



The Conservation Reserve Program's Economic and Social Impacts on Rural Counties

**Results from an interagency study
coordinated by
the Economic Research Service, USDA**

A presentation for ...
CRP: Planting for the Future
Fort Collins, CO
June 2004

The Congressional Mandate

The Secretary of Agriculture shall submit...a report that describes the economic and social effects on rural communities resulting from the conservation reserve program... The study...shall include analyses of—

- (A) the impact...on **rural businesses, civic organizations, and community services** (such as schools, public safety, and infrastructure), particularly in communities with a large percentage of whole-farm enrollments;
- (B) the effect that those enrollments have on **rural population and beginning farmers** (including a description of any connection between the rate of enrollment and the incidence of absentee ownership);
- (C) (i) the manner in which differential per acre payment rates potentially impact the **types of land (by productivity) enrolled**;
(ii) changes to the per acre payment rates that may affect that impact;
(iii) changes to the per acre payment rates that may affect that impact;
- (D) the effect of enrollment on opportunities for **recreational activities** (including hunting and fishing).

— Section 1235A(b) of the Food Security Act of 1985, as amended by Section 2101 of the Farm Security and Rural Investment Act of 2002.

Findings in brief

- High levels of CRP enrollment have not had a statistically significant effect on rural population or community services.
- CRP enrollments may have temporarily slowed job growth in some counties, but such impacts were relatively small and short-lived.
- Changes in the way CRP participants are compensated have only minor impacts on the productivity of land enrolled.
- The CRP has improved hunting and fishing opportunities in rural areas, but estimates of their economic impact are imprecise.

(A) Impact on rural businesses and community services: **Approach**

- Prospective analysis: We estimated impacts if CRP had expired in 2001.
- Retrospective analysis: We analyzed trends before and after CRP was implemented.



Prospective analysis

- ① Predict what would happen to CRP acres...
for example: what fraction becomes cropland?
- ② These predictions are used to...
 - *Estimate changes in agricultural production and farm commodity prices.*
 - *Estimate changes in recreational expenditures.*
- ③ Given these changes, we ...
 - *Estimate the impacts on output, income, and employment in several CRP-intensive multi-state regions.*

Retrospective analysis

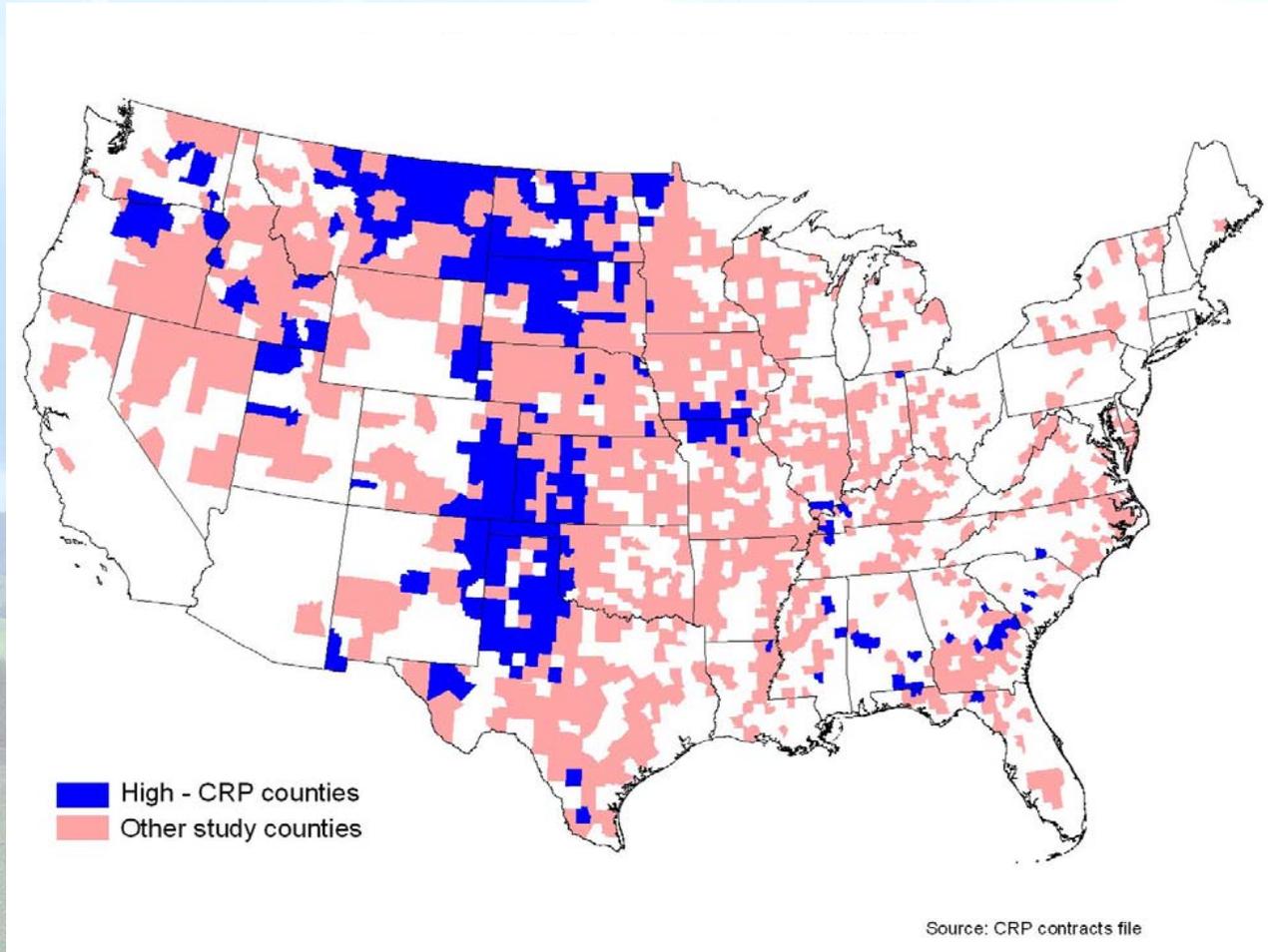
- **Econometric analysis of roughly 1500 counties.**

Does the extent of CRP have a statistically significant impact on income and population trends?

- **Matched pair analysis of roughly 200 “high CRP” counties with otherwise similar “low CRP” counties.**

Are there systematic differences between these two sets of counties?

Counties studied to determine CRP's community impacts



(A) Impact on rural businesses and community services: Findings

- Some loss of jobs in rural counties during 1986-92, but did not persist through the 1990s.
- The impact of CRP enrollment on employment varies widely by region due to factors other than CRP.
- No statistically significant relationship between high levels of CRP enrollment and local government services.
- The proportion of whole-farm enrollees did not have strong impacts on employment or the provision of local government services.

(B) Impact on rural population and beginning farmers: **Approach**

- We developed rural county growth models to analyze trends in rural population and the number of beginning farmers before and after CRP was implemented.
- We examined the relationship between whole-farm enrollments, absentee landowners, and community impacts.

Montana Town's Boys Are Its Last Gasp of Hope

By *Blaine Harden*

Washington Post Staff Writer

Monday, November 17, 2003; Page A01

GERALDINE, Mont., Nov. 16 -- A cold, nerve-rattling wind, the kind that can make a passer sick to his stomach. That's what the coaches from Geraldine High, whose boys had won 11 straight by keeping the football on the ground, were praying for in the state championship game.

Advertisement As football prayers go, it was reasonable enough. The November wind in north-central Montana often knocks railroad cars off their tracks. But the wind did not blow here on Saturday afternoon, and the boys from Geraldine, halfway through the third quarter, seemed helpless to do anything but lose.



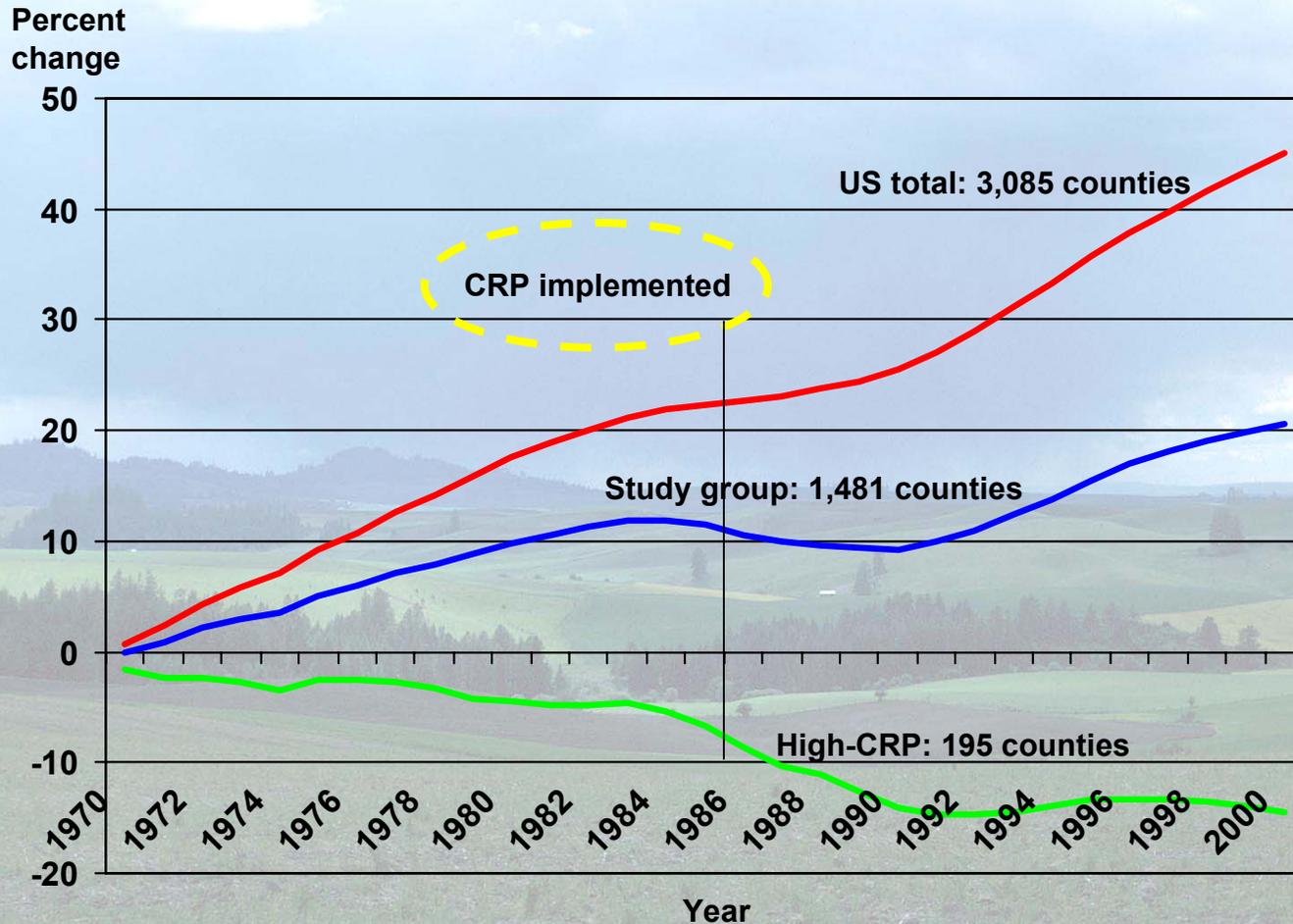
[enlarge photo](#)

Jason Woodburn, 12, practices shooting with his BB gun out on one of his family's pastures. Jason's brother, Justin, plays on the high school football team. (Photos Michael Robinson-chavez -- The Washington Post)

But perhaps the most important reason for the depopulation of Geraldine and eastern Montana is a 15-year-old federal subsidy that pays farmers to grow native grasses on their land, rather than grain.

Called the Conservation Reserve Program (CRP), it was intended to remove fragile, easily eroded land from production and stabilize crop prices by reducing the amount of grain that farmers grow. Thanks to the CRP, 40 million acres of farmland are out of production across the United States, including 3 million acres in Montana. The program guarantees farmers in this area about \$39 an acre per year. That is slightly less than what they could get for growing grain, but it is guaranteed and they do not have to fertilize, spray with herbicides or harvest the wild grass.

Average population growth, 1969-2000



Source: ERS analysis of BEA Income Files.

(B) Impact on rural population and beginning farmers: Findings

- Population trends in rural counties were largely unaffected by high levels of CRP enrollment.
- The relationship between CRP enrollment and changes in the number of beginning farmers was sensitive to the type of enrollment.
- Whole-farm enrollment in CRP were negatively associated with the number of beginning farmers; partial-farm enrollment had a positive effect.
- No statistically significant relationship between CRP enrollment and absentee ownership.

(C) Impact on the types of land enrolled: **Approach**

- Using CRP contract data, we developed simulation models to estimate the impact of alternative payment systems on the environmental benefits, rental costs, and productivity profile of land enrolled in the CRP.



(C) Impact on the types of land enrolled: **Findings**

- Changing the CRP enrollment mechanism from regional rental rates to parcel-specific rates
 - increases environmental benefits,
 - reduces overall program costs, and
 - modestly increases the productivity of land enrolled.
- Modifying the current parcel-specific rental rate (by imposing an upper limit on payments, or by disregarding costs when ranking bids) would have little impact on environmental benefits, rental rates, or productivity of land enrolled.

(D) Impact on recreational opportunities: **Approach**

- We reviewed published research on the non-market value of wildlife-related benefits associated with the CRP.
- We conducted statistical modeling using data on consumer and farmer behavior.
- We estimated CRP's impact on recreational expenditures, using data on recreational travel and access fees paid to farmers.

(D) Impact on recreational opportunities: **Findings**

- Prior research indicates that CRP has reduced soil erosion, improved surface water quality, and helped support wildlife populations.
- Prior research indicates that CRP provides considerable non-market benefits (e.g. improved opportunities for wildlife-related recreation).
- Based on limited data, we estimate that the CRP has increased recreational expenditures by as much as \$300 million per year.

Summary of Findings

- While CRP enrollment is high in counties that have experienced long-term decline in population, CRP did not contribute to a systematic decline in population or public services.
- Though CRP enrollments may have temporarily slowed job growth or amplified job losses in some communities, such impacts were relatively small and dissipated over time.
- CRP enrollment was associated with long-term decline in some industries, such as farm input suppliers and grain elevators.
- Differential per acre payment rates have little impact on the productivity of acres enrolled into the CRP.
- The CRP has improved hunting and fishing opportunities in rural areas. Impacts on travel expenditures are up to \$300 million per year.

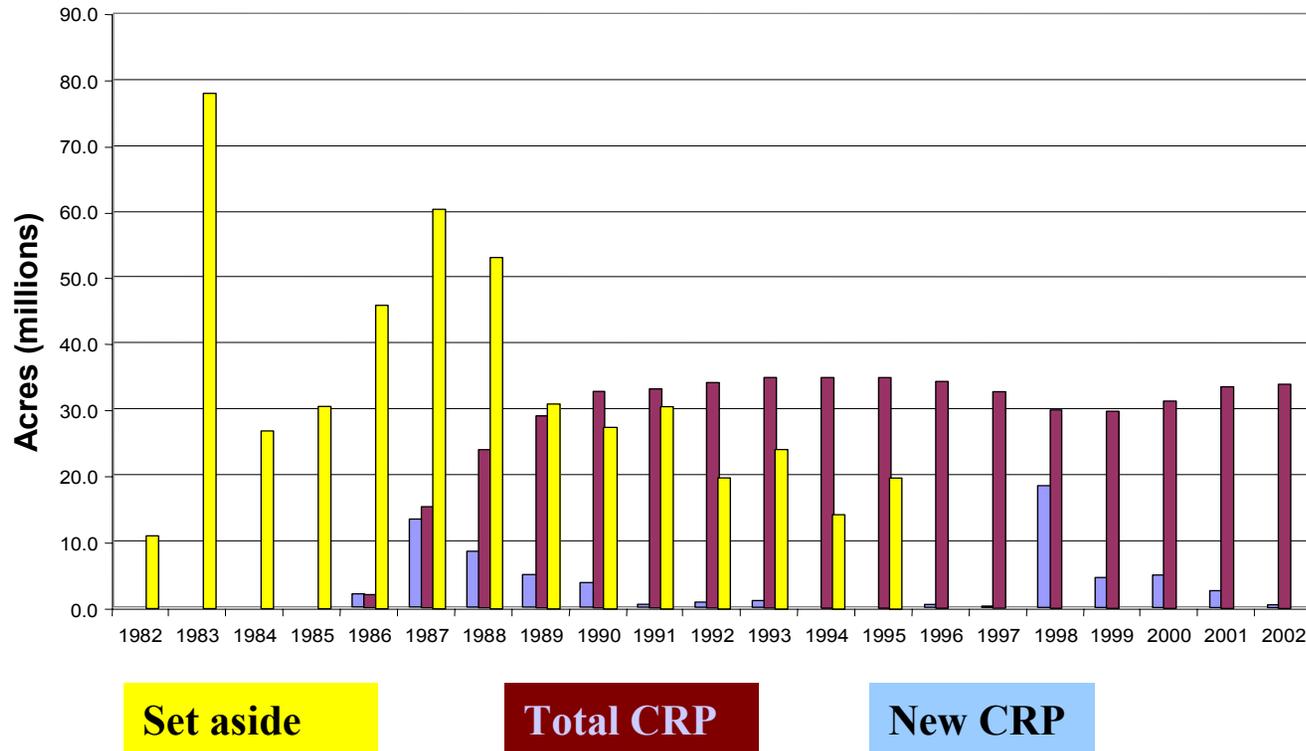
Supplementary Slides



Limitations

- ▶ We conducted a statistical analysis at the county level across the US. Some counties with high-CRP enrollment may have had negative or positive population effects due to a mix of factors, though we do not observe **systematic** effects of CRP.
- ▶ Conducted at the county-level, our study is not sensitive to changes that may occur on the smaller scale of individual towns within counties.
- ▶ In the short-run, we observe a correlation between high CRP enrollment and reduced job growth. However, we do not know the direction of causality.
- ▶ CRP may improve the quality of life in rural communities. Our analysis can only capture these impacts to the extent that they lead to demographic and economic changes.

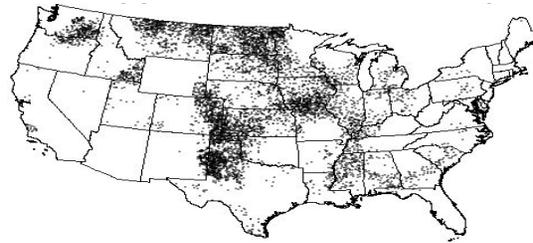
CRP enrollment and other diverted acreage, 1982-2002



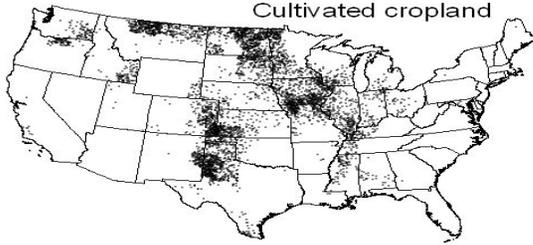
Disposition of enrolled acreage under hypothetical CRP expiration

1 dot = 5,000 acres

CRP enrollments,
November, 2002



Cultivated cropland



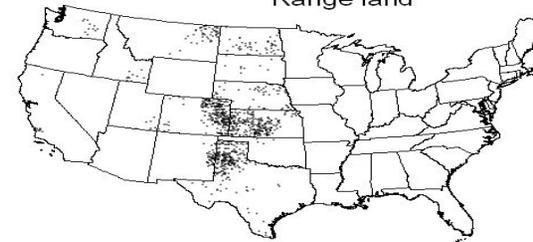
Uncultivated cropland



Pastureland



Range land



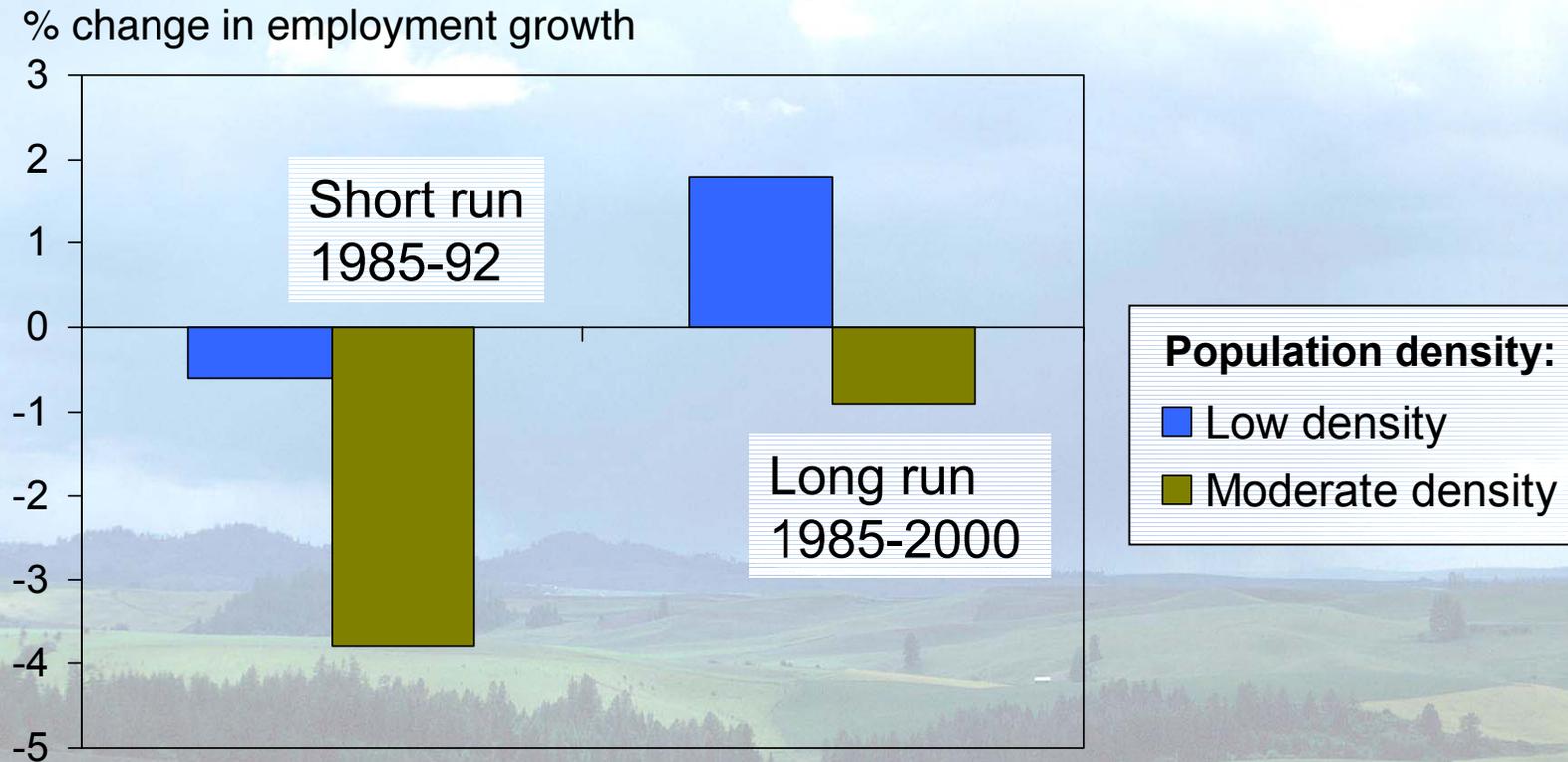
Forest land



Urban



Is there a relationship between CRP and employment growth?



- For moderate-density counties, adding CRP acreage reduces employment growth. This reduction diminishes over the long run.
- For low-density counties, adding CRP acreage has little impact on employment growth in earlier periods and a positive impact over the long run.

Two approaches were used to estimate CRP's impact on recreational expenditures

- Trips (using NSRE and FHWAR data on recreational trips)

Travel costs models that relate land use to observed recreational trips

- Receipts (using ARMS data on access fees paid to farmers).

Multiplier models that correlate access fees to total expenditures

Estimated impacts of high levels of CRP enrollment, 1982-97

