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REWILDFIRE — PIANO NAZIONALE DI RIPRESA E RESILIENZA (PNRR)

Missione 4 “Istruzione e Ricerca” - Componente C2

Investimento 1.1, “Fondo per il Programma Nazionale di Ricerca e Progetti di Rilevante Interesse Nazionale (PRIN)”

Project Acronym: REWILDFIRE

Rewilding policies for carbon sequestration under increasing fire risk

Duration of the project: September 28st, 2023 – September 27st, 2025

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0.2	14.12.2023	Revisions by Rachele Gamba, Jose Moris e Gian Luca Spadoni	UNITO	Consolidated draft

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Executive Summary

This document provides the REWILDFIRE Partners with a reference to the project bodies and management structures, responsibilities, internal and external communication procedures as well as scientific reporting.

Keywords

Project management, internal procedures, internal and external communication

List of acronyms

Acronym	Definition
AO	Atto d'Obbligo
AP	Associated Partner
CUP	Unique code of the project
DA	Decreto Direttoriale ammissione finanziamento PE10 prot.965.30-06-2023
KoM	Kick off Meeting
MA	Modello A of the project
MUR	Ministry of University and Research
PC	Project coordinator
PC	Project coordination team
PP	Project Partner
WP	Work Package
WPL	Work Package Leader

1. Introduction

1.1. Aims and structure of the document

The aim of this document is to set-up and describe the management procedures to be applied during the project lifetime. The REWILDFIRE Project Guidebook is the reference source for all consortium members covering many day-to-day activities as it describes the management procedures to be applied during the project lifetime. This document also aims at standardising various elements of the project (e.g., project reports, deliverables, etc.) through agreed procedures and templates, when relevant.

The REWILDFIRE Project Guidebook is a dynamic document and will be updated throughout the project lifetime, when necessary.

Following these aims, the document recalls the most important information about the project and then describes the project management bodies, their roles and the internal procedures for meetings (physical and online) and decision taking. It also defines and describes the instruments and the procedures used for internal communication and internal documents' storage. As well, this document recalls the general requirements for external communication and sets standards and templates for some project's official documents such as the deliverables and the meeting minutes. Finally, it goes through internal and final reporting.

1.2. Precedence

The general principles and rules for REWILDFIRE execution are defined in the description of the action in the Modello A (MA) and the Atto d'obbligo (AO) signed by all the project Partners. The REWILDFIRE Project Guidebook does not replace any of these documents. In case of inconsistencies among the above mentioned documents, the following order of precedence should be applied:

1. D.D. ammissione finanziamento PE10 prot.965.30-06-2023 (DD);
2. Modello A (MA) of the project including the description of activities;
3. Atto d'obbligo (AO);
4. REWILDFIRE Project Guidebook (this document).

2. General project information

The main need-to-know information related to the REWILDFIRE project is indicated hereafter.

2.1 Project data

Project title	Rewilding policies for carbon sequestration under increasing fire risk
Project acronym	REWILDFIRE
CUP	2022R7F259
Grant Authority	Missione 4 “Istruzione e Ricerca” - Componente C2 Investimento 1.1, “Fondo per il Programma Nazionale di Ricerca e Progetti di Rilevante Interesse Nazionale (PRIN)”
Project start date	28/09/2023
Project end date	27/09/2025
Duration of the project	24 months
Requested EU contribution	€ 246.936

2.2 Project consortium

PP number	Name	Acronym
1 (PC)	UNIVERSITA DEGLI STUDI DI TORINO	UNITO
2	UNIVERSITA DEGLI STUDI DI UDINE	UNIUD
3	UNIVERSITY OF MILANO	UNIMI

2.3 Useful contacts

Role	Contacts
Project coordinator (PC)	Ascoli Davide Dipartimento di Scienze Agrarie, Forestali e Alimentari University of Torino Largo paolo Braccini 2 10095 Grugliasco Tel. +39 011 6704443 email: d.ascoli@unito.it
Project administration	Mara Ghiazza Dipartimento di Scienze Agrarie, Forestali e Alimentari email: mara.ghiazza@unito.it

3. Project management bodies

3.1 Project structure

REWILDFIRE is implemented through a set of five inter-related work packages (WPs) organized in Tasks. All information regarding project objectives, implementation, WPs, Tasks and expected results is reported in MA.

Each WP is led by the WP Leader (WPL), who is responsible for making technical and management decisions that affect his/her WP. More specifically, the WPL’s responsibilities include:

- a) to lead and to coordinate the task activities involved in the WP according to the MA,
- b) to quality check the WP work and deliverables,
- c) to approve the final version of the deliverables before sending to the PC for approval,
- d) to handle resource/skills balance within the WP,
- e) to periodically report progress to the PC.

Table 1 – Work Package (WP) Leader information and contacts.

WP	WP Leader	Institution	Contact
1	Giorgio Vacchiano	UNIMI	giorgio.vacchiano@unimi.it
2	Giorgio Alberti	UNIUD	giorgio.alberti@uniud.it
3	Davide Ascoli	UNITO	d.ascoli@unito.it
4	Giorgio Vacchiano	UNIMI	giorgio.vacchiano@unimi.it
5	Davide Ascoli	UNITO	d.ascoli@unito.it

Table 2 – REWILDFIRE governing bodies and management structures

Body	Acronym	Short description
Project Coordinator	PC	The PC is the legal entity acting as the intermediary between the Partners and the Granting Authority. The PC shall, in addition to its responsibilities as a Partner, perform the tasks assigned to it as described in the MA
Project Coordination Team	PCT	The PCT is a group of internal experts for administrative, financial and contractual matters which supports the PC during the project implementation.

3.2 Composition and roles

The **Project coordinator (PC)** is the legal entity acting as the intermediary between the Partners and MUR. The PC shall, in addition to its responsibilities as a Partners, perform the tasks assigned to it as described in the MA and AO.

The PC is responsible for:

- monitoring compliance by the Partners with their obligations under the AO;

- keeping the address list of members and other contact persons updated and available;
- collecting, reviewing to verify consistency and submitting reports, other deliverables and specific requested documents to the Granting Authority;
- transmitting documents and information connected with the Project to any other Parties concerned;
- providing, upon request, the Partners with official copies or originals of documents that are in the sole possession of the PC when such copies or originals are necessary for the Partners to present claims;
- providing a copy of the AO to the Partners.

The **Project Coordination Team (PCT)** is a group of internal experts for administrative, financial and contractual matters solely appointed by the PC. The PCT supports the PC during the daily implementation of the project and has not any decision power.

3.3 Meetings

The project management will be based on the following recurring events/meetings:

- **WPs meetings.** Each WPL will schedule regular (mainly online) meetings with WP members, eventually to be held in a fixed date.
- **Project Coordination Team meetings,** which will be scheduled by the PC on a regular basis for the day-to-day implementation of the project.

Costs for travel and accommodation to participate in these meetings have to be covered by each Partner own budget.

3.1.1 Preparation and procedures for physical and online meetings

The PC shall give written notice of a meeting to each partner using the mailing list no later than 7 days preceding the meeting.

Organization of physical meetings. As mentioned above, the Project Coordination Team meetings will be preferably in person and will be organized at one project Partner's venue, based a rotation principle. However, physical meetings can be also organized for WPs, if and when needed. Venues and dates should be agreed among partners.

Organization of online meetings. The online meetings will take place on the project's web conferencing platform Webex. The chairperson (PC, the WPL for the WP meeting) should schedule the meeting using the project platform's calendar and circulate the link of the meeting both through the written notice to the participants (usually, the mailing list of the Partners, par. 4.1) and by posting it on the reserved channel chat.

3.1.2 Agenda and minutes

The chairperson of a Partner shall prepare and send each Member of that Partner a written (original) agenda no later than the minimum number of 3 calendar days preceding the meeting.

Any agenda item requiring a decision by the Members of a Partner must be clearly identified as such on the agenda. Any Member of a Partners may add an item to the original agenda by written notice to all of the other Members of that Partners up to the minimum number of two days preceding the meeting.

During a meeting the Members of a Partner present or represented can unanimously agree to add a new item to the original agenda.

Keeping minutes for all project meetings is extremely important as they are a record of the decisions taken and the actions required by the partners in the project. Meeting minutes should be concise and clear. For general meetings, the minutes will be prepared by UNITO and made available through email. For WP meetings, it is the responsibility of the chairperson of the meeting to take the minutes or identify a Member within the Partners for taking them.

The minutes are considered as accepted if, within 10 calendar days from receipt, no Member has sent an objection by written notice to the chairperson with respect to the accuracy of the draft of the minutes by written notice.

Once accepted, the Minutes should be saved by the chairperson in the collaborative platform (General > [Approved Minutes](#)).

4. Internal platform and communication

4.1 Project's internal repository, meeting platform and mailing lists

The internal project repository of the REWILDFIRE Project is based on Google Drive file store platform (GDRIVE). Final deliverables, official project's documents, approved minutes for all partners, meeting presentations, updated project time-table are stored in the official project repository (GDRIVE>[General](#)). Access is restricted to all the project participants only. Centralized maintenance and housekeeping of all the project documentation will be guaranteed by the PC, and by the WPLs for the internal WP documentation. Documents will be organized in folders and sub-folders related to the different project activities or information, as well as dedicated folders for WPs and Tasks for the storage of their official documents/outputs.

Each WP leader or chairperson of the Partners is responsible for this repository and can freely organize it according to WP and Tasks needs. The access to the WP repository is restricted to WP/Partners participants only.

Reviews to text working documents shall be made always using Word Track Changes and always indicating in the comments the Short name of the reviewing partner.

The project Partners will use Webex for meetings and GDRIVE for sharing working and final documents/data. The platform on Webex is managed by the PC. The PC has already added (and is going to periodically update) the unit members according to what each Partner has indicated at the start of the project or is going to modify during the project's implementation. The WPLs are in charge of updating the mailing list of their WP to be sure communications reach all the colleagues involved in the internal activities.

Each project participant has a guest access to the internal GDRIVE platform through which he/she can access to teams documents he/she is assigned/involved.

Project meeting minutes can be accessed at the following [link](#).

The project GANTT and the progress of the project are available in the folder General > REWILDFIRE_GANTT ([link](#)).

4.2 Document standards and templates

All public documentation needs to conform standards provided by PC. These standard could be used for:

- Official reports (such as Periodic, Final);
- Public documents by the consortium;
- Project deliverables (in a report format); and
- any documents that are declared as public by the consortium.

All project templates are saved in the repository: General > Templates ([link](#)).

4.3 Document naming

In order to help all partners in quickly recognizing the documents in the general or WP repositories, the guidelines in Table 3 should be followed as much as possible. In any case, as a general rule, it is recommended that every document circulated to other partners or stored in the repository includes a version number.

Table 3 – Guidelines for REWILDFIRE document naming

	Document	Deliverable	Meetings	Presentations
Header	REWILDFIRE	REWILDFIRE	REWILDFIRE	REWILDFIRE
Underscore	-	-	-	-
Next letters	Short name of the document	Deliverable number (Dx.y) x = WP number y = deliverable number	Type of the document A = agenda M = minutes	Event title
Underscore	-	-	-	-
Next letters	Date (year month day format)	Short explanatory title of the document	Date and location of the meeting	Date and location of the meeting
Underscore	-	-	-	-
Next letters	Short name of organization			Short name of organization and initials of the presenter
Underscore	-	-	-	-
Next letters	“v” + number of revision v0.1 = draft versions v1.0 = final version or updates	“v” + number of revision v0.1 = draft versions v1.0 = final version or updates	“v” + number of revision v0.1 = draft versions v1.0 = final version	“v” + number of revision v0.1 = draft versions v1.0 = final version

Examples:

- Deliverable [REWILDFIRE_Dx.y_Short title_Version]:
REWILDFIRE_D5.1_Project Guidebook_v0.1
- Meeting document [REWILDFIRE_Type_Date_Location_Version]
Minutes: REWILDFIRE_M_Valbruna_20240115_v1.0
- Presentation [REWILDFIRE_Type_Date_Location_Version]
REWILDFIRE_SISEF_20240912_UNITO_v1.0

5. External communication

External communication is considered towards parties outside the consortium, target groups of the project, stakeholders. To ensure impact, visibility and uptake of the project and its results during the project lifetime and beyond, REWILDFIRE will prepare a Dissemination Plan for the Exploitation and Dissemination of Results, including Communication activities (mandatory deliverable, D4.1, Month 6).

The external communication is part of WP4 – Task 4.1, 4.2, 4.3. In this section of the Project Guidebook, some general principles are recalled, while more details will be available in the Dissemination Plan for the Exploitation and Dissemination of Results.

All Dissemination and Communication Activities taken by the participants must be promptly reported by the Partners in the shared form available in the project repository (General > REWILDFIRE_Dissemination_Communication reporting; [direct link](#)).

5.1 General requirements

Unless otherwise agreed with the granting authority, communication activities related to the action (including media relations, conferences, seminars, information material, such as brochures, leaflets, posters, presentations, etc., in electronic form, via traditional or social media, etc.), dissemination activities and any infrastructure, equipment, vehicles, supplies or major result funded by the grant, must acknowledge the EU and national support and display the set of logos and funding statement (translated into local languages, where appropriate) reported in Figure 1.



Figure 1 – Italian and European flag and funding statements

In case of publication, the following statement must be reported in the Acknowledgements:

This XXX was supported by the REWILDFIRE project funded by PIANO NAZIONALE DI RIPRESA E RESILIENZA (PNRR) Missione 4 “Istruzione e Ricerca” - Componente C2 Investimento 1.1, “Fondo per il Programma Nazionale di Ricerca e Progetti di Rilevante Interesse Nazionale (PRIN)”.

All the communication activities related to the action, dissemination activities and any infrastructure, equipment, vehicles, supplies or major result funded by the grant must also report the project logo as approved during the KoM (Figure).



Figure 2 – Official Project Logo

Project logo and funding statement are available in the repository (General > Project Logo IT-EU Funding Statement).

5.2 Project website

The project website is a project task 4.3, starting in Month 4, and is set up for external communication purposes. It can be found at <https://rewild-fire.com/>. It hosts all related project information and key communication resources. The pages will be continuously updated, links to partner websites and relevant organizations will be featured and visitors will be encouraged to engage in discussions.

5.3 Open access publications and IP management

As reported in the MA, the project's results will be disseminated in agreement with the protection, confidentiality and exploitation obligation set out in the AO and MA. Results will be disseminated through peer-reviewed scientific papers and at selected events (e.g., scientific conferences). The project will actively support Open Science by:

- a) publishing code under open-source licences (e.g., on GitHub);
- b) publishing scientific posters and presentations (e.g., on Research Gate);
- c) publishing protocols and workflow (e.g., on Protocols.io);
- d) publishing relevant sections of lab books and notebooks;

The datasets on C stocks in re-growing and set-aside forests will be always made accessible in Open Access regardless of their use in scientific publications. The Open Access will be granted by publishing the datasets on Zenodo. Spatial data (e.g., raster maps) and modelling outputs will be made available under Open Access agreements on a public repository that will extend beyond the project lifetime.

5.4 Dissemination activities

During the Project, the dissemination of own Results by one or several Partners, including but not restricted to publications and presentations, shall be governed according to a number of rules. Prior notice of any planned publication shall be given to the other Partners at least 30 calendar days before the submission/publication. Any objection to the planned publication shall be made by written notice to the PC and to the Partner(s) proposing the dissemination within 30 calendar days after receipt of the notice. If no objection is made within the time limit stated above, the publication is permitted.

By exception to the 30 calendar days' notice, the prior notice period shall be reduced to 15 calendar days only for the following dissemination activities: poster presentations, slides and

abstracts for oral presentations at scientific meetings. In this case, any objection to the planned dissemination shall be made in writing to the PC and to the Partner(s) proposing the dissemination within 10 calendar days after receipt of the notice. If no objection is made within the time limit stated above, the dissemination is permitted.

An objection is justified if:

- a) the protection of the objecting Partner's Results or Background would be adversely affected, or
- b) the objecting Partner's legitimate interests in relation to its Results or Background would be significantly harmed, or
- c) the proposed publication includes Confidential Information of the objecting Partner.

The objection has to include a precise request for necessary modifications. If an objection has been raised, the involved Partners shall discuss how to overcome the justified grounds for the objection on a timely basis (for example by amendment to the planned publication and/or by protecting information before publication) and the objecting Partner shall not unreasonably continue the opposition if appropriate measures are taken following the discussion. The objecting Partner can request a publication delay of not more than 60 calendar days from the time it raises such an objection. After 60 calendar days the publication is permitted, provided that the objections of the objecting Partner have been addressed.

5.5 General guidelines for publication authorships

The Partners must cooperate to allow the timely submission, examination, publication and defence of any dissertation or thesis for a degree or scientific paper/publication that includes their Results. As reported in the previous section, a project Partner must give prior notice of any planned publication to the other Partners before the submission/publication.

The first/corresponding author of the publication must send the PC a tentative title, a short summary about the idea behind the work/major results underlining the type of data which will be used in the planned publication (e.g., data owned by the first/corresponding author of his/her institution [single Partner publication] or data produced/shared by other Partners within the Consortium [joint publication]).

The PC will circulate the proposal/draft of the publication among unit participants.

All data producers must be then contacted and have the opportunity to collaborate and consult with the data user(s). Data producers will result in co-authorship when these criteria are met:

1. the data producers have given a substantial contributions to the conception or design of the work or in the analysis or interpretation of data they contribute with;
2. the data producers will contribute to drafting the work or reviewing it critically for important intellectual content;
3. the data producers will approve the final version to be submitted/published;
4. the data producers agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

6. Reporting

6.1 Internal and final reporting

The PC collects information every 3 months on the progress of the Project in order to:

- identify problems as soon as possible;
- apply corrective actions;
- deliver successful outcomes.

WPLs will prepare Internal Technical Progress Reports in the form of written reports every 12 months. This documents will be the basis to finalize the **final technical-scientific report**. This final report will use the template provided by the MUR and will be sent to the MUR within 60 (sixty) days from the date of completion of the project. Reporting rules are defined by the article 3, comma 1 letter (m) of the “Annex B - Disciplinary di concessione delle agevolazioni PE10-signed” of the “DD ammissione finanziamento PE10 prot.965.30-06-2023”.

Financial Progress Reports will be responsibility of each project partner.

6.2 Deliverable generation and approval

Deliverables are additional outputs to the Final report that must be produced at a given moment during the action (e.g. the current Guidebook – D5.1). Project Deliverables serve as the outcome of WPs' technical progress. They consist of a combination of documents such as written reports as well as non-document deliverables (datasets, script, models, maps, etc). A short executive summary shall be produced to accompany this kind of deliverable.

For each written deliverables, the following roles are defined and indicated in the cover page of the deliverable:

1. **Authors:** members of the Partners that contributed to the completion of the deliverable (the first author is the person in charge of the deliverable)
2. **Reviewer(s):** member(s) of the Consortium (generally, the WPL) that reviewed the document.

Partners responsible of the preparation and release of the deliverables (Lead Beneficiary) are indicated in modello A (MA). During the preparation phase, they will gather contributions from all the participating in the Task.

The PC must upload on the website the deliverables, in accordance with the timing defined in the GANTT chart. For this reason, deliverables shall be completed on time by the Lead Beneficiary. The generation process of a deliverable is summarized in Table 4.

All final deliverables are stored in the folder GENERAL > DELIVERABLES ([link](#)).

Table 4 – Deliverable generation process and timing.

Steps	Responsible user	Description	Timing
Started	Lead beneficiary	The lead beneficiary starts assembling the document	-
Draft and preparation phase	Lead beneficiary	Once completed the draft, the Lead Partner start collecting comments and contributions by all the participants involved in the Task. Reviews shall be made using Track Change and always indicating in the comments the Short name of the reviewing partner	-
Consolidated	Lead beneficiary	The Lead Partner will merge all the received comments and contributions in a consolidated version of the deliverable to be sent to the WPL	-
Review	WP leader	WPL reviews the consolidated version of the document	-
Final version	Lead beneficiary	The Lead beneficiary sends the final and approved version of the document to the PC	At least 20 days before the deadline
Submitted	PC	The PC upload the approved deliverable on the project website	Deadline set in the MA

6.3 Financial management and reporting

Few basic principles about financial management are reported in this section. Please, consider them as not exhaustive. All Partners are responsible for their financial management.

The total MUR contribution to the project is € 246.936 Euro. The total eligible costs of projects must relate to the costs actually incurred by the beneficiary for the implementation of the proposed project, in compliance with the eligibility criteria listed in Ministerial Decree no. 1326 of 23 December 2021 and in Annex 2 (Criteria for determining costs and for reporting of expenses) to the notice.

The accounting reporting shall be carried out by each unit leader in compliance with the "criterion cash basis" and by means of the appropriate telematic procedure, within 60 days from the conclusion of the project.

Within the same term of 60 days from the conclusion of the project activities the available the report with the certification of regularity of the expenses incurred and the procedures followed issued in the framework of the foreseen controls by the Audit Authority.

All expenses incurred in the implementation of the project are covered by MUR funding, except those related to permanent employees, which remain the responsibility of the university/body/institution hosting the research unit of the university/body/institution hosting the research unit. In particular, for all professors, researchers and technologists for research bodies only, contracted on a permanent basis and forming part (temporarily or permanently) part of the research team, no additional remuneration for their collaboration, but only the costs related to the valorisation of the months - person, which will constitute the university/body/institution's contribution to the realisation of the project/co-financing).

Eligible expenditure runs from the date of commencement of activities. Activities are therefore not eligible if activities that have already been carried out or started by the participants on that date are not eligible. The final date for the eligibility of expenses shall be the time limit of the project. Expenditure incurred outside the time limits indicated above will not be recognised eligible.

All Partners are responsible for their own cost claims made through their financial documents.

7. Gender balance

REWILDFIRE is committed to foster gender balance in the recruitment and in the research teams by promoting diversity and constantly improving the workplace conditions, adopting actions aimed at combining work/study with family life. To this end, the REWILDFIRE partners are asked to adopt promotional campaigns, appropriate language and visualisation promoting women starting scientific careers and, in the case of candidates having the same qualifications, the person from the underrepresented group will be selected.

REWILDFIRE partners are also asked to adopt specific measures allowing to conciliate work with family life of all the participants to the project (e.g., child care during physical meetings; avoid meetings (even online) after 16:00 or before 9:00).

The consortium will ensure that gender issues, if arising, will be properly and justly addressed and further ensure gender equality during the entire project lifecycle, in terms of accessibility to work, salary and working conditions.

8. Project glossary

Carbon Pool: a reservoir of carbon (IPCC, 2006). The forest carbon pools are:

- **Aboveground biomass** includes all living standing trees (at least 2.5 cm in diameter), including stems, stumps, branches, bark, seeds, and foliage. Aboveground biomass also includes living understory plants.
- **Belowground biomass** includes all living root biomass of trees or understory plants, for roots thicker than two mm in diameter.
- **Deadwood** includes all dead woody biomass either standing (snags, stumps) or coarse and fine woody debris lying on the ground.
- **Forest floor litter** includes leaves, needles, twigs, and all other dead biomass with a diameter less than 2 cm, lying on the ground. This includes small-sized dead biomass that is decomposed but has not yet become part of the soil (OL horizon).
- **Soil carbon** includes all organic and inorganic carbon in soil. In the absence of specific information upon which to select an alternative depth interval, it is good practice to compare stock change factors in the topsoil (0-30 cm, the depth used for Tier 1 calculations). It is possible to distinguish the following two horizons:
 - **Soil organic horizon:** horizon dominated by organic material. It is constituted by the OL (fresh litter), OF (fragmented and/or altered organic matter) and OH (dark, well-decomposed, amorphous organic matter) (ICP Forests, 2020). An O layer may be at the surface of a mineral soil or at any depth beneath the surface if it is buried (ICP Forests, 2020)
 - **Soil mineral horizon:** a mineral horizon formed at the surface or below an O buried horizon (ICP Forests, 2020)

The absolute quantity of carbon held within at a specified time by a carbon pool is called carbon stock. Transfer of carbon from one carbon pool to another is called carbon flux.

Carbon Flux: it is the amount of carbon exchanged between carbon pools within the ecosystem or between the ecosystem and the atmosphere ($\text{tC ha}^{-1} \text{ yr}^{-1}$) (IPCC, 2000).

Carbon Stock: the absolute quantity of carbon held within a pool at a specified time (tC ha^{-1}) (IPCC, 2000).

Chronosequence: a series of sites that differ in age or time since abandonment, but otherwise occur on similar soil types and environmental conditions within the same climatic zone (Chazdon, 2013; De Palma et al., 2018). Chronosequences, by assuming space-for-time substitution, aim to infer temporal dynamics from measurements at sites of different ages, but similar land-use histories.

Forest Reserve: portions of a forest where harvesting is excluded. For REWILDFIRE purposes, a reserve can include multiple sites.

Forest Stand: A community of trees, including aboveground and below-ground biomass and soils, sufficiently uniform in species composition, age, horizontal and vertical structure, and environmental conditions to be managed as a unit (IPCC, 2006, 2003).

Forest structure: horizontal and vertical distribution of layers and attributes in a forest including the trees, shrubs, and ground cover (Gadow et al., 2012).

Forest type: a category of forest defined by its composition, and/or site factors (locality), as categorised by each country in a system suitable to its situation (EEA, 2007).

Land abandonment: process whereby human control over land (e.g., agriculture) is given up and the land is left to nature (FAO 2006).

Land use: land use is defined as the way or manner in which the land is used (Longley, 2010)

Land cover: land cover refers to the observed biotic and abiotic assemblage of the earth's surface and immediate subsurface (Longley, 2010)

Natural forest expansion: expansion of forest through natural succession on land that, until then, was under a different land use (FAO, 2020).

Old-growth forest: a forest stand or area consisting of native tree species that have developed, predominantly through natural processes, structures and dynamics normally associated with late seral development phases in primary or undisturbed forests of the same type. Signs of former human activities may be visible, but they are gradually disappearing or too limited to significantly disturb natural processes (European Commission, 2023). This definition includes forest stands that originate not only from natural regeneration, but also from planted or sown native tree species or with visible signs of abiotic damages (e.g. storms, snow, droughts and fires) and biotic damage (e.g. from insects and diseases). Forests with visible signs of past human activity are not excluded from the definition of old-growth forests.

Plot: portion of a site within which stand and/or soil data are collected and that is considered representative of that specific site.

Primary forests: naturally regenerated forest of native tree species, where there are no clearly visible indications of human activities and the ecological processes are not significantly disturbed (European Commission, 2023). This definition includes forests with visible signs of abiotic damage (e.g. storms, snow, droughts and fires) and biotic damage (e.g. from insects, pests and diseases) and includes early, intermediate, seral and old-growth stages.

Proforestation: cessation of forest management to allow spontaneous development (Kun et al., 2020; Moomaw et al., 2019)

Re-naturalization: restoration process of ecosystems guided by human interventions (active restoration) and aimed at reinstating natural processes.

Rewilding: restoration process aimed at reinstating natural processes by letting the nature doing the job (no human intervention; passive restoration) (Wentworth and Alison, 2016).

Sampling unit: sampling element or point within a plot (i.e. a tree, a soil sampling point, etc.).

Secondary forests: forest or woodland area which has regenerated through largely natural processes after human-caused disturbances or equivalently disruptive natural phenomena (Chokkalingam and De Jong, 2001).

Secondary succession: the re-establishment of an ecosystem following a disturbance or after the cessation of other land use (e.g. agriculture), triggered by remaining legacies in the site, such as plant propagules and developed soil.

Site: homogenous area in terms of environmental conditions, land use (forest or agriculture) and time since abandonment. For the purposes of REWILDFIRE project, it includes one or more plots.

Time since abandonment: time in years after abandonment of forest management or agricultural use.

References

- Chazdon, R.L., 2013. Tropical Forest Regeneration. *Encycl. Biodivers.* Second Ed. 277–286. <https://doi.org/10.1016/B978-0-12-384719-5.00377-4>
- Chokkalingam, U., De Jong, W., 2001. Secondary forest: a working definition and typology. *Int. For. Rev.* 3, 19–26.
- De Palma, A., Sanchez-Ortiz, K., Martin, P.A., Chadwick, A., Gilbert, G., Bates, A.E., Börger, L., Contu, S., Hill, S.L.L., Purvis, A., 2018. Challenges With Inferring How Land-Use Affects Terrestrial Biodiversity: Study Design, Time, Space and Synthesis. *Adv. Ecol. Res.* 58, 163–199. <https://doi.org/10.1016/BS.AECR.2017.12.004>
- EEA, 2007. European Forest Types. Categories and types for sustainable forest management, reporting and policy. Technical Report 09/2006. Copenhagen.
- European Commission, 2023. Commission guidelines for Defining, Mapping, Monitoring and Strictly Protecting EU Primary and Old-Growth Forests, Commission Staff Working Document. <https://doi.org/10.2779/205712>
- FAO, 2020. Global Forest Resources Assessment. Rome.
- Gadow, K. v., Zhang, C.Y., Wehenkel, C., Pommerening, A., Corral-Rivas, J., Korol, M., Myklush, S., Hui, G.Y., Kiviste, A., Zhao, X.H., 2012. Forest Structure and Diversity 29–83. https://doi.org/10.1007/978-94-007-2202-6_2
- ICP Forests, 2020. Sampling and analysis of soil.
- IPCC, 2006. Guidelines for National Greenhouse Gas Inventories - Agriculture, Forestry and Other Land Use (volume 4).
- IPCC, 2000. Land use, land use change and forestry. Cambridge University Press.
- Kun, Z., DellaSala, D., Keith, H., Kormos, C., Mercer, B., Moomaw, W.R., Wiezik, M., 2020. Recognizing the importance of unmanaged forests to mitigate climate change. *GCB Bioenergy* 12, 1034–1035. <https://doi.org/10.1111/gcbb.12714>
- Longley, P., 2010. Global Mapping Of Human Settlement: Experiences, Datasets, and Prospects. *Photogramm. Rec.* 25, 205–207. https://doi.org/10.1111/J.1477-9730.2010.00574_3.X
- Moomaw, W.R., Masino, S.A., Faison, E.K., 2019. Intact Forests in the United States: Proforestation Mitigates Climate Change and Serves the Greatest Good. *Front. For. Glob. Chang.* 2, 1–10. <https://doi.org/10.3389/ffgc.2019.00027>.