

Forest Projects in the California Cap-and-Trade



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Eligibility



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- Forest can be anywhere in the U. S.
- Forest owner can be:
 - Private individuals
 - Companies
 - Land trusts
 - Local or state government
 - Tribes
- Federal lands excluded
- Aggregation not permitted





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Forest Project Types

- **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**
 - Remove threat of conversion to non-forest use and ensure continued forest cover by conservation easement or dedication to a government agency
- **Improved Forest Management**
 - Activities that increase forest-based sequestration and/or decrease emissions



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Start Date

- Start date is beginning of activity that increases carbon storage or reduces emissions
- Reforestation: Start of tree planting, site preparation, or removal of impediments to regrowth
- Avoided conversion: Recording a conservation easement or transfer to public ownership
- Improved forest management:
 - Change in ownership
 - Record easement
 - Submit listing documents
- Can be any time after January 1, 2007

Crediting Period



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- 25 years and then can be renewed
 - No defined limit on renewals

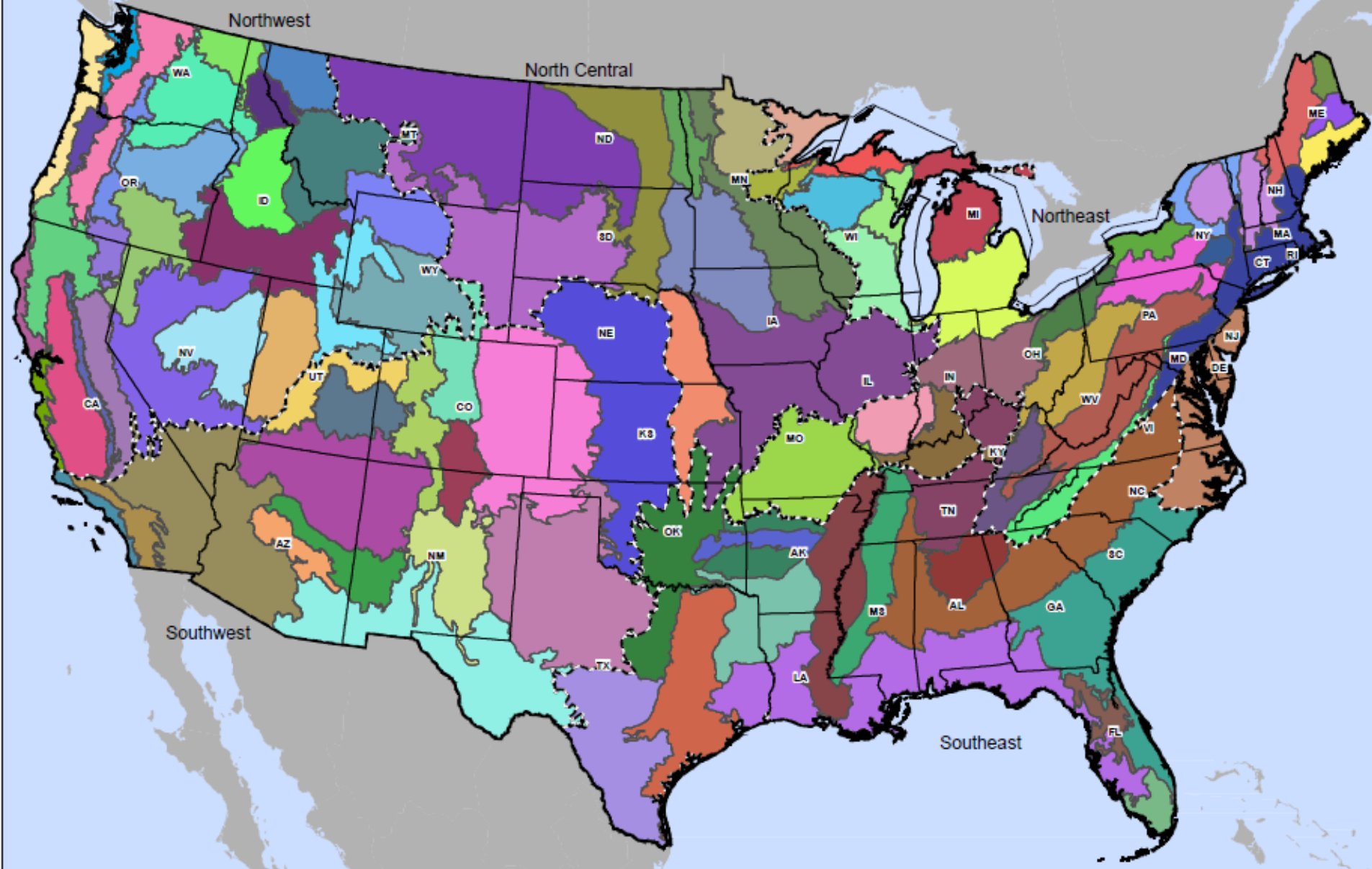




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Additionality

- Because of the carbon finance, the project developer is changing behavior, going beyond standard practice
 - Regulatory additionality
 - Performance standard
- Standardized approach
 - Additionality is based on how similar forests are being managed, rather than guessing how a particular landowner would act



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.

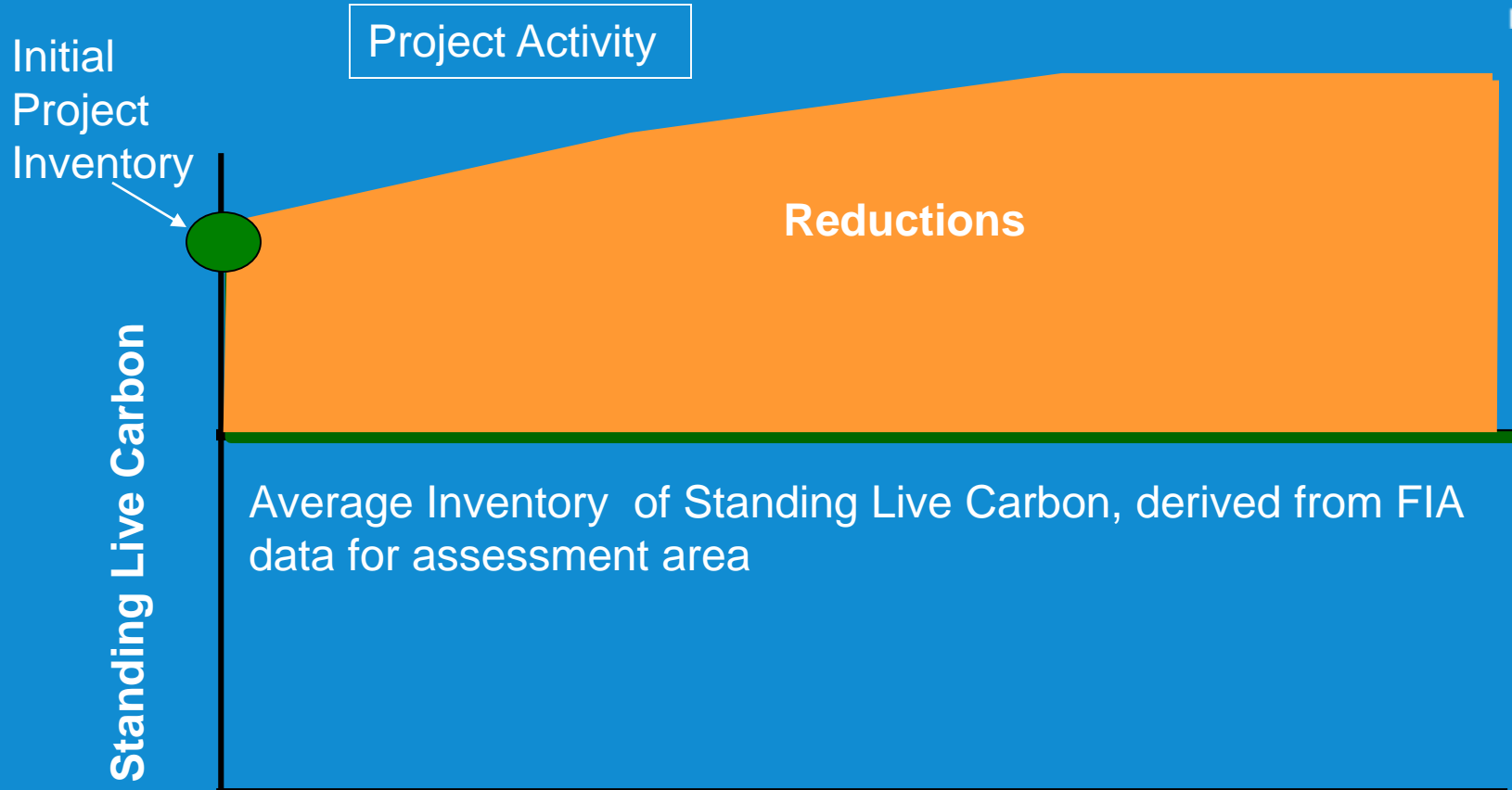
Produced by: Dogwood Springs Forestry, February 2010.

Projection: Albers

Improved Forest Management Projects



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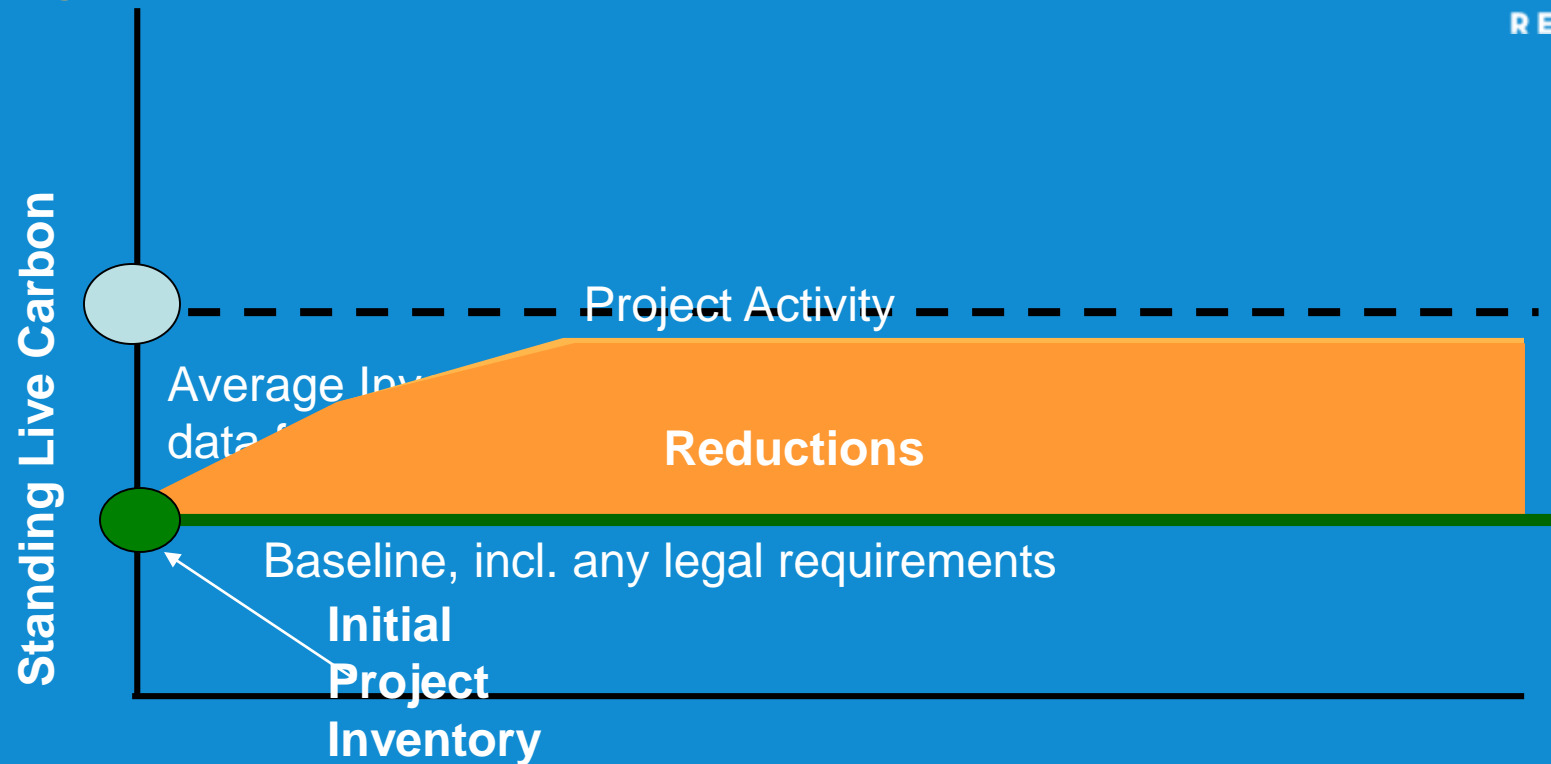


- In this scenario, the project will generate credits for both stock retention and growth

Improved Forest Management Projects



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



Avoided Conversion Projects

- Projects must demonstrate:
 - Suitability of project area for conversion
 - Legal permissibility of conversion
 - Significant risk of conversion, as determined by disparity in land-use value (40%) according to an appraisal
- Baseline determined by likely effects of conversion, as substantiated by an appraisal and similar regional practices



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Reforestation Projects

- Projects allowed only where:
 - There has been a significant natural disturbance (and the landowner is not required by law to reforest); or
 - Land has been out of forest cover for at least 10 years
- For projects following natural disturbance, economic evaluation required to determine that baseline is not reforestation
- Baseline defined by modeling carbon stocks without reforestation activity



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Permanence

- All credited carbon must be maintained for 100 years from the time of credits are issued
- **Unavoidable Reversals** are compensated from Buffer Pool administered by CARB (e.g., fire, wind)
- **Avoidable Reversals** must be compensated by Forest Owner
 - Must surrender credits equal to carbon reversed (in some cases, plus penalty if terminated)
- If planned harvesting will result in a reversal, plan ahead so that you have enough credits to cover it



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Long-Term Sustainability

- All forest landholdings of project operator must demonstrate long-term sustainability of planned harvest levels:
 - May be met with SFI, FSC, or Tree Farm certification; or
 - May have a state-approved long-term management plan
- Limit even-age management to stands of no more than 40 acres



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Natural Forest Management

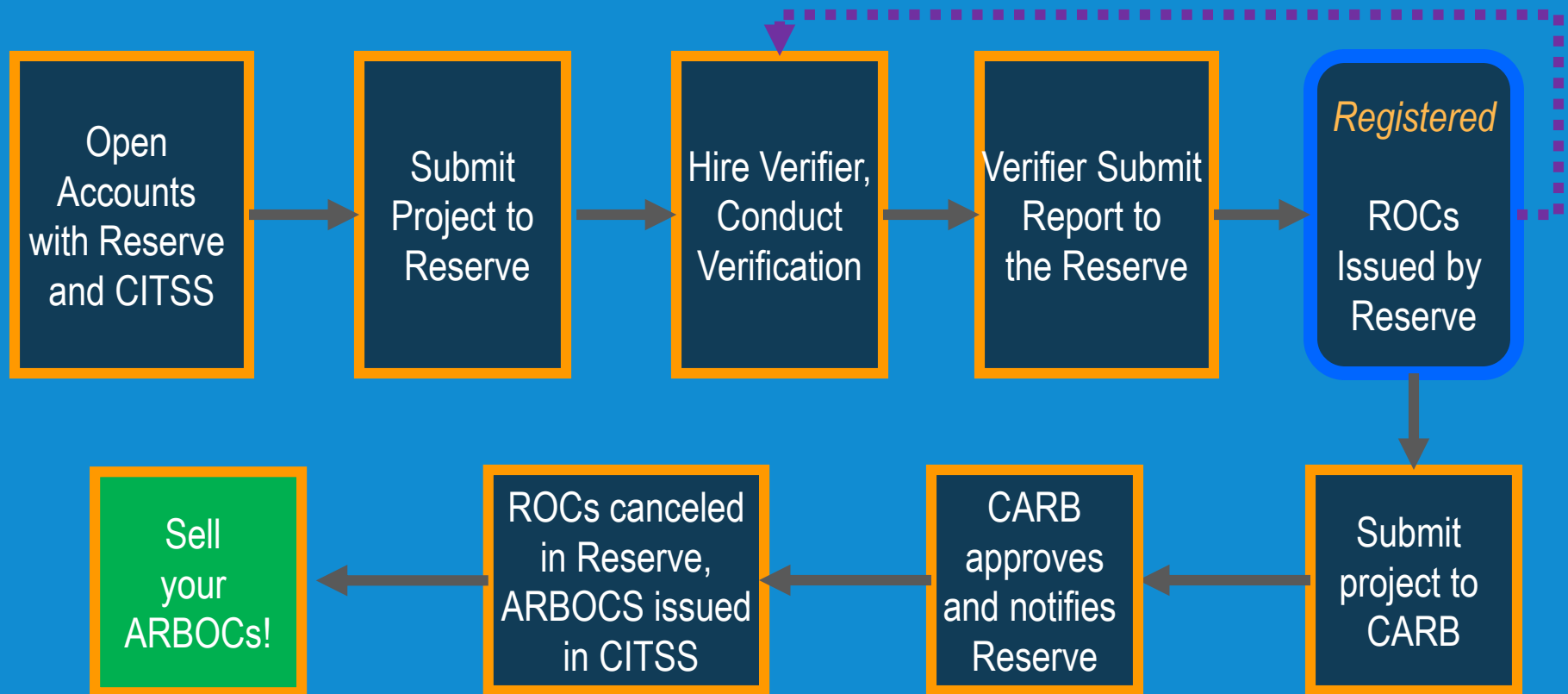
- The protocol is not intended for plantation forestry
- Project should employ natural forest management to move in the direction of the type of native forest that would naturally be found in that area:
 - Diversity of native species
 - Multiple age classes
 - Retain deadwood
 - Limited use of even-age management

How it Works: The Project Registration Process



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Each reporting period



Who is doing the projects?

Many different ownerships



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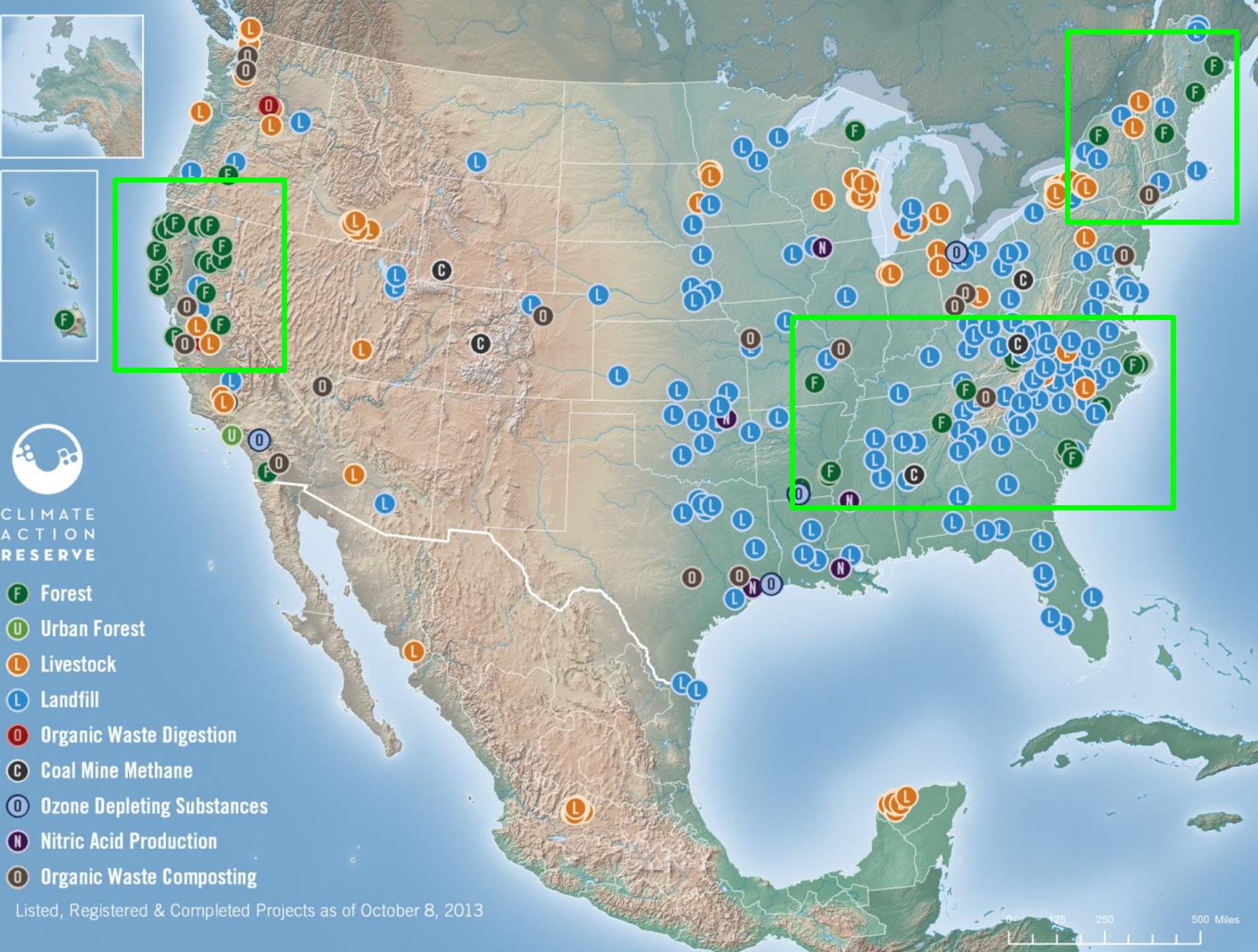
- Land trusts (Conservation Fund, Nature Conservancy)
- Families
- TIMOs (Potlatch Forest Holdings)
- Forestry companies (Sierra Pacific Industries)
- Industrial corporations (Norfolk Southern Railway)
- Cities (Arcata)
- States (California)
- Tribes (Yurok Tribe)
- Environmental Organizations (National Audubon Soc.)



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- Forest
- Urban Forest
- Livestock
- Landfill
- Organic Waste Digestion
- Coal Mine Methane
- Ozone Depleting Substances
- Nitric Acid Production
- Organic Waste Composting

Listed, Registered & Completed Projects as of October 8, 2013





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The project pipeline

- 6 million credits issued by ARB on 11 projects
 - Another 4 million issued by the Reserve being converted
- 102 projects have been submitted to the registries
 - Over 1 million acres
- Leading states
 - California
 - Michigan
 - North Carolina
 - South Carolina
 - New Hampshire



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Project Scale

- Range of project sizes: 106 acres – 229,000 acres
 - Average size is 20,700
- Credits per acre: 2 tonnes/acre – 100 tonnes/acre
 - Average is 11 tonnes
 - Depends largely on stocking levels



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Supply and Demand

- Between 100 million and 200 million tonnes of offsets will be demanded by regulated companies through 2020
- 13 ½ million offsets issued by ARB to date
- Most likely scenario: demand will exceed available supply through 2020
- Pricing: Currently ~\$9/tonne
 - Expected to be ~13/tonne by 2020
- If project developers can do projects in this price range—the demand should be there!

Want to Learn More?



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