

EUROPEAN COMMISSION
JOINT RESEARCH CENTRE
Institute for Environment and Sustainability

FRAMEWORK SERVICE CONTRACT

CONTRACT NUMBER 384104

The European Community (hereinafter referred to as "the Community"), represented by the Commission of the European Communities (hereinafter referred to as "the Commission"), which is represented for the purposes of the signature of this contract by Mr. L Hordijk, Director of the Institute for Environment and Sustainability of the Joint Research Centre "JRC",

of the one part,

and

Inventaire Forestier National, official legal form: Etablissement public administration, statutory registration number: 18007800800075 (SIRET), Château des Barres, 45290 NOGENT-SUR-VERNON, represented for the purposes of the signature of this contract by Mr Claude Vidal, Director,

In consortium with:

Finnish Forest Research Institute - METLA (FI)

Federal Research and Training Centre for Forest, Natural Hazards and Landscape – BFW (AT)

Swiss Federal Institute for Forest, Snow and Landscape Research - WSL (CH)

Forest Research (UK)

University of Copenhagen – Faculty of Life Science – Forest and Landscape (DK)

Swedish University of Agricultural Sciences – SLU (SE)

Forest Technology Centre of Cataluña (ES)

Norwegian Forest and Land Institute (NO)

the parties identified above and hereinafter collectively referred to as "the Contractor" shall be jointly and severally liable vis-à-vis the Commission for the performance of this contract;

of the other part,

HAVE AGREED

the **Special Conditions** and the **General Conditions** below and the following Annexes:

EW GP

Annex I – Tender Specifications (Contract notice No 2007/S 194-235358 of 09/10/2007)

Annex II – Contractor's Tender (No 045/SJ/AB of 11 February 2008)

Annex III – Specific Contract

Annex IV – Consortium Agreement

which form an integral part of this contract (hereinafter referred to as “the Contract”).

The terms set out in the Special Conditions shall take precedence over those in the other parts of the Contract. The terms set out in the General Conditions shall take precedence over those in the Annexes. The terms set out in the Contract shall take precedence over those in the specific contracts. The terms set out in the Tender Specifications (Annex I) shall take precedence over those in the Tender (Annex II).

Subject to the above, the several instruments forming part of the Contract are to be taken as mutually explanatory. Ambiguities or discrepancies within or between such parts shall be explained or rectified by a written instruction issued by the Commission, subject to the rights of the Contractor under Article I.8 should he dispute any such instruction.

I – SPECIAL CONDITIONS

ARTICLE I.1 - SUBJECT

- I.1.1** The subject of the Contract is "**Framework contract for the provision of forest data and services in support to the European Forest Data Centre**"
- I.1.2** Signature of the Contract imposes no obligation on the Commission to purchase. Only implementation of the Contract through specific contracts is binding on the Commission.
- I.1.3** Once implementation of the Contract has commenced, the Contractor shall provide the services in accordance with Annex I.
- I.1.4** All specific contracts implementing the Contract shall conform to the terms set out therein.
- I.1.5** The Contract does not confers on the Contractor any exclusive right to provide the services described in Annex I to the Commission.

ARTICLE I.2 - DURATION

- I.2.1** The Contract shall enter into force on the date on which it is signed by the last contracting party.
- I.2.2** Under no circumstances may implementation commence before the date on which the Contract enters into force. Execution of the tasks may under no circumstances begin before the date on which the order or specific contract enters into force.
- I.2.3** The Contract is concluded for a period of **48 months** with effect from the date on which it enters into force. This contractual period and all other periods specified in the Contract are calculated in calendar days unless otherwise indicated.
- I.2.4** The specific contracts shall be returned signed before the Contract to which they refer expires.

The Contract shall continue to apply to such specific contracts after its expiry, but no later than 6 months

ARTICLE I.3 –PRICES

- I.3.1** The prices of the services shall be as listed in Annex II.
- I.3.2** Prices shall be expressed in EUR.
- I.3.3** Prices shall be fixed and not subject to revision for implementation during the first year of duration of the Contract.

From the beginning of the second year of duration of the Contract, 80% of each price may be revised upwards or downwards each year, where such revision is requested by one of the contracting parties by registered letter no later than three months before the anniversary of the date on which it was signed. The Commission shall purchase on the basis of the prices in force on

the date on which orders or specific contracts are signed. Such prices shall not be subject to revision.

This revision shall be determined by the trend in the harmonised consumer price index MUICP published for the first time by the Office for Official Publications of the European Communities in the Eurostat monthly bulletin (Theme 2 - Economy and Finance, Collection Detailed tables, Money, finance and the euro: Statistics).

Revision shall be calculated in accordance with the following formula:

$$Pr = Po \left(0,2 + 0,8 \frac{Ir}{Io} \right)$$

where:

Pr = revised price;

Po = price in the original tender;

Io = index for the month [in which the validity of the tender expires]
[corresponding to the final date for submission of tenders];

Ir = index for the month corresponding to the date of receipt of the letter requesting a revision of prices.

ARTICLE I.4 – IMPLEMENTATION OF THE CONTRACT

I.4.1 Within 20 working days of a request for services being sent by the Commission, the Contractor shall return an estimate of the resources to be allocated for its execution, with particulars in support.

Within 10 working days of a specific contract being sent by the Commission, the Contractor shall return it, duly signed and dated.

ARTICLE I.5 – PAYMENT PERIODS

Payments under the Contract shall be made in accordance with Article II.4. Payments shall be executed only if the Contractor has fulfilled all his contractual obligations by the date on which the invoice is submitted. Payment requests may not be made if payments for previous specific contracts have not been executed as a result of default or negligence on the part of the Contractor.

I.5.1 Payment:

The request for payment of the Contractor shall be admissible if accompanied by

- the final technical report in accordance with the instructions laid down in Annex I
- the relevant invoices, indicating the reference number of the Contract and of the specific contract to which they refer.

provided the report has been approved by the Commission.

The Commission shall have forty-five days from receipt to approve or reject the report, and the Contractor shall have twenty days in which to submit additional information or a new report.

Within thirty days of the date on which the report is approved by the Commission, payment of the balance corresponding to the relevant invoices equal to 100 % of the total amount referred to in the relevant specific contract shall be made.

For Contractors established in Belgium, the orders shall include the following provision: "En Belgique, l'utilisation de ce bon de commande vaut présentation d'une demande d'exemption de la TVA n° 450" or an equivalent statement in the Dutch or German language. The Contractor shall include the following statement in his invoice(s): "Exonération de la TVA, article 42, paragraphe 3.3 du code de la TVA" or an equivalent statement in the Dutch or German language.

For Contractors established in Italy, the provisions of the Contract constitute a request for VAT exemption, provided the Contractor includes the following statement in his invoice(s): "Operazione non imponibile ai sensi dell'articolo 72, comma 3) paragrafo 3 del D.P.R. n. 633 del 26/10/1972 come modificato da ultimo dal D.L. n. 323 del 20/06/1996 convertito in Legge n. 425 dell'8/8/1996".

the tax provisions of the State of establishment of the Contractor will be indicated

ARTICLE I.6 – BANK ACCOUNT

Payments shall be made to the Contractor's bank account denominated in Euro, identified as follows:

Name of bank: TRESOR PUBLIC
Full address of branch: Tressorerie General du Loiret
Exact designation of account holder: INVENTAIRE FORESTIER NATIONAL
Full account number including codes: 10071 45000 00001000250 26
IBAN code or BIC code: FR 76 1007 1450 0000 0010 0025 026

The same bank account reference shall be mentioned on each invoice.

All invoices shall indicate the Contractor's VAT number.

I.6.2 All invoices and any complaints shall be sent to the following address:

European Commission
Joint Research Centre
Institute for Environment and Sustainability
I-21020 ISPRA (VA)

To the attention of: Mr. K. ENGELEN – TP. 263

ARTICLE I.7 – GENERAL ADMINISTRATIVE PROVISIONS

Any communication relating to the Contract shall be made in writing and shall bear the Contract number. Ordinary mail shall be considered received by the Commission at the date it is registered by the department responsible mentioned below. Communications shall be sent to the following addresses:

Commission:

For administrative questions:

European Commission
Joint Research Centre
Institute for Environment and Sustainability – T.P. 263
I-21027 ISPRA (VA)

To the attention of Mr. M. CECCHINI

For technical questions

Commission of the European Communities
Joint Research Centre
Institute for Environment and Sustainability – T.P. 261
I-21027 ISPRA (VA)

To the attention of: Mr. A. CAMIA

Contractor:

For administrative questions:

Mr Lyzan Yannick
Reponsable Service Juridique
IFN
Château des Barres,
45290 NOGENT-SUR-VERNISSON

For technical questions:

Jean-Luc Cousin
Chef Service Informatique
IFN
Château des Barres,
45290 NOGENT-SUR-VERNISSON

ARTICLE I.8 – APPLICABLE LAW AND SETTLEMENT OF DISPUTES

I.8.1. The Contract shall be governed by the national substantive law of **Italy**.

- I.8.2.** Any dispute between the parties resulting from the interpretation or application of the Contract which cannot be settled amicably shall be brought before the courts of Varese.

ARTICLE I.9 – DATA PROTECTION

Any personal data included in the Contract shall be processed pursuant to Regulation (EC) No 45/2001 on the protection of individuals with regard to the processing of personal data by the Community institutions and bodies and on the free movements of such data. It shall be processed solely for the purposes of the performance, management and follow-up of the Contract by entity acting as data controller without prejudice to possible transmission to the bodies charged with a monitoring or inspection task in conformity with Community law. The Contractor shall have the right of access to his personal data and the right to rectify any such data that is inaccurate or incomplete. Should the Contractor have any queries concerning the processing of his personal data, he shall address them to Mr. L. Hordijk – c/o Joint Research Centre – Institute for Environment and Sustainability – TP 263 – Via E. Fermi n. 2749 - 21027 Ispra (VA), acting as a data controller. The Contractor shall have right of recourse at any time to the European Data Protection Supervisor.

For the purposes of safeguarding the financial interest of the Communities, personal data may be transferred to internal audit services, to the European Court of Auditors, to the Financial Irregularities Panel and/or to the European Anti-Fraud Office (OLAF).

Data of economic operators which are in one of the situations referred to in Articles 93, 94, 96(1)(b) and 96(2)(a) of the Financial Regulation may be included in a central database and communicated to the designated persons of the Commission, other institutions, agencies, authorities and bodies mentioned in Article 95(1) and (2) of the Financial Regulation. This refers as well to the persons with powers of representation, decision making or control over the said economic operators. Any party entered into the database has the right to be informed of the data concerning it, up on request to the accounting officer of the Commission.

II – GENERAL CONDITIONS

ARTICLE II. 1 – PERFORMANCE OF THE CONTRACT

- II.1.1** The Contractor shall perform the Contract to the highest professional standards. The Contractor shall have sole responsibility for complying with any legal obligations incumbent on him, notably those resulting from employment, tax and social legislation.
- II.1.2** The Contractor shall have sole responsibility for taking the necessary steps to obtain any permit or licence required for performance of the Contract under the laws and regulations in force at the place where the tasks assigned to him are to be executed.
- II.1.3** Without prejudice to Article II.3 any reference made to the Contractor's staff in the Contract shall relate exclusively to individuals involved in the performance of the Contract.
- II.1.4** The Contractor must ensure that any staff performing the Contract have the professional qualifications and experience required for the execution of the tasks assigned to him.
- II.1.5** The Contractor shall neither represent the Commission nor behave in any way that would give such an impression. The Contractor shall inform third parties that he does not belong to the European public service.
- II.1.6** The Contractor shall have sole responsibility for the staff who execute the tasks assigned to him.

The Contractor shall make provision for the following employment or service relationships with his staff:

- staff executing the tasks assigned to the Contractor may not be given orders direct by the Commission;
- the Commission may not under any circumstances be considered to be the staff's employer and the said staff shall undertake not to invoke in respect of the Commission any right arising from the contractual relationship between the Commission and the Contractor.

- II.1.7** In the event of disruption resulting from the action of a member of the Contractor's staff working on Commission premises or in the event of the expertise of a member of the Contractor's staff failing to correspond to the profile required by the Contract, the Contractor shall replace him without delay. The Commission shall have the right to request the replacement of any such member of staff, stating its reasons for so doing. Replacement staff must have the necessary qualifications and be capable of performing the Contract under the same contractual conditions. The Contractor shall be responsible for

any delay in the execution of the tasks assigned to him resulting from the replacement of staff in accordance with this Article.

- II.1.8** Should any unforeseen event, action or omission directly or indirectly hamper execution of the tasks, either partially or totally, the Contractor shall immediately and on his own initiative record it and report it to the Commission. The report shall include a description of the problem and an indication of the date on which it started and of the remedial action taken by the Contractor to ensure full compliance with his obligations under the Contract. In such event the Contractor shall give priority to solving the problem rather than determining liability.
- II.1.9** Should the Contractor fail to perform his obligations under the Contract in accordance with the provisions laid down therein, the Commission may - without prejudice to its right to terminate the Contract - reduce or recover payments in proportion to the scale of the failure. In addition, the Commission may impose penalties or liquidated damages provided for in Article II.16.

ARTICLE II. 2 – LIABILITY

- II.2.1** The Commission shall not be liable for damage sustained by the Contractor in performance of the Contract except in the event of wilful misconduct or gross negligence on the part of the Commission.
- II.2.2** The Contractor shall be liable for any loss or damage caused by himself in performance of the Contract, including in the event of subcontracting under Article II.13. The Commission shall not be liable for any act or default on the part of the Contractor in performance of the Contract.
- II.2.3** The Contractor shall provide compensation in the event of any action, claim or proceeding brought against the Commission by a third party as a result of damage caused by the Contractor in performance of the Contract.
- II.2.4** In the event of any action brought by a third party against the Commission in connection with performance of the Contract, the Contractor shall assist the Commission. Expenditure incurred by the Contractor to this end may be borne by the Commission.
- II.2.5** The Contractor shall take out insurance against risks and damage relating to performance of the Contract if required by the relevant applicable legislation. He shall take out supplementary insurance as reasonably required by standard practice in the industry. A copy of all the relevant insurance contracts shall be sent to the Commission should it so request.

ARTICLE II. 3 - CONFLICT OF INTERESTS

II.3.1 The Contractor shall take all necessary measures to prevent any situation that could compromise the impartial and objective performance of the Contract. Such conflict of interests could arise in particular as a result of economic interest, political or national affinity, family or emotional ties, or any other relevant connection or shared interest. Any conflict of interests which could arise during performance of the Contract must be notified to the Commission in writing without delay. In the event of such conflict, the Contractor shall immediately take all necessary steps to resolve it.

The Commission reserves the right to verify that such measures are adequate and may require additional measures to be taken, if necessary, within a time limit which it shall set. The Contractor shall ensure that his staff, board and directors are not placed in a situation which could give rise to conflict of interests. Without prejudice to Article II.1 the Contractor shall replace, immediately and without compensation from the Commission, any member of his staff exposed to such a situation.

II.3.2 The Contractor shall abstain from any contact likely to compromise his independence.

II.3.3 The Contractor declares:

- that he has not made and will not make any offer of any type whatsoever from which an advantage can be derived under the Contract,
- that he has not granted and will not grant, has not sought and will not seek, has not attempted and will not attempt to obtain, and has not accepted and will not accept, any advantage, financial or in kind, to or from any party whatsoever, where such advantage constitutes an illegal practice or involves corruption, either directly or indirectly, inasmuch as it is an incentive or reward relating to performance of the Contract.

II.3.4 The Contractor shall pass on all the relevant obligations in writing to his staff, board, and directors as well as to third parties involved in performance of the Contract. A copy of the instructions given and the undertakings made in this respect shall be sent to the Commission should it so request.

ARTICLE II. 4 – INVOICING AND PAYMENTS

II.4.1 Pre-financing:

Where required by Article I.5.1, the Contractor shall provide a financial guarantee in the form of a bank guarantee or equivalent supplied by a bank or an authorised financial institution (guarantor) equal to the amount indicated in the same Article to cover pre-financing under the Contract. Such guarantee may be replaced by a joint and several guarantee by a third party.

The guarantor shall pay to the Commission at its request an amount corresponding to payments made by it to the Contractor which have not yet been covered by equivalent work on his part.

The guarantor shall stand as first-call guarantor and shall not require the Commission to have recourse against the principal debtor (the Contractor).

The guarantee shall specify that it enters into force at the latest on the date on which the Contractor receives the pre-financing. The Commission shall release the guarantor from its obligations as soon as the Contractor has demonstrated that any pre-financing has been covered by equivalent work. The guarantee shall be retained until the pre-financing has been deducted from interim payments or payment of the balance to the Contractor. It shall be released the following month. The cost of providing such guarantee shall be borne by the Contractor.

II.4.2 Interim payment:

At the end of each of the periods indicated in Annex I the Contractor shall submit to the Commission a formal request for payment accompanied by those of the following documents which are provided for in the Special Conditions:

- an interim technical report in accordance with the instructions laid down in Annex I;
- the relevant invoices indicating the reference number of the Contract and of the order or specific contract to which they refer;
- statements of reimbursable expenses in accordance with Article II.7.

If the report is a condition for payment, on receipt the Commission shall have the period of time indicated in the Special Conditions in which:

- to approve it, with or without comments or reservations, or suspend such period and request additional information; or
- to reject it and request a new report.

If the Commission does not react within this period, the report shall be deemed to have been approved. Approval of the report does not imply recognition either of its regularity or of the authenticity, completeness or correctness of the declarations or information enclosed.

Where the Commission requests a new report because the one previously submitted has been rejected, this shall be submitted within the period of time indicated in the Special Conditions. The new report shall likewise be subject to the above provisions.

II.4.3 Payment of the balance:

Within sixty days of completion of the tasks referred to in each order or specific contract, the Contractor shall submit to the Commission a formal request for payment accompanied by those of the following documents, which are provided for in the Special Conditions:

- a final technical report in accordance with the instructions laid down in Annex I;
- the relevant invoices indicating the reference number of the Contract and of the order or specific contract to which they refer;
- statements of reimbursable expenses in accordance with Article II.7.

If the report is a condition for payment, on receipt the Commission shall have the period of time indicated in the Special Conditions in which:

- to approve it, with or without comments or reservations, or suspend such period and request additional information; or
- to reject it and request a new report.

If the Commission does not react within this period, the report shall be deemed to have been approved. Approval of the report does not imply recognition either of its regularity or of the authenticity, completeness or correctness of the declarations and information enclosed.

Where the Commission requests a new report because the one previously submitted has been rejected, this shall be submitted within the period of time indicated in the Special Conditions. The new report shall likewise be subject to the above provisions.

ARTICLE II. 5 – GENERAL PROVISIONS CONCERNING PAYMENTS

II.5.1 Payments shall be deemed to have been made on the date on which the Commission's account is debited.

II.5.2 The payment periods referred to in Article I.5 may be suspended by the Commission at any time if it informs the Contractor that his payment request is not admissible, either because the amount is not due or because the necessary supporting documents have not been properly produced. In case of doubt on the eligibility of the expenditure indicated in the payment request, the Commission may suspend the time limit for payment for the purpose of further verification, including an on-the-spot check, in order to ascertain, prior to payment, that the expenditure is eligible.

The Commission shall notify the Contractor accordingly by registered letter with acknowledgment of receipt or equivalent. Suspension shall take effect from the date of dispatch of the letter. The remainder of the period referred to in Article I.5 shall begin to run again once the suspension has been lifted.

II.5.3 In the event of late payment the Contractor may claim interest within two months of receiving the payment. Interest shall be calculated at the rate applied by the European Central Bank to its most recent main refinancing operations (“*the reference rate*”) plus seven percentage points (“*the margin*”). The reference rate in force on the first day of the month in which the payment is due shall apply. Such interest rate is published in the C series of the Official Journal of the European Union. Interest shall be payable for the period elapsing from the calendar day following expiry of the time limit for payment up to the day of payment. Suspension of payment by the Commission may not be deemed to constitute late payment.

ARTICLE II. 6 – RECOVERY

II.6.1 If total payments made exceed the amount actually due or if recovery is justified in accordance with the terms of the Contract, the Contractor shall reimburse the appropriate amount in euro on receipt of the debit note, in the manner and within the time limits set by the Commission.

- II.6.2** In the event of failure to pay by the deadline specified in the request for reimbursement, the sum due shall bear interest at the rate indicated in Article II.5.3. Interest shall be payable from the calendar day following the due date up to the calendar day on which the debt is repaid in full.
- II.6.3** In the event of failure to pay by the deadline specified in the request for reimbursement, the Commission may, after informing the Contractor, recover amounts established as certain, of a fixed amount and due by offsetting, in cases where the Contractor also has a claim on the Communities that is certain, of a fixed amount and due. The Commission may also claim against the guarantee, where provided for.

ARTICLE II. 7 - REIMBURSEMENTS

- II.7.1** Where provided by the Special Conditions or by Annex I, the Commission shall reimburse the expenses that are directly connected with execution of the tasks on production of original supporting documents, including receipts and used tickets.
- II.7.2** Travel and subsistence expenses shall be reimbursed, where appropriate, on the basis of the shortest itinerary.
- II.7.3** Travel expenses shall be reimbursed as follows:
- a)** travel by air shall be reimbursed up to the maximum cost of an economy class ticket at the time of the reservation;
 - b)** travel by boat or rail shall be reimbursed up to the maximum cost of a first class ticket;
 - c)** travel by car shall be reimbursed at the rate of one first class rail ticket for the same journey and on the same day;
 - d)** travel outside Community territory shall be reimbursed under the general conditions stated above provided the Commission has given its prior written agreement.
- II.7.4** Subsistence expenses shall be reimbursed on the basis of a daily allowance as follows:
- a)** for journeys of less than 200 km (return trip) no subsistence allowance shall be payable;
 - b)** daily subsistence allowance shall be payable only on receipt of a supporting document proving that the person concerned was present at the place of destination;
 - c)** daily subsistence allowance shall take the form of a flat-rate payment to cover all subsistence expenses, including accommodation, meals, local transport, insurance and sundries;

d) daily subsistence allowance, where applicable, shall be reimbursed at the rate specified in Article I.3.

II.7.5 The cost of shipment of equipment or unaccompanied luggage shall be reimbursed provided the Commission has given prior written authorisation.

ARTICLE II. 8 – OWNERSHIP OF THE RESULTS - INTELLECTUAL AND INDUSTRIAL PROPERTY

Any results or rights thereon, including copyright and other intellectual or industrial property rights, obtained in performance of the Contract, shall be owned solely by the Community, which may use, publish, assign or transfer them as it sees fit, without geographical or other limitation, except where industrial or intellectual property rights exist prior to the Contract being entered into.

ARTICLE II. 9 – CONFIDENTIALITY

II.9.1. The Contractor undertakes to treat in the strictest confidence and not make use of or divulge to third parties any information or documents which are linked to performance of the Contract. The Contractor shall continue to be bound by this undertaking after completion of the tasks.

II.9.2. The Contractor shall obtain from each member of his staff, board and directors an undertaking that they will respect the confidentiality of any information which is linked, directly or indirectly, to execution of the tasks and that they will not divulge to third parties or use for their own benefit or that of any third party any document or information not available publicly, even after completion of the tasks.

ARTICLE II.10 - USE, DISTRIBUTION AND PUBLICATION OF INFORMATION

II.10.1 The Contractor shall authorise the Commission to process, use, distribute and publish, for whatever purpose, by whatever means and on whatever medium, any data contained in or relating to the Contract, in particular the identity of the Contractor, the subject matter, the duration, the amount paid and the reports. Where personal data is concerned, Article I.9 shall apply.

II.10.2 Unless otherwise provided by the Special Conditions, the Commission shall not be required to distribute or publish documents or information supplied in performance of the Contract. If it decides not to publish the documents or information supplied, the Contractor may not have them distributed or published elsewhere without prior written authorisation from the Commission.

II.10.3 Any distribution or publication of information relating to the Contract by the Contractor shall require prior written authorisation from the Commission and shall mention the contribution of the Community. It shall state that the

opinions expressed are those of the Contractor only and do not represent the Commission's official position.

- II.10.4** The use of information obtained by the Contractor in the course of the Contract for purposes other than its performance shall be forbidden, unless the Commission has specifically given prior written authorisation to the contrary.

ARTICLE II. 11 – TAXATION

- II.11.1** The Contractor shall have sole responsibility for compliance with the tax laws which apply to him. Failure to comply shall make the relevant invoices invalid.
- II.11.2** The Contractor recognises that the Commission is, as a rule, exempt from all taxes and duties, including value added tax (VAT), pursuant to the provisions of Articles 3 and 4 of the Protocol on the Privileges and Immunities of the European Communities.
- II.11.3** The Contractor shall accordingly complete the necessary formalities with the relevant authorities to ensure that the goods and services required for performance of the Contract are exempt from taxes and duties, including VAT.
- II.11.4** Invoices presented by the Contractor shall indicate his place of taxation for VAT purposes and shall specify separately the amounts not including VAT and the amounts including VAT.

ARTICLE II. 12 – FORCE MAJEURE

- II.12.1** Force majeure shall mean any unforeseeable and exceptional situation or event beyond the control of the contracting parties which prevents either of them from performing any of their obligations under the Contract, was not due to error or negligence on their part or on the part of a subcontractor, and could not have been avoided by the exercise of due diligence. Defects in equipment or material or delays in making it available, labour disputes, strikes or financial problems cannot be invoked as force majeure unless they stem directly from a relevant case of force majeure.
- II.12.2** Without prejudice to the provisions of Article II.1.8, if either contracting party is faced with force majeure, it shall notify the other party without delay by registered letter with acknowledgment of receipt or equivalent, stating the nature, likely duration and foreseeable effects.
- II.12.3** Neither contracting party shall be held in breach of its contractual obligations if it has been prevented from performing them by force majeure. Where the Contractor is unable to perform his contractual obligations owing to force majeure, he shall have the right to remuneration only for tasks actually executed.

II.12.4 The contracting parties shall take the necessary measures to reduce damage to a minimum.

ARTICLE II. 13 – SUBCONTRACTING

II.13.1 The Contractor shall not subcontract without prior written authorisation from the Commission nor cause the Contract to be performed in fact by third parties.

II.13.2 Even where the Commission authorises the Contractor to subcontract to third parties, he shall none the less remain bound by his obligations to the Commission under the Contract and shall bear exclusive liability for proper performance of the Contract.

II.13.3 The Contractor shall make sure that the subcontract does not affect rights and guarantees to which the Commission is entitled by virtue of the Contract, notably Articles II.9 and II.17.

ARTICLE II. 14 – ASSIGNMENT

II.14.1 The Contractor shall not assign the rights and obligations arising from the Contract, in whole or in part, without prior written authorisation from the Commission.

II.14.2 In the absence of the authorisation referred to in 1 above, or in the event of failure to observe the terms thereof, assignment by the Contractor shall not be enforceable against and shall have no effect on the Commission.

ARTICLE II. 15 – TERMINATION BY THE COMMISSION

II.15.1 The Commission may terminate the Contract, a pending order or a specific contract in the following circumstances:

- (a) where the Contractor is being wound up, is having his affairs administered by the courts, has entered into an arrangement with creditors, has suspended business activities, is the subject of proceedings concerning those matters, or is in any analogous situation arising from a similar procedure provided for in national legislation or regulations;
- (b) where the Contractor has been convicted of an offence concerning his professional conduct by a judgment which has the force of *res judicata*;
- (c) where the Contractor has been guilty of grave professional misconduct proven by any means which the Commission can justify;
- (d) where the Contractor has not fulfilled obligations relating to the payment of social security contributions or the payment of taxes in accordance with the legal provisions of the country in which he is established or with those of the

country applicable to the Contract or those of the country where the Contract is to be performed;

- (e) where the Commission seriously suspects the Contractor of fraud, corruption, involvement in a criminal organisation or any other illegal activity detrimental to the Communities' financial interests;
- (f) where the Contractor is in breach of his obligations under Article II.3;
- (g) where the Contractor was guilty of misrepresentation in supplying the information required by the Commission as a condition of participation in the Contract procedure or failed to supply this information;
- (h) where a change in the Contractor's legal, financial, technical or organisational situation could, in the Commission's opinion, have a significant effect on the performance of the Contract;
- (i) where execution of the tasks under a pending order or a specific contract has not actually commenced within fifteen days of the date foreseen, and the new date proposed, if any, is considered unacceptable by the Commission;
- (j) where the Contractor is unable, through his own fault, to obtain any permit or licence required for performance of the Contract;
- (k) where the Contractor, after receiving formal notice in writing to comply, specifying the nature of the alleged failure, and after being given the opportunity to remedy the failure within a reasonable period following receipt of the formal notice, remains in serious breach of his contractual obligations.

II.15.2 In case of force majeure, notified in accordance with Article II.12, either contracting party may terminate the Contract, where performance thereof cannot be ensured for a period corresponding to at least to one fifth of the period laid down in Article I.2.3.

II.15.3 Prior to termination under point e), h) or k), the Contractor shall be given the opportunity to submit his observations.

Termination shall take effect on the date on which a registered letter with acknowledgment of receipt terminating the Contract is received by the Contractor, or on any other date indicated in the letter of termination.

II.15.4 Consequences of termination:

In the event of the Commission terminating the Contract or a pending order or specific contract in accordance with this Article and without prejudice to any other measures provided for in the Contract, the Contractor shall waive any claim for consequential damages, including any loss of anticipated profits for uncompleted work. On receipt of the letter terminating the Contract, the Contractor shall take all appropriate measures to minimise costs, prevent damage, and cancel or reduce his commitments. He shall draw up the documents required by the Special Conditions for the tasks executed

up to the date on which termination takes effect, within a period not exceeding sixty days from that date.

The Commission may claim compensation for any damage suffered and recover any sums paid to the Contractor under the Contract.

On termination the Commission may engage any other contractor to execute or complete the services. The Commission shall be entitled to claim from the Contractor all extra costs incurred in doing so, without prejudice to any other rights or guarantees enforceable under the Contract.

ARTICLE II. 16 – LIQUIDATED DAMAGES

Should the Contractor fail to perform his obligations under the Contract within the time limits set by the Contract, then, without prejudice to the Contractor's actual or potential liability incurred in relation to the Contract or to the Commission's right to terminate the Contract, the Commission may decide to impose liquidated damages of 0.2% of the amount of the relevant purchase per calendar day of delay. The Contractor may submit arguments against this decision within thirty days of notification by registered letter with acknowledgement of receipt or equivalent. In the absence of reaction on his part or of written withdrawal by the Commission within thirty days of the receipt of such arguments, the decision imposing the liquidated damages shall become enforceable. These liquidated damages shall not be imposed where there is provision for interest for late completion. The Commission and the Contractor expressly acknowledge and agree that any sums payable under this Article are in the nature of liquidated damages and not penalties, and represent a reasonable estimate of fair compensation for the losses that may be reasonably anticipated from such failure to perform obligations.

ARTICLE II. 17 – CHECKS AND AUDITS

- II.17.1** Pursuant to Article 142 of the Financial Regulation applicable to the general budget of the European Communities, the European Court of Auditors shall be empowered to audit the documents held by the natural or legal persons receiving payments from the budget of the European Communities from signature of the Contract up to five years after payment of the balance of the last implementation.
- II.17.2** The Commission or an outside body of its choice shall have the same rights as the European Court of Auditors for the purpose of checks and audits limited to compliance with contractual obligations from signature of the Contract up to five years after payment of the balance of the last implementation.
- II.17.3** In addition, the European Anti-Fraud Office may carry out on-the-spot checks and inspections in accordance with Council Regulation (Euratom, EC) No 2185/96 and Parliament and Council Regulation (EC) No 1073/1999 from signature of the Contract up to five years after payment of the balance of the last implementation.

ARTICLE II. 18 – AMENDMENTS

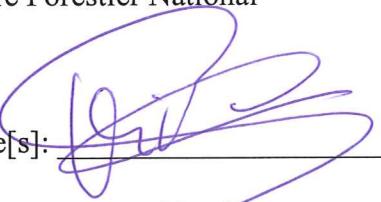
Any amendment to the Contract shall be the subject of a written agreement concluded by the contracting parties. An oral agreement shall not be binding on the contracting parties. An order or a specific contract may not be deemed to constitute an amendment to the Contract.

ARTICLE II. 19 – SUSPENSION OF THE CONTRACT

Without prejudice to the Commission's right to terminate the Contract, the Commission may at any time and for any reason suspend execution of the Contract, pending orders or specific contracts or any part thereof. Suspension shall take effect on the day the Contractor receives notification by registered letter with acknowledgment of receipt or equivalent, or at a later date where the notification so provides. The Commission may at any time following suspension give notice to the Contractor to resume the work suspended. The Contractor shall not be entitled to claim compensation on account of suspension of the Contract, of the orders or specific contracts, or of part thereof.

SIGNATURES

For the Contractor,
Claude Vidal
Director
Inventaire Forestier National

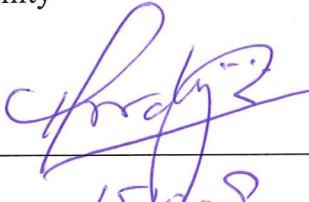
signature[s]: 

Done at Nogent-sur-Vernisson,

In duplicate in English.



For the Commission,
L. Hordijk
Director of the Institute for Environment
and Sustainability

signature[s]: 

Done at Ispra,15/06/08.....

OPPRESSIVE CLAUSES

Article 1341, 2nd paragraph of the Italian Civil Code

In accordance with the provisions of Article 1341, 2nd paragraph, of the Italian Civil Code, the Contractor expressly declares to accept the following provisions:

Article I.7 of the Special Conditions (Applicable Law and Settlement of disputes)

Article II.2 of the General Conditions (Liability)

Article II.15 of the General Conditions (Termination by the Commission)

Article II.16 of the General Conditions (Liquidated damages)

Article II.19 of the General Conditions (Suspension of the Contract)

For the Contractor,
Claude Vidal
Director
Inventaire Forestier National

signature[s]: 

Done at Nogent-sur-Vernisson,



FRAMEWORK CONTRACT FOR THE PROVISION OF FOREST DATA AND SERVICES IN SUPPORT TO THE EUROPEAN FOREST DATA CENTRE

1 Abstract

The objective of this tender is to broaden and develop the knowledge base of the European Forest Data Centre (EFDAC) hosted by the Joint Research Centre (JRC)¹ of the European Commission which has been established to supply European Union decision-makers with processed, quality checked and timely policy relevant forest data and information within the EU and territories where EU policies are operating.

2 Background

Success in the conception, development, implementation, monitoring and further improvement of environmental policies depends crucially on the availability of robust data on the state of the environment, pressures, impacts and responses.

The EU Forestry Strategy² emphasises the importance of continued development in the field of forestry information and communication. One major objective in this regard is the improvement of the quality and reliability of data on forests. Co-operation with relevant national and international institutions is recognised as important to bring about the desired results.

In order to ensure the provision of robust data and information on the state of the environment for the development of environmental policies at European Union level, the European Commission Directorate-General Environment (ENV), Joint Research Centre (JRC) and Eurostat, with the European Environment Agency (EEA), all together called "Group of four" (Go4), have agreed at the end of 2005 the establishment of "Environmental Data Centres".

As part of the joint system and covering the thematic aspects of forests and forest related applications in EU, the European Forest Data Centre (EFDAC) has been established within the JRC to constitute the primary focal point for information on forest related issues. The role and features of EFDAC will evolve over time in line with the setting up of the Shared Environmental Information System (SEIS), which constitutes a priority area of LIFE+ Regulation³, aimed at strengthening the knowledge base for policy making and implementation.

The EU Forest Action Plan⁴ highlights under Key Action 8 that harmonized information on forest is needed to fulfil the Commission's and the Member States' commitments under international agreements and to implement EU Directives. Under the same Key Action 8, the establishment of

¹ EFDAC will be managed by the Land Management and Natural Hazards Unit of Joint Research Centre's Institute for Environment and Sustainability, located in Ispra, Italy (see <http://ies.jrc.ec.europa.eu>).

² Council Resolution of 15 December 1998

³ Regulation (EC) No 614/2007 of the European Parliament and of the Council of 23 May 2007 concerning the Financial Instrument for the Environment (LIFE+)

⁴ COM(2006) 302 final

the European Forest Data Centre by the Joint Research Centre is identified as part of the European Forest Monitoring System, which may not be limited to environmental indicators but will also include economic and social information and could be expanded to cover the indicators endorsed at the 4th Ministerial Conference on the Protection of Forests in Europe (MCPFE).

The FOREST staff of the Land Management and Natural Hazards Unit of the Joint Research Centre, Institute for Environment and Sustainability, is in charge of setting up EFDAC, which is currently under development as the focal point for forest information at European level in support to relevant EU policies.

The EFDAC will provide a gateway to data holdings and information on forest resources in Europe and will be established in close collaboration with DG Environment, Eurostat and the European Environment Agency (EEA).

In addition the EFDAC will support the generation of value-added pan-European indicators on sustainable forest management on the basis of data collected by the Member States.

These requirements call for a significant scientific effort at the European level to develop a sound knowledge base through *ad hoc* studies and the re-processing of forest related data and information from local to European scales.

3 Objective

The present call for tender aims at establishing a framework contract to broaden and develop the knowledge base of the European Forest Data Centre hosted by the Joint Research Centre of the European Commission, tasked with supplying European Union decision makers with timely and policy relevant information on forests in Europe.

The contract will play a key role in supporting the EU Forestry Strategy, the development, implementation and monitoring of forest related environmental policies of the European Union, as well as the international reporting efforts.

Conceptually the successful contractor will have to provide:

- a trans-national perspective on forest information, producing novel work and advice on issues that are potentially relevant to EU forest related policies;
- a common and enriched knowledge-base on forests in the EU;
- a quality controlled mechanism for the supply of *ad hoc* processed, policy relevant forest data

It is to be noted that (as foreseen by article I.1.2 of the Service Framework Contract) the signature of the Contract imposes no obligation on the Commission to purchase. Only implementation of the Contract through specific contracts is binding on the Commission.

More concretely the framework contract will include of the provision of the following services/data at EU level:

a) **technical assessments** (e.g. reports, models, reviews, etc.) and

b) **data** in the form of either:

- a. statistics from forest inventory data (e.g. spatially aggregated plot data to provide harmonized estimates of selected indicators/attributes for given areas)

- b. selected plot attributes derived from plot observation/measurements (e.g., forest type, growing stock), to be used e.g., as validation or training fields for map production or modelling

4 Scope

i. Technical assessments

The scope of the technical assessments will be in the performance of thematic analysis services that will result in the production of e.g. scientific reports, models for data processing, reviews.

The following aspects could be covered:

- a) Development and/or testing and/or refinement of methods/estimation procedures to derive EU harmonized indicators from National Forest Inventory data (e.g. development of bridging functions);
- b) Studies on new indicators for targeting new emerging needs, identification of knowledge gaps towards harmonization of forest inventory derived indicators
- c) Harmonized quality assessment/control methods of forest related data and derived estimates
- d) EU level synthesis on specific aspects of EU forests or forestry practices (such as e.g., review or setting up of a multi-lingual forest and forestry thesaurus);
- e) Support to the preparation of EU Forest reports (in collaboration with EC services) on specific aspects of EU forests, that may emerge on the EU policy-makers' agenda;
- f) Anticipation analysis, intended to act as a trigger for in-depth studies, aiming at the identification and description of trends.

Request for technical assessments may be in the form of:

- g) Fast-track actions (e.g. 1-3 months), designed to provide quick responses to specific assessment queries. These actions could include short studies, briefing documents.
- h) Long-term studies (e.g. 6-12 months) designed to develop, enrich and harmonise the knowledge base on EU forests

ii. Data

The scope of data provision is to deliver to EFDAC the necessary data to supply decision makers with value-added policy relevant information. Two types of data requests are foreseen:

- a) Statistical data on forest resources derived from forest inventory (estimates from spatially aggregated plot data). The service demanded will consist in the re-processing of already available NFI data, to target the requested aggregation level and/or the reference definition for the indicator/attribute (applying specific estimation procedures, bridging functions, conversion algorithms etc.), and the provision of the resulting data in the requested format such as e.g., MS Access tables with given structure. The spatial aggregation criteria requested could be either administrative (e.g. NUTS), thematic (e.g. climatic regions), or geometric (e.g. INSPIRE European Reference Grid 100 x 100 km²)

- b) Geo-referenced forest plot attributes. The request will be limited to selected harmonized indicators (i.e. not individual tree data but plot site features and/or stand features, such as forest type, growing stock etc..) mainly, although not exclusively, to support the production of EU level thematic maps or modelling activities, and will not cover the entire set of plots but a selection of them. The service will consist in the selection of the relevant subset of plots, the data processing to derive the requested harmonized indicator definition and the provision of the targeted attributes in the requested format.

All provided data must be accompanied with detailed metadata records, fully describing the dataset and following a metadata model, compliant with INSPIRE guidelines, that will be indicated by JRC.

5 Targets

Because science and technology are in a state of continuous and rapid evolution and knowledge is often fragmented and dispersed, the contractor should be in a position to assimilate information from a broad collection of experts and organisations that can supply the JRC with up-to-date and high quality scientific and technological information and data on a range of forest related issues.

The successful contractor must be able to provide linkages to forest information for all EU and EFTA Member States, Candidate Countries and Potential Candidate Countries and to a lesser extent, EU Neighbouring States.

Access to forest inventory plot data is a key issue. The successful contractor should demonstrate to be in a condition of handling directly such data covering, within the list in the previous paragraph, as many countries as possible, either by being data owner and/or by having established formal agreements with data owners (letter of commitments to provide full access to plot data).

Due to the key role played by National Forest Inventory (NFI) organizations, both as data owners and as being ultimately responsible for reporting on forest resources in their respective Countries, to ensure a successful contract NFI from minimum 3 Member States of the EU are requested to be part of the tenderer consortium. As a whole, the data coming from NFI being direct part of the consortium (minimum 3 Countries) plus the data coming from NFI having formally agreed to provide access to their data, should cover minimum 5 Member States of the EU.

The existence of legal constraints to the distribution of individual plot data that may exist in certain countries will have to be taken into account. In these cases the requests will have to be limited to forest statistics therefore excluding access to plot data.

Whereas requests for both Technical assessments and Data will generally be pan-European in nature, it is foreseen that specific requests could also be targeted at regional scales (e.g. geo-climatic zones, forest regions or pilot areas).

The successful contractor must be able to guarantee the reliability of the information provided, in the form e.g. of standard errors or confidence intervals of the estimates, or location accuracy for plots.

Regarding the applicable reference definitions and the type of data that will be requested, as an indication harmonized data will consider as reference FAO definitions (FRA2005 - Forest Resource Assessment 2005) and could consist in a first instance of selected MCPFE (Ministerial Conference on the Protection of Forests in Europe) indicators. Available results of the COST

ANNEX N°1 TO CONTRACT N°384104

Action E43 (Harmonisation of National Forest Inventories in Europe: Techniques for Common Reporting) must be taken into account in this respect.

6 Tasks and processes

First, a kick off meeting shall be held after the coming into force of the framework contract in order to formalise the detailed operational management procedures; this meeting shall detail and refine, on the basis of the open call requirements and the submitted offer:

1. The Contractor management procedures, quality management, identified point of contact, etc.
2. Communication means and schedules between the Contractor and JRC
3. Contractual procedures (provision of annual activity report, form and content of thematic proposal, specific contract).

Then, each technical assessment or data request (also referred to as an activity) shall be carried out according to the following procedure:

1. The JRC specifies the topic, scope, tasks and terms of the request, in the frame of the present specifications, and submits them to the contractor.
2. The Contractor assesses the feasibility and makes a technical proposal. The proposal must also contain:
 - a. a description of the competencies of the person(s) who will directly work on the topic;
 - b. a timetable to complete the request,
 - c. the number of person/days of work involved split by personnel competencies
 - d. the itemised cost of the study or data provision service.
3. Once the JRC has accepted the proposal, a specific contract is sent to the Contractor to be signed in order to start the activity according to the agreed proposal.
4. A kick-off meeting is organised for the specific contract to formalise the methodology that the Contractor intends to follow.
5. During the course of the activity, information exchange will take place between the contractor and JRC; however, if necessary, an ad-hoc meetings could be organised to discuss specific unclear points of the activity.
6. One month before the end of the activity period for the specific contract, the Contractor is to provide a draft report containing an executive summary, the full analysis for the agreed request and the achieved results (in the case of data requests, then a draft version of the dataset should also be presented).
7. The achieved results and the draft report or data will be presented and discussed during the final meeting.
8. After the final meeting, the final deliverables and/or datasets will be produced taking into account the comments received during the meeting.
9. Algorithms, tools and detailed specifications allowing a straightforward implementation of the final results at the JRC will be part of the deliverables. Data will be delivered in the agreed format, accompanied by structured metadata information following a predefined schema and the relevant technical documentation (including quality assessment report).
10. Any reports or data delivered will be regarded as the exclusive property of the European Commission. In case of already existing datasets, terms and condition of use will have to be specified ex-ante and without exception by the contractor on a case by case basis, also considering legal constraints (e.g. related to privacy) that may exist in specific Countries.

The activities shall be supervised by a Contractor's senior scientific manager even if the activity is carried out by more dedicated personnel.

7 Timetable and deliverables

General management deliverables related to the framework contract

- A kick-off meeting report shall be submitted within 20 working days of the date of the kick-off meeting to formalise the framework contract management procedures;
- A general report shall be submitted at the end of each contractual year to summarise activities performed during the year.

Deliverables related to the specific contracts

For every request of activity from the JRC, the Contractor must provide:

- A proposal to describe how the activity will be carried-out and the involved cost, within 20 working days of the reception of the specifications sent by the JRC;
- A kick-off meeting to formalise how the activity will be managed and carried-out, within 10 working days of the coming into force of the specific contract; meeting minutes within 5 working days of the meeting
- A final meeting to present the results of the activity, within 10 working days of the end of the activity; meeting minutes within 5 working days of the meeting
- A final report and/or all other foreseen deliverables, to present the results of the activity and conclusions, within 10 working days of the final activity meeting;
- All databases or spatial datasets developed during the activity and all related metadata.
- The implementation of the thematic results in a geo-spatial environment (if applicable and if requested in the specific contract).

NB: Kick-off meeting and the yearly management reports under the framework contract will not generate specific payment. A general management cost within the specific contracts for thematic studies shall cover the cost of these meetings, deliverables and reports.

ANNEX II TO CONTRACT 384104



INVENTAIRE FORESTIER
NATIONAL

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**European Commission Joint Research Centre
Institute for Environment and Sustainability
Attn Mr Guido Monteggia
Via Enrico Fermi, 1
TP 263
I-21020 ISPRA (VA)**

Nogent-sur-Vernisson, le 11 février 2008

(Object : Tender for the project called "Framework contract for the provision of forest data and services in support to European Forest Data Centre" number 2007/S 194-235358.

P.J. : Offer

Dear Sir,

I have honour to delay you, enclosed, the joint offer of National Forest Inventory, of Forest and Landscape Denmark (Faculty of Life Sciences University of Copenhagen), of Federal Research and Training Centre for Forest, Natural hazards and Landscape (Austria), of Norwegian Forest and Landscape institute, of Forest research (United Kingdom), of Finnish Forest Research Institute (Finland), of Forest Technology Centre of Catalonia (Spain), of Swedish University of Agricultural Sciences SLU (Sweden) and of Swiss-Federal Institute for Forest, Snow and Landscape Research WSL as part of the procedure named in object.

(You will find, below, solicited documents in the administrative annex.

Yours faithfully.

Claude VIDAL
Director



INVENTAIRE FORESTIER NATIONAL



skog+
landskap

NORWEGIAN FOREST AND
LANDSCAPE INSTITUTE

METLA

Helsingforsinstitutet
Skogforskningssinstitut
Finnish Forest Research Institute



Forest Research



Swedish University of
Agricultural Sciences



Technical information

“Framework contract for the provision of forest data and services in support to the European Forest Data Centre”

Reference: 2007/ S 194-235358 of 09/10/2007

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1 Introduction and problem understanding

1.1 The French National Forest Inventory (FNFI)

1.1.1 Presentation of the NFI

The French NFI is an independent public institution under the administrative supervision of the French Ministry of Agriculture. Its mission is to conduct the permanent inventory of French forests. It establishes statistics about forests, moorlands, hedges, poplar stands and isolated trees. It draws maps and collects ecological and dendrometrical data all over France. It stores raw data in databases and produces maps, statistics and reports. FNFI is therefore at the forefront on topics such as inventory design, data collection, database management, data computing, Web reporting, and “dynamic” mapping. It offers high quality information in a wide variety of fields and formats to its users. These competencies rely on more than 40 high-level experts (including 15 seniors).

For the French NFI, *efficiency, data management and new technologies* are not only words, they represent concrete results.

In the field of data processing, FNFI's experienced professional team uses up-to-date technologies, to develop numerous applications, for example, a shared platform to help French regional forest actors to share geographical information. This application lets them describe their information using a metadata database, visualise maps and cross geographical data. The first generation of this platform is based on Dublin Core Metadata for description and a Web Map Service for visualisation.

1.1.2 FNFI involvement in ENFIN, Forest Focus, INSPIRE and other international forest networks

At the European level, FNFI is actively implicated in many forestry dossiers. It is a member of ENFIN (European National Forest Inventory Network) and closely involved in the COST Action E-43 on “Harmonisation of National Forest Inventories in Europe: Techniques for Common Reporting”. The main objective of this Action is to improve and harmonise the existing national forest resource inventories in Europe. Experts from the French NFI are taking part in each of the three working groups:

- WG1: harmonisation of definitions and measuring practices;
- WG2: harmonisation of estimation procedures for carbon pools and carbon pool changes;
- WG3: harmonisation of indicators and estimation procedures for assessing components of biodiversity with FNFI data.

Moreover, FNFI director, Claude Vidal, is chairman of the working group 1. An engineer takes part in short-term missions from this group whose mission is to propose reference definitions and define harmonisation proceedings.

The French NFI took part in the development of the NEFIS project (Network for a European Forest Information Service). One of the experts was involved in the settlement of metadata and controlled vocabularies standards, another one in data preparation and provision. During this project, the experts acquired an experience in thesaurus building as well as norm choice and adaptation. They also studied practical situations with the introduction of metadata and data from the French NFI into the system.

As NEFIS was intended to prepare the ground for EFIS (European Forest Information System) to become a European node of GFIS (Global Forest Information Service), it gave the opportunity to the French NFI to be aware of the European and International forest community contexts.

FNFI dynamism is also expressed in actions dealing with the Forest Focus regulation. For the French part of the European forest monitoring network (16 x 16 km systematic grid), this institution is in charge of the Web application for the reception, validation and storage of Level I and Level II data. The FNFI is the data administrator of this network. Still within the Forest Focus framework, FNFI is associated to the French National Focal Centre for forest-fire data management. One of the FNFI team members is also taking part in the Ground Vegetation and Crown Condition expert panels, and was co-author of the 2003 technical report on the Intensive Monitoring of forest ecosystems in Europe (DeVries *et al.* 2003).

In relation to INSPIRE, FNFI is declared as a Legally Mandated Organisation (LMO) and proposed one expert in the Metadata group. The European National Forest Inventory Network (ENFIN) declared itself as forest Spatial Data Interest Community (SDIC). On both sides, FNFI will follow the elaboration of the directive proposal and share its knowledge of forest data.

With these implications, FNFI proves another time its will to be involved in the new promising projects turned towards the Future.

The French FNFI is the main provider of forest-related data in France. It provides information to the FAO for the Forest Resource Assessment (**FRA**) and to the UNECE for the Temperate and Boreal Forest Resource Assessment (**TBFRA**) and the **MCPFE** Criteria and indicators.

But its missions are not restricted to data production. It also takes part in the working groups defining the results to be presented. It contributes to the setting up of the joint questionnaire FAO/UNECE/Eurostat/ITTO on production and trade of forest products, and in debates on sustainable forest management in Europe (workshops, data provider for a LIFE project). Moreover, the director is the vice-chairman of the UNECE/FAO Team of Specialists on "Monitoring forest resources for sustainable forest management in the UNECE region. He also participated in the task force preparing the MCPFE criteria and indicators report.

FNFI is participating in the **INTERREG** programme on sustainable forest management in Western Europe (France, Ireland, Portugal and Spain). Its main contribution to this project is the development of a carbon sinks evaluation method. It also computed results based on his data.

1.2 The consortium

Thirteen countries are involved in the project. The consortium is lead by the French National Forest Inventory, with others 8 countries as co-contractors and 3 countries as sub-contractors. The consortium has the following organisation:

Project leader

French National Forest Inventory

Co-contractors:

Finland: Finnish Forest Research Institute (METLA)

Austria: University of Natural Resources and Applied Life Sciences Vienna (BOKU) *Federal Research and Training Centre for Forest, Natural Hazards and Landscape (BFW)*

Switzerland: Swiss Federal Institute for Forest, Snow and Landscape Research (WSL)

United Kingdom: Forest Research

Denmark: University of Copenhagen- Faculty of Life Science – Forest and Landscape

Sweden: Swedish National Forest Inventory & Swedish University of Agricultural Sciences (SLU)

Spain: Forest Technology Center of Catalonia

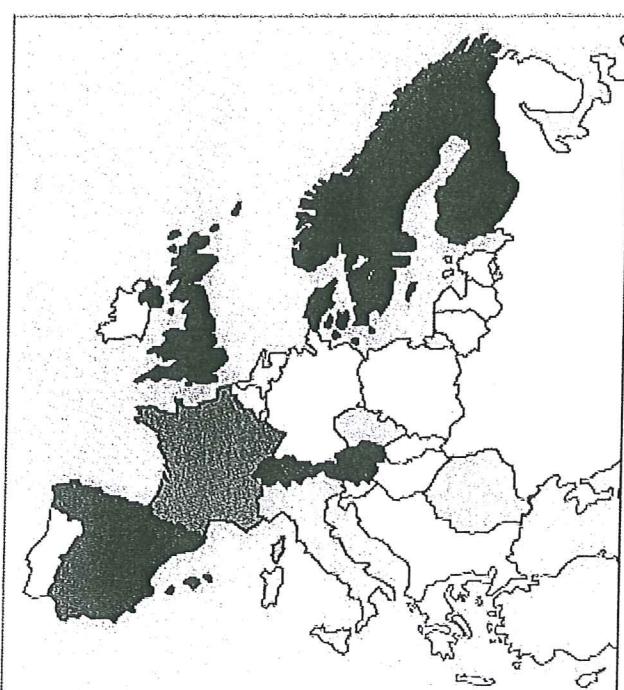
Norway: Norwegian Forest and Land Institute

Sub contractors:

Romania: Forest Research and Management Institute (ICAS)

Czech Republic: Forest Management Institute

Italy: Italian Academy of Science of Forstale



1.3 Problem understanding

1.3.1 European Union forest information needs

European administrations and policy makers need comprehensive data on forest resources at European level as highlighted in the EU Forest Strategy document (Council Resolution of 15 December 1998) and emphasized again in the EU Forest Action Plan (COM(2006)302 final). A harmonised long-term monitoring of forest is needed to support the EU institutions in following and orienting the EU policy and to support European forest sector professionals and forest industrial sector. Furthermore, comprehensive information on forest assets is vital for European Institutions in order to report to international engagements such as Kyoto protocol, Convention on Biological Diversity (CBD) and the landscape preservation action accepted by the Council of Europe. Europe has become more and more economically and politically integrated. Decision-making is done not only at national level but also at local-regional and global level. Therefore, comparable forest resource information is of vital importance for proper forest, forest industry and environment decision-making. Such comparable forest resource information is also useful and could be expanded to cover the indicators endorsed at the 4th Ministerial Conference on the Protection of Forests in Europe (MCPFE).

When decision-making is based on quantitative estimates of the amount and condition of the forest resources, it is thus necessary to have harmonised methods to quantify the resources and to monitor their condition. Moreover, the definitions of each of the concepts in each Member States should be such that each member can provide comparable data, or at least that data can be made comparable by means of harmonisation., harmonised.

1.3.2 Current situation on forest resources assessment and forest monitoring

Information on forest resources has traditionally been used for forest policy decision making at national and regional levels. Practically, all Member States collect forest information through national forest inventories (NFIs). Each NFI is designed to provide information relevant for local and national level decision making, policy formulation and monitoring of forestry and relevant sectors, as well as for forestry planning in smaller geographical or political units at the sub-national level. During the past decades, the scope of forestry has become wider and the information needs have increased. The monitoring of forest resources for assessing the vitality of trees and forests, forest biodiversity and the role of forests in global carbon cycle has become an important issue. NFIs already provide information on all or some of these topics.

In addition to forest inventories at the national level, other monitoring efforts were established in Europe by the European Commission. In particular, two regulations on the monitoring of the effect of atmospheric pollution and forest fires were established in 1987 and 1992, respectively. These were the Reg. 3528/86 on the Monitoring of Atmospheric Pollution in Forests and Reg. 2158/92 on Forest Fire Prevention, the latter being complemented by Reg. 804/94 for the establishment of an information system for forest fires, the so-called Common Core Forest Fires Database.

The FAO and the International Union of Forest Research Organisations (IUFRO) collect and agree on globally accepted concepts and definitions used in forest inventories. FAO has also collected the global level forest resource information since 1947. Since the beginning of 1950's, various regional and global surveys have been conducted every five to ten years. As knowledge on the forest resources has improved at national levels and as technology has advanced, the Global Forest Resources Assessments have increased in breadth and quality. Forest Resource Assessment 2000 and 2005 (FRA 2000 and FRA 2005) are so far the most comprehensive in terms of the number of references used and information analysed on forest cover, forest state, forest services and non-wood forest products (NWFP). FRA 2000 applies for the first time a single technical definition of forest at the global level, based on 10 percent crown cover.

In spite of the globally agreed definitions, some countries do not necessarily apply them, or, it may take time to move to the use of commonly agreed definitions and concepts. More practical work is needed to implement common definitions than what is possible from FAO and UNECE/FAO side, e.g. to interpret the rather general level definitions. This is particularly the case when dealing with NWFP, e.g., with nature conservation and biodiversity, but also to some extent in the case of basic forest variables, like forest area and growing stock and the increment of the growing stock. The lack of commonly agreed definitions leads to the situation that direct comparison between countries is still not possible and that regional level information is unreliable and cannot be used for proper decision-making. Examples of differences are differences between forest definitions (e.g. minimum tree crown cover), in minimum diameter of trees to produce volume and increment estimates.

1.3.3 National Forest Inventories Harmonisation

Comparable forest resource information is of vital importance for proper forest and environment decision making and to fulfil monitoring and reporting obligations at EU and international level. To respond to these requirements, European national forest inventories established an informal co-operation network ENFIN in Vienna in June 2003. The network was considered necessary forum to share knowledge and to demonstrate to the European forest information users the possibilities of NFI to respond to European forest information needs. A COST action funding proposal was launched shortly after the first ENFIN meeting and was selected by COST Office (COST Action E43 on Harmonisation of National Forest Inventories in Europe: Techniques for Common Reporting). Each member of the proposed consortium is also member of ENFIN and actively participate to the COST action.

Objectives of the Action are 1) to improve and harmonise the existing national forest resource inventories in Europe, 2) to support new inventories in such a way that inventories will meet national, European and global level requirements in supplying up-to-date, harmonised and transparent forest resource information, and 3) to promote the use of scientifically sound and validated methods in forest inventory designs, data collection and data analysis.

The action entered into the force in June 2004 for 4 years and has been extended until end of 2008. So far, 29 countries have signed the memorandum of understanding and participate actively in the work of the action. The E43 has three working groups focusing on 1) harmonised definitions and measuring practices of forest inventories, 2) harmonised estimation procedures for carbon pools and carbon pool changes, and 3) harmonised indicators and estimation procedures for assessing components of biodiversity by means of NFI data. The action has held eight joint working group meetings and nine management committee meetings as well as organised eleven short-term scientific missions. It has produced summaries of the state-of-arts of national forest inventories and their data comparability concerning basic forest resource parameters, carbon pool change reporting and capability to report biodiversity indicators. E43 has also written six scientific articles (actually accepted or under review) for what is called references for forest inventory concepts and definitions and presented possibilities to produce comparable results when the definitions of national forest inventories vary.

E43 has over one hundred participating persons from 27/28 or 29 check! European countries and also participants from non-COST countries like USA or Japan. It also integrates to its work FAO, UNECE/FAO, MCPFE and DG JRC of European Commission. In order to provide European level harmonised data, all European country has to be involved. An obvious restriction for the practical work is the limited possibilities of COST office to fund more than meetings. Several short term scientific missions have launched the work, identified the problems and the future work to be done. However, much more work is needed to finalise the harmonisation process. Most of the work has been done on voluntary basis without external funding. According to JRC requests and priorities, this framework contract is an opportunity to continue and enhance harmonisation work on forest resource in order to improve the quality and reliability of data on European forests.

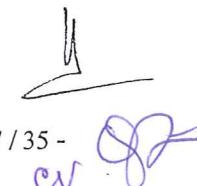
ENFIN and COST action have offered a good opportunity to establish confidence relationships between each forest data provider. Thanks to that, a shared database with metadata has been created to carry out studies on harmonisation. A confidential agreement was signed by each data owner to provide the data in this database.

1.3.4 Other harmonisation projects

The need for comprehensive and reliable forest information at the European level concerns several topics corresponding to the multiple functions of forests. To be able to provide these types of data, National Forest Inventories collect information, store and analyse them. To ensure the comparability of the results, NFIs work together toward the harmonisation of indicators. Two examples of ongoing projects financed by the European Commission, DG Joint Research Centre, are ProAlp and MASCAREF.

PROALP

ProAlp started in November 2006. It aims at proposing harmonised indicators of the protective function of forests in the Alpine space. It is lead by the Austrian NFI (BFW) and the French NFI (IFN). In this project, the NFIs from five countries work together with experts in the relations between forests and hazards. They selected together indicators revealing the protective function of forests at the landscape level, scale which is compatible with NFI statistical design. The NFIs from countries in the Alpine space are different. So a status of available information for computing the chosen indicators was established. The further steps of the project are to establish the methodology to compute the indicators although the input data slightly differ. Then examples of harmonised indicators will be provided to JRC. The proposed methodologies are based on statistics and modelling on one hand, and on remote sensing analysis combined with kNN algorithm on the other hand.



MASCAREF

The consortium is involved in the study under EEC 2152/2003 Forest Focus regulation on developing harmonized methods for assessing carbon sequestration in European forests funded by the EC-Joint Research Centre.

The project duration is 2007 to 2009.

All Member States of the European Community (EC) are parties to the United Nations Framework Convention on Climate Change (UNFCCC) and to its Kyoto Protocol (KP). The countries must monitor and report their anthropogenic emissions and removals of greenhouse gases (GHGs), including sources and sinks related to forest activities such as afforestation / reforestation, deforestation and forest management. The EC as a Party to the UNFCCC defined a "Mechanism for monitoring Community greenhouse gas emissions and for implementing the Kyoto Protocol". Currently, all E25+ members of the EC report their greenhouse gas inventories to UNFCCC and EU. Under the EU scheme, the individual countries' GHG inventories are submitted to JRC, which performs their quality analysis and transfers them to European Environmental Agency (EEA). The idea is to develop harmonization and quality control procedures, serving to establish comparability between national estimates on the one hand, and aid to the improvement of completeness, accuracy, consistency, comparability and transparency in the national and EU-wide GHG inventories for forestry related activities

The overall objective of the MASCAREF project is to facilitate the development of a monitoring scheme for carbon sequestration in the forests of the EU. Specifically, the MASCAREF project aims at aiding:

- i) Strengthening and harmonizing the existing national systems to better meet the requirements of international monitoring and reporting of greenhouse gas emissions and sinks,
- ii) Improving the comparability, transparency and accuracy of the greenhouse gas inventory reports of the LULUCF sector of Member States, as implemented in the EC Monitoring Mechanism.

FOREST FIRES

The European Community (Institute for Environment and Sustainability of the Joint Research Centre) and the French NFI, following the Invitation to Tender No 2005/S 176-174127 of 13/09/2005, have entered a contract the subject of which is a service on "Development of a simple and efficient method for field assessment of fire severity". This applies to fires of at least 50 ha. The FIFN's tender was submitted in partnership with the Spanish Ministry of Environment and the Portuguese Instituto Superior de Agronomia. The contract was signed on 04/09/2006 for duration of two years.

The objectives of the tasks being carried out are:

- To test the feasibility and propose a methodology for the systematic collection of additional forest fire information currently not recorded in the common core fire database. The data to be recorded for all the fires should be used for the assessment of fire severity, burned biomass and burning efficiency as well as post-fire soil erosion.
- To test the feasibility and propose a methodology for the collection of GPS location of fires, during or after the end of the fire campaign.

Their content is:

- Compilation of a state of the art review regarding methodologies and collected parameters.
- Elaboration of a manual and a comprehensive field guide for forest fire severity assessment in Europe.
- Actual application of the methodology to a number of fires.
- Definition of specifications for the collection of a precise GPS location for each forest fire.

VEGETATIVE REGENERATION

Shifting climatic conditions will have an important influence on patterns of natural regeneration in forests and woodlands and overall fecundity. Under the new environmental conditions that evolve, certain tree species will struggle to regenerate successfully, while others will thrive. Mechanisms of regeneration may also alter significantly (i.e. altered balance of vegetative regeneration as compared to sexual regeneration from seed). Where trees can be considered as keystone species in forest ecosystems (strongly influencing the structure and composition of stands), changes in patterns of tree species recruitment have important implications for local biodiversity.

A work package aims to assess how regeneration (and overall tree species fecundity) are monitored in National Forest Inventories across Europe. Bridging functions that can be used to harmonise assessments across Europe will be proposed, particularly among tree species with a European-wide distribution. The basis of this work is a questionnaire that has already been circulated and responses received on the methods of monitoring regeneration in European NFI's.

USE OF NATIONAL FOREST INVENTORIES TO DOWNSCALE EUROPEAN FOREST DIVERSITY SPATIAL INFORMATION

The project "Pilot study on the use of National Forest Inventories to downscale European forest diversity spatial information in five test areas, covering different geo-physical and geo-botanical conditions", also known shortly as "forest downscaling" or just "downscaling" (contract 382340 F1SC following tender 176-174125 launched by the Joint Research Centre of the European Commission, Institute for Environment and Sustainability located in Ispra (VA, Italy), that entered in force the 21st of November 2006).

The study aims to address the feasibility to integrate National Forest Inventories data and remote sensing derived data to downscale large-scale aspects of forest biological diversity and check if compositional and structural changes acknowledged from remotely sensed data bases are linked to possible changes in forest biodiversity.

The rationale of the study is that the use of information derived from remote sensing data combined with terrestrial sampling based inventories may be a feasible low cost approach for a European wide forest biodiversity assessment and monitoring system. Such a system should be able to monitor and report the status and the changes in the level of biodiversity in forest ecosystems at different geographical scales.

Remotely sensed databases (CORINE Land Cover 2000 and 1990 available at 25 ha mapping unit, Landsat TM based forest maps at 25m pixel resolution) enable to compute and monitor every 10 years or less indicators of forest biodiversity at landscape level acknowledged within the MCPFE process (MCPFE, 2003b) and the Convention on Biological Diversity.

The project was structured as follow. The first year of activities is mainly devoted to the selection of test sites (located in five different biogeographical regions of Europe), to prepare the first draft bibliographic review, to define the main outlines of the methodology to be adopted in the project and to the acquire and harmonise raw data in selected test sites.

The final analysis will combine multitemporal and multiscale forest spatial pattern maps with geocoded NFI data in order to study, analyse and model the relationships between these two different sources of information. Other GIS-based ancillary sources of information will also be used in the analysis, if available.

1.4 A new European context

1.4.1 Forest part of LIFE +

In 2004 the European Commission published a proposal for a new instrument for 2007-13. The LIFE+ Regulation brings together a number of programs that operated between 2000 and 2004: LIFE-Environment and LIFE-Nature Programs, Forest Focus, the Urban Program and a number of other smaller funding streams from Directorate General for the Environment. LIFE+ provides specific support for the development and implementation of Community environmental policy and legislation, in particular the objectives of the Sixth Environmental Action Program and resulting thematic strategies.

The FutMon and the FutDiv project proposals under the Life+ Regulation

The first call for proposals was launched in the autumn 2007 and two main proposals were submitted from the forest inventory and monitoring communities in Europe. For the first time, National Forest Inventories and the European forest monitoring network (Level 1 and Level 2) sent joint applications to the European Commission. The two submitted projects were the FutMon project "Further Development and Implementation of an EU-level Forest Monitoring System" and the FutDiv project "Future forest biodiversity monitoring in Europe".

The main aim of the FutMon project is to create a pan-European forest monitoring system which can serve as a basis for the provision of policy relevant information on forests in the European Union. More specifically, the objectives of the FutMon project are to: (i) build capacities for coordination of a harmonised forest monitoring, using synergies by linking existing and new monitoring mechanisms at the national, regional and Community level; (ii) collect quantitative and qualitative forest data related to climate change, air pollution, biodiversity, and forest condition as a possible contribution to the European Forest Data Centre (EFDAC) of the European Commission (EC) as well as for dissemination to other authorised stakeholders; (iii) contribute with information needed for sustainable forest management in the form of data related to the improved pan-European Indicators for Sustainable Forest Management as adopted by the Ministerial Conference on the Protection of Forests in Europe (MCPFE); (iv) provide a network to other projects also aiming at meeting information needs of EC; (v) scientifically analyse data and the provision of respective reports focusing on forest conditions and forest soil conditions in relation to air pollution, climate change, carbon sequestration, and biodiversity.



The objectives of the project will be pursued by means of a comprehensive networking approach. This approach will make use of the fact that in Europe several forest monitoring mechanisms are established. A large-scale (Level I) and an intensive (Level II) forest monitoring system as well as the essential harmonised monitoring methods and standards are existent as developed by the International Cooperative Programme on Assessment and Monitoring of Air Pollution Effects on Forests (ICP Forests) under the United Nations Economic Commission for Europe (UNECE). In close cooperation of ICP Forests and EC, the assessment of qualitative forest information at Level I and Level II has been well established – in the EU-Member States under several Regulations. Under the expired Regulation “Forest Focus” additional information was assessed at Level I and partly Level II within the project BioSoil. At the national level also quantitative forest information is regularly assessed by means of National Forest Inventories (NFIs), their harmonisation being pursued by the European Forest Inventory Network (ENFIN). Each of the systems mentioned meets specific information needs of national and international environment and forest policies. In order to meet the more comprehensive future information needs of EC and other stakeholders, the proposed project FutMon will revise the individual systems and integrate them in the years 2009 and 2010. The resulting system will be implemented and its functioning will be tested in the subsequent implementation phase in the years 2011 to 2013.

The project involves 39 beneficiaries in nearly all EU-Member States. Nearly all associated beneficiaries are responsible for forest monitoring and partly for National Forest Inventories in their countries. Many of the associated beneficiaries are actively involved in the harmonisation of NFIs in Europe.

The FutMon project will serve as the basis for the FutDiv project which more specifically is aimed at forest biodiversity. The objectives of the FutDiv project are to: (i) develop, setting-up and test in the field an integrated system to detect and evaluate changes in biodiversity in forests in Europe, assessing key indicators of biodiversity at European scale, according to harmonized methods; (ii) provide scientifically sound tools for monitoring and assessing forest ecosystems, forest habitats, forest flora and fauna and the factors, pressures and responses that impact on it, in particular in relation to achieving the target of halting biodiversity loss within the Community by 2010, as mentioned into the EU Commission Communication COM(2006)216; (iii) provide data and information on status and trend of forest biodiversity at EU scale and at different scales of analysis, in particular on forest habitats included into Natura 2000 network.

FutDiv will be based on the set of biodiversity indicators mentioned in several EU official documents (European Commission Communication COM(2006)216 for halting biodiversity loss, EEA SEBI2010 Report 2007, EEA Forest Types Report 2006, SEBI2010 Forest Status Indicator Report). FutDiv will build on activities like assessments of stand structure, ground vegetation, deadwood, epiphytic lichens and forest types that have already been conducted on different levels at European scale (EU Level II and Level I plots, UN-ECE ICPs Forests and IM, LTER-Europe sites, National Forest Inventories and remote sensing data). The main project action aims at the integration and coordination of all suitable networks at National and European level. The project will select a core list of biodiversity indicators for reporting biodiversity in the main international processes. After exploring the availability of such data at different scales of space and time, available data will be collected from existing networks into a common database: they will be analyzed and used to evaluate the quality of the data and its use to monitor temporal and spatial changes in biodiversity. A harmonized methodology will be developed and a monitoring design will be proposed and tested with the aim of building a system for the future monitoring trends in forest biodiversity in the EU. A first cause-effect statistical analysis will be conducted at EU level, on the basis of available data and of sampled data during the project implementation.

In more details, the project will be implemented by mean of several actions. First a comprehensive collection of available data and methods (tree condition, forest structure, ground vegetation, deadwood, epiphytic lichens) from existing networks (ForestBIOTA Level II plots, BioSoil Level I plots, National Forest Inventories, LTER sites, ICP IM sites, Natura 2000 forest sites). Collection of information as concerns Natura2000 sites included into the mentioned networks.

This first action is followed by an action on network design: integration, harmonization and partly restructuring of existing monitoring and inventorying networks, to achieve a network representative for a number of biodiversity key factors at EU level, taking into account Eco-Regions, Natura2000 forest habitats and the relevant forest types (sensu EEA, 2006). Selection of a subset of NFI plots at National level, merging with Lev. I plots, selection and integration of core sites for cause effect statistical analysis (Lev. II plots, IM and LTER sites), on the basis of plots and sites as proposed by the ABs of the 14 participant Member States. Integration of all datasets with multi-scale and multi-temporal remotely sensed images.

A core set of biodiversity parameters will be elaborated to be sampled in the new integrated network, and development of harmonized methods at EU level, taking into account the existing trans-national and national approaches. A provisional working list of indicators and harmonized methods is already available, thanks to the first results of the collaboration between national experts from EU/ICP Forests and NFIs. SEBI2010 criteria and recommended indicators (EEA Report, 2007) will be applied for the final selection and development of the indicators. The indicator based on vegetation will contribute also to assess status and trend of threatened plant species and of invasive alien plant species. Additional parameters related to forest and deadwood invertebrates, naturalness/environment quality and epiphytic lichens at the large scale will be tested and integrated. Specific specialists will coordinate and advise the work as concerns the different indicators.

Further, the new monitoring scheme will be tested in the field in 2010-2011, in particular, sampling the core set of parameters in the new integrated network, at different levels/scales of investigation, with specific monitoring intensities and with methods adjusted to the respective assessment intensity, implementing a multi-level and multi-functional monitoring approach, allowing for the up- and downscaling of results. A set of additional parameters (environmental quality, invertebrates) will be tested; the rest of parameters, previously tested in the frame of pilot projects ForestBIOTA and BioSoil, will be extended to new scale levels, using amended protocols suitable for the respective scale.

Database management and set-up, scientific evaluations of the data from actions 3 and 6 (current biodiversity state, spatial variability, temporal trends wherever earlier data are available); integration into the European Forest Data Center (EFDAC), managed by JRC, at the end of the project.

Finally, cause-effect statistical analysis at EU level. Evaluation for possible up-scaling of intensive monitoring data at EU level and relationship with results for the representative large scale networks. Evaluation of statistical relationships between attributes of biodiversity and main pressure factors. Data from core sites as well as external and/or pre-existing data on the main pressure factors for biodiversity (air pollution, deposition, climate, etc.) will be used. Remotely sensed information will provide additional information at landscape level (fragmentation, connectiveness etc.). Results of the JRC pilot project on down scaling forest information will be utilized. Cross comparison of data coming from different scale of investigation.

A multi-oriented reporting of results (for policy makers, broad public, scientific community, national experts and forest managers). Evaluation of the test phase and final proposal of methods and monitoring design for reporting status and changes in forest biodiversity in Europe.

1.4.2 EFDAC

The European Forest Data Centre (EFDAC) has been established as the focal point for forest related data and information in Europe. This decision was taken in the end of 2005 by the European Commission's DG ENV, DG JRC, ESTAT and the European Environment Agency (the so-called "group of four" or G04) to establish ten environmental data centers in Europe. Each environmental data centre will act as the primary data contact point for DG ENV in order to fulfill its information needs. It will have the task of ensuring that the collected data fit DG ENV's requirements, that data collection is organized in an efficient way, that the necessary quality assurance is performed and that all relevant existing data are accessible to other G04 parties. It will thus have the primary responsibility for organizing the availability and quality of the data required for policy.

The requirements of DG ENV in relation to the EFDAC are at the one hand to receive scientific and technical support for issues in relation to the proposed European Forest Action Plan and for the development of European datasets, and at the other hand the availability of a suitable IT facility that allows management of and access to the forest data and information collected during the course of providing the scientific and technical support. Scientific and technical support should include the specification of guidelines for the identification of risk areas and of associated guidelines on data issues (quality, data-exchange formats) and the production of maps of risk for the different soil threats in the EU.

The European Forest Data Centre (EFDAC) will be developed and implemented as the single and central point for forest information at European level in support to relevant EU policies and as the basis of the European Forest Monitoring System proposed in the EU Forest Action Plan. The implementation of EFDAC will contribute to enhancing data harmonization and to streamlining data collection and reporting to international commitments such as the Ministerial Conference of the Protection of Forest in Europe (MCPFE), the FAO Global Forest Resources Assessment (GFRA) and the UN Convention on Biological Diversity (CBD). EFDAC will be built on the basis of the information systems currently existing or under development and in compliance with the guidelines of the Infrastructure for Spatial Information in Europe (INSPIRE). In particular, these systems are the European Forest Fire Information System (EFFIS), the Forest Focus Data Platform, and the European Forest Information and Communication Platform (EFICP). New methods and tools developed for forest and natural hazards monitoring (forest fires, storms, etc) will decisively contribute to the further development and implementation of the Global Monitoring for Environment and Security (GMES) initiative.

The EFDAC data centre is thus expected to foster provision of available data, information tools and to offer possibilities to plug this data into relevant modeling systems. The concept of the Environmental Forest Data Centre will be compliant with the envisaged Shared Environmental Information System.

The envisaged sources for the forest information that will reside at the EFDAC will include the JRC in-house data on forest like the EU-Forest Focus database on Forest Ecosystems and on Forest Fires, the forest mapping information, results from EU funded forest related projects. The EFDAC will be involved in:

- Operation and further development of the European Forest Fire Information System (EFFIS).
- Research and development of advanced modelling techniques, indicators and scenario analysis in relation to forest and forest biomass mapping, biodiversity and climate change.

- Assessment of forest resources in Europe, including the development of high-spatial resolutions forest maps (25 m) for 1990, 2000, and 2005 contributing to the CORINE landcover project and the FAO Forest Resources Assessment 2010.
- Follow-up of Forest Focus and support to the future monitoring of forest under the LIFE + programme.
- Finalisation of the European Forest Information and Communication Platform (EFICP).
- Support to the EU Enlargement and Integration Programme and the European Neighbourhood Policy.

The EFDAC IT facility hosts will host forest related products: datasets, documents, services and other types of information such as maps and graphs and provides web-based tools for the access to and the update of its contents.

1.5 Description of the proposed methodology for the provision of forest data and service

1.5.1 Technical proposal

The aims of this framework contract are i) to broaden and develop the knowledge base of the EFDAC hosted by the JRC, ii) to provide a perspective on forest information at a European level by producing work and advice on issues that are potentially relevant to EU forest related policies.

The need of the JRC is to ask the consortium for thematic analysis services or data processing services.

From our point of view, these two requested services are linked, a thematic analysis being often based on a preliminary data processing activity. So, the description of the proposed methodology doesn't separate the two cases. The data gathering is just detailed in a specific chapter. The overview of the process is described in the figure below. The points 1) and 2) are discussed between JRC and the project manager in due time and possibly meeting.

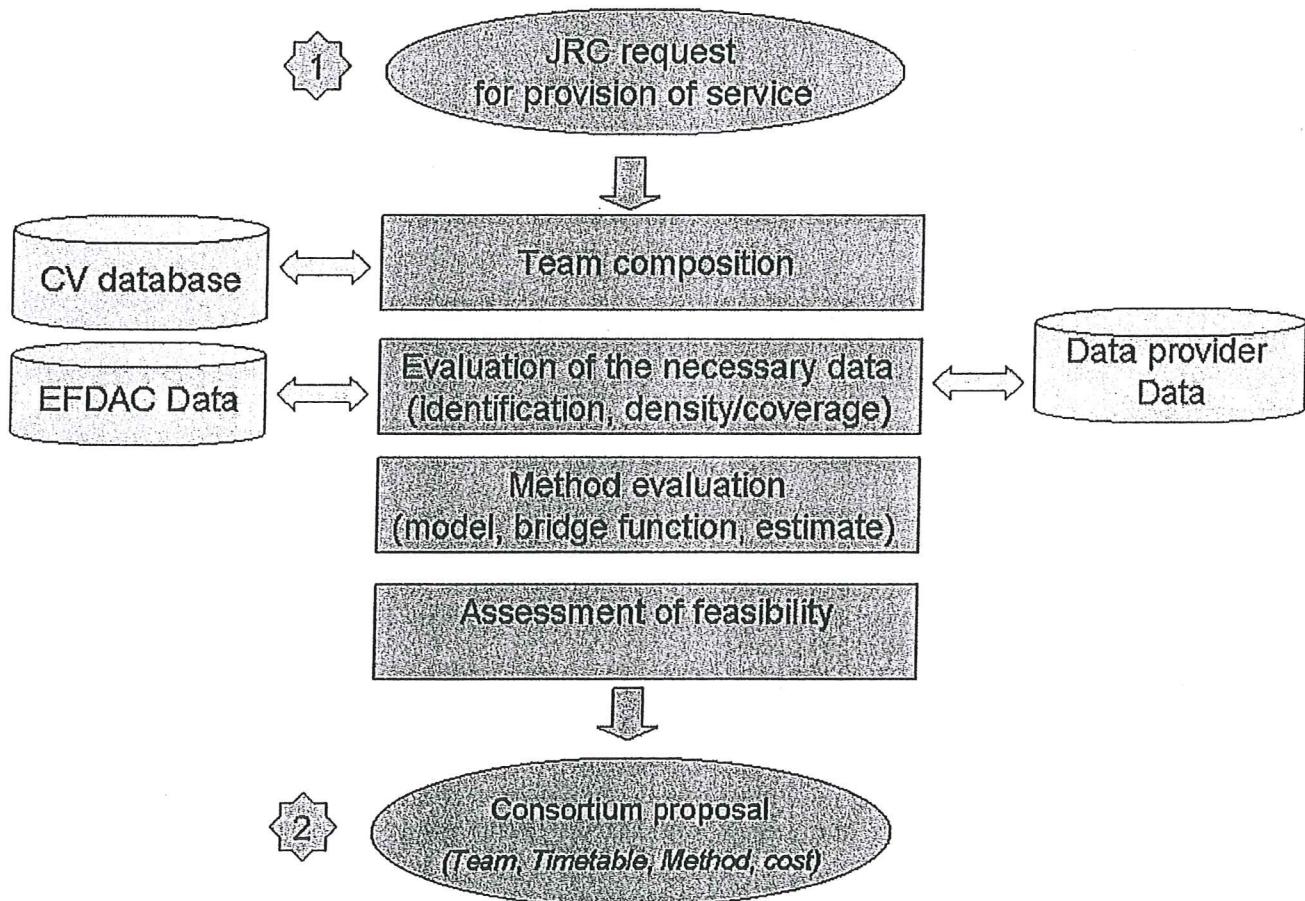


Figure 1: Process for generating a proposal

Because science and technology are in a state of continuous and rapid evolution and knowledge is often fragmented and dispersed, the consortium is in a position to assimilate information from a broad collection of experts and forest organizations in order to supply the JRC with up-to-date and high quality scientific and technological information and data on a range of forest related issues. Our strategy is to provide experts for a large panel of thematic aspects. Most of these experts come from the consortium members (**co-contractors**). In complement, the consortium plans to extend this possibility to other experts (**sub-contractors**).

The consortium has already constituted a **CV database** with reference keywords. The consortium plans to develop a small web based application to fill the CV database in friendly way.

For each specific JRC request, the consortium will use this CV database to identify the best scientific or thematic experts. Then a project team is composed of permanent members (project manager, scientific manager and scientific thematic officer) of the consortium but also the new incoming experts linked to the specific topic.

In response to the JRC request, this project team assesses the feasibility to elaborate a technical proposal.

The first step of this feasibility study is the evaluation of the necessary data to provide the requested service.

If all data are available in the **EFDAC**, the density of information is satisfactory and the coverage large enough (from a European point of view), this first step can be considered as achieved.

If some of those criteria are not reached, the consortium will evaluate what kind of data is needed and how to get the missing data.

The second step corresponds to the evaluation of method to produce the deliverable. It will be discussed within the team and assessed and written by the scientific thematic officer.

Finally, the proposal carried out by the consortium (permanent staff + proposed experts) contains the following parts:

- A description of the competencies of the person(s) who will directly work on the topic;
- A timetable to complete the request,
- The number of person/days of work involved split by personnel competencies
- The itemised cost of the study or data provision service.
- The technical method proposed to reach the aims of the JRC request.
- The encountered limits (risk analysis)

1.5.2 Provision of the agreed service

Once the JRC has accepted the proposal, a specific contract is sent to the consortium to be signed in order to start the activity according to the agreed proposal.

A kick-off meeting is organized to formalize the methodology proposed by the consortium. During the course of the activity, information exchange will take place between the consortium and JRC. To facilitate the communication and the exchange, the FNFI will provide a Groupware (collaborative web based software). Thus, it will be possible to share resources such as calendar, documents, forum if needed, etc.

One month before the end of the specific contract, the consortium provides a draft report containing an executive summary, the full analysis of the agreed request and the achieved results. In case of data request, a draft version of the dataset should also be presented.

The achieved results and the report or data will be presented and discussed during the final meeting.

Depending on the requested service, data for each member of the consortium will be provided. In addition, the data providers who have signed the "Declaration on Honour for providing data" will be requested for the same operation. A further investigation with other Member States, could be launched.

The permanent staff of the consortium have to contact each data owner and negotiate the access. The potential cost of these data is not taken into account in this proposal. The exchange format will be defined by the consortium.

Depending on the number of data providers and the number of datasets, the consortium plan to re-use the core of the Biosoil application to gather and check the incoming data. This generic system needs to be adapted to perform the configuration of each dataset into the central metadata base in a friendly way. This opportunity will be discussed during the first kick-off meeting of the framework contract.

The data pre-processing could consist in recoding operation, spatial aggregation, etc.

Whenever it is possible, the quality of the result will be assessed.

Depending on the data, the differences of definitions or protocols between data providers, the consortium should have to harmonize or even develop models to produce an harmonized estimate.

All this bridging functions will be integrated in a software framework elaborated by the consortium in order to be centralized, maintained and re-used. This framework will propose a generic interface thank to heritage methodology.

This software architecture presented below will be discuss during the first kick-off meeting of the framework contract

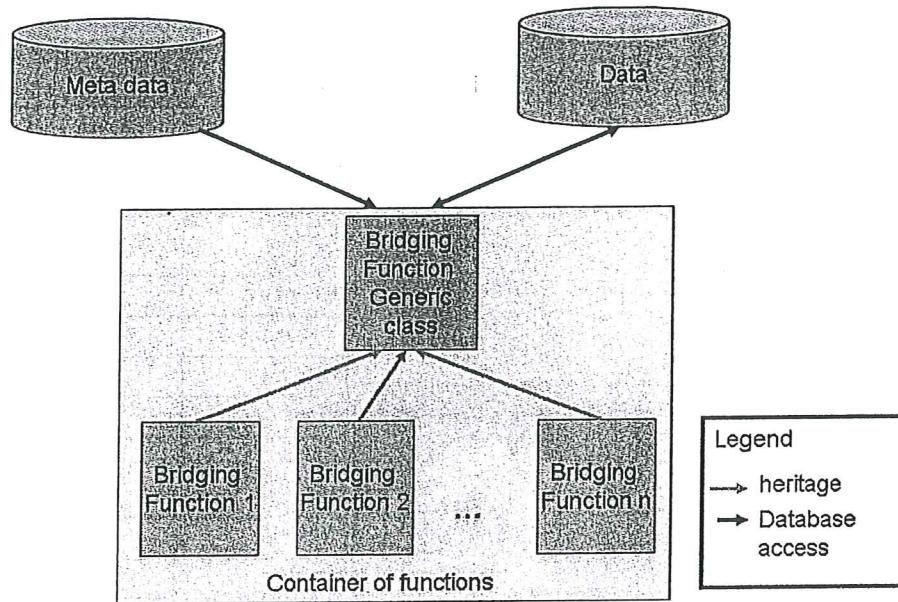


Figure 2: Generic framework for bridging functions

After the final meeting, the deliverables and/or datasets will be produced taking into account the comments received at the meeting.

Algorithms, tools and detailed specifications allowing a straightforward implementation of the final results at the JRC will be part of the deliverables.

Data will be delivered (i) in the agreed format, (ii) with structured metadata information following a predefined schema, (iii) with the relevant technical documentation (including quality assessment report).

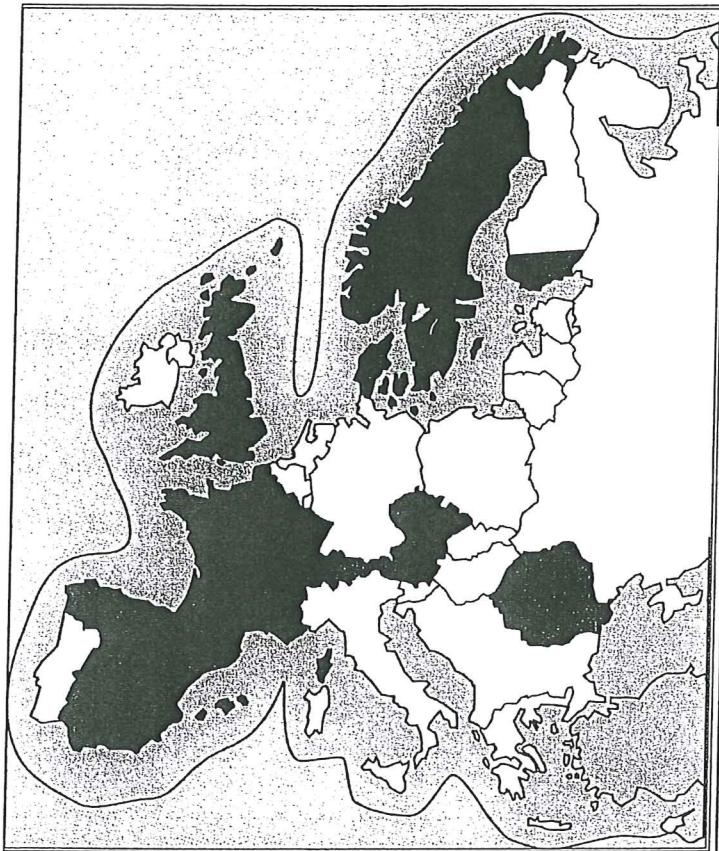
The consortium propose to work in close contact with the JRC's data administrator of EDFAC to evaluate the possibility to import the data and metadata into the EFDAC. This possibility will allow to disseminate using the EFICP platform.

Whenever it is possible, this task could be proposed if it is required by the JRC in the technical proposal .

2 Geographical extent covered

2.1 Extent covered by the consortium members

Country	Forest inventory datasets	Whole country	List of NUTS regions
Austria	Austrian NFI 2000/2002, subset	YES	
Czech Republic	National Forest Inventory in Czech Republic 2001-2004 : aggregated data	YES	
Denmark	Danish Forest Inventory – Danish NFI	YES	
Finland	The 9 th national forest inventory in Finland	NO	FI18 Etelä-Suomi (Southern Finland) FI181 Uusimaa FI182 Itä-Uusimaa FI183 Varsinais-Suomi FI184 Kanta-Häme FI185 Päijät-Häme FI186 Kymenlaakso FI187 Etelä-Karjala
France	National Forest Inventory	YES	
Norway	National Forest Inventory	YES	
Romania	National Forest Inventory	YES	
Spain	Spanish forest inventory	YES	
Sweden	NFI-Data	YES	
Switzerland	Swiss National Forest Inventory (LFI1) Swiss National Forest Inventory (LFI2)	YES	
United Kingdom	GB National Inventory of Woodlands and Trees I	YES	



The consortium will provided data for **51%** of the total EU-27 territory and **56 %** of the EFTA territory

Country	Area	Area with data	%
Belgium	30 518	0	0%
Czech Republic	78 859	78859	100%
Denmark	43 094	43094	100%
Deutschland	357 020	0	0%
Estonia	43 211	0	0%
Greece	131 625	0	0%
Spain	504 790	504790	100%
France	543 964	543 964	100%
Ireland	70 273	0	0%
Italy	301 333	0	0%
Cyprius	9 240	0	0%
Latvia	64 589	0	0%
Lithuania	65 300	0	0%
Luxembourg	2 586	0	0%
Hungary	93 029	0	0%
Malta	316	0	0%
Netherlands	33 873	0	0%
Austria	83 859	83 859	100%
Poland	312 685	0	0%
Portugal	91 906	0	0%
Slovenia	20 273	0	0%
Slovakia	49 035	0	0%
Finland	304 529		0%
Sweden	410 934	410934	100%
United Kingdom	243 820	229 977	94%
Bulgaria	110 550	0	0%
Romania	230 340	230340	100%
EU-27 territory	4 231 551	2171050	51%
Norway	386701	386701	100%
Lichtenstein	160	0	0%
Iceland	103 000	0	0%
Switzerland	41290	41290	100%
EFTA territory	4 659 702	2 599 041	56%

cv JPD

3 Detailed description of organisation and project management

The work of this framework contract will be carried out in two separate tasks, which, to some extent, depend on each other. The first task corresponds to data providing. The second one is related to reporting. If the contract is mainly linked to data providing a report on elaboration on the database and on metadata corresponding to harmonisation process will be necessary. If the contract is dealing with study necessitating reporting, normally data will also be needed.

The whole process of the proposal is modelled in the present chapter that constitutes a complete Quality Plan for the Project (PQP) defining a common reference point for all participants.

In this chapter the EC acronym stand for European Commission which means Land Management Unit of the Institute of Environment and Sustainability (Joint Research Centre, Ispra).

3.1 Description of project and its objectives

3.1.1 Aim of the framework contract

The objective of this framework contract is to broaden and develop the knowledge base of the European Forest Data Centre (EFDAC) hosted by the Joint Research Centre (JRC) of the European Commission which has been established to supply European Union decision-makers with processed, quality checked and timely policy relevant forest data and information within the EU and territories where EU policies are operating.

3.1.2 Expected results

The main expected results are the provision of services in response to JRC requests as defined in the Invitation To Tender (ITT). According to the ITT, the consortium will have to participate in two meetings at the JRC 1) kick-off meeting and 2) final meeting. At the end of each contractual year, an activity report is provided to the European Commission in order to summarize activities performed during the year.

Those background activities produce steps and annual reports presented in the following table where T0 represents the date of the contract signature by the JRC.

Deliverable type	Deliverable	Identification	Planned delivery date
Quality Document	Quality Plan of the Project	QPP	T0+4 weeks
Minute	Kick off meeting	M1	T0+4 weeks
Activity report	1st annual activity report	RY1	T0+12 months
Activity report	2nd annual activity report	RY2	T0+24 months
Activity report	3rd annual activity report	RY3	T0+36 months
Activity report	4th annual activity report	RY4	T0+48 months
Minute	Final meeting	M2	T0+48 months

In parallel with those background activities, the consortium is fully available to provide services in response to JRC requests. For each request, a technical and financial proposal is provided to the JRC containing the description of the proposed service and the involved costs.

After approval by the JRC, a kick-off meeting is planned to formalise how the activity will be carried out and managed. Specific deliverables will be identified for each request (database, spatial data, metadata, models developed in this framework,...)

At the end, a final meeting is organised to present the result of the activity and a final report is provided.

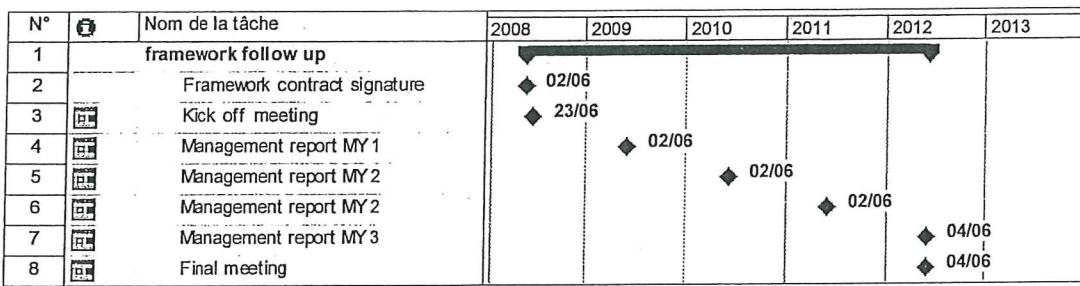
Such dedicated activities produce the results presented in the following table where (i) TR0 corresponds to the date of the service provision receipt, (ii) TV0 corresponds to the date of the coming into force of the specific contract.

Deliverable type	Deliverable	Identification	Planned delivery date
Technical and financial proposal	Technical proposal Financial proposal	TS	TR0+4 weeks
Minute	Kick off meeting	MS1	TV0+3 weeks
Service report	Result of the service provision	R1	TV0+duration of the service
Specific deliverables	Defined in the Technical proposal		TV0+duration of the service
Minute	Final meeting	MS2	TV0+duration of the service+ 1 week

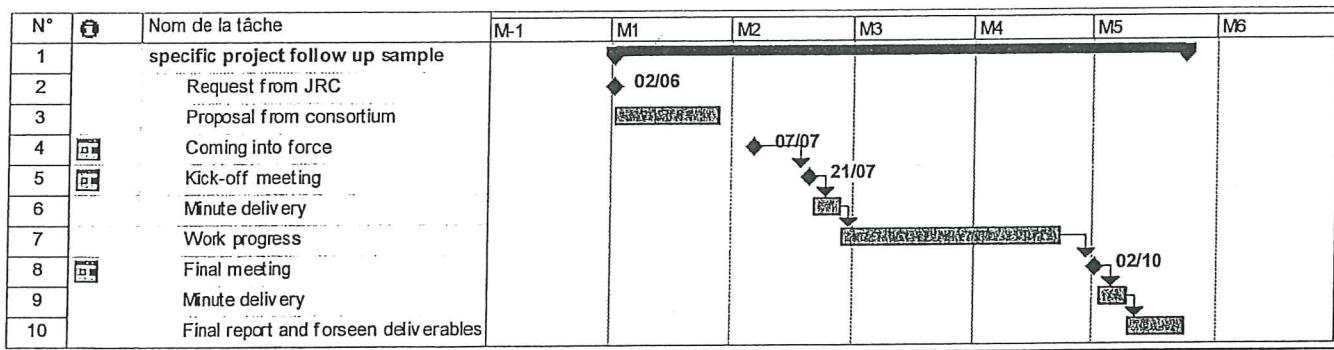
3.1.3 Temporal sequence (GANTT)

In term of schedule, the proposition meet the deadlines required in the ITT:

Background activities:



Specific activity



3.2 Staff description

3.2.1 Lead Project manager

Function (FNFI):

Name: Claude VIDAL

Task in the project:

Project manager

Professional Experience: 33 years

Task in the project: Organisation, Plan, follow up, Meeting, Management, etc...

Relevant experience: Vice-chair of the UNECE/FAO Team of Specialists on "Monitoring forest resources for sustainable forest management in the UNECE region".

Leader of the COST E-43 working group 1 on "Harmonisation of National Forest Inventories in Europe: Techniques for Common Reporting"

3.2.2 Scientific manager

Function (BFW):

Name: Klemens SCHADAUER

Task in the project: scientific manager

Professional Experience: 20 years

Task in the project: statistical analysis, spatial analysis,

Relevant experience: ENFIN group leader, vice chair of the COST E-43 action on "Harmonisation of National Forest Inventories in Europe: Techniques for Common Reporting", coordinator of the ProAlp project

Function (METLA):

Name: Erkki TOMPO

Task in the project: scientific manager

Professional Experience: 38 years

Task in the project: sample design, geostatistics

Relevant experience: chair of COST E-43 action on "Harmonisation of National Forest Inventories in Europe: Techniques for Common Reporting", main research interests: non-parametric estimation methods for multi-source forest inventory purposes, use of dense pulse LIDAR data in forest inventory

3.2.3 Thematic scientific officer

Function (WSL): LEADER OF THE RESEARCH GROUP INVENTORY DESIGN AND PLANNING

Name: Adrian LANZ

Task in the project: thematic scientific officer

Professional Experience: 20 years

Task in the project: metadata and harmonisation tools

Relevant experience: Deputy leader of the COST E-43 working group 1 on "Harmonisation of National Forest Inventories in Europe: Techniques for Common Reporting",

Function (SLU):

Name: Göran STAHL

Task in the project: thematic scientific officer

Professional Experience: 22 years

Task in the project: carbone issues

Relevant experience: Leader of the COST E-43 working group 2 on "Harmonisation of National Forest Inventories in Europe: Techniques for Common Reporting", main research interests: carbon balances and effects of climate change, sampling techniques, inventory methodology, ecosystem modeling, incl. tree level models, environmental monitoring

Function (F & L):

SENIOR RESEARCHER AND PROJECT MANAGER AT THE DEPARTMENT OF FORESTRY AND WOOD PRODUCTS (DANISH NFI)[°]

Name: Annemarie BASTRUP-BIRK

Task in the project: thematic scientific officer

Professional Experience: 22 years

Task in the project: biodiversity issues

Relevant experience: Former leader of the COST E-43 working group 3 on "Harmonisation of National Forest Inventories in Europe: Techniques for Common Reporting", main research interests: forest biodiversity, forest inventory and monitoring, sampling design, multiple scale inventories including remote sensing.

Function :

RESEARCH OFFICER AT THE NORWEGIAN FOREST AND LANDSCAPE INSTITUTE

Name: Stein Michael TOMTER

Task in the project: thematic scientific officer

Professional Experience: 22 years

Task in the project: data analysis and reporting

Relevant experience: Compilation and analysis of data on quantitative indicators for MCPFE Ministerial Conference, calculation and reporting of results from the Norwegian National Forest Inventory, National correspondent for reporting of forest statistics to FAO, UNECE and MCPFE

3.2.4 IT expert

Function (FNFI): HEAD OF THE INFORMATION SYSTEM DEPARTMENT OF THE FRENCH NFI
Name: Jean-Luc COUSIN
Professional Experience: 15 years
Task in the project: Database and software architecture design, Metadata (ISO19115-191139), OGC services, etc...
Relevant experience: Responsible of more than 15 projects during the last 10 years such as:
- Biosoil project management
- Design of the new NFI information system based on Metadata Database (more than 100 tables)
- Geoportails
- Project team up to 10 software developers.

3.2.5 GIS expert

Function (FNFI): HEAD OF THE GIS DEPARTMENT OF THE FRENCH NFI
Name: Marianne Duprez
Professional Experience: 10 years
Task in the project: development of GIS tools, geographical data management, co-production of GIS layers for the Geographical National Institute (IGN), production of the French national forest maps, management of GIS project based on interoperability, INSPIRE work following directive, calculation of indicators, setting out of dynamic mapping system on NFI website
Relevant experience:

3.2.6 Work repartition between FNFI and the members of the consortium

FNFI resources are used in the proposed tasks for the following contributions:

- Global project follow up
- Contact with the data providers
- Project follow up for the part dedicated to the FNFI
- Contact with the JRC and the relevant actors concerned by the project
- Expertise in database design, development, interoperability ISO/OGC, metadata (ISO19115,19139)
- Expertise in spatial representation
- Expertise in Forest inventory
- Expertise in thematic topic such as forest/growing stock, carbon, biodiversity, etc.
- Integration in the EFDAC (if needed)
- Software development if needed
- GIS treatment if needed

Members of the consortium resources are used in the proposed tasks for the following contributions:

- Contact with the JRC if needed
- Contact with the data providers if needed
- Expertise in harmonisation
- Expertise in Forest inventory
- Expertise in thematic topic such as forest/growing stock, carbon, biodiversity, etc.
- Expertise in statistical analysis
- Expertise in spatial analysis

3.3 Description of means of co-ordination and of the flow of information

3.3.1 Organisation

To ensure satisfactory progress of the project, the relationship between the European Commission and the consortium must be put on a formal footing.

Generally speaking, for the proposal, the responsibilities are the following :

- The European Commission (Land Management Unit of the Joint Research Centre, Ispra) is the owner of the project.
- The European Commission, as part of its responsibilities as owner of the project:
 - makes the fundamental decisions,
 - defines his needs and constraints,
 - chooses, among the different alternatives proposed, the solution to be implemented,
 - ensures that the choices made are appropriate to the needs of the owner,
 - directs and co-ordinates his staff and those of his own suppliers,
 - supplies the Consortium with the contractually stipulated items,
 - approves and accepts all deliverable supplies,
 - accepts the application as a whole by carrying out tests and analysing the results.
- FNFI, as the lead company of the consortium chosen by the European Commission:
 - manages the project,
 - is responsible for preparing the Meeting Agenda in consultation with the JRC and the Meeting Minutes.,
 - co-ordinates the consortium,
 - directs and co-ordinates his staff implied in the project,
 - assists the European Commission with acceptance and implementation of the delivered system,
 - provide expertise,
 - provide data,
 - is responsible of the annual report.
- the members of the Consortium:
 - provide expertise,
 - provide data,
 - plan and perform the activities specified in the contract,
 - assists the European Commission with acceptance and implementation of the delivered system,
 - take part of the written annual report.

European Commission participants

Management representative : To be named by European Commission

The Management Representative is vested with decision-making powers to arbitrate as necessary, particularly with regard to delivery times and costs. He participates in progress review meetings.

EC Project Manager (CPM): To be named by European Commission

The Project Manager appointed by EC Management is the “operational and day-to-day” contact person for the contact person for the Consortium Project Managers. His task is to organise and manage the project on the EC’s side according to the directives and procedures drawn up in partnership with the Consortium.

He is responsible for:

- organising the provision, by the EC, of the items needed by the Consortium within the requisite periods,
- approving the documents issued by the Consortium,
- organising acceptances,
- overall monitoring of the progress of the project,

His availability and his presence in meetings are essential for the project.

He participates in project progress meetings. He has decision-making powers to arbitrate as necessary on operational and technical decisions.

Other participants:

The current proposal expects contribution from the EC for the following subjects:

- EFDAC expert
- EFICP expert

Consortium participants

Project Manager (PM): (*Claude Vidal*)

The Project Manager is responsible to the EC and the consortium for the satisfactory completion of all the project. Being responsible for the quality of the finished product and the process whereby it is obtained, he plays an essential role in the implementation of the Quality System.

Scientific managers(SMs): (*Klemens Schadauer, Erkki Tomppo*)

The scientific managers are experts in forest inventory methodology, statistical and spatial analysis for the satisfactory completion of the relevant tasks identified in the JRC specific or thematic requests.

Thematic Scientific officers (TSOs): (*Adrian Lanz, Göran Stahl, Annemarie Bastrup-Birk, Stein Michael Tomter*)

The thematic scientific officers are experts in forest data processing and analysis for the satisfactory completion of the relevant tasks identified in the JRC specific or thematic requests.

Project Team

The project team performs the various tasks assigned to them by the Project Managers.

The overall organisation of the project is summarised by the following diagram, describing the project structure and principal lines of communication between the EC and the Consortium.

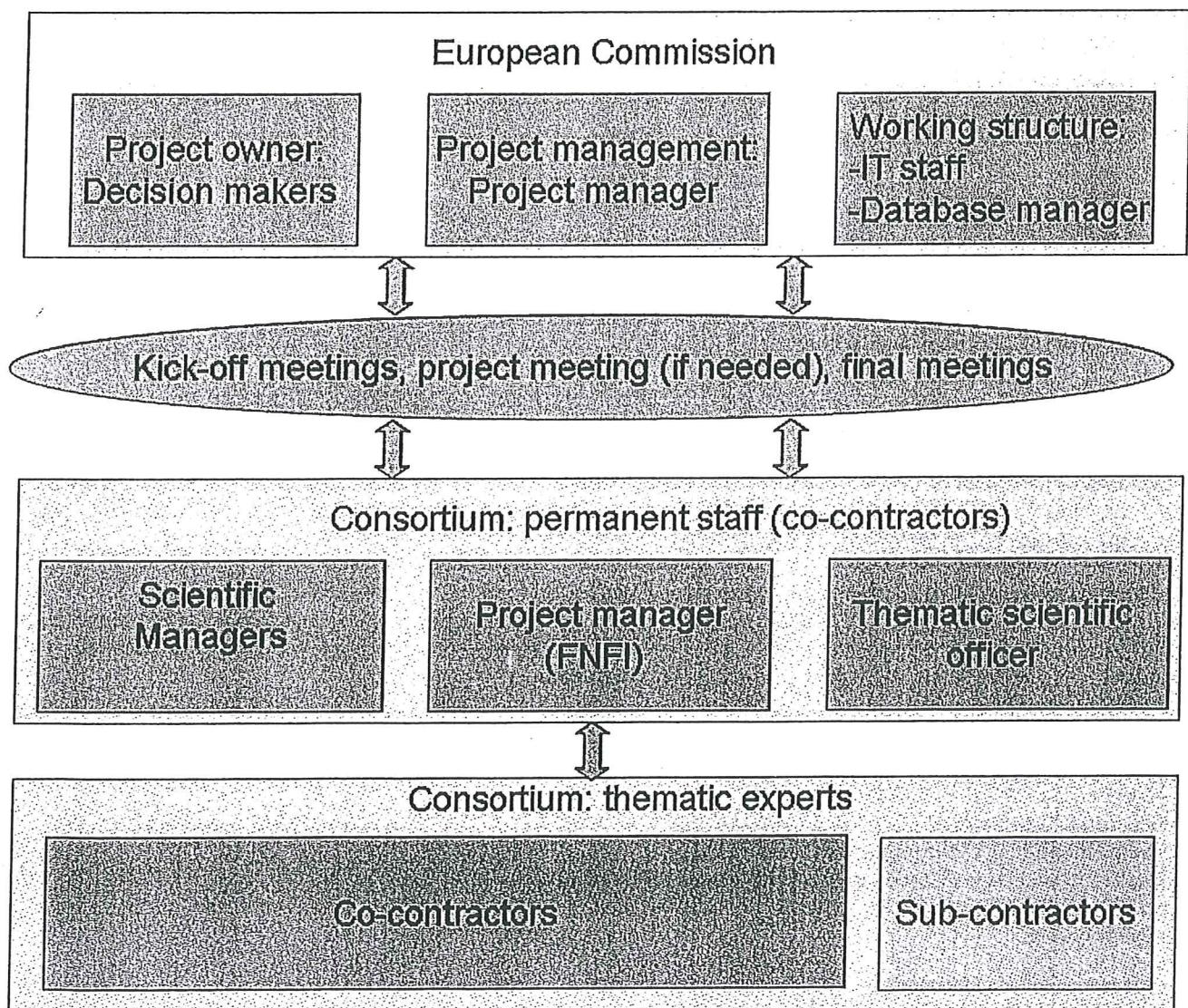


Figure 3: Project organisation

3.3.2 Project management and control

The project is controlled and managed by means of regular meetings between the EC and The Consortium:

- **Two Meetings for the framework contract**
 - kick-off meeting to formalise the framework contract management procedure;
 - final meeting to carry out an overview of the work completed
- **Project Meetings**, for specific contract
 - kick-off meeting to formalise how the activity will be managed and carried out;
 - final meeting to carry out an overview of the work completed

In addition, technical assistance may also be necessary, on topics such as:

- EFDAC integration
- EFICP integration

Kick off Meetings

Objectives: management of the contract, overall project status, identification of risks. These meetings represent the starting point of the framework contract or specific contracts for supplying data or services.

Agenda:

- contractual status,
- follow-up of major risks,
- project progress (timescales, deliveries, monthly planning and forecasts)
- quality (quality objectives, review of quality-related actions, change requests, non-conformities and incidents, PQP status),
- project resources,
- outstanding issues,
- other business.

Participants:

- For the EC: Management Representative
Project Manager
- For Consortium: Project Manager, Thematic scientific officer, Scientific manager, IT expert if needed
- And other participants requested by the EC or the consortium.

Input documents: minutes of the previous meeting, monthly progress reports, event forms (incidents, non-conformities, change requests,...).

Output documents: minutes prepared by Project manager and submitted to the EC Project Manager for approval within 5 working days of the meeting. If no remarks are received within the next 5 working days, these minutes are deemed to be approved. Following approval, these minutes are contractually binding.

Final Meetings

Objectives: to present the result of the activity, to review and validate the work completed.

Agenda:

- result obtained
- production status:
 - review of work completed,
 - resolution of previously identified issues,
 - new issues identified during the previous meeting and action taken,
 - work forecast if necessary,
- functional, technical and organisational issues,
- quality issues:
 - review and agreement of changes to Project Quality Plan,
 - concessions (if necessary) against PQP,
 - review of quality actions, in particular EC approvals and acceptances,
 - review of quality of deliverables,
 - review of non-conformities,
 - review of change requests,
- other business,

Participants:

- EC Project Manager
- Project Manager, Thematic scientific officer, Scientific manager, IT expert if needed
- and other participants requested by the EC or the Consortium.

Input documents: minutes of the previous meeting, project reports, incident forms (incidents, non-conformances, change requests etc.).

Output documents: minutes prepared by lead project manager and submitted to the EC Project Manager for approval within 5 working days of the meeting. If no remarks are received within the next 5 working days, these minutes are deemed to be approved. Following approval, these minutes are contractually binding.

Technical assistance

A technical assistance could be necessary on topic such as:

- EFDAC system: to be aware of the available data, to provide the data into the system
- EFICP system : to be compliant with Metadata specification, or OGC service compatibility,

The schedule of assistance is defined during the kick-off meetings.

Communication:

Contact persons for each type of question

The following table shows the different contact persons for each type of question.

Type of question	EC participant	Consortium participant
Contractual	EC Project Manager	Project Manager
Operational	EC Project Manager	Project Manager
Project infrastructure	EC Project Manager	Project Manager
Non-conformance (sending)	EC Project Manager	Project Manager
Change request (sending)	EC Project Manager	Project Manager

Types of medium

The types of medium for the different documents exchanged between the Consortium and the EC (other than development documents) are as follows:

Medium	Use
Post, fax or e-mail	For contractual and commercial questions
Minutes	For meetings
Delivery note	For deliveries
Quality Control Form (QCF)	For all acceptance procedures: - cross-checks - internal approval or acceptance - EC approval or acceptance - etc.
Event Form (EF)	For incidents, change requests, non-conformances, requests for information or specific points of information (question/answer procedure)
Error Report Form (ERF)	For anomalous documentation, non-conformances
Test Report Form (TRF)	For anomaly documentation, non-conformances during EC reception phase

These documents are placed in the Management and Quality Assurance File kept by the Project Manager.

Written question/answer procedure

The question/answer procedure is summarised in the following table:

Origin of question	Responsible for sending	Responsible for receiving	Medium	Maximum response time
Consortium	Project Manager	EC Project Manager	Event Form (EF)	5 working days
EC	EC Project Manager	Project Manager	Event Form (EF)	5 working days

Handling of problems and follow-up

In case of an incident liable to jeopardise the success of the project (increase in cost, delivery time in doubt), the EC or the Consortium may demand an emergency Project Meeting to find a solution.

The solution formulated during the Project Meeting is to be validated at a Progress Meeting called for that purpose.

3.4 Observed procedures

3.4.1 Management risks

The risk analysis will be presented at the kick-off meeting of each specific contract.

The principle is to identify the major risks in term of data and services (precision, harmonisation, for example) and to propose action to limit or avoid the effect.

Risk management is clearly part of the Project Manager job and is discussed during the EC progress meetings.

In term of tools, known risks are recorded in a table association described below. Each action is followed by a particular actor (EC or project team) and a due date is defined.

Major risks	Actions taken

3.4.2 Delay analysis

Delivery date projections are clearly part of the Project Manager Job and discussed at the EC kick-off meetings.

In terms of tools, delivery date are computed with MS-Project that can take into account:

- Human resource allocation
- Constraints between tasks if needed

3.5 Re-use of proven results and software tools from past projects

The published results of the COST E43 action will be made available for that project. In particular, reference definitions, models and bridging functions developed within the action will be re-used mentioning the source and authors.

Depending on the number of data providers and the number of datasets, the consortium plan to re-use the core of the Biosoil application to gather and check the incoming data. This generic system needs to be adapted to perform the configuration of each dataset into the central metadata base in a friendly way. This opportunity will be discussed during the first kick-off meeting of the framework contract.

The FNFI has developed numerous methodologies to transform plot information into spatial representation. These process transformation could be used to produce maps to illustrate the results of the service provided or to feed the EFICP system.

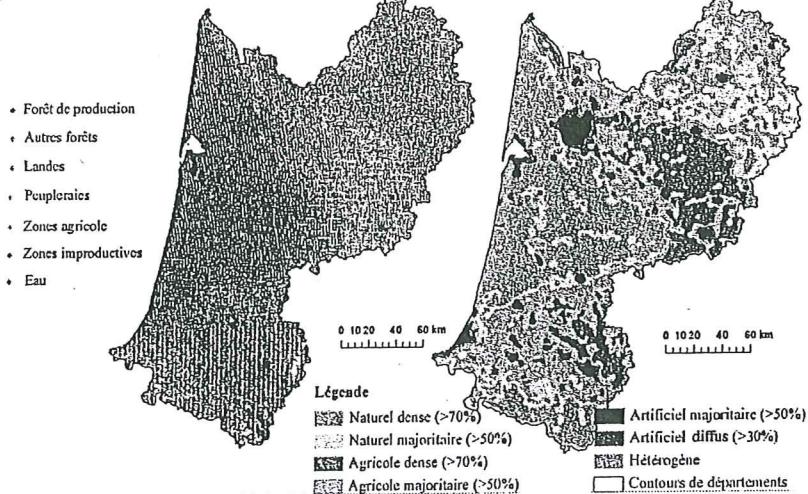


Figure 4: Spatial representation

3.6 Tools for quality management

Management of quality is also based on proper usage of tools.

These tools are predefined in order to share a common basis between all the participant of the project.

We divided the tools in 2 categories:

- Non technical tools for all products involving only office work
- Technical tools for all that concern computer products

3.6.1 Non-technical tools

If those products are exchanged for a read only purpose, they should be transmitted under PDF format.

Product type	Tool	Product samples
Office document	MS WORD 2003	Meeting report, Project report
Office sheet	MS EXCEL 2003	Project progress
Office diagram	MS POWERPOINT 2003	Meeting presentation
Project planning	MS PROJECT 2000	Project planning

3.6.2 Technical tools

If those products are exchanged for a read only purpose, they should be transmitted under PDF format.

Product type	Tool	Product samples
Database schema description	PowerAMC	Database schema
System Design if needed	MS WORD 2003	System Design

3.7 Tools for monitoring the project progress

The progress of the project is measured by delivery of products defined in the project (see section 3.1.3 Expected results, and section 3.2.4 Deliverable description for more details).

To organise the delivery process, the proposition include a document management system containing the applicable version of the deliverables as well as quality related documents (standard forms and procedures, quality plan, ...).

The following sections detail the monitored elements and the system proposed to manage them.

3.7.1 Monitored elements

As required by the ITT, the monitored elements are documents defined as deliverables such as:

- Internal review meeting
- Project meeting
- Project reports
- System documents
- Software
- Data

The place of delivery is the Land Management Unit of the JRC, Ispra.

3.7.2 Document management

Document management system

This section describes the document management system required by the project.

Document management must fulfil 3 kinds of requirements:

- *Operational requirements*: the members of the project team should access reference documents and write the deliverables of the project
- *Quality plan requirements*: the project manager as well as audit team should be able to access all the documents defined in the Quality Plan of the project
- *European Commission requirements*: the European Commission or its delegates must access the different reports for validation in order to appreciate if work progress is correct

This means that all the documents of the project should be written in English.

Documents organisation

The organisation of the directory and sub-directories is as follow:

▪ Database	:	Database schema design file,
▪ Delivery	:	Delivery file including Delivery forms,
▪ Minutes	:	Meeting minutes divided according to meeting type,
▪ Exchanges	:	Copies of any document exchanged between the EC and the Consortium,
▪ Event	:	Event forms,
▪ Formats	:	Data format file,
▪ Initialisation	:	Quality documents such as PQP, initialisation, etc.,
▪ Mpp	:	MS Project plannings,
▪ Proposition	:	Proposition,
▪ Pvrc	:	Quality Control Forms for EC reception,
▪ Pvri	:	Forms for internal reception,
▪ Review	:	Project review,
▪ System Design	:	System design file,
▪ Test	:	Test file,
▪ Verification	:	Verification procedures file.

3.8 Quality control method for developing system modules

3.8.1 Overview

The proposed Quality System is based on close integration of the Management and Quality Assurance of the Project.

3.8.2 Validation, testing and internal acceptance procedures

The purpose of validation or testing is to demonstrate the conformity of a supplied item (document or product) with the requirements specified in the contract, whether these concern the operational, technical or quality aspects.

Testing is a validation procedure for which the Consortium is responsible. It is carried out in parallel with the design and development activities.

Review of a document by “external review”

The external review procedure plays as validation of final documents. It is based on the re-reading of documents by different participants having, in principle, different and complementary concerns (staff of the EC and the Consortium), and on a comparison of remarks during a meeting between the author and the reviewers.

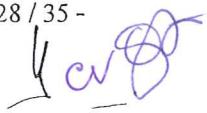
The cross-checking procedure is as follows:

- The participants are chosen on a case-to-case basis at the Project Committee meetings.
- The documents in question are placed at the disposal of the participants by the Project Manager at least 5 working days before the validation meeting.
- The written remarks are collected at the validation meeting; for each remark, the group agrees whether or not it is necessary to do a correction.
- The Project Manager prepares the report, enters major reservations on a quality control form (QCF) and sends all the information to the participants concerned within 5 working days of the meeting.
- The Project Manager establishes the plan of corrections monitors their implementation and checks their effectiveness.

Software testing

In the context of the present project, the procedure comprises the following steps:

- definition of the test plan (scenarios, cases and planning of the test campaign),
- integration and testing (preparation, monitoring and corrections).



All of the items produced during this process (orientation, scenario, cases, test plan, test reports etc.) are placed in the Testing file prepared by each member of the Consortium and available for consultation from the Project Manager.

The project testing procedure and its inter-linking with the EC testing and acceptance activities are described later in this document.

Internal acceptance

After validation or testing, the Project Manager concerned by the development ensures that the stipulated checks have been carried out and the necessary corrections have been taken into account. He states the internal acceptance authorising the delivery.

3.8.3 EC approval procedure

Approval concerns interim supplies presented to the EC by the Consortium to gain his support and check that the project is on the right track. It is not a contractual procedure.

Following delivery, the EC has an approval period of 10 working days to make remarks or reservations, beyond which approval is deemed to be granted by default.

(The EC must formally record his decision on the quality control form (QCF) included with the delivery:

- approval without reservation,
- approval with reservations recorded on the QCF and detailed if necessary on an incident form (lifting of reservations leads to approval),
- refusal.

Note: The EC approval procedure is also used for acceptance of the hardware and software installations and for training sessions.

3.8.4 EC acceptance procedures

Acceptance concerns a supplied item (document or product) officially delivered to the EC and whose acceptance by the EC discharges the obligation under the contract. Therefore it relates to a supplied item mentioned in the contract or in its appendices. This procedure does not necessarily need to take place at the end of the project. It may also concern a working unit during the course of the project.

For every acceptance, the EC must formally record its decision on a QCF included with the delivery:

- acceptance without reservation,
- acceptance with reservations recorded on the QCF and detailed if necessary on an incident form (lifting of reservations leads to acceptance),
- refusal.

Acceptance of a document

The EC states the acceptance of a final document following an external review procedure and the delivery by the Consortium of a document taking into account the remarks resulting from this procedure.

Following delivery, he has a period of 10 working days to make all its remarks in writing, beyond which period the document concerned shall be deemed to be accepted by default.

Acceptance can only be refused on the grounds that Consortium has failed to take into account the remarks ensuing from the cross-checking procedure.

The Consortium supplies a new version of the document within the same period following receipt of the EC's remarks.

Acceptance of software

The procedure is as follows:

- The Consortium supplies the item to the EC (delivery of a working unit or delivery of the finished product).
- The EC or the Consortium installs the software on the test platform stipulated for its acceptance.
- Following delivery, the EC has a period of 20 working days to carry out its own series of tests and inform the Consortium of all anomalies found in the form of reservations.
- The Consortium resolves the critical anomalies, if any, within the period indicated on the anomalies form.
- The EC states acceptance, with any reservations.

- The Consortium resolves any major anomalies and plans the correction of minor anomalies.

Modifications are managed as described in the section "Change management".

The types of anomalies are described as follows:

- "critical" if functionality cannot be terminated without systematic manual intervention; it may prevent the completion of acceptance.
- "major" if functionality ends with a false result; it must be acted on immediately.
- "minor" if they could be resolved at a date fixed by mutual agreement.

In the absence of a written response from the EC within the acceptance period defined above, the item shall be deemed to be accepted by default.

If the EC puts the item into actual operation before the expiry of the acceptance period, acceptance shall be deemed to be granted.

3.8.5 Change management

Change management concerns all activities of formalisation, analysis, creating and checking, correction and upgrading of the software and its documentation.

Two types of events lead to modifications:

- the detection of non-conformance, either by the consortium during testing, or by the EC during its tests or during operation,
- a change request made by the EC during development.

These events are documented using event forms issued (or validated) either by EC or by The Consortium. The authorisations for the contact persons of the EC and of the Consortium are defined in the paragraph "3.3.2.4 Communication" (contact persons for each type of issue).

The Consortium will estimate the costs and timescales for the change within 5 to 10 working days, depending on the scale of the request. Change requests will be reviewed during EC Progress Meetings. If the change request is accepted (costs, expense of contract amendment, planning etc.), the EC representative will sign the event form to approve the request.

3.8.6 Delivery management

The results of the service are supplied to the EC:

- either for approval (for interim documents),
- or for acceptance (for supplies discharging obligations under the contract).

Note: the presentation of a document to the EC during a cross-checking procedure is not regarded as a delivery; in this case, the document reverts to "draft" status. The documents shall be updated and changed to "applicable" status for the final delivery.

Every delivery is accompanied by a delivery note in two sets, one of which must be stamped by the EC Representative and returned to the Consortium for the purposes of acknowledgement of receipt.

The delivery note contains:

- the references of the delivered supplies,
- the references of the data media supplied,
- the list of non-conformances corrected for the delivery,
- the list of remaining non-conformances,
- the delivery time and conditions of approval or acceptance.

The following table summarises the different characteristics of the deliveries, depending on their nature:

Nature	Medium and quantity	Conditions of delivery, receipt and installation.
Delivery of document for EC approval	Paper: 1 set unbound	Letter sent to EC Project Manager

Nature	Medium and quantity	Conditions of delivery, receipt and installation.
Delivery of document for EC acceptance	Paper: 1 set unbound Electronic medium: 1 set (supplied after acceptance, once the document has been fully finalised)	Letter and medium sent to EC Project Manager
Delivery of IT product for EC acceptance	Electronic medium supplied by the EC	Medium sent to EC Project Manager Installations are carried out by the EC

Deliveries of applications supplied or purchased by the Consortium follow the same principle. The data medium and the documentation are those supplied by the developer.

3.8.7 Management of items owned by the EC

The list of items supplied by the EC is as follow:

- Formats description
- Legacy data
- Description of the JRC computer infrastructure

Documents supplied by the EC

The EC supplies documents to the Consortium, not later than the agreed date defined during the Kick off meeting, in an applicable version with a version number and accompanied by a delivery note.

The Consortium has a period of 5 working days to state acceptance or submit all its remarks in writing.

The EC supplies a new version of the documents within the same period following the return of the Consortium remarks.

Software or data supplied by the EC

The EC will supply the Consortium with software and/or data to be integrated into the project by the Consortium.

In the testing environment, the Consortium checks the conformity of the objects supplied by the EC and presents him with all of the anomalies found in the form of reservations, not later than 20 working days after the last delivery.

Acceptance shall be stated following verification of correction of critical anomalies and major anomalies and planning of remaining minor corrections.

- () Modifications are managed as described in the Change management section.
The definition of anomalies is identical to that described in EC acceptance procedures.

3.9 Any additional object or method intended to contribute to better quality

3.9.1 Quality forms

DELIVERY NOTE

Issuer:	Company / Division:	IFN	Signature:
	Business Unit n° / Business Unit:		
	Name		
	Date of delivery		

IDENTIFICATION OF DELIVERABLES

Title :			
Reference :			

Version :	Media :	Paper:	items(s)
Date:		Magnetic:	items(s)
Status :		Email:	item(s)

DELIVERY CONTENTS

Ref	Description
1	

The deliverables described above have been made available today for:

- Acceptance (contractual deliverables)
- Approval (other deliverables)

The JRC has a period of 10 working days to document reservations or comments using the Quality Control Form accompanying the delivery.

JRC RECEIPT ACKNOWLEDGEMENT

Date :	Name:	Signature:

QUALITY CONTROL NOTE

Form no : QC..... Registered Allocated Closed

Issuer:	Company / Division:	INF	Signature:
	Business Unit n° / Business Unit:		
	Name		

DELIVERABLE

Title :			
Reference :			

Version :		Date:		Status:	
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QUALITY CONTROL: ACTION REQUESTED

Consortium	JRC
<input type="checkbox"/> Acceptance of deliverable	<input type="checkbox"/> Approval of interim deliverable
<input type="checkbox"/> Other (define)	<input type="checkbox"/> Acceptance of contractual deliverable <input type="checkbox"/> Other (define)

In respect of the delivery dated, the person authorised to accept the deliverables has a period of 10 working days to document any reservations or comments using the table below.

N°	Reservation/remark	Acceptance, corrective action or Event Form ref

ACCEPTANCE (please tick the appropriate box)

- The items identified above are accepted without reservation
- The items identified above are accepted subject to the reservations given above
- These reservations must be addressed and lifted by
- The items identified above are rejected (see observations above)

Date, name and signature of authorised representatives

	Project Manager		JRC
Date :			
Name:			
Signature:			

EVENT FORM

Form no : QC..... Registered Allocated Closed

Issuer:	Company / Division:	INF	Signature:
	Business Unit n° / Business Unit:		
	Name		

EVENT TYPE

Question Incident Non-conformity Complaint Change Request

EVENT CATEGORY

<input type="checkbox"/> Hardware	<input type="checkbox"/> Software	<input type="checkbox"/> Documentation	<input type="checkbox"/> Production
<input type="checkbox"/> Methods	<input type="checkbox"/> Tools	<input type="checkbox"/> Personnel	<input type="checkbox"/> Other (define)

EVENT DESCRIPTION

(Attach all relevant annexes)

CURATIVE ACTION

Analysis of problem : (possible curative actions, impact on costs, timescales, personnel)

Action approved : Yes No Other (define)

Date : Name and signature of approver :

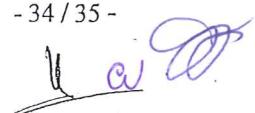
Curative action plan :

Description	Resp	Date	Status

Acceptance of outcome : (curative action implemented and effective)

Date, name and signature of authorised representatives

	Project Manager		JRC
Date :			
Name:			
Signature:			

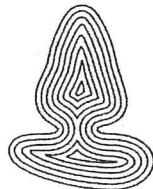


4 Acronyms

COST E21	Contribution of Forests and Forestry to Mitigate Greenhouse Effects : Action E21
EC	European Commission
EFI	European Forest Institute
EFIS	European Forest Information System
EICF	European Institute of Cultivated Forest
EUROSTAT	Statistical Office of the European Communities
FAO	Food and Agriculture Organisation
IEFC	European institute for cultivated forest
NFC	National Focal Centre
FNFI	French National Forest Institute
NEFIS	Network of European Forest Information Systems
TBFRA	Temperate and Boreal Forest Resources Assessment
UNECE	United Nations Economic Commission for Europe



INVENTAIRE FORESTIER NATIONAL



skog+
landskap

NORWEGIAN FOREST AND
LANDSCAPE INSTITUTE

METLA

Helsingin yliopisto
Skogsforskningsinstitutet
Finnish Forest Research Institute



Swedish University of
Agricultural Sciences



Financial proposal

“Framework contract for the provision of forest data and services in support to the European Forest Data Centre”
Reference : 2007/ S 194-235358 of 09/10/2007

C
AWD

Costs for execution of thematic analysis services (Pt)

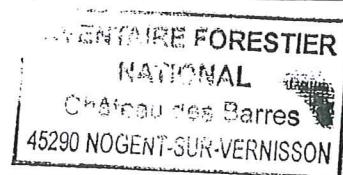
Personnel type	COST/DAY	Repartition (WEIGHT)	Weighted cost/day
Project manager	850	10%	85
Scientific manager	750	20%	150
Thematic scientific officer	750	60%	450
GIS operator	400	10%	40
Overall weighted cost per day for thematic analysis (Pt) $\Sigma=$			725

Cost for data processing services (Pd)

Personnel type	COST/DAY	Share of work for task1	Share of work for task2	Share of work for task3	Share of work for task4	Share of work for task5	Overall share of work (WEIGHT)	Weighted cost/day
Project manager	850	0,5%	3,0%	3,5%	1,5%	1,5%	10,0%	85
Scientific manager	750	1,5%	9,0%	3,5%	1,5%	4,5%	20,0%	150
Thematic scientific officer and data analyst	750	3,0%	18,0%	10,5%	4,5%	6,0%	42,0%	315
Programmer	400		8,8%	3,7%			12,5%	50
GIS operator	400		8,8%	3,7%		3,0%	15,5%	62
Overall weighted cost per day for data processing (Pd) $\Sigma=$								662

According to the ADMINISTRATIVE ANNEX, the price of this offer (Po) is the sum of the cost for the execution of thematic analysis and for the provision of data as explained below:

$$Po = Pt + Pd = 725 + 662 \text{ €}$$



Le Directeur de l'IFN

Claude VIDAL