

Payments for Ecosystem Services on California Ranchlands: Preliminary Results and Policy Implications

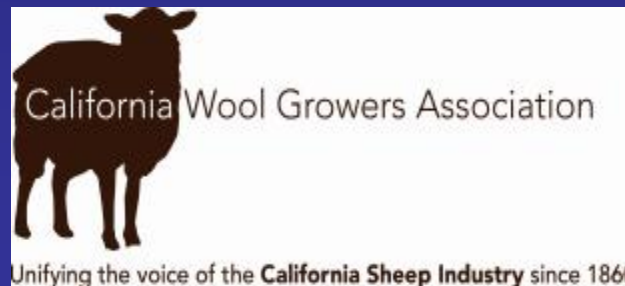
Frank Casey

Center for Science, Decisions and Resource Management
US Geological Survey



Beyond Conventional Ranching
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Acknowledgements



Topics

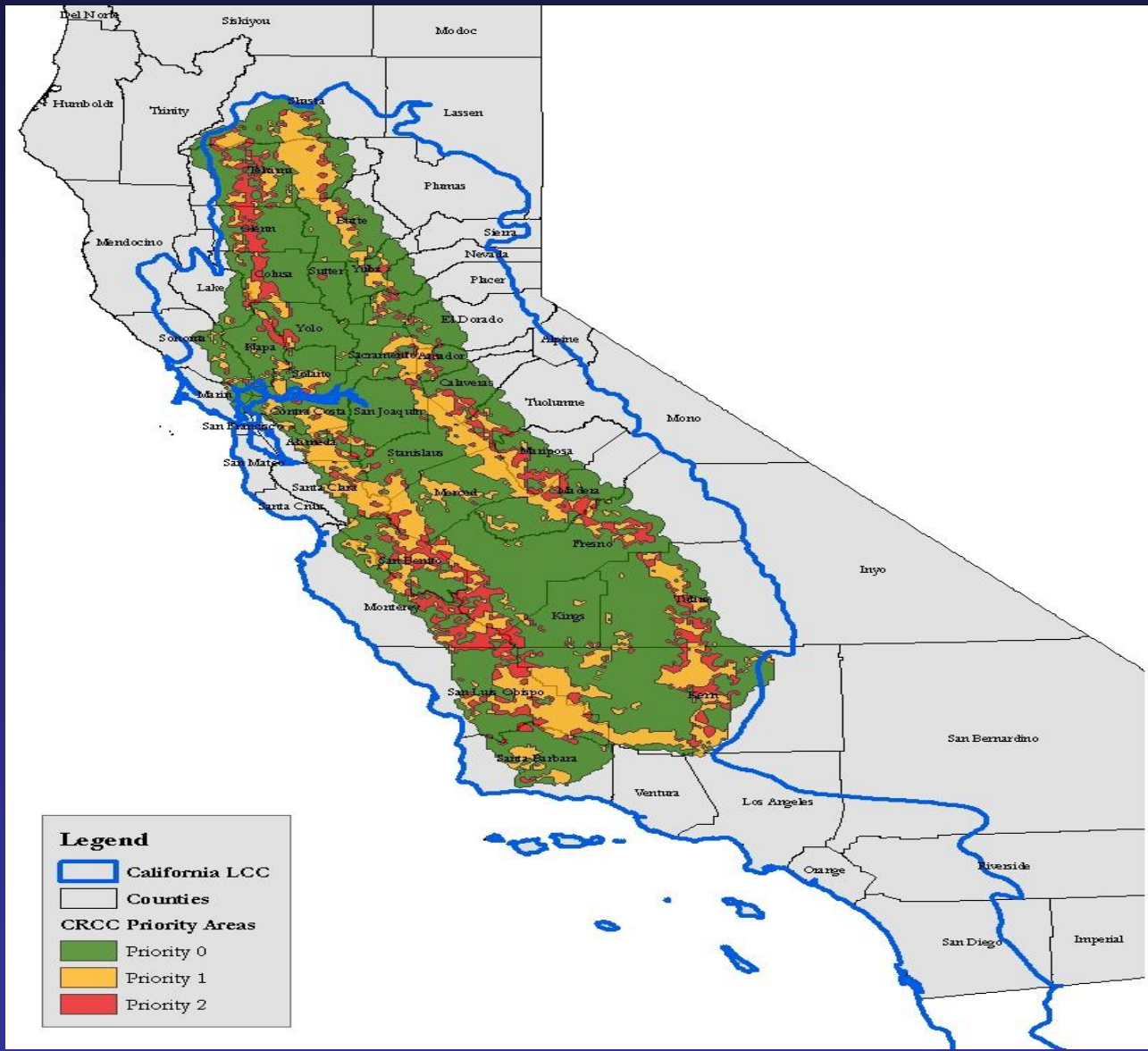
- Rancher Background and Conservation Experience
- Payment Program Characteristics
- Tradeoffs and Values
- Program and Policy Design



Types of Ecosystem Services

- Climate, water, and gas regulation
- Water supply, nutrient supply
- Soil formation, nutrient cycling
- Waste management, biological control
- Wildlife habitat, food production
- Recreation, cultural and scenic values





Rancher Background/Conservation Experience

- Demographics
- Land Ownership and Use
- Conservation Program Participation
- Program and Policy Design



Demographics

- Gender: 75% Male; 25% Female
- Age Distribution:
 - 2% less than 30
 - 12% between 31 and 45
 - 86% greater than 45 (50% > 60).
- Education: 4 or more years of college: 65%
- Years Family in Ranching: 82 years

Demographics

- Likelihood of Next Generation Ranching
 - Yes: 45%
 - No: 34%
 - Don't Know: 21%
- Households Working Off-Ranch: 71%
- Average Years Residing in same County: 48



Land Ownership and Use

– Acres Owned

- Less than 1,000 acres: 42%
- 1,000 to 3,000 acres: 29%
- 3,000 to 5,000 acres: 9%
- More than 5,000 acres: 20%

– Grazing Land Leased

- 67% of ranchers leased land in 2009
- 66% leased less than 5,000 acres of *public* land
- 80% leased less than 5,000 acres of *private* land

Land Ownership and Use

- Ownership Structure
 - Private individual or family: 50%
 - Family Limited Liability Corporation: 23%
- Hunting as a Land Use
 - 72% of respondents allow hunting
 - 67% derive no income from hunting
 - 20% make \$5-10 K per year from hunting



Land Use Priorities

- Ranching remains viable in the future
- Preserve rural feel
- Protect wildlife habitat
- Influence county land use planning



Conservation Program Participation

- High Participation and Satisfaction Level
 - 91 % participate in some program
 - 73% participate in the Williamson Act
 - 47% in Farm Bill programs (70% in EQIP)
 - 27% have easements



Important Program Features

- Increases productivity/promotes wildlife
- Promotes soil preservation/health
- Improves water quality/saves money
- Erosion control/additional income



Major Reasons for non-Participation in Conservation Programs

- Concerns about government restrictions or access
- Hassle associated with paper work
- Lack of understanding/knowledge of application processes



Major Sources of Conservation Program Information

- Printed media (Magazines, Bulletins, Newsletters)
- Agricultural Organization/Resource Conservation Dist.
- Other Ranchers
- Only 11% indicated that electronic media (TV, radio, internet) was source of conservation program info.



Payment for Ecosystem Services

- Very little familiarity with terms Ecosystem Services or Payments for Ecosystem Services (PES). **BUT**
 - Familiar with terms such as wildlife habitat management, water quality improvement, vegetation management, invasive species control
- Interested in participating in PES programs: 77% Yes; and favor creation of PES programs
- PES contract length, payment level, and administrator all equally and very important to participation decision

Rancher Interest in PES Activities

- Improve wildlife habitat
- Restore native plants/Increase carbon storage
- Improve water quality



PES Program Attributes

Attributes	Description	Levels
Contract Length	Amount of time that land can be enrolled in a conservation program	5, 15, 30 years
Program Administration	Organization that would administer the program	Federal Agency State Agency Conservation Organization Private Company
Payment Level	Rental payment (per acre, per year) for enrolling land in a program	\$5, \$10, \$20, \$50

Example Choice Question

Program Features	Program A	Program B	Neither
Contract length	30 years	15 years	
Program administration	Non-profit organization	State agency	
Payment level (per acre per year)	\$20	\$5	
<i>Please indicate your preferred program (circle one)</i>	I would prefer Program A	I would prefer Program B	I would not participate in either program.

Rancher's Preferences

- Shorter contracts and higher payment levels
 - Each additional year valued at \$.71/acre (\$21.30 for 30 years)
 - Increased payments increase likelihood of participation
- Program Administration
 - Conservation Organization
 - Federal Government/Private Company
 - \$6.60/acre / \$3.25/acre
 - State Agency: \$20.96/acre

PES Implications

- Baseline Scenario: Conservation Organization/Year to Year Contract
- Program A: Federal agency/ 10 year contract: \$13.70/acre **additional**
- Program B: State agency/ 20 year contract: \$35.00/acre **additional**



Policy Implications

- PES incentive on private rangeland is urgent given
 - Graying of rancher population
 - Uncertainty of land staying in ranching
 - Cyclical nature of income from ranching
 - Uncertainty over Williamson Act
- Participation in conservation programs may not be an indicator of a viable PES program
- With low easement rates, permanence may be an issue
- Low familiarity with PES terminology will require substantial outreach, education, and pilot testing using traditional media

Policy Implications

- PES outcomes must result in win-wins
 - Conservation happens but also improves financial and productive health of the operation
 - Conservation of wildlife habitat is shared interest
- Implementation of a PES program more likely to succeed using conservation partners
- Payment levels will have to be higher for long term conservation contracts
- Coordinate and target strategic areas within Landscape Conservation Cooperative areas

Frank Casey - ccasey@usgs.gov

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