

# WILSEYVILLE PRODUCT YARD FEASIBILITY STUDY – FOREST FEEDSTOCK AVAILABILITY REVIEW



**ACCG Meeting**

**West Point, California**

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# Presentation Overview

- Project Sponsors
- Wilseyville Site Review
- Target Study Area
- Vegetation Cover
- Landownershipp
- Biomass Availability
- Biomass Pricing
- Value-Added Opportunities
- Acknowledgements



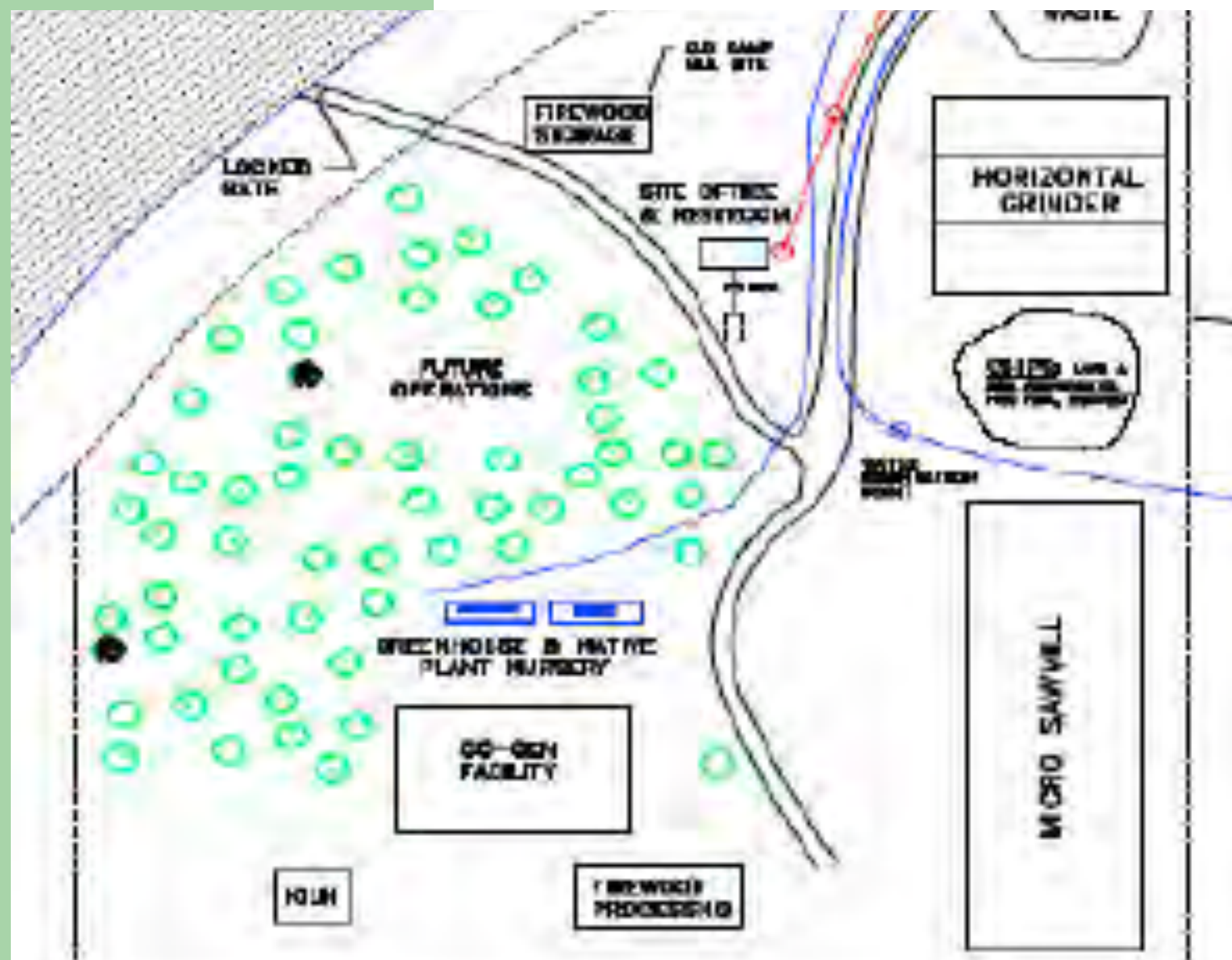
# Project Sponsors













# Vegetation Cover

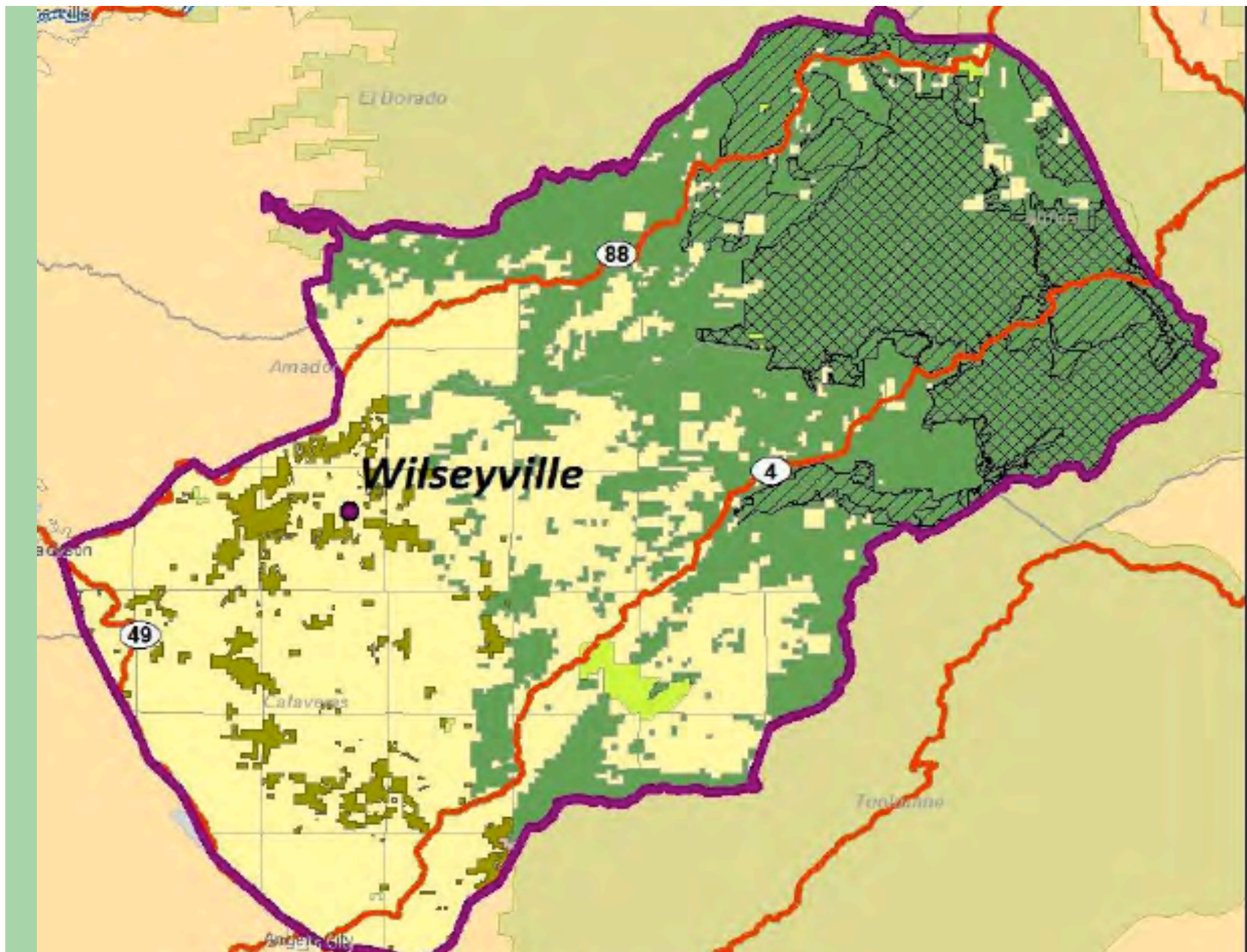
COVER TYPE	ACRES	PERCENT OF TOTAL
Agriculture	2,792	0.3%
Barren	24,037	2.8%
Developed Areas	11,262	1.3%
Forest	688,466	80.2%
Grassland	5,149	0.6%
Riparian Areas	51,283	6.0%
Shrub/Brush	68,212	7.9%
Water Bodies	7,041	0.8%
<b>TOTALS</b>	<b>858,241</b>	<b>100.0%</b>





# Forest Cover Ownership

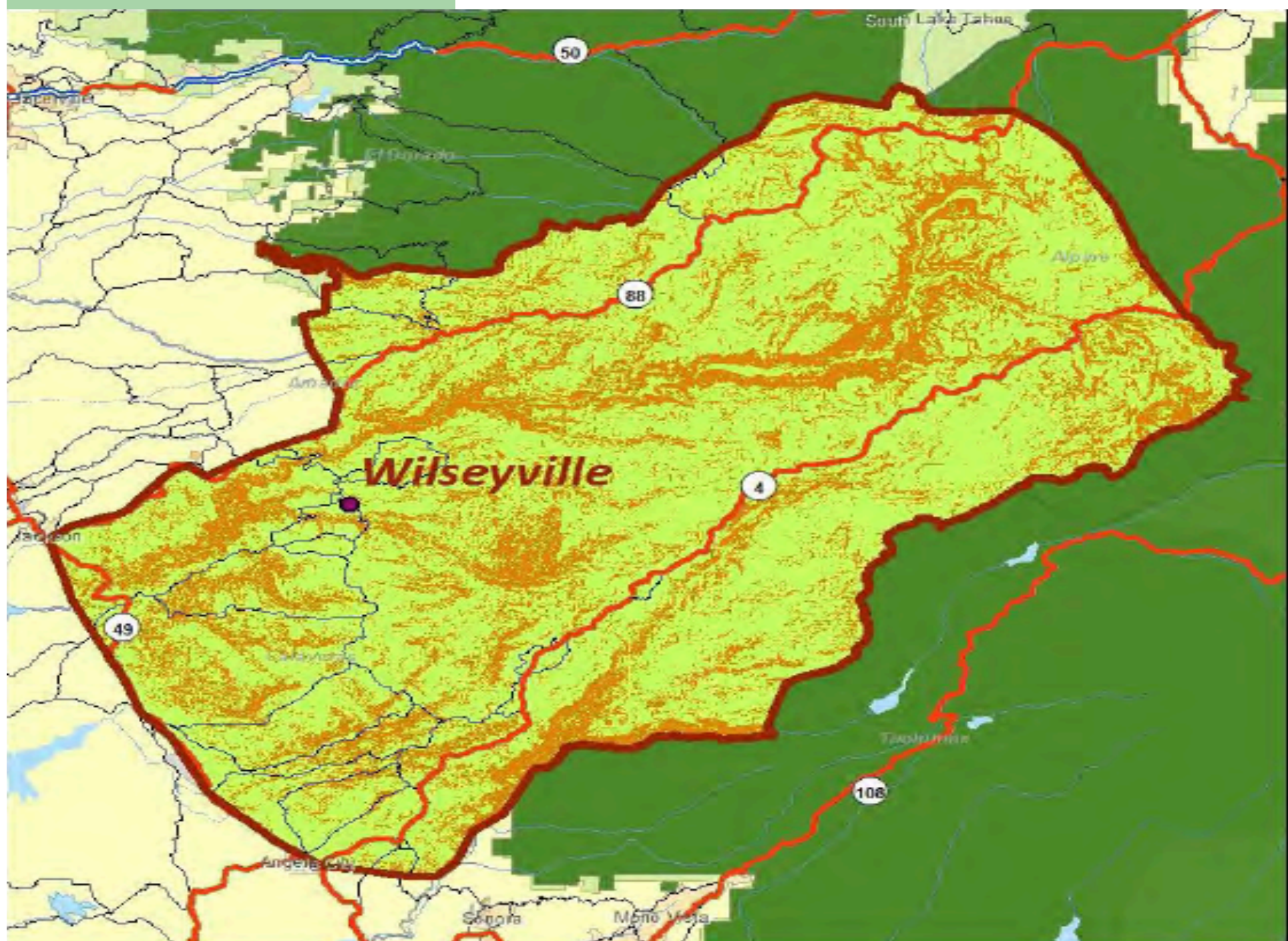
LAND OWNER/ MANAGER	FORESTED ACRES	PERCENT OF TOTAL
BLM	28,001	4%
Bureau of Reclamation	189	0%
Private	318,489	46%
State of California	6,489	1%
USFS	335,299	49%
<b>TOTALS</b>	<b>688,467</b>	<b>100%</b>



# USFS Managed Land Classifications

LAND CLASSIFICATION	FORESTED ACRES	PERCENT OF TOTAL
USFS Wilderness	87,887	26%
USFS Roadless	54,120	16%
USFS <b>Net Available</b> for Vegetation Management Activities	193,292	58%
<b>TOTALS</b>	<b>335,299</b>	<b>100%</b>





# Forest Cover Adjusted for Classification and Topography

OWNERSHIP	< 35% SLOPE ACRES
USFS (Net Available)	141,103
BLM	13,744
Private	296,068
<b>TOTAL</b>	<b>450,915</b>

# Filters Used to Determine Available Forest Biomass

- Vegetation Cover – conifer forest veg cover has the highest potential to provide sustainable quantities of forest biomass and small logs over time (depending on land management objectives).
- All biomass recovery must be consistent with CEQA and NEPA.
- Account for topography and forest road systems.
- Forecast based on current forest restoration, fuels treatment and forest harvest trends.
- Base recovery metrics on actual experience and local knowledge.





# Forest Biomass Availability 2011

<b>BIOMASS SOURCE</b>	<b>LOW RANGE (BDT/YEAR)</b>	<b>HIGH RANGE (BDT/YEAR)</b>
Timber Harvest Residuals	21,000	42,000
Fuels Treatment Activities – USFS/BLM	8,250	13,750
Fuels Treatment Activities – FSC/NRCS/CHIPS	5,625	13,125
Urban Wood Waste – Wilseyville Transfer Stations	160	175
<b>TOTAL</b>	<b>35,035</b>	<b>69,050</b>

# Forest Biomass Availability 2014 to 2016

<b>BIOMASS SOURCE</b>	<b>LOW RANGE (BDT/YEAR)</b>	<b>HIGH RANGE (BDT/YEAR)</b>
Timber Harvest Residuals	22,500	44,000
Fuels Treatment Activities – USFS/BLM	13,250	18,750
Fuels Treatment Activities – FSC/NRCS/CHIPS	5,625	13,125
Urban Wood Waste – Wilseyville Transfer Stations	225	250
<b>TOTAL</b>	<b>41,600</b>	<b>76,125</b>

# Small Log and Biomass Pricing

BIOMASS MATERIAL SOURCE	DELIVERED MATERIAL	LOW RANGE	HIGH RANGE
Timber Harvest Residuals	Chips	\$45/BDT	\$60/BDT
Pre-Commercial Thinning Activities and Timber Harvest	Small Logs	\$32/GT	\$42/GT
Fuels Treatment Activities – USFS/BLM	Chips	\$45/BDT	\$60/BDT
Fuels Treatment Activities – Fire Safe Councils/NRCS/CHIPS	Chips	\$50/BDT	\$70/BDT
Urban Wood Waste –Received in raw form	Limbs, Construction Debris, Misc. Wood	\$5/BDT	\$15/BDT



# 2MW Combined Heat and Power Facility

- Annual fuel usage of 16,000 BDT/year at \$40 - \$50/BDT.
- Primary revenue generated through power sales. Biochar also generates revenue.
- Assume 75% debt/25% equity in year one. 5% interest on debt.
- Federal production tax credit of \$.011/kWh.
- Capital costs are \$10.4M.



# Acknowledgements

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