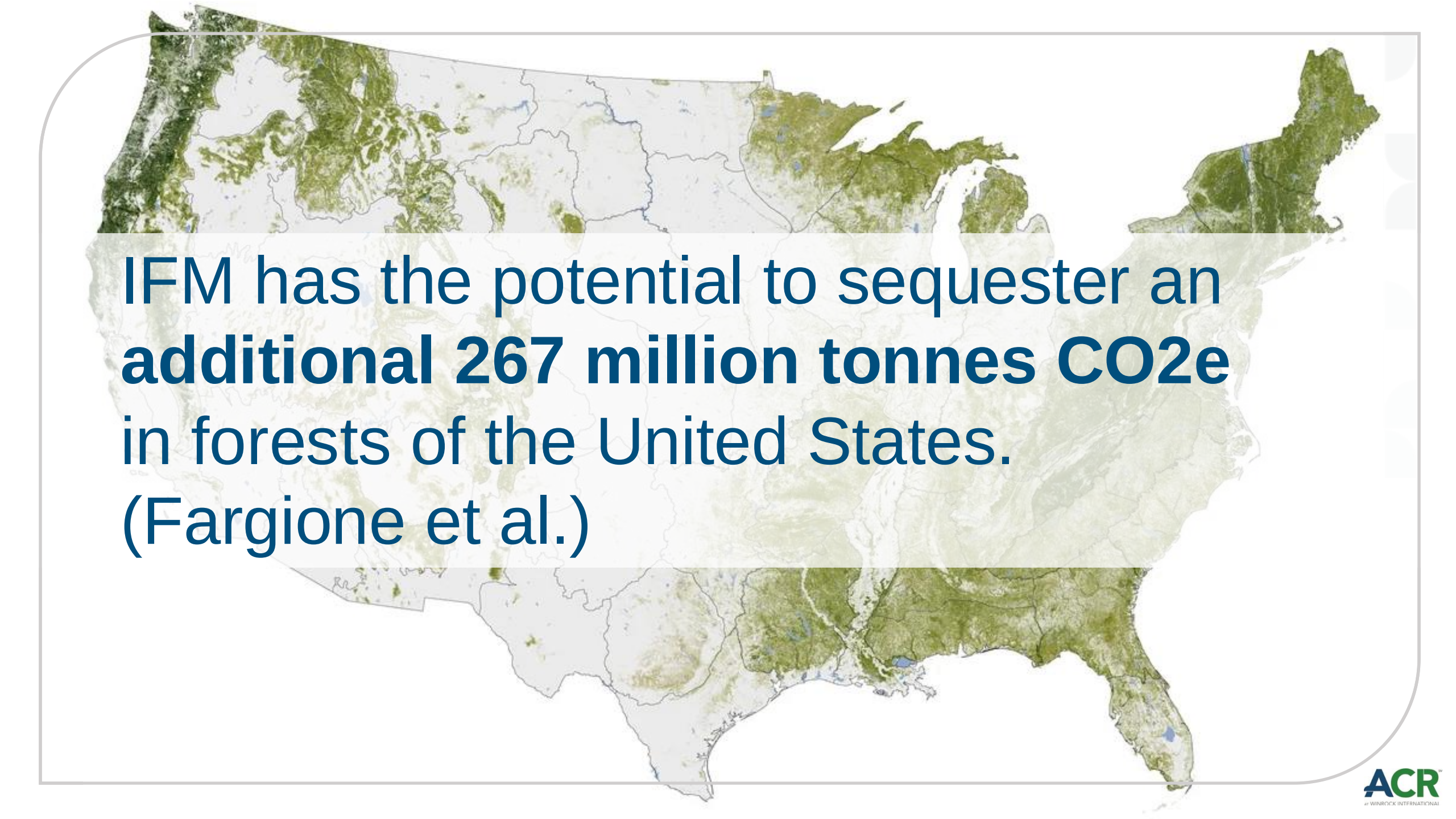
ACR℠
AT WINROCK INTERNATIONAL

Improved Forest Management on Non-Federal U.S. Forestlands (version 2.1)

Mary Grady, Kurt Krapfl & Andrew Taylor

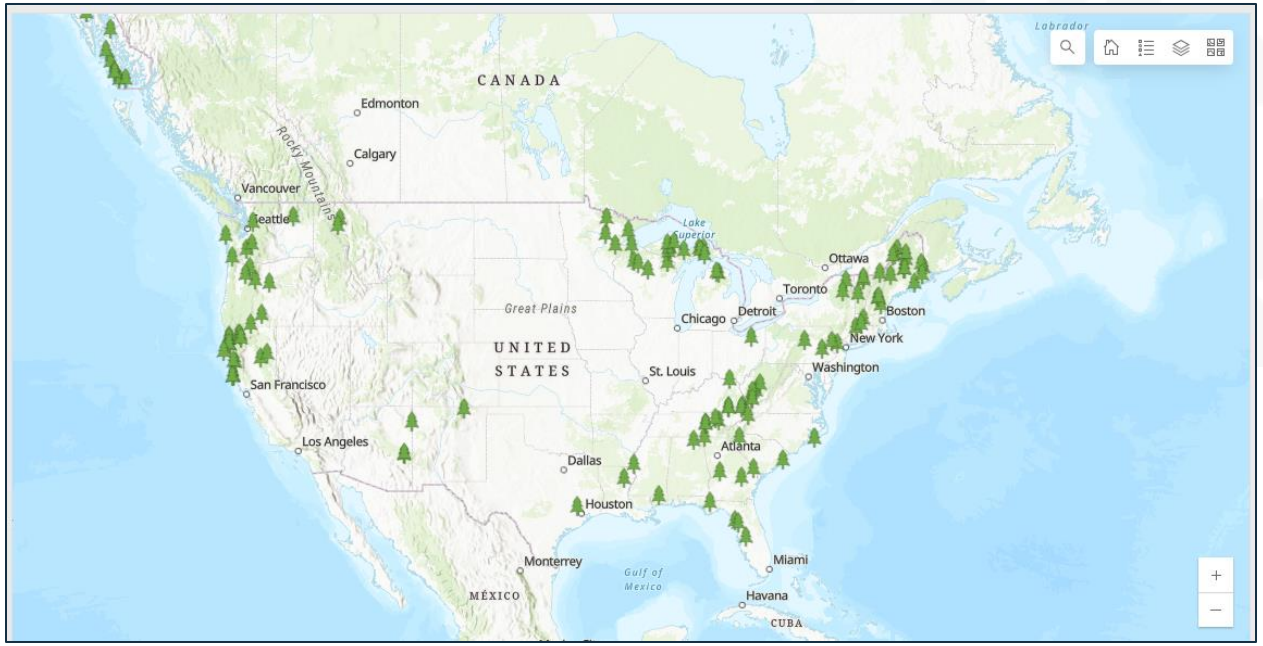
September 19, 2024



IFM has the potential to sequester an **additional 267 million tonnes CO2e** in forests of the United States. (Fargione et al.)

ACR Improved Forest Management

- 1st IFM methodology in 2010; 7 updates since then
- 8+ million acres of forestland in the U.S. and Canada across nearly 200 projects
- A systematic and objective framework
- IFM version 2.1 is now required for new projects



Key Takeaways

The **same, workable approach** that has been applied to forests across the United States and Canada, with additional requirements for **rigor and precision** based on experience and new tech.

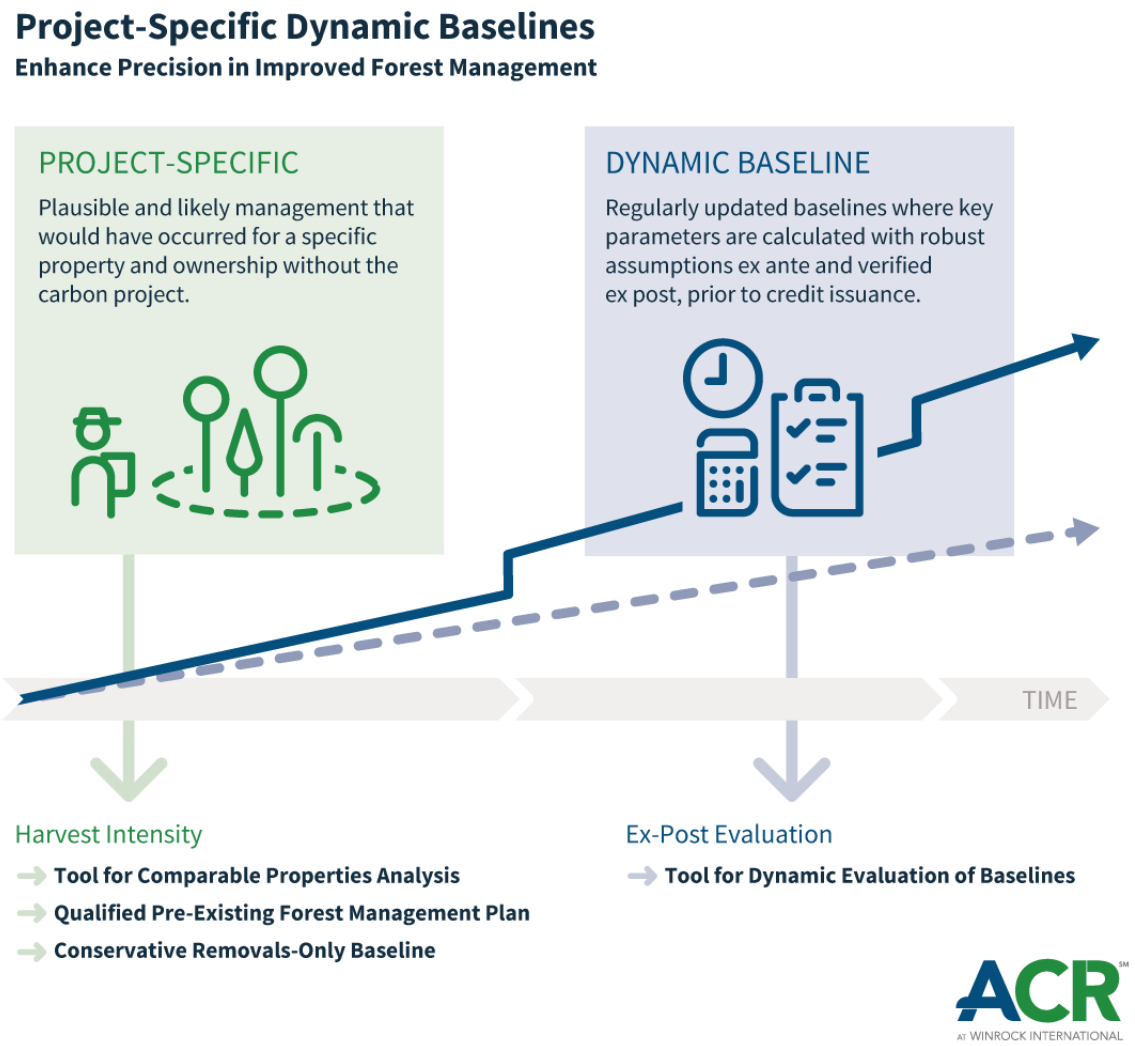
The updated IFM methodology **meets market expectations for quality,** through enhanced requirements for rigor and precision.

A carbon crediting methodology **only has impact if it is used**. Requirements must be both **practical and precise**.

Key Innovations

1. **Project-Specific** safeguards on baseline harvests over time

2. **Dynamic Baseline**, where key parameters are determined ex ante and **verified ex post,** prior to each credit issuance



Project-Specific

- **A precise and conservative baseline**
  - Robust **forest inventory**
  - Legal, physical, and financial **constraints**
  - Appropriate **silviculture**, as substantiated by a Professional Forester
  - **Harvest intensity** limit on amount of harvest that can occur over time

Dynamic Baseline

A baseline that is **regularly evaluated and updated over time**, reflecting changing conditions relevant to baseline forest management

Practical checklist where key baseline-setting parameters evaluated ex-ante and verified ex-post, prior to each issuance

A methodology is **only useful if it is used**, so it **must work for buyers and landowners**

Setting a Precise & Conservative Baseline

1. Conduct a forest inventory – there is no substitute for boots-on-the-ground observations & data.

2. Specify silvicultural prescriptions appropriate for the region and property with professional forester input.

3. Develop property-specific harvest schedule respecting all constraints, including Harvest Intensity.

4. Dynamically evaluate key assumptions.

Harvest Intensity

A new constraint on the amount of harvesting that can occur in the baseline over time and space.

$$\frac{\%\ \text{Biomass Removed}}{\text{Acre}} \times \frac{\%\ \text{Stratum Acres Affected}}{\text{Year}} = \text{Harvest Intensity}\ (\%)$$

Captures variables that are hard to directly measure.

3 Paths to Harvest Intensity

1. Use the *Tool for Comparable Properties Analysis.*
2. Reference a qualified, pre-existing forest management plan prepared by a professional forester.
3. Establish a removals-only baseline.

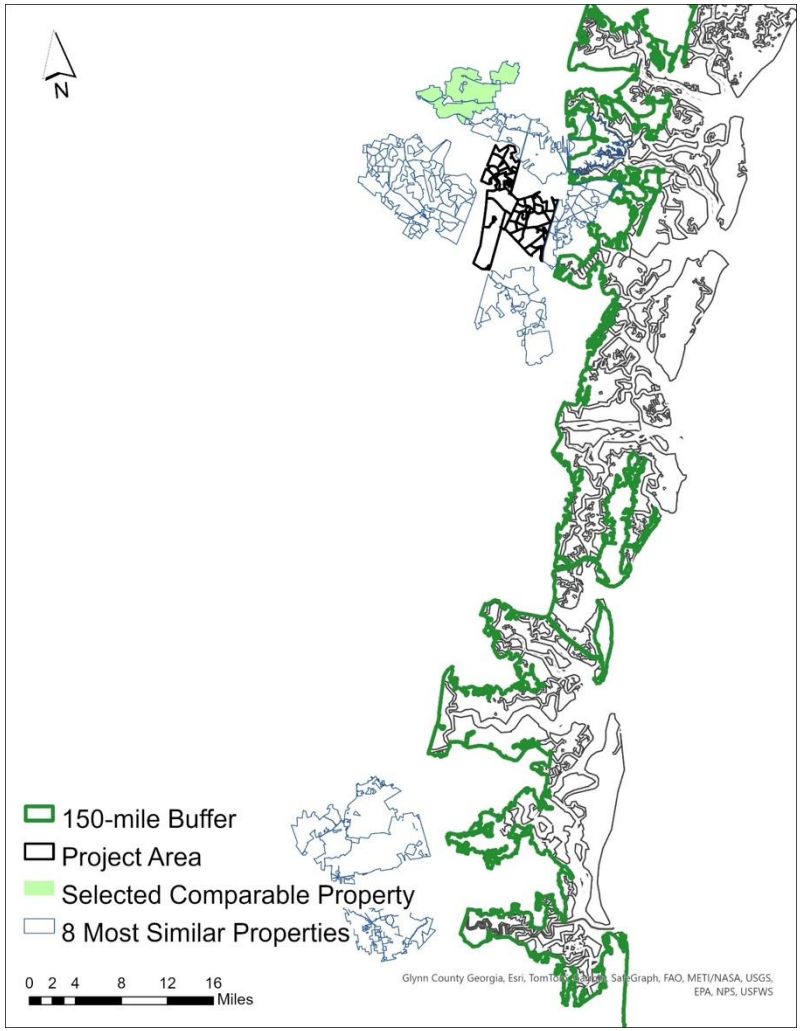
Comparable Properties Analysis

Tool for Comparable Properties Analysis - a detailed geospatial analysis for calculating harvest intensity based on observed harvests on similar properties.

Eligible properties identified based on size, ecological region, location, and ownership.

8 most similar properties matched on size, distance to the project area, slope & elevation, aboveground biomass density, merchantability, and forest type.

Comparable Properties Analysis (cont.)



Matched properties undergo outlier detection for harvest rates. Any outliers are discarded.

Accompanying *Comparable Properties Analysis Calculator* translates geospatial data into harvest intensity constraints.

Result: Baselines can only be as aggressive as the observed harvest intensities on the most similar properties.

Comparable Properties Analysis (cont.)

Lots of different datasets pulled together, including:

USGS science for a changing world

National Land Cover Database
(stratification layer)

GLAD GLOBAL LAND ANALYSIS & DISCOVERY

Global Land Analysis & Discovery
(forest loss layer)

FOREST SERVICE US DEPARTMENT OF AGRICULTURE

Landscape Change Monitoring
System (forest loss layer)

Many more for disturbance identification, similarity criteria, etc.

ACR at WINROCK INTERNATIONAL

Pre-Existing Forest Management Plan

Must have been prepared by a professional forester prior to carbon project development.

Reflects management intent in the absence of the carbon project.

Must contain specific recommendations for the spatial extent or volume of biomass to be removed over time.

Removals-Only Baseline

Develop and validate a baseline harvest schedule considering all constraints.

If the modeled baseline harvests more than growth, the baseline is conservatively set at initial carbon stocks.

If the baseline harvests equal to or less than growth, the modeled baseline can be used as is.

Only generates removals credits, not reductions.

Dynamic Evaluation

Tool for Dynamic Evaluation of Baselines – a framework for evaluating and updating the baseline over time.

Constraints are evaluated ex-post, prior to credit issuance:

- Legality
- Operability and Access
- Regional Timber Market Capacity
- Forest Management Practices
- Financial Feasibility

Dynamic Evaluation (cont.)

Involves 2 processes:

Observed Conditions Assessment – Ex-post comparison of previous ex-ante projections to observed conditions during the Reporting Period, with required adjustments as necessary

Periodic Modeling Assessment – Remodeling to generate new ex-ante projections that incorporate all recent adjustments (every 5 years)

Credits are **always** issued after an ex-post evaluation, not just using frequently updated projections.

Key Takeaways

The ACR IFM approach continues to be **workable and scalable** with further refinements for **increased precision and rigor**.

Harvest Intensity adds a new conservative constraint for baseline harvest rates.

Dynamic Evaluation makes sure the baseline is accurate over time and prior to credit issuance.

The updated IFM methodology **meets market expectations for quality** while building off our successful existing program.

The Bottom Line

To achieve Paris Agreement goals, carbon markets must grow.

ACR only achieves impact if people use the methodology and buy and retire resulting credits.

The updated methodology reflects a balance between demands of buyers and landowners to set conservative, precise baselines.


Q&A

ACR℠
AT WINROCK INTERNATIONAL

Thank you!

ACRforestry@winrock.org

ACRcarbon.org

/company/acrcarbon