

Overview of the Climate Action Reserve



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Joel Levin

Vice President of Business Development

Forestry Offsets Workshop

Raleigh, North Carolina

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Presentation Overview

1. What are Offsets?
2. Background on the Climate Action Reserve
3. What is different about the Reserve?
4. Our protocols
5. The project registration process



What is an Offset?

- An offset represents a reduction, avoidance, or removal (sequestration) of one metric ton of carbon dioxide equivalent emissions resulting from a specific project activity that is used to compensate for an equivalent emission occurring elsewhere.
- It is intangible, so its existence is determined by its ability to satisfy definitional tests.
- The Big 5 Tests:
 - *Real, Permanent, Additional, Verifiable, Enforceable*



The Big 5 Tests

- REAL
 - It can be accurately measured.
- ADDITIONAL
 - Occurs outside of any regulatory requirement
 - Including outside capped sector
 - Would not have occurred but for the incentive provided by a GHG market.
- VERIFIABLE
 - It can be independently verified.
- ENFORCEABLE
 - Its ownership is undisputed.
- PERMANENT



Role of Offsets

- Offsets are part of the solution to climate change
 - Obtain reductions in unregulated sectors
 - Spur/demonstrate new technologies
- Must ensure environmental integrity to be effective
- Voluntary Market
 - Support climate neutral claims
- Compliance Programs
 - Provide economic efficiency, price pressure relief
 - Reduce more emissions faster

Background on the Climate Action Reserve



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- Chartered by state legislation in 2001
 - Mission is to encourage early voluntary actions to reduce emissions and to have such emissions reductions recognized
 - Initially focused on emission reporting and reductions by member organizations
 - Now on emission reduction projects generating offsets
- Balances business, government, and environmental interests



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Board of Directors

- California EPA
- Duke University
- Environmental Defense Foundation
- Goldman Sachs
- Metropolitan Water District
- National Institute of Ecology of Mexico
- Natural Resources Defense Council
- New Resource Bank
- NRG Energy
- Pacific Gas & Electric
- Shell Oil Company
- Sierra Club



Objectives of the Reserve (i.e. Why are we doing this?)

- Show that carbon offsets can be a useful tool in addressing climate change
- Be a model offset program that has environmental integrity but is not burdensome to use
- Be the premier place to register carbon offset projects for North America
 - For project developers: Add value to their projects
 - For buyers: Give them more confidence in the offsets they are buying
- Be a technical resource, not an advocacy organization



What We Do

- Develop High Quality Standards
- Manage Independent Third Party Verification
 - Training and oversight of independent verification bodies
 - Convene stakeholders and lead development of standardized protocols for carbon offset projects
- Operate a Transparent Registry System
 - Maintain registry of approved projects
 - Issue and track serialized credits generated by projects

What makes the Reserve different?

Recognition



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Recognized and Supported by:

- California Air Resources Board
- State of Pennsylvania
- Voluntary Carbon Standard (VCS)
- Leading environmental organizations:
 - Environment America
 - Natural Resources Defense Council (NRDC)
 - Environmental Defense Fund
 - Union of Concerned Scientists
 - Sierra Club
 - Wilderness Society

What makes the Reserve different?

Transparency



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- Unparalleled transparency makes the Reserve unique
- Public reports include:
 - All protocols and associated documents
 - List of all account-holders
 - List of all projects and all project documents
 - List of all issued CRTs for every project
 - All retired CRTs

What makes the Reserve different?

Performance Standard



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- Why a performance standard is different
 - The hard work is upfront
 - Assess industry practice as a whole, rather than individual project activities
- Less subjective determination to qualify
- More certainty in amount of credits
- Lower risk for developers and investors
- Faster project processing

What makes the Reserve different?

Separation of Roles

- Reserve does not fund or develop projects
- Does not take ownership of offsets
- Is not an exchange
- Is a 501(c)3 not-for-profit organization
- Independent third-party verification
 - Consistent with international standards
 - Accreditation done by ANSI
 - Conflict of interest analysis on every project
 - Assiduous oversight of verifiers



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What makes the Reserve different?

Connecting Markets



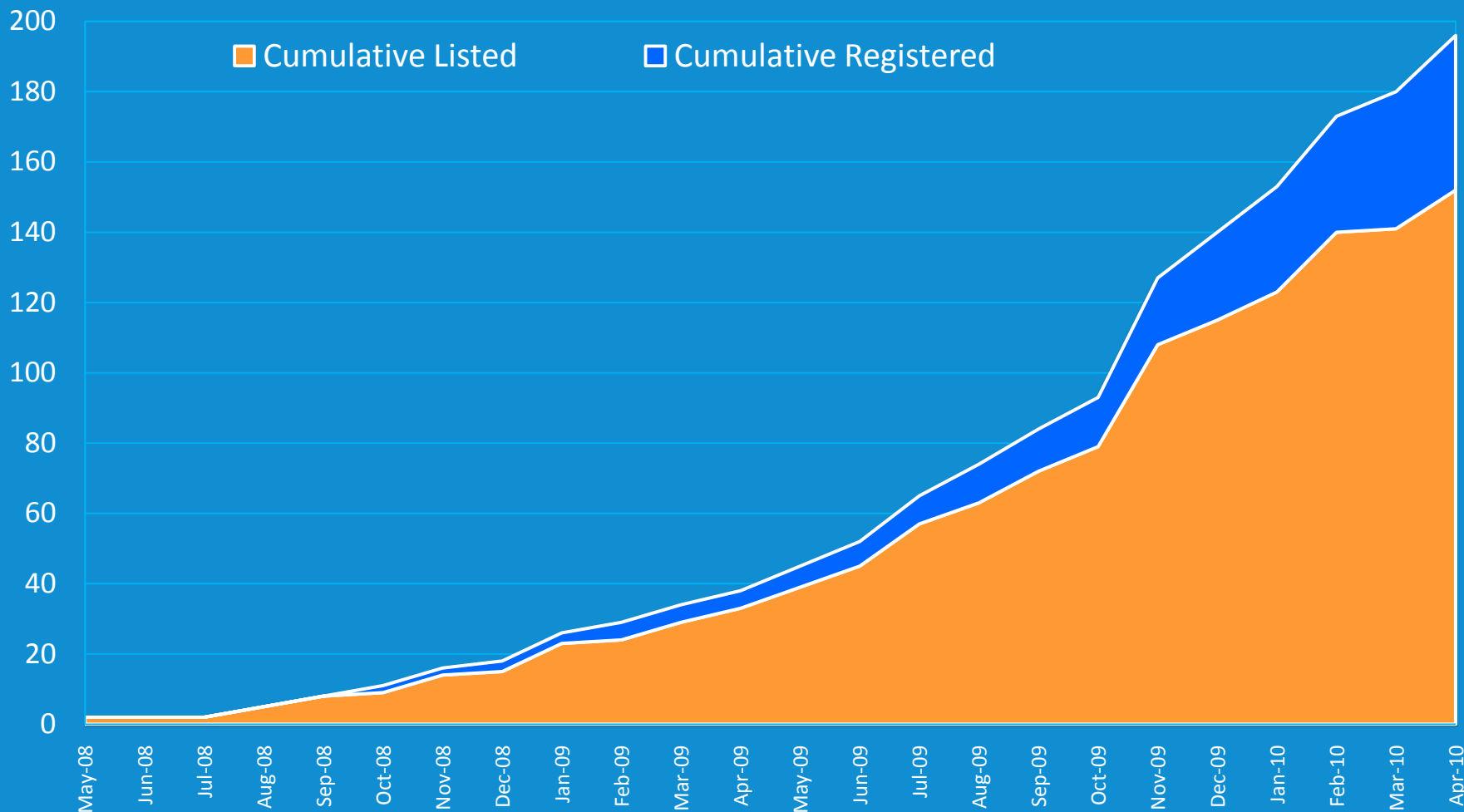
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- CRTs are used in voluntary market today
 - Some investors view CRTs as a pre-compliance instrument
- In the future, projects may be usable for compliance in California, Western Climate Initiative or in a national system
 - Regulators have yet to make decisions
 - But, the Reserve “is considered the premier pre-compliance offset standard.” (*State of the Voluntary Carbon Markets 2009*)

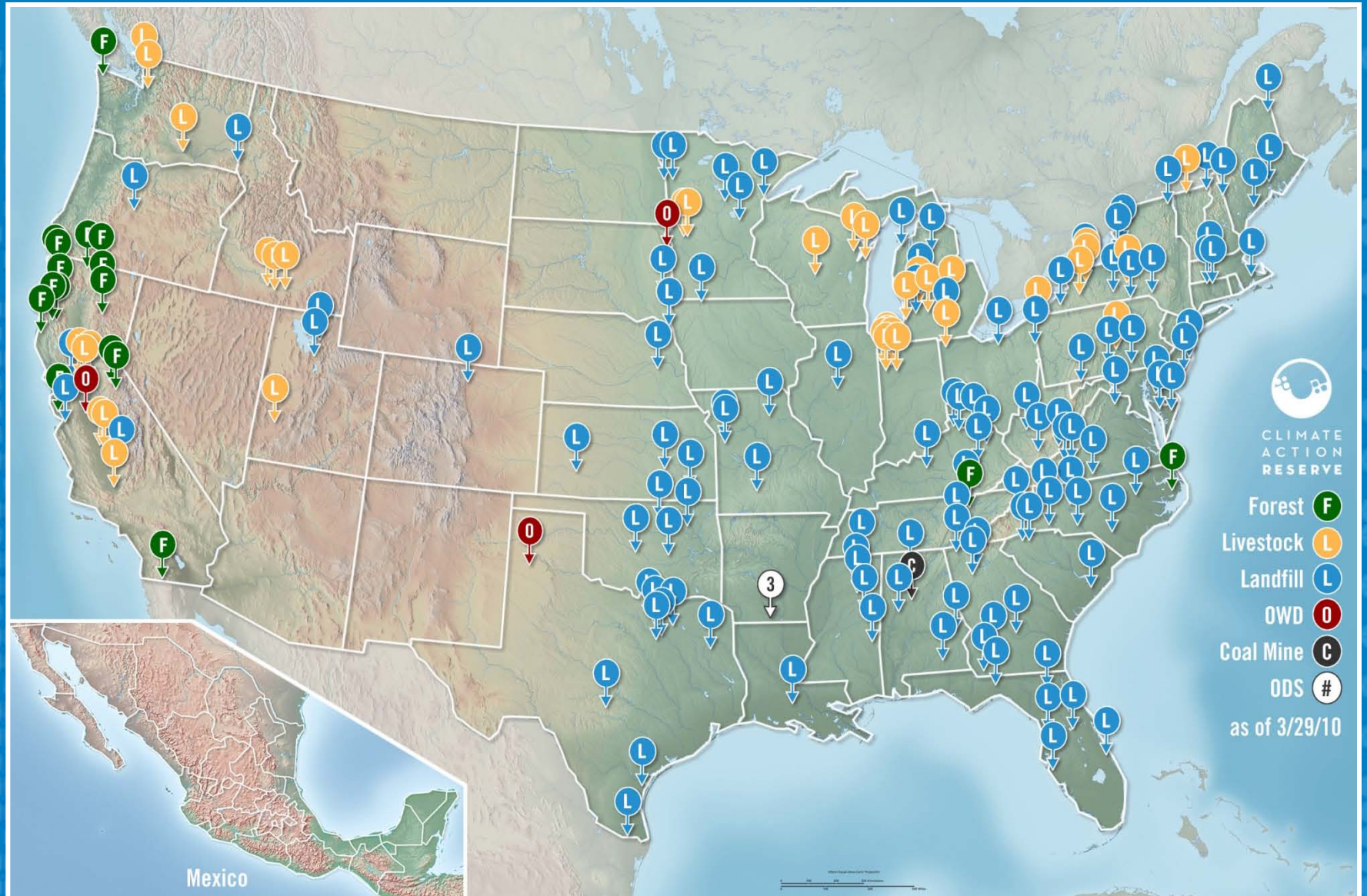
Offset projects in the Reserve



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Listed & Registered Projects





Reserve stats

Launch date	May 2008
CRTs registered	~5 million
Account holders	327
Projects submitted	353
Forest	135
Exchanges	•Chicago Climate Futures Exchange (CCX) •Green Exchange (NYMEX, CME)
Recent prices	\$5-8 per CRT



Our Protocols

- Developed with broad public input
- Goal is to create a uniform standard that is widely recognized and builds on best practice
 - We incorporate the best elements of other protocols
 - We do not adopt protocols from other programs (i.e. CDM, Gold Standard, VCS, etc.)
- Designed as step-by-step instructions on project development



Protocol Development Process

1. Literature review
2. Scoping/kick-off meeting
3. Multi-stakeholder workgroup formation
4. Draft protocol to workgroup
5. Revised draft released for public comment
6. Public workshop
7. Adoption by Reserve board in public session
 - It is unique for a non-profit Board to meet in public
8. Possible adoption by California Air Resources Board or other government agency in public session



Existing Protocols

- Forestry
 - Improved forest management
 - Avoided conversion
 - Reforestation
- Urban forestry
- Landfill gas capture (US & Mexico)
- Livestock methane capture (US & Mexico)
- Organic waste digestion
- Coal mine methane
- Nitric Acid Production
- Ozone Depleting Substances (US & Article 5 sources)

Protocols under consideration for 2010



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Agriculture and Biological Sequestration

- Composting*
- Soil sequestration
 - Cropland
 - Rangeland
 - Biochar
- Tidal wetlands restoration

** In-progress*

Industrial Processes

- Boiler efficiency
- Natural gas T&D systems

Transportation

- Truck stop electrification

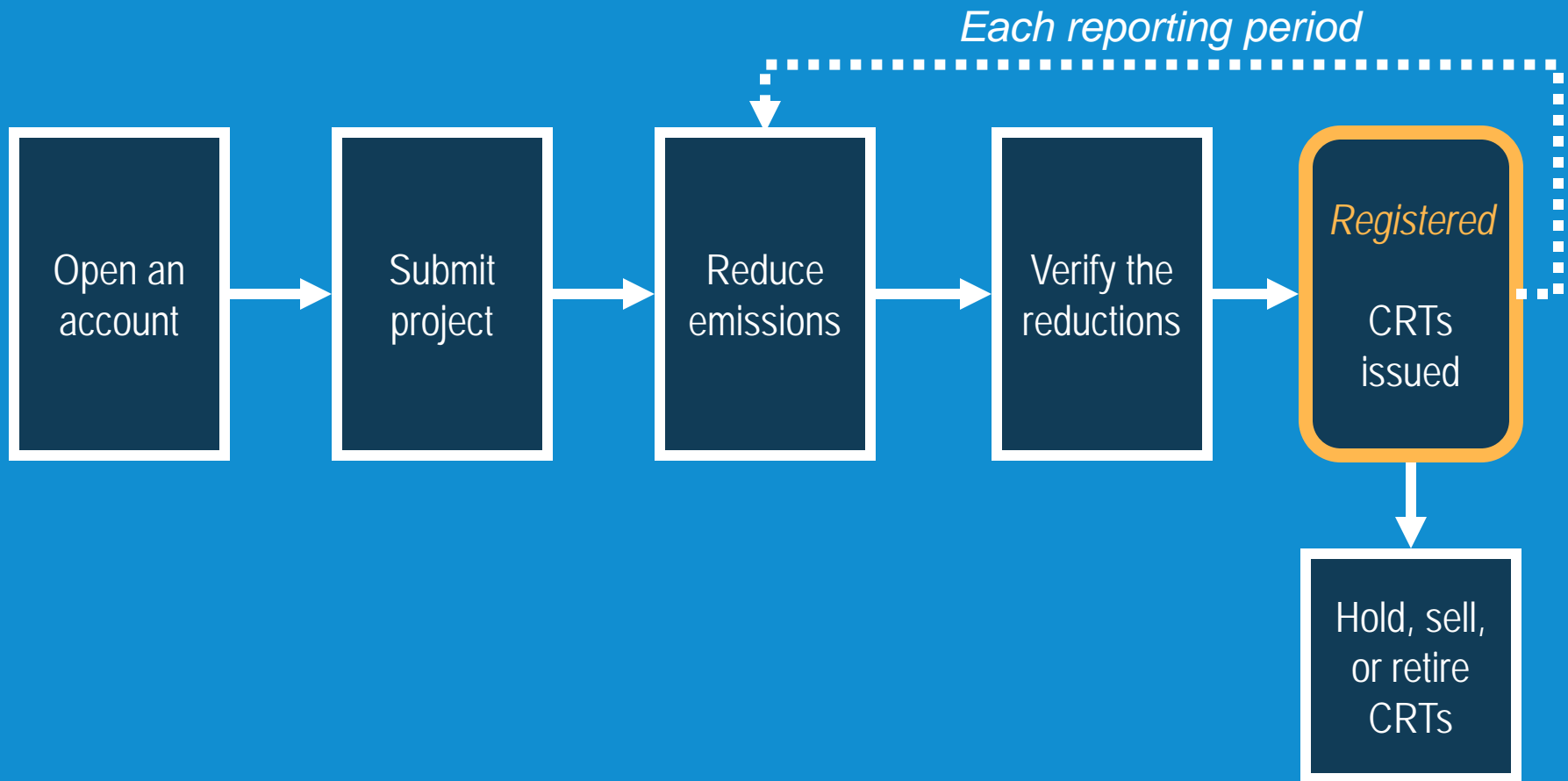
International Expansion

- Mexican Reforestation
- Canadian protocols

The Reserve process



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Transferring Credits

- Developer contracts to sell CRTs with an interested buyer
 - Financial transaction is outside of the system
 - Buyer must have an account on the system or seller can retire them on behalf of buyer
- Developer instructs the system to transfer the CRTs into the buyer's account
- Buyer can hold them, retire them or transfer them to someone else
- CRT futures and options can be traded on the CCFE or Green Exchange



Fee Structure

- Account Maintenance: \$500/year
- Project Listing: \$500/project
- CRT Issuance: \$0.20/tonne
- CRT Transfer: \$0.03/tonne
- Retirement: Free

Contact Information



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Joel Levin

jlevin@climateactionreserve.org

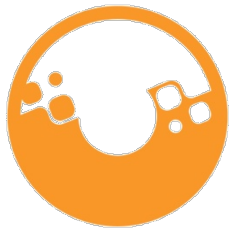
www.climateactionreserve.org

523 W. 6th Street, Ste. 428
Los Angeles, CA 90014
(213) 891-1444

Forest Project Protocol v3.1

Joel Levin

Vice President, Business Development



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Forest Landowner Workshop

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Public Process to Create the Protocol



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- Work group meetings
 - Every 3 weeks in day-long sessions
 - Meetings open to public observers
- Work group included representatives from:
 - Timber industry, forestry consultants, conservation groups, state & federal government agencies, environmental groups, verifiers, and universities
- Public review and comment
- Five public workshops





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Forest Project Types

- **Improved Forest Management**
 - Activities that increase forest-based sequestration and/or decrease emissions
- **Reforestation**
 - Less than 10% canopy cover for at least 10 years, or following a significant natural disturbance that has removed at least 20% of the trees
- **Avoided Conversion**
 - Removing a significant conversion threat to non-forest use and dedicating the forest to continued forest cover.





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Additionality

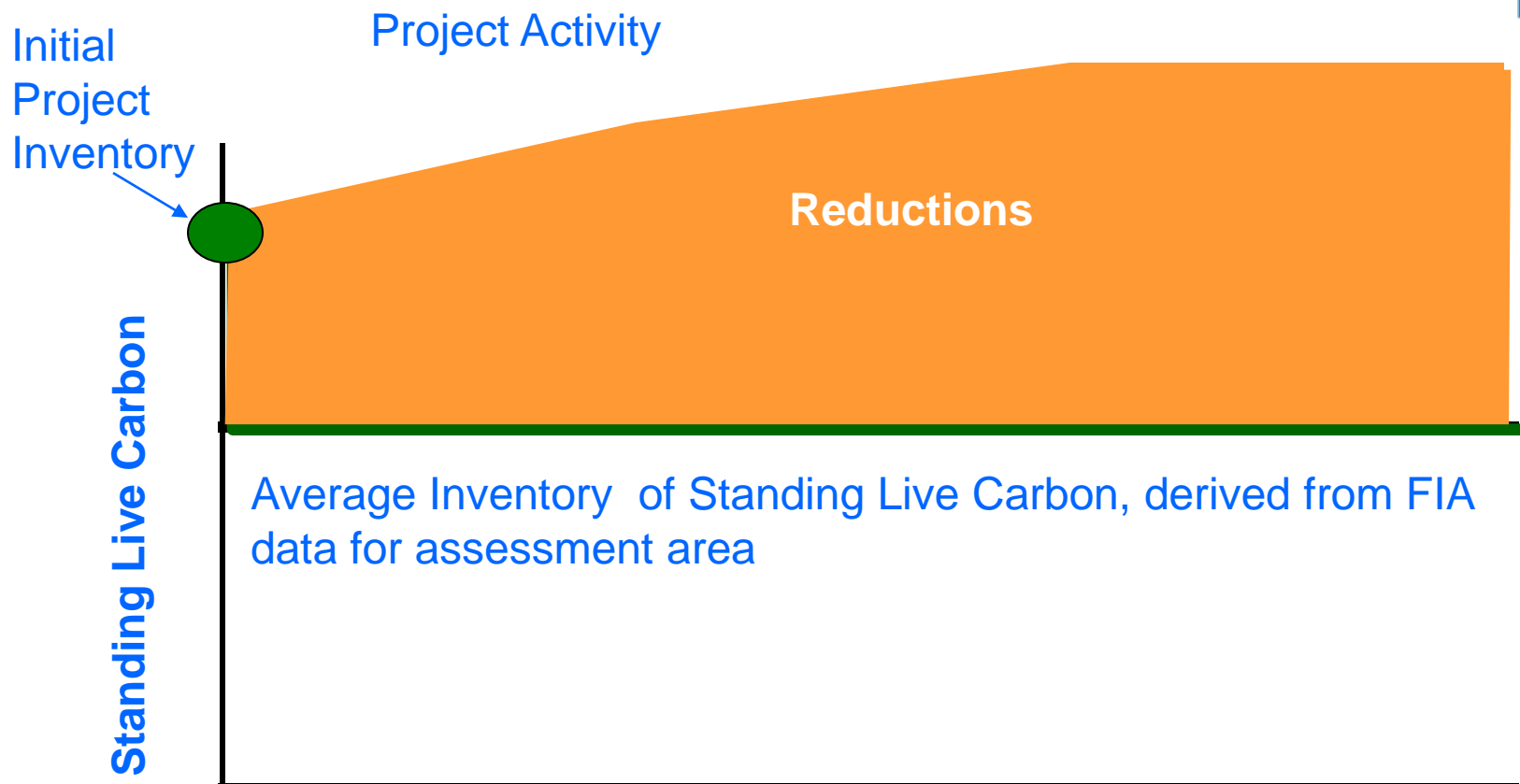
- Carbon credits are awarded for activities that go beyond:
 - Legal requirements
 - Standard practice
- Legal requirements include any requirements to:
 - Reforest
 - Buffer watercourses
 - Protect for endangered species
 - Manage under a binding deed restriction or conservation easement
- Standard practice is defined by FIA data on stocking levels



Improved Forest Management Projects



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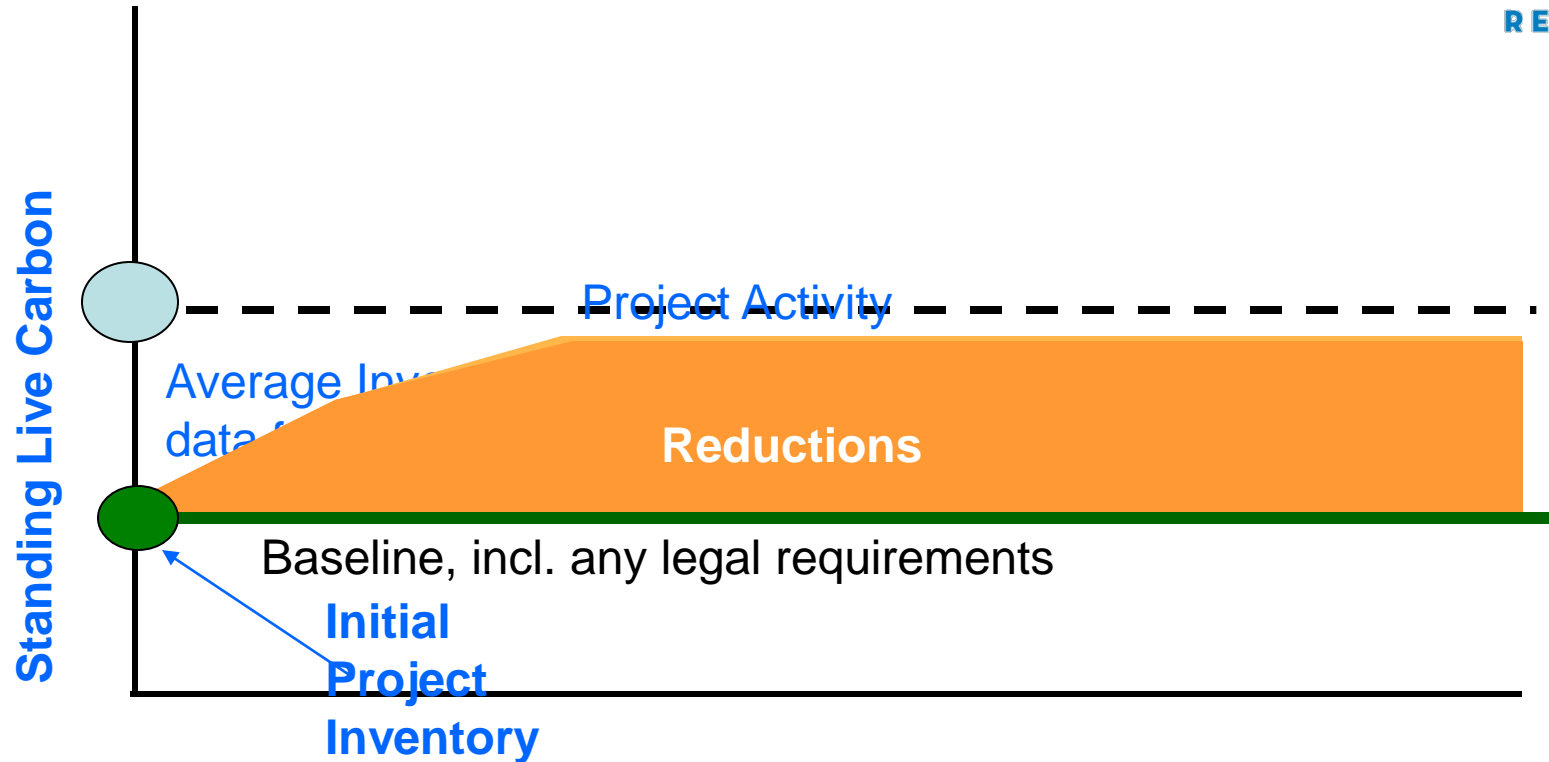
- In this scenario, the project will generate credits for both stock retention and growth



Improved Forest Management Projects



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- In this scenario, the project will generate credits for growth only



Baseline Setting

FIA Data and Common Practice



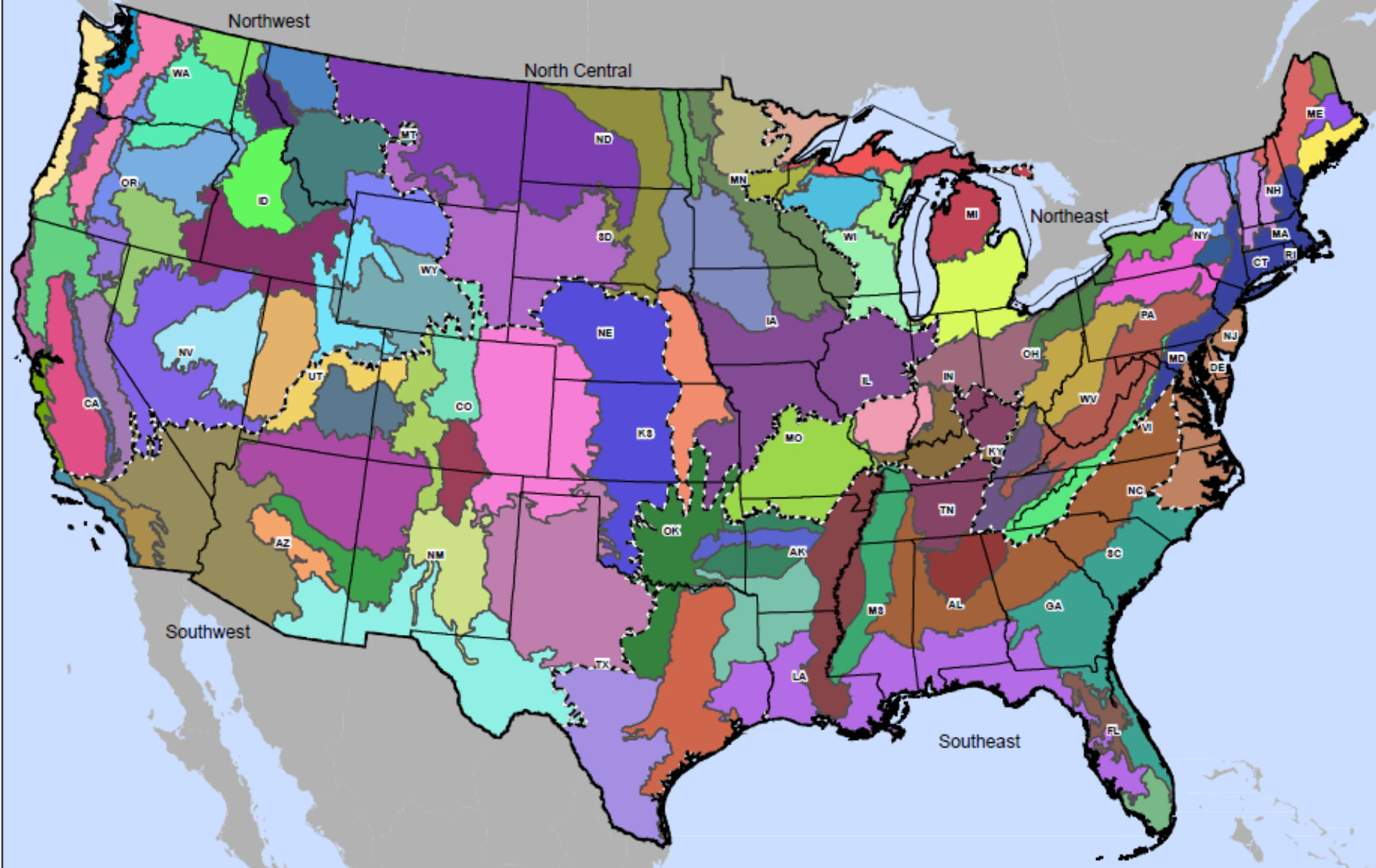
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- FIA data selected because:
 - Wide application
 - Longevity
 - Unbiased
 - Standardized






Defining an Assessment Area

- Assessment Areas are units of land that are the basis for calibrating project accounting to local values in IFM
- These factors are used for purposes of baseline determination, assessing fire risks, addressing diversity requirements, and more
- Assessment areas are land units with similar environmental, economical and regulatory drivers

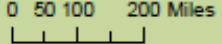


Legend

-  Supersection Boundary
-  U.S. State Boundary
-  Key to Larger Scale Maps



0 50 100 200 Miles



Climate Action Reserve FIA Supersections

Created for Climate Action Reserve Forest Project Protocol



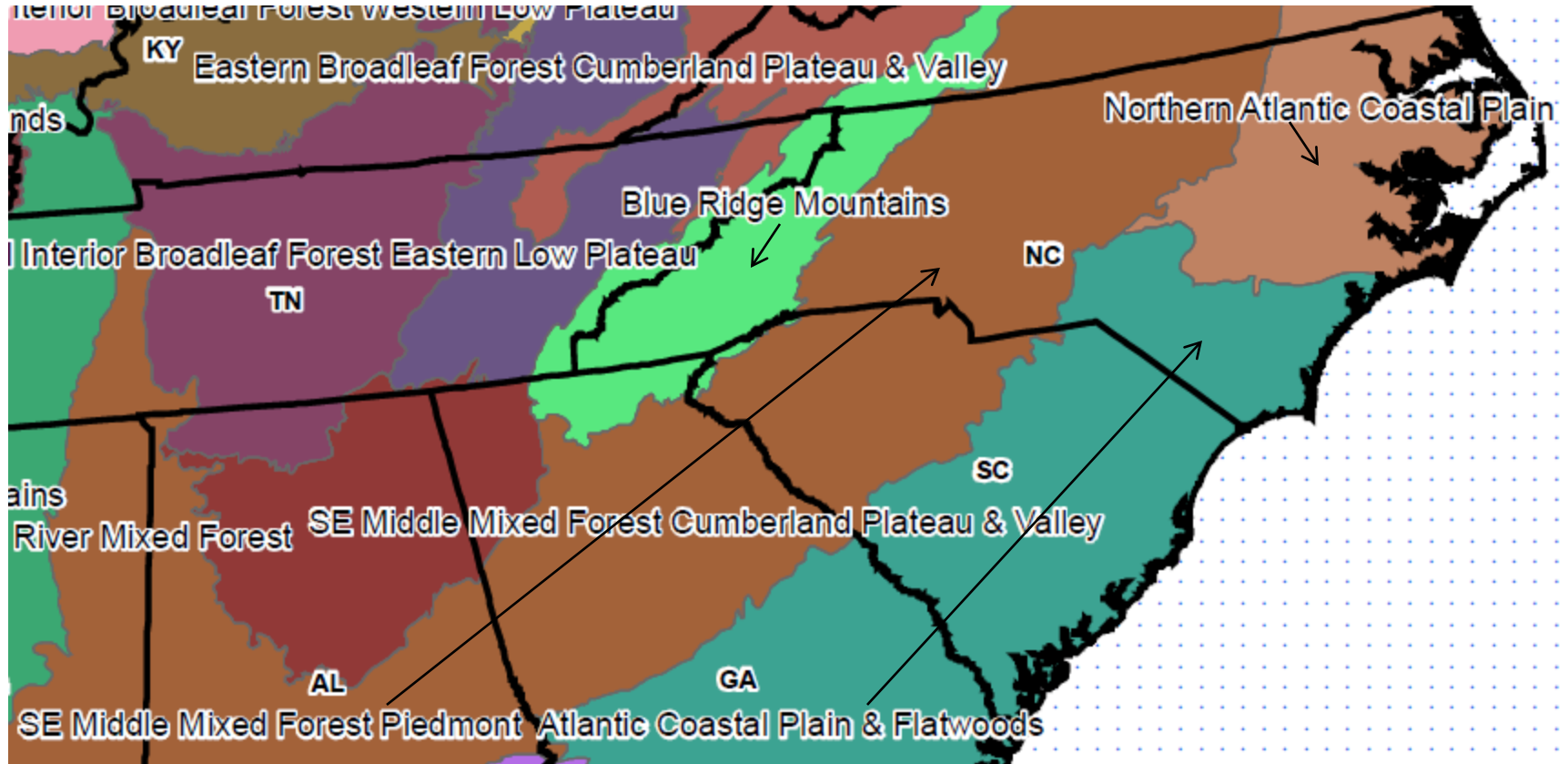
Adapted from:
Ecological Subregions: Sections and Subsections
of the Conterminous United States.
U.S. Department of Agriculture, Forest Service, 2007.

Produced by: Dogwood Springs Forestry, February 2010.
Projection: Albers

North Carolina Supersections



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North Carolina Common Practice



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Supersection	Assessment areas	Common Practice: Mean above-ground carbon (metric tons)
Blue Ridge Mountains	5	Between 21 and 34
SE Middle Mixed Forest Piedmont	5	Between 14 and 29
Atlantic Coastal Plain & Flatwoods	6	Between 12 and 27
Northern Atlantic Coastal Plain	6	Between 15 and 32





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Onsite Standing Live Carbon

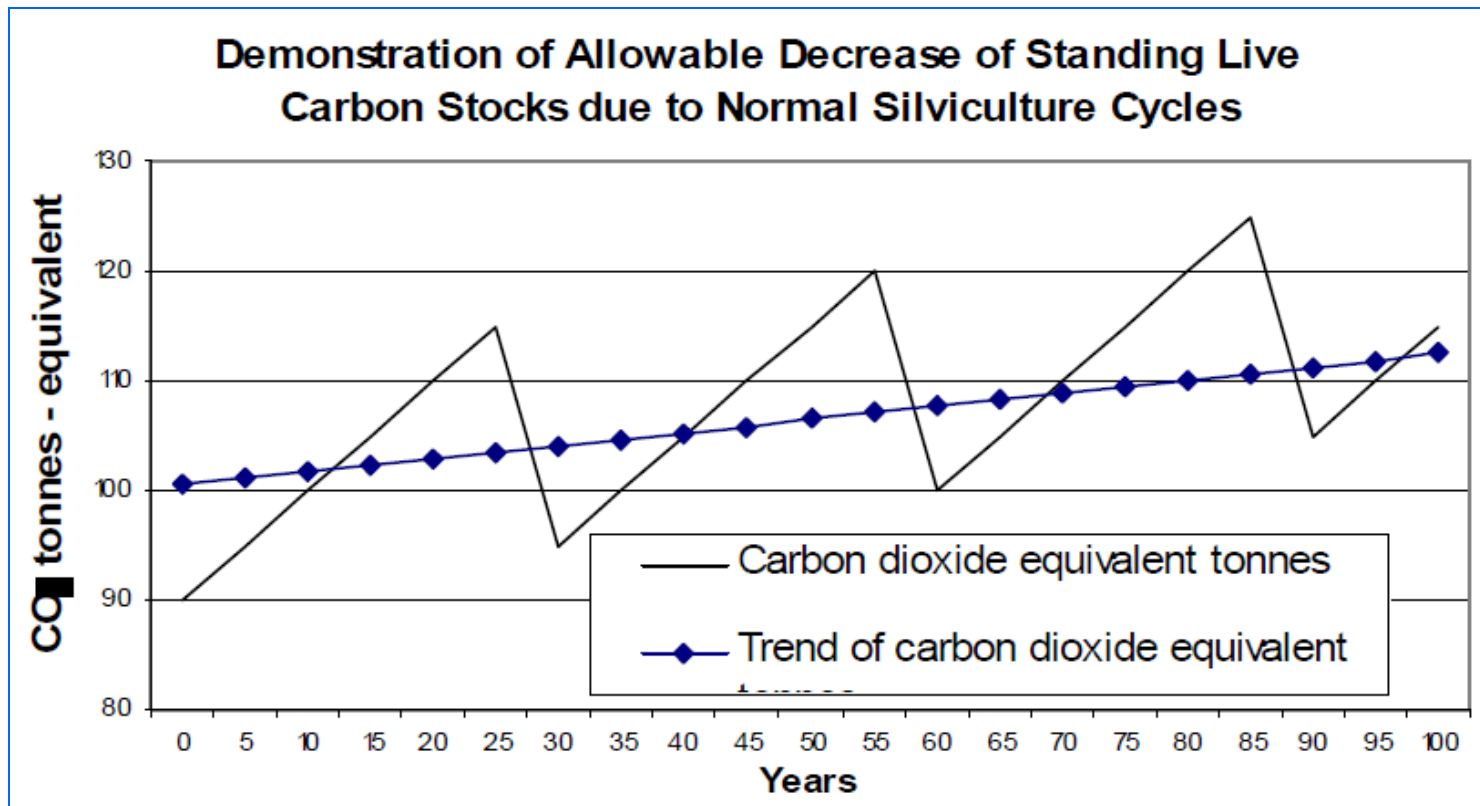
- Onsite standing live carbon must be maintained or increased; no decreases over any consecutive 10-year period
 - Exceptions are when the decrease is:
 1. Necessary to mitigate wildfire, insect, or disease risks
 2. Associated with planned balancing of age classes as detailed in long-term sustainable management plan
 3. Part of normal silvicultural activities for forest projects of less than 1,000 acres





Onsite Standing Live Carbon

- Decreases to Standing Live Carbon from Normal Silvicultural Cycles





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Public Lands IFM Projects

- Quantification of baseline using an historic (10-year) review of:
 - Retention standards
 - Rotations
 - Other practices determined by statute, regulation, policy, and budgets
- The review provides the basis for forward modeling. Project stocks above forward-projected baseline are additional





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Avoided Conversion Projects

- Credits awarded for standing carbon not deforested over time based on threat analysis.
- Based on likely effects of conversion as substantiated by an appraisal and similar regional practices
- Other required criteria include:
 - Suitability of project area for conversion
 - Legal permissibility of conversion
 - Assessment of risk of conversion as determined by disparity in value from appraisal





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Reforestation Projects

- Credits based on sequestered carbon from reforestation project tree growth over time
- Baseline is simulated future characterization of carbon stocks without reforestation activity
- Project allowed if project land base has undergone significant natural disturbance and the landowner is not required by law to reforest or if land has been out of forest cover for at least 10 years
- Economic evaluation required to determine that reforestation activity would not have otherwise occurred for projects following natural disturbance





Risk-Management: Reversals

- A reversal occurs when there is a decrease in the sum of the project carbon
- Two types of reversals:
 - Unavoidable (due to acts of nature)
 - Avoidable (due to harvesting or negligence)



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Addressing Permanence

- **Unavoidable** Reversals compensated from Buffer Pool administered by Reserve
 - All projects contribute to pool based on risk
 - Risk reduced with qualified conservation easement or deed restriction or public ownership
- **Avoidable** Reversals compensated by Forest Owner
 - Surrenders CRTs (project or purchased) equal to CRTs reversed
- Compensation of reversals must be forest CRTs
- Plan ahead so that you have credits to cover planned harvesting activities
 - If harvesting will result in a reversal





Project Implementation Agreement

- Legal agreement between forest owner and the Reserve
- Enforcement and longevity secured through requirements that:
 - Counterparty seek assignment of PIA to subsequent forest owner
 - Recording of notice of PIA on title to inform potential purchasers
- Specifies remedies in the case of reversals
- Specifies that projects must retire CRTs equivalent (with penalties in some cases) to the total amount issued in the event of project termination





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100 Year Permanence

- What does it mean?
 - When you sell a CRT you are promising to keep that ton of carbon sequestered for 100 years.
 - Landowner defines a 100 year management plan and is promising to stick to it.
- Why 100 years?
 - This is the international standard for permanence.
 - Carbon stays in the atmosphere 100 years, on average, so sequestration from an offset must be equivalent





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Crediting period

- The crediting period is 100 years
 - Project activities may generate credits for the carbon sequestered every year for up to 100 years
 - Permanence for any CRT is 100 years from when it is issued



Sustainability



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- Projects required to:
 - Demonstrate long-term sustainability
 - May be met with certification through FSC, SFI, or Tree Farm System
 - Manage for diverse native trees with multiple age classes
 - Even age harvesting limited to 40-acre units
 - No more than 40% of project area can be in age classes less than 20 years
 - Manage for structural elements
 - Requirements for lying and standing dead wood





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Monitoring and Verification

- Initial 3rd party verification includes site visit
 - Interim annual monitoring reports can be verified (not required)
 - Periodic (6-years) required site verification
- Verified stocks above baseline are awarded CRTs
- CRTs only issued after successful verification (not for unverified annual reports)





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Small Landowner Aggregation

- Currently, each forest owner must meet the protocol requirements for inventory and verification
- Rules to allow small landowners to meet inventory requirements through an aggregated design are currently out for public comment through Friday
- Aggregation will reduce development costs for small landowners and improve marketing opportunities



Summary of Proposed Aggregation Rules



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- Up to 5000 acres
 - No single project is more than 50% of acreage
 - Unlimited number of projects can participate
- Target Sampling Error (TSE) For Standalone Projects Is +/-5% at 90% Confidence Level
 - Because equivalent statistical confidence can be achieved at the aggregate level, individual projects in an aggregate may use larger TSEs
- Forest owner must sign PIA
- Same verifier for all projects
 - Each project must be verified at least once per 12 years
 - Verifier must audit a sample of annual monitoring reports





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For Questions or Assistance

- Full Information Available on Our Website
 - www.climateactionreserve.org
- Contact the Reserve
 - Call the Policy Team at (213) 891-1444
 - Or email questions to:
policy@climateactionreserve.org

