


WEST COAST REGIONAL CARBON SEQUESTRATION PARTNERSHIP
westcarb.org





WESTCARB Annual Business Meeting



Afforestation Pilot Activities in Shasta County, CA

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Phoenix, AZ
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Afforestation of Rangelands



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WESTCARB Phase I Analysis



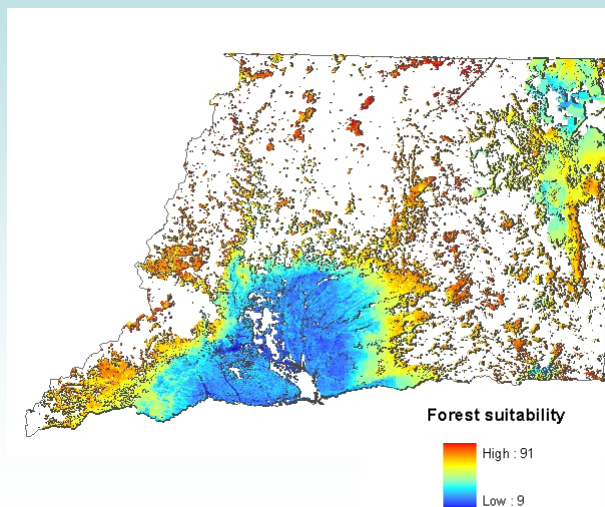
- Afforestation of rangelands could sequester over 3 billion metric tons CO₂ over 40 years, on 14 million acres, at a price of less than \$5.50/ton CO₂
- Similar analyses for Oregon and Washington range and agricultural lands



Forest Suitability of Rangelands

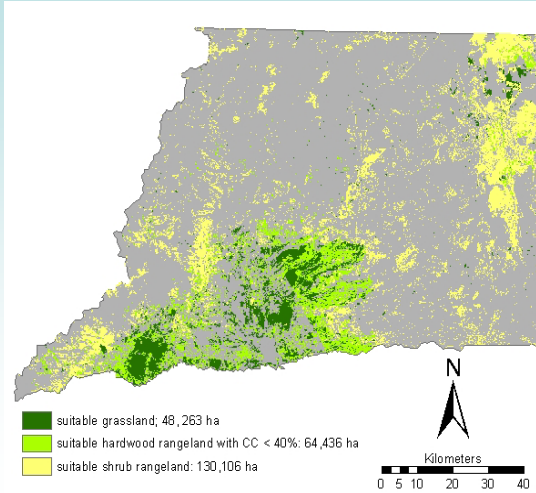
Factors

- Soil water capacity
- Mean annual temperature
- Annual average precipitation
- Slope
- Elevation



Candidate Rangelands

- Candidate rangelands suitable for afforestation:
 - 600,000 acres (80% of total rangeland)
 - Grassland: 119,210 acres
 - Hardwood rangeland: 159,157 acres
 - Shrub rangeland: 321,362 acres

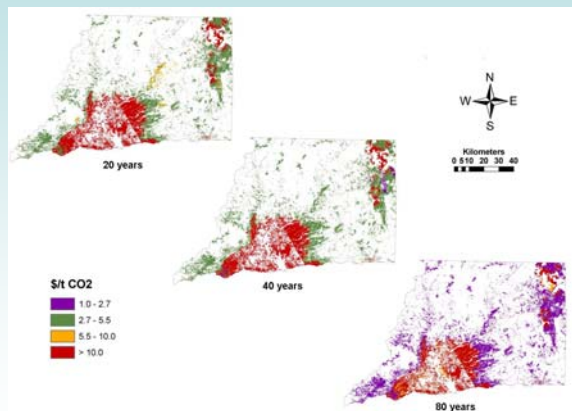


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Costs of Afforesting Rangelands

- Opportunity costs
- Conversion costs
- Maintenance
- Measurement and monitoring costs
- Present value of all costs

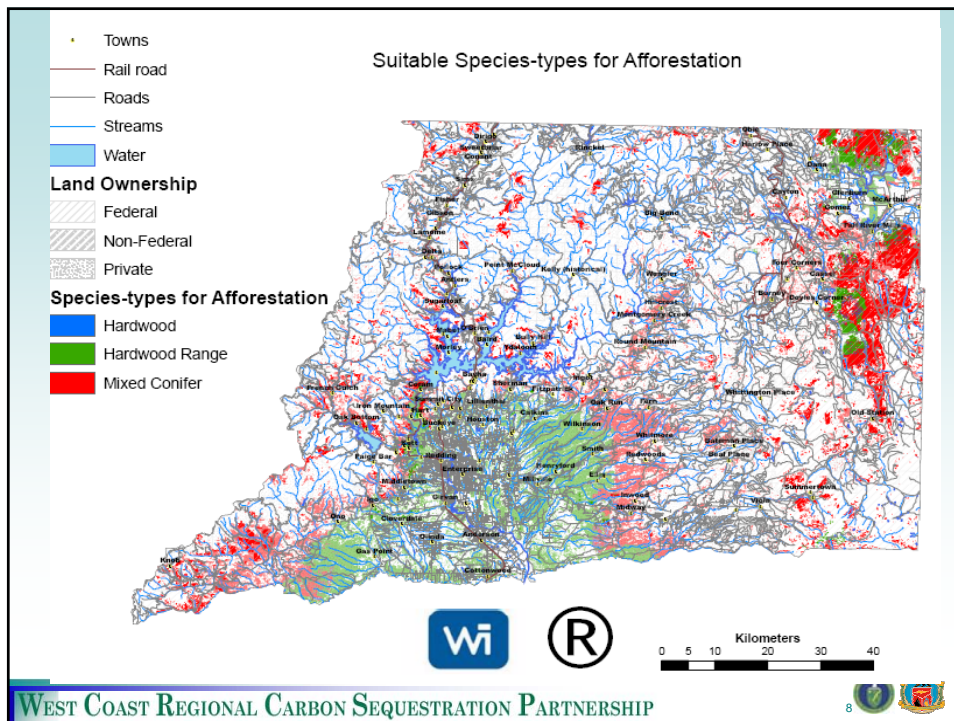


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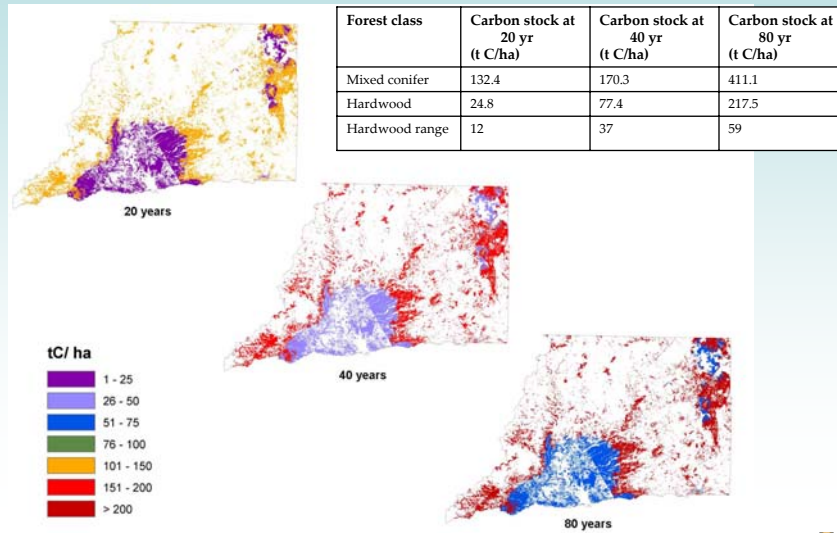


Suitable Species Groups for Afforestation

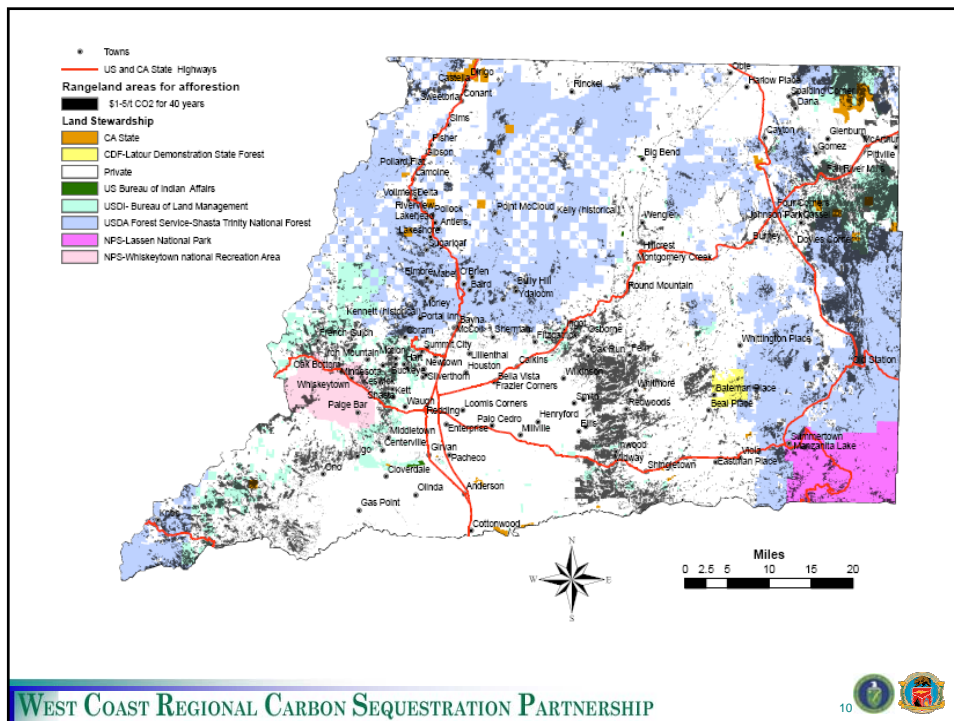
- **Hardwood** – 9,150 acres (Montane Riparian, Montane Hardwood, Aspen)
- **Mixed Conifer type** – 345,370 acres (Subalpine Conifer, Closed Cone Pine-Cypress, Lodgepole Pine, Sierran Mixed Conifer, Eastside Pine, Klamath Mixed Conifer and Jeffrey Pine)
- **Hardwood Range Type** – 242,980 acres (Blue Oak Woodland, Blue Oak Foothill/Grey Pine, Valley Oak Woodland, Juniper)



Rates of Carbon Accumulation



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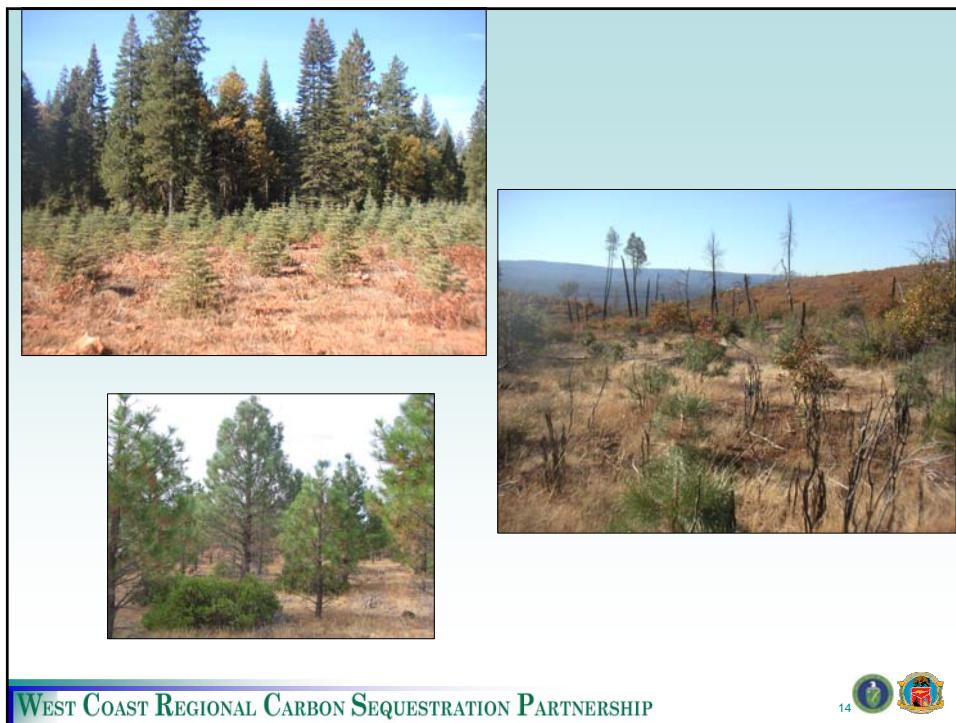
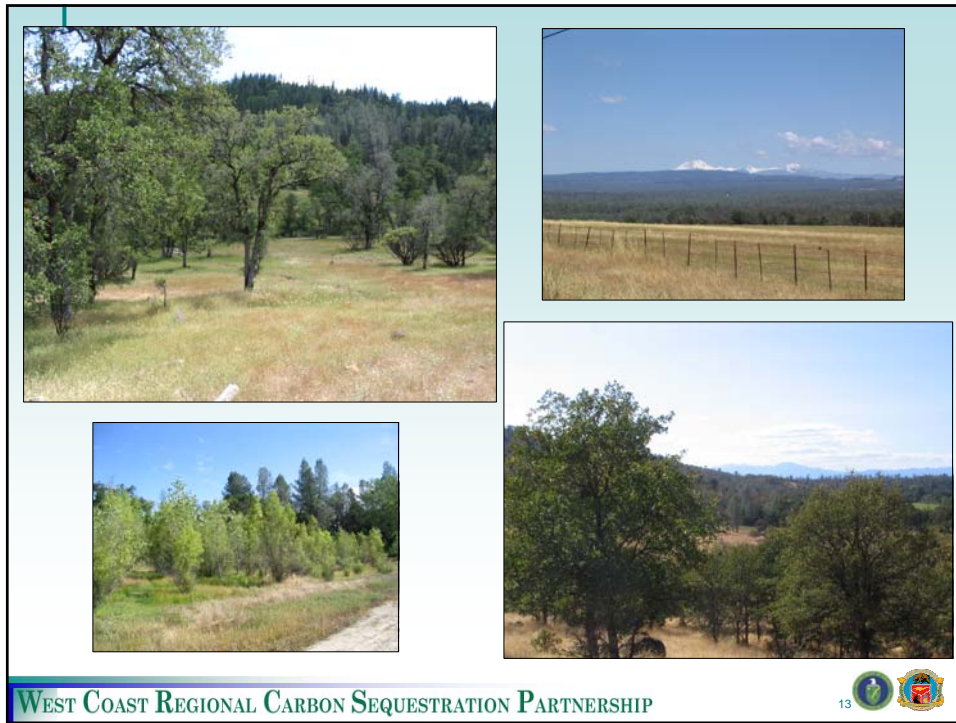
Phase II Tasks—Afforestation

- ✓ Classify lands according to potential for afforestation
 - Landowner outreach
 - Benefits and costs to landowners
 - Cost-sharing options
 - Near-term opportunities to sell credits
 - Set criteria for distribution of pilot plantings
 - 2-3 species/site combinations
 - Collect data from afforestation projects already being planned
 - Prepare afforestation plan

Phase II Tasks—Afforestation (cont'd)

- Source seed/seedlings; grow in nurseries
- Site preparation
- Baseline field measurements
- Planting
- Post-planting maintenance
- Collect data on costs, early survival and growth
- Model carbon potential over time
- Explore landowner options for reporting and/or selling credits







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