

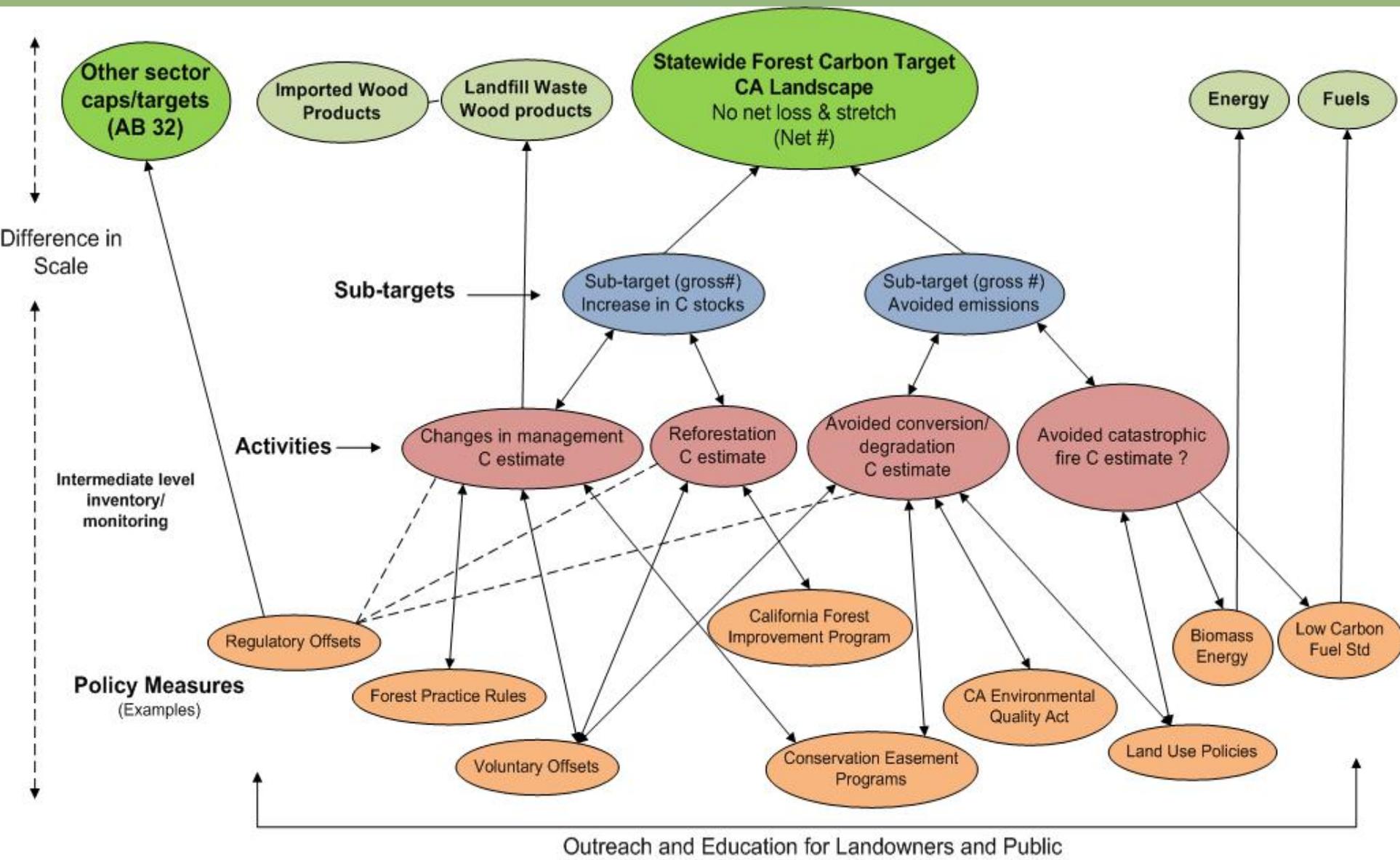
California's Global Warming Solutions Act: A Proposed Framework for Forest Sector Implementation to Meet a "No Net Loss" Target

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Provide an overall construct for the forest sector in California climate policy to:

- Refine target #
- Provide context for forest sector target among other sector targets
- Link target to policy measures
- Bridge for different scales
- Monitor progress over time

Proposed Framework for Implementation



CALIFORNIA CLIMATE POLICY CONTEXT

- Global Warming Solutions Act of 2006
- Governor's executive order for GHG reductions
- Targets for multiple sectors
- Forest sector has targets
 - Maintain -5 MMTCO₂ e (“no net loss”)
 - +2 MMTCO₂e (stretch)
- Target to be achieved by 2020 (and 2050)



Forest Sector Target

Other sector caps/targets (AB 32)

Imported Wood Products

Landfill Waste Wood products

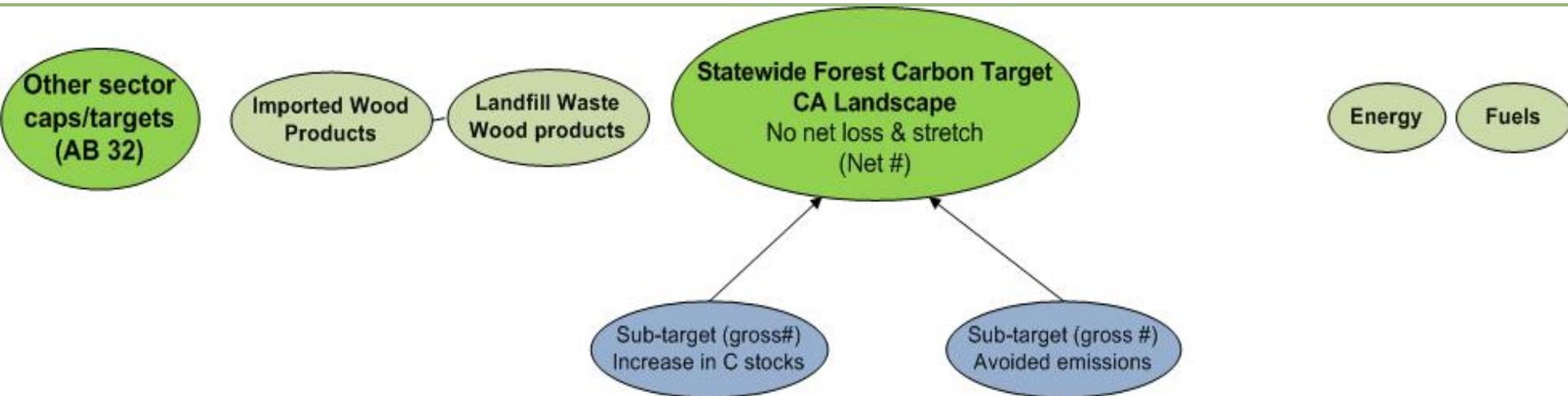
Statewide Forest Carbon Target
CA Landscape
No net loss & stretch
(Net #)

Energy

Fuels

- Net number
 - Includes targeted increases in C stocks (sequestration) and avoided decreases (avoided emissions)
- Distinct target for CA forest landscape
 - Provides a policy focus and accountability for maintenance of forest carbon benefits on landscape
 - Distinct accounting for imported wood products and landfills provide basis for independent tracking and policies (e.g., landfill emissions, leakage etc.)
 - Provides “ground-truthing” for ongoing monitoring and policy measures
 - Provides context of forest sector target relationship to other sectors

Spatially Explicit Sub-targets



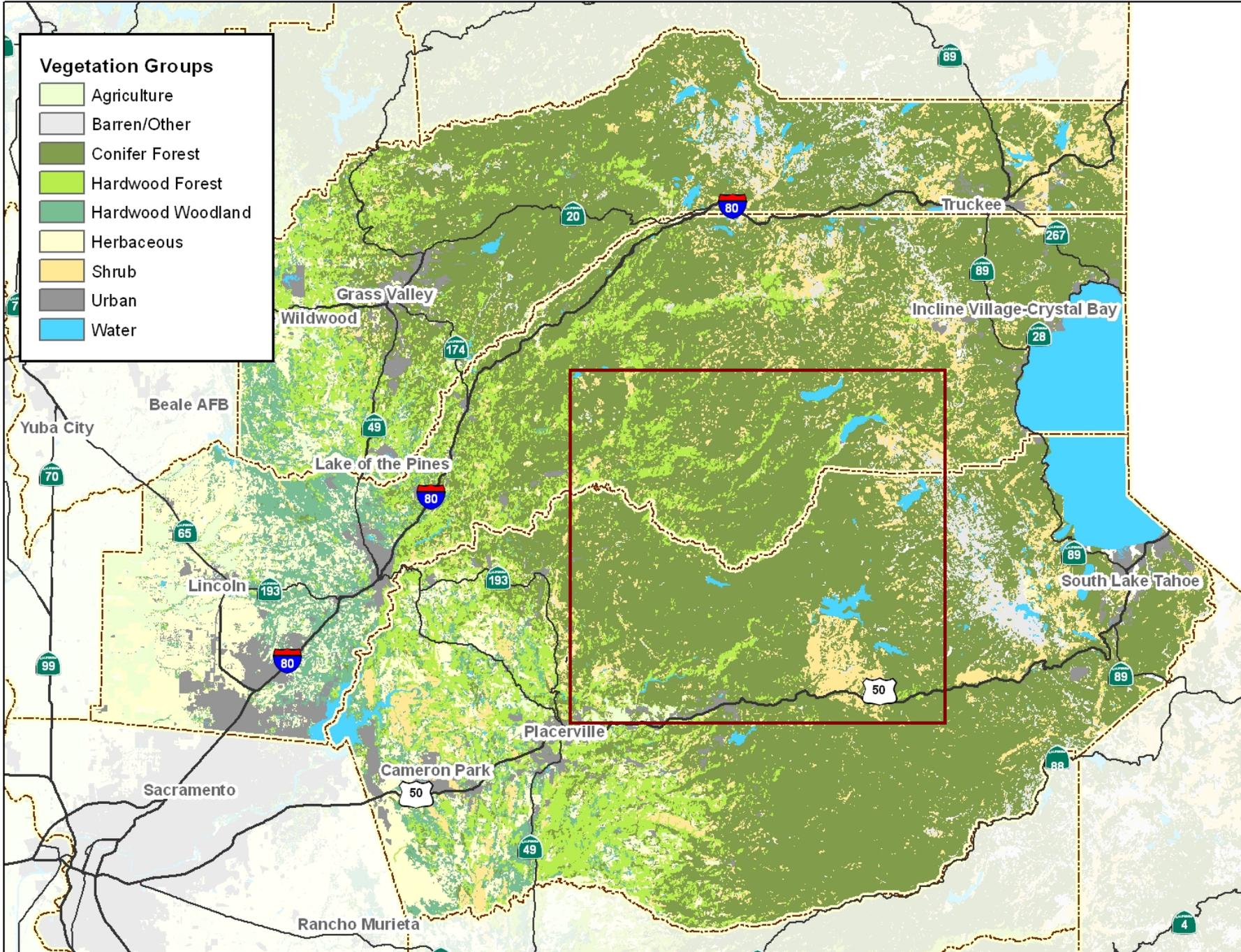
- Forest Sector target informed by spatially explicit sub-targets
- Sub-targets based on estimates of increases in forest carbon stocks and avoided loss of stocks relative to baselines
 - Identify regional baseline scenarios on landscape
 - Develop supply curve estimates (e.g., potential increases in C stocks from reforestation and changes in management or maintenance of stocks where loss/conversion is likely)
- Approach provides basis for ongoing monitoring of progress toward target, policy measures over time, and leakage

Identification of Sub-target: Reforestation

- Identify baseline scenarios of areas out of forest cover and appropriate to restore to forest cover
- Identify areas that have been severely degraded due to catastrophic fire, disease, insects and appropriate to restore forest cover
- Estimate potential carbon increases with active intervention of reforestation
- Using stand inventory and/or change detection data, identify areas for potential targeted activity
- Estimates may be adjusted further with economic analysis and climate change/adaptation scenarios

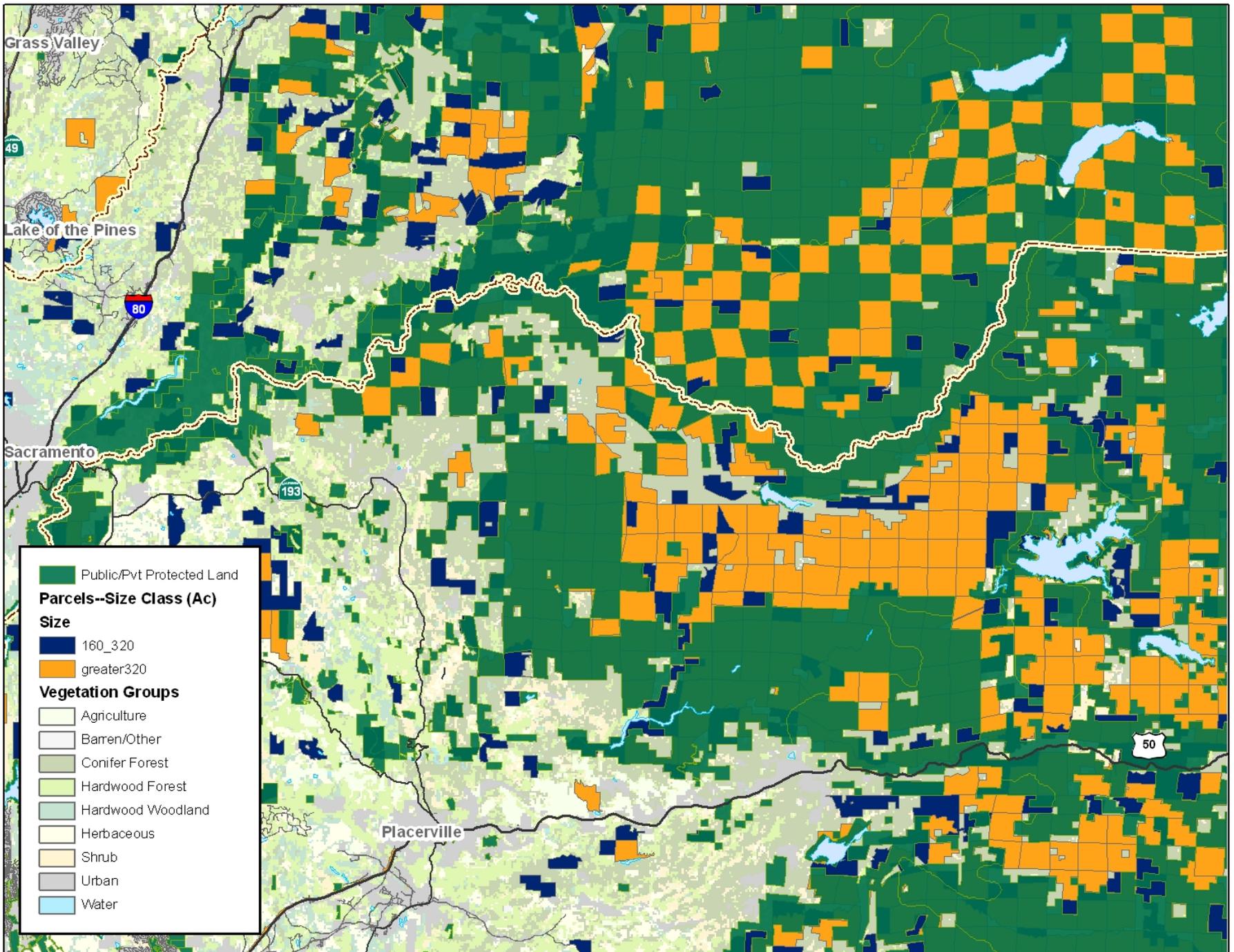
Vegetation Groups

- Agriculture
- Barren/Other
- Conifer Forest
- Hardwood Forest
- Hardwood Woodland
- Herbaceous
- Shrub
- Urban
- Water



Identification of Sub-target: Improved Forest Management

- Identify baseline scenarios of areas commercially managed for timber
- Start with patterns of forest cover and ownerships/TPZ
- Estimate potential carbon increases with active changes in forest management to increase C stocks
- Estimates can be adjusted further based on economic analysis, climate change scenario planning, etc.



Public/Pvt Protected Land

Parcels--Size Class (Ac)

Size

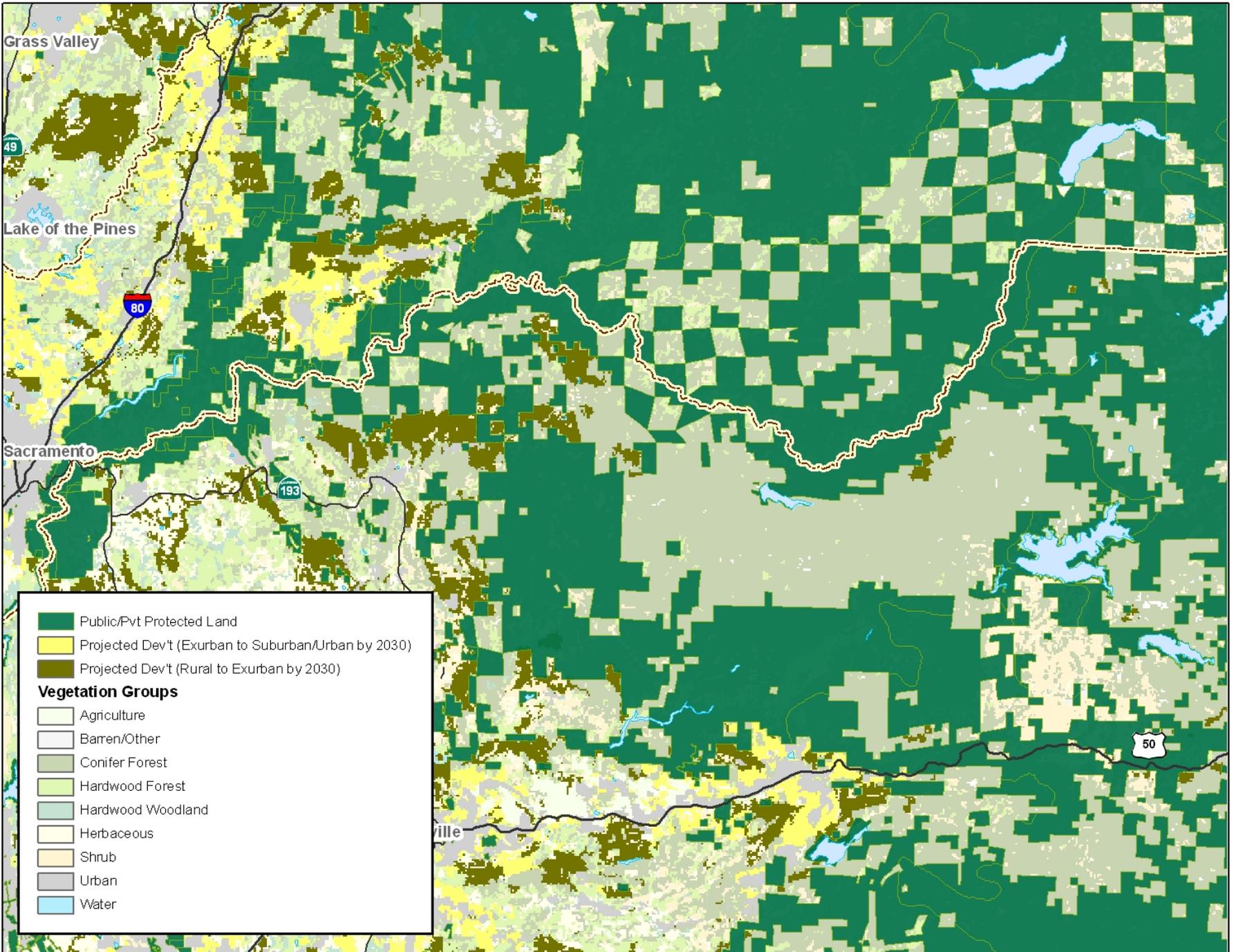
- 160_320
- greater320

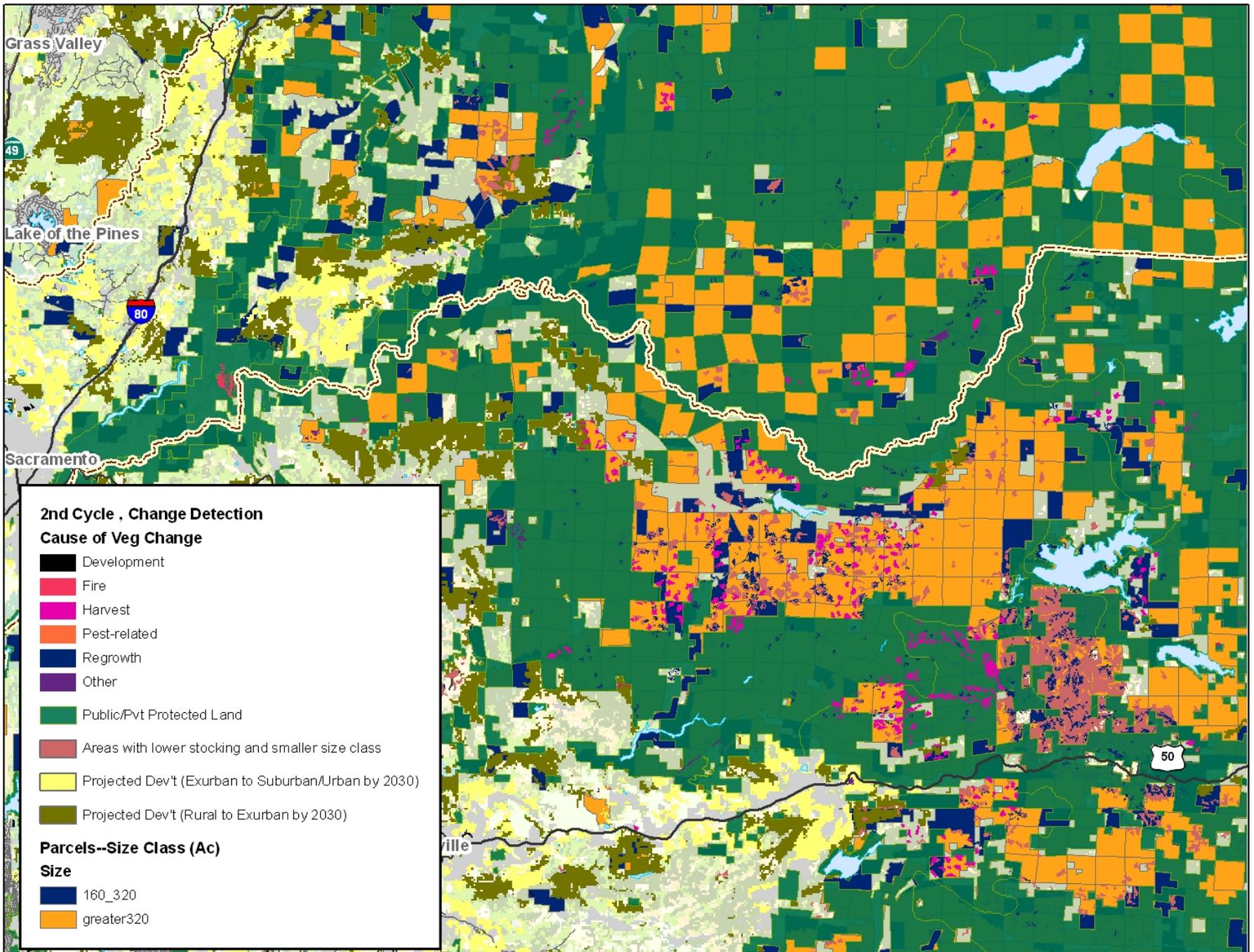
Vegetation Groups

- Agriculture
- Barren/Other
- Conifer Forest
- Hardwood Forest
- Hardwood Woodland
- Herbaceous
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- Water

Identification of Sub-target: Avoided Conversion to Other Uses

- Identify baseline scenarios of forest areas likely to be converted to other uses
- Using housing growth models or other predictors of change, estimate areas of conversion and associated emissions
- Estimate potential avoided emissions (e.g., carbon stock loss) with forestland protection/conservation





2nd Cycle . Change Detection

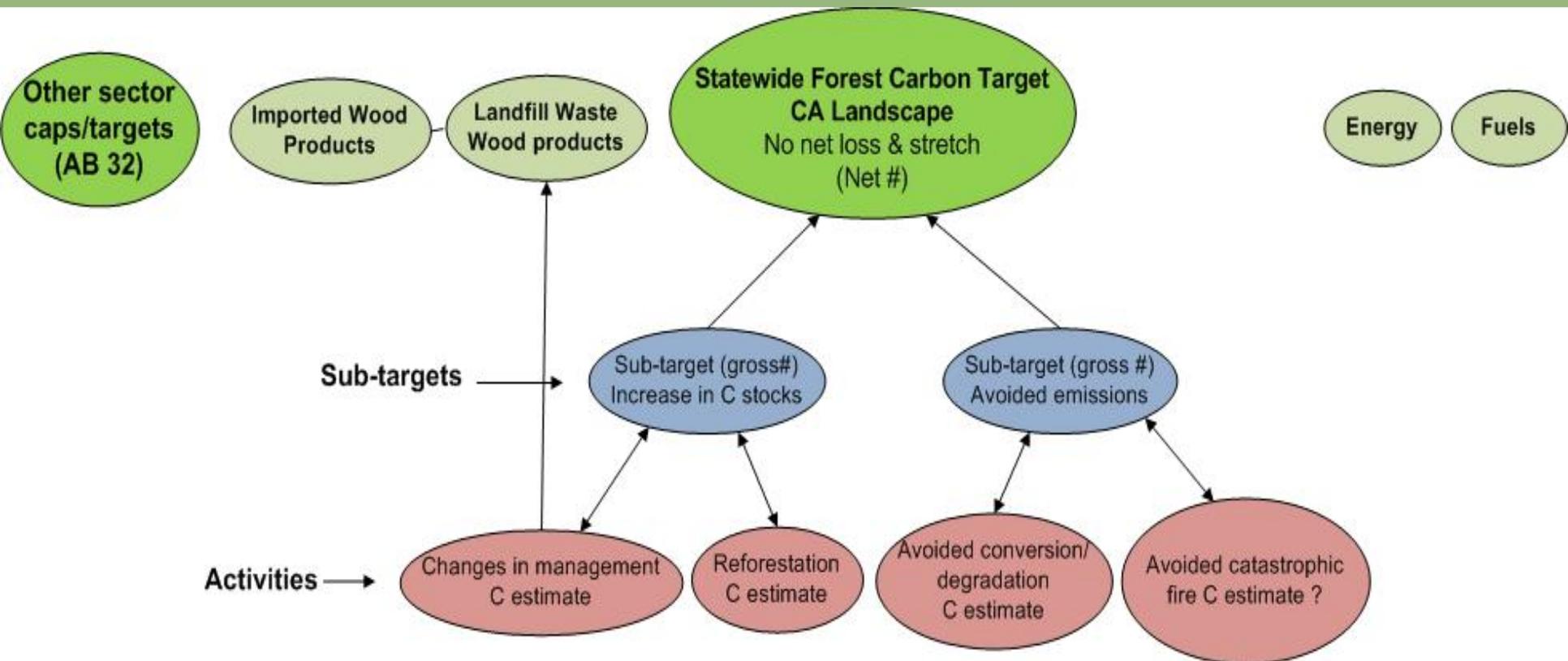
Cause of Veg Change

- Development
- Fire
- Harvest
- Pest-related
- Regrowth
- Other
- Public/Pvt Protected Land
- Areas with lower stocking and smaller size class
- Projected Dev't (Exurban to Suburban/Urban by 2030)
- Projected Dev't (Rural to Exurban by 2030)

Parcels--Size Class (Ac)

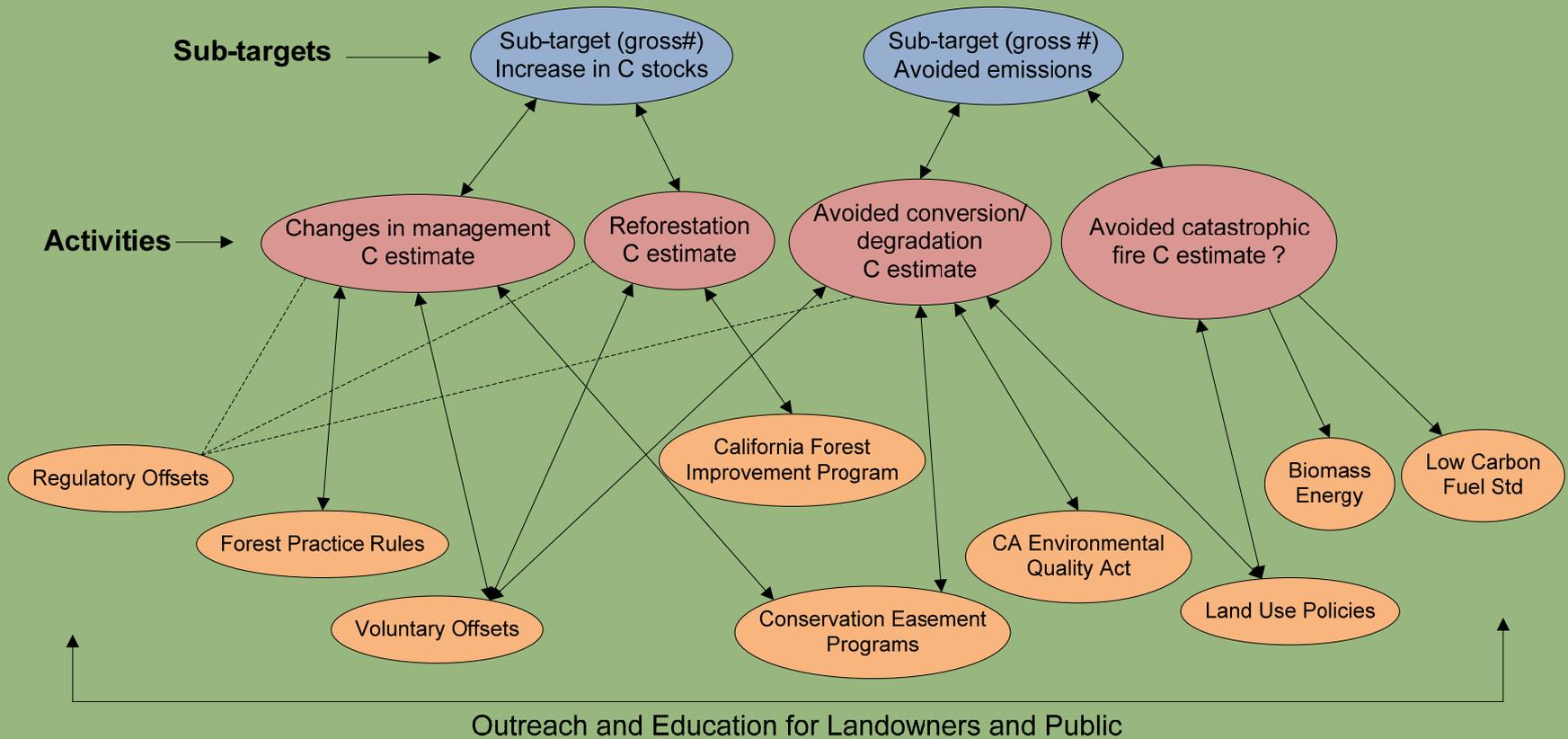
- Size**
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 - greater320

Sub-targets Achieved through Strategic Action on the Ground



- Forest activities implemented on the ground to increase forest carbon stocks and meet sub-target
- Forest activities implemented on the ground to minimize/avoid emissions to meet sub-target

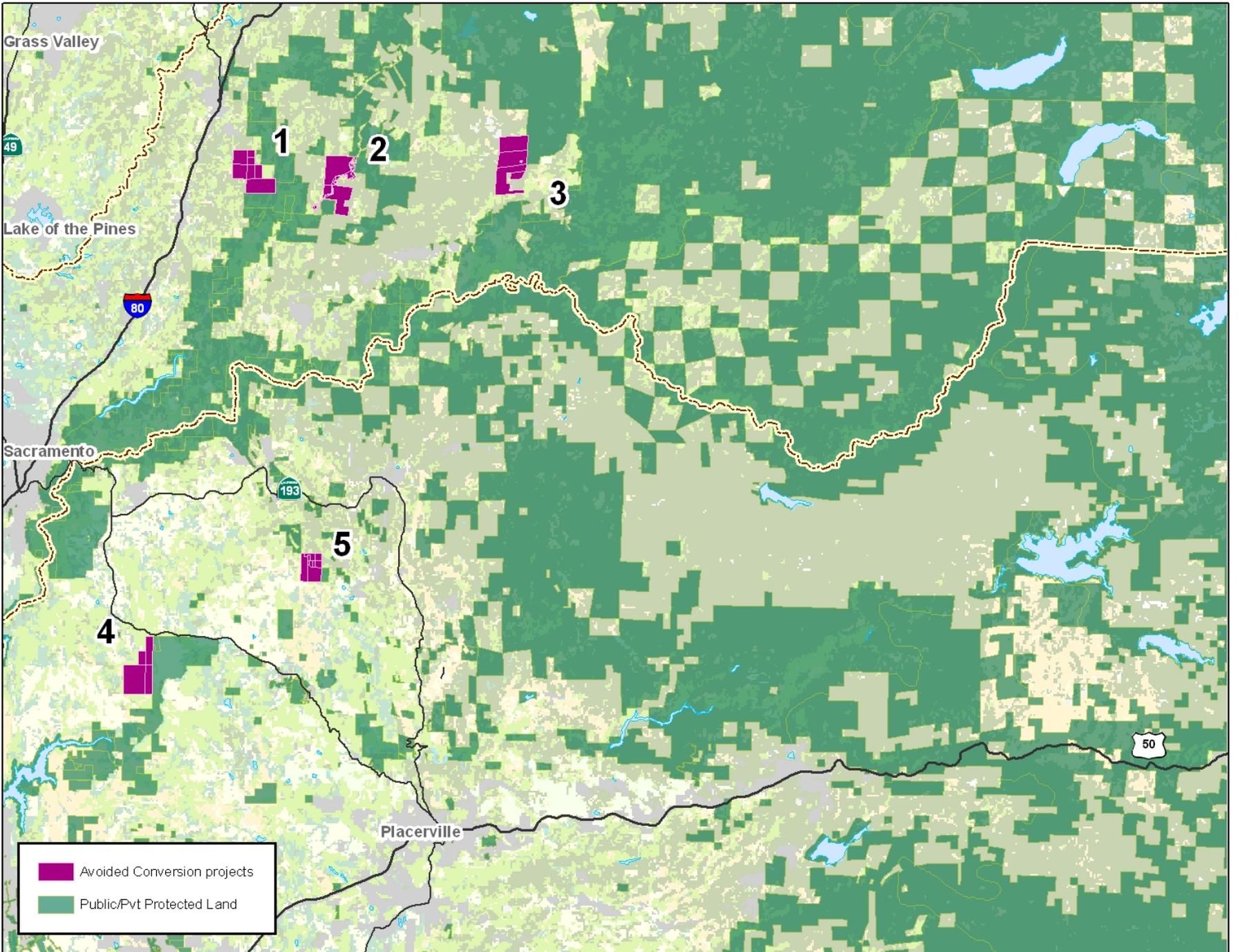
Activities are Encouraged through Suite of Policy Measures



Policy measures developed or retrofitted to encourage activities on the ground to facilitate activities that help meet sub-targets

Policy Measures, Monitoring and Reporting Information

- As lands become enrolled in activities and policies, color code:
 - Can be linked to spatially explicit monitoring associated with sub-targets
- Policy measures could also be designed or augmented to include basic, standardized reporting information to:
 - Track progress and facilitate accountability of individual measure toward target
 - Ground-truth the ongoing monitoring at broader scales
 - Avoid double counting



Grass Valley

49

Lake of the Pines

80

Sacramento

193

5

4

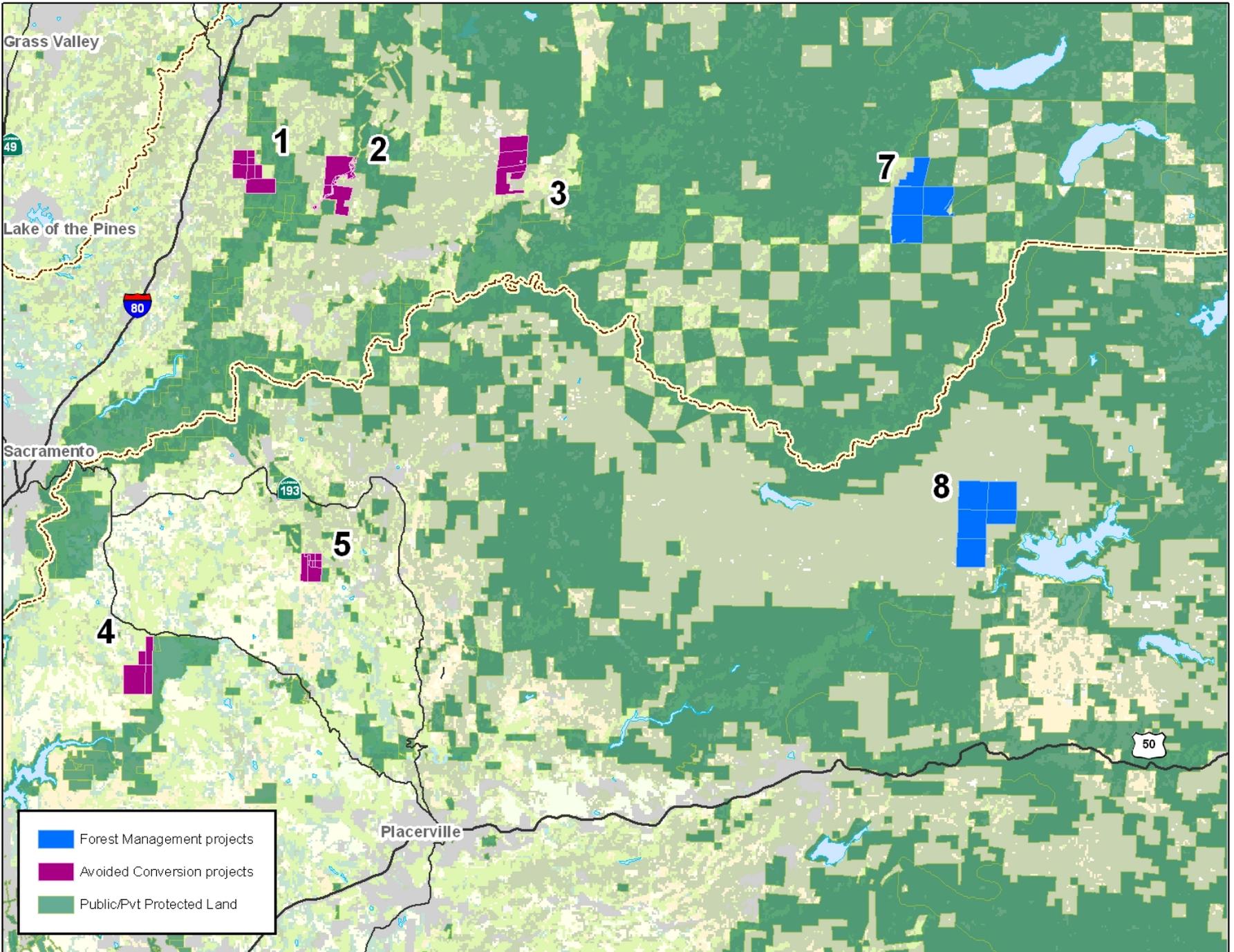
Placerville

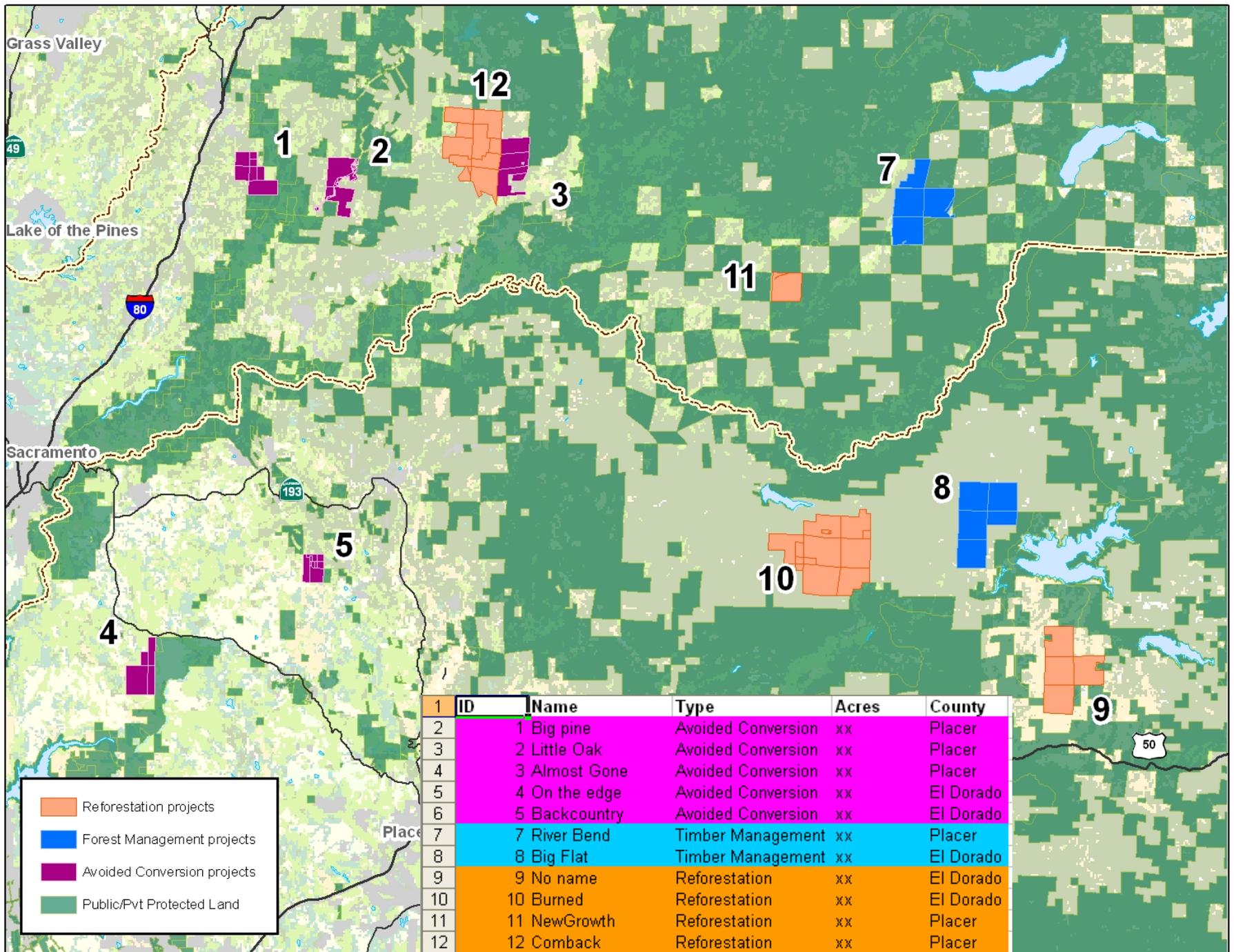
50



Avoided Conversion projects

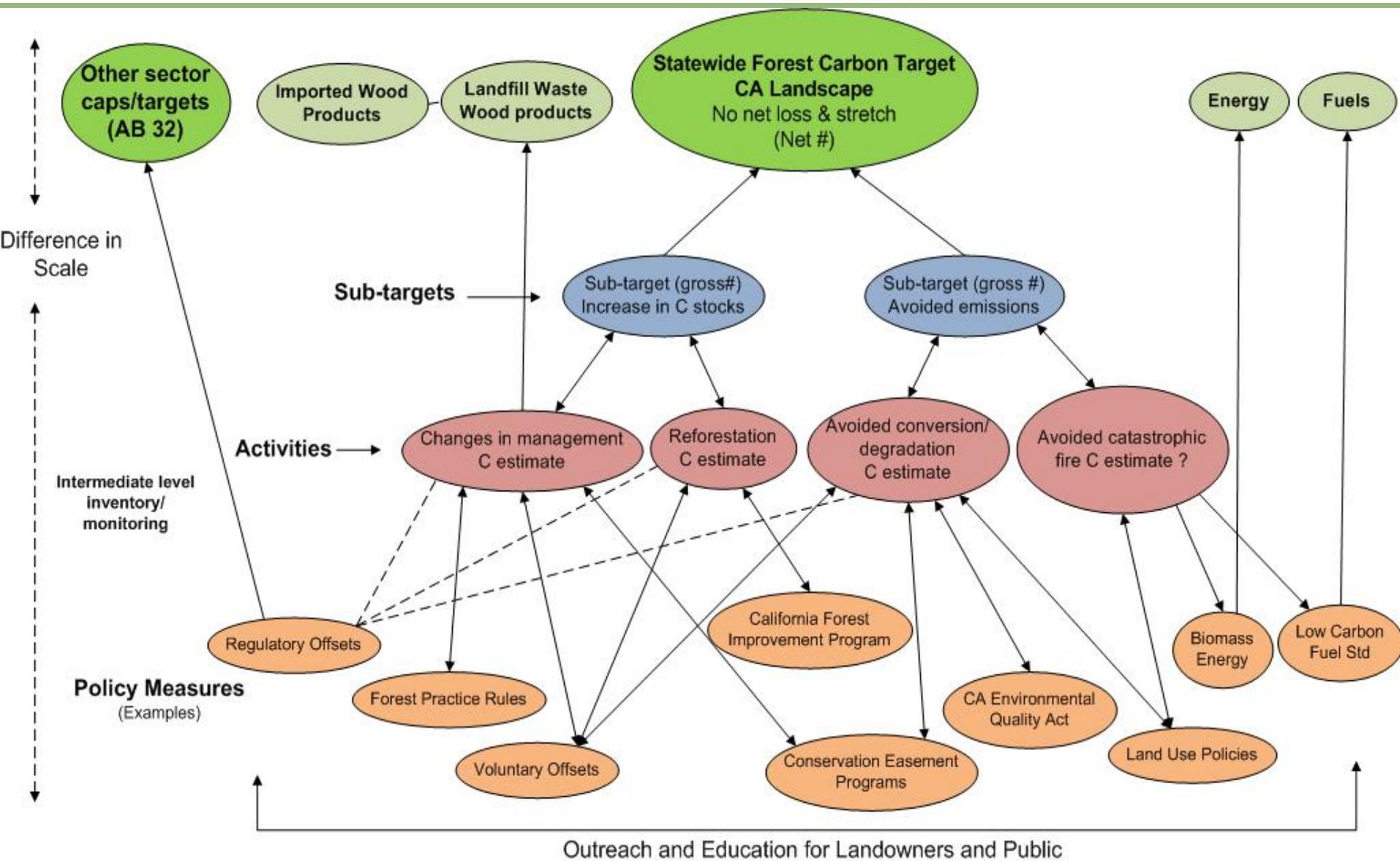
Public/Pvt Protected Land

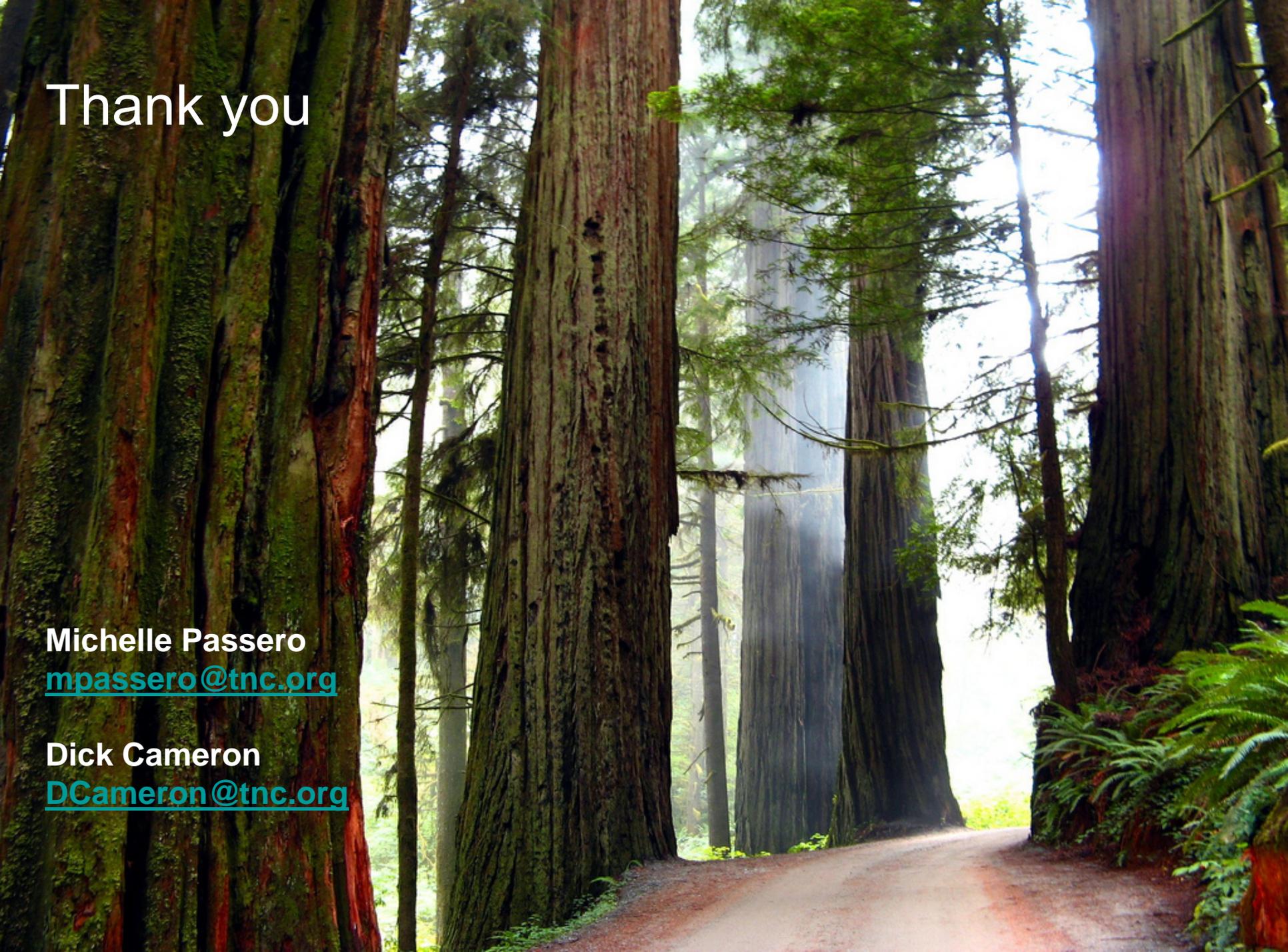




ID	Name	Type	Acres	County
1	1 Big pine	Avoided Conversion	xx	Placer
2	2 Little Oak	Avoided Conversion	xx	Placer
3	3 Almost Gone	Avoided Conversion	xx	Placer
4	4 On the edge	Avoided Conversion	xx	El Dorado
5	5 Backcountry	Avoided Conversion	xx	El Dorado
6				
7	7 River Bend	Timber Management	xx	Placer
8	8 Big Flat	Timber Management	xx	El Dorado
9	9 No name	Reforestation	xx	El Dorado
10	10 Burned	Reforestation	xx	El Dorado
11	11 NewGrowth	Reforestation	xx	Placer
12	12 Comback	Reforestation	xx	Placer

Proposed Overall Framework





Thank you

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