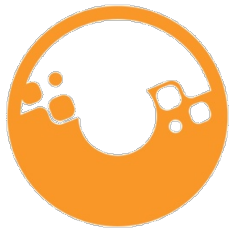


Forest Project Protocol v3.1

Joel Levin

Vice President, Business Development



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Forest Landowner Workshop

Russellville, Arkansas

April 1, 2010



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Carbon Offset Accounting Principles

- **Real**: Reductions have actually occurred and are quantifiable
- **Additional**: Reductions would not happen without a GHG market
- **Verifiable**: Emission reports must be verified by independent 3rd party
- **Permanent**: Reductions verified ex-post, risk of reversals mitigated, forest credits must be maintained for 100 years

The Reserve also looks for...

- **Owned unambiguously**: Ownership of GHG reductions is clear
- **Not harmful**: Negative externalities must be avoided
- **Practical**: Project implementation barriers should be minimized



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





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

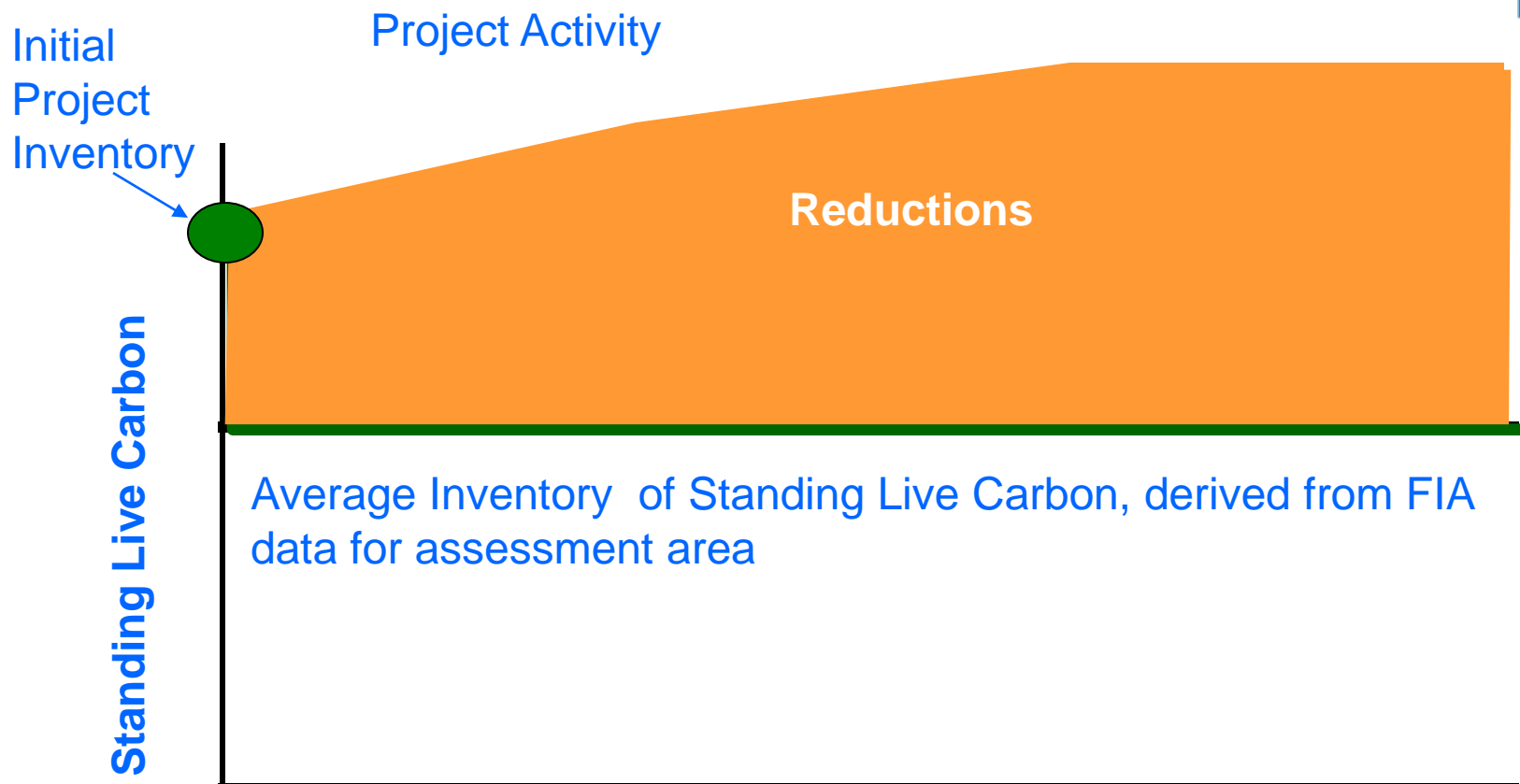
- Carbon credits are awarded for activities that go beyond:
 - Legal requirements
 - Standard practice
- Legal requirements include any requirements to:
 - Reforest
 - Buffer watercourses
 - Protect for endangered species
 - Manage under a binding deed restriction or conservation easement
- Standard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



Improved Forest Management Projects



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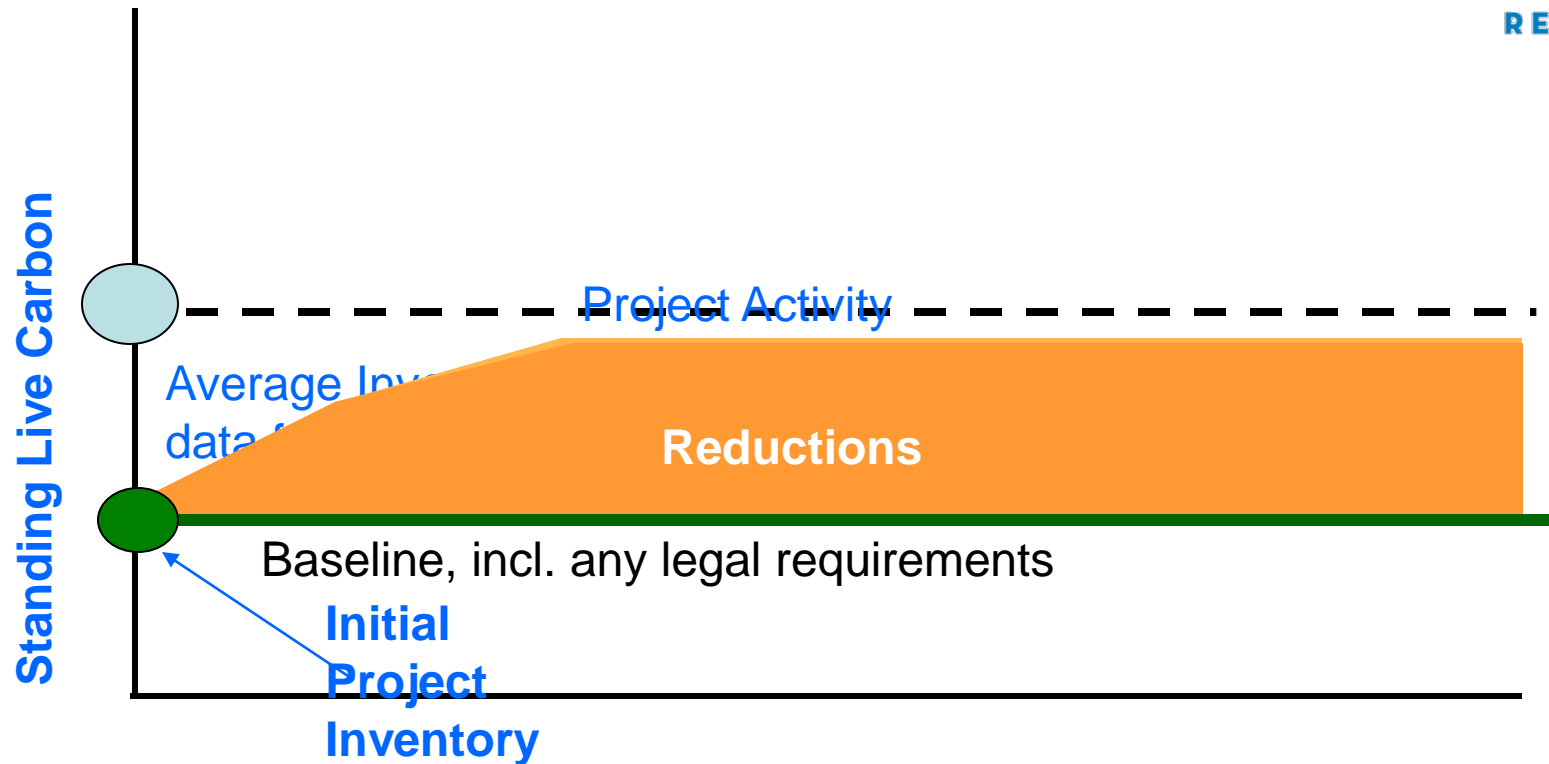
- In this scenario, the project will generate credits for both stock retention and growth



Improved Forest Management Projects



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





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Crediting period

- The crediting period is 100 years
 - Project activities may generate credits for the carbon sequestered every year for a 100 year period



Baseline Setting

FIA Data and Common Practice



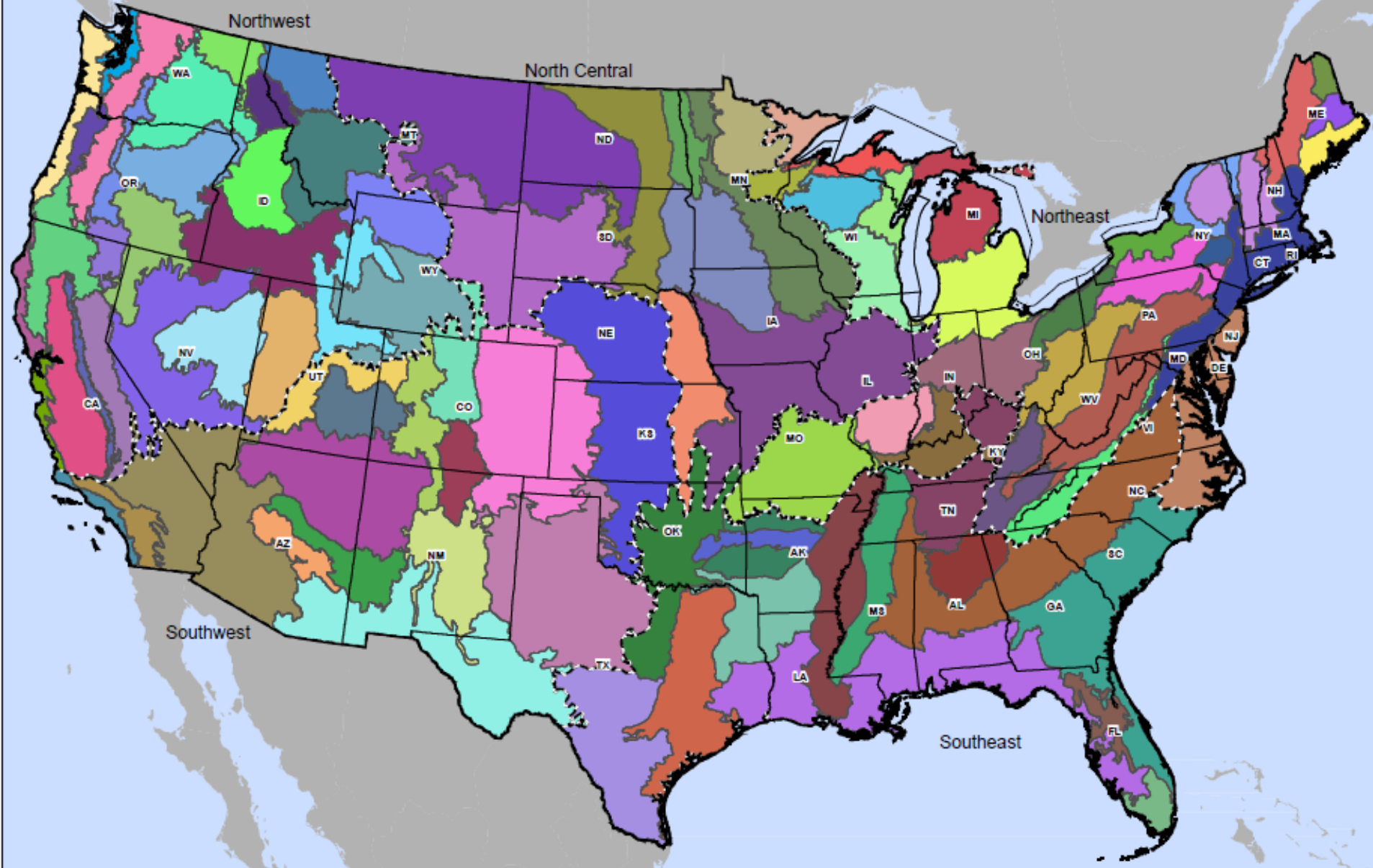
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- FIA data selected because:
 - Wide application
 - Longevity
 - Unbiased
 - Standardized



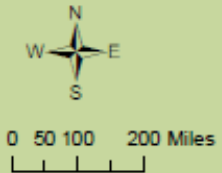
Defining an Assessment Area

- 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



Climate Action Reserve FIA Supersections

Created for Climate Action Reserve Forest Project Protocol



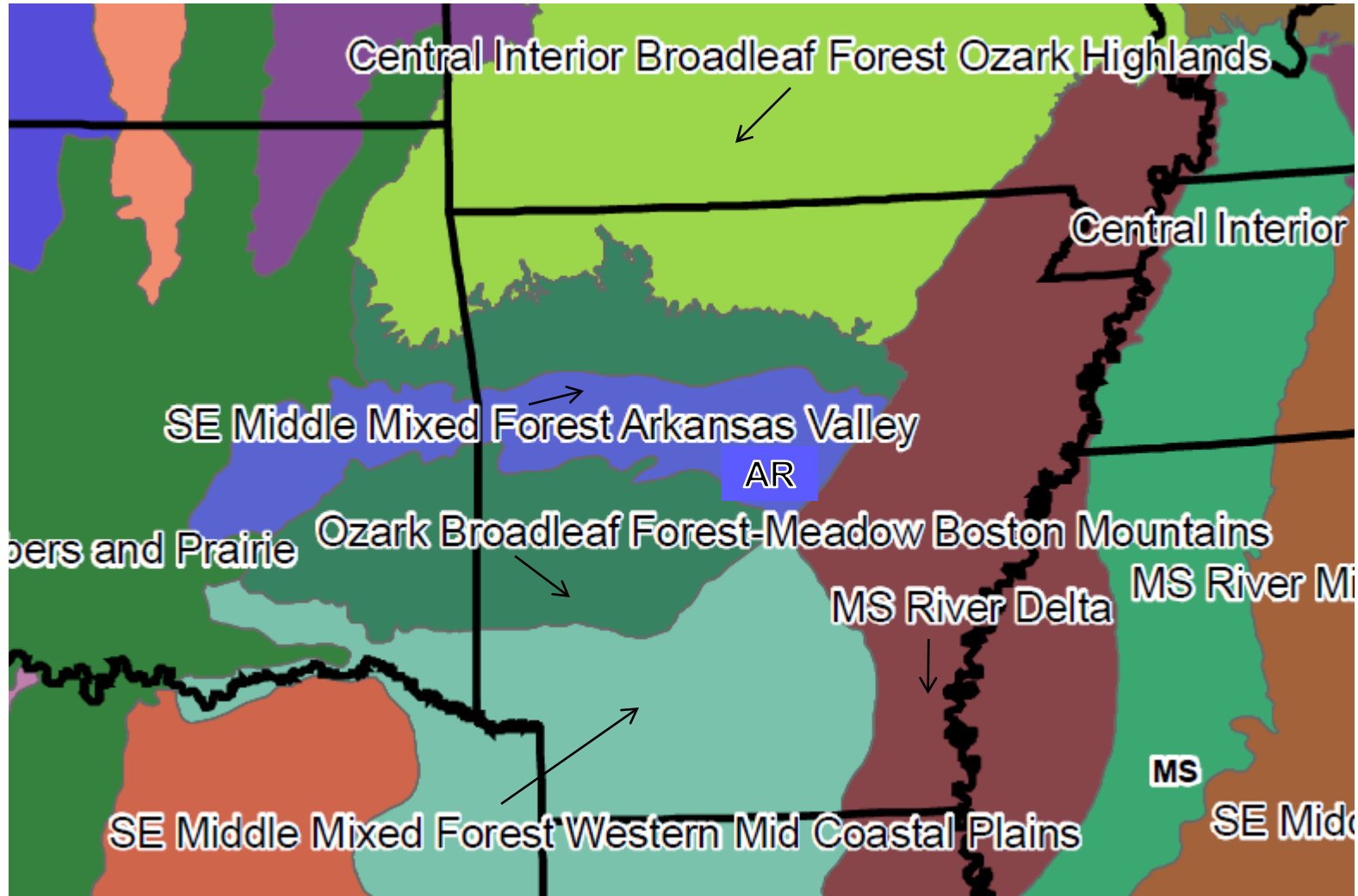
Adapted from:
Ecological Subregions: Sections and Subsections
of the Conterminous United States.
U.S. Department of Agriculture, Forest Service, 2007.

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

Arkansas Supersections



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Arkansas Common Practice



Supersection	Assessment areas	Common Practice: Mean above-ground carbon (metric tons)
SE Middle Mixed Forest Arkansas Valley	6	Between 10 and 20
Ozark Broadleaf Forest-Meadow Boston Mountains	4	Between 12 and 21
MS River Delta	2	Between 13 and 22
Central Interior Broadleaf Forest Ozark Highlands	4	Between 12 and 20
SE Middle Mixed Forest Western Mid Coastal Plains	6	Between 11 and 25





Onsite Standing Live Carbon

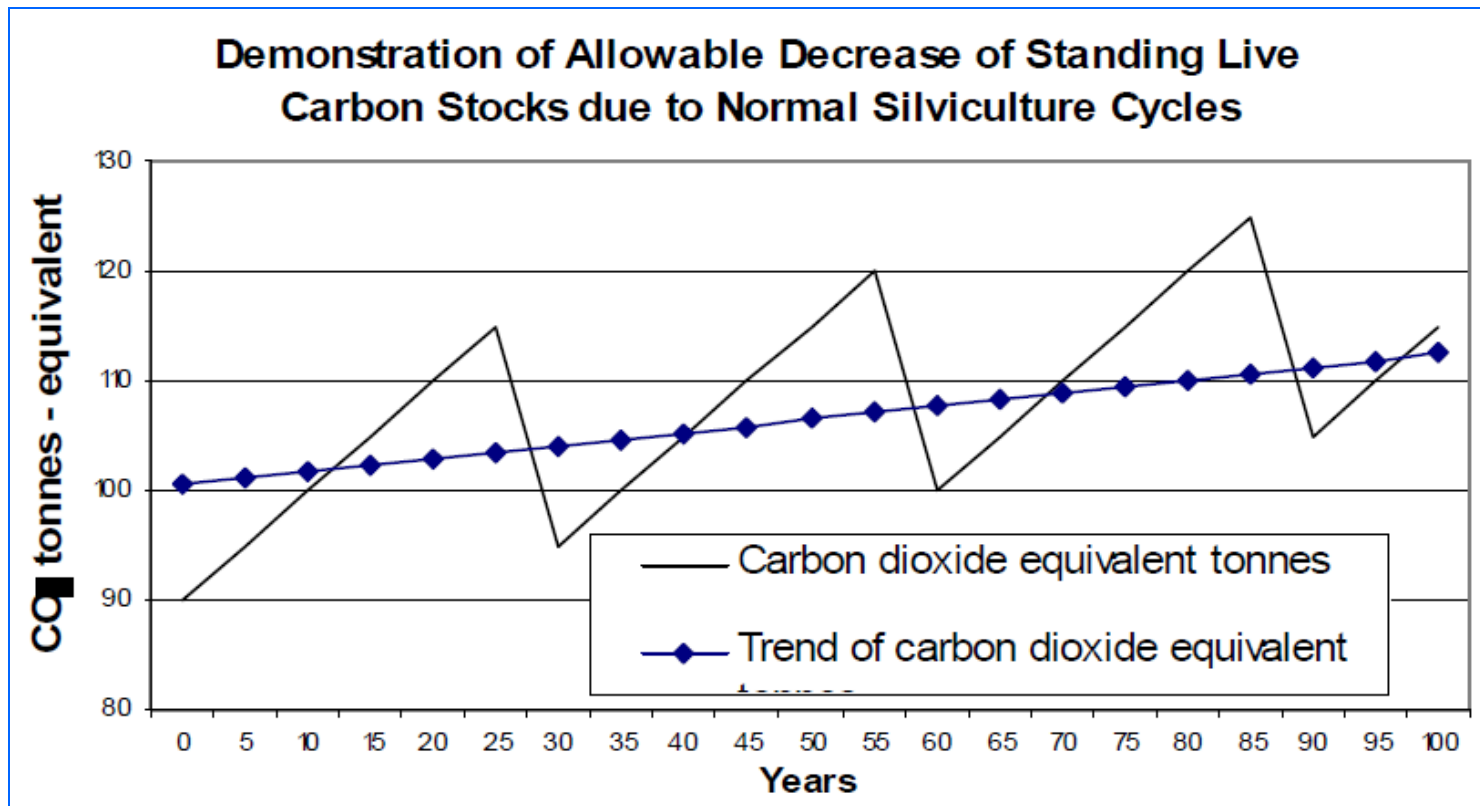
- Onsite standing live carbon must be maintained or increased; no decreases over any consecutive 10-year period
 - Exceptions are when the decrease is:
 1. Necessary to mitigate wildfire, insect, or disease risks
 2. Associated with planned balancing of age classes as detailed in long-term sustainable 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





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





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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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Risk-Management: Leakage

- Each project type has its own worksheet that assesses the risk of leakage and provides a corresponding leakage risk factor
- This risk factor or leakage percent must be assessed annually and deducted from the calculations of net carbon sequestration or avoided emissions



Sustainability



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- Projects required to:
 - Demonstrate long-term sustainability
 - May be met with certification through FSC, SFI, or Tree Farm System
 - Demonstrate natural forest practices
 - 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 will go out for public review later this month
- Aggregation will reduce development costs for small landowners and improve marketing opportunities





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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

