VOLUNTARY BIODIVERSITY CREDITS

Methodology for improved biodiversity in Nordic boreal forests through restoration activities

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Contents

1. Related documents

This methodology is partly based on elements from the following methodologies and standards:

- Standard on Biodiversity offsets, Business and Biodiversity Offset Programe (BBOP)
- Climate, Community & Biodiversity Standards, The Climate, Community & Biodiversity Standards (CCBS)
- Tool for the Demonstration and Assessment of Additionality, Clean Development Mechanism TOOL01.
- International Principles and Standards for the Practice of Ecological Restoration, Society for Ecological Restoration, Second Edition: November 2019.
- Biodiversity Survey – Implementation, Assessment and Reporting SS 199000:2014, Swedish Standard Institute

2. Summary description of the methodology

This methodology projects and quantifies improved biodiversity in boreal forests through restoration of forest ecosystems. This methodology helps determine whether a biodiversity conservation project has been designed according to best available science and practice, thus resulting in a trustworthy biodiversity credit. The objective of this methodology is to restore biodiversity aiming at net gain of biodiversity.

3. Applicability conditions

This methodology is applicable to improved biodiversity project activities in boreal forest ecosystems involving restoration of ecosystems. Project activities include:

A) Restoration of biodiversity through application of biodiversity enhancing management, such as:

A1: Management of broadleaves or pine stands in areas with high risk for overgrowth of secondary tree species

A2: Prescribed burning in forest ecosystems depending on fire disturbance

A3: Management of overgrowing historically cultivated land (for example pasture land)

A4: Restoration or enhancement of waterways with high biodiversity values

B) Creation of higher biodiversity through application of following management activities, such as:

B1: Creation of forest swamps and wetlands

B2: Creation of structure-rich and old conifer forest

B3: Prescribed burning of clear-cut areas with high amount/volume of ecological retentions

B4: Creation of (overgrown) historically grazed land (such as broadleaf-dominated meadows)

B5: Creation of specific habitats, where deemed strategically convenient, in relation to valuable areas with occurrence of red-listed species.

This methodology is applicable under the following conditions:

- The project area has existing biodiversity values in need of specific and intensive management (applicable to A-type activities).
- The project area has the potential to develop valuable biodiversity features (applicable to B-type activities).
- The project area is not already legally protected (see 5.1.1).
- There must be a long-term commitment for the conservation of the area, at least 20 years.
- The existing forest management (where applicable) is certified according to FSC and/or PEFC.
- Areas set aside for long-term retention according to FSC/PEFC certification are applicable to be included in the project.

4. Project boundary

4.1 Project area

The project geographical area is to be defined by the project proponent with maps and legal land description. The project activity may contain more than one defined land area aggregated into a project area. The following must be defined in the project description:

- Project location must be specified using geodetic polygons to delineate the geographical area of each project activity and provided in a digital file.
- Each defined area of land must have a unique geographical identification.
- Maps of the project area.
- Details of ownership of land.
- Landowner agreement for lease of land if applicable.
- Landowner agreement for the long-term conservation of the area.

4.1.1 Protected areas

Project area must not be located within a legally protected area or an internationally recognized are (UNESCO Natural World Heritage, UNESCO Man and the Biosphere Reserves, Key Biodiversity Areas and wetlands designated under the Ramsar Convention on Wetlands of International Importance.

4.2 Temporal project boundaries

The project start date must be the date on which activities that lead to generation of biodiversity credits are implemented, i.e. the date when the specific activities are performed.

Project validation by third party must take place within the 1st year from the project start date.

Project proponents must specify a project crediting period starting with minimum 20 years of conservation, up to 100 years.

This methodology allows for grouped projects. This means, for example, that several land plots from the same or different land owners may constitute a project, and that land plots may be added to the project after project start.

4.3 Landscape context

Project proponents must specify how the project contributes to creating ecological structures which are valuable or scarce in the given landscape. This is done by referencing occurrence of ecological structures important for, or occurrence of, red-listed species within the landscape.

4.4 Key biodiversity components in the project

Project proponents must specify key biodiversity components including specific species occurrence within the project area and their relevance to the national red list. Following key components must be specified:

- Description of the terrestrial and water ecosystems within the project area.
- Occurrence of NT, VU, EN, CR species within the project area.
- Occurrence of ecological structures necessary for survival and development of the NT, VU, EN, CR species within the project area.

4.5 Selected biodiversity metrics (species, ecosystems, landscape etc.)

Project proponents must specify which key biodiversity metrics will be used, how, when and how often they will be measured. Adherence to the biodiversity survey standard or reference to common practice for biodiversity survey is required.

5. Stakeholder participation and transparency

Communities and other stakeholders must be allowed involvement in the project through full and active participation, including access to information, consultation, participation in decision-making and implementation and where applicable free, prior and informed consent.

The project proponent must:

- Describe how full project documentation has been made accessible to stakeholders.

- If applicable - explain how relevant and adequate information about risks and benefits to communities has been provided to them prior any decision they may be asked to make.

- If applicable - describe how communities and other stakeholders have influenced project design and implementation through effective consultation.

- Develop a consultation and communication plan with stakeholders.

- Develop a clear grievance redress procedure to address potential disputes with stakeholders, including a process for hearing, responding to and attempting to resolve grievances within a reasonable time period.

6. Baseline Scenario

The baseline scenario must reflect what most likely would have occurred in the absence of the project.

The baseline scenario consists of common practice in forest management in the Nordics and cannot be below the national Forestry Act and nature protection regulations minimal guidelines. Common practice is demonstrated with the forest management plans of the landowner. The baseline must be re-assessed every 10 years (same time-span as for common forest management plans).

The common practice forest management regime in Nordic forestry typically focuses on a single dominant tree species in each forest stand. Norway spruce and Scots pine are very common tree species. Forest stands dominated by hardwoods are uncommon as well as stands of other softwood species. When regenerating forests, most often only a single species is planted on each site or section of a site. A pre-commercial thinning is normally made after the regeneration phase and is not generating any income. Stand management is in most cases driven by an overall objective of producing softwood saw logs that generate the highest value to the forest owner. To improve growth rates and diameter distribution, stands are generally commercially thinned 1-3 times during a rotation period depending on site conditions. Final harvest is generally made through clear-cut of a harvest site and generates a large proportion of saw logs. Pulpwood and in some cases tree biomass for energy is also harvested.

The common practice forestry in the Nordics is considered to be the baseline scenario of this methodology. Forest operations are similar throughout the region and consistently distributed through forest owners' associations, large industrial/non-industrial forest owners and wood purchasing organizations.

7. Additionality – biodiversity without project scenario

The additionality is demonstrated by analyzing whether the activity would have taken place without the project financing.

In Nordic boreal forest ecosystems, the commonplace practice for productive forest land, which is not legally protected, is commercial management according to applicable forest management plans.

To prove additionality the project proponent must:

- Identify realistic and credible alternative(s) available that provide outputs comparable with the proposed project activity including continuation of the current situation (no project activity).

- Analyze alternative project activities which have previously been implemented elsewhere in the region.

- Describe how project activities are consistent with applicable mandatory laws and regulations.

- Establish that there are realistic and credible barriers that would prevent the implementation of the proposed project activity from being carried out if the project did not take place. Such realistic and credible barriers may include for example:

  a) Investment barriers: Similar activities have only been implemented with grants or other non-commercial finance terms.

  b) Implementation of the biodiversity restoration or conservation measures within the project will result in an economic loss for the landowner if no external financing is available.

8. Quantification of biodiversity

8.1 Assessment of biodiversity baseline and current biodiversity status (CBS)

Current biodiversity status describes the starting point (baseline) at the start of the project. During the project's lifetime, CBS will be assessed regularly using the same method, thus providing information on the change of the biodiversity status. Instructions for biodiversity assessment can be found in the document ***"Method for Assessing Current Biodiversity"***.

8.2 Estimation of expected biodiversity development (EBD)

The project proponent is to describe what the estimated biodiversity net gain effects are expected to be at the end of the project period, compared to the baseline. It is acknowledged that, given the long time needed for biodiversity to restore in boreal ecosystems, it is not possible to make this estimation with certainty. Instead, the project proponent must describe in detail what activities or management measures are estimated to give assumed effects according to best available science and practice.

8.3 Verification of current biodiversity status (CBS) and expected biodiversity development (EBD)

Verification of current biodiversity status and expected biodiversity development are to be carried out by a third-party professional and by the project. The current biodiversity verification is to be carried out at following project stages and documented:

1) prior project start by third party,
2) every year by project proponent (desktop), and
3) every 5 years by third party as a part of the auditing procedure.

In this way, there will be a documentation of the change in biodiversity (positive or negative).

The project proponent must report on annual basis on the status of current biodiversity compared to the baseline as a desktop exercise supported by aerial, satellite or laser imagery to confirm the status of the area.

The assessed current biodiversity as well as the estimated biodiversity net-gain must be verified by a third-party professional with expertise within forestry ecosystem dynamics and inventory.

8.4 Risk assessment and planned risk mitigation measures

Prior the start of the project, the project proponent must assess risks which may affect successful project implementation. The project document must also include a risk mitigation plan which must be re-assessed every 5 years in connection with the third-party audit of the project.

8.5 Biodiversity credit calculation

Biodiversity credits shall be calculated according to the separate document, ***Biodiversity credit calculation***.

9. Monitoring

The purpose of monitoring program is to reliably monitor changes in biodiversity in a cost-efficient way and to compare the measured biodiversity against expected biodiversity net gain for the Baseline and Project Scenario.

The project will have monitoring periods every 5 years. After each monitoring period a monitoring report must be submitted. The monitoring must be conducted by a third-party to transparently report on project deliverables and progress.

9.1 Data and parameters monitored

Same data and parameters used to describe the project baseline should be continuously monitored. The monitoring plan must adhere to ***"Method for Assessing Current Biodiversity".***

9.2 Description of monitoring plan

The project proponent must describe how the monitoring plan is designed. It is required that the monitoring plan includes:

- **Spatial inventory change monitoring**.
  Project proponents must update and document spatial changes in the selected biodiversity parameters (proxies) within the project activity area annually using remote sensing or field inventory assessments. Such changes might be caused by harvests, fires, wind and ice-break.

- **Field sample-plot survey**.
  It is advisable the sample plots are made permanent throughout the project.
  The objective of the field plot survey is to assess the baseline level of biodiversity and provide basis for estimation of the Project Scenario biodiversity net-gain. During the Project's life time, field plot surveys will be repeated every 5 years to record changes in biodiversity.

- **Quality control and data storage.**
  The monitoring plan must include procedures for: reliable field survey, verifying data entry and data archiving.

All field survey activities must be accompanied by written checklists and step-by step procedure descriptions.

Field survey data should be directly recorded into a digital device at survey if possible. If not, written data must be transferred into a digital record at the end of each working day.

All the project procedure descriptions, project activity descriptions, maps, survey data, data analysis, projections, calculations, audits, reports etc. must be securely stored until 2 years after the Project period has ended.