



CLIMATE
ACTION
RESERVE

**Panama Forest Protocol for Offset
Credits of the Climate Action Reserve
V1.0**

Workgroup Meeting 7: MRV

June 8, 2023

Introduction



CLIMATE
ACTION
RESERVE



Amy Kessler
Director of Latin America



Claudia Jurado
Analytical Associate, Latin
America



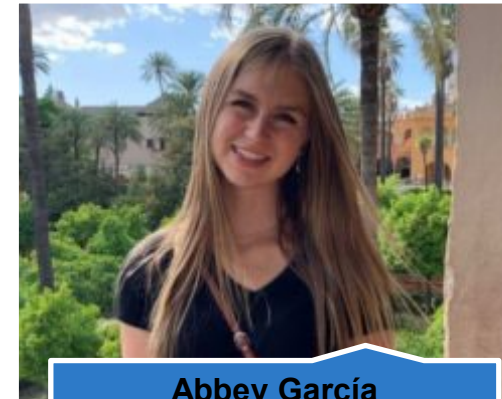
Miguel López Delgado
Analytical Manager, Latin
America



Celeste Meléndez
Analytical Associate, Latin
America



Jon Remucal
Associate Director of Nature
Based Solutions



Abbey García
Analytical Associate, Latin
America

Housekeeping

- Workgroup members have the opportunity to actively participate throughout the meeting
 - Ask that you keep yourselves muted unless / until would like to speak
- We will ask and take questions throughout the session
 - Please use the raise your hand function
- All other attendees/observers are in listen-only mode
- Observers are free to submit questions in the question box
- We will follow up via email to answer any questions not addressed during the meeting
- The slides and a recording of the presentation will be posted online

Agenda



CLIMATE
ACTION
RESERVE

1. Presentations
2. Process Overview
3. Key Considerations for Eligibility
 1. Recap of Permanence
 2. Quantification and MRV
4. Questions, comments, and next steps



Development process

PANAMA FOREST PROTOCOL FOR OFFSET CREDITS

Workgroup Members

| Organization (Alphabetical) | Name |
|--|---------------------------------|
| Asociación Nacional de Técnicos Forestales de Panamá - ANTEFORP | Jose Angel Rojas Gamboa |
| BAM | Juan Carlos Flores Del Castillo |
| Bioforestal Innovación Sustentable | Jesus Morales |
| BRET CONSULTORES | Teresa Tattersfield |
| CO2 Cero | Andrés Silva |
| Comarca Ngäbe-Buglé | César Bernal |
| Congreso General Guna | Jorge Andreve |
| Consultora de proyectos de Carbono Forestal | Adriana Abondado Pineda |
| Consultores Ecológicos Pnameños SA (CEPSA) | Ramon Alvarado |
| Earthshot Labs | Andrew Coates |
| Ecotopia Teak | Carlos Maestre |
| Fac. Ciencias Agropecuarias - Universidad de Panamá | Dimas Arcia |
| Fundación Natura | Rosa Montañez |
| Futuro Forestal | María Gallegos |
| Geo Forestal, S.A | Jacobo Melamed |
| Instituto Nacional de Investigaciones Forestales Agrícolas y Pecuarias | Geronimo Quiñonez Barraza |
| MiAmbiente | Verónica González |
| Ministry of the Environment, the Fight Against Climate Change, Quebec | Philippe Gregoire |
| Panama Teak & Forestry Inc | Itzel Ivon Rodriguez |
| South Pole | Maria Fernanda Buitrago Acevedo |
| Terra Global Capital | Gregory C. Ives |
| Universidad Tecnológica de Panama | Carlos Espinosa Peña |
| Wetlands International | Andrés Fraiz |
| World Resources Institute (WRI) | René Ibarra |

Protocol Development Overview

- **GOAL:** To create a robust Panama Forest Protocol that provides best practices for GHG accounting to generate Climate Reserve Tonnes (CRTs)
- Ensure high quality carbon credits that guarantee the environmental and social integrity of the project.
- Align the protocol with the laws and regulations of Panama.
- Incentivize activities that increase carbon sequestration in the forestry sector.
- Generate co-benefits (social and environmental).
- Leverage lessons learned from the Reserve's US and Mexico Forest protocols
- Solicit and incorporate expert stakeholder feedback.

Timeline



| Steps | Details | Feb | March | Apr | May | Jun | Jul | Aug | Sep | Oct |
|--|---|-----|-------|-----|-----|-----|-----|-----|-----|-----|
| Formation of the Working Group | kick-off meeting | | | | | | | | | |
| | Submit the SOI: February 10, 2023 | | | | | | | | | |
| Workgroup | Meeting 1: Eligibility - Activities | | 2 | | | | | | | |
| | Meeting 2: Land Tenure | | 15 | | | | | | | |
| | Meeting 3: Activities | | | 5 | | | | | | |
| | Meeting 4 : Environmental Safeguards | | | 19 | | | | | | |
| | Meeting 5: Social Safeguards & Additionality | | | | 4 | | | | | |
| | Meeting 6: Permanence | | | | 18 | | | | | |
| | Meeting 7: Quantification + MRV | | | | | 8 | | | | |
| | Meeting 8: In-person Meeting | | | | | 30 | | | | |
| Draft Protocol Development | | | | | | | | | | |
| Work Group Review | | | | | | | | | | |
| Public Comment Period | Public Comment Period | | | | | | | | | |
| | Review of comments and update of the protocol | | | | | | | | | |
| Approval by the Board of Directors of the Reserve | October 2023 | | | | | | | | | 4 |



Workgroup Process and Expectations

CAR/Process:

- Manage the protocol development process
- Hold ~8 workgroup meetings
- Reserve staff identify and solicit feedback on specific protocol criteria
 - **Specific questions for WG will be highlighted in red**
- Reserve staff will share the draft protocol with WG
- Revise protocol based on feedback

WG/Expectations:

- Attend all (~8) workgroup sessions
- Be active participants: provide input and ask questions on protocol concepts and language
- After meetings, share additional input and expertise as needed
- Review draft protocol and provide written feedback to Reserve staff
- Be constructive, collaborative, and productive

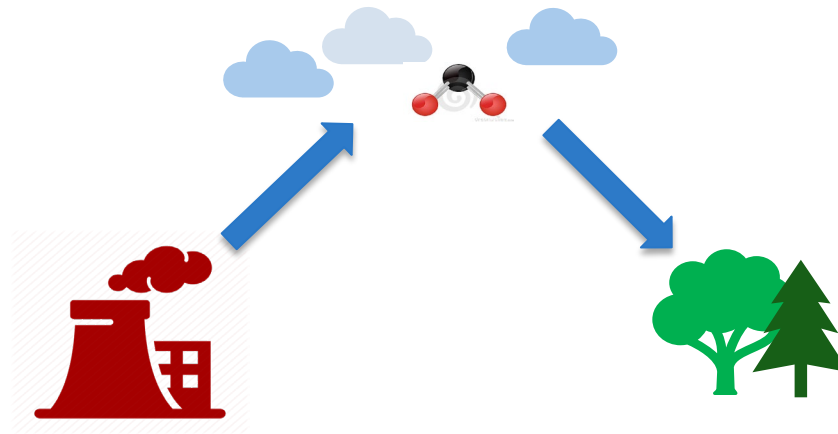


Recap Permanence

PROTOCOL DEVELOPMENT CONSIDERATIONS

Forest Projects must meet the permanence standards:

- The climate benefit of the project must be "permanent," which is defined by a 100-year period for Forest Projects.
- A CRT credit is issued for each ton of CO₂e that is removed from the atmosphere for a 100-year period.



Ensuring the Permanence of Accredited GHG Removals

The Reserve requires Forest Projects to ensure that the carbon associated with credited GHG removals remains **stored for at least 100 years**. The protocol establishes multiple procedures to ensure that credited GHG removals meet permanence obligations:

1. A legal contract, known as a **Project Implementation Agreement**, signed by the Forest Owner and the Reserve, that establishes the obligations of each party in the event of a reversal.
2. In the case of Comarcas and collective lands, a **Resolution with a formal commitment approved by the Comarca** to maintain credited carbon stocks for a period of 100 years aligned with their Comarca or collective land processes and legal standards.
3. An insurance mechanism, known as the **Buffer Pool**, based on the project's risk profile.
4. An **incentive approach that redistributes the dividends from the buffer pool** to projects that demonstrate continued compliance and maintenance of sequestered carbon stocks over time.

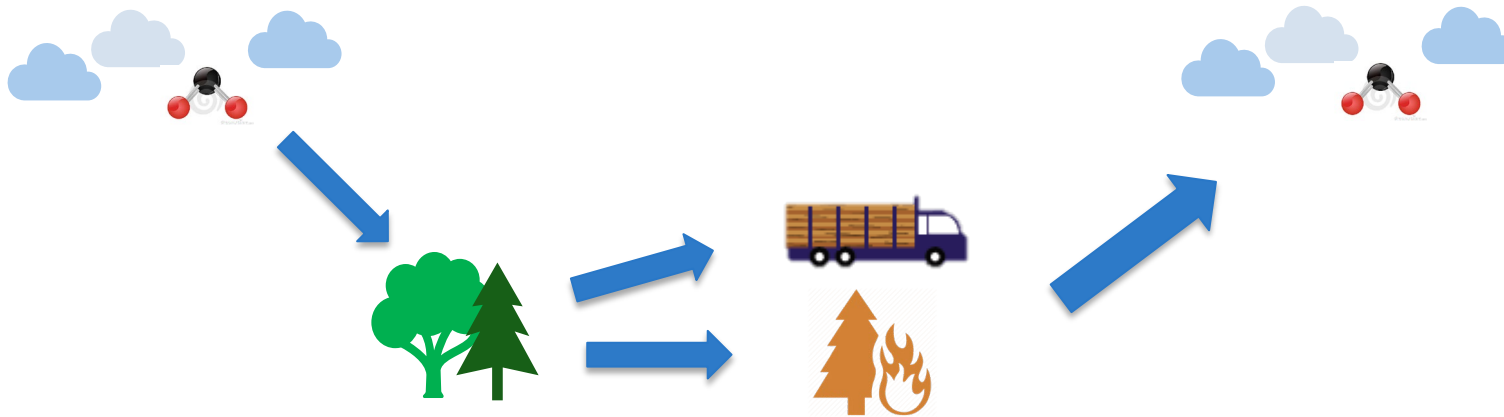
Section 3: Project Implementation Agreement (PIA)

The Project Implementation Agreement (PIA) is the contractual agreement between the Forest Owner and the Reserve:

- The PIA establishes the Forest Owner's obligations to comply with the protocol's requirements.
- The Forest Owner can define the **commitment period between 30 and 100 years**.
 - The PIA can be renewed annually
 - The **number of credits is stipulated according to the commitment period length relative to 100 years**.



- Any reversal needs to be compensated for if they affect the contractually secured CRTs.
- There are two types of reversal:
 - Avoidable
 - Unavoidable





Quantification

PROTOCOL DEVELOPMENT CONSIDERATIONS

A Forest Project must include the following Sources, Sinks, and Reservoirs:

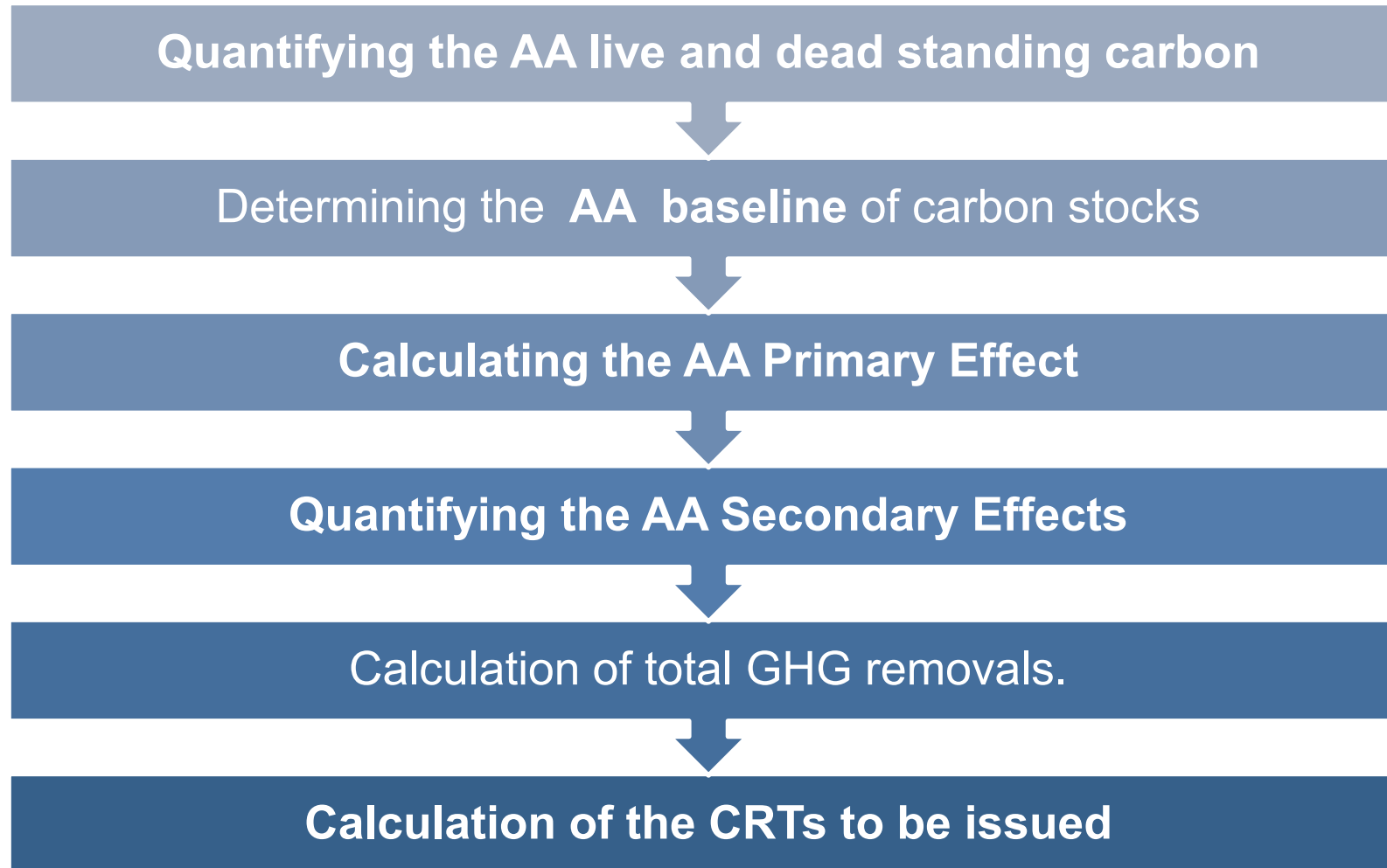
Primary
Effects:

1. Standing live carbon
3. Standing dead carbon

Secondary
Effects:

10. Mobile combustion emissions from site preparation activities
13. Emissions from clearing of shrubs and herbaceous understory carbon
14. Biological emissions from clearing of forestland outside the Activity Area for agriculture and/or grazing
15. Biological GHG emissions/removals from changes in timber harvesting on forestland outside of the Activity Area

Steps for GHG Quantification



Quantification of live and dead standing carbon stocks - MFM, Restoration and Large Urban Forests

- Field sampling is required :
 - Installation of sampling plots in the field.
 - Field measurements of the trees
 - Measurements are entered into the CALCBOSK tool.
 - There is a standardized methodology

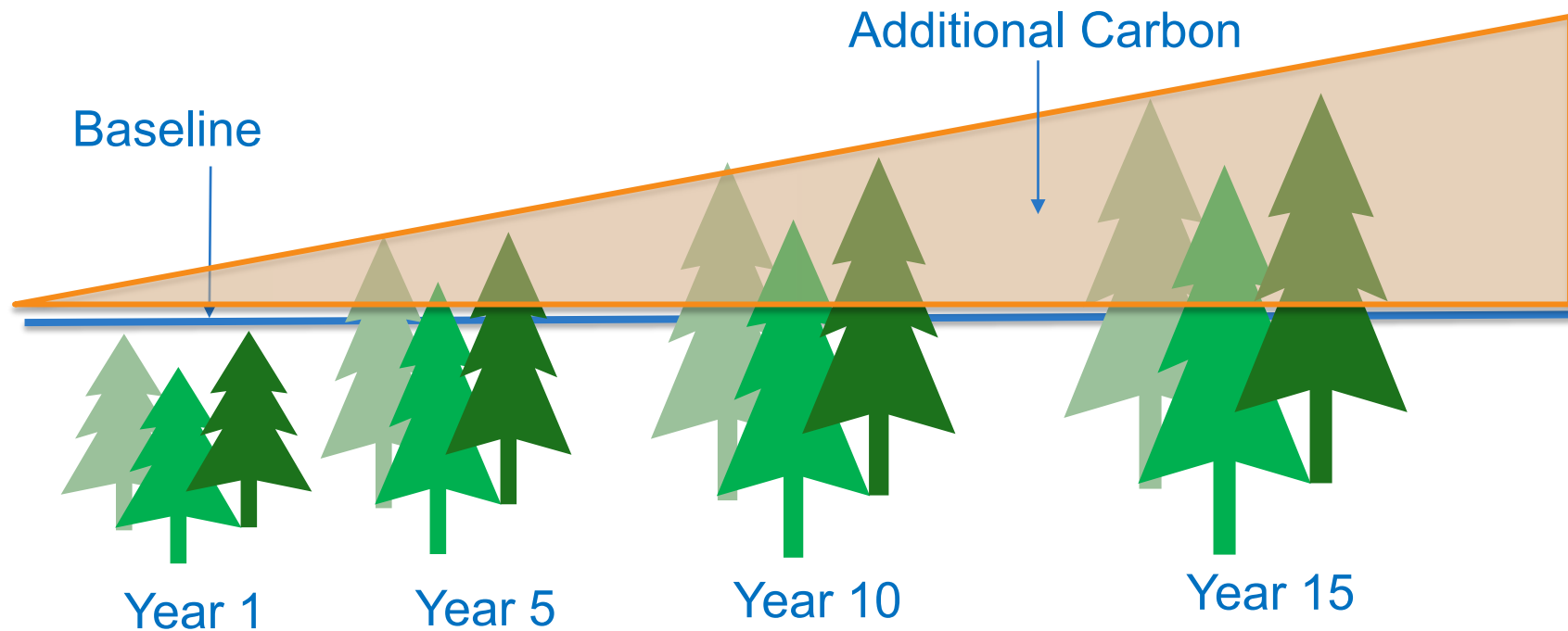
- Field sampling is required:
 - An inventory of carbon stocks may be deferred for those that are not affected by site preparation until the second full verification.
 - By the second full verification, must provide an estimated inventory of all required carbon stocks by using the field sampling inventory methodology.
 - Projects are not eligible to receive CRTs until after the second full verification where inventory verification is conducted.

Small Urban Forests, Agroforestry and Silvopastoral Systems

- Small Urban Forestry, Agroforestry, and Silvopastoral Activity Areas may use the canopy cover inventory methodology:
 - Forest Owners maintain the option of using the intensive inventory methodology for all Activity Areas.
 - The canopy cover inventory methodology includes deriving a measurement of the **area of canopy cover** within the Activity Area, which are applied to the **ratio estimators** to produce an estimate of CO₂e.
 - Ratio estimators represent a relationship between CO₂e in standing trees and canopy cover.
 - The Reserve is evaluating studies to determine ratio estimators (tCO₂e) for Panama.

After approving the additionality requirements, the baseline is established:

- The baseline quantification will be pending further evaluation of forest management programs for IFM Activity Areas
- For other activity types the baseline will be established as Initial Carbon Stocks (ICS)



Calculating Primary Effects

- For each Activity Area: the actual change in GHG removals associated with the expected effects must be quantified
 - For activities requiring field sampling inventory:
 - CALCBOSK automatically grows the inventory data to represent the inventory as of the end date of the reporting period
 - For activities using the canopy coverage methodology :
 - An image representing the end date of the reporting period is used.
 - The Carbon Monitoring Worksheet facilitates calculation of Primary Effects

Quantification the Secondary Effects

Carbon stock enhancement activities by the Forest Project may result in increased forest carbon emissions outside the Forest Project.

Depends on the activity:

1. Reforestation Activities: secondary effects for site preparation activities

- Mobile combustion emissions associated with site preparation.
- Biomass removal resulting from site preparation

2. Reforestation, Restoration, Agroforestry, and Silvopastoral Systems Activities: Secondary effects due to the displacement of agricultural activities

3. Improved Forest Management Activities: Secondary effects due to the decrease in the displacement of harvesting activities

Secondary Effects of Mobile Combustion for Reforestation Activities

Mobile combustion emissions associated with site preparation need to be calculated:

- Requires analysis of shrub cover before and after site preparation activities through remote sensing to calculate the percentage of shrub cover loss due to site preparation activities.
 - Emissions should only be quantified for areas where mechanical equipment is used for vegetation removal.
- The mobile combustion emission factor is applied based on conservative assumptions:
 - 1.61 tCO₂e/ha

$$SE_{mobil,init} = \Sigma(-1) \times (1.61 \times (CC_{shrub,pre,AA} - CC_{shrub,post,AA}) \times A_{AA})$$

Secondary Effects of Biomass Removal for Reforestation Activities

Emissions from biomass removals associated with site preparation need to be calculated :

- Requires analysis of shrub cover before and after site preparation activities through remote sensing.
- A default ratio estimator is applied for shrubs based on the assessment area (RE_{AA})
 - The Reserve is evaluating studies to determine ratio estimators (tCO₂e) for Panama.

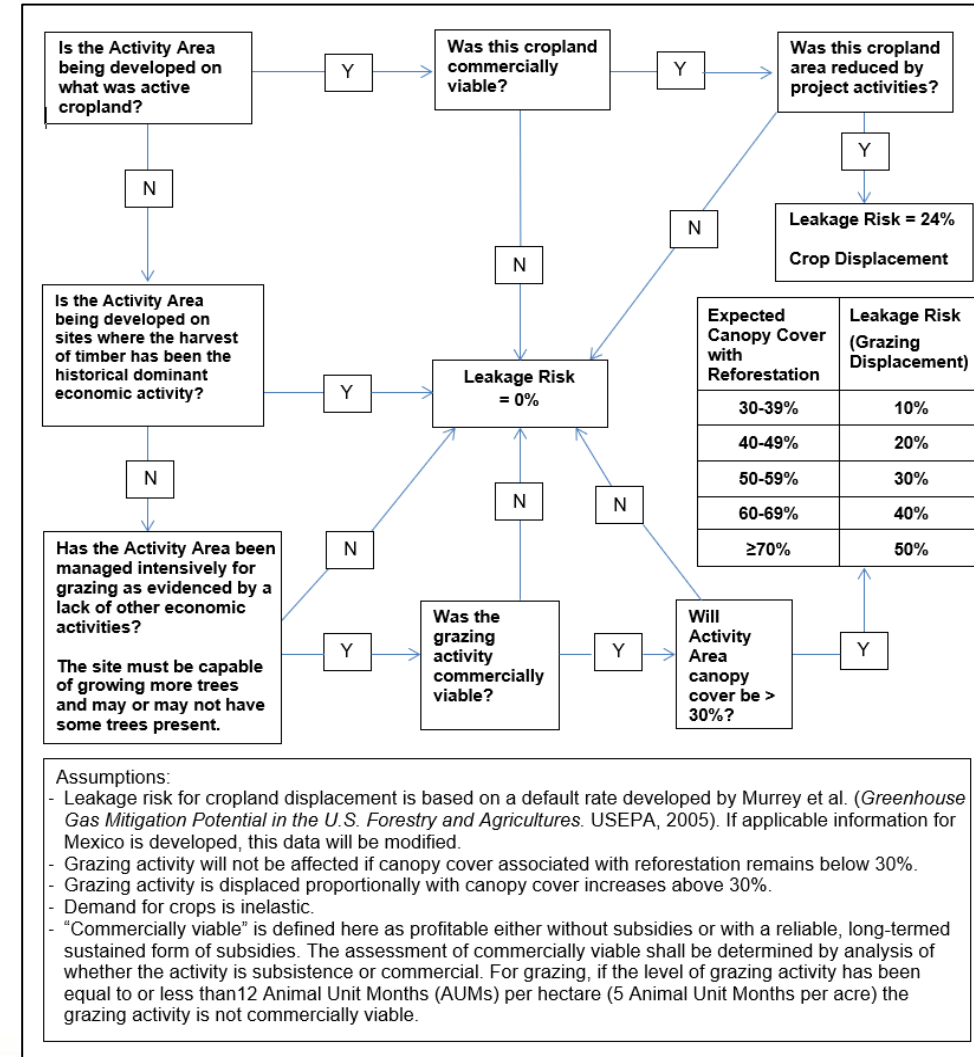
$$SE_{shrub,init} = \Sigma[(-1) \times (A_{AA} \times (CC_{shrub,pre,AA} - CC_{shrub,post,AA}) \times RE_{AA})]$$

Secondary Effects for Reforestation, Restoration, Agroforestry and Silvopastoral Systems Activities



The risk of secondary effects associated with the displacement of agricultural activities needs to be calculated:

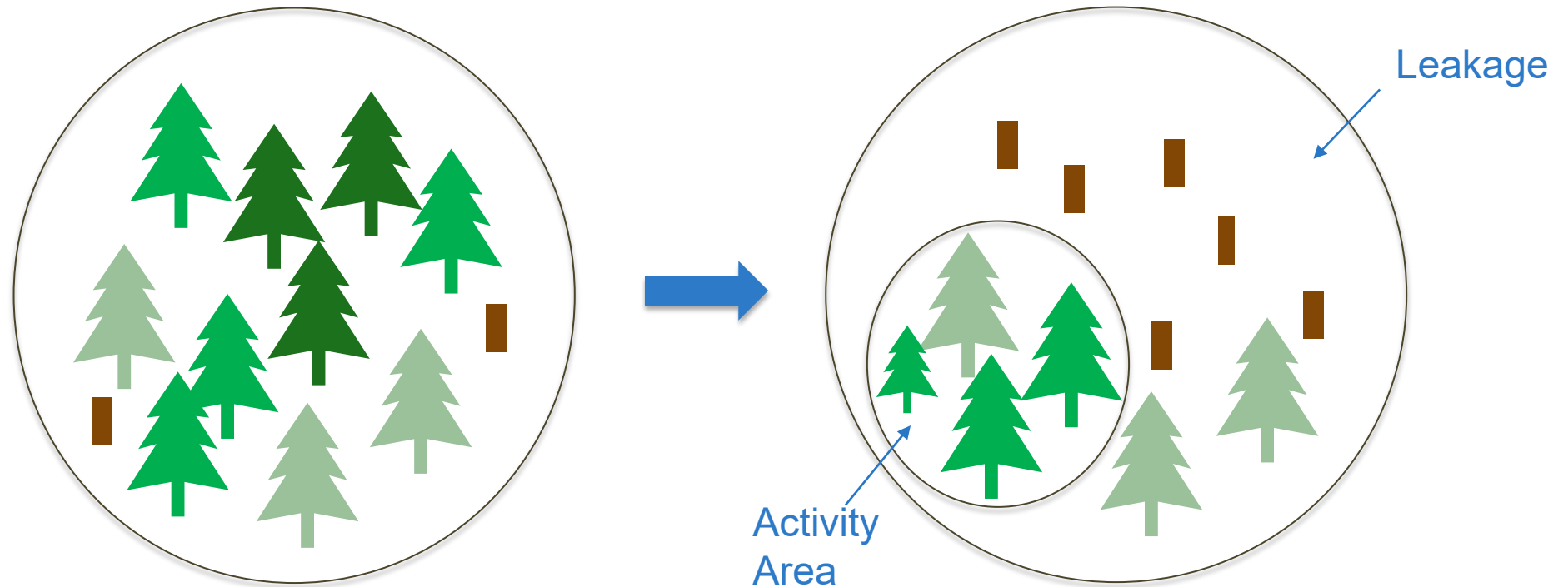
- The flow chart is used to determine the leakage risk and leakage deduction for each Activity Area.
- The flow chart consists of questions about the level of agriculture activities before project implementation and the level of reforestation activities by the project.



Secondary Effects for Improved Forest Management Activities

Emissions associated with the displacement of harvesting activities needs to be calculated. :

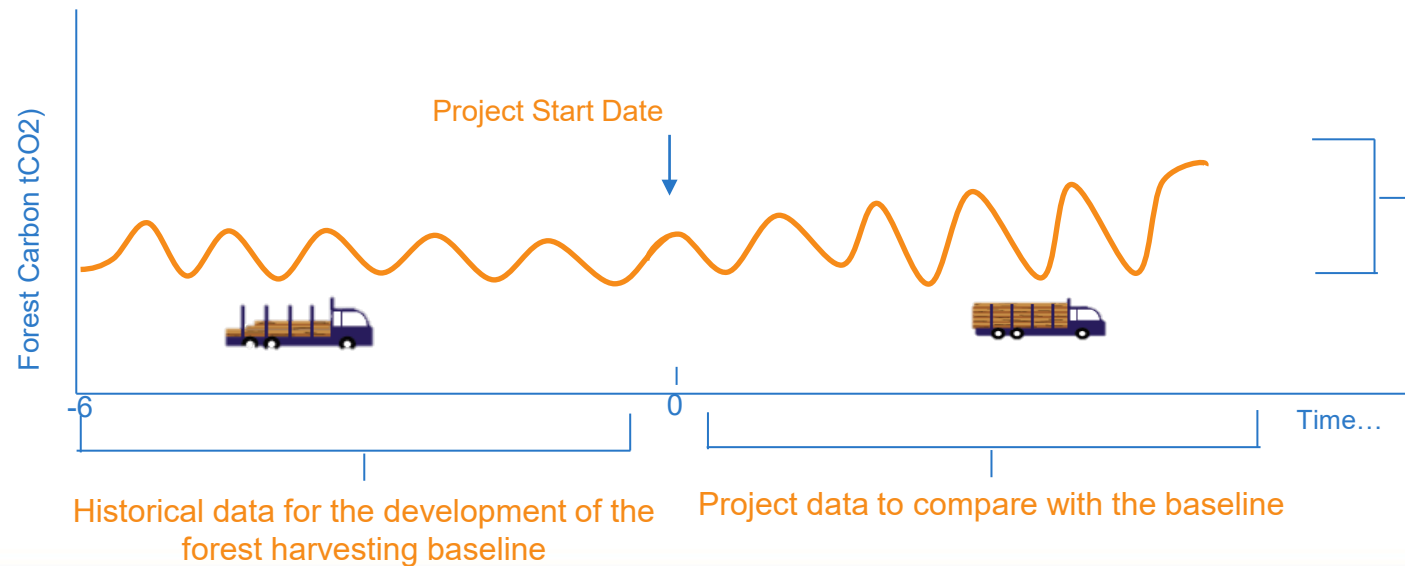
- the difference between timber harvesting before and after the implementation of project activities



Secondary Effects for Improved Forest Management Activities

The temporality for assessing secondary effects is carried out throughout the life of the project:

- A historical average is calculated, using the harvest volumes of the 6 years prior to the start date as the baseline
- Each year the present value is calculated for comparison with the baseline.
- Sum the current values up to the current year and sum the baseline values up to the current year, and compare the summed values each year
 - Apply 20% deduction to the difference when the project scenario is lower than the baseline scenario summed to the current year



- The amount of CO₂ in the forest fluctuates with the harvesting cycle.
- After project implementation, carbon stocks are increased, which increases timber products in the long term.

Secondary Effects: Improved Forest Management Activities

| Reporting Period | Greater of Actual or Baseline | | Secondary Effect |
|------------------|-------------------------------|------------|---|
| | Annual | Cumulative | |
| 1 | Baseline | Baseline | Negative secondary effect resulting in deduction |
| 2 | Actual | Baseline | Positive secondary effect resulting in recouping of previously deducted |
| 3 | Actual | Actual | No secondary effects: the positive secondary effect accumulates |
| 4 | Baseline | Actual | No secondary effects: the cumulative positive secondary effect of the previous year applies |
| 5 | Baseline | Baseline | Negative secondary effect resulting in a deduction |



MRV

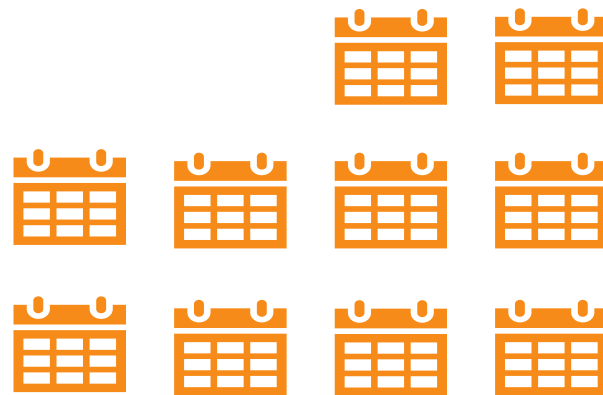
PROTOCOL DEVELOPMENT CONSIDERATIONS

Reporting Period

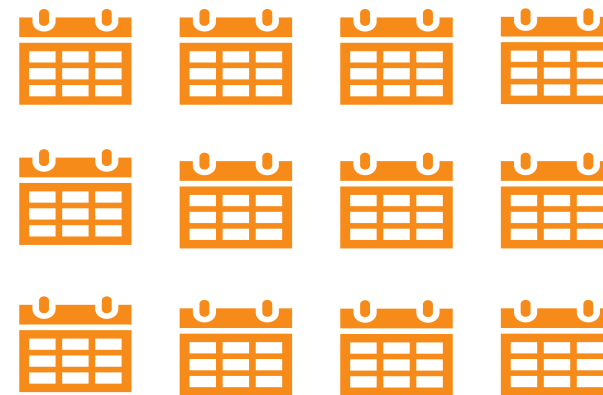
A Reporting Period is a period of time in which the Forest Owner quantifies and reports GHG removals:

- They have a duration of 12 months
- Exception: the first Reporting Period, which may be up to 12 months from the Project Start Date.

Reporting Period 1 :

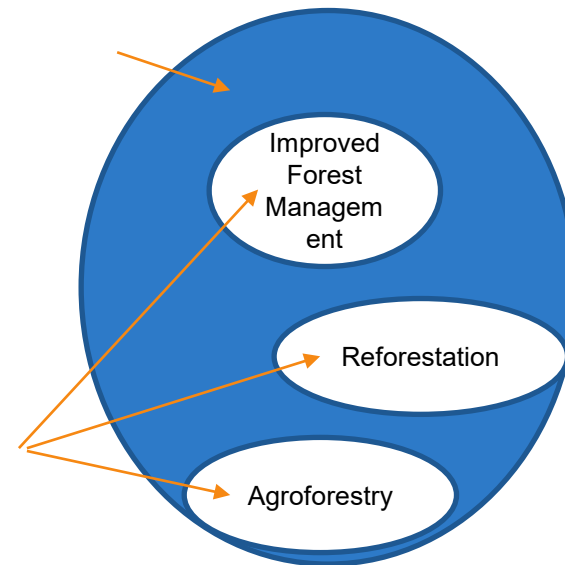


Reporting Period 2-X :



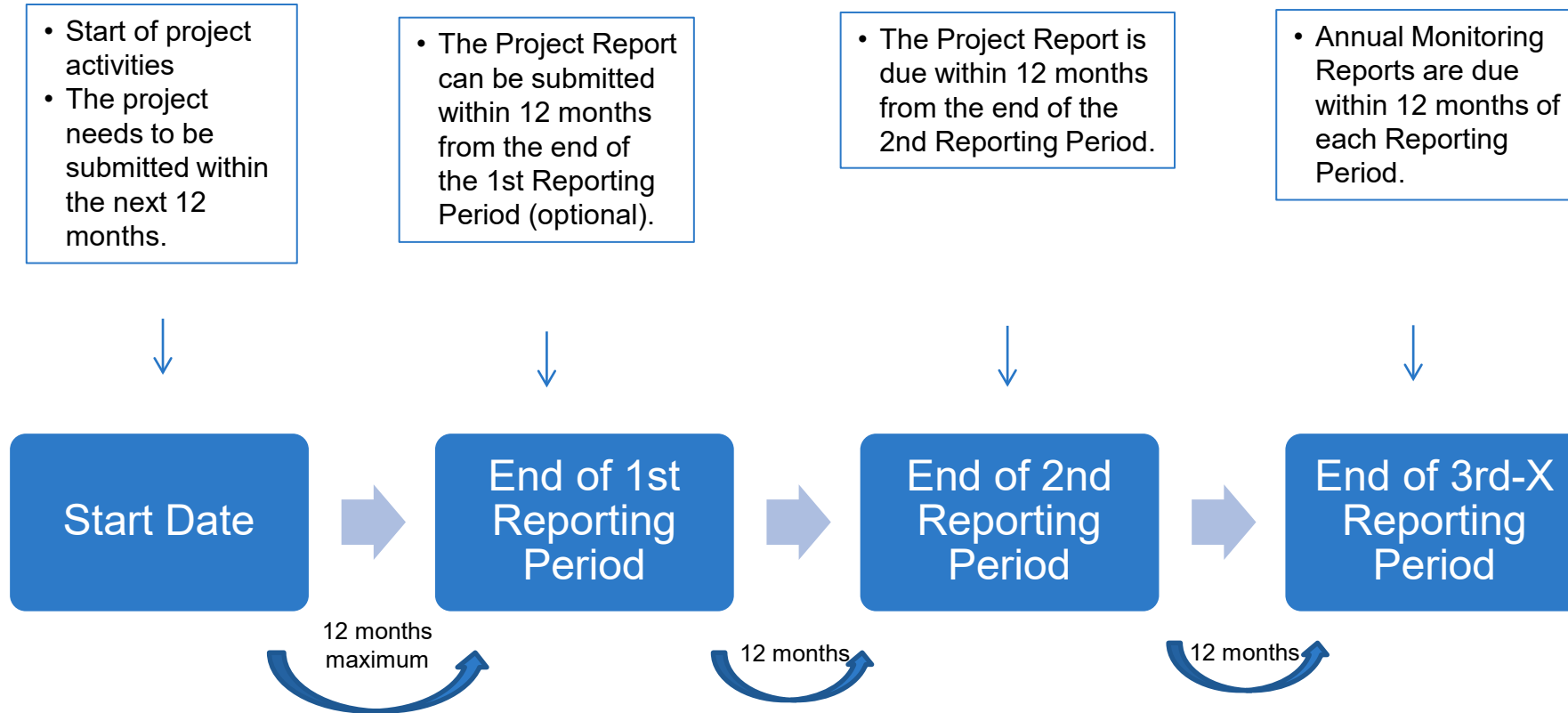
The Project Area and the Activity Area serve as two distinct levels of monitoring:

- Project Area:
 - Monitoring of forest cover for leakage (environmental safeguard 4)
- Activity Area:
 - Quantification of carbon stocks
 - Native species reports (environmental safeguards 2 and 3)



- **Project Submission Form:** Is required to determine whether the project meets the eligibility criteria.
 - Must be submitted within the 12 months after the start date.
- **Project Report :** the main document describing the project
 - Defines the Project Area and Activity Areas, how eligibility requirements are met, additionality, permanence, and shows the quantification of the baseline and project carbon stocks.
 - To be submitted within 12 months after the end of the first or second Reporting Period.
- **Annual Monitoring Report:** the basis for reporting project updates on an annual basis
 - To be submitted within 12 months after the end of each Reporting Period.

Monitoring Cycle



Verification refers to the inspection and review of all sampling and calculation activities as well as of reported information and eligibility criteria:

Initial Verification

- It is a Full Verification
- 12 months from the end of the Reporting Period in which the Project Report was submitted.

Full Verification

- Required every 6 Reporting Periods.
- or if new Activity Areas are added to the project

Desktop Verification

- Optional annual verification of monitoring reports
- Required to receive credits prior to on-site verifications
- 12 months from the end of the Reporting Period



SUMMARY AND NEXT STEPS

Timeline of protocol development



Next steps

- ***For Interested Stakeholders:***
 - Still can submit Local Engagement Form
 - Email interest to sign up for updates as an observer
 - Email us feedback anytime
- ***For Reserve:***
 - Compile summary notes on discussion
 - Post recording, notes, and presentation to the webpage
 - Start drafting protocol with workgroup considerations
 - Prepare for next workgroup meeting: **In-person & Remote June 30th**
 - Set meeting for sub-committee on land tenure/clarification of carbon ownership
- ***For Workgroup:***
 - Email feedback on today's discussion by **June 16th**
 - Look out for invitation for next meeting: **June 30th**



QUESTIONS OR COMMENTS?

Amy Kessler: akessler@climateactionreserve.org

Celeste Melendez: cmelendez@climateactionreserve.org