

Expert Panel on Ground Vegetation and Biodiversity



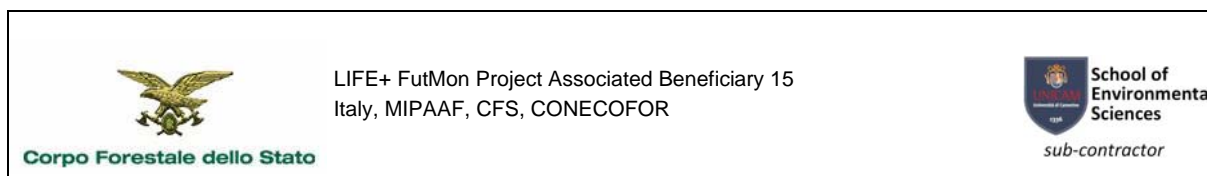
LIFE+ project FutMon Action C1-GV-15 IT



UN-ECE CLRTAP ICP Forests

Guidelines for National Training and Calibration Courses on Ground Vegetation Assessments in ICP Forests & FutMon Programme (LII)

Proposal from *FutMon ACTION C1-GV-15(IT)*:
Quality and expertise within ground vegetation assessments



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INTRODUCTION

The leader of Action C1-GV (Associated Beneficiary 15, Ministero delle politiche agricole alimentari e forestali – Corpo Forestale dello Stato, Italy) takes the responsibility for quality assurance (QA) and quality control (QC) activities within FutMon ground vegetation assessments and will provide expertise and consulting in that field.

As a part of this activity, a proposal of a “draft Guidance Note for countries on National Training and Calibration” was submitted and accepted during the Expert Panel on Ground Vegetation and Biodiversity meeting (at the Combined FutMon and ICP Forests Meeting Tampere, Finland - February 2010), by the sub-contractor responsible. Starting from this agreement, further guidelines on implementation of QA and QC were foreseen.

This document outlines, as a development of consulting, the guidelines for a programme of training and calibration for National Teams conducting ground vegetation assessments in the FutMon and ICP Forests’ programmes.

It is worth to recall that the coordination of Action C1-GV-15(IT) considers several activities to be implemented at the national level. This includes “preparation of field manuals, inter-comparison exercises, field control on, at least, a subset of intensive monitoring plots, by independent surveyors”). The participants to the FutMon project (Austria, Belgium-Flanders, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, The Netherlands, Poland, Romania, Slovakia, Slovenia, Spain, Sweden, and United Kingdom) should be able to perform the above mentioned activities within the period of validity of the project.

While National training and calibration methods may exist in many countries, this document presents a harmonised approach to be adopted by all participating countries of the programme.

The Countries which have not yet accomplished this objective are strongly recommended to plan the National field course during the next summer, irrespective to the programmed surveys.

OBJECTIVES

The objective of this part of Action C1-GV-15 is strictly inherent to general FutMon objectives (harmonised forest monitoring, incl. data quality assurance) which are expected to achieve “stringent procedures on data quality assurance and control for field assessments”.

Moreover, this objective corresponds to the indications of the ICP Forests Manual¹, Part III - Quality Assurance, and part VIII – Ground Vegetation (Ch. 5.2.1), following the overall perspective adopted by ICP Forests, since the 22nd Task Force in 2007.

Thus, National Training and Calibration is to be considered as a continuous action at the Country level, being part of the Data Quality process for Ground Vegetation assessments in the LII network of the ICP Forests, and also relevant to the FutMon Programme.

This document refers to an element of QA programme, and it is aimed to describe the QA/QC procedures related to Training and Calibration Courses that National Focal Centres (NFCs) should implement in advance of considering Ground Vegetation (GV) assessment.

Both QA and QC issues are envisaged in the guidelines, considering that:

- The National Field Manual is a harmonization precondition, as well as field training.
- The field Training and Calibration exercises deal with maintaining a level of precision and aims firstly to the definition of Data Quality requirements and then to their improvement.
- Teams’ intercalibration and data requirements can be useful for further field control activities and their evaluation (QC).
- The whole set of activities will be of value for next participation to International Calibration Courses and the quality of future data collected in this way is expected to be improved.

In particular:

- Training and Calibration field course based on Country’s own method (point 2, below), fulfils mid- long-term objectives related to: continuous training of the teams, consistency of the datasets (stability and comparability), and maintenance of a precision level (Data Quality limits and expected Data Quality objectives).

¹ Here and further, refer to http://www.icp-forests.org/manualprotect/GV_postTampere.doc (until the draft is present; afterwards, refer to the part VIII of the revised ICP Forests Manual).

- Training and Calibration field course based on Common method (point 3, below) additionally transnational information (different training plots are assessed with the same method by different National teams).

The GV expert appointed by the NFC of each FutMon and ICP Forest Country is the relevant person the guidelines are addressed to.

MINIMUM REQUIREMENTS

The following document describes the procedures related to the organization and accomplishment of National Training and Calibration Courses on Ground Vegetation Assessments in the ICP Forests LII network.

The procedure takes into account the elements and steps which can assure the feasibility of introducing a harmonised training and calibration course into the National Training programme, for the organization of a common first round under FutMon, and the further repeatability.

The required effort can be easily tackled when considering all the minimum requirements described (in terms of sampling area, parameters to be assessed, logistics and selection of the exercise site), in order to fulfil the objectives.

PRELIMINARY ISSUES

- ✓ A field National Training and Calibration course with all the teams charged of the next (or usually charged for) LII scheduled surveys, will be programmed and organized.
- ✓ Some preliminary decisions will be taken in relation to the period (respect to the vegetative season), the species and relative parameters to be assessed (considering the specific cover estimation by layers as core parameter), some critical points (e.g.: height thresholds), the sampling design and adopted methods-techniques, the logistics (expected time needed, materials, etc.).
- ✓ A draft field manual for GV assessments on the Plots of your National LII network will be prepared. The Manual will follow the indications of the ICP Forests Manual for Ground Vegetation Assessments (in particular: Ch. 4. Location of measurements and sampling; Ch. 5.1 Parameters to be assessed and reporting units; Ch. 5.2 Quality Assurance and Quality Control Ch. 6.1 Data submission procedures and forms).
- ✓ An adequate vegetation training plot in a forest patch will be selected and established, convenient to your location, obviously avoiding the Level II network sites.
- ✓ A prior list of expected species must be compiled avoiding plot trampling.

PROCEDURE

1. Presentation and discussion of the Manual. Introduce the field Manual contents, open the discussion to all the participants, and consequently amend and implement to define the procedure of the exercise itself. The discussion applies to definitions about sampling design, objects (i.e.: layers, species, etc.), parameters (layers' identification, plant cover or abundance, etc.), reporting units (scales, precision, etc.), methods and assessment techniques, procedures (including QA/QC). This part implies common field training outside the selected training plot.

2. Sampling design and assessments: Part a (mandatory)

- i.* Implement the national sampling design of vegetation sampling units, on at least ½ of the common sampling area (CSA; see ICP Forests Manual, part VIII – Ground Vegetation, Ch. 4.1.1).
- ii.* Perform the GV assessments following the normal methods and techniques routinely adopted for national surveys on LII network, for the selected parameters, with all teams.

Note:

- The core parameter is the specific cover assessment by layer (as the species number will be derived from the VEM forms).
- Consider that an expected critical point to this respect is the variability in defining the 5 m height upper threshold of shrub layer.

3. Sampling design and assessments: Part b (recommended)

- i.* Implement an exercise following the common reference method on Standardized Sampling Area (SSA, see ICP Forests Manual, part VIII – Ground Vegetation, Ch. 4.1.1). The sampling design will consist on 10 x 10 m non-contiguous sampling units (reaching at least ½ of CSA), randomly or systematically selected.
- ii.* Perform GV survey, at least for vascular plants of the herb layer, on at least two sampling units with all involved teams, applying the reference common method, as follows.
- iii.* On each sampling unit, the full list of species with visual estimate of specific cover by 10% scale will be assessed and recorded as follows:

<i>Coverage</i>	<i>Precision level</i>
≤ 1%	0.01%
> 1 – 10	1%
> 10	5%

- iv.* The TIME employed by each team and the sequence of assessments will be also noted, avoiding pressures or limitations.

4. Reference species' list. Compile a full reference list of species just after the exercise, by visiting the sampling units with all participants, to achieve a mutual consent.

Note:

- All the teams involved in the next scheduled survey must join the training for Part a).
- At least one team must repeat the survey following Part b).
- Keep the same number of observers per team between Part a) and Part b).
- In the event of a Country using only a single team for the scheduled surveys in the National LII network, we recommend to assemble, at least, a second team for the Part a) exercise (e.g.: involving colleagues, Msc or PhD students, etc.). This independent trained and calibrated team will participate to field control actions (see ICP Forests Manual, part VIII – Ground Vegetation, Ch. 5.2.1). In fact, one of the teams participating in this exercise will be used for field Quality Control assessments during the next scheduled survey (e.g.: will assess a proportion - at least one - of the LII Plots, parallel to the actual surveys by the National Teams). Relative distances of the field course performance by the independent Control-Team and the National Teams, will be used to compare the control data with the original ones.

5. **Debriefing.** Discuss the Manual and the results involving all the participants, and consequently amend and implement to have the highest harmonization and obtain a consensus-built, repeatable assessment procedure.

Note:

- This could be the right venue to compile an internal document describing the procedure of the whole National Training and Calibration Course.

6. **DQOs and DQLs.** Calculate DQOs (Data Quality Objectives: acceptable limits of errors among field crews) as % accuracy to be expected respect to a reference (as the average of the exercise, relative dispersion, mean performance of the group, expert values, consensus list of species), and DQLs (Data Quality Limits: % of the crews within the data quality objectives as above identified).
7. **Results and submission.** Collect the results, aiming to a first elaboration, further consulting and advices, and further compilation of information on field inter-comparison exercises at the Country level (QA/QC form).
8. **Manual adoption.** Finalize and submit the Manual for official adoption at National Level (NFC).

***Countries which have not yet accomplished this objective
are strongly recommended to plan the National field course
during the next summer 2010, irrespective to the scheduled surveys.***

If there are problems and for technical help and support please contact Roberto Canullo.
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