent within which eligible and non-eligible areas are identified, interventions are implemented, and biodiversity outcomes are quantified and attributed. Boundaries and spatial units must be explicit, reproducible and documented in the Project Management Plan (PMP).

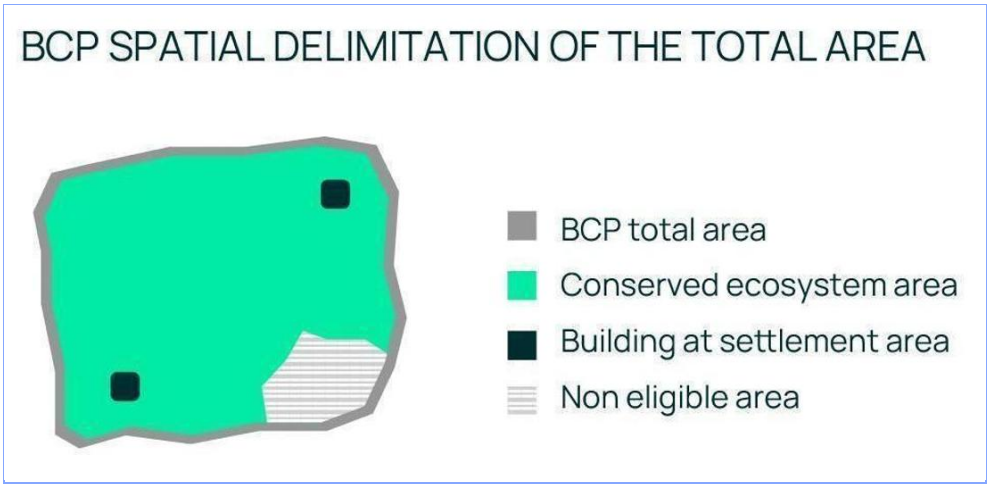
5.2.1 Spatial architecture and core definitions

- **Project:** a Biodiversity Conservation Project (BCP), a Biodiversity Restoration Project (BRP), or a combined project including conservation and restoration areas in accordance with **Section 5.3** (Combined projects). Each area is governed independently under its respective pathway's eligibility, delimitation, monitoring and accounting rules.
- **Total project area:** the full geospatial extent (polygon) within which a Project operates. In a combined project (**Section 5.3**), the Total Project Area encompasses both the conservation and the restoration areas, each retaining its own eligible and non-eligible areas and accounting rules. The Total Project Area is the superset that contains all eligible and non-eligible subareas and is the reference for traceability of all spatial reporting. Projects may be composed exclusively of eligible areas; in such case, non-eligible areas shall not be considered.
- **Eligible area(s):** portion(s) of the Total Project Area where project activities may be implemented and where biodiversity outcomes are eligible for accounting under this methodology. Eligible areas may be contiguous or spatially disaggregated polygons.
- **Non-eligible area(s):** portion(s) of the Total Project Area excluded from activity implementation and from biodiversity accounting (e.g., permanently converted land, areas under incompatible land uses, or other categories defined by the methodology). Therefore, excluded from VBC accounting.

A project may contain one ecosystem or several ecosystems, such as forest, grassland, wetland or marine habitat (see **Section 5.2**, Spatial boundaries, for demarcation of relevant ecosystems). In these cases, the Total Project Area must be segmented into the relevant ecosystem types, which shall be spatially identified and georeferenced in the PMP before ecosystem-specific assessment and monitoring are defined.

For Biodiversity Conservation Projects, the account area for crediting consists solely of the Conserved Ecosystem Area as depicted in the conceptual **Figure 1**.

Figure 1. Example of spatial delimitation of the total area in a Biodiversity Conservation Project (BCP).

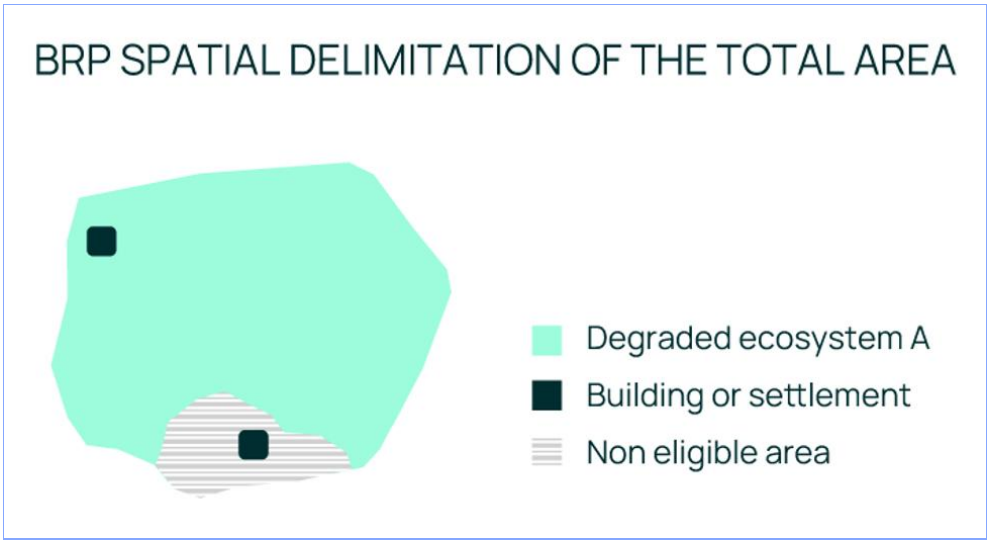


This account area shall be explicitly delimited in the PMP with georeferenced boundaries (shapefile/GeoJSON), and shall include only those polygons that: (a) meet the conservation-pathway eligibility criteria, (b) are free from incompatible land uses or legal encumbrances that would preclude long-term protection, and (c) are supported by verifiable evidence of the biodiversity and ecological value documented under criterion (a) of **Section 3.1** (baseline field surveys, remote-sensing imagery, or equivalent).

Areas excluded from the account area include non-eligible polygons within the Total Project Area (e.g., converted lands, active production units, or segments reserved for restoration activities), buffer zones designated solely for management operations without demonstrable biodiversity outcomes, any spatial units subject to other overlapping claims or credits, unless stacking arrangements meeting the requirements of **Section 4** (Stacking and bundling, **Section 4.4**) are documented and provided.

For Biodiversity Restoration Projects, the account area for crediting consists solely of the Degraded Ecosystem Area as depicted in the conceptual **Figure 2**.

Figure 2. Example of spatial delimitation of the total area in a Biodiversity Restoration Project (BRP).

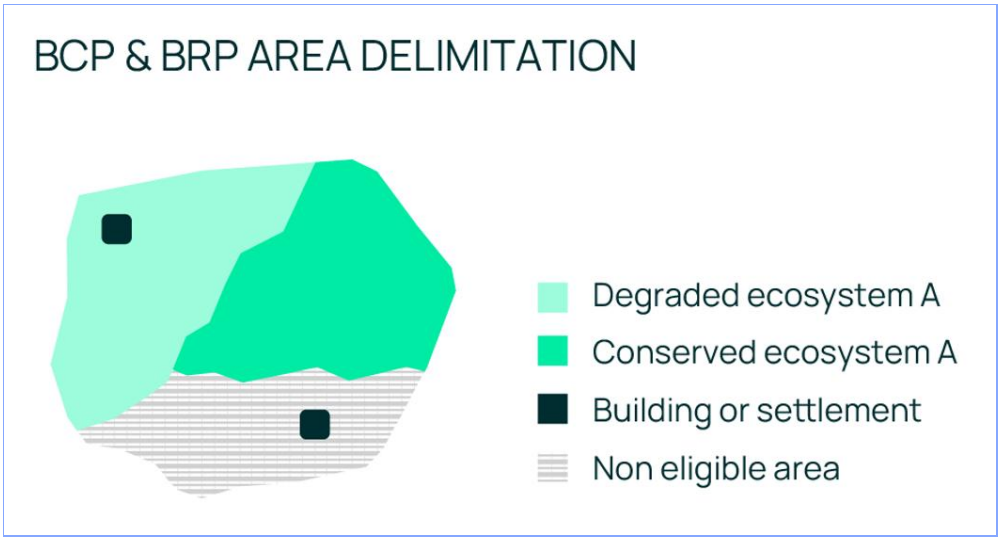


This account area shall be explicitly delimited in the PMP with georeferenced boundaries (shapefile/GeoJSON), and shall include only those polygons that: (a) meet the BRP eligibility criteria (demonstrable degradation and demonstrable feasibility of ecological restoration), (b) are not subject to irreversible physical or legal constraints that would preclude successful restoration within the project timeframe, and (c) are supported by verifiable baseline evidence of degradation and restoration potential (field surveys, remote-sensing time series, soil/hydrology assessments, or equivalent).

Areas excluded from the account area include non-eligible polygons within the Total Project Area (e.g., intact conserved habitat reserved for protection rather than restoration, permanently converted lands or active industrial uses, and segments already allocated to other crediting programs without documented consent), operational buffer zones without demonstrable restoration outcomes, any spatial units subject to other overlapping claims or credits, unless stacking arrangements meeting the requirements of **Section 4** (Stacking and bundling, **Section 4.4**) are documented and provided.

A Biodiversity Conservation Project (BCP) area and a Biodiversity Restoration Project (BRP) area may be spatially contiguous, as illustrated below in **Figure 3**, each delimited, assessed and credited independently under its respective pathway's eligibility, delimitation and accounting rules.

Figure 3. Example of spatial delimitation of the total area in a Biodiversity Restoration Project and Biodiversity Conservation Projects.



Although the two areas may be spatially adjacent, each remains subject to its own eligibility, delimitation and accounting rules, and the resulting credits are not equivalent or fungible. Where conservation and restoration areas are implemented by the same proponent over contiguous or adjacent land, they may be documented either as two separate Projects, each with its own PMP, or as a single combined project in accordance with **Section 5.3** (Combined projects), provided that each area is separately delimited, assessed, monitored and credited under its applicable BCP or BRP requirements.

5.3 Combined projects

A single project may include both conservation and restoration areas within the same Total Project Area, with one of them as the project's core CBCP eligible activity and the other as an additional eligible activity, in accordance with Section 3 of the CBCP Protocol. In a combined project: (a) each eligible area is allocated to one pathway (**Section 3.1**) and is delimited, assessed, monitored and credited separately under the BCP or BRP requirements of this methodology, respectively; (b) the project ECS is calculated separately for the conservation areas and for the restoration areas and is never aggregated across pathways; (c) conservation and restoration credits are issued and reported as distinct classes; and (d) the project may be documented in a single PMP that presents each pathway's areas, baseline, indicators and monitoring separately. A combined project is not a grouped project. Grouped projects under **Section 8** shall comprise instances belonging to a single pathway (BCP or BRP) and including the same CBCP eligible activities (Protocol Section 15.1).

5.4 Landscape-context assessment

The PMP shall include a landscape-context assessment covering, at minimum: (a) land use and land cover in a surrounding analysis area defined and justified by the proponent (e.g., a buffer around the Total Project Area, or the relevant watershed or seascape unit); (b) connectivity of the eligible areas with protected areas, Key Biodiversity Areas, other conserved or restored areas and ecological corridors; (c) cumulative regional pressures and planned developments; and (d) how the project design responds to this context. The assessment shall be updated at each

renewal of the accreditation period and used as input to **Sections 9** and **10** and to the credit categorisation in **Section 7.6**.

6 Baseline scenario

The baseline scenario is a documented narrative that explains, in plain terms and with supporting evidence, what is the situation at the start of the project and what is plausibly expected to occur in the project's eligible area in the absence of the proposed biodiversity intervention.

For BCP projects the baseline typically represents the most credible trajectory of loss or degradation (e.g., continued conversion, increased pressure); for BRP it represents the likely path of a degraded site without active restoration or management (persistence of degradation or slow natural recovery). For BCP projects, this trajectory must be demonstrated with local or regional evidence (e.g., historical land-use change rates in comparable unprotected areas, documented deforestation or degradation fronts, regional pressure indicators).

The baseline must be a documented qualitative counterfactual grounded in the best available evidence, including historical observations, remote sensing, plot data and relevant social and regulatory context. This qualitative approach is a deliberate methodological choice: because conservation credits are issued against the maintenance of the Ecosystem Condition Score rather than against an avoided-loss volume, a quantitative loss trajectory is not required to establish additionality or to size the baseline. Because this methodology does not calculate avoided-loss credits, a quantitative projected loss trajectory is not required unless a programme rule specifically requires it (e.g., a future CBCP or registry requirement for disclosure or cross-checking against other environmental-credit claims on the same area). The baseline shall be adjusted conservatively when uncertainty is present. The baseline and additionality shall be reassessed at each renewal of the accreditation period and whenever a material change in the project or its context occurs. Where the project is stacked on a Cercarbono-registered mitigation project, the validated mitigation activities constitute the baseline scenario (CBCP Protocol Section 15.2).

Reference benchmark and control designs (CBCP Protocol Section 10). This methodology uses a static reference benchmark: the time-zero condition for conservation projects and the approved, fixed reference condition for restoration projects. Natural variability is addressed through the minimum detectable change defined for each principal indicator (**Section 11.2**), seasonally comparable sampling and the trend criterion of **Section 7.5**, rather than through a dynamic benchmark. Paired control areas, closely matching the eligible areas except for the absence of project actions, are not mandatory but may be used as supplementary evidence and are recommended to distinguish regional or climate-driven change from project-related changes in condition. Where used, control areas shall be defined in the PMP before time zero and monitored with the same methods as the eligible areas; they do not modify the ECS or credit calculation.

6.1 Baseline procedure

The following steps shall be completed and documented in the PMP:

1. **Define the spatial scope and stratification:** delimit the Eligible Area (see **Section 5.2**, Spatial boundaries) and set strata (cover type, ecological units, region).

2. **Identify plausible counterfactuals:** at minimum, consider (a) continuation of pre-project conditions (BAU) and (b) scenario without market incentives; include other relevant alternatives.
3. **Gather evidence:** compile historical trends (recommended ≥10 years when available), satellite imagery, plot inventories, socioeconomic and regulatory information. Where historical trend data of less than 10 years, lower spatial/temporal resolution, or from non-comparable areas is used, the PMP must justify why the available data remains appropriate and must apply a conservative adjustment to offset the added uncertainty.
4. **Select the most realistic and conservative baseline:** justify the choice with contextual evidence and policy/regulatory analysis.
5. **Document and disclose:** record methods, data sources, assumptions, sensitivity analyses and measures to avoid double counting. This includes the reference condition dataset (BCP time-zero condition or BRP approved reference condition), its evidence period, data sources and approval record.

7 Project scenario outcomes

The project scenario reports ecosystem-condition outcomes relative to the applicable reference. Two independent components are assessed for each ecosystem: a compositional component from selected biological groups and a structural component from a complementary ecosystem-level set of habitat indicators. They are combined only after both components have been calculated.

7.1 Ecosystem Condition Score

7.1.1 General structure

The Ecosystem Condition Score (ECS) is a dimensionless measure from 0 to 1 that expresses the condition of an assessed ecosystem relative to its documented reference condition. The ECS is structured into two complementary branches: a biological branch composed of selected biological groups, whose scores are aggregated into the Compositional component (Ccomp), and a structural branch composed of a complementary set of structural indicators, whose scores are aggregated into the Structural component (Cstr). The biological and structural branches and the ecosystem-level score are calculated in Equations (1) to (6); the project-level ECS is calculated according to Equation (7). ECS assessments are subject to the verification intervals established in **Section 5.1** (Temporal limits), whereby the Independent Expert Panel (IEP) verifies reported outcomes in accordance with the pre-established verification schedule of the PMP (intervals not exceeding three (3) years).

ECS follows an ecosystem-condition framing in which species composition and habitat structure are distinct but complementary dimensions. The biological and structural branches are assessed separately; ecological relationships between organisms and habitat guide indicator selection and interpretation.

For **BCP**, the reference condition is the documented condition of the same ecosystem at project time zero and remains fixed for all subsequent calculations. For **BRP**, the reference condition is

the ecological target derived from the approved physical Reference Ecosystem or, where permitted under **Section 3.1**, a reconstructed reference condition.

Figure 4. Conceptual formulation of the Ecosystem Condition Score (ECS) for conservation projects using a static time-zero reference.

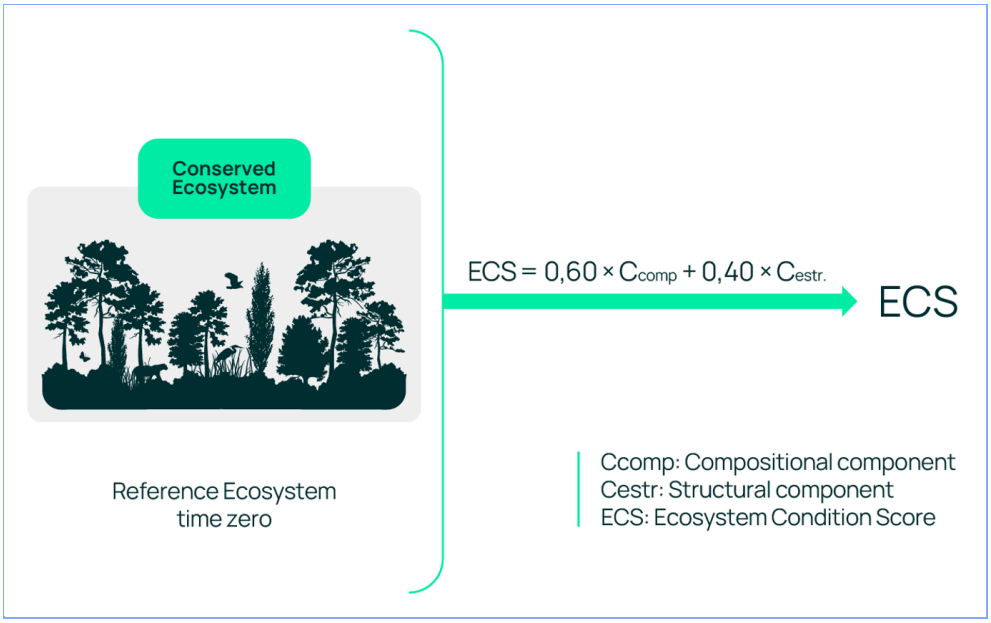
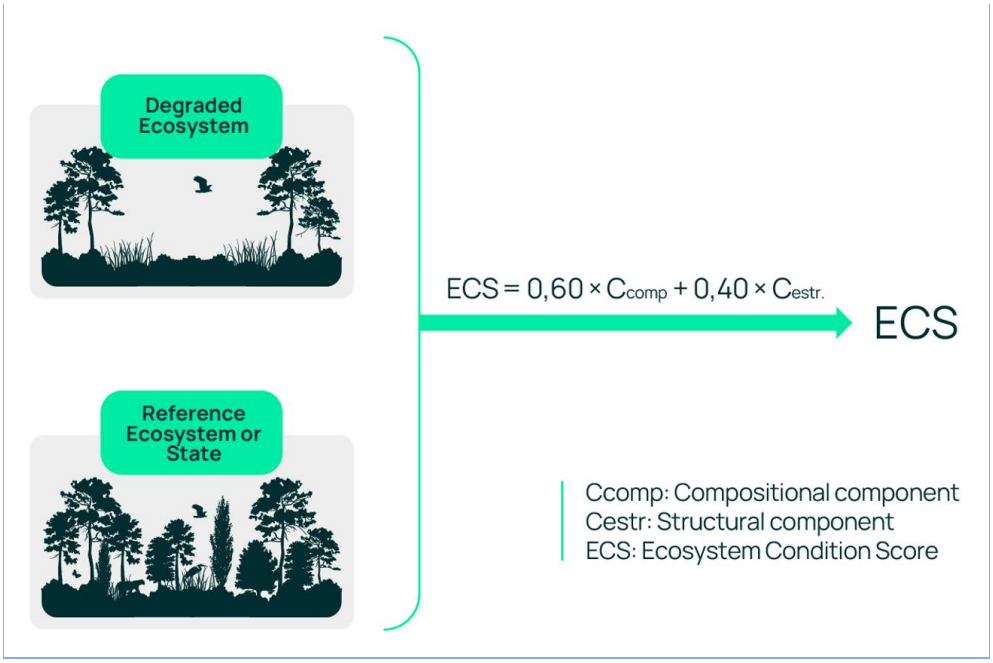


Figure 5. Conceptual formulation of the Ecosystem Condition Score (ECS) for restoration projects using an approved Reference Ecosystem.



The biological groups and structural indicators used to assess each ecosystem may differ among ecosystems within the same project, according to their ecological characteristics, target biodiversity features, project-specific objectives and relevant threats. Indicator sets and assessment methods must be documented in the PMP before monitoring results are evaluated, including evidence that the indicators are representative of the target biodiversity features and

responsive to the planned project activities. They must remain consistent throughout the assessment period unless a formally approved methodological change is justified.

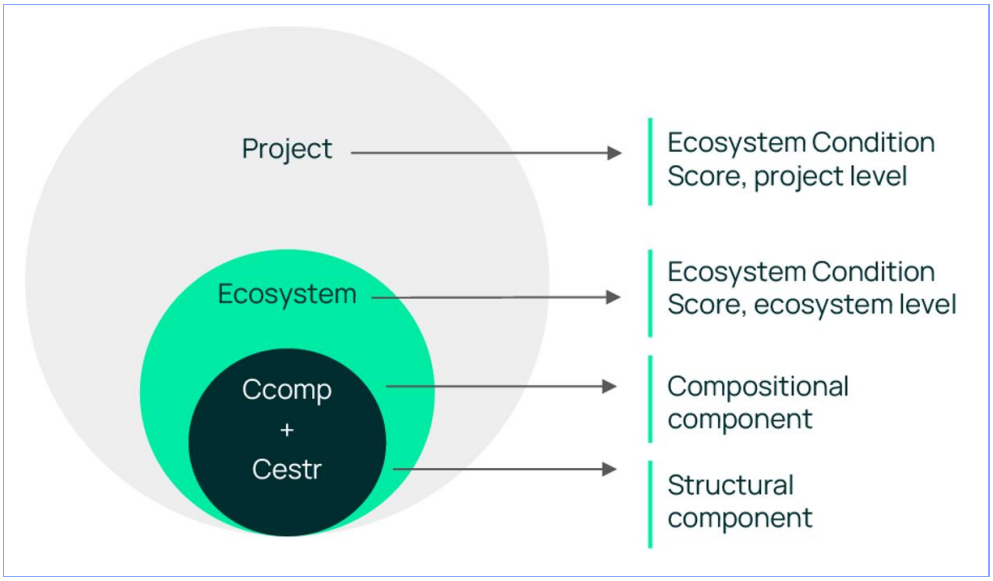
The analytical hierarchy has three levels:

Component level. For each ecosystem, at least four representative biological groups are assessed using Mean Species Abundance (MSA) or, where use of only presence/absence data is defensible, Potentially Disappeared Fraction of species (PDF).
A separate ecosystem-level structural set is assessed against the same approved reference condition.

Ecosystem level. For each ecosystem, the biological scores are averaged to obtain Ccomp and the structural scores are averaged to obtain Cstr. The Ecosystem Condition Score is then calculated according to Equation (6).

Project level. Where more than one ecosystem is present, the project ECS is the area-weighted mean of the ecosystem-level ECS values according to Equation (7).

Figure 6. Conceptual analysis scales and interrelation.



7.1.2 Minimum requirements per ecosystem

The following minimum requirements apply to every ecosystem included in the account area:

- Include at least four representative biological groups. The set must cover complementary ecological roles, trophic positions, habitats or response times and must not rely only on closely related taxa or on groups expected to respond identically. The minimum of four biological groups is intended to provide representation across complementary ecological dimensions while reducing dependence on the response of any single taxonomic or functional group.
- Use MSA for a biological group when reliable, comparable abundance data are available. Use 1 − PDF only where presence/absence data are the defensible (i.e., feasible; MSA is generally preferred where feasible) basis of assessment. The choice is fixed in the PMP before monitoring results are examined.

- Select an ecosystem-level structural set that represents complementary spatial scales and dimensions of habitat condition, avoids redundancy, and is appropriate to the conservation or restoration context.
- For a physical Reference Ecosystem, project and reference datasets must be methodologically comparable in survey extent, timing, effort, detectability treatment, taxonomic resolution and sampling sufficiency. Species-accumulation, coverage-based or equivalent diagnostics must demonstrate sufficiency for each biological group. For a reconstructed reference condition, the evidence, comparability, harmonization and uncertainty requirements of **Section 3.1** apply.

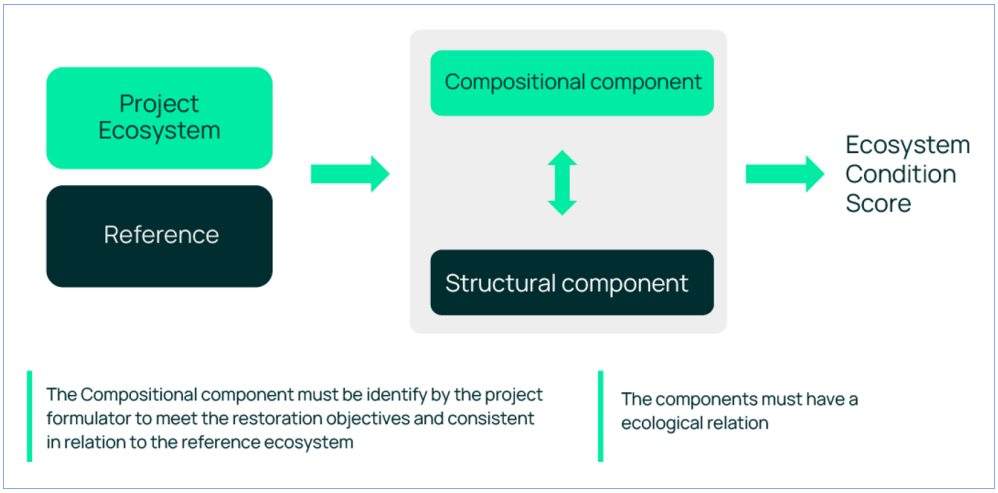
7.2 Components and indicators of ecosystem condition

Each selected indicator belongs to one of two independent branches. Ccomp represents the condition of the selected biological groups, while Cstr represents structural condition at ecosystem level. Their ecological relationships guide selection and interpretation but do not create biological-structural pairs in the calculation. Each indicator is counted once within its own component.

The first step is to identify every ecosystem to be conserved or restored and to approve its corresponding reference condition, following the eligibility and reference rules of this methodology.

For each ecosystem, the PMP must define a balanced biological set and a complementary structural set, supported by ecological evidence, feasibility and expected precision.
The calculation prevents double weighting of structural variables. A structural indicator is included once in Cstr even if it helps explain the response of several biological groups. Likewise, each biological group contributes once to Ccomp.

Figure 7. Conceptual architecture of the Ecosystem Condition Score with independent biological and structural branches.



Component values range from 0 to 1. A value of 1 indicates that the selected attributes meet or exceed the approved reference condition; values below 1 indicate an increasing departure from that benchmark. Values exceeding reference are capped at 1 before aggregation.

7.2.1 Compositional component (Ccomp)

Ccomp is based on at least four biologically representative groups. Biological groups may be taxonomic, functional or ecological assemblages, for example vascular plants, birds, mammals, pollinating insects, soil macroinvertebrates, fish, fungi or soil microbiota. The selected set must be ecologically balanced and feasible to measure with comparable precision in project and reference areas.

Mean Species Abundance (MSA) is the preferred biological-group score where abundance, density, encounter rate or percentage cover can be estimated reliably and is calculated according to Equation (1). For each native reference species, divide its value in the assessed ecosystem by its value in the reference condition, cap that ratio at 1, and average the ratios. A species absent from the assessed ecosystem receives 0; a species absent from the reference set is excluded (Alkemade *et al*., 2009; Schipper *et al*., 2020).

$$MSA = \frac{1}{N_{ref}} \sum_{s=1}^{N_{ref}} min\left(\frac{A_s}{A_{s,ref}}, 1\right) \qquad \text{Equation (1)}$$

Where:

MSA = Mean Species Abundance score of the biological group (dimensionless, 0–1).

N_{ref} = number of native species in the reference set (count).

s = index identifying each species of the reference set.

A_s = measured abundance of species s in the assessed ecosystem (abundance unit and sampling effort defined in the PMP).

$A_{s,ref}$ = abundance of species s in the reference condition (same unit and sampling effort as A_s).

Equation (1) is calculated separately for each biological group, ecosystem and verification. The abundance unit and sampling effort must be identical in both datasets. Group, ecosystem and time labels are retained in reporting tables but omitted from the equation for readability.

Where reliable relative abundance measures cannot be obtained, the alternative score is the proportion of native reference species detected in the assessed ecosystem, expressed as 1 - PDF and calculated according to Equation (2). PDF is the Potentially Disappeared Fraction of the reference species set. The complement is used so that higher values always mean better condition.

$$1 - PDF = \frac{N_{shared}}{N_{ref}} \qquad \text{Equation (2)}$$

Where:

1 − PDF = proportion of native reference species detected in the assessed ecosystem (dimensionless, 0–1).

PDF = Potentially Disappeared Fraction of the reference species set (dimensionless, 0–1).

N_{shared} = number of native reference species detected in both the assessed and reference samples (count).

N_{ref} = number of native species in the reference set (count).

MSA is generally more sensitive because abundance can decline before local disappearance; 1 - PDF is less sensitive but practical where it is defensible to use only incidence data (Verones *et al*., 2020; Kuipers *et al*., 2025).

Richness, abundance, Shannon diversity, community-similarity indices and other measures may be reported for interpretation or quality control, but they do not replace MSA or 1 − PDF in the ECS calculation. The method selected for each biological group remains fixed through the project unless a formally approved methodological change preserves the full time series.

Sampling sufficiency must be demonstrated using species accumulation curves, sample coverage or an equivalent diagnostic appropriate to the group. Where a physical Reference Ecosystem is used, project and reference surveys must have comparable area, season, effort, detectability treatment and taxonomic resolution. Where a reconstructed reference condition is used, sampling sufficiency applies to the assessed ecosystem and reference comparability follows **Section 3.1**.

7.2.2 Structural component and attributes (Cstr)

The Cstr is a single ecosystem-level component constructed from a strategically selected set of structural indicators. It is independent of the number and identity of biological groups chosen for Ccomp. Structural indicators may still be ecologically related to those groups, but no indicator is assigned to a particular group for calculation.

Indicator selection is ecosystem-specific and evidence-based. The set must represent complementary dimensions and spatial scales of habitat condition, remain feasible to monitor throughout the project, and minimize redundancy. Structural variables are not required to be identical across ecosystems; they may differ where justified by ecosystem characteristics, project objectives and relevant threats, while the same transparent calculation architecture is retained. The structural set shall cover, at minimum, the dimensions of habitat extent, connectivity and internal structural complexity, unless the PMP justifies that a dimension is not ecologically applicable.

For forests, as an illustrative rather than prescriptive example, a defensible structural set may combine habitat amount, functional connectivity and internal stand structure. Examples include Percentage of Landscape (PLAND), representing the percentage of the analysis landscape occupied by the focal habitat class, for habitat amount; Probability of Connectivity (PC) for a justified focal organism or guild; and one or more non-redundant stand attributes such as basal area, vertical complexity or coarse woody debris. Several fragmentation metrics that express essentially the same signal must not be included together merely to increase weight.

Landscape amount and configuration. Indicators at this scale quantify the amount, interior condition, aggregation or connectivity of habitat within a predefined analysis extent. Pixel size, habitat classification, extent, edge rule, resistance model and dispersal assumptions must be fixed before time zero and applied consistently through monitoring. For physical reference sites, equivalent definitions and analytical procedures are required; reconstructed reference conditions follow the comparability provisions of **Section 3.1**.

Stand or local structure. Indicators at this scale describe live and dead habitat structure within plots, transects or remote-sensing units. In forests, examples include canopy cover, basal area,

vertical complexity and coarse woody debris. Vertical structure represents the distribution of vegetation through height strata and may be quantified through vegetation-height distributions, foliage-height diversity, canopy-height variation or validated LiDAR metrics. It is a structural indicator in its own right and is not repeated inside any biological-group score. Thresholds, plot design, minimum diameters and measurement technology must remain fixed through monitoring and, for physical reference sites, be methodologically equivalent in assessed and reference data. Reconstructed references follow **Section 3.1**.

- For freshwater, wetland, marine and coastal ecosystems, structural indicators must describe the relevant habitat-forming biota and physical configuration, such as hydroperiod, flow, channel or shoreline complexity, substrate, reef or benthic complexity, depth variation and connectivity. Canopy, basal area and deadwood apply only where ecologically meaningful. In these ecosystems, physical and chemical characteristics, including water-quality parameters such as nitrogen and phosphorus, turbidity, dissolved oxygen and salinity, may be key structural attributes where ecologically relevant.
- If a defensible structural set cannot be specified for an ecosystem within this general framework, crediting must wait for approval of an ecosystem-specific module.

Conservation projects should prioritize slowly formed attributes characteristic of mature ecosystems and sensitive to structural simplification, such as large-tree structure, vertical complexity, interior habitat and coarse woody debris. Restoration projects should use a fixed set that captures complementary stages of recovery, for example early cover, intermediate woody accumulation and slower development of vertical or deadwood structure. The indicators are not rotated after observing performance.

The examples in **Table 3** illustrate balanced biological and structural sets. They are not mandatory combinations. The PMP must justify the final set for each ecosystem and identify indicators excluded because of redundancy, non-monotonic response or insufficient reference data.

Table 3. Examples of Biological Groups and their possible structural indicators.

Biological Groups	Possible Structural Indicators
— Terrestrial —	
Birds	Vertical stratification, tree cover (%), cavity density
Pollinating insects	Herbaceous vegetation cover (%), vegetation-height heterogeneity, edge length
Vascular plants	Vertical stratification, total vegetation cover (%), contagion index
Soil fungi	Leaf-litter cover (%) and/or litter depth, coarse woody debris volume, microhabitat heterogeneity
Small mammals	Patch connectivity, shelter density, understory cover (%)
— Freshwater / Wetland —	
Wetland/freshwater	Aquatic/emergent vegetation cover (%), hydroperiod, water-depth

Biological Groups	Possible Structural Indicators
macroinvertebrates	heterogeneity
Waterbirds	Open water–vegetation interspersion, shoreline complexity/edge length, water-depth heterogeneity
— Marine-coastal —	
Corals / reef-building organisms	Substrate rugosity, live coral cover (%), vertical relief / structural complexity
Seagrasses	Shoot density, canopy height, meadow extent/patch size, patch/meadow connectivity
Macroalgae	Canopy cover (%), canopy height, patch connectivity
Benthic macroinvertebrates	Substrate heterogeneity, sediment grain-size composition, habitat patchiness
Fish (reef/demersal)	Habitat structural complexity, refuge/shelter density, connectivity between habitat patches
Plankton (phyto- and zooplankton)	Water column stratification, mixed-layer depth, thermocline/pycnocline depth
Marine mammals	Extent and connectivity of key habitat, bathymetric heterogeneity, configuration of shelf/slope or other relevant habitat features
Mangrove-associated fauna	Root/pneumatophore density, canopy cover (%), tidal/hydrological connectivity

These examples cover terrestrial, freshwater, wetland, marine and coastal contexts. Structural attributes should be selected according to the ecological characteristics and habitat requirements of the biological groups considered. Ecological relationships between biological groups and habitat structure support indicator selection and interpretation, but do not create pairwise scores or cause a structural indicator to be counted more than once. For habitat-forming organisms (e.g., corals, seagrasses, macroalgae or mangroves), variables such as live coral cover, shoot density, canopy height or canopy cover may be used as structural indicators; however, a variable already used to calculate the score of the corresponding biological group in Ccomp shall not be used again in Cstr.

7.3 Calculation of the Ecosystem Condition Score

7.3.1 Calculation of the Compositional component (Ccomp)

For every ecosystem and verification, calculate one approved biological-group score B_i using Equation (1), with MSA as the preferred approach whenever reliable abundance data can be obtained, or Equation (2) when 1 − PDF is the defensible basis. The Compositional component is the arithmetic mean of those group scores (Equation (3)).

$$C_{comp} = \frac{1}{n} \sum_{i=1}^{n} B_i \qquad \text{Equation (3)}$$

Where:

C_{comp} = Compositional component of the assessed ecosystem (dimensionless, 0–1).

B_i = score of biological group i, calculated with Equation (1) or (2) (dimensionless, 0–1).

n = number of valid biological groups (count; minimum 4).

The minimum is n = 4. Equal weights prevent a group from receiving more influence merely because it has more submetrics.

Ccomp ranges from 0 to 1 and is interpreted relative to the approved reference condition. In conservation, each current biological group is compared with the static time-zero condition of the same ecosystem. In restoration, each group is compared with the approved restoration reference condition.

7.3.2 Calculation of the Structural component (Cstr)

Each structural indicator is first converted to a dimensionless, reference-normalized score using Equation (4). Indicators must be selected or transformed so that higher values consistently indicate movement toward the reference condition.

$$S_j = min\left(\frac{X_j}{X_{j,ref}}, 1\right) \qquad \text{Equation (4)}$$

Where:

S_j = normalized score of structural indicator j (dimensionless, 0–1).

X_j = value of structural indicator j in the assessed ecosystem (unit of the indicator, defined in the PMP).

$X_{j,ref}$ = value of structural indicator j in the approved reference condition (same unit as X_j).

The ratio is capped at 1. For an inverse or non-monotonic indicator, the ecological transformation and bounds must be validated and fixed in the PMP before time zero; pressure variables (as distinguished from state-of-nature outcome indicators; see **Section 2**, Scope) are not inserted into Cstr merely by reversing their sign.

After normalization, the structural component is the arithmetic mean of the complementary, non-redundant structural scores (Equation (5)):

$$C_{str} = \frac{1}{m} \sum_{j=1}^{m} S_j \qquad \text{Equation (5)}$$

Where:

C_{str} = Structural component of the assessed ecosystem (dimensionless, 0–1).

S_j = normalized score of structural indicator j, from Equation (4) (dimensionless, 0–1).

m = number of valid, non-redundant structural indicators (count).

Every selected indicator is counted once, regardless of how many biological groups it helps to interpret.

7.3.3 Calculation of the Ecosystem Condition Score for Ecosystems

Equation (6) integrates the two independently calculated components using the fixed weights established by this methodology:

$$ECS_{eco} = 0.60\ C_{comp} + 0.40\ C_{str} \qquad \text{Equation (6)}$$

Where:

ECS_{eco} = Ecosystem Condition Score of the assessed ecosystem (dimensionless, 0–1).

C_{comp} = Compositional component, from Equation (3) (dimensionless, 0–1).

C_{str} = Structural component, from Equation (5) (dimensionless, 0–1).

0.60 and 0.40 = fixed weights of the biological and structural branches (dimensionless).

The biological branch receives 60% and the structural branch 40%. These weights are fixed and are not adjusted after observing project results.

Rationale for component weighting. The 0.60/0.40 weighting is a methodological choice and does not imply a universal empirical relationship between composition and structure. Greater weight is assigned to Ccomp because biological composition more directly reflects actual biodiversity gains, whereas some structural attributes, although ecologically relevant, can be increased through targeted actions without necessarily producing an equivalent improvement in biodiversity. The weights are fixed ex ante, apply equally to all projects and ecosystems, and may only be modified through a formal revision of this methodology; they will be reviewed together with the threshold in **Section 7.5** no later than five years after approval of Version 1.3, or earlier if data from registered projects justify it.

The two branches are combined only at ecosystem level. Neither branch is subdivided into biological–structural pairs, and each selected indicator is counted once in its own component.

7.3.4 Calculation of the Ecosystem Condition Score for the Project

Where the project contains more than one ecosystem, calculate the project-level score as the area-weighted mean of ecosystem ECS values (Equation (7)):

$$ECS_{proj} = \sum_{e=1}^{q} \frac{A_e}{A_{tot}} \times ECS_{eco,e} \qquad \text{Equation (7)}$$

Where:

ECS_{proj} = project Ecosystem Condition Score (dimensionless, 0–1).

$ECS_{eco,e}$ = Ecosystem Condition Score of ecosystem e, from Equation (6) (dimensionless, 0–1).

A_e = eligible area occupied by ecosystem e (hectares).

A_{tot} = total eligible project area (hectares).

q = number of ecosystems in the eligible area (count).

A_e/A_{tot} is the proportion of the total eligible project area occupied by ecosystem e. The area proportions across all ecosystems sum to 1. Ecosystem and verification labels are retained in reporting tables but omitted from the equation for readability.

The project score ranges from 0 to 1. Ecosystem-level results, Ccomp, Cstr and every underlying indicator must also remain visible in reporting so that aggregation does not conceal deterioration in a particular ecosystem or component.

Missing or invalid data. Biological groups or structural indicators that cannot be measured at a verification shall not be scored as zero, imputed or omitted from the mean. Where fewer than four valid biological groups, or not all approved structural indicators, are available for an ecosystem, ECS_{eco} is not calculated for that verification and no credits are issued for that ecosystem at that verification. Measuring all approved indicators is the responsibility of the project developer; projects are encouraged to monitor more than four biological groups to provide redundant information. Changes to indicators, methods or reference conditions require prior IEP approval; at the first verification after the change, ECS shall be calculated with both the previous and the new configuration, and crediting shall use the more conservative result.

Representativeness condition for restoration projects. For Biodiversity Restoration Projects, at least 50% of the biological groups included in Ccomp (rounded up to the next whole group) shall remain stable or improve between consecutive verifications, to prevent a marked improvement in one or a few groups from masking the deterioration of the others. A group is considered stable where its score does not decline by more than the minimum detectable change defined in the Monitoring Plan (**Section 11.2**). All groups, including those with a score of zero or a declining score, remain in the calculation of Ccomp. Where this condition is not met, no restoration credits are issued at that verification. This condition does not apply to Biodiversity Conservation Projects, whose performance is assessed through the conservation requirements, including $ECS_{proj} \geq 0.9$.

7.4 Quantification of the Biodiversity Restoration Project scenario

Restoration projects use the same Ccomp, Cstr, ecosystem ECS and project ECS equations. The difference lies in the reference and credited outcome. The approved restoration reference supplies the target abundance, incidence and structural values, while time zero records the initial condition of the restoration area. Equation (8) expresses the cumulative verified gain in project condition since time zero.

$$\Delta ECS_{proj,t} = ECS_{proj,t} - ECS_{proj,0} \qquad \text{Equation (8)}$$

Where:

$\Delta ECS_{proj,t}$ = cumulative verified gain in project condition at verification t (dimensionless).

$ECS_{proj,t}$ = project Ecosystem Condition Score at verification t, from Equation (7) (dimensionless, 0–1).

$ECS_{proj,0}$ = project Ecosystem Condition Score at project time zero (dimensionless, 0–1).

Positive values indicate that project condition remains above its time-zero condition in the direction of the approved reference condition. ΔECSproj,t is used in Equation (10) subject to the rule in **Section 7.5** that only ECSproj values exceeding the highest ECSproj previously used for credit issuance may generate new restoration credits.

The biological and structural indicator sets remain fixed across the restoration trajectory. They should be selected at project design to include responses expected at early, intermediate and

late stages so that short-term saturation of one indicator does not require opportunistic replacement.

7.5 Biodiversity credit calculation

This section translates verified Ecosystem Condition Score (ECS) results into Voluntary Biodiversity Credits (VBCs) under the applicable CBCP requirements.

A VBC represents a verified biodiversity outcome calculated from the appropriate ECS result, eligible project area and verified time interval.

ECS is the condition measure used in VBC calculation. It ranges from 0 to 1, with 1 indicating that the selected attributes meet or exceed the approved reference condition before aggregation.

This methodology calculates conservation credits from the verified project ECS and restoration credits from the cumulative verified increase in project ECS since time zero. The biological and structural evidence remains reportable alongside the resulting credit calculation.

Conservation and restoration credits shall be issued and reported as distinct credit classes. This methodology provides no conversion factor, no claim of equivalence and no market valuation between those classes.

In Biodiversity Conservation Projects, VBCs are calculated with Equation (9):

$$VBC_{cons} = I \times A \times T \qquad \text{Equation (9)}$$

Where:

VBC_{cons} = Voluntary Biodiversity Credits calculated for conservation during the verified period (number of VBC).

I = project Integrity at verification t, operationalized in this methodology as $ECS_{proj,t}$ (the area-weighted Project Ecosystem Condition Score at verification t; dimensionless, 0–1).

A = eligible account area in hectares.

For BCP, T = verified time interval in months between consecutive verification events, as defined by the pre-established verification schedule of the PMP (CBCP Protocol Section 16.4.2).

For Biodiversity Conservation Projects, the reference condition is the documented condition of the project area at time zero. It is static and is not re-measured or recalculated at later verification events. By construction, $ECS_{proj,0} = 1$ because the project and time-zero reference condition are identical at project start.

At each verification, project Integrity (I) is represented by the measured $ECS_{proj,t}$ and is used directly in Equation (9). Because every biological and structural score is capped at 1 before aggregation, $ECS_{proj,t}$ and therefore I cannot exceed 1. Component and ecosystem results remain reportable even when project Integrity is used for crediting.

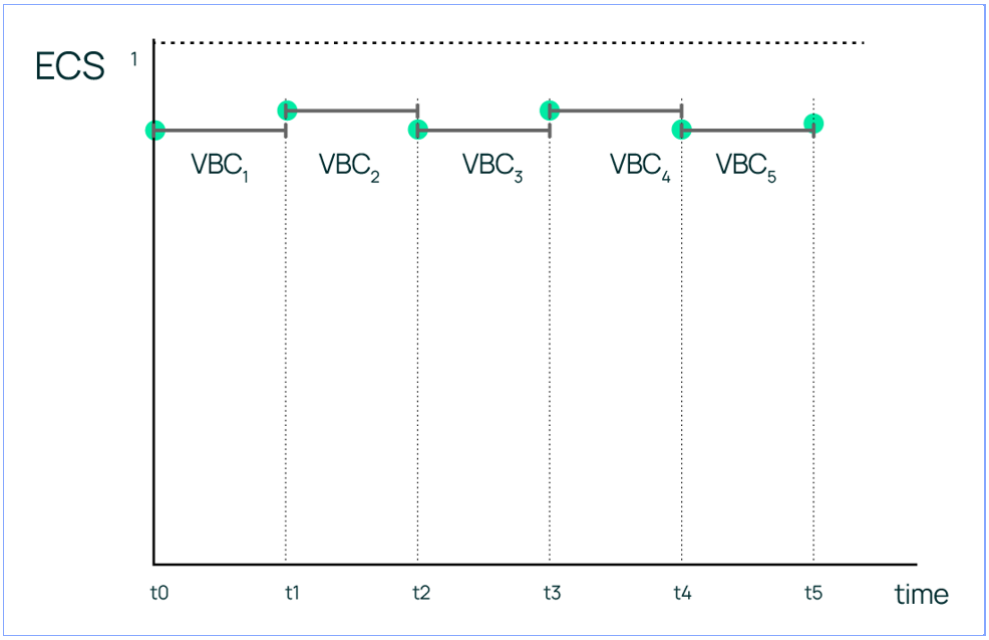
Interpretation of conservation integrity. For conservation projects, I measures the retention of the ecological condition documented at project time zero; $ECS_{proj} = 1$ indicates that this condition has been maintained, not that the ecosystem is intact or pristine. Credit attributes and claims

shall reflect this meaning. The ecological importance of the conserved ecosystem is reported through the credit categorisation in **Section 7.6**.

Where the measured project ECS falls below 0.9 at any verification event, this is evidence of significant degradation. No conservation credits are issued for that verification interval; the deficit is recorded, and the project proponent must trigger the risk identification and management procedures in **Section 9** before credit issuance can resume. This 0.9 threshold is adopted as an initial conservative value. Because the Mean Species Abundance calculation caps each species-level ratio at 1 (Equation 1), natural fluctuations in species abundance can only reduce, and never increase, the resulting score — meaning Ccomp may register below 1 even in a stable, undegraded ecosystem. The threshold, and any associated tolerance allowance, shall be reviewed no later than five years after approval of Version 1.3 of this methodology, or earlier where data from registered projects justify it. This methodology does not issue negative VBCs. A decline is recorded and triggers management; no VBCs are issued for an affected interval where the condition threshold or other applicable requirements are not met. The PMP shall establish the corrective actions to be implemented to restore the ECS to 0.9 or above; conservation crediting resumes at the first verification at which this is demonstrated. A decline in ecological condition does not change the pathway of a conservation area, and recovery of such losses does not generate restoration credits.

Programme reserves. The VBCs calculated with Equations (9) and (10) are gross units. In accordance with Section 7.3 of the CBCP Protocol, 5% are allocated to the project's Long-term Reserve and 5% to the Guarantee Buffer before the remaining units become transferable (e.g., 100 gross VBCs: 5 Long-term Reserve, 5 Guarantee Buffer, 90 transferable). Rounding follows the CBCP Procedures. These Programme reserves are distinct from the project's contingency reserve under **Section 9**.

Figure 8. Conceptual issuance of Voluntary Biodiversity Credits (VBC) based on ECS in conservation projects.



For BRP, credits are calculated cumulatively from the gain defined in Equation (8), using Equation (10):

$$VBC_{rest,t} = \Delta I_t \times A \times T_t - \Sigma VBC_{rest,previous} \qquad \text{Equation (10)}$$

Where:

$VBC_{rest,t}$ = Voluntary Biodiversity Credits issued for restoration at verification t (number of VBC).

ΔI_t = cumulative verified gain in project Integrity at verification t, operationalized in this methodology as $\Delta ECS_{proj,t}$ (Equation 8; dimensionless).

A = eligible account area in hectares.

For BRP, under the cumulative accounting approach, Tt = the total number of months elapsed from project time zero to verification t.

$\Sigma VBC_{rest,previous}$ = total restoration credits issued at earlier verifications (number of VBC).

Restoration credits are calculated cumulatively from time zero. At each verification event, the cumulative volume is calculated with the cumulative gain ΔECSproj,t and the months elapsed since time zero, and only the credits not previously issued are issued. Credits are issued only when ECSproj,t exceeds the highest ECSproj previously used for credit issuance; otherwise no credits are issued at that verification. Before the first credit issuance, ECSproj,0 serves as the initial threshold for applying this rule. A decline in ECSproj therefore generates no credits, and a recovery up to the previously credited maximum is not credited again. In this way, the cumulative accounting approach prevents systematic differences in credit volumes arising solely from the frequency of verification, and the same gain is never credited twice. Partial credits (CBCP Protocol Section 16.4.1) are reflected in the fractional values of ΔI, and declines result in no new issuance until the previously credited maximum is exceeded.

T_t is counted continuously from project time zero. Accreditation-period renewals shall follow the applicable CBCP requirements. Where retroactive recognition applies (**Section 5.1**), time zero may precede the project start date by up to five years. Where no credits are issued at a verification (e.g., because the representativeness condition in **Section 7.3** is not met or data are insufficient), the next qualifying verification includes the whole period since time zero. Each instance of a grouped project keeps a fixed eligible area and its own time zero.

This is an accounting rule: it does not imply that the condition observed at verification t was present throughout the preceding period. The full time series of ECS_{proj}, Ccomp, Cstr and their indicators shall be retained and reported to show the observed ecological trajectory.

Example: a restoration project of 100 ha with $ECS_{proj,0}$ = 0.30 and verification events every 36 months (**Table 4**).

Table 4. Illustrative cumulative calculation of restoration credits (VBCrest,t) for a 100 ha project with ECSproj,0 = 0.30 and verification every 36 months.

Verification	Months since time zero	ECS_{proj}	Cumulative ΔECS ($ECS_{proj,t}$ − 0.30)	Cumulative calculation (ΔECS × 100 × months)	VBC_{rest} issued
Time zero	0	0.30	—	Starting condition	—

Verification	Months since time zero	ECS_{proj}	Cumulative ΔECS ($ECS_{proj,t}$ − 0.30)	Cumulative calculation (ΔECS × 100 × months)	VBC_{rest} issued
t1	36	0.45	0.15	0.15 × 100 × 36 = 540	540
t2	72	0.55	0.25	0.25 × 100 × 72 = 1,800	1,800 − 540 = 1,260
t3	108	0.50	0.20	Does not exceed the previously credited maximum (0.55)	0
t4	144	0.60	0.30	0.30 × 100 × 144 = 4,320	4,320 − 1,800 = 2,520
Total					**4,320**

In t3, the decline of ECS_{proj} from 0.55 to 0.50 generates no credits, and a later recovery up to 0.55 would not generate new credits either. In t4, ECS_{proj} reaches 0.60 and exceeds the previously credited maximum, so the cumulative volume (4,320) is calculated and only the 2,520 credits not previously issued are issued.

Figure 9. Illustrative ecological trajectory of ECS in restoration projects.

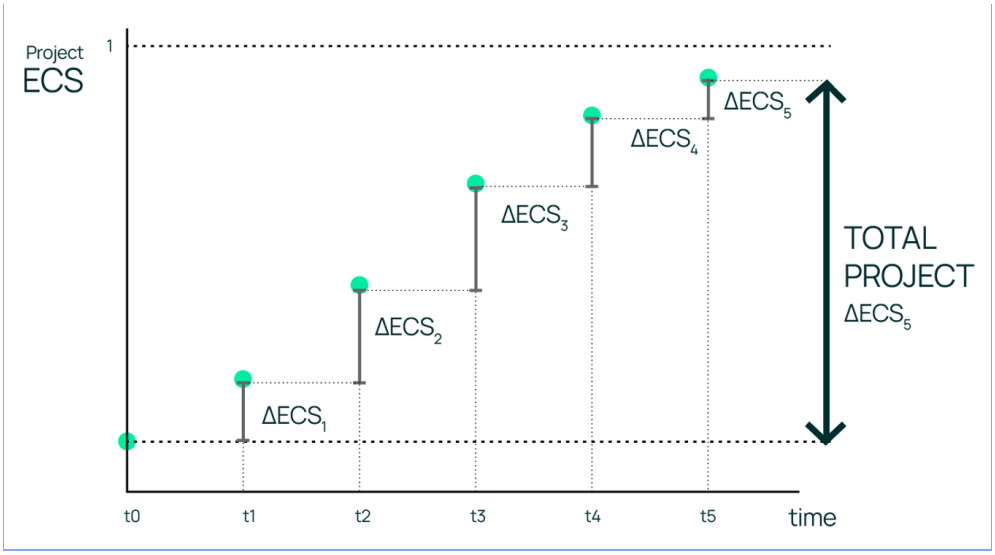


Figure 9 illustrates the ecological trajectory of a restoration project. The changes in ECS between consecutive verifications describe that trajectory and are not the basis for calculating or issuing VBC_{rest}, which follows Equation (10).

Transition from restoration to conservation crediting requires: (a) ECSproj ≥ 0.9 at two consecutive verification events; (b) closure of restoration crediting at the transition verification; and (c) a PMP amendment approved by the IEP demonstrating that the conservation phase satisfies all BCP eligibility criteria in **Section 3.1** — (a) demonstrable conservation value, (b) documented threat or risk of deterioration, and (c) viability of maintaining those values through project actions — as well as the additionality requirement of **Section 4.1**, and formally documenting the conservation phase, including the new reference condition, conservation objectives, monitoring scheme and applicable MRV procedures. Where the indicator set used during restoration is retained, the last verified condition that met the transition criterion becomes the time-zero reference condition of the conservation phase and is normalised to ECS = 1. Where the indicator set is modified or expanded to suit conservation objectives, a new time-

zero characterisation shall be carried out with the approved indicator set, and the conservation phase shall meet all methodological requirements applicable to a new BCP, including the demonstration of additionality. Restoration and conservation credits remain distinct classes in the registry, and the transition does not credit the same outcome twice. Areas registered under the conservation pathway cannot be reclassified to the restoration pathway as a result of a decline in their ecological condition.
For conservation projects, ECS must remain stable throughout the project, whether the project began as conservation or transitioned from restoration.

Stability shall be assessed statistically rather than as a requirement for an unchanging value, in recognition of the natural fluctuation inherent to ecological systems. A conservation project shall be considered stable where the measured ECS at each verification event remains within a defined tolerance band around the reference value (ECS ≥ 0.9, per the degradation threshold established above), and no consistent declining trend is detected across consecutive verification intervals. The PMP must document the criterion and method used to assess trend and stability — including how measurement uncertainty is accounted for — though this methodology does not mandate a specific statistical estimator or decision rule.

Trend analysis shall account for measurement uncertainty associated with the indicators and methods used (see **Section 14**, Information management). Where a declining trend is detected — whether or not the 0.9 threshold has yet been crossed — this shall trigger the risk identification and management procedures established in **Section 9**.
Stability, as defined here, is assessed solely as an ongoing performance requirement after project entry; it is not a condition of area eligibility (see **Section 3.1**).

At each verification, the underlying biological and structural results shall remain available alongside the ECS to support interpretation, risk management and audit.

The methodology considers and encourages associative efforts where conservation and restoration projects in the same area or same ecosystem are proposed. Credits issued under each pathway are calculated independently and are not equivalent or fungible. No weighting, conversion factor or equivalence is applied between the two classes; both are calculated with the CBCP Protocol equations (Equations 1 and 2 of the Protocol). Conservation credits are calculated from a sustained condition value (I, typically close to 1) and restoration credits from the cumulative gain achieved since time zero, so their volumes differ for comparable areas and periods. This difference reflects the distinct nature of what each credit class represents (see Introduction) and must not be interpreted as an indication of relative project quality or effort.

The ECS time series shows whether an ecosystem maintains or recovers biological and structural condition relative to its reference. A restoration project may transition only after the condition threshold and stability requirements above have been met.

Figure 10. Illustrative ecosystem-condition trajectories for restoration and conservation projects.

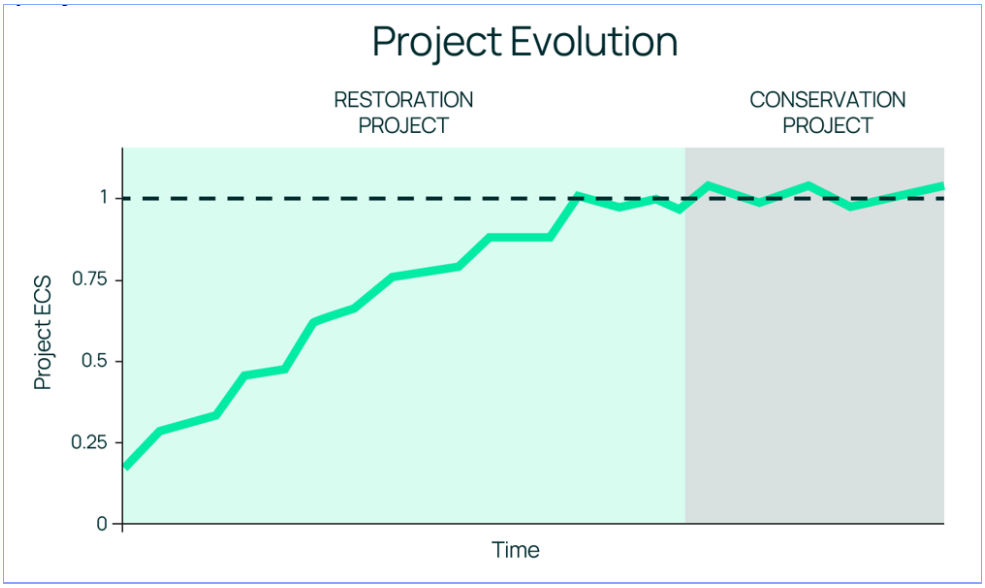


Figure 10 is illustrative only: a restoration project may transition to conservation crediting only after meeting the stated condition and stability requirements; no universal recovery trajectory or timetable is assumed.

7.6 Credit categorisation

VBCs issued under this methodology may be categorised as bronze, silver, gold or platinum in accordance with Section 16.5 and Table 5 of the CBCP Protocol. To support this categorisation, the PMP shall report, for each ecosystem in the account area and as available: (a) IUCN Red List of Ecosystems category; (b) location relative to recognised biodiversity hotspots; (c) irreplaceable biodiversity and irrecoverable carbon status; (d) location relative to deforestation regions identified under CBD national targets; (e) IUCN Global Ecosystem Typology collapse-risk information; (f) UNEP Forest Biodiversity Intactness Index (forest ecosystems); (g) Ramsar wetland classification (wetlands); and (h) UNESCO World Heritage status. Where a data field is unavailable or not applicable, the PMP shall state this and explain why. Categorisation does not modify the quantity of VBCs calculated under Equations (9) and (10).

8 Grouped projects

Grouped projects bring together multiple distinct sites, landholders, operational units, or spatially disaggregated areas under a single Project Management Plan and unified MRV process. All instances within a grouped project shall belong to the same pathway (all BCP or all BRP) and shall include the same CBCP eligible activities (Protocol Section 15.1). Each included site or area (instance) must individually meet national requirements and the eligibility, safeguard and methodological criteria, monitoring obligations, and crediting calculation (**Section 7.5**) applicable to that pathway. Projects that include both conservation and restoration areas shall be treated as Combined projects under **Section 5.3** and shall not be constituted as Grouped projects.

The PMP must describe every instance separately: georeferenced boundaries, pathway assignment (BCP or BRP), area, tenure and consent status, implementing parties, start date, planned activities, baseline and targets, and the ownership of any resulting biodiversity units.

The PMP must also disclose, per instance, its governance structure, including ownership of and accountability for any resulting biodiversity credits, and whether the instance is located on or adjacent to lands of Indigenous Peoples or local communities. Monitoring, QA/QC and verification obligations apply to all instances; data and verification results must be reported per instance and may be aggregated for the grouped project.

8.1 Addition and exclusion of areas

New instances may be added to the grouped project provided each new instance satisfies all eligibility, additionality, tenure and safeguard requirements and is documented in the PMP. Additions that materially affect baseline assumptions or projections require a reassessment of the baseline, updated risk and permanence analyses, and IEP approval before any credits can be claimed for the new instance. Conversely, an instance may be withdrawn only by removing the entire instance (partial polygon withdrawals are not permitted).

In accordance with Section 15.1 of the CBCP Protocol, new instances may only be added at a verification event, through an updated PMP submitted to the IEP, and must meet the additionality rules of Protocol Section 6. The PMP shall keep an instance ledger recording, for each instance, its area, pathway, reference condition, time zero, verification history, credited results and outstanding obligations. A new instance starts its own crediting from its time zero. Withdrawal of an instance does not cancel recorded deficits, pending obligations to rights-holders or the record of units previously issued.

Withdrawals must be recorded in a revised PMP; any previously issued units attributable to the withdrawn instance must be identified and appropriately adjusted in subsequent reporting to prevent double counting.

8.2 Update of spatial boundaries

Permanent changes to spatial boundaries (additions, removals or reclassifications) require formal amendment of the PMP and IEP approval. Minor mapping corrections that do not alter accounting outcomes may be documented without revalidation but must be recorded in the change log with supporting evidence. Any boundary update that changes the area used in baseline or crediting calculations will trigger baseline reevaluation and, where applicable, adjustments to monitoring, risk buffers and issued units to maintain integrity and traceability.

Grouped projects offer operational efficiencies for multiple owners or dispersed parcels but require clear governance, rigorous instance-level documentation and transparent reporting to ensure traceability and credibility of biodiversity outcomes.

9 Risk identification and management

Risk identification and assessment is a comprehensive process that considers potential threats to biodiversity, project integrity, and the integrity of the credits issued. In the methodology, assessments shall be conducted based on the principles of adaptive management and internationally recognized methodologies for environmental risk management.

The risk assessment process shall include:

- ***Threat identification:*** the assessment shall cover, at minimum, the threats documented under eligibility criterion (b) of **Section 3.1** (deforestation, high-severity non-natural fires, land-use conversion pressure, overgrazing, hydrological alterations, unsustainable offtake, invasive species at ecologically damaging densities, planned infrastructure), climate-related risks, socio-economic pressures and operational risks (monitoring or financing failures). For each relevant threat, the PMP shall identify the Ccomp and Cstr indicators expected to reflect its effect.
- ***Probability and impact analysis:*** use of risk matrices combining the likelihood of occurrence with the magnitude of consequences on indicators such as the Compositional and Structural component scores and the Ecosystem Condition Score (ECS).
- ***Risk prioritization:*** classification by criticality levels to guide resources toward the most impactful factors.
- ***Documentation and traceability:*** systematic recording of risks and their evolution for periodic review.

Risk management of the NIM is structured through mitigation and contingency plans that ensure project resilience against identified threats.

Mitigation strategies:

- ***Prevention:*** avoiding risk materialization through land-use planning, strengthening local capacities, and regulatory measures.
- ***Reduction:*** implementing actions that decrease either probability or impact, such as habitat restoration, diversification of funding sources, and protection of critical areas.
- ***Transfer:*** distributing risk through co-financing agreements, environmental insurance, or collaboration with strategic partners.

Contingency plans:

- Establishment of rapid response protocols for critical events (fires, pests, spills).
- Definition of responsibilities and communication chains to trigger immediate measures.
- A contingency reserve (financial and logistical) to ensure continuity of essential activities.
- Enhanced monitoring mechanisms during and after the contingency to assess impacts and guide recovery.

This comprehensive approach allows not only to anticipate and respond to risks but also to incorporate lessons learned to strengthen adaptive management, ensuring that biodiversity goals and certification commitments remain valid throughout the project cycle.

Ecosystem-condition trigger. The condition threshold of this methodology is ECS_{proj} = 0.9 (**Section 7.5**). Where the measured ECS_{proj} falls below 0.9, no conservation credits are issued for that verification period, and the proponent shall implement the corrective actions established in the PMP and the procedures of this Section until the ECS is restored to 0.9 or above. In addition, any declining trend detected under **Section 7.5**, and any adaptive-management trigger defined in the Monitoring Plan (**Section 11.2**), shall be addressed through the procedures of this Section.

Where any biological group score (Bi) or structural indicator score (Sj) declines between consecutive verifications by more than the minimum detectable change defined in the Monitoring Plan, the proponent shall include a root-cause analysis and a corrective action plan in the verification report; issuance continues.

Living modified organisms and invasive species. In accordance with Section 3.2 of the CBCP Protocol, project activities shall not introduce genetically modified or living modified organisms. Only native species may be used in restoration activities, and planting or reintroduction material shall be native and of appropriate local provenance; invasive species are prohibited.

10 Project leakages

Projects may generate leakage—unintended effects that occur outside the immediate boundaries where project activities are conducted. These externalities can be both positive and/or negative, impacting environmental, social, and economic dimensions of the surrounding ecosystem and community.

Recognizing and managing the leakage is important to ensure the sustainability and socio-ecological integrity of projects**.**

While biodiversity-focused projects can generate positive leakage — such as contributions to ecosystem resilience, habitat connectivity, and community well-being in surrounding areas — negative leakage is a material risk that must not be underestimated. This is particularly the case for Biodiversity Conservation Projects, and for Biodiversity Restoration Projects implemented on previously productive land, where project activities restrict or discontinue prior human uses (e.g., crop production, livestock grazing, timber extraction, or access to natural resources). These displaced activities may relocate to areas outside the project boundary, resulting in biodiversity loss elsewhere that offsets some or all of the project's benefits. Project proponents and developers should not assume positive leakage as a default outcome and must assess the magnitude and likelihood of both positive and negative leakage risks specific to their project's activity type and land-use context, and must document this assessment in the PMP.

In addition, even within these frameworks, unintended adverse leakage may arise due to unanticipated interactions or cascading effects. The following information should be considered as a recommendation for projects.

Where the leakage assessment above identifies a risk of material magnitude and/or likelihood, project formulators and developers must adopt a proactive, strategic approach to identifying, managing, and monitoring that leakage, beyond the project's defined operational boundaries, proportionate to the assessed risk. Where the assessed risk is low in both magnitude and likelihood, this proactive approach is recommended as good practice rather than required.

It should be recognized that leakage may occur not only locally but also through tele-coupled effects at distant locations, depending on context and value chain linkages (e.g., displaced agricultural or extractive activities relocating to other regions or countries). While project proponents will typically have limited or no control over distant leakage, this methodology acknowledges its existence and encourages proponents to consider it, where feasible, as part of the broader externalities assessment described below.

Such an approach should be embedded within the project planning, implementation, and evaluation processes, aiming to maximize beneficial outcomes while minimizing adverse impacts.

This involves a comprehensive assessment of the socio-ecological context, interdependencies, land-use dynamics, adjacent communities, and relevant value chains.

This analysis will provide the foundation for designing activities that deliberately promote positive externalities—such as ecosystem services enhancement, local employment, and community engagement—while attenuating potential negative repercussions like resource depletion, pollution, or social dislocation, including impacts arising from the displacement of pre-existing productive activities — such as crop or timber production displaced by ecosystem restoration or restricted access to natural resources as a result of conservation activities.

The development of an expanded externalities management could be considered as a component of the project's overall strategy.

Where a management plan is required under the risk-based approach above, it must incorporate, at minimum:

- **Indicators and Metrics:** defining measurable indicators to capture changes in ecosystem, resource usage, and social impacts that may result from project activities, both within and outside the project area.
- **Participatory Monitoring:** involving local communities, indigenous groups, NGOs, and other stakeholders in continuous monitoring processes, ensuring transparency, cultural appropriateness, and shared ownership of ecological and social outcomes.
- **Mitigation and Compensation Strategies:** developing contingency plans and mitigation measures to address identified negative leakage promptly and effectively, including ecosystem restoration, resource management adjustments, or socio-economic interventions.
- **Dynamic Adaptation Mechanisms:** establishing a flexible, iterative framework enabling the project to respond adaptively to evolving external impacts, incorporating stakeholder feedback and new scientific information.
- **Transparent Communication:** maintaining open, honest dissemination of monitoring results, externalities management actions, and overall project impacts to all relevant stakeholders, thereby fostering trust, collaboration, and shared responsibility.

Integrating leakage management into the project lifecycle enhances its credibility and potential for certification, ensuring that social license, ecological integrity, and long-term sustainability are maintained.

This comprehensive approach aligns with international standards and best practices for environmental and social governance, reinforcing the project's contribution to global efforts in sustainable development.

11 Monitoring plan

The Monitoring Plan documents how biodiversity outcomes and related project activities will be measured, recorded, analysed and reported for Biodiversity Conservation and Biodiversity

Restoration Projects. It ensures results are real, transparent, auditable and attributable to project actions, and aligns with applicable Cercarbono tools and guidance.

11.1 Scope and duration

- The Monitoring Plan covers all indicators, data sources, methods, schedules, responsibilities and QA/QC procedures required for the PMP, MRV and verification cycles.
- Monitoring shall be conducted regularly throughout the crediting/accreditation period. Monitoring shall be conducted throughout the project's operational lifespan, with a minimum of thirty (30) years (**Section 5.1**).

11.2 Core components (to be included in the PMP)

Monitoring purpose and objectives

- Clear statement of why monitoring is performed (e.g., to demonstrate additionality, measure biodiversity outcomes, verify permanence, track social safeguards and report SDG contributions).

Indicators and parameters

- Monitor and report all three of the following linked categories, each of which is mandatory regardless of whether it feeds into the ECS calculation: (i) ecological outcomes, including Ccomp and Cstr, that calculate ECS; (ii) pressure and response indicators for interpretation and adaptive management; and (iii) governance and social-safeguard indicators. Categories (ii) and (iii) do not enter the ECS calculation, but their monitoring, reporting and disclosure are required components of the PMP.
- For each indicator specify units, target values and baseline.
- Indicator selection and design must involve local rights-holders, including Indigenous Peoples and local communities. Subject to free, prior and informed consent (FPIC), it may incorporate Traditional Knowledge; projects on Indigenous lands, territories or waters must provide meaningful opportunities to participate in the Monitoring Plan. The Monitoring Plan must define a minimum detectable threshold of change ("meaningful change") for each principal indicator, below which a measured difference is not treated as a verified outcome.

Data types and sources

- Identify primary and secondary data used (field surveys, camera-traps, acoustic records, eDNA, remote sensing, administrative records, community monitoring).
- Specify data provenance, frequency of acquisition and any external reference datasets (including Cercarbono tools where relevant).

Methods and protocols

- Describe and provide clear rationale for sampling design, measurement methods, modelling approaches and calculation steps.
- Indicate use of remote sensing, UAVs, eDNA or other technologies and detailed calibration/validation procedures.
- Document assumptions and uncertainty treatment; state an expected or target measure of precision, such as relative margin of error or sample coverage, where relevant to detecting change; and adopt conservative choices when evidence is limited. Because this methodology

aims to detect change in ecosystem condition over time, monitoring methods should prioritize measurement precision and consistency (the ability to reliably detect a real change between verifications) over absolute accuracy (how close a single estimate is to the true population value). Prioritising precision does not relax the control of systematic bias: project and reference data shall be collected with equivalent methods, and any known bias shall be corrected or treated conservatively. Uncertainty and reversals in crediting conversion: the PMP must document how measurement uncertainty and potential reversals are treated when converting monitored indicator values into ECS and, subsequently, into credited units (see **Section 7.5**).

Monitoring frequency and timing

- Define monitoring frequency per indicator (e.g., annual species surveys, continuous camera-trap deployment, quarterly patrol reports, satellite change detection every 6–12 months).
- Align verification intervals with the methodology (verification ≤ 3 years), consistent with the pre-established verification schedule of the PMP.

Roles and responsibilities

- Assign responsibilities for data collection, data management, QA/QC, analysis, reporting and verification liaison (include names/roles or institutional positions). Conflicts of interest: where project proponents, including Indigenous Peoples or local communities that are beneficiaries of the credits, are involved in collecting monitoring data, their contribution must be triangulated with independent data sources and/or verified through third-party audit.
- Define authorization routes for changes to monitoring procedures or data corrections.

Data management and traceability

- Specify storage systems, file formats, metadata standards and version control procedures.
- Ensure chain-of-custody for samples and safeguard sensitive data (e.g., precise locations of threatened species).
- Reference any Cercarbono modules or registries used for data submission and public disclosure.

QA/QC and audit procedures

- Describe internal QA/QC checks, calibration routines, sample replication, data validation steps and error correction workflows.
- Provide procedures for internal audits and preparation for independent verification.

Adaptive management and corrective actions

- Define triggers (thresholds) that prompt management responses and the actions to be taken when monitoring indicates deviation from targets. These include the triggers established in **Section 9**. The results of each biological group shall be analysed individually at each verification to review actions and measurements and to guide adaptive management.
- Document how monitoring results will feed decision-making and project adjustments.
- Reporting and disclosure.

- Specify report templates, frequency (e.g., annual monitoring reports), required contents (results, methods, uncertainties, incidents, safeguard compliance) and public disclosure modalities consistent with registry policy.
- Include procedure for submission of verification reports and for maintaining archival records for the accreditation/crediting period.

11.3 Minimum documentation to be submitted with the PMP

- Monitoring Plan narrative and table of indicators.
- Sampling protocols and field datasheets.
- GIS files of spatial boundaries used for monitoring.
- Data management plan (storage location, access rules, metadata template).
- QA/QC checklist and calibration logs.
- Roles and contact list for monitoring team.
- Credit-categorisation data sheet (**Section 7.6**).
- Landscape-context assessment and maps (**Section 5.4**).

11.4 Practical guidance and conservatism

- Prioritise direct field measurements where feasible and use remote sensing or models only when supported by ground truthing.
- Where multiple data sources conflict, adopt the conservative option that does not overstate biodiversity gains.
- Ensure all methods and parameter choices are reproducible, documented and justified in the PMP.
- Cost-efficient monitoring options: within the requirements of this methodology, monitoring costs can be reduced by using 1 − PDF based on presence/absence data where defensible; remote sensing, UAVs, eDNA, acoustic and camera-trap methods with ground truthing; community-based monitoring triangulated with independent data (**Section 11.2**); reconstructed reference conditions where physical reference sites are inaccessible (**Section 3.1.1**); and a verification schedule aligned with the expected pace of ecological change.

11.5 Alignment with verification and Cercarbono tools

The Monitoring Plan must enable independent verification and be consistent with Cercarbono guidance and reporting tools (including SDG reporting procedures where applied). Verifiers will assess the Plan's adequacy during validation and subsequent verification events.

This Monitoring Plan template is intentionally concise; project-specific annexes should provide full technical protocols, sampling designs, data templates and calculations to allow reproducible implementation and verification. Verification under this methodology is conducted by the IEP (CBCP Protocol Section 11) and must cover both the biodiversity outcomes reported under the Monitoring Plan and compliance with the social safeguards referenced in this methodology. Auditors must have access to relevant stakeholders and to the underlying data and metadata needed to evaluate compliance and must document that this access was exercised. Qualification criteria for those conducting verification are established in Section 11 of the CBCP Protocol and in the Rules of Procedure of the Independent Experts Panel.

12 Safeguards

The activities of the projects considered by the BCP or BRP shall not cause net harm to the social, environmental, economic, or legal aspects of the surrounding areas and/or communities where it is implemented. Therefore, shall ensure compliance with ***Safeguarding Principles and Procedures of Cercarbono Certification Programme***, which includes social and environmental safeguards to protect the people and the environment against the risks that could be posed by the implementation of Programs or Projects. Material non-compliance with the Safeguarding Principles and Procedures prevents certification and credit issuance until corrective actions are verified, in accordance with the Programme procedures.

13 Stakeholder consultation

Stakeholder consultation in this methodology shall be carried out in accordance with the guidelines described in the section: ***Public consultation*** of the ***Cercarbono's Biodiversity Certification Programme Protocol*** and in the applicable reference documents. All records and results of the public consultation process shall be uploaded to the EcoRegistry platform, where they will be duly stored. Additionally, the requirements on this matter outlined in the current ***Safeguarding Principles and Procedures of Cercarbono Certification Programme*** document of the Cercarbono certification programme shall be observed.

Consultation shall follow this sequence: (i) local consultation with affected stakeholders and rights-holders and, where applicable, free, prior and informed consent, before activities that may affect them (Protocol Section 12.1.1 and the Safeguarding Principles and Procedures); (ii) the thirty-day public comment period (Protocol Section 14.4); and (iii) continuous participation and grievance handling during implementation. These requirements apply to all affected rights-holders, including those outside the eligible areas or on private land. Publication of records on EcoRegistry does not substitute direct consultation or consent.

14 Information management

Quality control is a continuous process covering the entire project life cycle. It begins at the project design stage with pre-validation of indicators, measuring techniques and calculation models, and continues during implementation through ongoing monitoring of data quality and compliance with field protocols. At the reporting and verification stage, quality control is performed through statistical and methodological review of results before submission for external verification. After credit issuance, quality control continues through random audits and monitoring of permanence commitments.

The purpose of this section is to set out minimum requirements for the receipt, control, storage and auditability of data and information used to establish baselines, conduct monitoring and support verification for BCP and BRP projects, in alignment with Cercarbono guidance and tools.

Applies to all primary and derived data used or produced by the project: field records, remote sensing products, laboratory results, models, geospatial files and associated metadata throughout the PMP, monitoring and verification lifecycle.

Principles

- Traceability: every observation, measurement and analytical product must include metadata identifying origin, date, responsible party, method and version.
- Conservatism and consistency: where data sources conflict, the technically justified conservative option shall be adopted.
- Balanced transparency: core documentation (PMP, spatial boundaries, sampling protocols, monitoring reports, verification statements) shall be publicly available per registry policy, while protecting legitimately sensitive information (e.g., precise locations of highly threatened species).
- Where information concerns Indigenous Peoples, local communities or Traditional Knowledge, access, use, publication and sharing must follow FPIC, applicable data-sovereignty principles and any agreed community data-governance arrangements. Data pertaining to the ways of life, knowledge systems, customs, lands, waters or resources of Indigenous Peoples is considered to be owned by them; its collection or use requires their free, prior and informed consent.
- Where permitted by those arrangements and by the protection of sensitive data, projects are encouraged to contribute non-sensitive biodiversity records to appropriate national or global biodiversity repositories.
- Personal data: where the project collects personal data of individuals (e.g., names, contact details, addresses) with their consent, it must be managed in accordance with applicable data-privacy law and disclosed only to the extent necessary and permitted.
- Technical responsibility: personnel performing measurements and analyses must hold appropriate qualifications and be registered or documented according to Cercarbono tools and requirements where applicable.

Minimum operational requirements

- Data quality and control.
- Documented protocols: sampling, laboratory and remote-sensing methods must be described or referenced in the PMP.
- Equipment calibration: measurement devices shall be calibrated or validated.
- Uncertainty management: sources of uncertainty must be identified and quantified when feasible; otherwise, conservative adjustments must be applied and documented.
- Storage and traceability.
- Secure repository: raw and processed data must be stored in a secure repository with version control and backups.
- Minimum metadata: each dataset must include author, date, method, spatial extent, format and quality/limitations notes.
- Chain of custody: procedures for handling physical samples and sensitive data must be documented.
- QA/QC and audits.
- Internal QA/QC: the project proponent shall implement internal checks to detect and correct errors, with documentary evidence of corrections.
- External verification: data, methods and records must be accessible to the Independent Expert Panel and to internal or external audits as required.
- Geospatial products and spatial boundaries.

- Required outputs: deliver geospatial files (shapefile, GeoPackage or GeoJSON) for Total Project Area, Eligible and Non-eligible Areas, with CRS and acquisition dates.
- Cartographic quality: perform basic topology and integrity checks and ensure consistency between mapped areas and PMP descriptions.
- Publication and protection of sensitive information.
- Disclosure: publish required documents in accordance with the registry's disclosure policy.
- Protection measures: withhold or restrict access to sensitive location data where disclosure would pose a risk, providing a justification in the PMP.

Information management shall follow ***Cercarbono operational guidance and tools*** and may draw on recognized quality management practices (e.g., ISO principles) as appropriate. The PMP must specify the data management tools, versions and any Cercarbono modules used.

All significant changes to protocols, spatial boundaries or data processing methods must be recorded in the PMP change log with rationale and supporting evidence for IEP review.

Raw and derived data, spatial versions, reference evidence and credit calculations shall be retained for at least the operational lifespan of the project, and in no case less than required by the CBCP Procedures. Corrections shall preserve the original record, its authorisation and the resulting recalculation.

15 References

Alkemade, R., van Oorschot, M., Miles, L., Nellemann, C., Bakkenes, M. & ten Brink, B. (2009). GLOBIO3: A framework to investigate options for reducing global terrestrial biodiversity loss. Ecosystems, 12, 374–390. https://doi.org/10.1007/s10021-009-9229-5.

Cadotte, M. W., Carscadden, K. & Mirotchnick, N. (2011). Functional diversity and ecological processes: A conceptual framework. Journal of Applied Ecology, 48(5), 1079–1089.

CBD (Convention on Biological Diversity). (2022). Kunming-Montreal Global Biodiversity Framework. Decision 15/4. Montreal: Secretariat of the Convention on Biological Diversity.

Cercarbono. (2024a). *Cercarbono's Biodiversity Certification Programme Procedures*. Version 1.0. Available at: www.cercarbono.com.

Cercarbono. (2024b). *Cercarbono's Biodiversity Certification Programme Protocol*. Version 1.1.1. Available at: www.cercarbono.com.

Cercarbono. (2024c). *Terms and Definitions of the Cercarbono's Biodiversity Certification Programme.* Version 1.0. Available at: www.cercarbono.com.

Cercarbono. (2025). *Guidelines for mapping presentation and analysis*. Version 1.1. Available at: www.cercarbono.com.

Cercarbono. (2026). *Safeguarding Principles and Procedures of Cercarbono Certification Programme*. Version 3.0. Available at: www.cercarbono.com.

Clewell, A. F. & Aronson, J. (2013). Ecological Restoration: Principles, Values, and Structure of an Emerging Profession. Washington D.C.: Island Press.

Díaz, S. *et al*. (2015). The global spectrum of plant form and function. Nature, 529, 167–171.

Díaz, S. *et al*. (2019). Pervasive human-driven decline of life on Earth points to the need for transformative change. Science, 366(6471), eaax3100.

European Commission. (2023). Corporate Sustainability Reporting Directive (CSRD). Brussels: European Union.

FAO (Food and Agriculture Organization of the United Nations). (2021). Forest and Landscape Restoration: Implementation Guidance. Rome: FAO.

GRI (Global Reporting Initiative). (2020). GRI 304: Biodiversity 2016 (Updated 2020). Amsterdam: GRI Standards.

IAPB (International Advisory Panel for Biodiversity Credits). (2023). High-Level Principles for Nature Markets. London: IAPB.

ICVCM (Integrity Council for the Voluntary Carbon Market). (2023). Core Carbon Principles and Assessment Framework. London: ICVCM.

IFC (International Finance Corporation). (2012). Performance Standards on Environmental and Social Sustainability. Washington D.C.: World Bank Group.

ILO (International Labour Organization). (2019). ILO Declaration on Fundamental Principles and Rights at Work. Geneva: ILO.

IPBES (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services). (2019). Global Assessment Report on Biodiversity and Ecosystem Services. Bonn: IPBES.

ISO (2018). ISO 31000:2018 – Risk Management – Guidelines. Geneva: International Organization for Standardization.

IUCN (International Union for Conservation of Nature). (2020). Participatory Approaches in Natural Resource Management. Gland: IUCN.

Kuipers, K. J. J., Melki, A., Morel, S. & Schipper, A. M. (2025). Relationships between mean species abundance (MSA) and potentially disappeared fraction of species (PDF) are consistent but also uncertain. Environmental and Sustainability Indicators, 26, 100652. https://doi.org/10.1016/j.indic.2025.100652

Lassauce, A., Paillet, Y., Jactel, H. & Bouget, C. (2011). Deadwood as a surrogate for forest biodiversity: Meta-analysis of correlations between deadwood volume and species richness of saproxylic organisms. Ecological Indicators, 11, 1027–1039. https://doi.org/10.1016/j.ecolind.2011.02.004

Lavorel, S. & Garnier, E. (2002). Predicting changes in community composition and ecosystem functioning from plant traits: revisiting the Holy Grail. Ecology, 83(10), 2773–2789.

Lefsky, M. A., Cohen, W. B., Parker, G. G. & Harding, D. J. (2002). Lidar remote sensing for ecosystem studies. Bio-Science, 52(1), 19–30.

Legendre, P. & Legendre, L. (2012). Numerical Ecology (3rd English ed.). Amsterdam: Elsevier.

Mace, G. M., Barrett, M., Burgess, N. D. *et al*. (2018). Aiming higher to bend the curve of biodiversity loss. Nature Sustainability, 1(9), 448–451.

Navarro, L. M. & Pereira, H. M. (2020). Monitoring biodiversity change through Essential Biodiversity Variables. Biological Conservation, 246, 108569.

Pereira, H. M. *et al*. (2013). Essential Biodiversity Variables. Science, 339(6117), 277–278.

Pettorelli, N. *et al*. (2005). Using the satellite-derived NDVI to assess ecological responses to environmental change. Trends in Ecology & Evolution, 20(9), 503–510.

Pettorelli, N. *et al*. (2011). The Normalized Difference Vegetation Index (NDVI): Unforeseen successes in animal ecology. Climate Research, 46, 15–27.

Pettorelli, N. *et al*. (2016). Satellite remote sensing for applied ecologists: opportunities and challenges. Journal of Applied Ecology, 53(4), 1120–1126.

Poorter, L. *et al*. (2021). Multidimensional tropical forest recovery. Science, 374(6573), 1370–1376.

Rech, S., Celi, L. & Toscan, E. (2021). Soil biodiversity and ecosystem services: Current status and future challenges. Applied Soil Ecology, 168, 104145.

Saura, S. & Pascual-Hortal, L. (2007). A new habitat availability index to integrate connectivity in landscape conservation planning: Comparison with existing indices and application to a case study. Landscape and Urban Planning, 83, 91–103. https://doi.org/10.1016/j.landurbplan.2007.03.005

SBTN (Science-Based Targets Network). (2022). Science-Based Targets for Nature: Initial Guidance for Business. London: SBTN.

Schipper, A. M. *et al*. (2020). Projecting terrestrial biodiversity intactness with GLOBIO 4. Global Change Biology, 26, 760–771. https://doi.org/10.1111/gcb.14848

SER (Society for Ecological Restoration). (2019). International Principles and Standards for the Practice of Ecological Restoration (2nd ed.). Washington D.C.: SER.

TNFD (Taskforce on Nature-related Financial Disclosures). (2023). TNFD v1.0 Framework: Recommendations and Guidance on Nature-Related Risk Management and Disclosure. London: TNFD.

UN (United Nations). (2007). United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). New York: United Nations.

UN (United Nations). (2020). UN Global Compact – Ten Principles. New York: United Nations.

UN (United Nations). (2021). UN Environmental and Social Safeguards. New York: United Nations.

UNDP (United Nations Development Programme). (2022). Gender Equality Strategy 2022–2025. New York: UNDP.

UNEP-WCMC. (2021). Biodiversity Indicators Partnership: Guidance on Indicators for Monitoring Progress Towards the Kunming–Montreal Global Biodiversity Framework. Cambridge: UNEP-WCMC.

UNFCCC (United Nations Framework Convention on Climate Change). (2022). A6.4 Sustainable Development Tool. Bonn: UNFCCC Secretariat.

Verones, F. *et al*. (2020). LC-IMPACT: A regionalized life cycle damage assessment method. Journal of Industrial Ecology, 24, 1201–1219. https://doi.org/10.1111/jiec.13018

Vierling, K. T., Vierling, L. A., Gould, W. A., Martinuzzi, S. & Clawges, R. M. (2008). Lidar: shedding new light on habitat characterization and modelling. Frontiers in Ecology and the Environment, 6(2), 90–98.

Wilkinson, M. D. *et al*. (2016). The FAIR Guiding Principles for scientific data management and stewardship. Scientific Data, 3, 160018.

World Bank. (2018). Environmental and Social Framework. Washington D.C.: World Bank.

World Economic Forum. (2020). The Future of Nature and Business. Geneva: WEF.

World Economic Forum. (2025). High-Level Principles to Guide the Biodiversity Credit Market. White Paper, in collaboration with the Biodiversity Credit Alliance and the International Advisory Panel on Biodiversity Credits.

Yoccoz, N. G., Nichols, J. D. & Boulinier, T. (2001). Monitoring of biological diversity in space and time. Trends in Ecology & Evolution, 16(8), 446–453.

16 Document history

Version	Date	Comments or changes
1.0	09.02.2026	Initial version.
1.1	20.08.2026	Incorporated external reviewer comments on Section 3.1 (Area eligibility): added marine ecosystem criteria and general criteria for other ecosystem types, for both BCP and BRP; clarified the rules for revising an approved reference condition; expanded Section 3.2 (Ownership) with governance and benefit-sharing provisions; clarified the stacking/bundling cross-reference in Section 5.2; added Figure 3 illustrating contiguous BCP/BRP areas; corrected figure and table numbering and updated the document index.
1.2	11.09.2026	Version for public consultation.
1.3	23.10.2026	Incorporated revisions addressing the comments and recommendations from the Cercarbono Biodiversity Programme's Independent Expert Panel review, conducted by Tica Lubin, Independent Expert Consultant, and Antonela Brianese, MSc, International Biodiversity Advisor, and also incorporated the comments received during the public consultation: hierarchy clause and alignment with CBCP Protocol Sections 3.1.6, 3.2, 7.1, 7.3, 10, 15.1, 15.2 and 16.5; cumulative accounting of restoration credits (Equations 8 and 10); combined projects (Section 5.3); landscape-context assessment (Section 5.4); credit categorisation (Section 7.6); new definitions; native species only in restoration; minimum operational lifespan of 30 years; retroactive recognition; decision rules for missing data and representativeness; risk, leakage, safeguards, consultation and data-retention provisions; harmonised ECS terminology (biological and structural branches) and revised Table 3; parameter legends for all equations.