Ecosystem Services Payment Program in California

Changing Conservation Easement Structure

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Abstract

There are 60 million acres of rangeland in California. Most of this rangeland is privately owned. Historically, these rangelands have been a source of forage for marketable products, such as livestock are a leading agricultural commodity and an important source of revenue for local economies. In addition to marketable products, rangelands and their stewardship also provide valuable ecosystem services. As ranchers continue to face economic hardship, specifically a lack of capital, maintaining these unpaid services through best practices is financially draining. To address this problem conservation easements have emerged as one of the primary channels for protecting private land against development.

In recent years, conservation easements have become increasingly popular. Although there is a large body of academic work studying the optimal level of conservation or mechanisms for achieving the optimal levels, there has been little investigation directed towards optimal payment structures. Particularly, payment structures which yield the highest combined welfare for land owners, conservation groups, and the public. Finding a payment structure that satisfies the interests and goals of these three groups can be challenging. We explored complementarities between conservation easements and PES schemes through the lens of identity economics (Akerlof and Kranton 2000). Previous studies have not sufficiently examined alternative payment incentives for land owners participating in Payment for Ecosystem Services.

Introduction

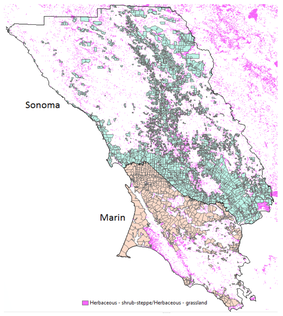
When a landowner sells a conservation easement to a conservation group, the landowner receives a one-time lump sum payment in exchange for accepting permanent development restrictions on their land. The University of California Cooperative Extension (UCCE) recently conducted a research project to examine alternative payment structures, such as a perpetuity or variable annual payment, could provide greater welfare to both the landowner and the conservation group.

Objectives

1. Determine the optimal payment structure for Sonoma and Marin County conservation easements in light of ecological, environmental, and economic incentives.
2. Compares aggregate welfare effects of one-time conservation easement payments relative to leases and annual Payments for Ecosystem Service

Methods

UCCE used the original survey report from Sonoma and Marin County landowners, http://aic.ucdavis.edu/oa/conease.pdf, to develop survey questions. Researchers used hypothetical conservation easement sale, receiving several observations about preferences for a $14,000 perpetuity as compared to a $200,000 lump sum.



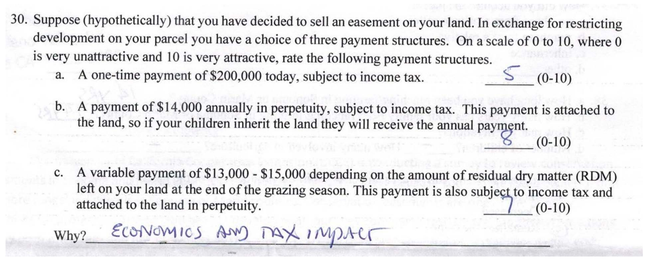
Survey recipients were identified by GIS and selected based on ownership of at least 50 acres of rangeland that has the potential to support livestock.

- **Survey landowners that sold conservation easements over the past 25 years:**

Obtain conservation easements by selling their development rights or purchased land that carried an easement at the time of purchase.

- **Also examined:** Landowners that began process of selling an easement but did not complete the sale or landowners that have never considered selling an easement.

We elicited preferences among three different payment structures for a hypothetical conservation easement:



30. Suppose (hypothetically) that you have decided to sell an easement on your land. In exchange for restricting development on your parcel you have a choice of three payment structures. On a scale of 0 to 10, where 0 is very unattractive and 10 is very attractive, rate the following payment structures.
    a. A one-time payment of $200,000 today, subject to income tax. 5 (0-10)
    b. A payment of $14,000 annually in perpetuity, subject to income tax. This payment is attached to the land, so if your children inherit the land they will receive the annual payment. 8 (0-10)
    c. A variable payment of $13,000 - $15,000 depending on the amount of residual dry matter (RDM) left on your land at the end of the grazing season. This payment is also subject to income tax and attached to the land in perpetuity. 7 (0-10)

Why? ECONOMICS AND TAX IMPACT

Survey collection is ongoing. At this time we have collected 221 surveys (22%) and have begun phone follow ups.

Data Analysis

$$\text{Preference}_i = \alpha + \beta_1 \text{Identity}_i + \beta \text{Demographics} + \varepsilon_i$$

Where Preference measure of preference for PES versus lump sums (possibly a ranking or the difference in ranks);

Identity measure of rancher identify landscapes dependences, stated identify, community strength);

Demographics landowner and parcel traits (income, parcel size, parcel productivity, etc.);

Epsilon is an error term.

Results

On average, landowners state a slight preference for the perpetuity over the lump sum. This preference is substantially larger among landowners that do not currently have a conservation easement on their land.
Landowners that currently have an easement state a strong preference for the lump sum over the perpetuity.

The degree to which landowners self-identify as members of a ranching/farming community was positively correlated with preferences for a lump sum.

- Annual payments confer significant tax benefits to landowners over equivalent lump sums;
- Conservation groups and landowners may differ in their economic discount rate (time value of money), which suggests welfare improvements could be achieved by spreading payments over time;
- Institutions like conservation groups may have access to financial instruments, such as perpetuities, that are not available to individual landowners.

Discussion

Two critical points of further investigation

1. Change the paradigm of Conservation Easements. Recognize all benefit relevant indicators from ecosystem services provided by conservation easements
2. Change the paradigm of working private lands. Not regulated, but with voluntary programs with economic incentives for improved adaptive management practices on conservation easements.

Photo by Sheila Barry

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