CLIMATE ACTION RESERVE

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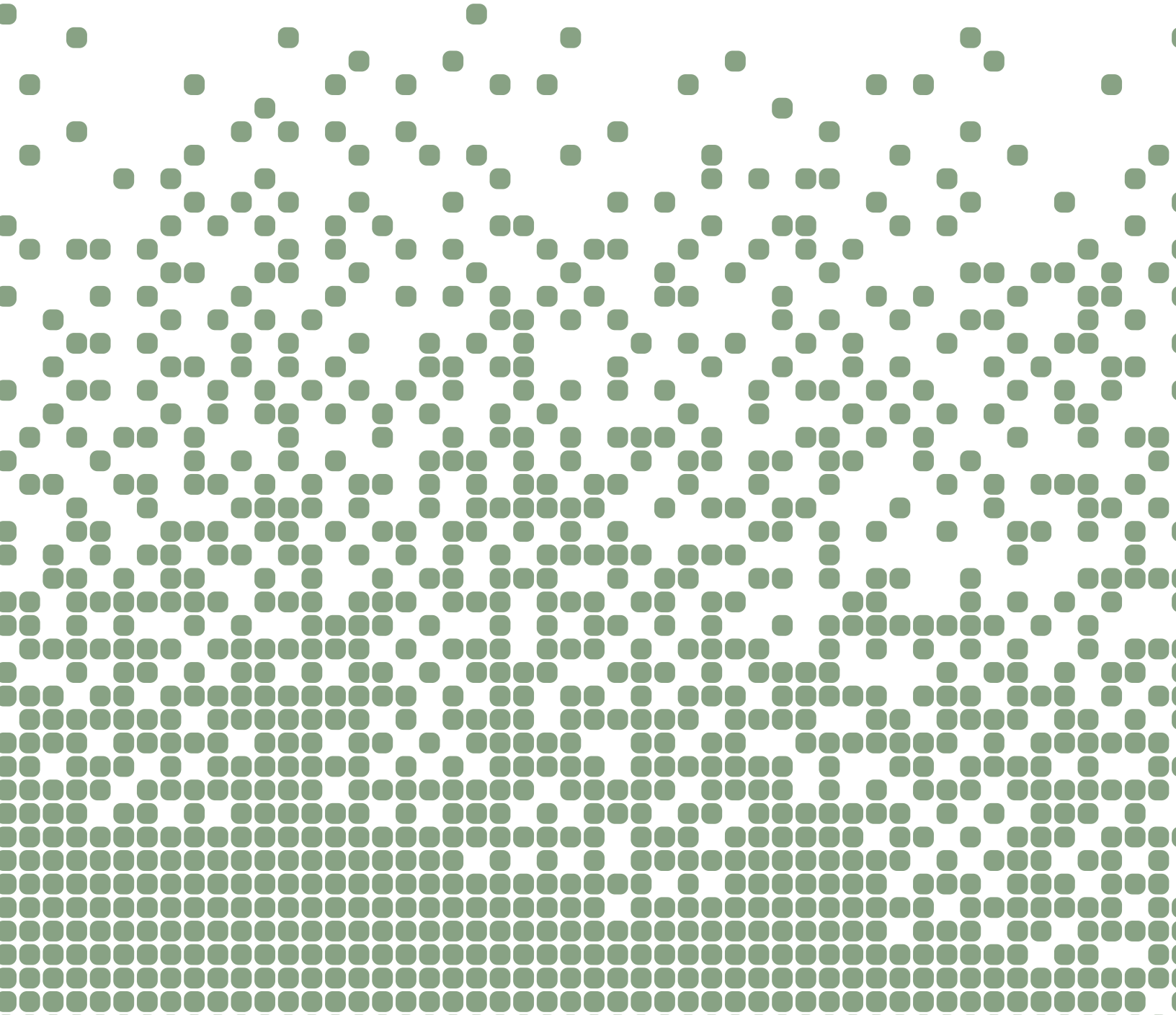
# Mexico Forest Protocol



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# Abbreviations and Acronyms

| | |
|---|---|
| $CH_4$ | Methane |
| $CO_2$ | Carbon dioxide |
| CONAFOR | Comisión Nacional Forestal |
| MCRT | Mexican Climate Reserve Tonne |
| FPC | Forest Project Coordinator |
| GHG | Greenhouse gas |
| IPCC | Intergovernmental Panel on Climate Change |
| MFP | Mexico Forest Protocol |
| $N_2O$ | Nitrous oxide |
| PIA | Project Implementation Agreement |
| RAN | National Agrarian Registry |
| REDD+ | Reducing emissions from deforestation and forest degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks |
| Reserve | Climate Action Reserve |
| SEMARNAT | Secretaria de Medio Ambiente y Recursos Naturales |
| UNFCCC | United Nations Framework Convention on Climate Change |

# 1 Introduction

The initial release of the draft Climate Action Reserve's (Reserve) Mexico Forest Protocol (MFP) followed 14 months of meetings, consultations, and conference calls among an expansive list of Mexican and American stakeholders. The participants in the stakeholder process included non-governmental organizations (NGOs), government agencies, project developers, and landowner representatives. Following a public comment period in January, 2012, in which many important ideas were raised, the Reserve postponed further elaboration of the protocol while important activities were taking place in Mexico with regard to REDD+ initiatives and Mexico's Climate Change Law. The current version was developed with improved clarity as to which activities will be eligible in Mexico and with a vision toward seeking synergies with a standard developed in Mexico (*Norma Mexicana* - NMX-AA-173-SCFI-2015 - par*a el registro de proyectos forestales de carbon y la certificación del incremento en el acervo de carbono)*) that will create an important infrastructure for all forest project activities.

This protocol is focused on the crediting of activities that sequester $CO_2$ from the atmosphere through increasing carbon stocks in trees over time. The protocol provides project eligibility rules, methods to calculate a project's net removals of $CO_2$ from the atmosphere due to sequestration activities, procedures to address and compensate for the release of $CO_2$ back to the atmosphere (i.e. "reversals"), and approaches for long-term project monitoring and reporting. The goal of this protocol is to ensure that the net GHG removals caused by a project are accounted for in a complete, consistent, transparent, accurate, and conservative manner and may therefore be reported to the Climate Action Reserve (Reserve) as the basis for issuing carbon offset credits (called Mexican Climate Reserve Tonnes or MCRTs). The protocol is designed to interface and reconcile with future accounting strategies developed at jurisdictional levels, where the focus is expected to be on avoiding emissions from deforestation and degradation (REDD). The intention is for this protocol to be complementary to jurisdictional efforts by focusing on forest carbon enhancements.

The Reserve is an international offsets program working to ensure integrity, transparency, and financial value in the North American carbon market. It does this by establishing regulatory-quality standards for the development, quantification and verification of GHG emissions reduction projects in North America; issuing carbon offset credits generated from such projects; and tracking the transaction of credits over time in a transparent, publicly-accessible system. Adherence to the Reserve's high standards ensures that emission removals associated with projects are real, additional, and meet rigorous permanence standards, thereby instilling confidence in the environmental benefit, credibility, and efficiency of carbon markets.

## 1.1 About Forests, Carbon Dioxide, and Climate Change

Forests have the capacity to both emit and sequester carbon dioxide ($CO_2$), a leading greenhouse gas that contributes to climate change. Trees, through the process of photosynthesis, naturally absorb $CO_2$ from the atmosphere and store the gas as carbon in their biomass, i.e. trunk (bole), leaves, branches, and roots. Carbon is also stored in the soils that support the forest, as well as the understory plants and litter on the forest floor. Wood products that are harvested from forests can also provide long-term storage of carbon.

When trees are disturbed, through events like fire, disease, pests or harvest, some of their stored carbon may oxidize or decay over time releasing $CO_2$ into the atmosphere. The quantity and rate of $CO_2$ that is emitted may vary, depending on the particular circumstances of the disturbance. Forests function as reservoirs in storing $CO_2$. Depending on how forests are managed or impacted by natural events, they can be a net source of emissions, resulting in a

decrease of carbon in the reservoir, or a net sink, resulting in an increase of carbon to the reservoir. In other words, forests may have a net negative or net positive impact on the climate.

Through sustainable management and protection, forests can play a positive and significant role to help address global climate change. The Reserve's MFP is designed to address the forest sector's unique capacity to sequester, store, and emit $CO_2$ and to facilitate the positive role that forests can play to address climate change.

## 1.2 Nested Projects in a Jurisdictional Framework

The development of the Reserve's protocol is occurring simultaneously with the development and ongoing evolution of Mexico's REDD+ Strategy (ENAREDD+). Jurisdictions are also moving forward with strategies to address climate change, as well as addressing biodiversity, social, and watershed issues. Additionally, Mexico has developed a project standard (Norma Mexicana, NMX-AA-173-SCFI-2015) that will ensure integrity and consistency in the accounting of all forest carbon project activities in Mexico.

These dynamics have shaped the discussions and the development of the protocol, since it is a key objective to produce a protocol that is respected in international frameworks and relevant to Mexico's REDD+ Strategy. Early on, the workgroup discussed the concept of developing a protocol that could function in the near term as standalone project guidance and be adaptable to REDD+ accounting systems as they develop. Ultimately, it is expected that the Reserve's MFP will provide guidance for landscape projects that are reconciled to, or nested within, jurisdictional accounting systems either at the regional, state or federal level (or all).

The protocol is intended to help catalyze the development of carbon sequestration activities in Mexican forests. The guidance in this protocol provides:

1. Assurances that environmental and social safeguards are achieved where credited activities occur.
2. A resolute assessment of additionality where activities occur.
3. Accurate quantification methods, based on measurable benefits resulting from explicit management activities.
4. Practical methods for ensuring permanent carbon storage.

While the current guidance is designed to quantify GHG removals from enhanced sequestration at the landscape scale, the Reserve expects this guidance to evolve as broader accounting frameworks are developed at the national and sub-national level in Mexico. Addressing REDD+ activities at jurisdictional scales will provide opportunities to comprehensively address forest sector emissions and enhancements and improve the overall accuracy of forest carbon accounting. The ability to control and account for leakage, for instance, is proportional to the geographic scale of a program and monitoring efforts. Hence, the intent is to embed this protocol in jurisdictional mechanisms as they are developed and provide sound metrics for directing incentive programs for carbon enhancement activities. The ultimate objective is a system in which projects are reconciled to jurisdictional REDD+ frameworks in a way that is mutually reinforcing with respect to accounting, permanence, and safeguarding environmental and social values.

This protocol has been designed with conservative assumptions in order to minimize the risk of over-crediting and to facilitate the protocol's incorporation into jurisdictional programs. Incorporating the protocol in a jurisdictional REDD+ framework, however, may require

reconsidering or revising a number of protocol elements at the time such jurisdictional systems are developed, including:

1. Crediting Pathway

   The protocol has been designed with the assumption that credits will be issued directly to projects as described in CONAFOR' s (2012) statement on carbon rights.[1] This allows owners and possessors managing the forest to be directly rewarded for activities that increase carbon sequestration. The protocol will be fully compatible with programs that issue credits at both the jurisdiction and project levels (or at the project level only), provided mechanisms are devised to reconcile project- and jurisdiction-level accounting. This protocol does not currently reference or incorporate such mechanisms, however, we assume that any credits due to reduced deforestation will be assigned to the jurisdictional level only, and the forest enhancement credits (which can be concretely measured in situ at the level of individual parcels under management) to the owners/managers of such parcels only. This creates two clearly separate fields of crediting, avoiding the problem of how to settle accounts.

   It is possible to design jurisdictional REDD+ frameworks for which credits are issued at the jurisdiction level, and not directly to projects. Such programs may still incorporate project-level activities and could rely on the accounting structures within this protocol to determine the relative contribution of projects to jurisdiction-wide performance.

2. Baselines and Reconciliation

   In this protocol, baselines are a benchmark or reference for measuring increased sequestration. A baseline should be a representation of the future expected level of sequestration from the Project Area in the absence of carbon credit incentives (also known as business as usual). This protocol provides crediting for enhancement activities and conservatively requires that forest-related emissions from the Project Area be discontinued prior to receiving credits. Project baselines are estimated as a standardized function of risk to the existing forest carbon stocks within the Project Area.

   In a jurisdictional system, a jurisdictional reference level will be set to measure performance in the jurisdiction as a whole. As long as jurisdictional reference levels are designed only to account for emissions from deforestation, project-level crediting of enhancement activities facilitates reconciliation of project- and jurisdiction-level crediting since the carbon inventories associated with enhancement activities and the location of Project Areas are known. Project Area can be backed out of areas considered for avoided deforestation.

3. Scope

   Jurisdictional programs may choose to monitor and account for reduced emissions from deforestation and/or degradation (RED and/or REDD), but may also include accounting for enhanced sequestration (typically called REDD+). This protocol accounts only for enhanced

[1] CONAFOR considers property rights as established on article 27 of the Mexican Constitution. Furthermore, it acknowledges what is established in article 5 of the General Law for Forest Sustainable Development that states that forest resources belong to the *ejidos*, communities, indigenous groups, individuals and others. As such, and recognizing that $CO_2$ is a gas that can be absorbed by the vegetation and that carbon is incorporated to the biomass, CONAFOR states that it belongs to the forest owners. In this sense, any additional carbon sequestered that complies with the specific market mechanism requirements will belong to the forest owner.

sequestration at the project level (described in Section 2.3). A jurisdictional program that relies on this protocol may therefore need to include accounting for sequestration at the jurisdiction level (REDD+), or adopt methods for reconciling jurisdiction- and project-level accounting frameworks based on these different activities.

4. Liability and Risk-Sharing

   Under this protocol, projects are credited for their individual performance against a project baseline, and issuance of credits to Forest Owners is adjusted to account for risk of reversals. At the project scale, unavoidable reversals of carbon sequestration are compensated by the Reserve out of a common Buffer Pool. Contributions to the Buffer Pool are required by projects at a rate determined by project risk. Avoidable reversals must be compensated for by the Forest Owner in cases where the credits have been contractually secured and have been issued based on a defined time commitment. Similarly, jurisdictional systems must define mechanisms to compensate for reversals at a jurisdictional level. However, since jurisdictional REDD+ performance will depend on the performance of both Project and non-Project Areas, a mechanism for sharing risk among projects and between projects and the jurisdiction must be defined. Conversely, the existence of a jurisdictional program that performs well may decrease the risk of reversals to individual projects, and wall-to-wall jurisdictional monitoring may decrease the need for leakage discounting. The protocol is designed to recognize the benefits of jurisdictional monitoring as it relates to leakage. Thus, leakage discounting and project risk assessments in the current protocol may be adjusted over time.

5. Safeguards

   Where possible, this protocol strives to incorporate safeguards at the project level by providing explicit social and environmental safeguards. Certain base criteria for social and environmental safeguards are embedded within this protocol. As jurisdictional systems for REDD+ develop, policy decisions regarding appropriate environmental and social safeguards will be determined.

The Reserve uses a rigorous, transparent, and comprehensive process for developing all of its protocols, focusing on accurate and conservative accounting to ensure that credits are issued only for GHG removals that are real, permanent, additional, verifiable, and enforceable by contract. The Reserve may update the MFP from time to time to reflect new scientific findings or policy decisions. For additional information about the update process and further news on future updates, please visit the Reserve website at www.climateactionreserve.org.

# 2 Stages of Project Development and Maintenance

The many key steps involved in developing a project credit are shown in Figure 2.1.

**Figure 2.1.** Key Steps Involved in Developing and Maintaining a Forest Carbon Project

## 2.1 Forest Projects

For the purposes of the MFP, a Forest Project is a planned set of activities designed to increase removals of $CO_2$ from the atmosphere through increasing forest carbon stocks.

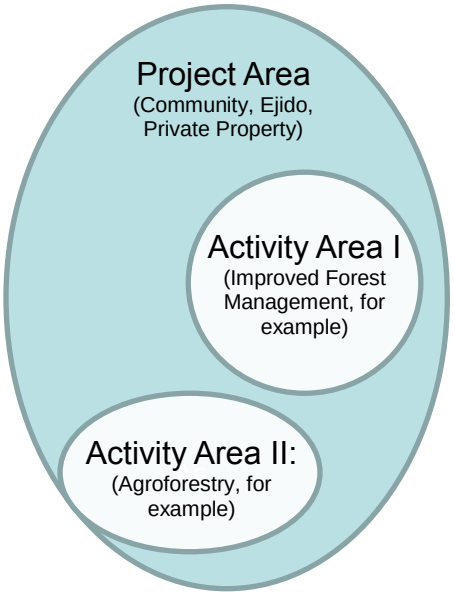
A glossary of terms related to Forest Projects is provided in Section 12 of this protocol. Throughout the protocol, important defined terms are capitalized (e.g. “Forest Owner”).

## 2.2 Project Areas and Activity Areas

Project Areas include all areas within an ownership, held either communally or privately, in which Project activities within Activity Areas (defined below) may occur as part of the project, currently or in the future. Communally owned lands (known in Mexico as *communidades* and *ejidos*) must include the entire community ownership as the Project Area. Activity Areas are explicit areas within the Project Area where activities occur that lead to quantified increased sequestration compared to baseline levels. Within the project area, individually owned parcels within *ejido* boundaries are allowed to be included as Activity Areas if the title-holder chooses to participate. Project Areas cannot be redefined without approval by the Reserve following the

first site verification. The protocol has developed flexible terms to allow additional Activity Areas to be added to the project upon site verification. Distinct monitoring guidance is provided for Project Areas and Activity Areas. The purpose of developing monitoring mechanisms for both Activity Areas and Project Areas is to ensure adequate rigor in addressing project safeguards, leakage, and to provide flexibility for adding new project activities without the need to create a new project, while achieving monitoring objectives efficiently.

Figure 2.2 displays the relationship between Activity Areas and the Project Area and outlines some of the general monitoring and reporting requirements associated with each area.




| Project Area | |
|---|---|
| Monitoring and Reporting | Periodic monitoring (5-year basis) for maintenance of forest cover outside Activity Areas as a control against leakage. |
| **Activity Areas** | |
| Monitoring and Reporting | Annual monitoring of forest carbon stocks.<br><br>Periodic monitoring (5-year basis) for native species. |

**Figure 2.2.** Relationship between the Project Area and Activity Areas (within a Project Area) and the General Monitoring Requirements Associated with Each Level

The geographic boundaries defining the Project Area must be described in detail at the time a Forest Project is listed on the Reserve.

The following rules apply to the definition of a Project Area:

1. The Project Area may be contiguous or separated into tracts.
2. For communally owned lands, the Project Area must consist of the entire area owned by the community or *ejido*.
3. For privately owned lands, the Project Area must consist of the entire area owned. For lands that expand beyond one municipality[2], projects need to include all land owned within all included municipalities.

The boundaries must be defined using a map. Major settlements (towns), roads and watercourses must be displayed on the map. The map should include a legend and a scale. A GIS shapefile or Google Earth KML file that includes the project boundary is required to be included with the project submission that matches project boundaries in the project document. The maps should be of adequate resolution to clearly identify the requested features.

[2] Municipalities are subdivisions of states in Mexico.

## 2.3 Project Activities

The Reserve will register forest project activities for enhancement of forest carbon stocks that fall under the definition of the "+" of REDD+,[3] specifically sustainable management of forests and enhancement of forest carbon stocks, adopted by the United Nations Framework Convention on Climate Change (UNFCCC).

Eligible management activities include any forestry-related activity that results in a higher level of carbon stocks within Activity Areas compared to the project's baseline. Such activities may include, but are not limited to:

1. Increasing the overall age of the forest by increasing rotation ages
2. Selecting healthy and vigorous trees for stand growing stocks
3. Managing competing species for improved growth and vigor
4. Increasing the stocking of trees on under-stocked forest areas
5. Removing impediments to natural forest regeneration
6. Afforestation/Reforestation
7. Increasing carbon stocks through agroforestry
8. Urban tree planting

Avoided emissions from deforestation and degradation are not eligible as project activities.

Activity Areas should be designated according to the primary human activity within the specified area (Table 2.1). Multiple activities may occur within the same Activity Area, such as reforestation and improved forest management. The Activity Area is labeled as the activity that covers the most landcover. Activity Areas should be no smaller than 100 hectares.

**Table 2.1.** Activity Area Designation

| Activity Area | Description |
|---|---|
| Agroforestry | The primary human activity within the Activity Area is agriculture. Trees are grown and harvested (if desired) within and among the cultivated crops. |
| Improved Forest Management | The primary landcover is forest, which may be present in varying densities and sizes. Agriculture may be included as a secondary activity and most likely in varying intensity across the landscape over time and space. Reforestation within this Activity Area, if it occurs, follows a harvest or other disturbance event that has occurred within the past 5 years. |
| Reforestation/ Afforestation | The primary landcover is non-forest. It may have been in forest cover historically, but not within the past 5-years. |
| Urban Forestry | Management of trees in and around urban areas. Where urban zones have been designated by government authorities, forestry activities within such zones are considered urban forestry. Where such zones have not been defined, the urban zone shall be defined with a polygon, or sets of polygons that are generally drawn with boundaries 100 meters from homes, warehouses, factories, schools, and other human establishments. |
| Silvo-pastoral | The primary human activity within the Activity Area is grazing. Trees are grown and harvested (if desired) within and among the grazing areas. |

[3] Decision 2/CP.13. Bali Action Plan - reducing emissions from deforestation and forest degradation in developing countries. Decision 1/CP.16. Cancun Agreements, paragraph 70. Encourages developing country Parties to contribute to mitigation actions in the forest sector by undertaking the following activities, as deemed appropriate by each Party and in accordance with their respective capabilities and national circumstances (a) Reducing emissions from deforestation; (b) Reducing emissions from forest degradation; (c) Conservation of forest carbon stocks; (d) Sustainable management of forests; (e) Enhancement of forest carbon stocks.

# 3 Eligibility Criteria and Participation Requirements

Forest Projects must meet several criteria and conditions described below, to be eligible for registration with the Reserve, and must adhere to certain requirements related to their duration and crediting periods.

## 3.1 Project Location

This protocol is applicable to Forest Projects located anywhere in Mexico, provided they meet all other eligibility requirements described in this protocol.

## 3.2 Jurisdictions

Mexico's development of jurisdictional REDD+ is well underway. Jurisdictional REDD+ is addressing many issues beyond carbon accounting. Jurisdictional boundaries are being considered to address watershed, biodiversity, and social benefits, along with forest carbon. As progress is made in the definition of jurisdictions and development of jurisdictional accounting frameworks, the Reserve will seek ways to improve efficiencies of accounting for carbon benefits associated with project activities. The Reserve will also work closely with jurisdictional frameworks to ensure alignment with accounting frameworks. Alignment with carbon accounting is anticipated to be relatively straightforward since, per current discussions, project activities are accounting only for enhancements and jurisdictions will be accounting for avoided emissions (with regards to carbon) and possibly enhancements as well.

## 3.3 Forest Owner

A Forest Owner can be an individual or a collective legal person (*ejido* and/or communal land) that owns or legally possesses forestland. A Forest Owner must have undisputed control of the carbon in the trees within the Project Area, either through outright ownership of the trees, or through rights granted from a state or federal agency. In cases where multiple claims of ownership exist for control of forest carbon, the parties must enter into agreement prior to the initiation of project activities as to which party will assume the role of Forest Owner for purposes of a forest carbon project. Public agencies may not be Forest Owners.

The Forest Owner is responsible for undertaking a Forest Project and registering the project with the Reserve, and is ultimately responsible for all Forest Project reporting. The Forest Owner may, however, engage a project developer to assist or consult with the Forest Owner and to implement the Forest Project. All information submitted to the Reserve on behalf of the Forest Owner shall reference the Forest Owner, who is ultimately responsible for the accuracy and completeness of the information submitted.

The following types of ownership are eligible for participation (following the Agrarian Law[4] and Civil Code):

### 3.3.1 Communal Land (*Ejidos* and Communities)

Eligibility includes communally-owned land and *ejidal* parcels that voluntarily want to join the project with corresponding parcel certificates.

*Ejidos* – Inscribed in the National Agrarian Registry (*Registro Agrario Nacional*, RAN).[5]

[4] *Ejidos*, Chapter I, article 9. Communities, Chapter V, article 98. Private Property, Fifth Title, article 115.
[5] Decentralized body of the Ministry of the Agrarian Reform responsible for communal land (*ejido*) tenure regulation through the provision of legal certainty.

Communities (agrarian and indigenous) – Inscribed in the National Agrarian Registry (RAN).

### 3.3.2 Private Property

Private Property – Inscribed on the Public Registry of Property (*Registro Público de la Propiedad*).

Land owned by federal, state or local governments is not eligible for participation.

## 3.4 Forest Project Coordinator

A Forest Project Coordinator (FPC) must be identified through a process identified in the Social Safeguard section on Governance for communally owned Forest Owners. The role of FPCs is to be the main communication link between the Reserve and the Forest Owner and to ensure proper implementation of the protocol requirements. In communities and *ejidos*, the FPC must be a community/*ejido* member and must prove through a signed Assembly Act[6] recognized by law that he/she has been chosen by the *ejido* or community as project coordinator. In a private land, the Forest Owner can designate the FPC, including designating themselves.

## 3.5 Required Documentation for Land Tenure Status

All landowners must demonstrate proof of ownership of the Project Area.

**Communities and *Ejidos***

1. Official identification of the members of the Agrarian Authority[7] that could include: voter ID (*credencial de elector*), military ID (*cartilla militar*), passport, or certificate of naturalization.
2. Basic File (*Carpeta Básica)*:[8]
   a. Presidential Resolution (*Resolución Presidencial*) – For *ejidos* and communities constituted or recognized before 1992
   b. Possession Act (*Acta de Posesión y Deslinde*)
   c. Property Boundaries (*Plano Definitivo*)
   d. Date when it was published under the Federation Official Journal (DOF)
   e. Registration Proof (*Constancia Registral del ejido)*[9]
3. For certified *Ejidos*: Delimitation, Destination, and Land Allocation Act (*Acta de Delimitación, Destino, y Asignación de Tierras Ejidale*s, ADDAT). Each parcel certificate must be presented where the project will be developed.
4. Communal land use plan (*Ordenamiento Territorial Comunitario).*[10]
5. Current communal bylaws (*Estatutos comunales).*[11]

[6] An Assembly Act is a document that describes all the resolutions that took place during an Assembly. The Assembly is the highest ejido/community body where decisions are made.
[7] The Agrarian Authority is the *Comisariado Ejidal* or *Bienes Comunales*, which in general is composed of three individuals elected by the General Assembly: president, secretary, and treasurer as well as a supervisory board comprised of a president and two secretaries, all with their alternates.
[8] *La Carpeta Básica* is constituted of information that proves the creation and constitution of *ejidos* and communities. Documents include: *Resolución Presidencial, Acta de Posesión y Deslinde*, and *Plano Definitivo* and its publication in the Federation Official Journal (DOF). The information can be provided at the Agrarian Registry. The *Resolución Presidencial* (Presidential Resolution) is a decree given by the president where it is stated that the land is given to the corresponding community or *ejido*. This fact is stated on the *acta de posesión y deslinde* and a map of the community was drawn, called *Plano Definitivo*. Presidential resolutions are registered in the Agrarian Registry.
[9] Document that refers to the land dimensions and number of current beneficiaries.
[10] Defines land uses within a community or *ejido*.
[11] Internal rules and regulations.

6. Official identification – Identification of the Project Coordinator responsible for the project that has the approval of the agrarian nucleus.[12]

**Small Private Property**

1. Official identification of the owner that could include: voter ID (*credencial de elector*), military ID (*cartilla militar*), passport, or certificate of naturalization.
2. Property titles inscribed under the Public Registry.

## 3.6 Conflicts

It is understood that boundary disagreements may exist for Project Areas. The Reserve cannot issue credits for any lands where substantial disputes exist regarding property ownership. Therefore, all Activity Areas must be free of substantial conflict or dispute (at the Reserve's discretion) with regards to ownership. For all ejidos and communities, the Forest Owner must submit a document emitted by the National Agrarian Registry (RAN) that states that there are no agrarian conflicts within the Activity Areas. Private landowners must also prove that there are no boundary conflicts within the Activity Areas.

## 3.7 Regulatory Compliance

Each time the Forest Project is verified, the Forest Owner must attest that the project is in material compliance with all applicable laws[13] relevant to the project activity. Materiality is further discussed in the Reserve's Program Manual. Forest Owners are required to disclose in writing to the verifier any and all instances of material non-compliance[14] of the project with any law. MCRTs will not be issued for GHG removals that occurred for the monitoring period in which the material non-compliance occurred.

## 3.8 Social Safeguards

Forest Projects can create long-term climate benefits as well as providing other social and environmental benefits. Investment into forest carbon projects has the potential to improve quality of life for rural communities, both in terms of increased revenues and in terms of sustaining and improving forest ecosystems.

For *ejidos* and communities, this protocol provides certain general social and environmental safeguards to be included in the project design and implementation throughout the project life to help guarantee that the project will have positive environmental and social outcomes. (Private, non-communal landowners are not required to address the social safeguards.) The safeguards in the protocol are intended to respect internal governmental processes, customs, and rights of Forest Owners while ensuring projects are beneficial, both socially and environmentally. The section on Monitoring, Reporting, and Verification specifies the criteria for verification of each of these safeguards and consequences for failure to achieve the minimum thresholds.

[12] An agrarian nucleus refers to social property, communities and *ejidos*. Many times the authority of the agrarian nucleus is the *Comisariado Ejidal* or *Bienes Comunales* who is the responsible body to execute and enforce the decisions taken in the General Assembly.

[13] Including the General Law of Environmental Equilibrium and Protection, Law for Sustainable Rural Development, General Law for Sustainable Forest Development, Agrarian Law, and The Political Constitution of the Mexican United States, among others.

[14] Material non-compliance with the law, for purposes of this protocol, is any illegal act, for which the Forest Owner has been prosecuted, that impacts forest stocking, and/or conservation values.

The social safeguard requirements for *ejidos* and communities include:

1. Free, Prior, and Informed Consent
2. Meeting Notification, Participation, and Documentation
3. Project Governance

The requirements for each of the categories are identified below.

| **Free, Prior, and Informed Consent** | |
|---|---|
| Prior to project submission, Forest Owners must hold a meeting, series of meetings, or an assembly[15] to discuss the themes addressed in this section. Provisions must be made to ensure non-Spanish speaking participants can understand the material and communicate during meetings or assembly. Meetings must be announced in a manner to ensure that the information reaches all community members, including vulnerable groups like women, *avecindados*[16] and young people. The meeting acts and proof of it (through photographs or signatures) must be included in the PR.<br><br>These meetings or assemblies must adhere to proper notification, participation, and meeting documentation requirements in the section on Meeting Notification, Participation, and Documentation below. | |
| **Themes** | **Description** |
| SS1<br>Forest Carbon Project Concepts | The rationale behind the participation in a forest carbon project must be discussed. Presentations must address the following topics in order to understand the basics behind climate change and actions to mitigate it:<br>▪ Concept of climate change associated with GHGs<br>▪ Role of forests in mitigating climate change<br>▪ Opportunities (economic and environmental) for participation in forest carbon project<br>▪ Methods to enhance forest carbon stocks<br>▪ Additionality and permanence associated with forest carbon projects<br>▪ Importance of maintenance of native biodiversity |
| SS2<br>Anticipated Costs | Anticipated costs of the forest carbon project must be discussed and documented in the meeting notes. The following must be addressed:<br>▪ Site preparation<br>▪ Provision of and planting of forest seedlings<br>▪ Inventory and monitoring<br>▪ Project governance<br>▪ Project verification<br>▪ Changes in land use and access to resources |
| SS3<br>Anticipated Benefits | Presentations must be provided that define economic benefits to Forest Owners due to involvement in a forest carbon project. Anticipated benefits discussed must address:<br>▪ Local environmental benefits that are usually associated with biodiversity, water quality, soil conservation, and recreation<br>▪ Economic benefits associated with carbon and other forest resources (through market mechanisms)<br>▪ Distribution of benefits to the community and/or community members |
| SS4<br>Project Approval | The project must be approved through:<br>▪ Established formal and/or traditional authorities<br>▪ An Assembly Act with consensus (>50%) of all community members in favor |

[15] The Assembly is the highest ejido/community body where decisions are made.
[16] Avecindados are inhabitants who are not ejidatarios or comuneros, and thus, do not participate in decision-making and do not own land.

| Meeting (Assembly) Notification, Participation, and Documentation | |
|---|---|
| Meetings occur during the assembly (*Asamblea)* (at least once a year) to discuss critical elements associated with project activities. These meetings can be included in the general assemblies, as desired by each community. Meetings must prove that vulnerable groups are included, including *avecindados*. Each meeting must include the following items on the agenda:<br>▪ Forestry activities (management actions, environmental issues, grievances, other concerns and opportunities)<br>▪ Programmatic events (monitoring, reporting, and verification)<br>▪ Credits issued<br>▪ Benefit sharing arrangements<br>▪ Finances | |
| **Themes** | **Description** |
| SS5<br>Proper Notification | ▪ Each Forest Owner should describe how notices of meetings take place in order to include as many people as possible |
| SS6<br>Participation | ▪ Meetings must provide a sign-in sheet so that meeting attendance can be monitored<br>▪ Opportunities for all community/ejido members to share opinions, both in writing and orally<br>▪ Project Coordinator can request comment from community/ejido members during meetings if deemed pertinent |
| SS7<br>Meeting Documentation | ▪ Meeting notes must document the discussions associated with each required item on the agenda<br>▪ Forest Owners should describe how meeting acts will be publicly available as part of the project record |

| Project Governance | |
|---|---|
| Forest carbon projects require an organizational structure that will endure for long periods of time. A Project Coordinator must be selected for the community to represent the project with community members, with verifiers, and with Reserve staff. The Project Coordinator is responsible for:<br>▪ Ensuring all project-related documentation is in order and up to date<br>▪ Ensuring meetings include the required elements above and providing the corresponding act<br>▪ Organizing logistics with verifiers and Reserve staff<br><br>The process for identifying the Project Coordinator is at the discretion of the community but must include the elements described below. | |
| **Themes** | **Description** |
| SS8<br>Identification of a Project Coordinator | ▪ A description of the nomination process must be documented in the PR<br>▪ A description of the selection/election process must be documented in the PR<br>▪ Project Coordinator must be approved with a >50% vote of the community/ejido members present in the Assembly<br>▪ For *ejidos* and communities, must be a member |
| SS9<br>Term of a Project Coordinator | ▪ The length of the term of Project Coordinator must be defined in the PR<br>▪ The PR must identify whether the position of Project Coordinator can be renewed and, if so, for how many terms |
| SS10<br>Replacing the Project Coordinator | ▪ To address potential disputes associated with the Project Coordinator, a process in replacing the Project Coordinator from the position (which should take place during a general assembly) must be documented in the PR |

## 3.9 Environmental Safeguards

The protocol has a goal of sustaining and/or enhancing forest ecosystem functions. All forest projects must promote and maintain native forests comprised of multiple ages and mixed native tree species within the Activity Areas. For the purposes of this protocol, native forests are comprised of species naturally found in and around the Project Area. An affidavit from the appropriate regional SEMARNAT office is required wherever a dispute arises as to whether a tree is native to the Project Area or not. The use of native species outside of their historic range

is permitted if the use is intended as an adaptation strategy against climate change. In such cases, a letter stating the use of the particular species is required from the appropriate regional SEMARNAT office. Elements of forest structure within Activity Areas must be managed at a spatial distribution to ensure integrity of ongoing forest ecosystem functions, which shall be determined according to the guidance below.

The following key requirements shall apply to all Forest Projects regardless of the silviculture or regeneration methods that are used to manage the forest:

1. Activity Areas must maintain or increase standing live and dead carbon stocks over the project life, as determined by a running 10-year average of carbon stocks within the Project Area.

2. Activity Areas must demonstrate verified continuous progress towards achieving a goal of 95% native species within the Activity Areas, as measured by average trees per hectare. This must be met within 50 years.

3. Activity Areas must demonstrate verified continuous progress towards meeting the composition of native species according to the Table 3.1. This must be met within 50 years.

**Table 3.1.** Requirements for the Proportion of Native Species within the Activity Areas

| Project Activity Areas[1] | Native Species Composition Requirements (Trees per Hectare) |
|---|---|
| Up to 10 hectares | Up to 100% can be in one species. |
| >10 to ≤50 hectares | Up to 90% can be in one species. |
| >50 to ≤100 hectares | No more than 80% can be in one species. The balance must be made up of at least two other species. |
| >100 to ≤1,000 hectares | No more than 70% can be in one species. The balance must be made up of at least two other species. |
| Greater than 1,000 hectares | No more than 60% can be in one species. The balance must be made up of at least three other species. |

[1] The area is determined by the sum of hectares in all Project Activity Areas.

For Project Activities where the activity involves the establishment of new forest stands (reforestation, afforestation, urban forestry, and agroforestry), the criteria in Table 3.1 must be met immediately following the establishment of the new forest stand. For Activity Areas where the activity is based on Improved Forest Management, the criteria in Table 3.1 must be met through continuous progress towards the criteria over the Project Life. Exceptions to the composition of native species are accepted through a letter signed by the appropriate regional SEMARNAT office that ecological rationale justifies an alternative composition of native species.

4. Where harvest occurs within the Activity Areas in a contiguous area larger than 5 hectares, a tree, or group of trees, representative of the age cohort that was harvested,

can be no further than 100 meters from other trees, either within the harvest area or outside of the harvest area in order to provide refugia for plants and animals. Should these retained trees fall due to wind events, the fallen trees may be harvested. Retained trees may not be felled intentionally until the regenerated stand reaches 10-years of age. Exceptions, related to safety, ecological, or other rationale, to this requirement may be granted if the request is made in writing prior to the exception occurring.

5. Forest landcover area outside the Activity Areas must not decrease as the result of human activities in relative proportion over the project life relative to the area in forest landcover at the Start Date. If a decline, due to illegal clearing in excess of 5% is detected during a site verification (5-year verification), the project must rectify the forest cover loss through reforestation in the subsequent 5-year period. Declines in forest land cover resulting from catastrophic wildfire or other natural disturbances that are not the result of gross negligence are exempt. An efficient method for estimating forest landcover is described in the Mexico Forest Protocol Quantification Guidance found on the Reserve's website. Forest Owners that are able to provide evidence that forest landcover declines in excess of 5% (by area) are planned and approved activities sanctioned by municipal, state, or federal agencies are exempt from this requirement.

Crediting will be discontinued in the event a project fails to meet these requirements until the project develops a plan acceptable by the Reserve to come back into compliance.

## 3.10 Project Start Date

The Start Date of a Forest Project is the date that the project is submitted to the Reserve. The Start Date of subsequent Activity Areas is based on the initiation of additional project activities within the Project Area. The project's first Reporting Period, as explained in section 10.4, must occur within 24 months of the project's Start Date, and project verification must occur within 12 months of the end of the Reporting Period. For example, if a Forest Owner submits a project on October 23, 2016, the first Reporting Period will end on October 23, 2018 and the project verification would need to be completed by October 23, 2019.

## 3.11 Project Crediting Period

The baseline for any Forest Project registered with the Reserve under this version of the MFP is valid for 30 years following the initial verification and issuance of credits. This means that a registered Forest Project will be eligible to receive MCRTs for GHG removals quantified using this protocol, and verified by Reserve-approved verification bodies, for a period of 30 years following the first issuance of credits. Credits that were generated during the crediting period must continue to be monitored to meet contractual obligations, if any, and for credits to be issued according to the tonne-year accounting guidance (see Section 9.1). Crediting periods may be renewed by reviewing the project's baseline at the end of 30-year period.

## 3.12 Minimum Time Commitment

Projects may commit to maintaining carbon sequestered due to project activities for any length of time. However, credits will be issued in an amount proportional to the length of the commitment relative to 100 years. Commitments must be secured through a contractual agreement referred to as a Project Implementation Agreement (see below). If project carbon is secured for a period of 100 years, then one credit will be issued for each tonne of $CO_2e$ sequestered. Projects that are secured contractually for shorter timeframes will be issued a

lesser number of credits per tonne of $CO_2$ sequestered, commensurate with the length of the contractual commitment relative to 100 years. This is discussed further in the section entitled Tonne-Year Accounting (Section 9.1). Carbon secured through a contractual agreement must be monitored and verified for the duration of the agreement.

Forest Projects must submit annual monitoring reports and undergo periodic site verification every 5 years for the duration of their contractually agreed time commitment.
There are three possible exceptions to this minimum time commitment:

1. A Forest Project automatically terminates if a significant natural disturbance occurs,[17] leading to an Unavoidable Reversal (see Section 9.2.2) that reduces the project's standing live or dead carbon stocks below the project's baseline standing live or dead carbon stocks. Once a Forest Project terminates in this manner, the Forest Owner has no further obligations to the Reserve. The project's credits are made whole through the Reserve's Buffer Pool.
2. A Forest Project may be voluntarily terminated prior to the end of its minimum time commitment if the Forest Owner retires a quantity of MCRTs equal to the total number of MCRTs secured through contractual relationship.
3. A Forest Project may be automatically terminated if there is a breach of certain terms described within the Project Implementation Agreement. Such a termination will require the Forest Owner to retire a quantity of MCRTs, equal to the total number of MCRTs secured.

## 3.13 Project Implementation Agreement

A Project Implementation Agreement (PIA) is a contract between the Reserve and the Forest Owner that effectively secures verified carbon for periods of time (up to 100 years).

The PIA ensures that the net quantity of carbon sequestered by a project will continue to be monitored and verified for the duration of the agreed upon commitment period, specifies remedies in the event of a contract breech, and stipulates the number of credits to be issued for each net tonne of $CO_2e$ sequestered due to project activities.

The PIA sets forth the Forest Owner's obligation (and the obligation of its successors and assignees) to comply with the monitoring and verification requirements of the Mexico Forest Protocol. The Forest Owner's responsibilities in the event of a reversal are also addressed in the PIA. The PIA must be signed by the governance body of the *ejido*/community or the land owner of private properties.

Contracts that bind actions of communal landscapes are limited by law to 30 years. The PIA can be renewed annually to allow credits associated with prior vintages to be issued, such that projects can receive additional credits for previously stored carbon until the 100 year permanence commitment is reached.

It is not possible at this time to terminate the PIA for only a portion of the Project Area.

### 3.13.1 Attestation of Title

Each time a Forest Project is verified, the Forest Owner must sign the Reserve's standard Attestation of Title form indicating that the Forest Owner has an exclusive ownership claim to the GHG removals achieved by their Forest Project over the verification period. Copies of the

[17] The natural disturbance shall not be the result of avoidable or grossly negligent acts of the Forest Owner.

Attestation of Title form are available on the Reserve's website. Please note that in requesting this form, the Reserve is not providing financial services or acting as a broker to trade any Forest Project MCRTs.

## 3.14 Other Eligibility Criteria

An affidavit stating that there are no ongoing encumbrances or expectations for specific forest management activities is required in cases where a Reserve project is to be initiated in an area where a previous project existed. Projects may not be located on any part of a project that was terminated as the result of an avoidable reversal.

# 4 Additionality

The Reserve registers only projects that yield GHG emission removals that are determined to be additional to what would have occurred in the absence of a carbon offset market (i.e. under "Business As Usual"). For a general discussion of the Reserve's approach to determining additionality see the Reserve's Program Manual (available at http://www.climateactionreserve.org/how/program/program-manual/).

Forest Projects must satisfy the following tests to be considered additional:

1. **Legal requirement test.** Forest Projects must achieve GHG removals above any GHG removals that would result from compliance with any law, statute, rule, regulation or ordinance. Legally-binding mandates entered into as part of the project and in support of project activities are not considered for the purpose determining additionality under the legal requirement test.
2. **Performance test.** Forest Projects must achieve GHG removals above and beyond any GHG removals that would result from engaging in "Business As Usual" activities, as defined by the requirements described below (Section 4.2).

## 4.1 Legal Requirement Test

At the Forest Project's first verification, the Forest Owner must sign the Reserve's Attestation of Voluntary Implementation form indicating that project activities are not legally required at the time of the Start Date.

Legal constraints must be included in the determination of the project baseline, as described in Section 7 of this protocol.

## 4.2 Performance Test

Project activities are considered additional to the extent they produce GHG removals in excess of those that would have occurred under a Business As Usual (BAU) scenario. The performance test for the Mexico Forest Protocol is based on evidence that risks to forest inventories are present at considerable levels within the Project Area. The guidance for the standardized interpretation of risks to forest inventories and its effect on the project baseline is described in Section 7.

# 5 GHG Assessment Boundary

The GHG Assessment Boundary encompasses all the GHG sources, sinks, and reservoirs that may be significantly affected by Forest Project activities, including forest carbon stocks, sources of biological $CO_2$ emissions, and GHG emissions from mobile combustion. For accounting purposes, the sources, sinks, and reservoirs included in the GHG Assessment Boundary are organized according to whether they are predominantly associated with a Forest Project's "Primary Effect" (i.e. the Forest Project's intended changes in carbon stocks, GHG emissions or removals) or its "Secondary Effects" (i.e. unintended changes in carbon stocks, GHG emissions or removals caused by the Forest Project).[18] Secondary Effects may include increases in mobile combustion $CO_2$ emissions associated with site preparation, as well as increased $CO_2$ emissions caused by the shifting of harvesting activities from the Project Area to other forestlands (often referred to as "leakage"). Projects are required to account for Secondary Effects from leakage following the methods described in Section 8.

The following table provides a comprehensive list of the GHG sources, sinks, and reservoirs (SSRs) that may be affected by a Forest Project, and indicates which SSRs must be included in the GHG Assessment Boundary depending on the project specifics. If an SSR is designated as a reservoir/pool, this means that GHG removals are accounted for by quantifying changes in carbon stock levels. For SSRs designated as sources or sinks, GHG removals are accounted for by quantifying changes in GHG emission or removal rates, as described in the tables.

[18] The terms "Primary Effect" and "Secondary Effect" come from WRI/WBCSD, 2005. *The Greenhouse Gas Protocol for Project Accounting*, World Resources Institute, Washington, DC. Available at http://www.ghgprotocol.org.

**Table 5.1.** GHG Assessment Boundary

| SSR | Description | Type | Gas | Included or Excluded? | Quantification Method | Justification/Explanation |
|---|---|---|---|---|---|---|
| **Primary Effect Sources, Sinks, and Reservoirs** | | | | | | |
| 1 | Standing live carbon (carbon in all portions of living trees) | Reservoir / Pool | $CO_2$ | Included | **Baseline**: Based on initial field inventory measurements; methodology outlined in Section 7<br>**Project**: Measured by field measurements and updating forest carbon inventory | Increases in standing live carbon stocks are the Primary Effect of carbon enhancement projects. |
| 2 | Shrubs and herbaceous understory carbon | Reservoir / Pool | $CO_2$ | Included for estimating site preparation emissions | **Baseline**: Estimates based on carbon inventories prior to site preparation<br>**Project**: Estimates based on proportion of carbon remaining following site preparation | For crediting purposes, shrubs and herbaceous understory carbon is excluded since changes in this reservoir are unlikely to have a significant effect on total quantified GHG removals. Furthermore, it is generally not practical to undertake measurements of shrubs and herbaceous understory that are accurate enough for crediting purposes.<br>Clearing of shrubs and herbaceous understory for purposes of reforestation/afforestation activities may have significant emissions. |
| 3 | Standing dead carbon (carbon in all portions of dead, standing trees) | Reservoir / Pool | $CO_2$ | Included | **Baseline**: Measured based on initial field inventory measurements<br>**Project**: Measured by updating forest carbon inventory | Carbon enhancement projects may significantly increase standing dead carbon stocks over time. |
| 4 | Lying dead wood carbon | Reservoir / Pool | $CO_2$ | Excluded | **Baseline**: Excluded<br>**Project**: Excluded | Lying dead wood is difficult to obtain accurate measurements and it is most often conservative to not include them. |

| SSR | Description | Type | Gas | Included or Excluded? | Quantification Method | Justification/Explanation |
|---|---|---|---|---|---|---|
| 5 | Litter and duff carbon (carbon in dead plant material) | Reservoir / Pool | $CO_2$ | Excluded | **Baseline**: N/A<br>**Project**: N/A | Litter and duff carbon is excluded since changes in this reservoir are unlikely to have a significant effect on total quantified GHG removals. Furthermore, it is generally not practical to undertake measurements of litter and duff that are accurate enough for crediting purposes. |
| 6 | Soil carbon | Reservoir / Pool/Source | $CO_2$ | Excluded for crediting<br>Required for certain management activities | **Baseline**: N/A<br>**Project**: N/A | Soil carbon is anticipated to increase somewhat as a result of most carbon enhancement project activities that do not include intensive site preparation. Soil carbon cannot be included as a credited reservoir/pool as it is difficult to get accurate estimates.<br>Deep ripping, as a site preparation practice, is not allowed in cases where the disturbed areas exceed 1% of the Activity Areas on an annual basis. |
| 7 | Carbon in in-use forest products | Reservoir / Pool | $CO_2$ | Excluded | **Baseline**: N/A<br>**Project**: N/A | While long-term harvested wood products may increase, along with onsite forest carbon, due to improved management, long-term wood products are not included as creditable data supporting long-term sequestration of harvested wood products is lacking. This may be modified in the future as data related to the fate of harvested wood products is developed. Additionally, improved forest management projects will lead to increased production over medium to long-term. |
| 8 | Forest product carbon in landfills | Reservoir / Pool | $CO_2$ | Excluded | **Baseline**: N/A<br>**Project**: N/A | No data has been obtained to suggest wood products remain in long-term storage in landfills in Mexico. This may be modified in the future as data related to the fate of harvested wood products is developed. |

| SSR | Description | Type | Gas | Included or Excluded? | Quantification Method | Justification/Explanation |
|---|---|---|---|---|---|---|
| **Secondary Effects Sources, Sinks, and Reservoirs** | | | | | | |
| 9 | Nutrient application | Source | $N_2O$ | Excluded | **Baseline:** N/A<br>**Project:** N/A | The use of broadcast fertilization is not an eligible activity. |
| 10 | Mobile combustion emissions from site preparation activities | Source | $CO_2$ | Included | **Baseline**: Assumed to be zero<br>**Project**: Accounted for by use of equipment hours | Mobile combustion $CO_2$ emissions from site preparation may be important when machinery is used to prepare areas for planting. |
| | | | $CH_4$ | Excluded | **Baseline**: N/A<br>**Project**: N/A | Changes in $CH_4$ emissions from mobile combustion associated with site preparation activities are not considered significant. |
| | | | $N_2O$ | Excluded | **Baseline**: N/A<br>**Project**: N/A | Changes in $N_2O$ emissions from mobile combustion associated with site preparation activities are not considered significant. |
| 11 | Mobile combustion emissions from ongoing project operation and maintenance | Source | $CO_2$ | Excluded | **Baseline**: N/A<br>**Project**: N/A | Mobile combustion $CO_2$ emissions from ongoing project operation and maintenance are unlikely to be significantly different from baseline levels, and are therefore not included in the GHG Assessment Boundary. |
| | | | $CH_4$ | Excluded | **Baseline**: N/A<br>**Project**: N/A | $CH_4$ emissions from mobile combustion associated with ongoing project operation and maintenance activities are not considered significant. |
| | | | $N_2O$ | Excluded | **Baseline**: N/A<br>**Project**: N/A | $N_2O$ emissions from mobile combustion associated with ongoing project operation and maintenance activities are not considered significant. |
| 12 | Stationary combustion emissions from ongoing project operation and maintenance | Source | $CO_2$ | Excluded | **Baseline**: N/A<br>**Project**: N/A | Stationary combustion $CO_2$ emissions from ongoing project operation and maintenance could include GHG emissions associated with electricity consumption or heating/cooling at Forest Owner facilities or at facilities owned or controlled by contractors. These emissions are unlikely to be significantly different from baseline levels, and are therefore not included in the GHG Assessment Boundary. |

| SSR | Description | Type | Gas | Included or Excluded? | Quantification Method | Justification/Explanation |
|---|---|---|---|---|---|---|
| | | | $CH_4$ | Excluded | **Baseline**: N/A<br>**Project**: N/A | $CH_4$ emissions from stationary combustion associated with ongoing project operation and maintenance activities are not considered significant. |
| | | | $N_2O$ | Excluded | **Baseline**: N/A<br>**Project**: N/A | $N_2O$ emissions from stationary combustion associated with ongoing project operation and maintenance activities are not considered significant. |
| 13 | Biological emissions from clearing of forestland outside the Project Area for agriculture and/or grazing | Source | $CO_2$ | Included | **Baseline**: N/A<br>**Project**: Estimated using default land use conversion factors for non-project land | Projects on land currently, or projected to be used for, grazing or growing crops may cause displacement of these activities to other lands, leading to a reduction in carbon stocks on those lands (e.g. due to clearing of trees and shrubs). The shift may be either a market response or physical response to the project activity. Emissions associated with shifting land uses are estimated using default "leakage" factors outlined in Section 8 of the protocol. |
| 14 | Biological emissions or removals from changes in timber harvesting on forestland outside the Project Area | Source / Sink | $CO_2$ | Included/ Excluded | **Baseline**: N/A<br>**Project**: Estimated using default land use conversion factors (Section 8) | If harvesting is reduced in the Project Area, harvesting on other lands may increase to compensate for the lost production. This "leakage" effect is outlined in Section 8 of the protocol.<br>Projects may also increase harvesting levels relative to the baseline, potentially causing other landowners to reduce harvesting in response to increased wood product supply. The reduction in harvesting may lead to increased carbon stocks on their lands. |
| 15 | Combustion emissions from production, transportation, and disposal of forest products | Source | $CO_2$ | Excluded | **Baseline**: N/A<br>**Project**: N/A | The Primary Effect of Forest Projects in Mexico is to conserve and increase onsite forest carbon stocks, without substantially affecting the production, transportation, and disposal of wood products with regards to baseline levels. Therefore, these emissions are not included in the GHG Assessment Boundary of this protocol. |

| SSR | Description | Type | Gas | Included or Excluded? | Quantification Method | Justification/Explanation |
|---|---|---|---|---|---|---|
| | | | $CH_4$ | Excluded | **Baseline**: N/A<br>**Project:** N/A | Combustion-related $CH_4$ emissions from changes in the production, transportation, and disposal of forest products are not considered significant. |
| | | | $N_2O$ | Excluded | **Baseline**: N/A<br>**Project**: N/A | Combustion-related $N_2O$ emissions from changes in the production, transportation, and disposal of forest products are not considered significant. |
| 16 | Combustion emissions from production, transportation, and disposal of alternative materials to forest products | Source | $CO_2$ | Excluded | **Baseline**: N/A<br>**Project**: N/A | The Primary Effect of Forest Projects in Mexico is to conserve and increase onsite forest carbon stocks, without substantially affecting the production, transportation, and disposal of wood products with regards to baseline levels. Therefore, these emissions are not quantified in the assessment boundary of this protocol. |
| | | | $CH_4$ | Excluded | **Baseline**: N/A<br>**Project**: N/A | Combustion-related $CH_4$ emissions from changes in the production, transportation, and disposal of alternative materials are not considered significant. |
| | | | $N_2O$ | Excluded | **Baseline**: N/A<br>**Project**: N/A | Combustion-related $N_2O$ emissions from changes in the production, transportation, and disposal of alternative materials are not considered significant. |
| 17 | Biological emissions from decomposition of forest products | Source | $CO_2$ | Excluded | **Baseline**: N/A<br>**Project**: N/A | While long-term harvested wood products may increase, along with onsite forest carbon, due to improved management, long-term wood products are not included as creditable data supporting long-term sequestration of harvested wood products is lacking. |

| SSR | Description | Type | Gas | Included or Excluded? | Quantification Method | Justification/Explanation |
|---|---|---|---|---|---|---|
| | | | $CH_4$ | Excluded | **Baseline:** N/A<br>**Project:** N/A | In-use wood products will produce little to no $CH_4$ emissions. $CH_4$ emissions can result from anaerobic decomposition of forest products in landfills. Additionally, dimensional wood products are assumed to be in landfills in minimal quantities. Thus, changes in forest-product production are assumed to have no significant effect on future $CH_4$ emissions from anaerobic decomposition of forest products in landfills. These emissions are therefore excluded from the GHG Assessment Boundary. |
| | | | $N_{2O}$ | Excluded | **Baseline:** N/A<br>**Project:** N/A | Decomposition of forest products is not expected to be a significant source of $N_2O$ emissions. |

# 6 Quantifying Net GHG Removals

This section provides requirements and guidance for quantifying a Forest Project's net GHG removals. The Reserve will issue MCRTs to a Forest Project upon confirmation by an ISO-accredited and Reserve-approved verification body that the Forest Project GHG removals have been quantified following the applicable requirements of this section (see Section 11 for verification requirements).

The quantification method proceeds in seven steps:

1. **Quantifying the project live and dead standing trees.** Each year, the Forest Owner must determine the Forest Project actual carbon stocks in live and dead standing trees from within the Activity Areas. This does not require a re-measurement of the inventory each year, but does require that inventory estimates be updated using the guidance in this section and in the MFP Quantification Guidance. The estimate of actual carbon stocks in live and dead standing trees must be adjusted by an appropriate confidence deduction, as described in the MFP Quantification Guidance.
2. **Determining the project baseline onsite carbon stocks (Section 7).** The baseline is a standardized estimate of what would have occurred in the absence of a Forest Project. Projects are eligible to receive credits to the extent they increase forest carbon inventories above baseline levels. The guidance for determining a project baseline is discussed in Section 7. The baseline is established for renewable 30-year crediting periods.
3. **Calculating the project Primary Effect.** Each year, the Forest Owner must quantify the actual change in GHG emissions or removals associated with the Forest Project's intended ("Primary") effect. For any given year, the Primary Effect is calculated by:
    a. Taking the difference between actual onsite carbon stocks for the current year and actual onsite carbon stocks for the prior year.[19]
    b. Subtracting from (a) the difference between baseline onsite carbon stocks for the current year and baseline onsite carbon stocks for the prior year.
4. **Quantifying the project Secondary Effects.** Each year, the Forest Owner must quantify the actual change in GHG emissions or removals associated with the Forest Project's unintended ("Secondary") effects, as defined in Section 8. Requirements and guidance for quantifying Secondary Effects are provided below for each type of Forest Project. Should the project result in Secondary Effects, only increased emissions as the result of the project will be included to ensure conservative accounting.
5. **Calculating total net GHG removals.** For each year, total net GHG removals are calculated by summing a Forest Project's Primary and Secondary Effects for the total carbon inventory that is secured through the Project Implementation Agreement or the amount that has been verified that fulfills a tonne-year (see the Section 9 on tonne-year accounting). If the result is positive, then the Forest Project has generated GHG removals in the current year. If the result is negative, this may indicate that a reversal has occurred (see Section 9).

The required formula for quantifying annual net GHG removals is presented in Equation 6.1. Net GHG removals must be quantified and reported in units of carbon dioxide-equivalent ($CO_2e$) metric tonnes.

[19] For the purposes of calculating the project's Primary Effect, actual and baseline carbon stocks prior to the Start Date of the project are assumed to be zero.

**Equation 6.1.** Annual Net GHG Removals

$$QR_y = [(\Delta AC_{onsite} - \Delta BC_{onsite}) + SE_y] + N_{y-1}$$

*Where,*

| | | | Units |
|---|---|---|---|
| $QR_y$ | = | Quantified GHG removals for year y | |
| $SE_y$ | = | Secondary Effect GHG emissions caused by the project activity in year y | $tCO_2e$ |
| $N_{y-1}$ | = | Any negative carryover from the prior year (occurs when total quantified GHG removals are negative prior to the issuance of any MCRTs for the project) | |

And,

$$\Delta AC_{onsite} = (AC_{onsite,\ y})(1 - CD_y) - (AC_{onsite,\ y-1})(1 - CD_{y-1})$$

*Where*,

| | | | |
|---|---|---|---|
| $AC_{onsite,\ y}$ | = | Actual onsite carbon in standing live and dead trees in Activity Areas as inventoried for year y | $tCO_2e$ |
| $AC_{onsite,\ y-1}$ | = | Actual onsite carbon in standing live and dead trees in Activity Areas as inventoried for year y-1 (if y is the first year of the project, then the value for $AC_{onsite,\ y-1}$ will be zero) | $tCO_2e$ |
| $CD_y$ | = | Appropriate confidence deduction for year y, as determined in the MFP Quantification Guidance | |
| $CD_{y-1}$ | = | Appropriate confidence deduction for year y-1, as determined in the MFP Quantification Guidance | |

And,

$$\Delta BC_{onsite} = BC_{onsite,\ y} - BC_{onsite,\ y-1}$$

*Where,*

| | | | |
|---|---|---|---|
| $BC_{onsite,\ y}$ | = | Baseline onsite carbon in standing live and dead trees in Activity Areas as estimated for year y | $tCO_2e$ |
| $BC_{onsite,\ y-1}$ | = | Baseline onsite carbon in standing live and dead trees in Activity Areas as estimated for year y-1 (if y is the first year of the project, then the value for $BC_{onsite,\ y-1}$ will be zero) | $tCO_2e$ |

# 7 Determining the Project Baseline

A Forest Project can be issued credits to the extent forest carbon stocks have increased above and beyond baseline forest carbon stocks within the Project Area. A baseline for purposes of crediting is established only for the Activity Areas within the Project Area. The baseline may be modified throughout the project life with the inclusion of additional Activity Areas, which is explained in this section. This section describes the conceptual approach to defining the baseline. The approach to quantification is described in the MFP Quantification Guidance.

The baseline is based on an analysis of risks to forest cover conducted within the Project Area. In cases where the risks to forest cover exceed threshold conditions through a standardized analysis (defined in this protocol), the initial baseline for project activities is defined as the sum of carbon ($CO_2e$) in the required carbon pools within each Activity Area at the Start Date. The baseline can be amended to include additional Activity Areas that are included at future dates. The project is ineligible for crediting in cases where the risks to forest cover does not exceed threshold conditions through the standardized analysis.

The standardized analysis determines whether a risk to forest cover is sufficient to warrant recognition that forest carbon enhancements, protected over a long time (100 year permanence), are considered additional. Forest conversions to other uses, such as agriculture/grazing and urban use, are key drivers of forest carbon loss. Forest carbon loss can also occur as the result of non-sustainable timber harvest, often due to illegal timber harvest. Since legal commercial harvesting is controlled by SEMARNAT for sustainable production, the risk of reduction of forest cover under a forest management plan is not considered. Forest carbon loss due to natural disturbance is also excluded from this analysis.

The protocol allows for new Activity Areas to be added to the Project Area following the project Start Date. Therefore, the baseline can be modified with the addition of the inventory of new Activity Area. Table 7.1 displays how the baseline is adjusted with the addition of a new Activity Area to the project crediting.

**Table 7.1.** Baseline Adjustment with Addition of New Activity Area

| **Date Activity Area Included in Project Crediting** (Years following Start Date) | **Activity Area Identification** | **Activity Area Carbon Stocks on the date of Inclusion into the Project** ($tCO_2e$) | **Project Baseline** ($tCO_2e$) |
|---|---|---|---|
| 0 | 1 | 100,000 | 100,000 |
| 5 | 2 | 75,000 | 175,000 |
| 7 | 3 | 60,000 | 235,000 |

## 7.1 Consideration of Legal Constraints

As discussed in the section on additionality, Forest Projects may only receive credit to the extent they achieve GHG removals beyond baseline levels, assuming baseline compliance with all applicable laws, statutes, rules, regulations or ordinances. Legal constraints include all laws, regulations, and legally-binding commitments applicable to the Project Area at the project initiation that could affect standing live or dead carbon stocks. Legal constraints include the following constraints that are enforced within the Project Area.

1. Federal, state/provincial or local government regulations that are required and might reasonably be anticipated to influence carbon stocking over time including, but not limited to:
    a. Zones with harvest restrictions (e.g. buffers, streamside protection zones, wildlife protection zones, protected areas (ANPs))
    b. Minimum stocking standards
2. Forest practice rules established by federal, state or municipal government
3. Other binding requirements that affect forest carbon stocks such as trusts (*fideicomisos*)

As part of the additionality analysis, projects must identify all legal requirements that would have an effect on forest cover or canopy area within the Project Area.

Where forests are under a Forest Management Plan (FMP) approved by SEMARNAT, growth above current inventories is considered at risk. FMPs are legal documents and aim to ensure harvest does not exceed growth. The forest inventory must remain sustainable. Where landowners can demonstrate that the actual forest growth exceeds the allowable harvest, SEMARNAT may accept an increase in the allowable harvest. Therefore, this protocol considers that all periodic growth is at risk and, regardless of the current allowable harvest rate, any non-harvested periodic growth is additional.

Documented stewardship activities within Municipal Development Plans (if existing) are not considered legally binding for purposes of baseline determination. Instead, they are viewed as desired objectives which would have a better probability of implantation with funding that might occur with carbon sales.

## 7.2 Consideration of Financial Constraints

Enhancement activities must be the result of defined investment rather than the result of natural activities. Defined investment for reforestation/agroforestry activities means an investment of labor or capital to establish tree seedlings, either directly (tree planting, site preparation, etc.) or indirectly (protecting natural regeneration against herbivory or other abrasive environmental elements). Direct investment for other enhancement activities includes investments in stocking improvements and opportunity costs associated with extended rotations. Indirect investment activities include investments into the protection of forested stands against environmental threats or manmade elements, including illegal harvesting.

# 8 Assessment of Secondary Effects

The baseline approach provides assurances that forest enhancement activities do not result in increased forest carbon emissions on the balance of the Project Area, since the entire Project Area is monitored for forest biomass flux. It is possible that forest enhancement activities result in emissions on external sites. The approach to the calculation of Secondary Effects is split into an analysis conducted for reforestation/afforestation activities and an analysis for all other enhancement activities. Figure 8.1 displays the logic which must be applied to each Activity Area to calculate leakage risk percentages associated with the shifting of cropland or grazing due to reforestation activities.

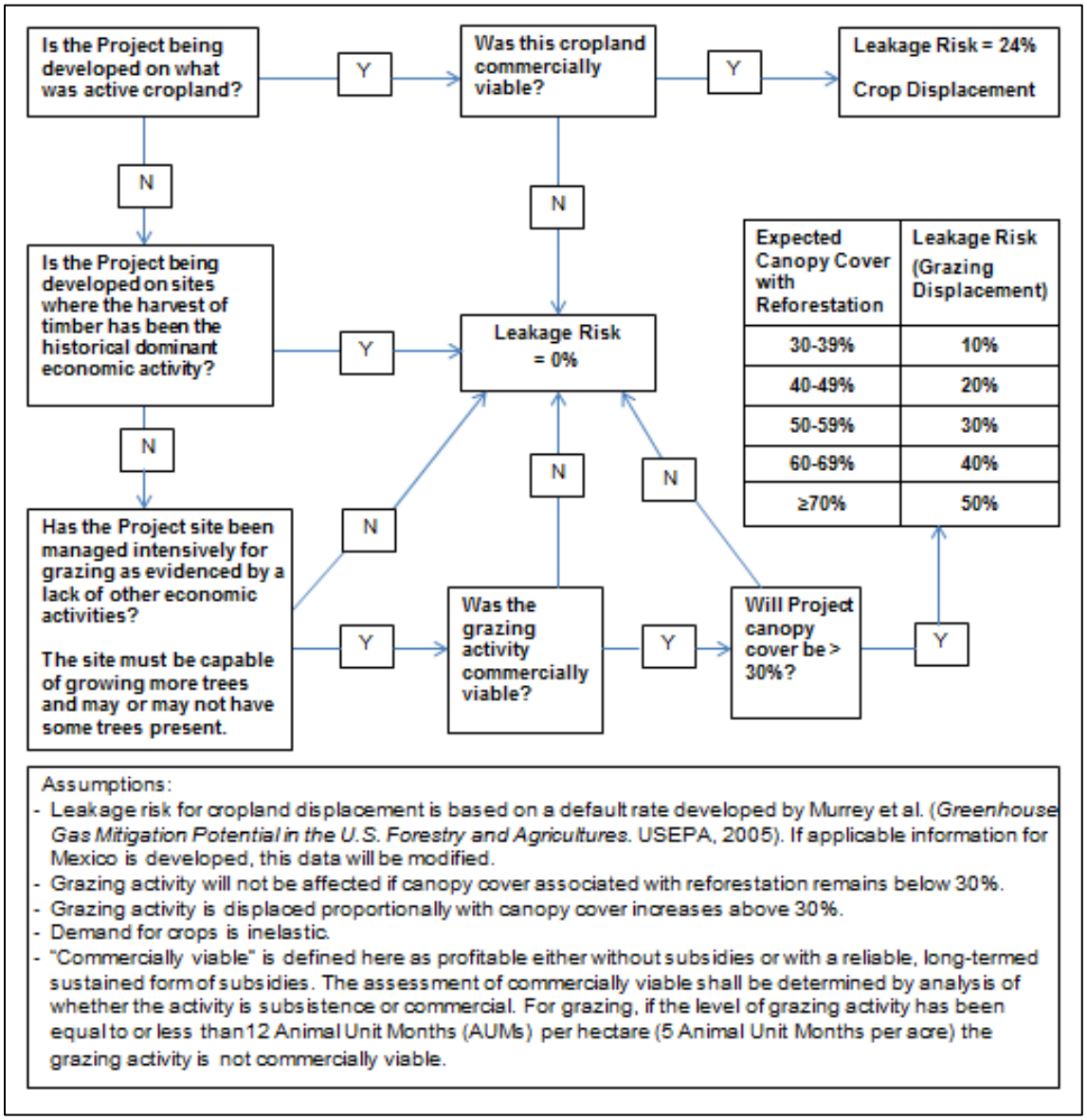



**Figure 8.1.** Activity Shifting ("Leakage") Risk Assessment for Projects

To calculate the Secondary Effects related to the shifting of cropland or grazing from reforestation activities, the leakage risk percentage, as determined in Figure 8.1, must be

multiplied by the amount of $CO_2e$ sequestered in Reporting Period y. The CMW automatically determines the Secondary Effects related to reforestation activities.

The assessment of Secondary Effects for improved forest management activities is based on assessing the difference in timber harvest before and after the implementation of the project activity. The Forest Owner must estimate the average volume of timber (cubic meters) commercially harvested prior to the project implementation and compare it with the volume commercially harvested in each project year. Since records of historical harvest are not likely, the Reserve requires that an affidavit be signed indicating the estimate is as accurate as possible. Table 8.1 displays the default values used to estimate secondary effects for improved forest management projects.

**Table 8.1.** Default Values to Estimate Secondary Effects for IFM Projects

| Percentage of Current Reporting Year's Volume in Harvested Wood Products to Historical Average | Secondary Effects – Calculated by Multiplying the Factor Below by $CO_2e$ sequestered in Reporting Period y |
|---|---|
| ≥100% | 0% |
| 90% - <100% | 98% |
| 80% - <90% | 96% |
| 70% - <80% | 94% |
| 60% - <70% | 92% |
| 50% - <60% | 90% |
| 40% - <50% | 88% |
| 30% - <40% | 86% |
| 20% - <30% | 84% |
| 10% - <20% | 82% |
| 0% - <10% | 80% |

Secondary Effect emissions must be calculated for each principle activity as shown in Equation 8.1. Total Secondary Effect emissions can then be calculated by summing the Secondary Effect emissions for each activity (i.e. reforestation or improved forest management). The value for Secondary Effect emissions will always be negative or zero.

**Equation 8.1.** Secondary Effect Emissions for each Principle Activity

$$\mathbf{SE_y = (AS_y + HW_y)} \textit{ or } \mathbf{0}, \text{ whichever is lower}$$

*Where,*

| | | | Units |
|---|---|---|---|
| $SE_y$ | = | Secondary Effect emissions caused by the project activity in Reporting Period y (Equation 6.1) | $CO_2e$ |
| $AS_y$ | = | Emissions due to shifting of cropland or grazing activities (Figure 8.1) | $CO_2e$ |
| $HW_y$ | = | Emissions due to shifting harvest levels (Table 8.1) | $CO_2e$ |

# 9 Ensuring Permanence of Credited GHG Removals

Under this protocol, credits are issued based on the proportion of carbon that is stored or secured through contract over a 100-year permanence period. Tonne-year accounting principles are used to quantify the time-value of storing carbon as a relative proportion of the 100-year permanence. The longer that sequestered and verified carbon is maintained (or contractually secured), the more credits are issued. The full credit for all carbon sequestered will be issued 100 years after the date it was initially sequestered, or to the full temporal extent the sequestered carbon is secured through contractual agreement. If a contractual agreement guarantees the maintenance of carbon stocks for a period longer than one year (e.g. 30 years), then credits will be issued based on the time-value of storing carbon for the guaranteed period, relative to 100 years (e.g. the time-value for storing carbon for 30 out of 100 years).

This section discusses:

- Tonne-Year Accounting and Credit Issuance
- Compensation for Reversals
- Avoidable and Unavoidable Reversals
- The Reserve Buffer Pool

## 9.1 Tonne-Year Accounting and Credit Issuance

In order to meet the permanence requirements of this protocol, one credit (MCRT) is issued for each tonne of $CO_2e$ removed from the atmosphere for a period of 100 years. Tonnes of $CO_2e$ sequestered and stored for shorter periods will receive a fractional amount of credits according to the length of time the sequestered $CO_2e$ is stored and/or contractually secured. Specifically, for each year that an additional tonne of $CO_2e$ is stored and verified, $1/100^{th}$ of a credit will be issued. If a Forest Owner commits to maintaining carbon for a period longer than one year, credits will be issued proportional to the length of the commitment – e.g. 0.3 credits per tonne that is secured for 30 years. The commitment must be established through a contract, or PIA, with the Reserve. The contract does not need to be recorded on the deed to the Forest Owner's property. Equation 9.1, below, shows the formula for determining the number of credits that will be issued for a carbon sequestered in any given year.

**Equation 9.1.** Formula for Credit Issuance under Tonne-Year Accounting

$$\mathbf{MCRT}_{\boldsymbol{p}} = \sum(\mathbf{CS}_{\boldsymbol{p,n}} * \left(\mathbf{YR}_{\boldsymbol{p,n}} + \mathbf{CL}\right) * \mathbf{.01} - \mathbf{PC}_{\boldsymbol{p,n}})$$

*Where,*

| | | | Units |
|---|---|---|---|
| $MCRT_p$ | = | Sum of credits to be issued in Reporting Period p. | CRTs |
| $CS_{p,n}$ | = | Quantity of carbon sequestered in Reporting Period p, for each Reporting Period in which additional carbon was sequestered. | $tCO_2e$ |
| $YR_{p,n}$ | = | Length of time since the initiation of the Reporting Period in which the additional carbon was sequestered, for each Reporting Period in which additional carbon was sequestered. | Years |
| CL | = | Length of contractual agreement into future from current Reporting Period that secures all sequestered carbon. | Years |
| $PC_{p,n}$ | = | Previous credits issued for Reporting Period P, for each Reporting Period in which credits were issued. | CRTs |

The benefit of the approach is that projects develop an ongoing economic incentive to protect against reversals over time, based on an expected stream of future credits as long as carbon is maintained.

If a contractual commitment is extended, further credits may be released based on the length of the extension. For example, if 100 tonnes of $CO_2e$ sequestered in the first Reporting Period (one year from the Project Start Date, for example) of a project are secured by contract against reversals for 30 years, then 31 credits will be issued (one for the year in which the carbon has already been sequestered up to the end of the 12 month Reporting Period and 30 for the sequestered carbon secured through contract in the future; if the first Reporting Period was 24 months, then 32 credits would be issued following verification). If, in the next year, the contract is extended by another year (so that the contract still has a term of 30 years total), another credit will be issued in addition to the prior credits because the project has demonstrated another year toward the 100-year permanence requirement. Contracts may be extended in this way until the end of the contractual commitment reaches a date that is 100 years after the carbon was first sequestered. At that point, a total of 100 credits will have been issued for the 100 tonnes $CO_2e$. An example is provided in Table 9.1.

**Table 9.1.** An Example of MCRT Issuance

| Assumptions | 1. Contract length = 30 years and is renewed annually.<br>2. Reporting Period 1 ends one year from the Project Start Date.<br>3. 3-Years worth of reporting are shown below. |
|---|---|

The amount of MCRTs issued in any annual Reporting Period is determined by the amount of additional CO2e sequestered in the reporting year multiplied by the length of the contract term that secures the MCRTs plus 1/100th multiplied times the MCRTs issued in the Reporting Period to account for the project having met 1% of its 100 year permanency requirement.

| Reporting Period 1 | | | Reporting Period 2 | | | Reporting Period 3 | | | |
|---|---|---|---|---|---|---|---|---|---|
| Additional Carbon (CO2e) Sequestered | | 200 | Additional Carbon (CO2e) Sequestered | | 300 | Additional Carbon (CO2e) Sequestered | | 100 | |
| Reporting Period | Number of MCRTs Issued to Date | MCRTs Issued | Reporting Period | Number of MCRTs Issued to Date | MCRTs Issued | Reporting Period | Number of MCRTs Issued to Date | MCRTs Issued | MCRTs Issued Each Reporting Period |
| RP | CD | MCRT | RP | CD | MCRT | RP | CD | MCRT | |
| 1 | 0 | 62 | | | | | | | 62 |
| 2 | 62 | 2 | 2 | 0 | 93 | | | | 95 |
| 3 | 64 | 2 | 3 | 93 | 3 | 3 | 0 | 31 | 36 |
| | | | | | | | | Total MCRTs issued up until RP 3 | 193 |

Forest Owners may also choose not to contractually secure carbon sequestered by a project. In this case, credits will be issued over time based on the quantity of carbon that remains stored (as determined through monitoring and verification) in any given year in proportion to the 100 year permanence period. For example, if 100 tonnes of $CO_2e$ is sequestered and verified in year one, one credit would be issued in year one. If the full 100 tonnes remains stored and is verified in year two, an additional one credit would be issued in year two. The verifying and crediting

would continue as such until the full 100 credits are issued by the end of the 100 year permanence period.

Carbon that has been secured through contract, and that is therefore subject to legal protection against reversal for the term of the contract, is considered "obligated" carbon. Carbon that is not secured by contract is considered "unobligated" carbon. Only obligated carbon will be compensated for in the case of a reversal (see definition of a reversal below).

## 9.2 Compensation for Reversals

A GHG removal can be "reversed" if the carbon stored as a result of the removal is subsequently released to the atmosphere. Under tonne-year accounting, reversals need to be compensated for if they affect carbon that is contractually secured against reversal. A reversal occurs if the quantified GHG removals for a given Reporting Period ($QR_y$ in Equation 6.1) are negative, and a contractual obligation to retain carbon sequestered by the project has not yet expired.

Under this protocol, credits are considered reversed in the opposite order to which the credit was quantified and verified. For example, suppose a project was credited 100 tonnes of carbon in year 1 and another 50 tonnes in year 2. In year 3, a reversal occurs that releases 75 credits to the atmosphere. In this situation, the 50 credits issued in year 2 are considered reversed, along with 25 of the credits issued in year 1.

Reversals are considered avoidable if they are the direct result of human activities through acts of gross negligence. Reversals are considered unavoidable if they are the result of natural events, such as wildfire, insect-related mortality or wind.

### 9.2.1 Compensation Formula for Reversals

If a reversal affects obligated carbon (see definition in Section 9.1 above), credits must be retired to fulfill the terms of the contract that secures the carbon. Equation 9.2 shows the formula to use to determine how many MCRTs to retire to compensate for a reversal affecting a specific vintage of sequestered carbon.

**Equation 9.2.** Formula to Determine the Number of MCRTs to Retire to Compensate for a Reversal from a Specific Vintage

$$\boldsymbol{MCRT_{ret} = RC_n \times s \times 0.01}$$

*Where,*

| | | | Units |
|---|---|---|---|
| $MCRT_{ret}$ | = | Number of credits to be retired | |
| $RC_n$ | = | Quantity of carbon sequestered in year *n* that has been reversed | $tCO_2e$ |
| s | = | Number of years remaining in the term of any contract securing the carbon sequestered in year *n* against reversals | |

The quantity $MCRT_{ret}$ must be determined for each vintage of carbon affected by a reversal. As indicated above, carbon is considered reversed in the opposite order to which its sequestration was quantified and verified.

### 9.2.2 Compensation of Unavoidable Reversals

An Unavoidable Reversal is any reversal that is not due to the Forest Owner's negligence, gross negligence or willful intent, including natural events like wildfires or disease that are not the

result of the Forest Owner's negligence, gross negligence or willful intent. Requirements following an Unavoidable Reversal are as follows:

1. If the Forest Owner determines there has been an Unavoidable Reversal, the annual monitoring report must clearly indicate that an Unavoidable Reversal has occurred. The Forest Owner must explain the nature of the Unavoidable Reversal as part of the annual monitoring report and provide an estimate of onsite carbon stocks within one year so that the reversal can be quantified and verified within the following year (in units of $CO_2$-equivalent metric tons). No transactions will be allowed until the reversal is verified.

If the Reserve agrees that the reversal is unavoidable in origin, the Reserve will retire a quantity of MCRTs from its Buffer Pool (see below) for each vintage affected by the reversal, according to Equation 9.2. The tracking of carbon stocks and any reversals will be transparent within the Registry and clearly indicate that the compensation has occurred.

### 9.2.3 Compensation of Avoidable Reversals

An Avoidable Reversal is any reversal that is due to the Forest Owner's negligence, gross negligence or willful intent, including harvesting, development, or harm to the Project Area. Reversals are detected during annual monitoring and verification events. Subsequent to the identification of a reversal, the following requirements apply:

1. A written description and explanation of the reversal must accompany the annual monitoring report.

2. Within one year of receiving an Avoidable Reversal notice, the Forest Owner must provide the Reserve with an estimate of current onsite carbon stocks. The Forest Owner will then need to complete verification of those onsite carbon stocks within the following year. No transactions will be allowed until the reversal is verified.

3. Within two years of receiving the Avoidable Reversal notice, the Forest Owner must retire a quantity of MCRTs determined according to the formula in Equation 9.2 for each vintage affected by the reversal. Project registration and transaction activities will be suspended until the required amount of MCRTs is retired.

4. Failure to compensate within the stated time will result in restitution as defined within the contract securing the carbon.

### 9.2.4 Role of Monitoring, Reporting, and Verification in the Finding of a Reversal

A reversal can be identified through monitoring by Forest Owners and/or during site verifications by third-party verifiers. Since Forest Owners are responsible to maintain current inventories of the onsite carbon stocks and submitting annual monitoring reports, a reversal can be identified by a Forest Owner as part of updating their inventory estimates for growth, harvest, and any other disturbances. Third-party verifiers can identify a reversal by a finding that the inventory is incorrectly characterized in the monitoring report; verifiers should be observant to disturbances while in the process of verifying inventory onsite and confirm that any noted disturbances have been properly reported. Adjustments to the contributions to the Buffer Pool and adjustments based on the uncertainty of the carbon estimates (which can only occur during site verification, see Section 11) can lead to reversals.

### 9.2.5 The Reserve Buffer Pool

The Buffer Pool is a holding account for MCRTs that is administered by the Reserve. All Forest Projects must contribute a percentage of MCRTs to the Buffer Pool any time they are issued MCRTs for obligated carbon. Each Forest Project contribution is determined by a project-specific risk rating, as described in the following sections. If a Forest Project experiences an Unavoidable Reversal of GHG removals, the Reserve will retire a number of MCRTs as indicated in Section 9.2.2. Contributions are also required from each project for Avoidable Reversal risks to ensure the program remains whole in the event Avoidable Reversals are not compensated by a Forest Owner. The Buffer Pool acts as a general insurance mechanism against reversals for all Forest Projects in Mexico registered with the Reserve.

#### 9.2.5.1 Determination of Risk Rating for the Buffer Pool

Forest Owners must apply a risk reduction to their Forest Project to account for project risks associated with wildfire, disease or insects, and hurricanes and other natural disturbances. The credits associated with the Buffer Pool are used primarily for reversals associated with natural disturbances, but the Reserve may use the pool at its discretion for any reversal that may occur. The project's contribution to the Buffer Pool is a default deduction and is calculated as shown in Equation 9.3.

**Equation 9.3.** Contribution of Project Credits to Buffer Pool

| | | |
|---|---|---|
| **Contribution to Buffer Pool** $_{\text{Year X}}$ | **=** | ***0.0008 * Number of Years the Project Carbon is Secured through Contract * Net Obligated Carbon, year X*** |
| *Where,* | | |
| Net Obligated Carbon, year X | = | Carbon secured (through contractual agreement net of confidence deductions and leakage adjustments) and verified in year X |

## 9.3 Disposition of Forest Projects after a Reversal

If a reversal lowers the Forest Project actual standing live or dead carbon stocks below its approved baseline standing live or dead carbon stocks, the Forest Project will automatically be terminated. In this circumstance, the original approved baseline for the project would no longer be valid. If the Forest Project is automatically terminated due to an Unavoidable Reversal, another project may be initiated and submitted to the Reserve for registration on the same Project Area. New projects may not be initiated on the same Project Area if the Forest Project is terminated due to an Avoidable Reversal.

If the Forest Project has experienced a reversal and its actual standing live or dead carbon stocks are still above the approved baseline levels, it may continue without termination as long as any reversal of secured carbon has been compensated. The project must continue contributing to the Buffer Pool in future years based on its verified risk rating.

# 10 Project Documentation, Monitoring, and Verification

This section provides requirements and guidance on project monitoring, reporting rules and procedures. Table 10.1 provides a summary of many of the documentation and monitoring reports and forms required by the protocol. The table displays the schedule associated with the reporting and submission requirements. Details related to project documentation, monitoring, and verification are described below.

**Table 10.1.** List of Important Documents and Activities by Timing of Requirement for Forest Carbon Projects

| Timing of Event | Project Submission | Verification Preparation | Site Verification | | Annual Reporting between Site Verifications | |
|---|---|---|---|---|---|---|
| | At least 2 months prior to verification | At least 1 month prior to first verification | Project Initiation | Every 5 years, or in the event of adding a new Activity Area | With Desktop Verification | Without Desktop Verification |
| **Document/Monitoring Report** | | | | | | |
| Project Submittal Form | X | | | | | |
| Land Tenure Documentation | | | X | | | |
| Project Report | | X | | | | |
| Attestation of Title | | | X | X | X | X |
| Attestation of Regulatory Compliance | | | X | X | X | X |
| Attestation of Voluntary Implementation | | | X | X | X | X |
| Carbon Monitoring Worksheet | | | X | X | X | X |
| Native Species (Presence) Report from CALCBOSK | | | X | X | X | X |
| Native Species (Composition) Report from CALCBOSK | | | X | X | X | X |
| Forest Carbon Project Concepts, Anticipated Benefits, and Project Approval | | | X | | | |
| Meeting Notification, Participation, and Documentation | | | X | X | X | X |
| Project Governance (SS8,9,&10) | | | X | In the event of a change in PC | In the event of a change in PC | In the event of a change in PC |
| Verification Report | | | X | X | X | |
| Verification Statement | | | X | X | X | |
| Project Implementation Agreement | | | X | X | X | |
| Report of MCRTs Issued | | | X | X | X | |

## 10.1 Project Documentation

Project Developers must provide the following documentation to the Reserve in order to register a project. Each of these documents is discussed in this section in greater detail, unless addressed in a different section as explained below.

- Project Submittal Form
- Land Tenure Status (see Section 3.5)
- Project Report

The Forest Owner must provide the following monitoring reports to the Reserve on an annual basis.

- Carbon Monitoring Worksheet (CMW)
- Native Species Report (Environmental Safeguards 2 and 3)

The Forest Owner must provide the following documentation each time a Forest Project is verified in order for the Reserve to issue MCRTs for quantified GHG reductions.

- Verification Report (see Section 11)
- Verification Statement (see Section 11)
- Signed Attestation of Title form (see Section 3.13.1)
- Signed Attestation of Regulatory Compliance form (see Section 3.7)
- Signed Attestation of Voluntary Implementation form (see Section 4.1)
- Project Implementation Agreement (if applicable; see Section 3.13)

### 10.1.1 Project Submittal Form

The Project Submittal form is required to determine if the project meets general eligibility requirements of the protocol and to establish a relationship between the Forest Owner and the Reserve. An account is initiated with the Reserve once a Project Submittal form is accepted for filing. The form is a template that provides a general description of the project's environmental, social, and land tenure conditions to be outlined. It is intended to enable the Reserve staff to become familiar with the project's environmental and social aspects, project concepts for increasing carbon stores, and information related to eligibility requirements. It is also designed to highlight any potential challenging areas of the project that might require additional consideration prior to fully developing the project. A copy of the form is available at: http://www.climateactionreserve.org/how/program/documents/.

A KML file displaying the general Project Area is required along with the Project Submittal form. The KML file is not considered final at this time. Revisions to the Project Area may occur up until the project is initially verified.

### 10.1.2 Project Report

The Project Report (PR) is a required document for reporting project information. PRs are intended to serve as the main project document that thoroughly describes how the project meets eligibility requirements, the project's vegetative and social framework, and the current forest conditions, threats, and activities associated with the Project Area. It also outlines how the project complies with terms for additionality. PRs must be of professional quality and free of incorrect citations, missing pages, incorrect project references, etc. PRs are intended to communicate project information in a transparent manner and be available to the public. The initial monitoring report submitted simultaneously with the PR establishes much of the project's

base information. The PR is submitted at the initial verification. A PR template has been prepared by the Reserve and is available on the Reserve's website. The template is arranged to help ensure that all requirements of the protocol are addressed.

### 10.1.3 Monitoring Reports

Monitoring is the process of regularly collecting and reporting data related to a project's performance. Annual monitoring of Forest Projects is required to ensure up-to-date estimates of project carbon stocks and provide assurance that GHG removals achieved by a project have not been reversed. Additionally, monitoring ensures the project remains in compliance with environmental and social safeguards. Monitoring is required for a period of 100 years following the final issuance of MCRTs to a project or for the length of time the project remains active. Monitoring reports are subject to verification according to the verification schedule in Section 11.

The specific objectives of project monitoring are listed in the introduction of the MFP Quantification Guidance. The quantification methodologies provide data needed for many of the monitoring requirements.

The following documents related to forest carbon and environmental safeguards must be submitted annually:

- Carbon Monitoring Worksheet (CMW)
- Monitoring Report for Native Species (Presence and Composition) – Activity Areas Only

Many of the reports are automated from the Reserve's Microsoft (MS) Access database (CALCBOSK).

#### 10.1.3.1 Carbon Monitoring Worksheet

The Reserve will provide an example of the Carbon Monitoring Worksheet (CMW) used for tracking forest carbon within the Activity Areas. The CMW can be downloaded from the Reserve's website. The CMW must be used by Forest Owners and submitted to the Reserve on an annual basis. The CMW is the basis for data reporting of:

1. Live and dead carbon in standing trees associated with baseline and project activity
2. Inventory sampling confidence and adjustments for uncertainty for project stocks
3. Contribution to reversal Buffer Pool

The CMW automates the calculation, or provides evidence of:

1. Carbon credits generated by vintage
2. Estimates of secondary effects
3. Reversals (if any)
4. Maintenance or increase of standing live and dead carbon stocks over the project life, as determined by a running 10-year average (Environmental Safeguard 1)

The CMW must be updated on an annual basis to reflect changes in forest carbon stocks according to the MFP Quantification Guidance.

#### 10.1.3.2 Monitoring Report for Native Species (Presence and Composition)

Monitoring is required within the Activity Areas to ensure compliance with native species requirements and that harvest adheres to the retention requirements. The non-carbon requirements within Activity Areas include:

1. Demonstration of continuous progress toward a goal of 95% native species (Environmental Safeguard 2)
2. Demonstration of continuous progress towards meeting the composition of native species (Environmental Safeguard 3)

Inventory data from sampling activities provides the basis for monitoring compliance with the native species requirements (Environmental Safeguards 2 and 3). Inventory data must be updated annually according to guidance in the MFP Quantification Guidance to reflect current conditions.

Data from inventory sampling shall be summarized based on aggregating all plots and calculating weighted average trees per hectare by species for all stands within the Activity Areas. This is calculated automatically in CALCBOSK.

A report must be generated to display the distribution of native species based on percentage representation of trees per hectare within the Activity Areas. Continuous progress means that the percentage of native species positively trends toward the targets on a running 5-year basis.[20] Annual declines are allowed from year to year to address issues of uncertainty associated with inventory estimates. The project is out of compliance if the project exceeds a relapse of 3% in any year or if the 10-year rolling average does not show positive improvement of 5% or greater toward the target. CALCBOSK automates the required reports. Annual submission of the report will facilitate verification of Environmental Safeguards 2 and 3.

#### 10.1.3.3 Monitoring Report for Maintenance of Forest Carbon Stocks in Non-Activity Areas

Monitoring is required to ensure project activities do not lead to increase harvest or conversion of forests outside of the Activity Areas. The monitoring strategy is based on the repeated estimates of land cover using the methodology described in the MFP Quantification Guidance. A carbon inventory of the Non-Activity Areas is not required.

## 10.2 Monitoring Guidance for Social Safeguards

The monitoring requirements associated with social safeguards are designed to ensure the requirements specified in Section 3 of the protocol are being followed. The schedule of monitoring varies depending on the monitoring theme. Table 10.2 displays the monitoring requirements and schedule for each monitoring theme.

[20] The trend must be positive using a running 5-year average, which means annual fluctuations are allowed and that the metric cannot be calculated until the project has been engaged for 5 years.

**Table 10.2.** Monitoring Requirements and Schedule

| Monitoring Theme | Monitoring Requirement | Required Documentation | Schedule of Requirement |
|---|---|---|---|
| SS1 Forest Carbon Project Concepts | The Reserve has prepared a presentation that addresses the concepts of global warming and GHG accounting principles. The presentation must be presented to the community group prior to submitting a project to the Reserve. The required elements from Section 3, SS5 and SS6 apply to the meeting. | 1. Agenda for meeting where presentation was made.<br>2. A list of the names of all attendees, along with contact information.<br>3. Meeting notes, including any follow up questions and comments. | Meeting (assembly) must be held prior to project submission.<br>Documentation must be included with Project Submission. |
| SS2 Anticipated Costs | A community meeting or assembly must be held in which a report that outlines the anticipated project costs is presented at a community meeting. The report and presentation must, at a minimum, include the themes specified in Section 3 (SS2). The required elements from Section 3, SS5 and SS6 apply to the meeting. | 1. Assembly Act or meeting that indicates costs and benefits were discussed during the meeting(s).<br>2. Agenda for the meeting or assembly where the presentation was made.<br>3. A list of the names of all attendees, along with contact information.<br>4. Meeting notes, including any follow up questions and comments. | Meeting (assembly) must be held prior to project submission.<br>Documentation must be included with initial verification. |
| SS3 Anticipated Benefits | A community meeting or assembly must be held in which a report that outlines the anticipated project benefits is presented at a community meeting. The report and presentation must, at a minimum, include the themes specified in Section 3 (SS3). The required elements from Section 3, SS5 and SS6 apply to the meeting. | 1. Assembly Act that indicates costs and benefits were discussed during the meeting(s).<br>2. Agenda for the meeting or assembly where the presentation was made.<br>3. A list of the names of all attendees, along with contact information.<br>4. Meeting notes, including any follow up questions and comments. | Meeting (assembly) must be held prior to project submission.<br>Documentation must be included with initial verification. |
| SS4 Project Approval | A community meeting or assembly must be held in which the community approves/disapproves the project. The meeting must result in an Assembly Act and meet the voting requirements specified in Section 3 (SS4). The required elements from Section 3, SS5 and SS6 apply to the meeting. | 1. A copy of the results of the vote of the community members (i.e. Assembly Act).<br>2. Agenda for the meeting where the presentation was made.<br>3. A list of the names of all attendees, along with contact information.<br>4. Meeting notes, including any follow up questions and comments. | Meeting (assembly) must be held prior to project submission.<br>Documentation must be included with initial verification. |
| SS5 Proper Notification | Required meetings include:<br>▪ Meetings prior to project submission to discuss SS1, SS2, and SS3.<br>▪ Annual meeting or assembly that address the themes in Section 3 (Meeting Notification, Participation, and Documentation)<br>Posting requirements are specified in Section 3, SS5. | 1. A description of how notices of meeting or assembly took place in order to include as many people as possible. | Must be provided at first site verification and as part of annual reporting. |

| Monitoring Theme | Monitoring Requirement | Required Documentation | Schedule of Requirement |
|---|---|---|---|
| SS6 Participation | Meeting or assembly must be open for community member participation. Community leadership must actively encourage participation from community members. | 1. Copies of sign-in sheets must be attached to the meeting agenda.<br>2. Meeting notes that summarize community comments must be prepared. | Must be provided at first site verification and as part of annual monitoring. |
| SS7 Meeting Documentation | Documentation of meeting or assembly must occur as per Section 3, SS7. Meeting notes must address each item on the agenda and not on the agenda that were discussed. Meeting notes must be available to the public afterwards. | 1. Meeting notes, accompanied with a description of how and when the meeting notes were made available to community members must be prepared. | Must be provided at first site verification and a part of annual monitoring. |
| SS8 Identification of a Project Coordinator | Section 3, SS8 requires that a description of the nomination and selection/election process for a Project Coordinator be included in the PR. | 1. The description of the nomination and election/selection process must be included in the PR.<br>2. Meeting notes that describe how the processes were reviewed in a public meeting and approved with >50% vote. | Must be provided with the PR prior to the first site verification and in the event of a change in PC. |
| SS9 Term of a Project Coordinator | Section 3, SS9 requires that the length of the term of the Project Coordinator along with the mechanisms for term renewal be defined through a public process. | 1. A description of the term of Project Coordinator must be included in the PR.<br>2. The process for renewing the term of Project Coordinator must be addressed in the PR.<br>3. Meeting notes that describe how the terms were discussed in a public meeting and approved with a >50% vote. | Must be provided with the PR prior to the first site verification and in the event of a change in PC. |
| SS10 Replacing the Project Coordinator | Section 3, SS10 requires that a provision be included in the PR describing the process for replacing a Project Coordinator, even prior to completion of a term, shall be conducted. | 1. A description of the process for replacing the Project Coordinator must be included in the PR.<br>2. Meeting notes that describe how the terms were discussed in a public meeting and approved with a ≥50% vote. | Must be provided with the PR prior to the first site verification and in the event of a change in PC. |

## 10.3 Monitoring Objectives and Results for Non-Compliance

| Monitoring Objective | Monitoring Tool | Programmatic Concerns and Rationale for Monitoring | Result of being Out of Compliance |
|---|---|---|---|
| Maintenance or Increase of forest carbon stocks in Activity Areas | Carbon Monitoring Worksheet | Reversal of credited carbon stocks and Environmental Safeguard 1 | Forest Owner must compensate for reversal. Project activity is suspended until reversal fully compensated. |
| Credit Issuance by Vintage | Carbon Monitoring Worksheet | Over-/Under-issuance of forest carbon credits. Data are periodically verified for quality of input | Measurements, calculations and data input may need to be improved or enhanced. |
| Continuous progress toward a goal of 95% native species | Native Species (Presence) Report from CALCBOSK | Environmental Safeguard 2 | Project activity suspended until project in brought into compliance and data used for determination are verified. |
| Continuous progress toward compositional diversity of native species | Native Species (Composition) Report from CALCBOSK | Environmental Safeguard 3 | Project activity suspended until project in brought into compliance and data used for determination are verified. |

## 10.4 Reporting Periods

A “Reporting Period” is a period of time for which a Forest Owner quantifies and reports GHG removals (i.e. the length of time covered by a monitoring report) and submits monitoring reports for all required monitoring elements listed above. Reporting periods for Forest Projects have a required duration of 12 months, with the exception of the first Reporting Period ( (i.e. the Reporting Period that precedes initial verification), which has up to 24 months from the project’s Start Date.

All Reporting Periods after the first Reporting Period must be 12 months in duration and cover the same calendar period each year. Reporting periods must be contiguous, i.e. there must be no gaps in reporting during the crediting period of a Forest Project once the first Reporting Period has commenced.

A Forest Project is considered automatically terminated if the Forest Owner chooses not to report data and undergo verification at required intervals.

# 11 Project Verification

Verification is the inspection and review of all sampling and quantification activities as well as reported data and eligibility criteria. Verification is conducted by approved third-party verification bodies that are responsible for ensuring that all requirements in the protocol are adhered to and that reported data meets the accuracy thresholds. Verification activities occur both on the project site and remotely. Site verification activities include the inspection of plot measurements and compliance with social safeguards. Remote verification activities include reviewing project documentation related to eligibility criteria, calculation methods, baseline, and leakage determination. Site verification activities are required on a 5-year basis, or in the event of adding a new Activity Area to the project. Further guidance on verification activities can be found in the Mexico Forest Protocol Verification Guidance, located on the Reserve's website.

All projects must undergo an initial site verification to ensure that the PR includes the required information to develop the project. The initial verification will check to ensure that inventory and baseline development are consistent with the protocol requirements and that the project meets the eligibility requirements. Additionally, the initial verification will ensure that the project is in compliance with all social and environmental safeguards.

The verification of annual monitoring reports is a separate activity from a site verification and is referred to as a desktop verification. The desktop verification focuses on ensuring that the reported data and monitoring reports are within acceptable tolerance bounds. Forest carbon change is estimated based on the calculation in Equation 11.1. The purpose of the equation is to estimate whether the forest carbon change from one Reporting Period to the succeeding Reporting Period is within an acceptable tolerance range that will enable crediting in the absence of a site verification. The tolerance bound is based on a range of expected carbon flux, given forest growth and harvest/disturbance and reasonable assurances that there are no errors in transcription in the project's CMW. Additionally, monitoring reports for environmental and social safeguards will be reviewed to determine if reported data meet the minimum requirements in the verification guidance for a desktop review.

**Equation 11.1.** Forest Carbon Change Estimate

$$\boldsymbol{Forest\ Carbon\ Change}\ \%_{\boldsymbol{y,y-1}} = ((\boldsymbol{OS_y} - \boldsymbol{OS_{y-1}})/\boldsymbol{OS_{y-1}}) * \mathbf{100}$$

*Where,*

| | | | Units |
|---|---|---|---|
| y | = | Current Reporting Period | |
| y-1 | = | Previous Reporting Period | |
| OS | = | Actual onsite carbon stocks in Activity Areas as reported for Reporting Period y, y - 1 | $tCO_2e$ |

In order for reported data through a desktop review to be considered acceptable, the forest carbon change must be positive and be within an 8% increase from the previous year in terms of $CO_2e$. Projects that are determined to be within tolerance bounds are considered verified for the current reporting year. Projects that are not within tolerance bounds will be ineligible for crediting until any and all outstanding issues are resolved. Alternatively, the Forest Owner can request a site verification from an approved verifier to justify the reported information.

All Forest Projects must complete the initial site visit verification and all subsequent verifications within 12 months of the end of the Reporting Period being verified. For required verifications, failure to complete verification within the 12 month time period will result in account activities

being suspended until the verification is complete. The project will terminate if the required verification is not completed within 36 months of the end of the Reporting Period(s) being verified.

If material issues arise during verification of a participating project, the Forest Owner will need to independently address the issues and required corrective actions. These are described in the verification guidance for this protocol and the Reserve Verification Program Manual (http://www.climateactionreserve.org/how/program/program-manual/).

The Forest Owner is responsible for selecting a single verification body for all enrolled projects in any given year or set of years. The same verification body may be used up to five consecutive years (two regularly scheduled sequential site verifications). A different verification body must perform at least one site verification following the 5-year period. Other verification guidance is provided in the Verification Program Manual.

While Forest Owners may depend on consultants or cooperatives to complete project requirements, responsibility for monitoring reports and verification compliance is assigned to the Forest Owner.

## 11.1 Transparency and Record Keeping

The Reserve requires data transparency for all Forest Projects, including data that displays current carbon stocks, reversals, and verified GHG removals, as well as verification reports. For this reason, all non-confidential project data reported to the Reserve will be publicly available on the Reserve's website.

All documents and forms related to the project must be retained by the Forest Owner for the duration of the project. This information may be requested by the verification body or the Reserve at any time.

After a verification body has completed its review of a project developer's removals entered into the Reserve, it must complete a transparent Verification Report and Verification Statement before a project can be issued MCRTS.

### 11.1.1 Verification Report

Verification bodies must produce a transparent Verification Report documenting the overarching verification activities. The Verification report must be provided to the Forest Owner as well as made available to the Reserve and public. This document is a detailed summary and scope of verification activities undertaken and serves as the basis for the public and the Reserve to evaluate GHG projects registered on the Reserve.

A positive Verification Report must provide positive assertion that the project meets all eligibility requirements, followed all monitoring requirements, appropriately applied the calculation methodologies provided, and is free of material errors. In addition, the Verification Report must include a discussion of how the perceived areas of risk in the project were incorporated into verification activities and data review.

No standardized format for this document is currently required, but verification bodies should construct Verification Reports in a manner which best communicates the activities undertaken and results of verification. Further guidance is provided in the Reserve's Verification Program Manual.

### 11.1.2 Verification Statement

The Verification Statement is the official confirmation and final statement of findings during the verification process, detailing the number of MCRTs issued, the vintages (if more than one) and the standard used to verify those MCRTs. The Verification Statement confirms the verification activities and outcomes for all stakeholders (Forest Owners, verifiers, the Reserve, and the public).

The Reserve relies on a Verification Statement provided by the verification body as the basis for issuing MCRTs. A positive Verification Statement indicates that the project and reported emission removals meet the Reserve Standards and that the project successfully meets the Verification Standards contained in this protocol.

The Verification Statement must be signed by the designated Lead Verifier and Senior Internal Reviewer (also part of the verification team) on file with the Reserve. No deviations are allowed. An electronic version of the Verification Statement template is available at http://www.climateactionreserve.org/how/verification/verification-documents/. Further guidance is provided in the Reserve's Verification Program Manual.

### 11.1.3 Issuance and Vintage of MCRTs

The Reserve will issue MCRTs for quantified GHG removals that have been verified through either site visit or desktop verifications.

In general, vintages will be assigned to MCRTs by Reporting Period according to the proportion of each Reporting Period that falls within a particular calendar year. See an example below in Table 11.1.

**Table 11.1.** Issuance and Vintage of MCRTs

| **Project Start Date** | **First Reporting Period End Date** | | **Second Reporting Period End Date** | |
|---|---|---|---|---|
| August 15, 2012 | February 15, 2013 | | February 15, 2014 | |
| | 1,000 Credits Verified | | 2,000 Credits Verified | |
| | **Vintage Credits at Verification** | | **Vintage Credits at Verification** | |
| | **2012** | **2013** | **2013** | **2014** |
| | 137 days in 2012 / 185 total days = 74% | 46 days in 2013 / 185 total days = 26% | 319 days in 2013 / 365 days = 92% | 46 days in 2014 / 365 days = 8% |
| **Vintage** | 2012 | 2013 | | 2014 |
| **Credits** | 740 | 260 | 1,840 | 160 |

# 12 Glossary of Terms

| | |
|---|---|
| Above-Ground Live Biomass | Live trees including the stem, branches, and leaves or needles, brush and other woody live plants above ground. |
| Activity Area | An Activity Area is a spatially discrete area within the Project Area where management activities are undertaken for the purpose of increasing forest carbon inventories for which the Forest Owner intends to generate offsets. Inventories within Activity Areas are held to a higher standard than inventories in Non-Activity Areas. |
| Additionality | A criterion for forest project eligibility. A forest project is "additional" if it would not have been implemented without incentives provided by the carbon offset market, including the incentives created through the Climate Action Reserve program. Under this protocol, forest projects meet the additionality criterion by demonstrating that they pass a legal requirement test and a performance test, as described in Section 4, and by achieving GHG reductions and removals quantified against an approved baseline, determined according to the requirements in Section 7. |
| Allometric Equation | An equation that utilizes the genotypical relationship among tree components to estimate characteristics of one tree component from another. Allometric equations allow the below-ground root volume to be estimated using the above-ground bole volume. |
| Avoidable Reversal | An avoidable reversal is any reversal that is due to the forest owner's negligence, gross negligence or willful intent, including harvesting, development, and harm to the Project Area. |
| Baseline | The level of GHG emissions, removals, and/or carbon stocks at sources, sinks, and reservoirs affected by a forest project that would have occurred under a "business as usual" scenario. For the purposes of this protocol, a project baseline must be estimated following standard procedures in Section 7. |
| Biological Emissions | For the purposes of this protocol, biological emissions are GHG emissions that are released directly from forest biomass, both live and dead, including forest soils. For forest projects, biological emissions are deemed to occur when the reported tonnage of onsite carbon stocks, relative to baseline levels, declines from one year to the next. |
| Biomass | The total mass of living organisms in a given area or volume; recently dead plant material is often included as dead biomass.[21] |
| Bole | A trunk or main stem of a tree. |
| Buffer Pool | The buffer pool is a holding account for forest project MCRTs administered by the Reserve. It is used as a general insurance mechanism against unavoidable reversals for all forest projects registered with the Reserve. If a forest project experiences an unavoidable reversal of GHG reductions and removals (as defined in Section 9.2.2), the Reserve will retire a number of MCRTs from the |

[21] Metz, Davidson, Swart, & Pan, 2001.

| | |
|---|---|
| | buffer pool equal to the total amount of carbon that was reversed (measured in metric tons of $CO_2$-equivalent). |
| Business As Usual | The activities, and associated GHG reductions and removals that would have occurred in the Project Area in the absence of incentives provided by a carbon offset market |
| CALCBOSK | CALCBOSK is a data management tool for users of the Reserve's Mexican Forest Protocol. The tool is built to complement the quantification methodology requirements for the protocol and its use is required. Project inventory data are entered in forms within CALCBOSK and automated reports can be generated. |
| Carbon Pool | A reservoir that has the ability to accumulate and store carbon or release carbon. In the case of forests, a carbon pool is the forest biomass, which can be subdivided into smaller pools. These pools may include above-ground or below-ground biomass or harvested wood products, among others. |
| Climate Reserve Tonne (MCRT) | The unit of offset credits used by the Climate Action Reserve. Each Climate Reserve Tonne represents one metric ton of $CO_2$ reduced or removed from the atmosphere. |
| Deforestation | The conversion from forestland use to another land use. |
| Degradation | From the point of view of climate change policy and the IPCC, it refers to loss of carbon stock within forests that remain forests.[22] |
| Forest Management | The commercial or noncommercial growing and harvesting of forests. |
| Forest Owner | A forest owner is an *ejido*, a community or an individual that lives in a community and has a portion of the land, but that does not have a property title. It can also include individual private landowners. |
| Forest Project | A planned set of activities designed to increase removals of $CO_2$ from the atmosphere through increasing and/or conserving forest carbon stocks. |
| Project Report (PR) | A standard document for reporting required information about a forest project. The Project Report must be submitted for review by a verification body and approved by the Reserve before the forest project can be registered with the Reserve (see Section 10.1.2). |
| Forestland | Land spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of more than 10 percent, or trees able to reach these thresholds in situ and that allows for management of one or more forest resources, including timber, fish and wildlife, biodiversity, water quality, recreation, aesthetics, and other public benefits. |
| GHG Assessment Boundary | The GHG Assessment Boundary defines all the GHG sources, sinks, and reservoirs that must be accounted for in quantifying project GHG reductions and removals (Section 5). The GHG Assessment Boundary encompasses all the GHG sources, sinks, and reservoirs that may be significantly affected by forest project activities, including forest carbon |

[22] UNFCCC, 2008.

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|---|---|
| | stocks, sources of biological $CO_2$ emissions, and mobile combustion GHG emissions. |
| Greenhouse Gas (GHG) | Gas that contributes to global warming and climate change. For the purposes of this protocol, GHGs are the six gases identified in the Kyoto Protocol: carbon dioxide ($CO_2$), nitrous oxide ($N_2O$), methane ($CH_4$), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride ($SF_6$). |
| Listed | A forest project is considered "listed" when the forest owner has created an account with the Reserve, submitted the required Project Submittal form and other required documents, paid the project submission fee, and the Reserve has approved and accepted the project for listing. |
| Litter | Any piece(s) of dead woody material from a tree, e.g. dead boles, limbs, and large root masses, on the ground in forest stands that is smaller than material identified as lying dead wood. |
| Lying Dead Wood | Any piece(s) of dead woody material from a tree, e.g. dead boles, limbs, and large root masses, on the ground in forest stands. Lying dead wood is all dead tree material with a minimum average diameter of 13 cm and a minimum length of 2.5 m. Anything not meeting the measurement criteria for lying dead wood will be considered litter. Stumps are not considered lying dead wood. |
| Metric Ton or "Tonne" (MT) | A common international measurement for the quantity of GHG emissions, equivalent to about 2204.6 pounds or 1.1 short tons. |
| Non-Activity Area | Areas within the Project Area that are not managed with the specific intent to increase forest carbon inventories for purposes of creating forest carbon offsets. Non-Activity Areas are subject to monitoring activities to ensure conformance with environmental safeguards and that leakage is accounting for locally. |
| Non-Forest Cover | Land with a tree canopy cover of less than 10 percent. |
| Non-Forest Land Use | An area managed for residential, commercial or agricultural uses other than for the production of timber and other forest products, or for the maintenance of woody vegetation for such indirect benefits as protection of catchment areas, wildlife habitat, or recreation. |
| Onsite Carbon Stocks | Carbon stocks in living biomass, dead biomass, and soils within the Project Area. |
| Permanence | The requirement that GHGs must be permanently reduced or removed from the atmosphere to be credited as carbon offsets. For forest projects, this requirement is met by ensuring that the carbon associated with credited GHG reductions and removals remains stored for at least 100 years. |
| Primary Effects | The forest project's intended changes in carbon stocks, GHG emissions or removals. |
| Project Area | The area inscribed by the geographic boundaries of a forest project, as defined following the requirements in Section 2.1 of this protocol. Also, the property associated with this area. |

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|---|---|
| Project Life | Refers to the duration of a forest project and its associated monitoring and verification activities, as defined in Section 11. |
| REDD+ | In policy texts currently in discussion under the UNFCCC, REDD+ is understood to include reduced deforestation and degradation, forest enhancement, sustainable management of forest, and forest conservation. |
| Reduction | The avoidance or prevention of an emission of $CO_2$ (or other GHG). GHG reductions are calculated as gains in carbon stocks over time relative to a forest project's baseline (also see Removal). |
| Registered | A forest project becomes registered with the Reserve when it has been verified by a Reserve-approved and ISO-accredited verification body, all required documentation (see reference document on the Mexico Forest Protocol webpage [to be developed]) has been submitted by the Forest Owner to the Reserve for final approval, and the Reserve approves the project. |
| Removal | Sequestration ("removal") of $CO_2$ from the atmosphere caused by a forest project. GHG removals are calculated as gains in carbon stocks over time relative to a forest project's baseline (also see Reduction). |
| Reporting Period | A discrete period of time over which a Forest Owner quantifies and reports GHG removals to the Reserve. The length of the Reporting Period can be up to two years for the first Reporting Period. Subsequent Reporting Periods must be annual. |
| Reservoir | Physical unit or component of the biosphere, geosphere or hydrosphere with the capacity to store or accumulate carbon removed from the atmosphere by a sink, or captured from a source. |
| Retire | To retire a MCRT means to transfer it to a retirement account in the Climate Action Reserve's software system. Retirement accounts are permanent and locked, so that a retired MCRT cannot be transferred or retired again. |
| Reversal | A reversal is a decrease in the stored carbon stocks associated with quantified GHG reductions and removals that occurs before the end of the Project Life. Under this protocol, a reversal is deemed to have occurred if there is a decrease in the difference between project and baseline onsite carbon stocks from one year to the next, regardless of the cause of this decrease (i.e. if the result of ($\Delta$ $AC_{onsite}$ - $\Delta$ $BC_{onsite}$) in Equation 6.1 is negative). |
| Safeguard | Policy or procedure that identifies, evaluates, minimizes, and mitigates direct and indirect impacts to communities and ecosystems. |
| Secondary Effects | Unintended changes in carbon stocks, GHG emissions, or GHG removals caused by the Forest Project. |
| Senior Internal Reviewer | The Senior Internal Reviewer must be an active Lead Verifier as designated on the COI Form, the form and has successfully completed sector-specific project verifier training. The Senior Internal Reviewer must remain independent of all verification activities and must perform |

| | |
|---|---|
| | a final quality assurance review on the data, the Verification Report, the List of Findings and must sign the Verification Statement attesting to the accuracy of reported data. The Senior Internal Reviewer must not participate in site visits as this would compromise their objectivity and independence in the final review. |
| Sequestration | The process of increasing the carbon (or other GHGs) stored in a reservoir. Biological approaches to sequestration include direct removal of $CO_2$ from the atmosphere through land-use changes[23] and changes in forest management. |
| Significant Disturbance | Any natural impact that results in a loss of least 20 percent of the above-ground live biomass that is not the result of avoidable or grossly negligent acts of the Forest Owner. |
| Sink | Physical unit or process that removes a GHG from the atmosphere. |
| Source | Physical unit or process that releases a GHG into the atmosphere. |
| Standing Dead Carbon Stocks | The carbon in standing dead trees. Standing dead trees include the stem, branches, roots, or section thereof, regardless of species, with minimum diameter (breast height) of 13 cm and a minimum height of 15 m. Stumps are not considered standing dead stocks. |
| Standing Live Carbon Stocks | The carbon in the live tree pool. Live trees include the stem, branches, roots, and leaves or needles of all above-ground live biomass, regardless of species, with a minimum diameter (breast height) of 13 cm and a minimum height of 5 m (inventory methodology must include all trees 13 cm and greater). |
| Stocks (or Carbon Stocks) | The quantity of carbon contained in identified carbon pools. |
| Submitted | The Reserve considers a forest project to be “submitted” when all of the appropriate forms have been submitted and uploaded to the Reserve software system, and the forest owner has paid a project submission fee. |
| Tree | A woody perennial plant, typically large and with a well-defined stem or stems carrying a more or less definite crown with the capacity to attain a minimum diameter at breast height of 13 cm and a minimum height of 5 m.[24] |
| Unavoidable Reversal | An unavoidable reversal is any reversal not due to the forest owner’s negligence, gross negligence or willful intent, including wildfires or disease that are not the result of the forest owner's negligence, gross negligence or willful intent. |
| Verification | The process of reviewing and assessing all of a forest project’s reported data and information by an ISO-accredited and Reserve-approved verification body, to confirm that the forest owner has adhered to the requirements of this protocol. |

[23] Metz, Davidson, Swart, & Pan, 2001.
[24] Helms 1998.

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