

Woody Biomass Utilization

Northwest California:
A Snapshot

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Overview

- ★ Introduction
- ★ California trends
- ★ Northwest CA trends
- ★ Technologies of interest
- ★ Selected grant sources
- ★ Upcoming workshops



Woody biomass in California



Key criteria: Raw material form is important



Every process has a raw material specification



California trends – the bad

- ★ Mills reducing shifts
- ★ 3 SPI sawmills closed this year
 - ★ Quincy
 - ★ Camino
 - ★ Standard (Sonora) (+ cogen)
 - ★ Loyalton power plant down
- ★ Reduced availability of residuals (price increases)
- ★ Evergreen (Samoa) pulp mill closed
- ★ Forest Service sales receiving no bids
- ★ Stranded sales
- ★ Ongoing litigation
- ★ Finance is tough



California trends – the bright side

- ★ New shavings mill (Sonora)
- ★ New dowel mill (Blue Lake)
- ★ New pellet mills (Sacramento and Carlotta)
- ★ New fuel brick mill (Sonora)
- ★ Power plant restarts (Imperial Valley, Ione and Blue Lake)
- ★ New power plants (Mendocino Co, Placer Co, Fresno Co)
- ★ Power plant conversion from coal to biomass (Bakersfield)
- ★ Cement kilns starting to burn biomass (Southern CA)
- ★ New community led biomass groups (Siskiyou Co, Nevada Co, Mendocino Co, Calaveras Co...)



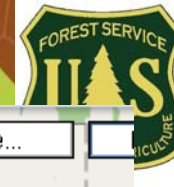
<http://ucanr.org/woodybiomass>

California trends

- ★ Projects are moving forward
 - ★ Primary processing
 - ★ Densified wood products
 - ★ Power generation
- ★ Small to mid scale reliance on NFS (up to 60,000 BDT/yr)
 - ★ Diversified feedstock or
 - ★ Small scale facilities
- ★ Finance more challenging
- ★ Communities finding common ground

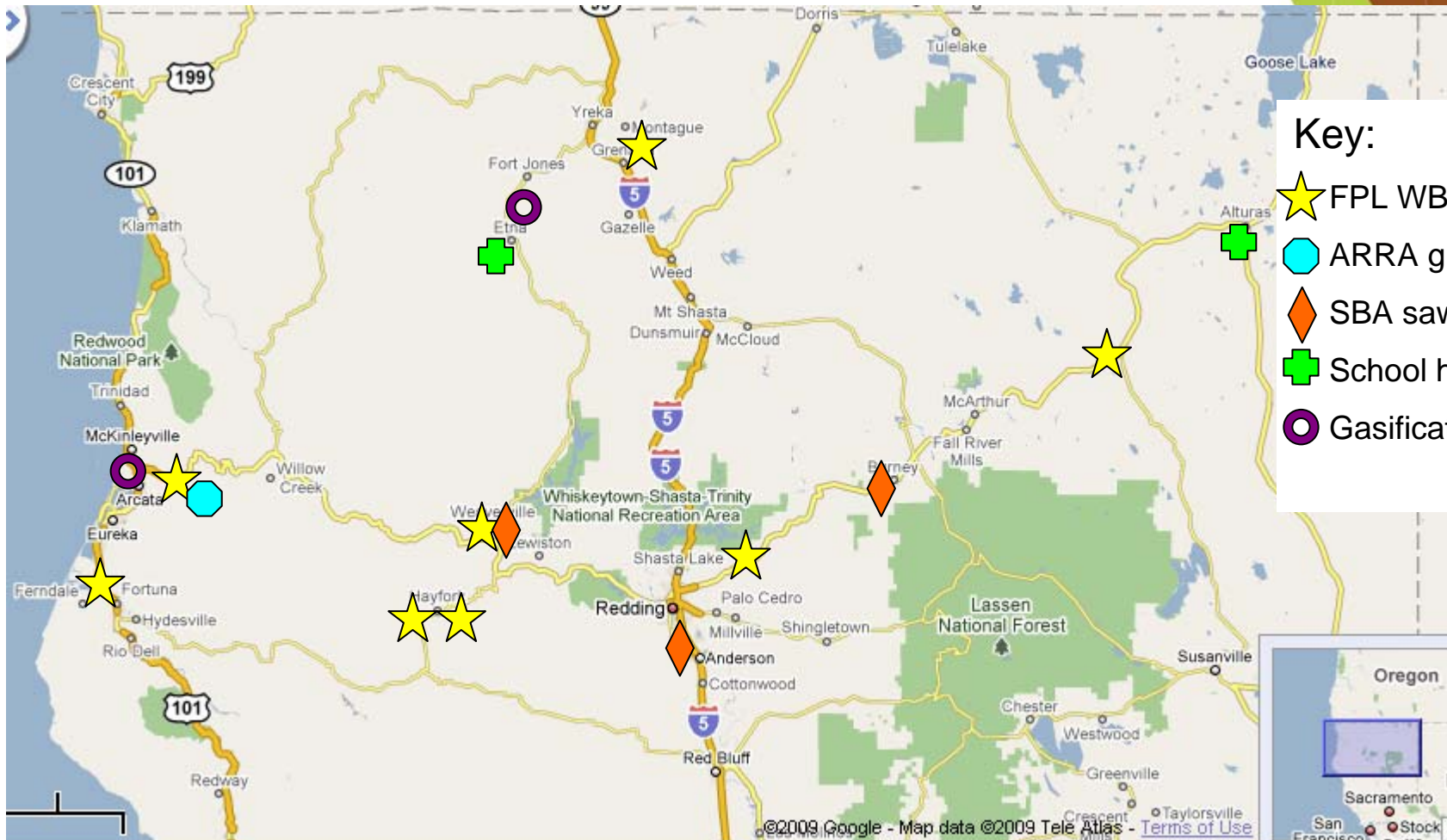


Projects, closures and groups



- Key:**
- ★ FPL WBU grants
 - ⬢ ARRA grants
 - ⊘ Sawmill/mill closure
 - ▲ SBA mill grants
 - ⊙ Large projects
 - 😊 Community groups

Northwest California Projects



Key:

- ★ FPL WBU grants
- ⬢ ARRA grants
- ◇ SBA sawmill
- ⊕ School heat
- Gasification

Where should you focus your limited time?



★ Potential conversion opportunities:

- ★ Electricity
 - ✦ Large scale
 - ✦ Combined heat and power
 - ✦ Small scale (gasification)
- ★ Institutional heat
- ★ Densified wood fuels
- ★ Biogas
- ★ Liquid fuels
- ★ Fast pyrolysis
- ★ Roundwood – post and pole
- ★ Wood shavings
- ★ Panelboard
- ★ Small log sawing

The best chance to make an impact



★ Potential conversion opportunities:

★ Electricity

- ★ Large scale – *Now* – Yes
- ★ Combined heat and power - *Now* – Yes
- ★ Small scale (gasification) – *Now-5 years* – Maybe

★ Institutional heat - *Now* – Yes

★ Densified wood fuels - *Now* – Yes

★ Biogas – *Now-5 years* – Maybe

★ Liquid fuels – *6 years+* – No

★ Biochar (charcoal) - ? – No

★ Roundwood – post and pole - *Now* – Yes

★ Wood shavings - *Now* – Yes

★ Panelboard – *Now* – Yes

★ Small log sawing - *Now* – Yes

Questions to ask for any project

- ★ Is the technology commercially deployed (proven)?
- ★ What is the feedstock specification?
- ★ Is there a supply of feedstock?
- ★ What are the markets for the output products?
- ★ Do the economics work?
- ★ Where is the finance coming from?
- ★ Is the process a net energy user?
- ★ Permitting requirements?
- ★ Do not rely on technology vendors for balanced information



Selected funding sources for projects

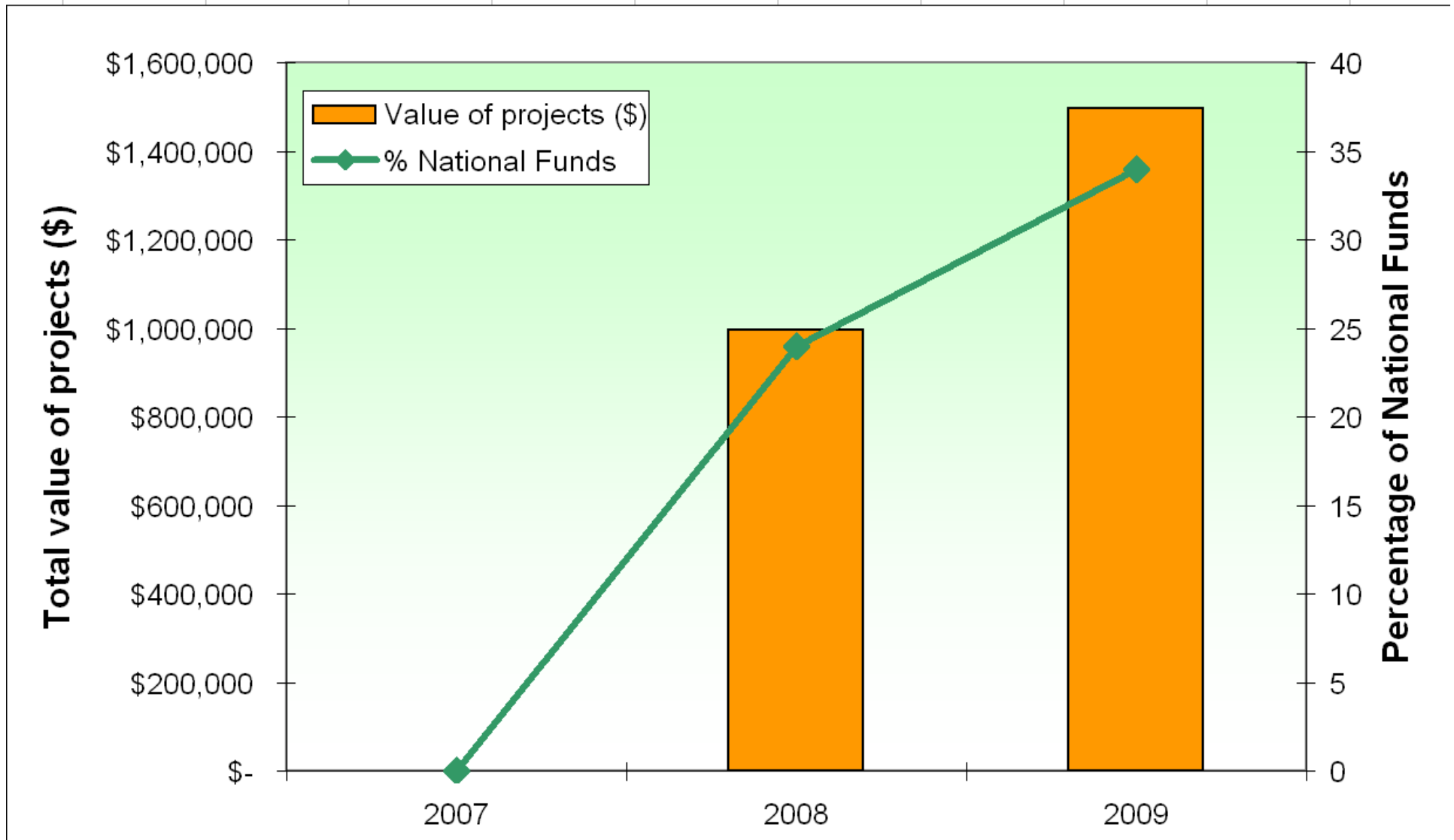


USDA Forest Service National Woody Biomass Grant Program

Objective: creating woody biomass utilization capacity to facilitate fuels reduction

- ★ Annual program
- ★ RFP: September
- ★ Award: July
- ★ \$50,000-\$350,000 per project
- ★ Generally purchases equipment
- ★ Save money, create markets to treat additional acres

WBU Grants to CA 2007-2009



Selected funding sources for projects

- ★ USDA Forest Service National Woody Biomass Grant Program
- ★ CA Association of Resource Conservation and Development Councils Forest Service Grant
- ★ American Recovery and Reinvestment Act (ARRA) grants
- ★ USDA FSA Biomass Crop Assistance Program
- ★ CEC energy demonstration programs
- ★ CSREES SBIR Program
- ★ Community Wood Energy Program (not funded yet)



Want more? upcoming workshops

Redding (SCLC), February 12 2010

Industry focused

Eureka, March 25 2010

Woody biomass to energy

Siskiyou County, April 2010

Woody biomass basics

Plumas County

Modoc, Mendocino, Tehama Co's

February/March 2010, Pyrolysis
demonstrations,



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<http://ucanr.org/WoodyBiomass>

Help with:

- ★ Grants
- ★ Technology
- ★ Markets
- ★ Networks
- ★ Healthy skepticism



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