Emissions Reductions Through Conservation-Based Forest Management

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Roadmap

- Project overview
- Preliminary results
- Lessons learned
- Conclusions to date
Project Overview: Purposes

Quantitative Assessment:
- Existing C stocks
- Potential emissions reductions
- Methodology based on Forest Project Protocols (FPP) of the California Climate Action Registry
- Cost factors

Qualitative Assessment:
- Practicality and effectiveness of FPP in determining C stocks and emissions reductions
- Ability of FPP to address standard GHG accounting principles (e.g., baseline, permanence)

Project Overview: Location
Project Overview: Setting

- Mixed conifer forest – ponderosa pine, sugar pine, incense cedar, white fir, and black oak
- ~10 MBF/acre
- Managed for commercial timber production
- History similar to other nearby commercial properties
  - Managed at or near regulatory standards
  - Even-aged silviculture

Project Overview: Quantitative Analysis

- Measurement of initial existing C stocks
- Calculation of anticipated emissions reductions by comparing baseline activity projection to project activity projection (100 years)
  - Baseline = Regulatory standards (CA Forest Practice Rules, Endangered Species Act, etc.)
    - Minimum rotation length for even-aged management (e.g., 60 year rotation for Site II lands)
    - State-mandated stream buffer widths
  - Project = Conservation easement restrictions
    - Harvest 80% of growth until 25 MBF/acre stocking achieved
    - Stream buffers extended
Preliminary Results

~1 Million tons CO$_2$e

Lessons Learned

- FPP’s basic methodology and guidance is effective
- Measurement requirements exceed conventional timber inventory standards
  - Live trees ≥3” DBH (here, <3% of total live tree pool)
  - Standing dead and lying dead pools
  - Increases inventory cost
- Monument plot centers for revisitation
  - Not overly burdensome, but resistance by cruisers
  - Difficult to relocate in some forest types
  - Also increases inventory cost
Lessons Learned (cont’d)

- Allometric biomass equations should be updated
  - Currently based on national-level broad species groups that consider only DBH
  - Local species-specific equations available that consider both DBH and height

- Projections for baseline are good in principle
  - Specific standards for establishing baselines
  - But, accounting issues due to changes in baseline stocks
  - “Average” baseline value to determine emissions reductions
Lessons Learned (cont’d)

- FPP’s basic methodology and guidance is practical and effective
  - Recommend improvements to some measurement guidance and update to biomass equations
  - Baseline accounting needs to be addressed

- Increased inventory costs
  - May require retrofitting existing inventory

- ~1 million tons of additional CO₂e

- Project requires detailed work, but can more than pay for itself
Thank you

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