A White Paper by

HEADWATERS ECONOMICS

County Payments, Jobs, and Forest Health

Ideas for Reforming the Secure Rural Schools and Community Self-Determination Act (SRS) and Payments in Lieu of Taxes (PILT)

December 2010

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ABOUT HEADWATERS ECONOMICS

Headwaters Economics is an independent, nonprofit research group whose mission is to improve community development and land management decisions in the West.

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TABLE OF CONTENTS

LIST OF FIGURES

EXECUTIVE SUMMARY

County governments are compensated for the tax-exempt status of federal public lands within their boundaries. These payments are important, at times constituting a significant portion of county and school budgets. They also affect how public lands are managed, in turn influencing the kind of economic opportunities available to counties.

The current laws and appropriations that regulate how and the level at which counties should be compensated—the Secure Rural Schools and Community Self-Determination Act (SRS) and the appropriation for the Payments in Lieu of Taxes (PILT) program—are about to expire and Congress is looking for alternative ideas. This paper explores eight options:

1. Let SRS expire and return to commodity revenue sharing, where county payments are tied to timber harvest levels and other resource extraction on public lands.

2. Retain SRS with no substantive changes.

3. Let SRS expire and return to a revenue sharing system based on an expanded definition of "gross receipts" that counts the value of increases in forest health, such as watershed restoration and wildlife habitat improvements.

4. Retain SRS payments and change the distribution formula to give proportionately higher payments to counties based on:

    a. Economic need and development potential.
    b. Control of wildfire costs by curtaining home-building on fire-prone lands.
    c. Increases in the value of forest health by public lands.
    d. The proportion of federal lands in protected status.

5. Replace SRS, commodity revenue sharing, and PILT with a tax equivalency program, paying counties the equivalent of what they would be paid in taxes if the land were privately owned.

This paper explores the pros and cons of each option and evaluates each in terms of whether it would provide stable and predictable compensation to counties, create job opportunities in line with today's economy, and improve forest health. Where possible, color-coded maps are provided to illustrate the concept and to show their impact on counties under each idea.

Over the past 100 years, Congress has reformed and expanded federal land payments to counties, with each change reflecting new economic conditions and changing values of public lands. Forest Service and Bureau of Land Management lands are valuable beyond their raw material (timber, minerals, grazing) contributions. Public lands provide scenic vistas and recreational opportunities and a number of "ecosystem services" such as clean water and wildlife habitat. These lands also attract people and their businesses that locate in adjacent communities because of the amenities and for quality of life reasons. Each idea was therefore also evaluated in terms of whether it would provide incentives for county governments to support activities such as stewardship contracting and ecological restoration that could create jobs and increase the wide variety of values (including commodity development) associated with public lands.

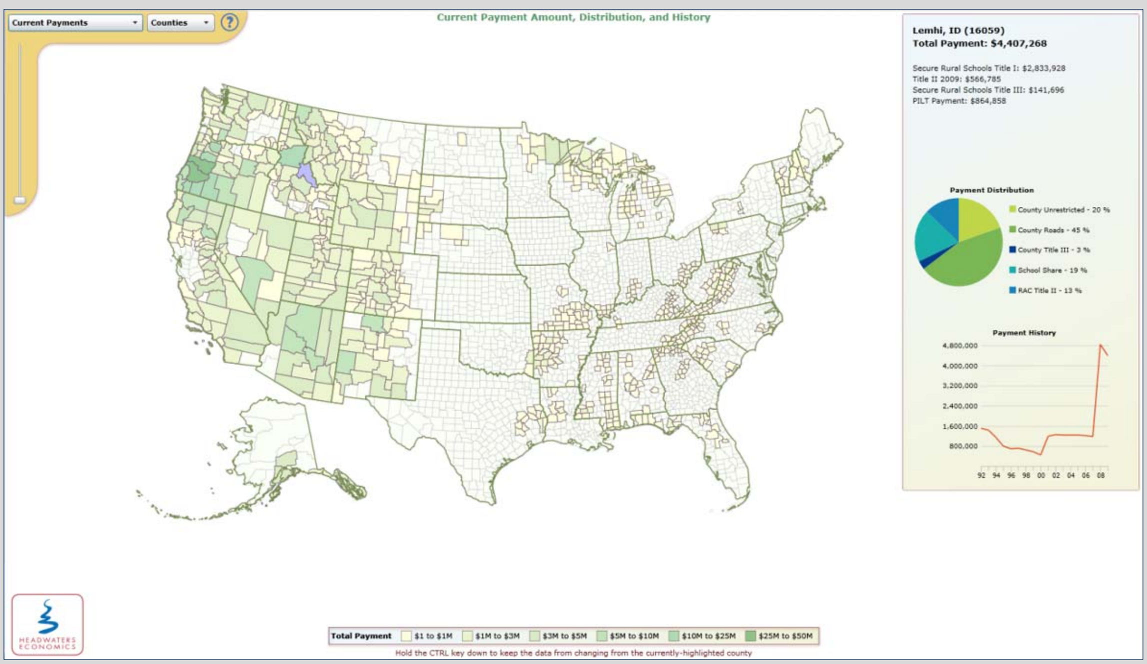
Over its current four-year authorization (FY 2008-2011), SRS will provide an annual average of $433 million to counties and schools. PILT payments have cost taxpayers more than $350 million in each of the last three years (FY 2008-2010). To extend these programs, or to replace them with new ideas, Congress will have to appropriate money from the general treasury or find other funding sources. Although not its main focus, this paper also offers five options for how Congress can fund future county payments.

Headwaters Economics presents the policy options for consideration and discussion in the spirit of determining how to best provide counties with stable and predictable compensation while reinforcing today's economic and land-health goals. We do not advocate for one idea over another and it is possible that several ideas could be implemented concurrently, especially if Congress seeks to strengthen current economic and policy goals already incorporated into the SRS formula.

Interactive Mapping Tool

Headwaters Economics has created an interactive mapping tool that displays key concepts and how a county (or state or Congressional district, where available) would be affected by ideas suggested in this paper.

Example



Whenever a concept or reform idea is available through the interactive web site, it is indicated as:

To see the effect on individual areas, see the interactive maps on:
www.headwaterseconomics.org/countypayments

I. INTRODUCTION AND PURPOSE

The purpose of this white paper is to offer ideas for how to reform the various ways counties are compensated for the tax-exempt status of federal lands. The cost of these programs, their impact, and their future viability are of great interest to Congress and county governments.

We hope the ideas and analysis in this paper help pave the way for a system that is fair to the taxpayer and local governments, and that leads to improvements in economic development and forest health. Although not the primary purpose of this paper, we also outline ideas for how to fund county payments programs.

Counties with Forest Service and Bureau of Land Management (BLM) lands have over the years been compensated in a number of different ways. Financial compensation provided through the various Forest Service programs, as well as the BLM's Oregon and California Railroad Lands (O&C) programs, and Payment in Lieu of Taxes (PILT) program, can constitute a significant portion of county budgets and can play an important role in determining how public lands are managed and the economic opportunities available to counties.

We review how and why these compensation programs have changed over time, examine the current payment systems, and offer alternative ideas for how these compensation programs can be distributed and funded. For each we discuss the pros and cons of the idea and offer an analysis (including color-coded maps) of which counties would come out ahead or behind when compared to current payment programs.

Key themes throughout the paper are incentives and outcomes. Properly designed compensation programs should provide predictable and stable funding to county governments. They should also create economic opportunity, and improve forest health.

The timing is right to present new ideas and to contrast these with lessons learned from current and past county compensation systems. One reason the timing is right is that if the Secure Rural Schools and Community Self-Determination Act (SRS) is not reauthorized, payments to counties will revert back to commodity sharing, such as the Forest Service's 25% Fund, which links payments to levels of commodity development on public lands. This creates an incentive for local governments to pressure Forest Service managers towards increasingly higher levels of timber harvests. It also makes the payments more volatile and less predictable as timber harvests decline or ebb and flow with market conditions. In 2000, the SRS law severed the link between commodity extraction and county payments. However, SRS is not permanently authorized and future funding is uncertain.

The pending sunset of SRS is generating two broad responses: either pressure to extend SRS payments or fresh calls to increase logging and sell public lands to fund payments. This paper discusses a possible third response—defining a new model for county payments that offers counties stable and predictable compensation while reinforcing today's economic opportunities and improving forest health.

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The next section offers important insight into why reform ideas are needed. A discussion of the history of various payments programs and changes in the economy and public values follows, setting the stage for an analysis of eight ideas for reforming the county payments systems.

What is the Secure Rural Schools and Community Self-Determination Act (SRS)?

Congress passed SRS in 2000 to provide optional assistance to states and counties whose revenue sharing payments (Forest Service 25% Fund and BLM O&C 50% payments) declined from the 1980s through the 1990s. SRS guarantees each eligible county a payment equal to the highest three years of revenue sharing payments between 1986 and 1999. SRS also added two new titles to help counties diversify their economies beyond commodity extraction and help pay for services directly related to public lands, including emergency services and community wildfire preparedness.

SRS is organized into three titles:

> <u>Title I</u>: *Optional Payments for State and Counties*. Title I payments replace revenue sharing payments and must be used to fund county roads and schools.
>
> <u>Title II</u>: *Funding for Special Projects on Public Land*. Newly formed Resource Advisory Committees (RACs) make recommendations for special projects on public lands, including infrastructure projects, restoration, and stewardship activities. Title II dollars are intended to create new kinds of forest jobs in timber dependent communities, helping them diversify job opportunities and improve forest health.
>
> <u>Title III</u>: *County Funding for Special Projects*. Title III funds county projects related to wildfire preparedness (such as community wildfire protection plans) and reimburse counties for costs associated with emergency services on public lands.

SRS payments from the Forest Service and the BLM totaled $562 million in FY2009. Title I made up 85 percent of the total payment ($478 million), Title II made up 9 percent ($53 million), and Title III made up 5 percent ($32 million). SRS payments are set to transition down from a high of $623 million in FY 2008 to an estimated low of $378 million in 2011.

Lands eligible for SRS payments include all Forest Service lands and the Oregon and California lands (O&C) managed by the BLM in Oregon. The total SRS payment in FY2009 includes payments made to counties as compensation for Forest Service and BLM O&C lands. Of the total SRS payment in FY2009, 17 percent ($95 million) was made to compensate 18 counties in Oregon for the BLM O&C lands in their jurisdictions. The rest of the SRS payment (83 percent, $467 million) was made to counties as compensation for Forest Service lands within their jurisdictions.

II. WHY REFORM IDEAS ARE URGENTLY NEEDED

County payments offer perhaps the most important policy opportunity to achieve today's economic and forest health goals for federally managed public lands.

During the past century, Congress has shown a commitment to providing stable and predictable compensation to counties for non-taxable federal lands. At the same time, federal land payments have a significant bearing on how public lands are managed and the kinds of economic opportunities available to counties. Congress has also demonstrated a continuing desire to adapt county payments to changing economic conditions and forest health management goals.

The passage of PILT in 1976 and the SRS in 2000 both ensured higher and more consistent compensation. The SRS Act also decoupled payments from commodity receipts, dampening pressure for logging to pay for local government services, while Title II of SRS provided new resources for stewardship and restoration projects. In 2008, Congress added new economic needs criteria to SRS, providing proportionally higher payments to counties with lower per-capita incomes.

The SRS program will sunset in FY 2011, however, and PILT funding is scheduled to end after FY 2012. Failing to reauthorize SRS will result in lower payments to many counties. In addition, county payments will revert to a revenue sharing model that has historically put pressure on the agencies to manage forests for commodity production over stewardship, restoration, and conservation goals.

While there is little support or desire to allow federal land payments to end entirely, reauthorization of SRS is uncertain for at least two reasons:

1. The SRS program was not intended as a long-term entitlement.[1]

2. Concern over tight federal budgets and increased deficits.

Over its current four-year authorization (FY 2008-2011), SRS will provide an annual average of $433 million to counties and schools. PILT payments have cost taxpayers more than $350 million in each of the last three years (FY 2008-2010). Current proposals to extend SRS either offer little advice on where to secure future funding or propose to fund payments through increased logging or by selling off public lands.

For new county payment reform ideas to be successful they must achieve the goals of providing predictable and stable payments while supporting public land management goals and improving forest health.

Equally important, county payments should reflect broader economic trends. Today, with some important exceptions, timber-related industries have been shrinking and truly timber-dependent communities are the exception rather than the rule across the country. This is partly due to changes in the industry, such as the decline in demand for wood products and increased mechanization, but also is largely due to diversification and growth away from commodity production, with the bulk of economic activity now coming from services-related sectors.

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[1] It was meant to help "transition" counties from dependence on public land commodity production, and to give counties time to develop other sources of funding in light of declining timber receipts. Title II of SRS was intended to aid this transition by creating new jobs not related to commodity production, i.e., economic activity that would lead to growth and a more diverse revenue stream.

As the economy evolves, the public view of the economic contribution of public lands also changes. For the more diversified counties, the economic value of public lands is becoming less tied to the extraction of raw materials, and more to their ability to attract people—businesses, entrepreneurs, and retirees—who want to live near public lands for recreation and quality of life reasons.[2] To meet these changing circumstances future county payments must be flexible enough encompass timber production while also enhancing the value of public forests and creating new economic opportunities, especially for rural communities.

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We begin this white paper with a policy history of county payments, pointing to the key programs and ideas that led to the current system. We also discuss the economic transformation that has taken place in rural America, and highlight current economic opportunities around public lands.

Next, we highlight eight options for reforming how counties are compensated for the tax-exempt status of federal lands. We describe how each idea will work, how it will affect counties, and whether the idea contributes to predictable and stable payments, economic opportunity, and forest health. For each idea we also show how the funding formula would change, with a simplified version of the formula in the body of the paper, with more detailed descriptions offered in the appendices.

Headwaters Economics presents the policy options for consideration and discussion in the spirit of determining how to best reform county payments. It is possible that several ideas will be implemented concurrently, especially if Congress seeks to strengthen current economic and policy goals, such as fairness for counties along with economic or social needs and improved forest health.

Finally, the paper briefly summarizes five funding alternatives to help offset the cost of the federal lands payment program, ranging from continued congressional appropriations to potential new revenue streams.

[2] Johnson, J. D., R. Rasker, et al. (1995). "The role of economic and quality of life values in rural business location." *Journal of Rural Studies* 11(4): 405-416. Beyers, W. and D. Lindahl (1996). "Lone eagles and high fliers in the rural producer services." *Rural Development Perspectives* 11: 2-10. Mathur, V. K., S. H. Stein, et al. (2005). "Do amenities matter in attracting knowledge workers for regional economic development?*." *Papers in Regional Science* 84(2): 251-269. McGranahan, D. A. (1999). "Natural Amenities Drive Rural Population Change." USDA ERS. Washington, D.C. Haas, W. H., W. J. Serow, et al. (2002). "The Baby Boom, Amenity Retirement Migration, and Retirement Communities: Will the Golden Age of Retirement Continue?" *Research on Aging* 24(1): 150-164.

III. IMPORTANT CONTEXT: POLICY AND ECONOMIC BACKGROUND

In this section we show that compensation for the tax-exempt status of federal lands has been flexible over time, changing to reflect changing values toward public lands and economic conditions. For example, the current SRS law offers various ways to reward stewardship and restoration activities, as well as wildfire preparedness and education. SRS also distributes a proportionally higher share of payments going to counties with lower per capita income. These elements of the current law mean that Congress has already considered and approved modifying county payments so that they reward activities that improve forest health, create jobs, and recognize the need to assist some counties more than others.

Key Developments in the History of County Payments

Congress Has Repeatedly Reformed County Payments to Respond to Changing Needs

The history of county payments is summarized in Figure 1, which shows the fluctuating value of federal reimbursements to counties along with the dates of landmark reforms. These reforms, made by Congress to respond to changing economic and political conditions, demonstrate the long-term flexibility of the program. Today, with the pending sunset of SRS in 2011 and the need to re-appropriate PILT after 2012, Congress again is poised to consider and possibly implement reforms to county payments that reflect changing public values and the opportunity to promote economic and forest health.

For a detailed explanation of the county payment programs addressed in this paper, see Appendix A.

Payments Were Originally Linked to Commodity Receipts

The policy origin of Forest Service payments to counties is clear: as compensation for public ownership of the Forest Reserves, the federal government initiated payments to counties in lieu of paying property taxes.[3] These payments were funded from commercial receipts generated on public lands, and counties could use the payments to fund roads and schools.[4]

The policy goals behind the revenue sharing payments are less clear. According to Ross Gorte at the Congressional Research Service, there is no discussion in the federal register as to why payments were funded with commodity receipts, or why the level was set initially at 10 percent in 1906 and raised to 25 percent in 2008. Gorte points out that the government did not have many other revenue options—the federal income tax was not initiated until 1913.[5] Whatever the reason, it is likely that receipt-based payments were an easy choice as linking payments to commodity extraction reinforced federal policy at the time to use federal land resources to grow the nation's economy.[6]

[3] Act of May 23, 1908, Pub. L. No. 60-136 (the Twenty-Five Percent Payment).
[4] Federal legislation mandated payments fund county roads and schools, but left to states how to allocate these funds between these two services. See Congressional Research Service Memorandum, Forest Service Revenue-Sharing Payments: Distribution System. November 19, 1999. Ross Gorte. (Available from Headwaters Economics).
[5] Gorte, Ross W. Reauthorizing the Secure Rural Schools and Community Self-Determination Act of 2000.Congressional Research Service (CRS-R41303). June 2010. Washington, D.C.
[6] Wilkinson, Charles. 1992. *Crossing the Next Meridian: Land, Water, and the Future of the West*. Island Press, Washington, D.C.

In 1937, the Bureau of Land Management (BLM) began sharing commercial receipts generated on the Oregon and California Railroad Grant Lands (O&C) with counties and schools along the same model as the Forest Service.[7]

The value of initial Forest Service and BLM O&C revenue sharing payments was insignificant to most counties for the first 30 years.[8] From 1908 to 1942, payments, in real terms, averaged less than $10 million nation-wide. After WWII, when commodities from the National Forests and BLM O&C lands helped to fuel the nation's housing boom, revenue sharing payments provided significant funding to counties. From 1945 to 1980, payments averaged $278 million, reaching a high of $792 million in 1977.

Reforms Were Made to Increase Stability and Predictability

After the war, many counties, particularly in the Pacific Northwest, grew to depend on timber for jobs and income, and payments to counties supported significant portions of local school and county budgets. As payments became more important, the use of commodity receipts as a funding source started to show its weaknesses. Volatility in commodity extraction in the 1960s and 1970s made it difficult for local government to plan for and provide quality public services consistently on an annual basis. Concerns about stability and predictability eventually led Congress, in 1976, to pass Payments in Lieu of Taxes (PILT) in addition to the existing revenue sharing payments.

The PILT formula establishes a ceiling (or maximum) payment for each county based on the number of eligible federal acres in the county and a maximum per-acre payment. The ceiling payment is reduced by the amount of revenue sharing payments the county received in the previous year. This formula guarantees that if a county's revenue sharing payments decline, PILT will increase by a proportional amount in the next year (and vice-versa; if revenue sharing payments increase PILT declines in the following year).[9]

The PILT authorization is capped in some counties by a population threshold, and for these counties, the PILT formula will not compensate for declining revenue sharing payments (the PILT payment is already at the ceiling and cannot rise). (For an explanation of the relationship between SRS and PILT, see Appendix D).

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[7] The main difference is that the county government share of payments is not restricted to roads but can be used for any governmental purpose. See: O&C Lands Act, Pub. L. No. 74-405, tit. II(a) (1937). .

[8] Revenue sharing payments are estimated from historic timber cut and sold reports from the Forest Service at the national level. Source: USDA Forest Service.

[9] Schuster, Ervin G. 1995. "PILT--its purpose and performance." *Journal of Forestry*. 93(8):31-35 and Corn, M. Lynne. 2008. *PILT (Payments in Lieu of Taxes): Somewhat Simplified*. Congressional Research Service (CRS) Report RL-31392.

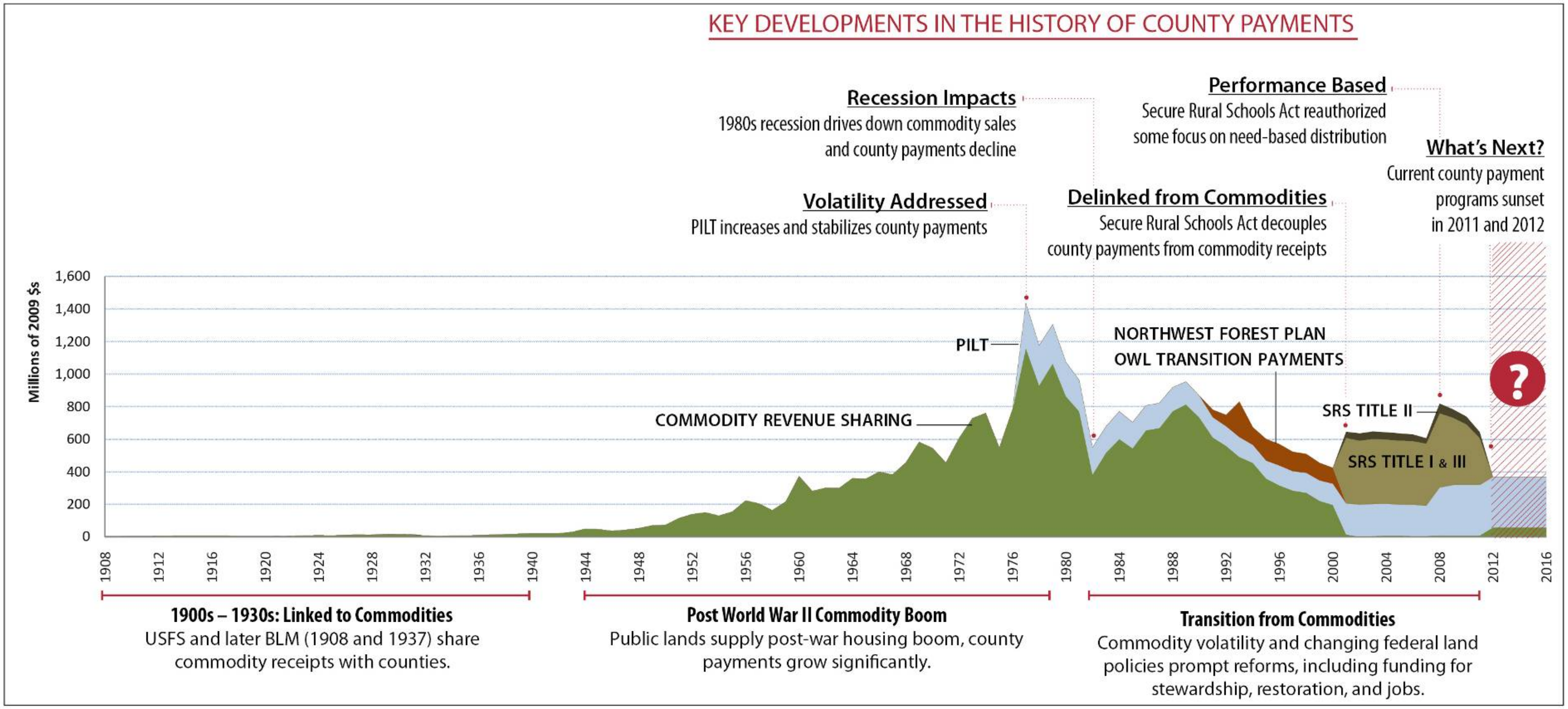

Figure 1
Key Developments in the History of County Payments.

Federal revenue sharing payments to counties and schools from the Forest Service and the BLM O&C lands were quite small, in real terms, until after the WWII, when the economic and housing boom greatly increased demand for timber from federal lands. As payments became important, payment volatility became a major concern, eventually resulting in the passage of PILT in 1976, which increased and stabilized payments. Subsequently, economic factors and changing attitudes about public land management led to steep declines in revenue sharing payments. “Transition-payments” began in the Pacific Northwest with the passage of the Northwest Forest Plan, and were extended to the rest of the country in 2001 by the Secure Rural Schools and Community Self-Determination Act (SRS). SRS also ushered in new funding intended to create jobs and improve forest health (Title II and Title III). Further reforms to SRS in 2008 weighted payments in part on the relative economic needs, with proportionately higher payments going to counties with lower per capita income. The pending sunset of SRS in 2011 and the need to re-appropriate PILT after 2012 is creating uncertainty about the future of county payments.

Payments Have Been Decoupled from Commodity Receipts

More recently, changing economic conditions along with new goals for public land management slowed the pace of logging on federal land, lowering revenue sharing payments to counties by more than 90 percent in some areas.[10] The Northwest Forest Plan that set new management goals for forests in the Pacific Northwest included the first "transition payments" to counties—a recognition that changing management goals that reduce resource extraction also reduce local government payments. The so-called "spotted owl" payments decoupled the link between extraction and county compensation by guaranteeing a stable, albeit declining, annual payment.

The decline in timber receipts felt most acutely in the Pacific Northwest was also occurring across the rest of the National Forests. In 2000, Congress passed the Secure Rural Schools and Community Self-Determination Act (SRS) that effectively extended transition payments to the rest of the country.[11] Initially authorized for six years, SRS provided optional payments equal to 85 percent of the highest three years of revenue sharing payments between 1986 and 1999.[12]

In SRS, Congress ended the reliance of most counties on commodity receipt-based payments that were unlikely to return to historic highs. Decoupling payments from commodity receipts reduced the importance of producing commodities in order to generate revenue for county payments. It also opened the possibility for new collaborative efforts to address restoration, stewardship, and conservation goals on public lands.

- Title I of SRS covers the payments delivered to counties and schools. In FY2009 Title I payments totaled $562 million nation-wide, representing 85 percent of total payments.

SRS Promotes Economic Opportunity and Forest Health

In Title II of SRS, Congress also provided public land managers and communities with limited but important resources for collaboration and on-the-ground work such as stewardship and restoration projects that create jobs and improve forest health (counties that receive more than $100,000 from SRS must allocate 15-to-20% between Title II and Title III).

Title II dollars are retained by the federal government and spent on public lands activities following the recommendations of Resource Advisory Committees (RACs). Title II can fund infrastructure, restoration, stewardship, and other projects on public lands. Title II is the first time the county payments program set aside funding for the direct purpose of creating economic opportunities in counties that have public lands.

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[10] *Ibid*., Gorte.

[11] Secure Rural Schools and Community Self-Determination Act of 2000, Pub. L. No. 106-393. Payment information is available from the Forest Service website at http://www.fs.fed.us/srs/ (last accessed 11/22/10).

[12] Under Section 102(a) and 103(a), states eligible to receive Forest Service and/or BLM revenue sharing payments can elect to receive either (1) the Twenty-Five Percent (Forest Service) or Fifty Percent (BLM) Payment or (2) the "full payment amount," calculated as the average of the three highest yearly revenue sharing payments from FY 1986 to FY 1999. The SRS payment was tied to the average of the three highest historical payments to each *state* as a means of further reducing the volatility of timber receipts at the county level. Under the 2000 version of the SRS Act, funding for payments to states and counties is derived from revenues, fees, penalties, or miscellaneous receipts received by the federal government from activities of the Forest Service on National Forest land, and the Bureau of Land Management on revested and reconveyed grant lands (lands returned to federal ownership). Pub. L. No. 106-393, §§ 102(b)(3), 103(b)(2). To the extent of any shortfall, payments are derived from Treasury funds not otherwise appropriated.

The funds are also used to improve forest health, aiding in transitioning counties away from dependence on commodities by creating new jobs in restoration and forest stewardship.

- In FY2009 Title II payments totaled $53 million nation-wide, or just 9 percent of total SRS payments. Title II shows potential, but funding levels and other barriers have limited the scale and influence of Title II projects.

Wildfire Preparedness, Improving Public Safety, and Reducing Future Taxpayer Costs

Title III of SRS represents another important reform: it makes explicit for the first time the links between federal lands and the direct demands those lands create for county services and wildland fire safety and costs. Title III funds can be used on special county projects including reimbursement for emergency services provided on federal lands and funding for community fire plans and fire-wise activities.

- In FY2009 Title III payments totaled $32 million nation-wide, or 5 percent of total SRS payments.

One other important reform to SRS included Title III payments, which now explicitly link public lands and demands for county services, particularly private development and wildland fire safety and costs.

The abnormally harsh fire season in 2000, described as the worst fire season in the United States since 1910, likely influenced Congress to include funding for wildfire preparedness in Title III.[13] Whereas the 2000 legislation provided funding for projects in six broad areas, the 2008 reauthorization limits funding to projects in three specific areas, two of which are concerned with wildfire preparedness. Funds can be used to:

1. Implement the Firewise Communities program, which seeks to provide education and assistance to homeowners to help them guard against personal and property damage from wildfires.

2. Develop community wildfire protection plans in coordination with the Secretary of Agriculture or Interior.

3. Reimburse counties for search and rescue and other emergency services.

While Titles II and III of SRS provide funding for stewardship, restoration, collaborative efforts and wildfire preparedness, the funding levels have been small, with the bulk of the payments going to Title I (85 percent of payments in FY 2009).

[13] U.S. Fire Administration, 2000 Wildland Fire Season, http://www.usfa.dhs.gov/downloads/pdf/tfrs/v1i2-508.pdf (last accessed 3/16/2010).

SRS Reforms in 2008 Adjust Payments Based on Economic Need

Congress made important reforms in 2008 that adjust the SRS distribution formula based on the per-capita personal income in each eligible county. The goal was to direct relatively higher payments to counties with low per-capita personal income who needed assistance the most. Reforming the distribution formula based on economic need reflects a desire to make payments to counties that need them most.

Two other mechanisms were incorporated into the 2008 reauthorization to achieve a more equitable distribution of payments nation-wide, based on more general concerns about the distribution of payments: the SRS "base share" formula was reformed to include the total acres of federal lands along with historic revenue sharing payments, and certain "covered states" – California, Louisiana, Oregon, Pennsylvania, South Carolina, South Dakota, Texas and Washington – are given "transition payments" which are pegged to the sums paid to states and counties in 2006 under the SRS Act as then implemented.[14]

The 2008 reauthorization of SRS provided a significant temporary increase in transition funding, making payments close to historic highs (on a national level, only payments in the years 1977 to 1980 exceeded the FY 2009 payment levels in real terms). In essence, the two latter reforms (not based on economic need) had the effect of distributing the increased appropriation more broadly to all states eligible to receive payments.[15]

How the Current SRS Payment Formula Works

The existing SRS formula is described in an eight-page technical document.[16] At its simplest, payments are based on two factors: a base payment considering historic timber receipts and acres of Forest Service and BLM land which is adjusted by per capita personal income.

County Payment = Base Payment / Per Capita Income Adjustment.

The formula's complexity derives mainly from the base payment calculation. Each county's payment is based partially on historic timber receipts and partially on the number of acres of federal land within the county's boundaries. A county's payment is also dependent on how many of their peers opt into the SRS payment formula. The fewer counties that elect to receive SRS payments (opting to receive their revenue sharing payment instead), the higher the SRS payment to each county will be, and vice-versa.

The PILT funding formula is slightly less complex, but still difficult to predict from year to year. In addition, Congress has not always fully funded the PILT program. The most important aspect of the PILT formula is how it interacts with SRS payments. The formula authorizes a maximum payment based on the number eligible federal acres within each county. This full payment is reduced by the amount of revenue sharing payments from the previous year and is subject to a population cap. In other words, PILT will make up some or all of the difference if Forest Service revenue sharing payments decline. A minimum base payment covers counties whose entitlement falls below a per-acre threshold after revenue sharing payments are subtracted and the population cap is determined.

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[14] U.S. Forest Service, Title I-Secure Payments for State and Counties Containing Federal Land. Pub. L. No. 110-343, tit.VI, § 103. http://www.fs.fed.us/srs/Title-I.shtml (last accessed 11/22/10).

[15] It is unclear from the legislative history why certain states were selected to be "covered states," but concerns over equitable distribution of payments likely played a role in California, Oregon, and Washington being included. A political motivation also lay behind expanding the number of states receiving higher SRS payments as it may increase the likelihood of future authorizations.

[16] The formula is described in a technical document titled "Calculating Payments" on the Secure Rural Schools website: http://www.fs.fed.us/srs/docs/calculations.pdf (last accessed 11/22/10).

The Current Policy Opportunity

SRS is authorized through 2011 and PILT funding is uncertain after 2012. If SRS fails to be reauthorized, counties will again receive a revenue sharing payment based on the value of commodity receipts. This will occur because the Forest Service 25% Fund and BLM O&C revenue sharing payments are permanently authorized and have a dedicated funding source in the form of commodity receipts.

The sunset of SRS will have several consequences. For most counties, revenue sharing payments will be lower than current SRS transition payments.[17] In addition, the sunset of SRS will eliminate Title II funding for restoration and stewardship projects, while linking future funding to commodity receipts will provide incentive for increased timber harvests rather than other forest health activities on public lands.[18]

Importantly, while decreased commodity payments will be partially or fully offset by PILT payments, there is a lag of one-to-two years before counties will see higher PILT payments.

Some states also include the school share of SRS payments in state equalization funding formulas, distribution the benefits across schools statewide, but also attenuating the losses.[19]
As the deadline for reauthorization approaches, reform ideas are starting to emerge as counties and states push for reauthorization and look for funding. Later sections of this paper more fully explore the policy

[17] Several efforts have been made to estimate the impact of SRS payments expiring. For example, Oregon's governor established a Task Force in 2007 to study the impact on services provided by counties and the state in the eventuality that SRS is not reauthorized (at the time, the Task Force was studying the potential impact before the SRS 2008 reauthorization). The Task Force found that the 33 counties that receive SRS payments faced a loss of $210 million annually, equal to 20 % of discretionary general fund or road fund budgets in the 24 hardest hit counties. See: Gaid, Dawn Marie, 2009. Changing Federal County Payments and Rural Oregon Counties: Analysis of Policy Impacts and Responses from Loss of Secure Rural Schools Funding in Selected Oregon Counties. Working Paper 09-04, Oregon State University Rural Studies Program, Corvallis.

[18] The potential sunset of SRS already has prompted some counties to take action to support increased timber harvests. The Forest Service uses a seven-year rolling average used to calculate revenue sharing payments and what happens this year will affect a county's revenue sharing payment in 2012 if SRS is not reauthorized or funds are not appropriated. In Montana, for example, counties like Beaverhead are opposing legislation that Senator Jon Tester has proposed because it will undertake commercial harvests through stewardship contracts, which are not counted towards a county's rolling average of commodity revenues.

[18] See Nick Gevock. Montanan's Views Differ Sharply. Mtstandard.com. 12/17/2009. http://www.mtstandard.com/news/state-and-regional/article_dca3bdf0-5428-5a85-8822-28aae9a8f2e8.html and Beaverhead County Commissioners Guest Opinion, "Commissioners Express Concerns Over Forest Act" Mtstandard.com. 10/14/2009. http://www.mtstandard.com/news/opinion/article_fa37da46-4494-5a68-bc16-567520862e53.html (last accessed 11/22/10).

[19] In California, where SRS payments are not included in state equalization formulas, affected school districts would lose the entire amount of the reduction in SRS payments. In Oregon, where SRS payments for schools go to the state and are then redistributed to local school districts along with all other revenue for schools based on a state equalization formula, affected school districts would be insulated from most of the decline in SRS payments.
To put the case of funding for Oregon schools in perspective, it is useful to know that SRS payments make up a small portion of the Oregon school budget and that SRS payments are currently paid on a declining annual basis. In FY 2009, SRS payments to schools in Oregon amounted to $25 million, which was about 1% of the $3 billion State School Fund budget for 2009-2010. Because of declining SRS payments, this revenue will return less than $15 million to Oregon schools by FY 2011. If SRS is not renewed and federal land payments revert to revenue sharing based on commodity production, we estimate Oregon's schools would receive between $4 and $5 million—or about 0.13% of the current State School Fund. The important point here is that schools that have federal lands will not experience significant declines in funding because of changes in Forest Service payments..

consequences of ending or extending the SRS program, while also introducing a number of new reform ideas that will change incentives to focus on current economic opportunities and forest health goals.

The Changing Economic Role of Public Lands

Economic Transformation Away from Commodities

In the last thirty years rural counties, where county payments are relatively important, have seen a dramatic shift in their economy and many areas are now significantly less reliant on timber harvesting and related wood products manufacturing to supply jobs and generate personal income. In other words, the economy of the West has changed significantly since revenue sharing programs were developed.

To get a sense of how significant this transformation has been, consider that commodity-related sectors that include farming, ranching, forestry, lumber and wood products manufacturing, hard rock mining, and fossil fuel development created less than 3 percent of all new jobs from 1990 to 2008 in the West. By 2008, these sectors combined were roughly 3 percent of all jobs in the West and 7 percent of all jobs in the non-metropolitan, or rural, West. [20]

Recent trends for timber-related employment (industries involved in the growing and harvesting of trees; sawmills and paper mills; and wood products manufacturing) are more severe. From 1998 to 2007, private timber-related jobs in the non-metropolitan West shrank from 77,862 to 63,459, an 18.5 percent decline. By 2007, on the eve of the most recent recession, which exacerbated losses, timber-related employment was 2.5 percent of all private wage and salary jobs and 0.8 percent of all proprietors (the self-employed).[21]

By comparison, from 1998 to 2007, non-timber sectors added over 400,000 new jobs in the nonmetropolitan West, a 20.5 percent increase. Most of these jobs were in services-related sectors and more than half of this growth came from relatively high-wage professional and technical services and health care sectors.[22] Along with this growth and diversification in employment, the tax base also has grown and diversified.

The impact of these economic transformations has been beneficial for some counties, but less so for others. In public lands counties where there is also an educated workforce and convenient transportation connections to major population centers many have been able to diversify and promote the scenery, recreational opportunities and other, "non-commodity" values of public lands as a way to attract entrepreneurs, retirees, and other migrants.[23] Yet for others, particularly in the rural, isolated counties,

[20] U.S. Department of Commerce. 2010. Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C. The West is defined as the 11 continental western states.

[21] U.S. Department of Commerce. 2010. Census Bureau, County Business Patterns and Non-employer Statistics, Washington, D.C.

[22] U.S. Department of Commerce. 2010. Census Bureau, County Business Patterns, and Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C.

[23] McGranahan, D.A., et al. (2010). "The Rural Growth Trifecta: Outdoor Amenities, Creative Class and Entrepreneurial Context." *Journal of Economic Geography* pp 1-29. Lorah, P., R. Southwick, et al. (2003). "Environmental Protection, Population Change, and Economic Development in the Rural Western United States." *Population and Environment* 24(3): 255-272. McGranahan, D. A. (1999). "Natural Amenities Drive Rural Population Change." E. R. S. U.S. Department of Agriculture. Washington, D.C. Haas, W. H., W. J. Serow, et al. (2002). "The Baby Boom, Amenity Retirement Migration, and Retirement Communities: Will the Golden Age of Retirement Continue?" *Research on Aging* 24(1): 150-164. Johnson, J. D., R. Rasker, et al. (1995). "The role of economic and quality of life values in rural business location." *Journal of Rural Studies* 11(4): 405-416. Beyers, W.

this transformation has not been as successful. Many timber-dependent counties were among the hardest hit during the most recent recession, and had some of the highest unemployment rates in the country.

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The history of the various county payments systems, the evolution that has taken place in the economy, and the change in the way the public values Forest Service and BLM lands all have a bearing on options the options Congress has available for reforming how county governments are compensated for the tax-exempt status of federal public lands within their boundaries. There are number of exciting opportunities.

The next section offers—and analyzes the effect of—eight ideas. This is followed by a discussion of five ways in which Congress could fund county payments.

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and D. Lindahl (1996). "Lone eagles and high fliers in the rural producer services." *Rural Development Perspectives* 11: 2-10. Mathur, V. K., S. H. Stein, et al. (2005). "Do amenities matter in attracting knowledge workers for regional economic development?*." *Papers in Regional Science* 84(2): 251-269. McGranahan, D. A. (1999). "Natural Amenities Drive Rural Population Change." USDA ERS. Washington, D.C. Haas, W. H., W. J. Serow, et al. (2002). "The Baby Boom, Amenity Retirement Migration, and Retirement Communities: Will the Golden Age of Retirement Continue?" *Research on Aging* 24(1): 150-164.

IV. OPTIONS FOR REFORM OF COUNTY PAYMENTS

The previous section showed that, through the SRS law, Congress has recognized the importance of rewarding activities that improve forest health, create jobs, and recognize the need to assist some counties more than others.

In this section we offer eight ideas for reforming how counties can be compensated for the tax-exempt status of federal lands. The pros and cons of each idea are evaluated, based on three criteria:

1. Provide stable and predictable compensation to counties;
2. Create job opportunities in line with today's economy; and
3. Improve forest health.

For each idea we explain how it would work, how the payment distribution formula would change, and the pros and cons of the idea. Where possible, we show through color-coded maps how counties would be affected by the proposed idea.

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Two figures help put the proposed reform ideas into perspective:

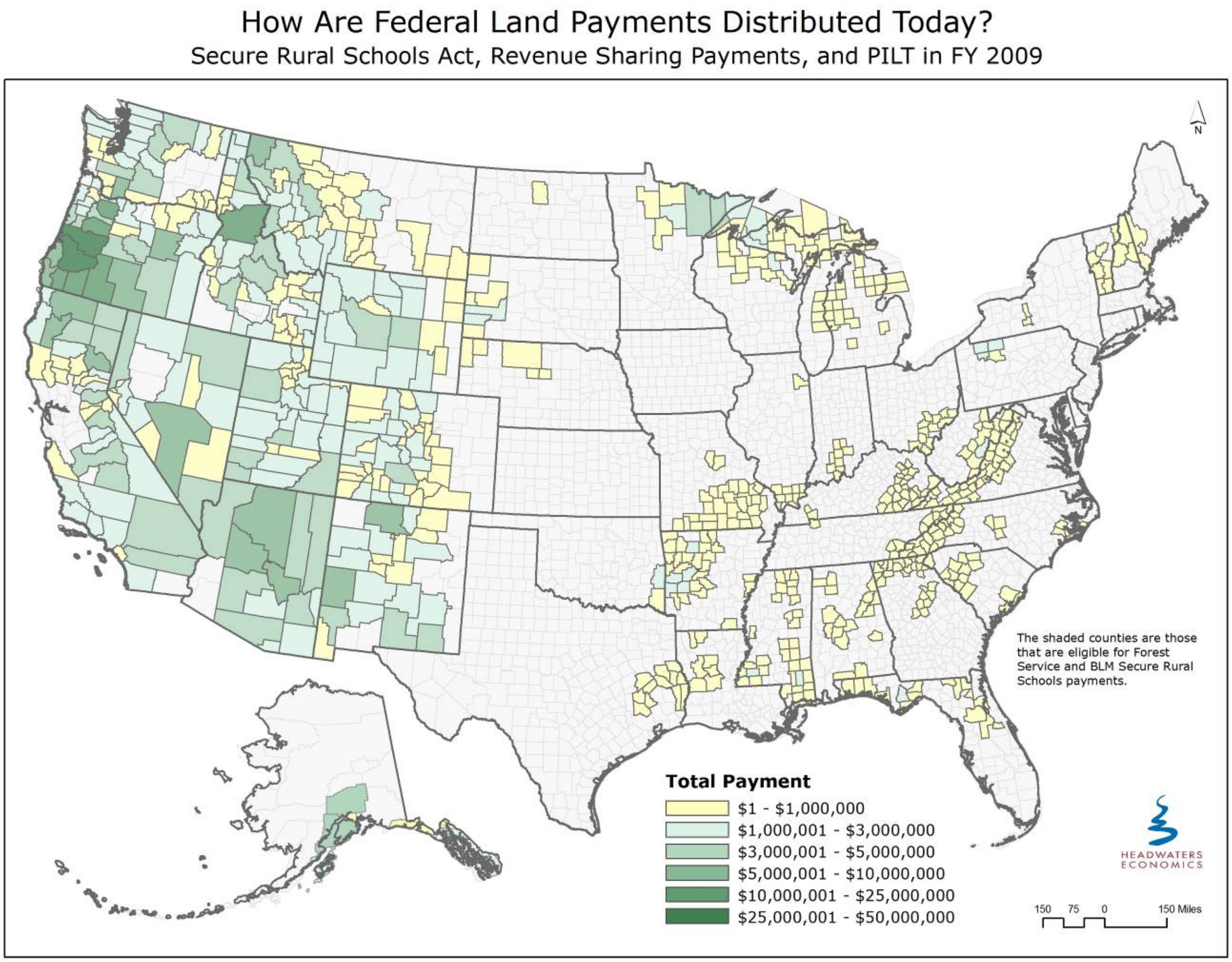
Figure 2 (next page) shows how current federal land payments (FY 2009) from the Forest Service, BLM, and PILT are distributed to state and local governments across the U.S. (The darker the green, the higher the payment to the county).

Figure 2 illustrates that some eligible counties, particularly in northern California, Oregon, central Idaho, northwest Montana and northern Arizona received proportionately higher levels of payments. Collectively, Oregon counties received the highest payments in FY 2009 from all sources, (SRS, BLM O&C, 25% Fund and PILT) totaling $242.8 million. This was followed by California ($88.2 million), Idaho ($62.2 million), and Montana ($51.8 million).

Some individual counties receive substantial payments. For example, in FY 2009 Douglas County, Oregon received $43.5 million from all sources, which is more than was received the same year by the states of Alaska, Wyoming, and Nevada (with less than $34 million each), as well as all of the non-western states.

Oregon counties have received relatively high payments in part because the SRS formula is based on payments from past timber harvest levels, and Oregon harvested significant volumes of high value timber relative to other states. It also means that ideas for reform of county payments that are based on overall forest health are still likely to direct relatively high payments to Oregon because of the state's significant forest resources and restoration needs.

Figure 2

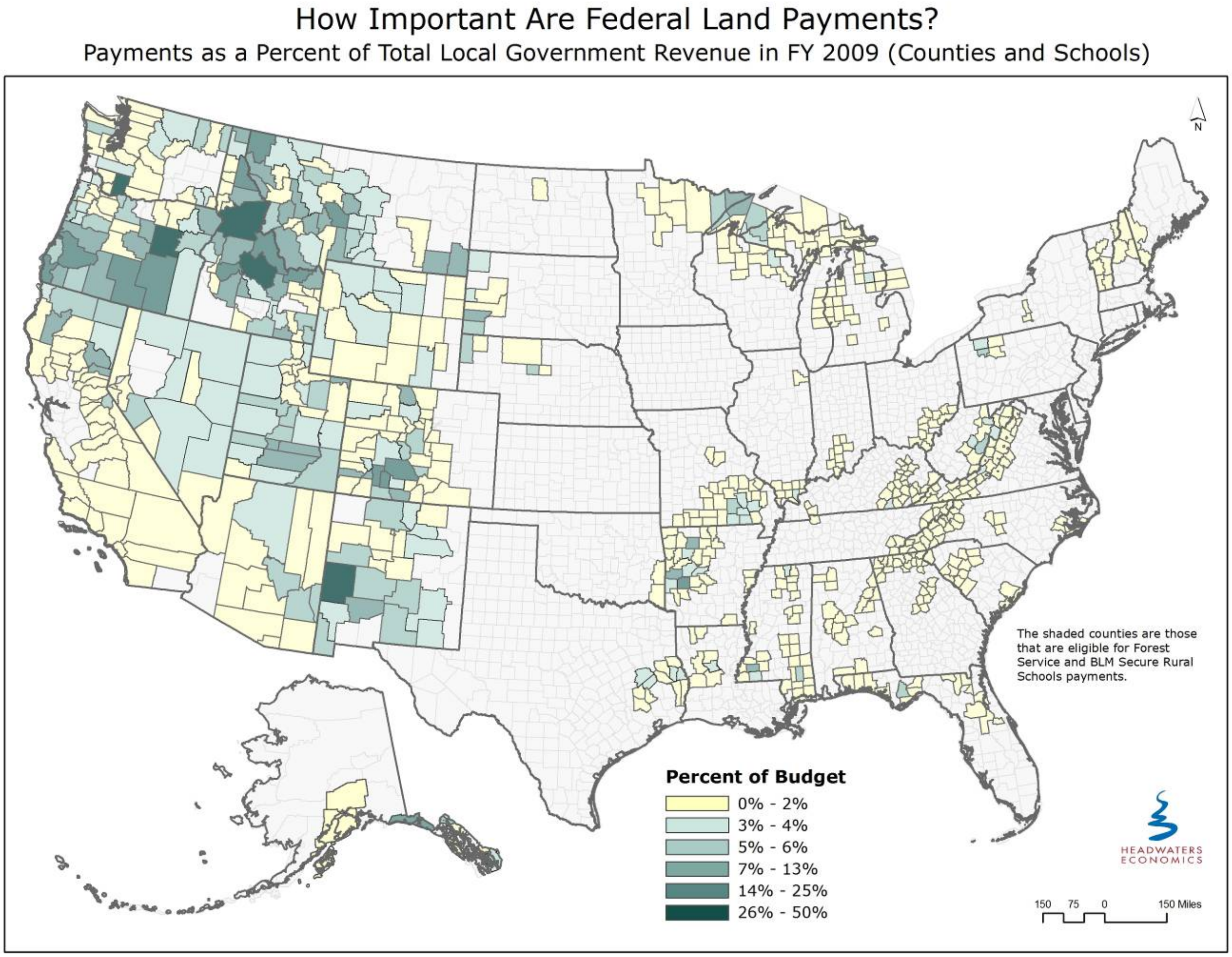


Total SRS payments from the Forest Service and the BLM totaled $562 million in FY 2009. Oregon received more than 24 percent of those payments, followed by California (9.7%), Idaho (7%), Washington (6.8%), and Montana (4.8%).

Figure 3 (next page) describes the relative importance of federal land payments, expressed as a percentage of county and school budgets.[24] Total payments distributed to county government and autonomous school districts are compared to total local government revenue from all sources, including taxes, charges for services, intergovernmental revenue, and other miscellaneous revenue. (The darker the color, the higher proportion of the county's budget).

[24] State and local financial data are from the U.S. Census of Governments, conducted every five years. The latest was for FY 2007. Census of Government county financial statistics are based on a national survey and may not match local government financial reports. For a detailed description of Census of Governments survey methods, survey year (fiscal year), and definitions, see: 2006 Government Finance and Employment Classification Manual atwww.census.gov/govs/www/06classificationmanual/06_gfe_classmanual_toc.html. Federal payments to counties are reported by the federal fiscal year in which they are authorized and are delivered to counties during the next local government fiscal year (e.g., federal land payments for federal FY 2009 are received by counties during local governments' FY 2010). For this reason, we compare FY 2009 federal land payments data to FY 2010 estimates of local government financial statistics (estimated from FY 2007 Census of Governments data).

Figure 3



When federal payments to counties are analyzed in terms of their relative importance to county and school budgets, Oregon, Idaho, western Montana and selected counties in southern Utah and New Mexico are comparatively dependent. For example, in FY 2009 in Douglas County, Oregon these payments constituted approximately 18 percent of the combined government and school budgets, and 13 percent of county budgets alone. In Idaho County, Idaho, federal land payments made up 37 percent of the combined government and school budgets, and 57 percent of county budgets alone. The same year, county payments made up 46 percent of the combined government and school budgets, and 60 percent of the county budget for Catron County, New Mexico.

However, these examples are the exception. Of the 721 counties that are eligible to receive payments, federal land payments constituted more than 25 percent of combined county and school budgets for only five counties (or less than 1% of all eligible counties) and more than 10 percent of budgets for 35 counties (or less than 5% of eligible counties).

Options for Reform of County Payments:

Page

To see the effect on individual areas, see the interactive maps on:
www.headwaterseconomics.org/countypayments

IDEA 1: END SRS TRANSITION PAYMENTS

Return to revenue sharing payments that are linked to commodity receipts, while fully funding PILT to reduce the number of affected counties.

The Idea

The Secure Rural Schools and Community Self-Determination Act (SRS) expires in FY 2011. If not reauthorized by Congress, counties again will receive Forest Service and BLM payments that are funded by receipts from commodity extraction on public lands. Counties will continue to receive PILT at fully funded levels.

How the Idea Works

In 2008 Congress reauthorized SRS as an optional and temporary program scheduled to sunset in 2011 (last payments will be made FY 2011). Under SRS, counties may choose between two options: (1) to receive SRS transition payments or (2) receive their share of commodity receipts generated on public lands. If SRS is not reauthorized, all counties will receive their revenue sharing payment from the value of commodities extracted on Forest Service and O&C lands. In addition, each county will continue to receive PILT, which often will increase to offset some or all of the loss in revenue sharing payments (though PILT still must be re-appropriated starting in FY 2012).

The Formula

Each county's payment will be calculated as follows:

County Payment = Revenue Sharing Payment + PILT

For an explanation of the revenue sharing programs, see Appendix A.

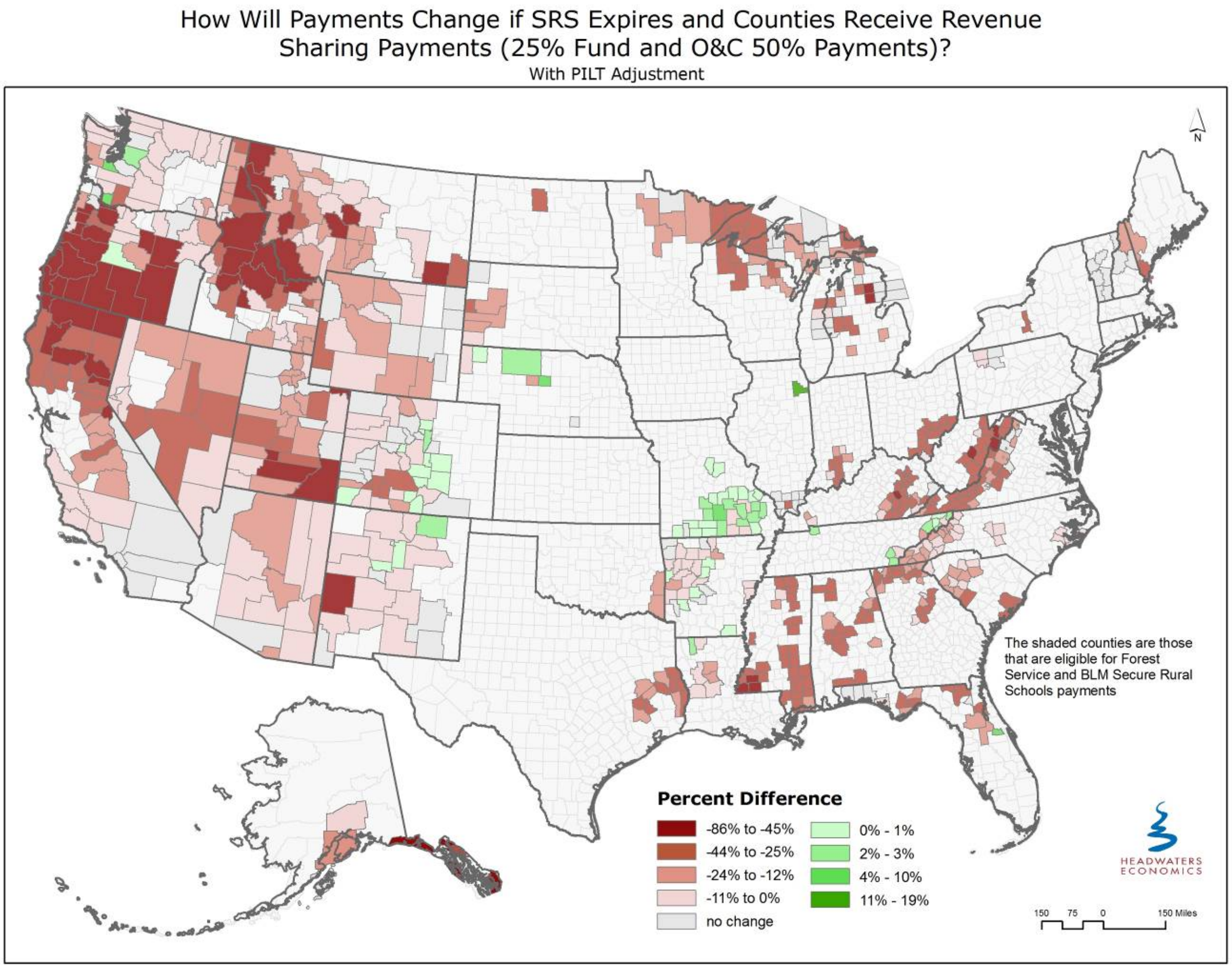
How the Idea Contributes to Predictability, Economic Opportunity, and Forest Health

We estimate that revenue sharing payments will be significantly lower for most counties when compared to current SRS payments, but a corresponding increase in PILT payments will mean that many counties will not see a dramatic difference in the total federal land payments they receive. However, those counties that will see significantly lower payments already are among the most dependent on SRS payments. For these counties, lower payments will be compounded by increased volatility in annual payments. Returning to revenue sharing payments will have several impacts. First, it increases incentives for state and local governments to lobby for increased logging on public lands. Second, stewardship, restoration, and conservation projects that do not generate receipts probably will receive less support from local officials. Third, SRS Title II funds will go away, removing funding that has encouraged collaborative restoration work on public lands.

How Counties Will Be Affected

Figure 4 shows how payments will change if the SRS expires in 2011 as scheduled and payments revert back to revenue sharing (Forest Service 25% Fund and BLM O&C 50% payment). We estimate the revenue sharing payment each county would receive, as well as PILT and changes to education equalization funding in sates that include federal land payments into the state distribution formula. (Green indicates net gain; red indicates net loss). The current payment was calculated as the average payment for FY2008 through FY2011. The projection is for FY2011.

Figure 4



To see the effect on individual areas, see the interactive maps on:
www.headwaterseconomics.org/countypayments

If SRS expires in 2011 and payments to states and counties revert to revenue sharing (Forest Service 25% Fund and O&C 50% payment), counties and schools across the country will receive $262 million less by 2014 when compared to the average payment from FY 2008 to 2011, a 31-percent-lower payment level.

Overall, 563 of 718 counties will see lower payments with 425 counties experiencing losses greater than 10 percent. Forty-five counties will see their payments decline by half or more.

Our estimates are based on three factors:

1. The difference between current SRS payments, measured as the average payment over the period FY 2008 to 2011, and estimated revenue sharing payments from the Forest Service and BLM.[25]

2. Higher PILT payments that will adjust to cover for all or a portion of the difference between Forest Service SRS payments and estimated 25% Fund payments (BLM O&C payments are exempt from the PILT formula).

3. Higher state school equalization payments to affected counties in the 13 states that include the school portion of Forest Service SRS and 25% Fund payments in state equalization funding (rather than delivering payments directly to the school districts based on the amount of federal public lands within their jurisdictions).[26]

Another important finding is that federal and state policy will affect how counties and schools will experience funding declines. For example, in Oregon, schools will see little-to-no change in overall funding. Oregon directs 30 percent of Forest Service SRS and 25% Fund payments, about $25 million in FY 2009, to the State School Fund. The State School fund distributed about $3 billion to schools across the state in FY 2009. As a result, schools across the entire state will share in the funding decline, not only the counties eligible for SRS payments. The loss of SRS dollars will be small relative to the size of the State School Fund (0.8% decline in state assistance to school districts).[27]

By comparison, in Montana Forest Service SRS and 25% Fund payments are delivered directly to eligible school districts based on the presence of federal land. School districts cannot receive PILT, so districts in Montana will experience a direct loss equal to the difference between current SRS payments and projected 25% Fund payments.

[25] Twenty-five percent of Forest Service receipts by proclaimed National Forest (Forest Service ASR 13-1, FY 2009) are distributed to counties based on each county's proportional acreage. (Each county receives a share of the 25% Fund equal to the share of proclaimed National Forest Acres within their borders). Proportional acreage is calculated from Forest Service ASR 10-2, FY 2009 that reports SRS payments by PNF that reports acres of national forest by county. Fifty percent of O&C receipts are distributed to the 18 Oregon O&C counties using proportional acreage. O&C payments include the Coos Bay Wagon Road (CBWR) payments, which are based on the amount of lost tax revenue. We follow methods described by the BLM for budgeting purposes to allocated CBWR receipts. U.S. Department of Interior, Bureau of Land Management, Oregon State Office. http://www.blm.gov/or/index.php (last accessed 11/22/10).

[26] These states include: Arizona, Arkansas, Colorado, Louisiana, Missouri, Nebraska, New Mexico, Oregon, Pennsylvania, Tennessee, Vermont, Washington, and Wyoming. We assume that the formula will automatically adjust and increase by an amount proportional to the decline in Forest Service payments. The other states (not listed) do not count Forest Service receipts against a school district's equalization payment, meaning the decline in Forest Service SRS payments will result in direct funding declines for schools in these states. See: An Inquiry into Selected Aspects of Revenue Sharing on Federal Lands. 2002. A report to the Forest County Payments Committee, Washington, D.C. Research Unit 4802-Economic Aspects of Forest Management on Public Lands, Rocky Mountain Research Station, USDA Forest Service, Missoula, MT.

[27] Oregon Department of Education, Oregon State School Fund (SSF). http://www.ode.state.or.us/search/results/?id=168 (last accessed 11/22/10).

Pros and Cons of the Idea

If SRS is not funded because of federal budget or other concerns, revenue sharing payments from the Forest Service and O&C lands become relatively more attractive to county governments because they are permanently authorized and have a dedicated funding through commodity receipts. If PILT remains fully funded after 2012 (which remains uncertain), the affect on counties will be attenuated.

There are two downsides of relying on PILT to soften the impact of ending SRS transition payments. First, there is a two-year lag between declining agency payments and the increase in PILT, meaning all counties will experience lower payments immediately and not receive the benefit of the PILT formula for two years (a one-time two-year PILT transition payment could bridge this gap, but will require congressional action). Second, PILT is only appropriated through 2012, adding uncertainty to future payment levels. The PILT program will have to be appropriated annually or long-term after that date for most counties to receive predictable funding similar to current levels.

Another outcome of this idea is that payments again will be linked to commodity receipts, providing counties with incentives to prefer increased timber harvesting to other activities. Title II funds also will disappear, leaving RACs without resources to undertake stewardship and restoration projects, and attract significant matching funds and collaborative effort.

One additional policy consideration is that in 2008 Congress changed the revenue sharing formula to calculate payments based on a seven-year rolling average of commodity receipts. This change could result in authorized payments exceeding available funding in some years, exposing revenue sharing payments to congressional appropriations and potential shortfalls below authorized payment amounts.

Even in counties where total compensation will remain similar, services and projects funded through Title III will only be funded at the discretion of counties. In other words, the purpose of Title III will be lost, even where funding levels remains consistent. Congress could revisit enabling legislation and funding levels for cooperative agreements between agencies and counties to ensure that some of the purposes of Title III remain funded—mainly compensation for public safety services delivered on public lands, including search and rescue and emergency response.

IDEA 2: EXTEND SRS TRANSITION PAYMENTS

Reauthorize SRS with no substantive changes to funding or distribution formulas.

The Idea

The idea maintains the status quo with Congress reauthorizing SRS and appropriating similar funding levels for SRS and PILT.

How the Idea Works

Congress will reauthorize SRS in 2012 with no substantive change for a period of 10 years and appropriate funding equivalent to the average payments for the period FY 2008 to FY 2011. Congress will also extend full-funding for PILT for 10 years beginning in FY 2013.

The Formula

The SRS distribution formula will be significantly simplified so that each county's payment is equal to the average payment received over the period FY 2008 to2011. Counties will receive the same payment every year for 10 years.

County Payment = Average County Payments from FY 2008 through 2011

The payment could be adjusted for inflation each year using the Consumer Price Index. For a detailed explanation of the various county payment programs, see Appendix A.

How the Idea Contributes to Predictability, Economic Opportunity, and Forest Health

Extending SRS and PILT will provide stable and predictable compensation, but only for the period that Congress guarantees appropriations.

The idea maintains the decoupling of payments from commodity receipts, a reform that has lessened pressure for logging as a source of revenue and generated support for forest health and conservation projects, opening new economic opportunities for public land communities. Reforms to how the 25% Fund and O&C 50% payment are calculated partially undermined this achievement of SRS. The new revenue sharing payment is calculated based on a seven-year rolling average of commodity receipts (instead of a single year's receipts).[28] The reform was intended to reduce annual volatility from revenue sharing payments by spreading receipts out over seven years. It has resulted in counties pushing for more logging on National Forests over the last two years, despite the four-year extension of SRS, because if SRS is not reauthorized, logging that occurred during the previous seven years will affect each county's payment in FY 2012. A ten-year extension will only functionally decouple payments from commodity receipts for the first three years.

Extending SRS will continue Title II's funding support for collaborative efforts to improve infrastructure and forest health. Title II's success, however, has been limited. RACs have been unable to achieve the kind of landscape-scale restoration and stewardship projects appropriate to forest health needs on all public lands. Title II funding also is not targeted based on restoration need or economic opportunity, but

[28] For more detail on these reforms, see: http://www.fs.fed.us/srs/Title-IV.shtml (last accessed 11/22/10).

rather on historic logging receipts and proportional public land acres (payments are driven by the Title I distribution formula, not an assessment of forest health need or economic opportunity). Extending SRS Title II with no reform may be best described as a missed opportunity to leverage more support for restoration and stewardship work, and to create jobs in the counties that need them most.

How Counties Will Be Affected

Counties will see no change assuming funding levels remain the same.

The effect of expending SRS payments can be seen in Figure 2, on page 17 which shows how current federal land payments (FY 2009) from the Forest Service, BLM, and PILT are distributed to state and local governments across the U.S.

The question for Congress, if they adopt this idea, is which funding level to use for SRS payments. One proposal is to extend SRS payments based on FY 2009 funding levels.[29] Throughout this paper, we use the average payment over the period FY 2008 to 2011 as the current payment that could be appropriated at a fixed level.

Pros and Cons of the Idea

A ten-year reauthorization provides predictability and can streamline the payment process by simplifying the distribution formula. SRS has made important policy strides by decoupling payments from commodity receipts and directing payments based on community economic needs. Continuing SRS as it currently designed will keep in place the current SRS Title II and Title III programs which encourage forest health through restoration and stewardship projects while addressing cost issues such as fire risk management.

One drawback is that as long as SRS is not permanently authorized and appropriated, counties will face periodic fiscal and political uncertainty. Because SRS does not have a dedicated funding source, concerns about the federal deficit and federal spending may make it politically difficult to secure continued funding for SRS and PILT, particularly at current full-funding levels.

A disadvantage of simplifying the funding formula is that it will no longer adjust for changes in per capita personal income. More to the point, reauthorization will forego broader opportunities to reform the current county payments formula to improve the economic needs criteria. Currently, the SRS program is performing poorly in providing assistance to the neediest counties (see Figure 10, page 39 and Idea 4a for more details). Locking in a simplified SRS formula for the next ten years will benefit traditionally high timber-producing counties but will not allow for flexibility in the program to assist counties facing the greatest economic needs

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[29] Partnership for Rural America. http://www.partnershipforruralamerica.org/default.shtml (last accessed 11/22/10).

IDEA 3: EXPAND REVENUE SHARING PAYMENTS

Allow SRS to Expire and Reform 25% Fund and BLM O&C 50% payments by expanding payments to include the value of commodities and the value of stewardship and restoration activities.

The Idea

SRS is set to expire in FY 2011 (the last payments to counties will be made in January 2012). This idea assumes that SRS is not reauthorized and counties will again receive their share of commodity receipts from the Forest Service 25% Fund and BLM O&C revenue sharing.

Currently, only commercial receipts are eligible for revenue sharing. The idea will expand the definition of "gross receipts" that are eligible for revenue sharing in a way that goes beyond commercial receipts to include restoration, stewardship, recreation, and conservation projects that increase values produced on public lands through watershed restoration, forest health, and wildlife habitat improvements. The value of these "forest products" can be quantified through a variety of non-market valuation techniques.

As public land management goals shift from commodity production to stewardship, restoration, and conservation, the link between forest products and county payments is broken. However, currently, counties do not share in the production of these values on public lands. This idea will re-make this link by sharing a portion of the value of forest products produced through restoration, stewardship, and conservation activities with local governments.[30]

Expanding the definition of receipts is not a new idea. In 1976, Congress included timber receipts retained in the Knutson-Vandenberg (K-V) Fund (used by the agency for reforestation), and timber purchaser credits (used to finance road construction) in the definition of "gross receipts" that must be shared with states and local governments.[31] Originally, receipts generated from salvage timber sales were not shared with counties. In 1988, Congress changed this policy when it added receipts generated from salvage timber sales to the 25% Fund.[32]

Currently the values of commodities that result from stewardship contracts are not eligible for revenue sharing.[33] Translating these values into payments to counties will become increasingly important as the Forest Service and the BLM rely more and more on stewardship contracting. Stewardship contracting makes it easier for the agencies to work more collaboratively and to do restoration and stewardship work that would otherwise not necessarily pay for itself.

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[30] U.S. Forest Service resources on stewardship end result contracting can be found at http://www.fs.fed.us/forestmanagement/stewardship/index.shtml/direction/index.shtml (last accessed 10/29/10). In addition, Sustainable Solutions Northwest has a valuable resource on collaboration and stewardship contracting work that can be found at http://www.sustainablenorthwest.org/resources/collaboration-and-stewardship (last accessed 10/29/10).

[31] National Forest Management Act of 1976, NFMA: P.L 94-588. Cited by Gorte, Ross. 2000. Forest Service Receipt-Sharing Payments: Proposals for Change. Congressional Research Service Report for Congress, RS20178.

[32] Continuing Resolution for FY 1988 (P.L. 100-202, 101 Stat. 1329) cited by Ross Gorte (*Ibid*., Gorte, 2000).

[33] Commodity values associated with stewardship contracts can be traded to a contractor for services provided, or receipts can be retained by the agencies and applied to needed service work in the same contract, or transferred to another approved project. USDA Forest Service, "Everything You Wanted to Know About Stewardship End Result Contracting… But Didn't Know What to Ask." http://www.fs.fed.us/forestmanagement/stewardship/index.shtml (last accessed 10-30-2010).

How the Idea Works

This idea can be implemented in two different ways or as a combination of both. The values can be measured in terms of activity or outcome.

Activity (Forest Project) Based Valuation:

Stewardship and restoration activities often include timber harvest and other commodity values that are not eligible for revenue sharing. However, stewardship contracting authorities allow the agencies to trade these commodity values to a contractor in return for service work, including re-vegetation, road removal, or watershed improvements. These commodity values can be measured, along with the value of other service values, including retained receipts (cash paid to the agency for commodity values) and agency funding. Together, these add to the value of the stewardship or restoration project.

Outcome (Forest Product) Based Valuation:

Stewardship and restoration projects have goals including watershed restoration, forest health, recreation, and wildlife habitat improvements. The value of these outcomes can be quantified through a variety of non-market valuation techniques. Once quantified, these values will be added to the total of commodity receipts eligible for Forest Service and O&C revenue sharing.

The Formula

Activity (Forest Project) Based Valuation:

For this idea, revenue sharing is the sum of commodity receipts and the calculated value of forest health activities using either the Activity Based or Outcomes Based approach. Each county's payment is calculated as follows:

County Payment = (Commodity Receipts + Forest Health Activity Values) + PILT

The total value of FY 2009 stewardship contract accomplishments is calculated by summing the value of commodities traded for services, retained receipts (cash paid to the agencies for commodity values), agency spending, and matching funds. This amount was added to traditional commodity receipts to calculate each county's revenue share entitlement. The total value of legacy roads projects is the total cost of road removal and restoration work, including total agency spending and matching funds.

These two values are added together at the forest level and for the O&C lands and apportioned to counties based on proportional acreage. Each county's proportionate share is assumed to be the total value of gross receipts eligible for revenue sharing. Each county's payment is equal to 25 percent of the value generated on National Forests, and 50% of the value generated on O&C lands.

Additional methods for calculating the economic value of activities that produce ecosystem service products are discussed in Appendix C.

Outcome (Forest Product) Based Valuation:

For this idea, revenue sharing is the sum of commodity receipts and the calculated value of forest health activities using either the Activity Based or Outcomes Based approach. Each county's payment is calculated as follows:

County Payment = (Commodity Receipts + Forest Health Outcome Values) + PILT

Because ecosystem services generally are not traded in markets, the prices of these services cannot be easily observed from market transactions. Economists have developed methods to value goods and services that are not traded in a market, broadly defined as "non-market valuation methods."

Non-market valuation methods fall into three general categories: revealed preference, stated preference, and the averted expenditure approach. All of these non-market valuation methods require extensive data regarding individuals' behavior and preferences or engineering costs. When the time or resources are not available to do a full primary study, economists use an approach known as Benefit Transfer which involves applying estimates from valuation studies that evaluated similar policies or activities as the one being studied. While benefits transfer may not provide the precision possible with original studies, it can provide a range of reasonable values.

In this paper, we use benefit transfer to estimate non-market values for a set of ecosystem services produced by Stewardship Contracts on Forest Service and BLM O&C lands, and by Forest Service Legacy Roads and Trails Restoration Initiative (legacy roads) during FY 2009. Where it is not currently possible to estimate these values, we identify the data or methodological gaps that will need to be filled to allow estimation.

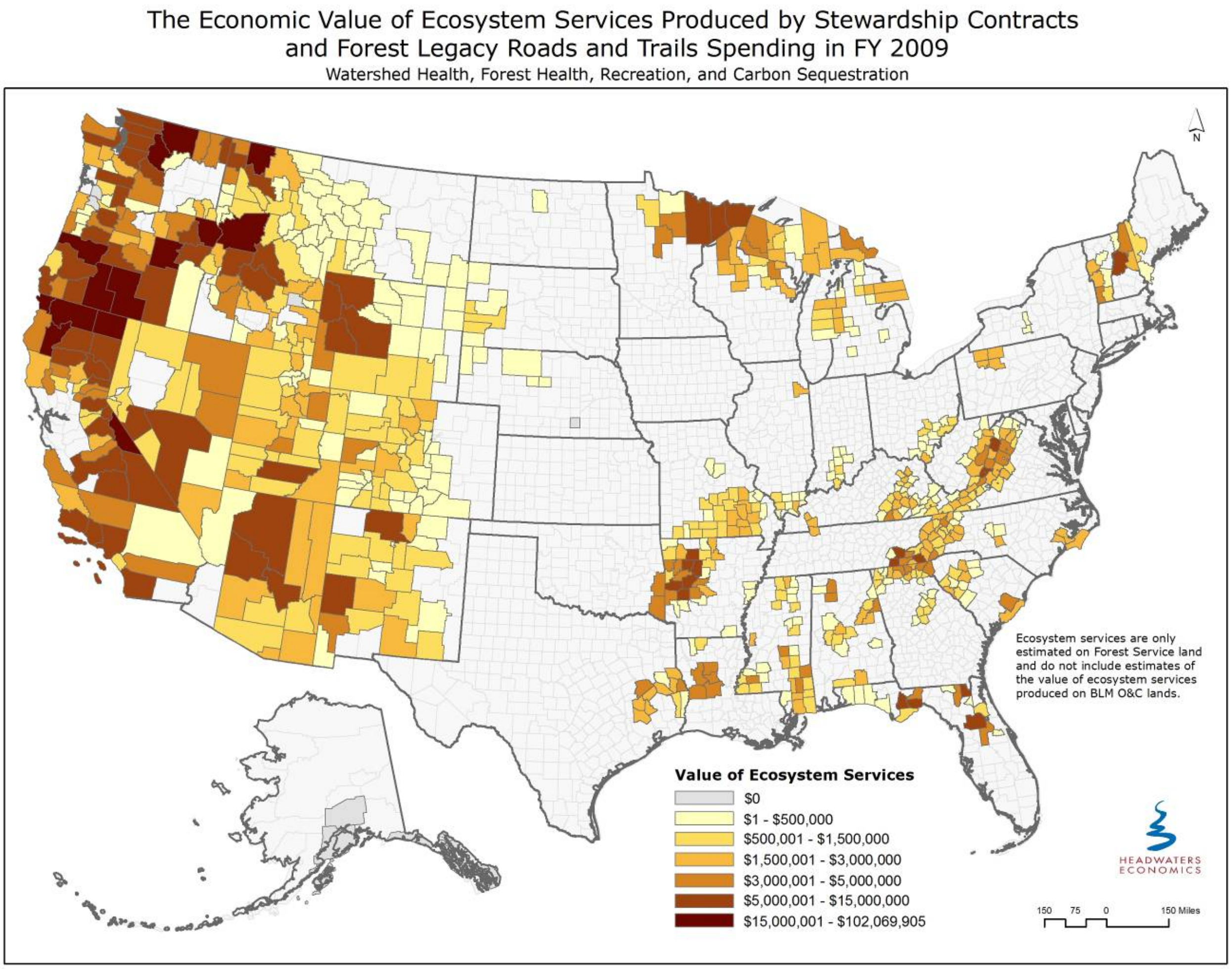
The estimated value of ecosystem services at the forest scale is apportioned to counties based on proportional acreage. Each county's proportionate share is assumed to be the total value of gross receipts eligible for revenue sharing. Each county's payment is equal to 25 percent of the value generated on National Forests, and 50 percent of the value generated on BLM O&C lands.

Additional methods for calculating the economic value of ecosystem service products are discussed in Appendix C.

Figure 5 shows the economic value of ecosystem services produced as a result of projects completed using stewardship contracting authorities and Forest Legacy Roads and Trails Initiative dollars (FY2009). (The darker the color, the higher the value of ecosystem services).

The economic value of ecosystem services is a measure of how communities benefit from healthy watersheds, healthy forests, recreation opportunities, and carbon sequestration. The economic values are estimated using a variety of methods, including existing market values (carbon sequestration), avoided costs (reduced sedimentation), travel cost studies (recreation opportunities), and willingness to pay studies (wildfire risk mitigation).

Figure 5



To see the effect on individual areas, see the interactive maps on:
www.headwaterseconomics.org/countypayments

How the Idea Contributes to Predictability, Economic Opportunity, and Forest Health

This idea will not necessarily improve predictability for counties. Linking payments directly to forest management practices will always expose them to the uncertainties of agency funding and planning processes, changing economic conditions, and changing attitudes about land management priorities.

This idea does have the potential to deliver significantly higher economic opportunities to counties and improved forest health. SRS Title II is intended to help communities transition their economies away from dependence on traditional commodity extraction by investing in roads and other infrastructure, soil productivity, ecosystem health, watershed restoration and maintenance, control of noxious weeds, and reestablishment of native species. Title II shows potential, but funding levels and other barriers have limited the scale and influence of Title II projects. An expanded revenue sharing program could result in more and larger stewardship and restoration projects if county governments lend their support once they see how they would benefit from these programs.

Stewardship contracts create higher levels of economic activity spread across a wider spectrum of economic sectors than a traditional timber sale of similar size and commodity value. Stewardship contracts can also be designed to meet forest health goals that extend beyond commercial timber receipts. As a result, this idea will reward counties more for restoration and stewardship activities on public lands than for commodity extraction accomplished through traditional commercial sales.

This idea is consistent with other federal programs aimed at encouraging the production of non-market ecosystem services. For example, the U.S. Farm Bill and Clean Water Act paid $1.1 billion to private landowners in 2008 to protect 5.9 million acres of private land through the Environmental Quality Initiatives Program (EQuIP), Conservation Stewardship Program and drinking water protection programs.[34] These programs provide funding for landowners to take specific actions to improve watershed health and water quality.

How Counties Will Be Affected

If SRS expires in 2011 and payments to states and counties revert to revenue sharing reformed by this idea, the results will likely be:

<u>Activity (Forest Project) Based Valuation:</u>

Figure 6 shows the difference between current SRS payments (for eligible counties) and how payments would change if SRS expires and is replaced with an expanded 25% Fund that includes the value of forest activities that produce stewardship and restoration benefits. (Green indicates net gain; red indicates net loss).

We added the value of products associated with stewardship contracts and Legacy Roads Projects (these are new additions to the 25%Fund) to commodity receipts (already a part of 25% Fund). This map shows only the value of stewardship contracts based on activities that took place in 2009.This idea changes the incentives for local governments to support stewardship contracting, so future payments may be significantly higher. Current payment was calculated as the average payment for FY2008 through FY2011. The projection is for FY2014.

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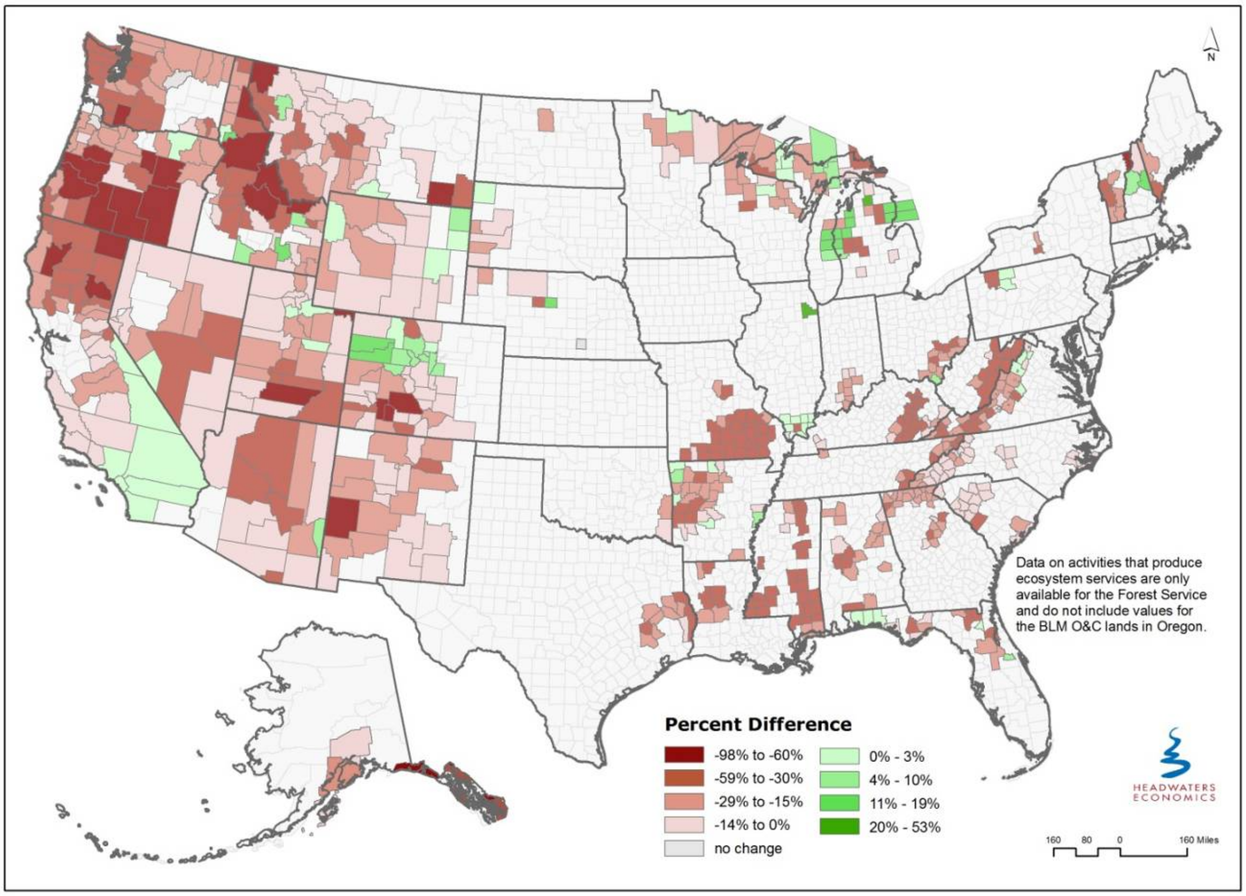
[34] Stanton, T., M. Echavarria, K. Hamilton, C. Ott. 2010. State of Watershed Payments: An Emerging Marketplace. *Ecosystem Marketplace.* http://www.foresttrends.org/documents/files/doc_2438.pdf (last accessed11/22/10)

It is important to note that Figure 6 shows the *minimum* value of an expanded 25% Fund based on stewardship and restoration activities. Once this idea is in effect, there will be an incentive for county governments to support and expand these types of activities, and the payments to counties will increase beyond today's levels.

The data we used to calculate projected future activity based revenue sharing payments are based on stewardship contract outcomes and Forest Legacy Roads and Trails Initiative funded projects for FY 2009.

Figure 6

How Will Forest Service Payments Change if SRS Expires and the 25% Fund is Expanded to Include the Value of Activities that Produce Ecosystem Service Products?



Counties and schools across the country will receive $247 million less by 2014 when compared to the average payment from FY 2008 to 2011, a 33-percent-lower payment level.

Overall, 631 of 718 counties will see lower payments with 519 counties experiencing losses greater than 10 percent. Forty-one counties will see their payments decline by half or more.

Eighty-three counties will see an increase in payments, with 15 counties seeing payments more than 10 percent higher.

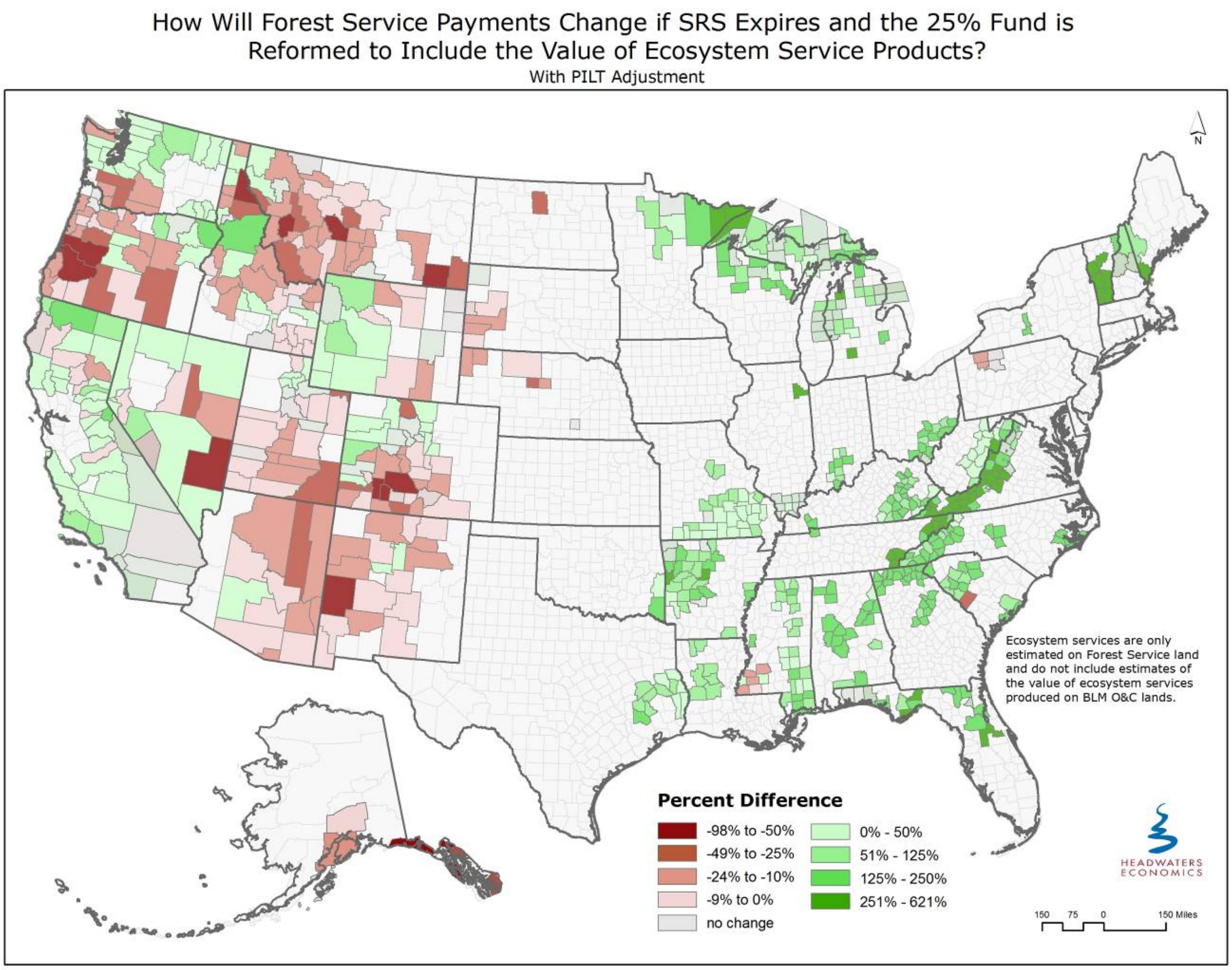
Outcome (Forest Product) Based Valuation:

Figure 7 shows the net difference between current SRS payments (for eligible counties) and how payments would change if SRS expires and is replaced with an expanded 25% Fund that includes the value of ecosystem services produced by stewardship contracts and Forest Legacy Roads and Trails Initiative spending. (Green indicates net gain; red indicates net loss).

We added the value of healthy watersheds, healthy forests, recreation, and carbon sequestration "products" (new additions to the 25% Fund) to commodity receipts (already a part of the 25% Fund) and distributed this new, higher payment to counties. With this idea in place, future payments may be significantly higher if counties collaborate with the Forest Service to meet the significant restoration and stewardship needs on public lands. Current payment was calculated as the average payment for FY2008 through FY2011. The projection is for FY2014.

It is important to note that Figure 7 shows the *minimum* value of an expanded 25% Fund based on the increased value of ecosystem services. Once this idea is in effect, there will be an incentive for county governments to support and expand stewardship and restoration activities, and there will be an increased demand for new and expanded ways to measure non-market values, resulting in an increase in payments to counties beyond what can be measured using today's valuation studies.

Figure 7



Counties and schools across the country will receive $80 million more by 2014 when compared to the average payment from FY 2008 to 2011, an 11-percent-higher payment level.

Overall, 217 of 718 counties will see lower payments with 123 counties experiencing losses greater than 10 percent. Fifteen counties will see their payments decline by half or more.

Four hundred and ninety-seven counties will see an increase in payments, with 425 counties seeing payments more than 10 percent higher and 332 counties seeing payments more than 50 percent higher.

Pros and Cons of the Idea

The idea will improve forest health and create economic opportunity by linking funding directly to the production of non-market forest health values. County governments are currently concerned that SRS will sunset in 2011 and are therefore more inclined to support timber harvesting activities by federal agencies rather than restoration and stewardship work.[35] By including restoration and stewardship values as part of revenue sharing payments, this idea will increase the size of each county's payment and create more jobs, and county governments will therefore have an incentive to support activities that increase forest health.

This idea also will create an incentive for agencies, counties, and other interested parties (e.g., universities and non-government organizations) to work together to do the monitoring, database management, and research.

By linking county payments to restoration and stewardship activities, there is potential to fund county payments though emerging markets or charges for ecosystem services provided to the public, including clean water, wildlife, and carbon sequestration. (See later sections of this report on funding ideas for more details.)

Some non-market values can be more easily measured and valued than others. Estimating values at the regional or forest scale for the full-suite of ecosystem services will require new research methods and application in more geographic areas.[36]

One of the ongoing debates in how to create and grow markets in ecosystem services concerns whether values must be known perfectly before markets can be established; or if markets must be in place first to create the demand for information that improves the efficiency of transactions. If this idea is adopted, the first payments will almost certainly be inefficient (counties will be paid too little or too much for ecosystem services). Over time, the market for county payments will learn and become more efficient.

A major limitation of the idea is that it must be funded, at least initially, with congressional appropriations. There may be opportunities to tap into emerging markets or fees for ecosystem services to fund county payments, but this is not likely to be in place by FY 2012 when these payments will begin.

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[35] Revenue sharing payments are calculated using a seven-year rolling average of commodity receipts. Local governments are keenly aware that commercial receipts this year could affect payments after FY 2011.
[36] For more information on ecosystem service valuation data and methods, see Appendix B.

IDEA 4: REFORM SRS PAYMENTS WITH A NEW DISTRIBUTION FORMULA

4 a: Give Preferential Assistance to Counties with the Greatest Need

Distribute payments to local governments based on economic need and economic opportunity.

The Idea

Counties performing poorly economically (with lower household income and wages and higher levels of poverty) and with less potential for economic growth and diversification (with lower education levels and greater isolation from population centers and markets) will receive proportionately higher shares of SRS payments.

This idea builds on one of the purposes of SRS: to help transition counties away from a dependence on public lands commodity extraction. The idea also is consistent with economic development goals frequently pursued by the federal government, and addresses concerns about the equitable distribution of SRS payments that dominated the 2007 and 2008 reauthorization debates.[37]

How the Idea Works

The "income adjustment" portion of the SRS formula will be changed by using five metrics, described in the formula section below, that measure relative economic need and economic development potential.

Currently, SRS payments are calculated using a "base share" and an "income adjustment." The base share for eligible counties is determined by a combination of the proportion of national forest and BLM O&C acreage and the average of three highest payments made to the county from 1986 to 1999. The income adjustment is based on per capita income, and counties with lower per capita income receive proportionately more of the share of payments.

There are better metrics than utilizing per capita income only to calculate economic need and to achieve the goal of assisting counties that need payments the most (see Appendix B for an explanation of the limits of per capita income and a description of alternative measures of economic stress and well-being).

[37] The States of Oregon, Washington, and California received the lion's share of the approximately $2.7 billion of funding distributed under Titles I, II and III of the SRS Act between 2000 and 2007. Oregon received by far the largest share, with $1.2 billion, while California and Washington received $473 million and $322 million respectively. From one perspective, this result was exactly as it should have been. SRS was initially passed to make up for lost timber receipts, and so it was only appropriate that the Pacific Northwest, historically a great timber producing region, benefitted disproportionately. States that did not have historically high timber harvesting levels were understandably less enthusiastic. The Bush Administration favored revising the funding formula to take stock of current economic conditions. Mark Rey, Under Secretary of Natural Resources for the Department of Agriculture, testified "Many now largely urban or suburban counties in the west are getting a substantial amount of money . . . because the formula was a reflection of the historical timber receipts that those counties enjoyed . . . at an earlier time. Many of those counties . . . are pretty vibrant right now." The Administration felt that urbanized areas that could generate funds from traditional municipal revenue sources ought to do so, rather than rely on federal handouts. As a result, the distribution formula was changed in 2008 so that other states realize a more substantial benefit from it. Secure Rural Schools and Community Self-Determination Reauthorization Act of 2007: Hearing on S. 380 Before the Subcommittee on Public Lands and Forests, Committee on Energy and Natural Resources, 110th Cong. 1 (2007).

An adjustment to the base share that is based on economic need can also be considered an opportunity for federal land policy to stimulate the economy.

The Formula

Each county's payment is calculated as follows:

County Payment = Base Share / Adjustment Based on Need

This is the same, simplified formula as currently used, but this paper expands "Adjustment Based on Need" to include five factors:

Measures of Economic Performance or Hardship:

1. *Median Household Income*: a measure of all sources of income, including wages, salaries, retirement income, investment income, and others.

2. *Average Earnings per Job*: an indicator of the relative quality of the jobs in the county.

3. *Percentage of Families Below the Poverty Level*: a measure of economic hardship.

Taken together these three measures are an indication of a county's economic performance relative to other counties in the nation.

Measures of Economic Potential:

4. *Percentage of the Population with a Bachelor's Degree or Higher*: an indicator closely associated with lower unemployment rates and higher wages.

5. *County Typology* – Degree of Isolation from Markets: a measure of the proximity to population centers and job markets.

These two measures can be used together to measure the relative economic development potential of a county relative to others in the nation.

How the Idea Contributes to Predictability, Economic Opportunity, and Forest Health

Using five factors rather than simply per capita income will increase the complexity of the funding formula, but it should not impact the long-term predictability of payments as the new metrics utilized by this paper to assess economic need are widely utilized and well understood.

In terms of economic opportunity, as this paper notes earlier, during the last 30 years many rural counties have experienced a dramatic shift in their economies. Counties have diversified into more service-related occupations while commodity-related sectors have contributed less than 3 percent of total new jobs from 1990 to 2008.[38]

Not all public lands counties, however, have been able to create a diverse, robust, and resilient economy with a healthy tax base. Poverty, low-paying jobs, lack of education, isolation from markets, and difficulties competing in expanding service industries are persistent challenges for some counties. Favoring the neediest counties for relatively higher SRS payments is consistent with the original goal of SRS to help counties diversify economically. It also is consistent with the current system of payments that gives preferential treatment to counties with lower per capita income.

This idea may also improve forest health by changing the incentive structure. Without some form of economic assistance, there will be a strong incentive for some of the most remote, economically challenged counties to push for public lands commodity production that provides short-term benefits but proves in the long run to be ecologically and politically unsustainable.

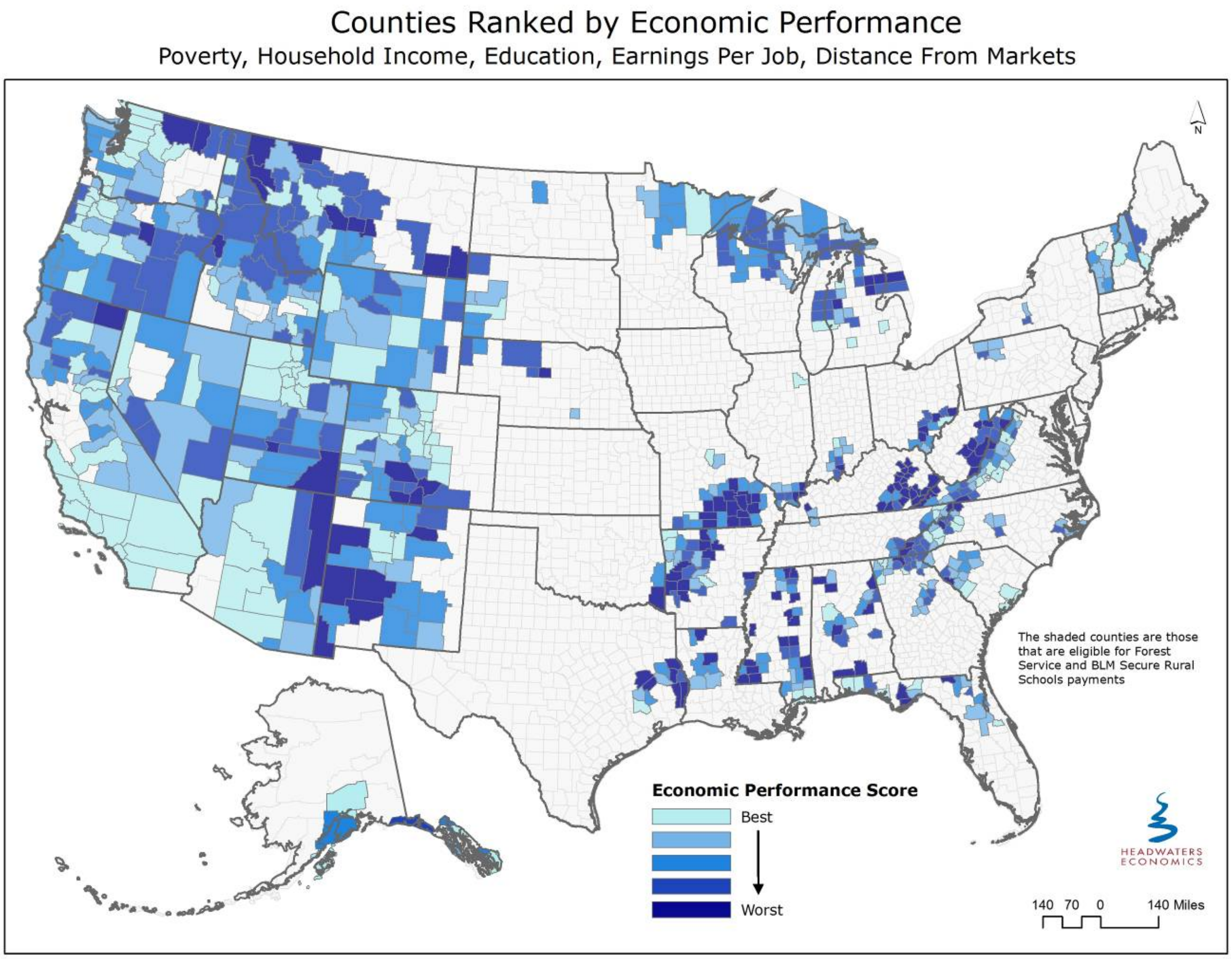
The maps on the following pages help place this idea into the proper context.

[38] *Ibid.*, U.S. Department of Commerce, 2010.

Figure 8 shows a ranking of economic performance and development potential, from best (light blue) to worst (dark blue), based on five equally weighted criteria.

Economic performance is measured as percentage of households below poverty, median household income, and average earnings per job. Economic development potential is measured as percentage of the workforce with a bachelor's degree or higher and degree of isolation from markets (on a continuum: metro, metro outlying, micro, micro outlying, rural).

Figure 8



To see the effect on individual areas, see the interactive maps on:
www.headwaterseconomics.org/countypayments

Figure 9 shows a ranking of economic performance and development potential, from best (light blue) to worst (dark blue). Counties with more than 5 percent of total employment in the timber industry are highlighted in orange to identify counties where a workforce exists that could be employed in restoration and stewardship.

Figure 9

County Economic Performance and Timber Dependency

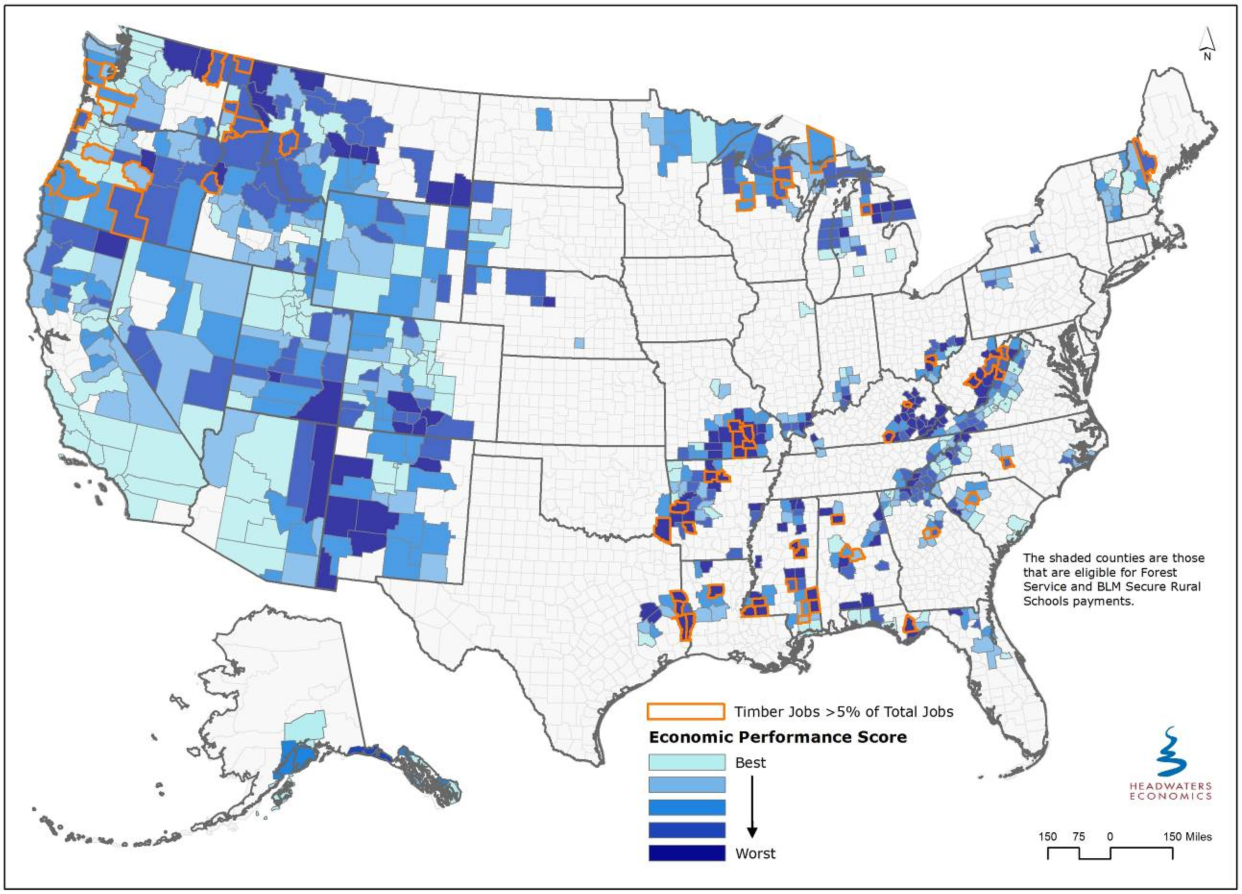
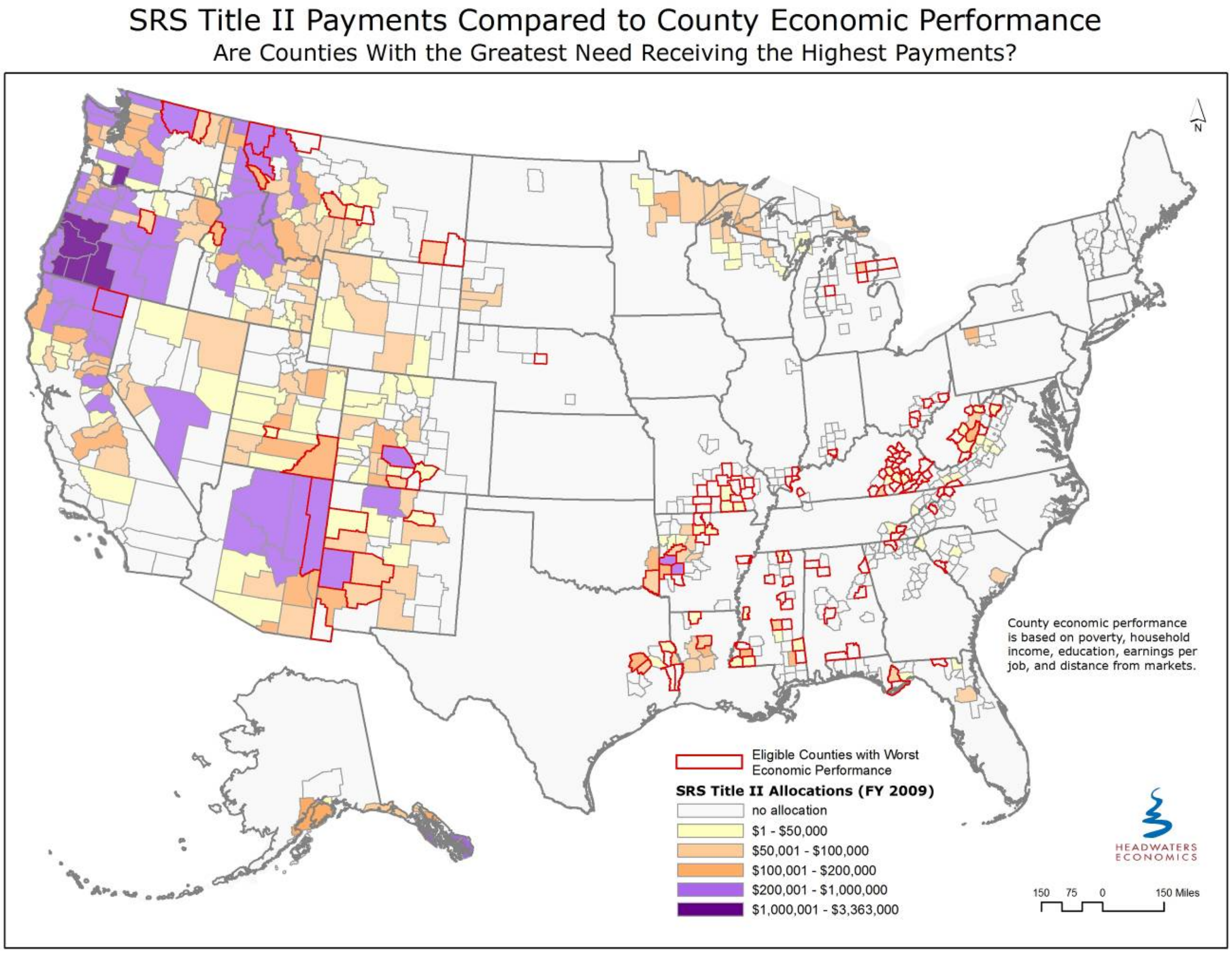


Figure 10 identifies the top 20 percent of counties in terms of poor economic performance (outlined in red; these are the darkest colored counties in Figure 8 on page 37) and the allocation of SRS Title II payments (FY 2009) (the darker the color, the higher the allocation).

Title II of SRS was developed to encourage land restoration and stewardship activities (for example, logging with forest health as the goal) and one of the benefits will ideally have been the creation of new economic activity. However, as Figure 10 indicates, with a few exceptions, Title II payments have not gone to those counties with the greatest need. In addition, the amount of funds for Title II has not been significant enough to make much of a difference: in FY2009 Title II payments totaled $53 million nation-wide, or just 9 percent of total SRS payments.

Figure 10

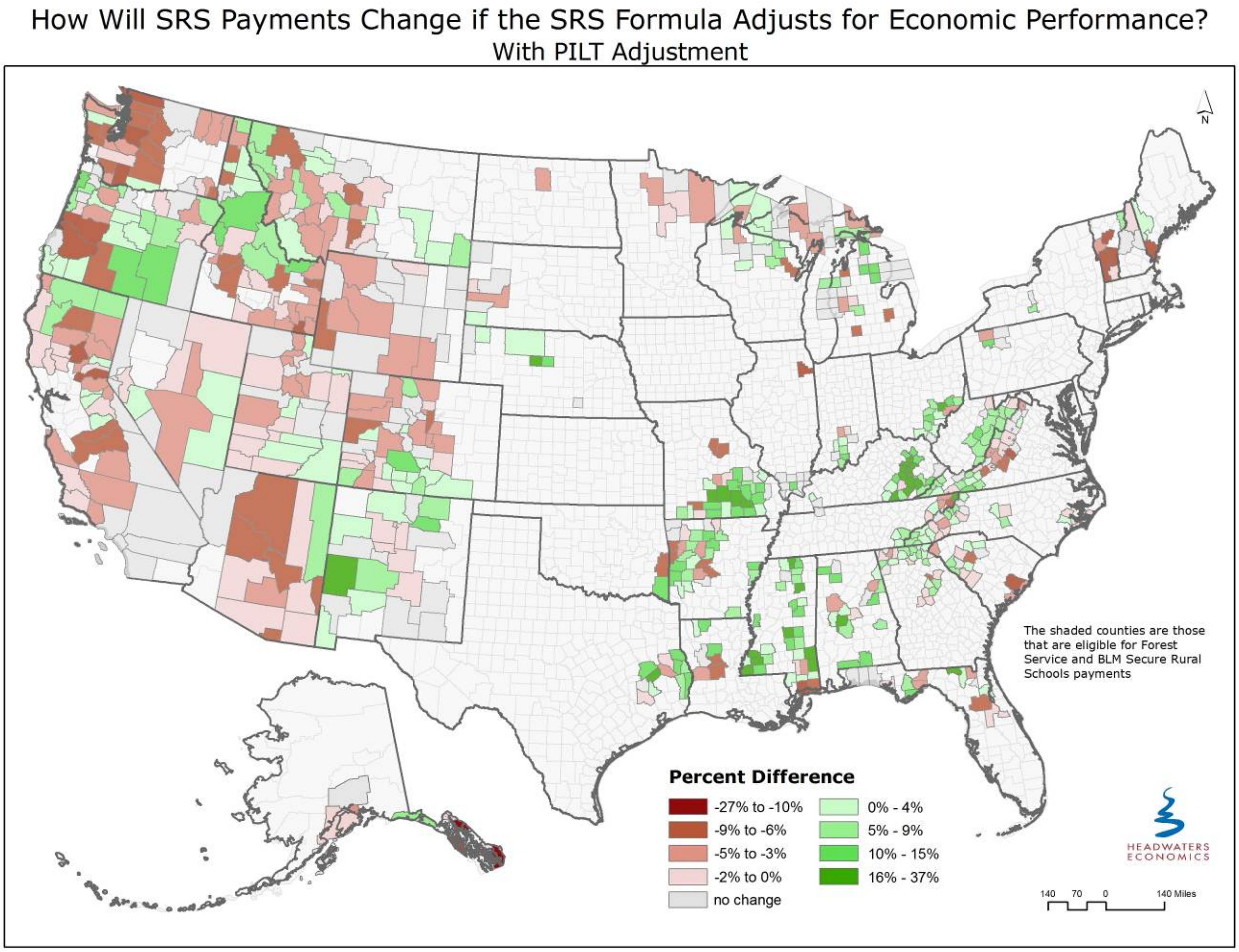


How Counties Will Be Affected

Figure 11 shows the net difference between current SRS payments and a new SRS payment system (including PILT payments) that allocates proportionately higher payments to counties with low economic performance and development potential. (Green indicates net gain; red indicates net loss).

Current payment was calculated as the average payment for FY2008 through FY2011. The projection is for FY2011.

Figure 11



Counties and schools across the country will receive the same total payments by 2014 when compared to the average payment from FY 2008 to 2011. Overall, 311 of 718 counties will see lower payments with 13 counties experiencing losses greater than 10 percent. No counties will see their payments decline by half or more, and 311 counties will see an increase in payments, with 79 counties seeing payments more than 10 percent higher.

Pros and Cons of the Idea

By adjusting the SRS formula to give preferential treatment to the neediest counties, the federal payments will serve an important goal of economic development, job creation, and poverty alleviation. In addition, using a broader and improved set of criteria to link payments to economic performance and opportunity has the advantage of targeting payments to those counties that need payments the most.

Currently, some counties receive an elevated base share because the average of three highest payments made to the county from 1986 to 1999 was high. This means that some counties, now relatively wealthy and metropolitan, receive a disproportionate amount of SRS funds despite needing it the least. Economic development is a top concern at all levels of government, and this idea will target funding accordingly.

A disadvantage of this idea is that it increases the complexity of the SRS formula, making it more difficult to understand without some knowledge of economic performance criteria and statistics.

Methods Used

See Appendix B for a full discussion of the methods used for this proposed idea.

IDEA 4: REFORM SRS PAYMENTS WITH A NEW DISTRIBUTION FORMULA

4 b: Control Federal Costs by Reducing Development in Wildfire-Prone Areas

Reward counties for actions that reduce development potential adjacent to federal forest lands, reducing taxpayer costs and expanding land management opportunities.

The Idea

Distribute relatively higher SRS payments to counties that control the pace, scale, and pattern of residential development in the wildland-urban interface (WUI).[39]

Wildfires represent a significant safety and cost risk. Every year the federal government spends $3 billion to fight wildfires, double the amount of a decade ago. A significant portion of the cost is attributable to defending homes on private property adjacent to fire-prone public lands.[40] Yet, in the 11 continental western states—where most federal lands are located and where wildfire frequently occurs—only 14 percent of the WUI is developed, leaving the remaining 86 percent, or more than 20,000 square miles, open for further development. If 50 percent of the WUI in the West were developed, the cost of protecting homes from wildfire will exceed the Forest Service's annual budget.[41] With continued development, warming of the Earth's atmosphere and increased outbreak of insects and diseases, the costs of wildland firefighting will increase.[42]

One way to control escalating costs to taxpayers is to influence the pattern, density, and amount of development in the WUI.[43] Planning and regulation of development is generally the concern of local government. SRS payments can be used to create incentives for county governments to reduce future

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[39] The wildland urban interface is defined as private forestlands that are within 500 meters of public forestlands. For a full definition, see Gude, P.H., R. Rasker, and J. van den Noort. 2008. "Potential for Future Development on Fire-Prone Lands." *Journal of Forestry* 106(4): 198-205. http://www.headwaterseconomics.org/wildfire/PGude_2008_Forestry.pdf (last accessed 9/14/10) .

[40] According to the Forest Service's Office of Inspector General, 50-95% of the costs of wildland firefighting go to protecting homes: U.S. Department of Agriculture. Office of Inspector General. November 2006. Audit Report: Forest Service Large Fire Suppression Costs. Report No. 08601-44-SF. According to a study by Headwaters Economics in Montana, 30% of the costs are attributable to protecting homes in the wildland-urban interface: Headwaters Economics: August 2008. Montana Wildfire Cost Study. http://www.headwaterseconomics.org/wildfire/HeadwatersEconomics_FireCostStudy_TechnicalReport.pdf (last accessed 9/14/10).

[41] For a thorough discussion of the costs of fighting wildfires to protect homes and ten proposed solutions, see: Headwaters Economics. 2009. Solutions to the Rising Costs of Fighting Fires in the Wildland-Urban Interface. Headwaters Economics: August 2008. Montana Wildfire Cost Study. http://www.headwaterseconomics.org/wildfire/HeadwatersFireCosts.pdf (last accessed 9/14/10).

[42] *Ibid*., Headwaters Economics: August 2008. Montana Wildfire Cost Study. In Montana the average annual cost of protecting homes from wildfires is $28 million. Based on past firefighting costs, Headwaters Economics determined that a 1^0 F increase in average summertime temperatures doubles the cost of protecting homes from wildfires.

[43] The density of development is an important factor. A study in Montana found that each additional house within one mile of a wildfire is associated with roughly an $8,000 increase in fire suppression costs. Each additional home within six miles of a wildfire is associated, on average, with a $1,240 increase in fire suppression costs, with an average cost of $664 per acre (the average lot size of homes involved in wildfires was 12 acres). *Ibid*., Headwaters Economics.

WUI development or as a disincentive through a downward adjustment in SRS payments as a penalty for WUI development. This idea will save taxpayers money in the long run by reducing future wildfire costs for local, state, and federal governments.

This idea builds on Title III of SRS that already provides funding for wildfire preparedness. Title III funds may be used to implement the Firewise Communities program, which seeks to provide education and assistance to homeowners to help them guard against personal and property damage from wildfires. Title III funds may also be used to develop community wildfire protection plans. However, Title III funds are small (in FY2009, $32 million nation-wide, or 5 percent of total SRS payments). In addition, Title III funds do not address the fundamental issue of the pace, scale, and patterns of future WUI development, nor does it provide incentives (or disincentives) to steer development in a way that saves taxpayer money.

How the Idea Works

There are four ways this idea could be implemented:

A. *Mandatory, penalty-driven solution: change the base share to penalize building in the WUI*

Under this idea counties that develop more homes in the WUI will receive proportionately less of the SRS allocation than those counties where development in the WUI is slower or at higher densities. The density of homes is important because research has shown that the cost of fighting wildland fires is influenced not only by the number of homes in the WUI, but also by their spatial distribution, with homes on large lots relatively more expensive to defend than homes that are clustered close together.[44]

SRS payments currently are calculated using a “base share” that is determined by a combination of the proportion of national forest acreage and the average of three highest payments made to the county from 1986 to 1999. The SRS formula could be modified by dividing the base year by a metric that measures the change in the number of acres new acres developed in the WUI in the county compared to a base year (for example, acres of new WUI land developed from 2010 to 2011). Using the 2010 census as a base year, the number and density of homes in the WUI can be mapped by the federal government (for example, by the Forest Service or FEMA).[45] Each year (or every several years) the WUI lands are measured and re-mapped, showing at the county level the change in acres of WUI land developed.

This idea penalizes counties that allow further development that increases costs to the federal government to protect these homes from wildfires. The program is mandatory because the change in WUI land developed metric is built into the SRS distribution formula.

B. *Voluntary, incentive-driven solution: apply for a reward for not building in the WUI*

SRS money could be set aside for counties to apply for on a competitive basis. Each applicant county will be required to prove they have effectively controlled development in the WUI.

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[44] *Ibid*., Headwaters Economics: August 2008. Montana Wildfire Cost Study.
[45] For detailed maps and tables showing WUI development, by county in the West, see the on-line interactive tool: http://www.headwaterseconomics.org/wildfire/ (last accessed 9/15/10).

The process for measuring and rewarding the lack of new development in the WUI could follow these steps:

1. A portion of SRS funds are set aside as a competitive fund that counties can apply for if they can prove increases in the amount of WUI land that is not developable. This is called the *SRS WUI Fund*.

2. In 2010 all WUI lands are defined and mapped for every county in the country.[46] This is the base year against which progress is measured.

3. For each county, the number of acres of undeveloped WUI lands is quantified—this is the WUI development potential.

4. A county can apply for *SRS WUI Funds* by providing proof that WUI development potential has been reduced.

5. The change in acres of WUI land that can be developed is translated into a numeric score (number of new acres developed).

6. All counties that apply are ranked according to their score.

7. The *SRS WUI Funds* are allocated once per year to applicant counties in proportion to their score. Counties that have most reduced the number of acres of developable WUI lands receive a higher proportion of the funds.

For a hypothetical example, in 2010 a county in the West has 100,000 acres of WUI, with 10,000 acres developed, leaving 90,000 acres as potentially developable. Using a combination of land use planning tools (conservation easements, zoning, higher density requirements, transferable development rights, land purchases, etc.) the county reduces its potentially developable WUI lands from 90,000 acres to 50,000 acres. The county applies to the *SRS WUI Fund* by providing proof of how it reduced its WUI developable lands by 40,000 acres. Every county applying for the *SRS WUI Fund* submits its own number. The acres submitted by each county are ranked, and the *SRS WUI Fund* is allocated proportionately; those counties with the greatest acreage reduction in developable WUI receive proportionality the greatest share of the fund.

This idea rewards reducing the size of developable land in the WUI, which in turn saves the federal government future wildfire protection expenses. The program will be voluntary and competitive and counties can apply every year.

C. *Combine the mandatory, penalty-driven idea with the voluntary, incentive-based idea*

This idea combines both a penalty and an incentive into one formula. The base year of the SRS formula is divided by a score that quantifies the number of new acres developed in the WUI since 2010 *and* counties may apply for a portion of the *SRS WUI Fund* if they can prove a reduction in acres of developable WUI lands.

D. *Use SRS Title III funds to help counties plan development away from fire-prone lands*

[46] This has already been done for the West, using the 2000 Census: http://www.headwaterseconomics.org/wildfire/ (last accessed 11/22/10.). Each county can be ranked according to percent of the WUI developed and undeveloped.

Title III of SRS provides funding for special county projects related to public lands, including *Firewise* community planning.[47] The uses of Title III dollars could be expanded to include projects addressing development potential in the WUI, including mapping, land use planning, and conservation easements or land purchase. In other words, Title III funding could be used to help counties with land use planning and improving public safety.

One of the purposes of Title III is to reduce fire risk in the WUI. This idea furthers that goal by extending direct funding for reducing development potential, and creating incentives for counties to use Title III dollars in this way.

The Formula

Depending on the idea implemented, each county's payment is calculated as follows:

A. *Mandatory, penalty-driven solution: change the base share to penalize building in the WUI*

   County Payment = Base Share / Change in Developable WUI Acres

B. *Voluntary, incentive-driven solution: apply for a reward for not building in the WUI*

   County Payment = Base Share + [(Change in Developable WUI Acres) * SRS WUI Fund]

C. *Combine the mandatory, penalty-driven idea with the voluntary, incentive-based idea*

   County Payment = Base Share / [(Change in Developable WUI Acres +
   Change in Developable WUI Acres) * SRS WUI Fund]

D. *Use SRS Title III funds to help counties plan development away from fire-prone lands*

   This idea requires no change to the SRS formula.

[47] Counties receiving more than $100,000 in SRS funding are required to allocate 15-to-20% to Title II and Title III projects. SRS transition payments were to be funded at 85% of the historic three-year-high payments over the period 1986 to1999. Senator Max Baucus (D-MT) secured additional funding equal to the remaining 15%.

How the Idea Contributes to Predictability, Economic Opportunity, and Forest Health

For many communities in the country the presence of public lands is an attractant for people— including retirees, tourists and entrepreneurs—who like to visit and live adjacent to public lands. The building industry can continue to benefit from the growing demand to live in high-amenity areas, and county governments can continue to reap property tax benefits from development. This idea is not designed to stop development. Rather, the goal is to alter the pattern of development, with higher SRS payments going to counties that have designed higher density residential patterns in areas that are easier to defend from wildfires, and where catastrophic wildfires are less likely.

The idea provides continued SRS payments to counties, with built-in incentives for land use planning that saves federal taxpayer dollars, and with penalties for developing land in a way that drives up firefighting costs to the federal government. It is fair to the taxpayer and land management agencies by avoiding escalating firefighting costs associated with development in the WUI.

The idea also improves forest health. With fewer or no homes in the WUI, wildland fires are more likely to be managed for beneficial use—allowing the natural role of fire in many ecosystems, reducing fuel loads, and making forest more resilient (against infestations, temperature changes, and other threats) over the long term.

How Counties Will Be Affected

It is not possible to estimate and map how counties could be affected if this idea is implemented. To get a sense of the magnitude of the problem and ideas for solving the problem of growing wildfire-related costs, Headwaters Economics has prepared a white paper that reviews the literature on the topic and provides ten proposed solutions. The paper, as well as a West-wide, county-by-county WUI analysis, is available at: http://www.headwaterseconomics.org/wildfire/.

Pros and Cons of the Idea

A. *Mandatory, penalty-driven solution: change the base share to penalize building in the WUI*

The principle advantage of this idea is that it accomplishes several goals at once. It reduces future costs to the federal government, increases safety, and improves land health by returning the ecological role of fire to public lands.

Another advantage of this idea is that county governments control the actions needed to reap relatively higher SRS payments. In contrast to other land management ideas presented in this paper, this idea can be implemented by county commissioners alone with little or no coordination or guidance from federal land management agencies.

A challenge behind this idea is obtaining data and implementation. The Decennial Census of Population and Housing contains information on housing location and density, so establishing the base year using the 2010 census is relatively simple and based on known and peer-reviewed methods.[48] Knowing how many new homes have been developed since 2010, as well as their density, is more difficult. One way to solve

[48] Mapping and tabulating development in the wildland-urban interface over time has long been a topic of serious academic pursuit and several methods have been developed. For a review of the methods, see Gude, P.H., R. Rasker, and J. van den Noort. 2008. “Potential for Future Development on Fire-Prone Lands.” *Journal of Forestry* 106(4): 198-205.

this is to require counties to provide this information if they want to be eligible for higher SRS payments. Counties will have to conduct mapping, with the federal government setting the appropriate guidelines, standards, and timeframes. Another option is for the federal government to require counties to conduct annual mapping of WUI lands as a condition for SRS payment eligibility.

B. *Voluntary, incentive-driven solution: apply for a reward for not building in the WUI*

This idea has the advantage of using incentives (rather than regulations) for land use planning in the wildland-urban interface. County governments can continue to permit residential development in the WUI. All the idea does is offer optional incentives to county governments that choose to undertake land use planning that saves the federal government in firefighting costs.

A disadvantage of this idea is that it does not guarantee that WUI land will not be developed in the future. Zoning laws, for example, could be reversed or not enforced. Another disadvantage is that quantification of a county's reduction in developable WUI lands is subjective and subject to fraud. This can be solved by periodically verifying that no new homes were developed on the WUI lands the county said were no longer developable. If found in violation, the county will not be eligible for future *SRS WUI Fund* payments.

One way to ensure that zoning regulations last longer (that there are no variances on the regulations) is to allow counties to apply for the *SRS WUI Fund* every year. This will create an incentive to continue to prove a reduction in the amount of developable land.

C. *Combine the mandatory, penalty-driven idea with the voluntary, incentive-based idea*

See discussion of the pros and cons of ideas A and B above.

D. *Use SRS Title III funds to help counties plan development away from fire-prone lands*

Allowing Title III funds to be used for land use planning to control the pace, scale and pattern of future development has the advantage of saving taxpayers money with a small change in the authorizing language for SRS. Another advantage is that it is voluntary and builds on existing programs.

The disadvantage is that counties may continue to use Title III funding to help educate owners of buildings in the existing WUI how to make them safer, without using the funds to plan for future development. County governments may show little interest in changing future development patterns without strong incentives.

IDEA 4: REFORM SRS PAYMENTS WITH A NEW DISTRIBUTION FORMULA

4c: Link Payments to the Value of Ecosystem Services Provided by Federal Public Lands

Reward forest activities that produce significant value in ecosystem services delivered to counties (such as road removal or management activities that reduce public and private costs and forest activities that sequester carbon to mitigate climate change).

The Idea

Distribute relatively higher SRS payments to counties where agencies are completing projects that improve forest health, delivering economic benefits to adjacent communities and to the nation.

One of the purposes of SRS is to help transition economies away from dependent on commodity production on public lands. Title II funds are intended to meet this goal by providing resources for infrastructure, stewardship, and restoration activities that generate economic opportunity while improving forest health (see Figure 10 on page 39 for an analysis of well this has worked. Only 9% of FY2009 SRS payments were allocated to Title II).

This idea will use a different mechanism, redistributing Title I payments (where in FY2009 85 percent of SRS payments were allocated) to states and counties, based on activities that increase the value of ecosystem services. This will create a powerful incentive for county governments to support activities that improve forest health and create stewardship and restoration related jobs.

This idea uses the same criteria and data as Idea 3, but considers a different mechanism to make county payments, using a new SRS formula (instead of reforming revenue sharing payments as considered in Idea 3).

How the Idea Works

SRS payments are currently calculated using a “base share” that is determined by a combination of the proportion of national forest acreage and the average of three highest payments made to the county from 1986 to 1999. The SRS formula will be modified by multiplying each county’s base share by a factor equal to the value of ecosystem services produced on the national forest or BLM O&C lands that encompass the county relative to the value of ecosystem services produced across all eligible lands. In other words, counties that produce higher values of ecosystem services (by accomplishing greater outcomes through stewardship contracts and other restoration and conservation projects) will receive payments above their calculated base share. Counties that produce lower values of ecosystem services will receive proportionately lower payments.

Under this idea, the SRS distribution formula will be significantly simplified so that each county’s base share is equal to the average payment received over the period FY 2008 – 2011.

There are two ways—Activity Based and Outcome Based—to estimate the value of ecosystem services produced on public lands. See the corresponding section of Idea 3 (page 26) for a full discussion.

See Figure 5 on page 29 for an analysis of the economic value of ecosystem services produced as a result of projects completed using stewardship contracting authorities and Forest Legacy Roads and Trails Initiative dollars (FY2009).

The Formula

Each county's payment is calculated as follows:

> County Payment = Existing SRS Base Share * Adjustment Based on the Value of Ecosystem Service Products

The existing SRS Base Share is equal to each counties average payment received over the period FY 2008–2011 relative to total SRS payments from FY 2008 to 2011.

This formula is calculated using the Outcome (Product) based values of ecosystem services as described briefly in Idea 3 and in more detail in Appendix C.

The more detailed formula explains that each county is guaranteed half of their average payment from FY 2008 to 2011, plus an additional payment based on the relative value of ecosystem services produced on national forests and O&C lands across the country. The formula can be adjusted to ensure a higher or lower guaranteed base payment, resulting in a relatively stronger or weaker link to the value of ecosystem service products produced on public lands (and therefore a stronger or weaker set of incentives for counties to collaborate with the agencies to complete needed restoration, stewardship, and conservation projects).

How the Idea Contributes to Predictability, Economic Opportunity, and Forest Health

The idea will create economic opportunity and improve forest health by introducing a new incentive structure into the SRS Title I distribution formula. By linking payments to broadly shared values and national policy goals, the idea will increase the chance of securing long-term appropriations while markets mature for these values.

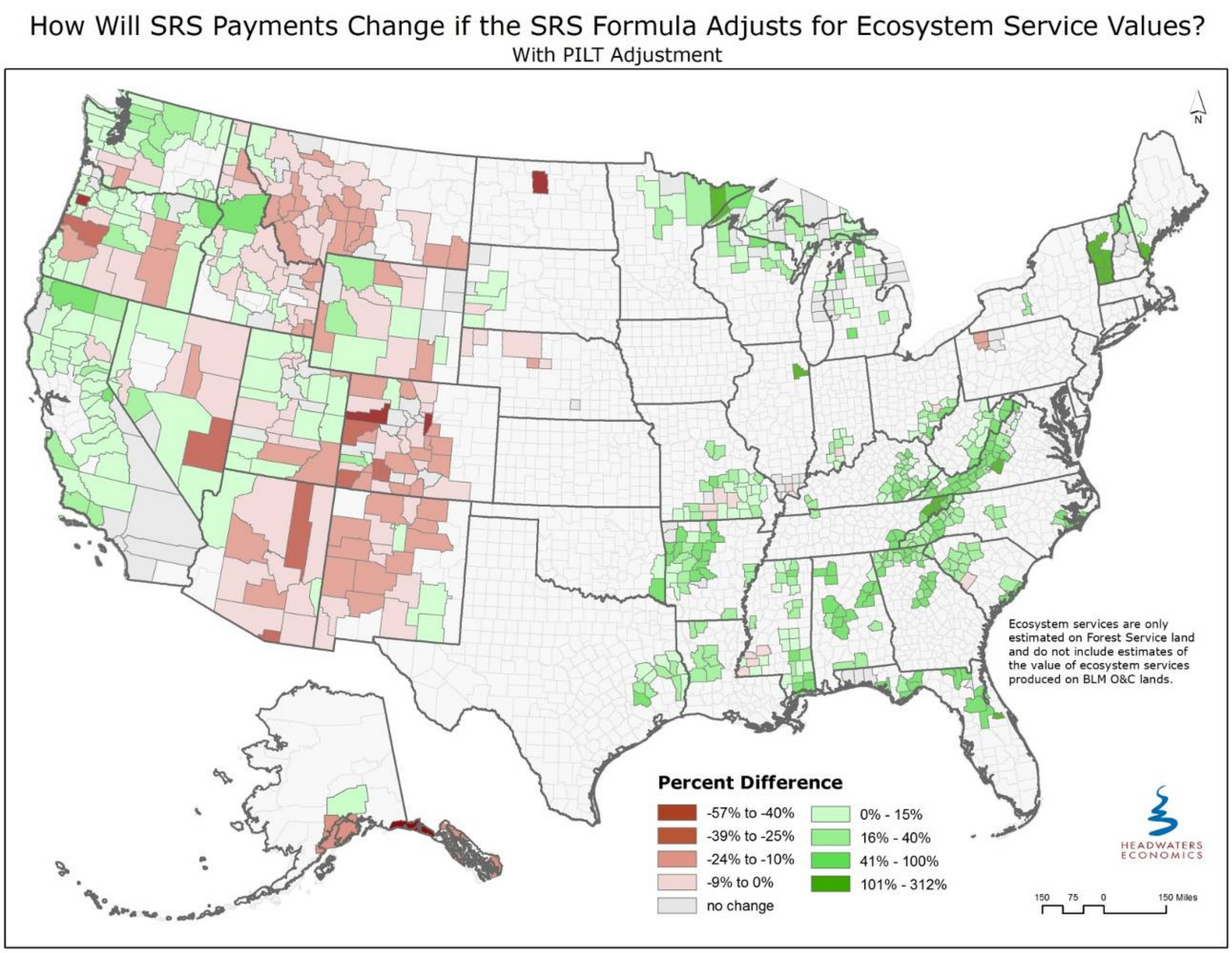
By retaining the base share payment, this idea will provide a strong or weak incentive to counties by using different ways of calculating each county's payment. If the factor that adjusts each county's base share is relatively powerful, county payments will be less certain from year to year, but the incentives to work with the agencies to improve forest health will be stronger.

How Counties Will Be Affected

Figure 12 shows the net difference between current SRS payments (for eligible counties) and a new SRS payment formula that allocates payments to counties based partially on the value of ecosystem services produced as a result of restoration and stewardship projects completed on public lands. (Green indicates net gain; red indicates net loss).

This idea guarantees each county half of their existing payment, plus an additional payment based on the relative value of ecosystem services produced on public lands within their boundaries. Counties in national forests generating the highest watershed, forest, recreation, and carbon sequestration values will receive the highest payments (above their current SRS payment). Current payment was calculated as the average payment for FY2008 through FY2011. The projection is for FY2011.

Figure 12



To see the effect on individual areas, see the interactive maps on:
www.headwaterseconomics.org/countypayments

Counties and schools across the country will receive the same total payments by 2014 when compared to the average payment from FY 2008 to 2011.

Overall, 189 of 718 counties will see lower payments with 77 counties experiencing losses greater than 10 percent. One county will see its payment decline by half or more.
A total of 459 counties will see an increase in payments, with 327 counties seeing payments more than 10 percent higher. Of those, 78 counties will receive payments more than 50 percent higher.

It is important to note that Figure 12 shows the *minimum* value of a revised SRS payment formula based on the value of ecosystem services. Once this idea is in effect, there will be an incentive for county governments to support and expand stewardship and restoration activities, and there will be an increased demand for new and expanded ways to measure non-market values, resulting in an increase in payments to counties beyond what can be measured using today's valuation studies

Pros and Cons of the Idea

By aligning incentives to encourage current land management goals, the idea of linking payments to the value of ecosystem services will leverage county payments to support stewardship, restoration, and conservation of public lands. As discussed previously, county payments are an influential program affecting how counties view public land management decisions.

This idea also will create an incentive for agencies, counties, and other interested parties (e.g., universities and non-government organizations) to work together to do the monitoring, database management, and research required to make this idea work. An ongoing debate in how to create and grow markets in ecosystem services is if exact values must be known before markets can be established, or if markets must be in place first to create the demand for information that improves the efficiency of transactions. If this idea is adopted, the first payments will almost certainly be inefficient (counties will be paid too little or too much for ecosystem services). Over time, the market for county payments will learn and become more efficient.

The downside is that linking payments to the value of ecosystem services is dependent on congressional appropriations for funding, at least in the near-term. The current funding mechanism for SRS first uses commodity receipts to make county payments, and the difference between authorized payments and available receipts is made up from the federal Treasury. There may be future opportunities associated with this idea to generate new funding from the value of ecosystem services produced on public lands, which would reduce or eliminate the need for appropriated monies.

Certain challenges to measuring the value of ecosystem services produced on public lands must be overcome in order to implement this idea. The product-based method is difficult to measure and will require significant improvements in monitoring, data management, and research. Some non-market values can be more easily measured and valued than others. Estimating values at the regional or forest scale for the full suite of ecosystem services will require new research methods and application in more geographic areas.

IDEA 4: REFORM SRS PAYMENTS WITH A NEW DISTRIBUTION FORMULA

4 d: Distribute Higher Payments to Counties with Protected Public Lands

Distribute Forest Service and PILT payments to local governments based partially on the protected status of federal public lands.

The Idea

SRS and PILT are both based partially on the number of federal acres in each county. This idea would reform the SRS and PILT formulas to weight payments in favor of counties that have protected public lands.

The idea is based on the finding that protected public lands are associated with economic well-being, but the relationship between public lands and growth depends on quality public services, including access to markets and an educated workforce.[49] Linking county payments to the protected status of public lands will help ensure that counties with specially designated public lands, including wilderness lands, benefit fiscally from these lands, and have extra resources to provide the quality services necessary for economic growth.

Protected federal public lands are defined as public lands that have special designated status that restricts certain commodity uses.[50] Lands that do not carry these special designations will not count towards a higher payment for counties. These include, for example, wilderness study areas and inventoried roadless lands. If these lands are eventually designated as wilderness or are placed in some other protected status, they would become eligible for higher PILT and SRS payments.

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[49] Studies, articles and literature reviews on the economic contribution of protected public lands are available from: http://www.headwaterseconomics.org/protectedlands (last accessed 10/23/10).
For an analysis of the importance of transportation for high-amenity areas, see Rasker, R., P.H. Gude, J.A. Gude, and J. van den Noort. 2009. The Economic Importance of Air Travel in High-Amenity Rural Areas. *Journal of Rural Studies* 25(2009): 343-353, available at:
http://www.headwaterseconomics.org/3wests/Rasker_et_al_2009_Three_Wests.pdf (last accessed 11/24/10). Also see the "Three Wests" web page at Headwaters Economics which provides information on three distinct types of counties in the American West as measured by access to markets: www.headwaterseconomics.org/3wests.php (last accessed 11/24/10).

[50] Protected federal public lands consist of: national parks and preserves (managed by the National Park Service), wilderness (NPS, Fish and Wildlife Service, Forest Service, Bureau of Land Management), national conservation areas (BLM), national monuments (NPS, FS, BLM), national recreation areas (NPS, FS, BLM), national wild and scenic rivers (NPS, FS, BLM), waterfowl production areas (FWS), wildlife management areas (FWS), research natural areas (FS, BLM), areas of critical environmental concern (BLM), and national wildlife refuges (FWS). For a description of the methods used to describe protected public lands, and an analysis of the relationship between these lands and economic growth, see: Rasker, R. 2006. "An Exploration Into the Economic Impact of Industrial Development Versus Conservation on Western Public Lands." *Society and Natural Resources*. 19(3): 191-207.

How the Idea Works

The SRS formula and the PILT formula are based partially on the number of federal acres in a county. Each of these formulas can be modified to favor higher payments for lands in special protected status. The easiest way to accomplish this goal is to weight each acre in protected status more heavily in the respective formulas. The example used here counts each protected acre as 1.5 eligible acres, generating a 50 percent bonus for specially designated acres.

PILT currently authorizes higher payments for newly acquired wilderness and national park acres for a period of five years.[51] This idea extends the concept of higher PILT payments for certain acquired lands to include all federal land currently covered by special protected designations, as well as any future acquisitions or designations that result in additional acres receiving special protected designations.

The idea also extends the concept of higher payments for specially designated lands to the SRS formula.

The way the current PILT formula compensates counties with additional payments for newly acquired protected public lands is to base the value of those lands on the taxable value of the land acquired. This idea simplifies the payment formula by adding a 50 percent premium to the number of protected acres. For example, the FY2010 PILT full funding payment is calculated using a value of $2.40 per acre for all federally eligible acres in a county. This idea would increase the actual number of eligible acres by multiplying the number of eligible acres that have special protected designations by 1.5. This functionally increases the full payment amount by a premium of 50 percent for all protected lands. This would have had the effect of raising the PILT per-acre payment in FY 2010 from $2.40 to $3.60 for protected public lands.

The 50 percent premium for protected public lands would also apply to the minimum PILT per-acre payment established by Congress.

The idea would not change other aspects of the PILT formula, so it would not override population limits or the reduction for prior-year payments. By applying the protected public land premium to the minimum PILT payment in addition to the full funding amount, this idea will result in higher PILT payments for every county that has protected public lands, regardless of population limits or prior-year payments. In FY 2010, this idea would have had the effect of increasing the minimum per-acre PILT payment from $0.33 to $0.495 for all protected public lands (for more detail on the PILT formula, see Appendices A and D).

In the SRS formula, weighting protected acres more highly would not have a similar effect of increasing overall SRS payments, but instead would direct a larger portion of the amount allocated by Congress for SRS to counties with a higher number of protected acres. Each county's SRS payment is based partially on their share of all eligible Forest Service and BLM O&C acres. Counties with relatively more eligible public lands are rewarded by the formula with a proportionally higher payment. This idea would further weight the SRS formula to counties that have proportionally more protected public lands.

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[51] The additional payment covers lands acquired by the federal government to be included in the national park system or as national forest wilderness. The law states that "The Interior Secretary shall make payments only for the five fiscal years after the fiscal year in which the interest in land is acquired. Under guidelines the Secretary prescribes, the unit of general local government receiving the payment from the Secretary shall distribute payments proportionally to units and school districts that lost real property taxes because of the acquisition of the interest. A unit receiving a distribution may use a payment for any governmental purpose." P.L. 97-258, as amended Section 6904. Additional Payments.

Using both the PILT and the SRS formula to weight payments based on protected public lands ensures that counties benefit. Counties whose PILT payment is limited by population or by high prior-year payments will mainly benefit from a higher SRS payment (the increase in the SRS payment will not have the effect of lowering the county's PILT payment). Counties whose PILT payment is not limited by population or by high prior-year payments will largely benefit from a higher PILT authorization. The increase in SRS payments for these counties will be subtracted from their PILT authorization. However, because their PILT full payment amount will rise, they will still receive a higher payment.

The Formula

PILT

The PILT formula would calculate the full payment amount as follows:

> PILT Payment = (Eligible Acres * Per-Acre Amount) + (Protected Lands Eligible Acres * 1.5) * Per Are Amount))

In the formula above, protected eligible acres are the acres with special designations that qualify as protected public lands.

The PILT full payment amount calculated using the above formula would still be subject to population limits and will be reduced by prior-year payments as described in the current PILT formula.

SRS

The SRS formula would increase slightly in complexity because the calculation of eligible acres would expand to the following:

> Eligible Acres = (Eligible Acres) + (Protected Lands Eligible Acres *1.5)

In the formula above, protected eligible acres are the acres with special designations that qualify as protected public lands.

Additional methods and results of the reformed PILT and SRS formula are discussed in the section "How Counties Will Be Affected."

How the Idea Contributes to Predictability, Economic Opportunity, and Forest Health

By using both the SRS formula and the PILT formula, this idea has two mechanisms that will promote predictability and stability in payments.

The PILT formula is designed to mitigate volatility in revenue sharing payments (including SRS), and a higher PILT entitlement will contribute to higher payment and greater stability, or both.

Reforming the SRS formula to include the protected status of public lands will not increase the overall amount of money available for counties, but would instead redistribute payments among eligible counties. As with all the other ideas in this paper that propose to reform the SRS formula, this reform idea will create winners and losers among eligible counties. Counties with more protected public lands (measured as total acres) will capture a higher share of the amount of money Congress authorizes for SRS payments. Counties with fewer protected public lands will receive proportionately less of the total appropriated SRS amount.

The idea will create incentives for county governments to pressure Congress to protect additional public lands in order to receive higher PILT payments, or to win a larger share of the SRS appropriation. Depending on how strong the incentive is (Congress can choose to weight protected public lands more or less), the reforms may more reasonably be expected to remove some opposition to new federal land designations.

The idea will contribute to forest health because protected land designations are generally enacted to protect outstanding resource values, including intact watersheds, wildlife habitat, scenic vistas, recreational opportunities, and other resource values that could be threatened by commercial activities. These special designations also provide additional economic opportunity by maintaining resource values that are associated with economic growth.[52]

[52] See, for example: Cromartie, J.B. and J.M. Wardwell. 1999. “Migrants Settling Far and Wide in the Rural West.” *Rural Development Perspectives.* Vol. 14(2), Pages 2-8; Beyers, W.B., D.P. Lindahl, and E. Hamill. 1995. “Lone Eagles and Other High Fliers in the Rural Producer Services.” Paper presented at the Pacific Northwest Regional Economic Conference, May 1995, Missoula, Montana; Fuguitt, G.V. and C.L. Beale. 1996. “Recent Trends in Nonmetropolitan Migration: toward a New Turnaround?” *Growth and Change.* Vol. 27, Pages 156-174; McGranahan, D.A. 1999. “Natural Amenities Drive Population Change.” Food and Rural Economics Division, Economic Research Service, U.S. Department of Agriculture. Report 781, Pages 1-24; Hansen, A.J, R. Rasker, B,. Maxwell, J.L. Rotella, J.D. Johnson, A. Wright Parmenter, U. Langer, W. B. Cohen, R. L. Lawrence, and M. P.V. Kraska. 2002. “Ecological Causes and Consequences of Demographic Change in the New West.” *BioScience.* Vol. 52(2): 151-162; and. Rasker, R. 2006. “An Exploration Into the Economic Impact of Industrial Development Versus Conservation on Western Public Lands.” *Society and Natural Resources*. 19(3): 191-207.

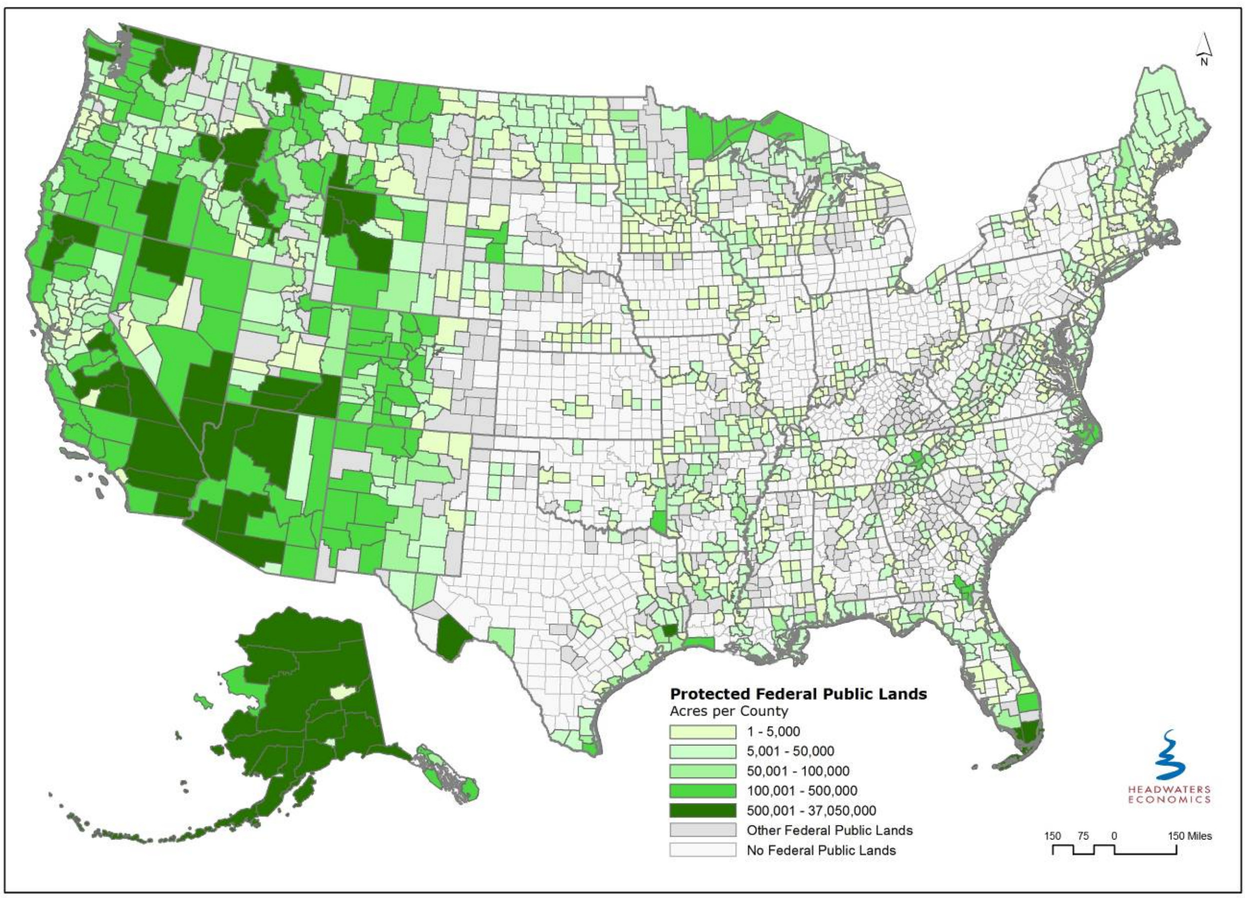
How Counties Will Be Affected

Because we do not have an accurate county-by-county measure of acres of Forest Service land in protected status, we are not able to estimate how SRS payments to Forest Service-eligible acres would be re-distributed based on the share of protected lands. However, we do have an county-by-county measure of protected lands from all agencies combined (Forest Service, Bureau of Land Management, US Fish and Wildlife Service and National Park Service). It is possible to map where those lands exist in order to reveal the relative differences between counties, and represent visually how payments might be proportionately redistributed according to protected lands proportions.

Figure 13 shows the relative proportion of federal lands that are in some form of permanent status, including wilderness, national monument, national parks, national wild and scenic rivers, and others. Under this idea, counties with more protected public lands will receive a higher share of the amount of money Congress authorizes for SRS payments while those with relatively fewer protected public lands will receive proportionately less of the total appropriated SRS amount.

Figure 13

Where Are Protected Federal Public Lands?



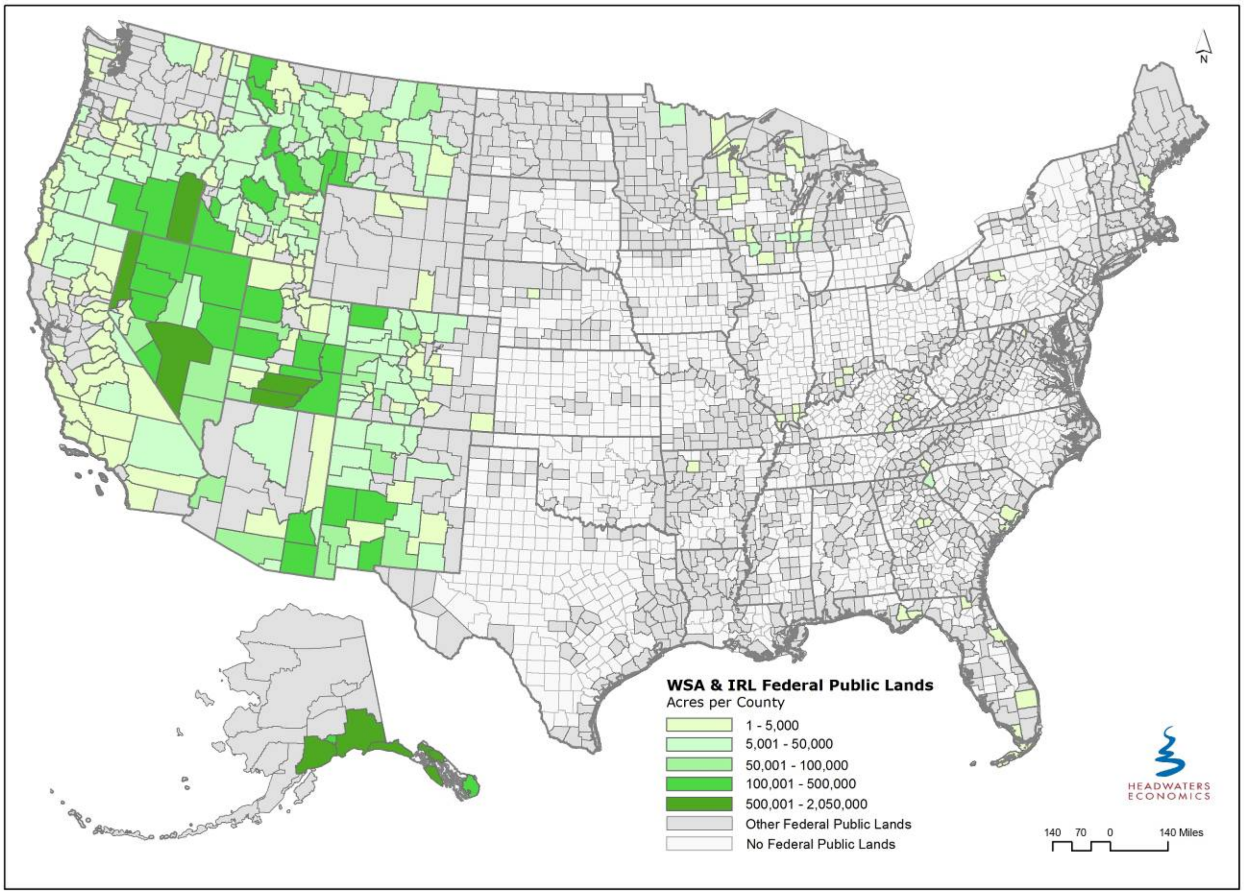
To see the effect on individual areas, see the interactive maps on:
www.headwaterseconomics.org/countypayments

Figure 14 shows the relative proportion of federal lands that have characteristics that make them eligible for some form of designation into a permanent protected status. These consist of wilderness study areas (managed by National Park Service, Fish and Wildlife Service, Forest Service and Bureau of Land Management), and inventoried roadless areas (managed by the Forest Service). If this idea were applied, there would be an incentive to convert these lands into a designated status in order for counties to receive the financial benefit.

Figure 14

Where Are Federal Public Lands That Have Potential to Gain Protected Status?

Wilderness Study Areas and Inventoried Roadless Lands



Assuming that Congress continues to fully fund PILT, total payments nationally will go up as a result of proportionately higher PILT entitlements for protected public lands.

Assuming future SRS appropriations are similar to currently appropriated amounts, the idea would not increase total funding amounts, but would make relatively higher payments to counties that have protected public lands.

The PILT formula will moderate the changes in the SRS distribution formula for most counties because the PILT formula will adjust payments upwards in counties that receive lower SRS payments, and PILT will adjust down in counties that receive higher SRS payments.

Pros and Cons of the Idea

One of the main concerns counties have with new land designations is the possibility that restricted uses will lead to declining federal land payments. This is one reason, for example, why county governments often opposed wilderness designations for Forest Service lands; there is no financial benefit from these forms of designations. Reauthorization of SRS with a new formula that rewards counties that have protected lands, combined with similar reforms to the PILT formula, should alleviate these concerns. Depending on the strength of the incentive, the idea could reverse the way counties view public lands, resulting in calls for additional protected lands.

Counties that have protected public land, access to markets, and a well-educated workforce are best situated to capitalize on existing and new land designations (in terms of population, employment, and income growth). Linking higher payments to the protected status of public lands directs resources to counties in a way that leverages today's economic opportunities associated with public lands, helping counties transition their economies away from commodity dependence.

The main drawback, as with most of the ideas to reauthorize SRS, is that it does not identify a new funding source. Payments will continue to depend on congressional appropriations. For this reason, the idea will do little to change predictability for counties, unless the idea wins more support for continued appropriations because of the incentive for conservation of public lands.

Another disadvantage is that this idea does not simplify the SRS distribution formula. It retains the existing SRS formula, but adds another calculation by requiring that the base formula be weighted to reflect the protected status of public lands.

This idea will streamline the PILT formula if this idea replaces the current section that provides for additional payments for certain acquired federal lands (sections 6904 and 6905 of PILT).

IDEA 5: IMPLEMENT TAX EQUIVALENCY PAYMENTS

Replace SRS, commodity revenue sharing payments, and PILT with payments equivalent to the property taxes federal land would pay if the lands instead were privately owned and used for similar purposes.

The Idea

Payments will be equivalent to the property taxes federal land would pay if the public lands instead were privately owned and used for similar purposes (e.g., timber production, grazing, recreation).

Forest Service, BLM O&C, and PILT payments will be replaced by a single payment based on the taxable value of eligible federal public lands. Public lands will be assessed (valued for tax purposes) the same way private lands used for similar purposes are valued.

How the Idea Works

In general, private property is valued for taxation based on its market value. Most states, however, make an exception for agricultural and timber lands. These lands are valued using their productive value rather than their market value. Preferential taxation protects farmers, ranchers, and timber producers from taxes based on the potential development value of land that could exceed their ability to pay.

Under this idea, Forest Service and BLM O&C lands will be assessed based on the productive value of the land, not the potential market value of public lands. Federal lands with special designations that exclude commercial timber and grazing may be the exception. These lands will likely not qualify for preferential assessments, and could be valued more highly for tax purposes. How much higher will depend partly on state and local tax policy, and partly on what kinds of valuation methods Congress puts in place.

Once the taxable value of public land is determined, the local mill levy (tax rate) for county roads and schools will be applied to determine the payment amount.

The Formula

Each county's payment is calculated as follows:

County Payment = Assessed Value of Public Land * County and School Mill Levy

How the Idea Contributes to Predictability, Economic Opportunity, and Forest Health

Payments will almost certainly be more stable and predictable because the taxable value of land is less subject to volatility than if payments reverted to the 25% Fund system. They are certainly less volatile than commodity prices and the volume of timber cut and sold. Linking budgets to relatively stable land values instead of relatively volatile commodity production and prices achieves stability and predictability for counties.

This idea also largely removes incentives for counties to lobby for particular land management activities. For example, payments from the 25% Fund created incentives for counties to lobby for higher timber harvests as a way of maximizing government receipts and county payments. Because the tax status of public lands will not vary based on the types of projects completed, counties will not have a direct budgetary incentive to request particular land management outcomes.

Tax equivalency payments could create incentives for new land designations if specially designated lands were valued at a higher rate than lands without special designations. For example, specially designated federal lands that exclude commercial resource extraction (e.g., wilderness) could be assessed at a higher rate, creating an incentive for local governments to support new protected land designations.

One drawback is that payments will have to be funded by congressional appropriations, which are uncertain. The experience of past PILT funding fluctuations may be of concern to counties because tax equivalency payments could be similarly volatile if Congress does not guarantee full appropriations permanently. In other words, just because the authorized payments will be predictable and stable using this idea, actual appropriations may not be guaranteed.

How Counties Will Be Affected

Conducting a new tax equivalency study is beyond the scope of this white paper and it is not possible to estimate and map how counties could be affected if this idea is implemented. However, important insight can be gained from existing studies of tax equivalency. The studies consistently find that:

1. The total value of tax equivalency payments would be higher than the full value of current PILT and revenue sharing payments (including SRS funding levels in 2001).

2. The experience of individual counties varies dramatically.[53] The average payment will be higher, but the median county will actually receive less money. In fact, about two-thirds of counties will actually receive less money despite higher overall funding levels.

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[53] For example, one recent study estimated that in 2001, 68% of counties receiving SRS payments in 2001 would receive lower total compensation under a tax equivalency payment program when compared to current SRS payments plus fully funded PILT. See: Ervin G. Schuster and Krista M. Gebert. 2001. Property tax Equivalency on Federal Resource Management Lands. *Journal of Forestry*. Vol 99, Number 5, pp. 30-35. Ross Gorte, (*Ibid*., Gorte 2000) cites one study suggesting that total compensation is generally adequate, and another that shows that the experience of individual states differ: the Advisory Commission on Intergovernmental Relations found that "compensation, based on revenue sharing, was generally adequate to offset any adverse effect of federal land ownership." Another study in 1985, which included PILT payments, found federal payments in four of eight states were higher than equivalent private land tax rates, in three states federal payments were lower, and in one, federal

3. Only one-third of counties nation-wide will receive higher payments. A handful of counties—those that have the greatest number of federally owned acres—will receive a disproportionate share of total payments. This explains why total funding levels could rise even as most counties would experience lower payments.

We are not aware of a tax equivalency study completed subsequent to the SRS reauthorization and PILT appropriations in FY 2008. County compensation from FY 2008 to FY 2011 is higher than it was in FY 2001 (when the most recent study was conducted), so the proportion of counties that would receive lower tax equivalency payments relative to SRS and PILT in FY 2008 to FY 2011 is most likely higher than it was in FY2001.

Pros and Cons of the Idea

Tax equivalency payments are attractive because the funding mechanism is easy for local government to understand and because they offer more predictability and stability over time.

Perhaps the biggest reason tax equivalency has not caught on as a way to reform national payments is that many counties currently receive payments in excess of what they could raise by taxing federal lands.[54] Over time, tax equivalency also has been used to achieve political goals not necessarily associated with fairness to counties (e.g., the Reagan administration's tax equivalency proposal was aimed to reduce federal spending, not fairly compensating counties).[55]

Valuing public lands consistently across a wide variety of state taxation laws will be challenging. In addition, the differences between how much each local government chooses to tax its residents will introduce further complexity and fairness issues. Another issue is reconciling differences in the importance of property taxes in funding local services. Local governments that rely more on sales taxes or user charges to fund basic county services will be disadvantaged relative to local governments in states where property taxes provide the greatest proportion of revenue.

The payment amount is sensitive to the tax policy in each state and county (state law often affects how counties can value and tax land). This means that some counties will receive a higher payment for federal land used for similar purposes based on differences in how land is valued and on tax rates.

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payments were roughly equivalent to private land taxes. Sources: Advisory Commission on Intergovernmental Relations. *The Adequacy of Federal Compensation to Local Governments for Tax Exempt Federal Lands*. Report A-68. Washington, D.C. See also: Anne E. Huebner, Clifford A. Hickman, and H. Fred Kaiser. *A Tax Equivalency Study on National Forest System Lands in the United States*. FS-396. Washington D.C.: USDA Forest Service, Dec. 1985. An Inquiry into Selected Aspects of Revenue Sharing on Federal Lands. 2002. A report to the Forest County Payments Committee, Washington, D.C. Research Unit 4802-Economic Aspects of Forest Management on Public Lands, Rocky Mountain Research Station, USDA Forest Service, Missoula, MT (An Inquiry into Selected Aspects of Revenue Sharing) and Ervin G. Schuster and Krista M. Gebert. 2001. Property tax Equivalency on Federal Resource Management Lands. *Journal of Forestry*. Vol 99, Number 5, pp. 30-35. The Inquiry into Selected Aspects of Revenue Sharing report updated tax equivalency findings from FY 1997 (reported by Schuster and Gerbert 2001) to compare these FY 1997 findings to new tax equivalency findings under the new SRS payment program. In FY 1997, total federal land payments were lower than aggregate comparable property taxes, but 52% of counties were tax equivalent (federal land payments are equal or greater than what federal land payments would be if they made payments equivalent to what they would pay if they were privately owned). In 2001, total SRS and PILT payments were still lower than comparable property taxes, but the proportion of tax equivalent counties rose to 68 %.
[54] Ross W Gorte. 2008. The Secure Rural Schools and Community Self-Determination Act of 2000: Forest Service Payments to Counties. Congressional Research Service Report RL33822, Washington D.C.
[55] *Ibid*.

One possible solution to this latter issue is to retain PILT. PILT could provide supplemental payments for counties that rely less on property taxes relative to their peers. PILT will also compensate many counties that will see lower tax equivalency payments relative to current Forest Service and BLM payments. Retaining PILT on top of a tax equivalency payment for Forest Service and BLM payments, however, could increase total compensation (e.g., cost to the taxpayer) above today's aggregate payment level.

Another downside is that this idea will eliminate SRS Title II, removing limited but important dollars to support stewardship and restoration activities, and funding for RACs.

It also is hard to say how this idea will affect economic opportunity. Protected public lands are associated with economic well-being and new protected land designations could increase economic opportunity for some counties under certain circumstances. On the other hand, the loss of Title II funding will eliminate employment opportunities associated with public lands infrastructure, restoration, and stewardship activities immediately. The same may hold true for forest health: new designations could protect significant resource values, but fewer resources will be available to meet the significant restoration and stewardship needs on public lands.

This idea is not linked directly to economic need or to incentives that preference one type of land use over another. However, if taxable values for specially designated lands are higher than other federal lands, it will deliver higher payments to counties with public lands in special designations and may encourage new designations.

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To extend the current county payment programs, or to replace them with new ideas, Congress will have to appropriate money from the general Treasury or find other funding sources. The next section offers five options for how Congress could fund future county payments.

V. IDEAS FOR FUNDING FEDERAL LAND PAYMENTS

This section summarizes several ideas for how Congress could fund future county payment programs.

SRS will expire in FY 2011 and PILT is only appropriated through FY 2012. To extend these programs, or to replace them with ideas proposed in this paper, Congress will have to appropriate money from the general Treasury or find a new funding source.

Over its current four-year authorization (FY 2008-2011), SRS will provide an annual average of $433 million to counties and schools. PILT payments have cost taxpayers more than $350 million in each of the last three years (FY 2008-2010). The money required to fully fund PILT will increase in FY 2011 and FY 2012 (as SRS transition payments decline). The most recent extension of SRS, debated in 2007 and 2008,[56] nearly failed because of Congress' inability to agree on how to fund the law.[57] Concerns about federal spending and the deficit are even more acute today, leaving future SRS and PILT funding far from certain.

[56] SRS 2007 was a one-year emergency reauthorization as part of the Iraq Accountability Appropriations Act of 2007, Pub. L. No. 110-28, tit. V, ch. 4. SRS 2008 was amended as part of Title VI of the Emergency Economic Stabilization Act of 2008, Energy Improvement and Extension Act of 2008, and Tax Extenders and Alternative Minimum Tax Relief Act of 2008, Pub. L. No. 110-343.

[57] Disagreement centered on perceived inequitable distribution of funds among the states and the provision of funding, generally. The Bush Administration proposed to empower the Forest Service to sell certain federal lands to fund the SRS Act payments. U.S. Senator Larry Craig of Idaho proposed to use funds generated by a new withholding requirement on federal, state, and local contracts (152 Cong. Rec. S11688 (Dec. 8, 2006). Sen. Craig also directed a working group to examine expediting oil and gas leases to enhance royalty payments, and relaxing NEPA standards for timber operations. A 2007 version of the SRS bill in the House would have offset costs by charging "conservation of resource fees" on federal oil and gas leases in the Gulf of Mexico. The fees would have] generated $2.875 billion in revenue (H.R. Report No. 110-505, pt. 1, at 10 (2006)). An amendment introduced by Congressman Rob Bishop would have offset costs by opening up the Arctic National Wildlife Refuge to drilling. The Amendment was voted down by the House Committee on Natural Resources by a 17-10 vote. Oddly enough, funding considerations did not play a significant role in the debates concerning the SRS Act in 2000. At the time, the United States was experiencing a budget surplus, which provided a starkly different background consideration than the multi-trillion-dollar debt facing the country during the 2007 and 2008 reauthorizations, and the heightened spending and deficit concerns facing the 2011 SRS reauthorization effort.

Options for Funding Future County Payments

1. **Return to Commodity Receipts:** Return to the permanently authorized revenue sharing programs: 25% Fund (Forest Service) and BLM O&C 50% payments.

2. **Continue Direct Appropriations:** Ask Congress for annual or long-term appropriations to fund federal land payments.

3. **Utilize Improvements to Forest Health:** Share a portion of receipts from participation in markets for carbon, water, and/or other services provided by public lands.

4. **Enact New Fees or Taxes:** Enact a new fee or tax on recipients of services supplied by public lands (e.g., recreation fees or taxes on water utilities for clean water delivery).

5. **Sell Public Lands:** Certain public lands could be sold to generate revenue to fund county payments either directly or to create a dedicated permanent fund that will provide county payments from interest earnings.

FUNDING IDEA 1: RETURN TO COMMODITY RECEIPTS

Return to the permanently authorized revenue sharing programs: 25% Fund (Forest Service) and BLM O&C 50% payments.

The Idea

Allow SRS to expire and return to commodity revenue sharing programs. Both the National Forest 25% Fund and the O&C lands revenue sharing programs are permanently authorized and have a dedicated funding source based on receipts generated from commodity development on public lands. No action is required to return to this funding mechanism.

PILT is permanently authorized, but must be appropriated on an annual basis. Currently, PILT is appropriated through FY 2012 at the full funding level. This idea does not propose a change in PILT funding.

How the Idea Works

No action is required by Congress. If SRS is allowed to sunset as planned in FY 2011, counties will receive their permanently authorized revenue sharing payment beginning in FY 2012.

Pros and Cons of the Idea

The major advantage of this idea is that Forest Service and BLM O&C revenue sharing payments are permanently authorized and have a dedicated funding source. The downsides are many: lower payments for most counties when compared to current SRS payments; payment volatility; and an expectation of commercial uses of public lands that are at odds with current public land management goals and values. If fully funded, PILT will help with payment levels and volatility, but future full funding for PILT is in question given the current budget climate.

Congress attempted to smooth some of the volatility inherent to commodity prices and production by basing payments on a seven-year rolling average of commodity receipts. This helps, but creates a new problem if a county's authorized payment (based on the seven-year rolling average) exceeds available funding; Congress may have to appropriate funds to make up the difference. This may expose revenue sharing payments to the same uncertainty associated with continued PILT appropriations (or reauthorization of SRS).

FUNDING IDEA 2: CONTINUE DIRECT APPROPRIATIONS

Ask Congress for annual or long-term appropriations to fund federal land payments.

The Idea

Continue to pay for SRS, PILT, or other reauthorization options with congressional appropriations.

How the Idea Works

Congress will continue to appropriate funding, either annually or for a number of years, to fund SRS and PILT payments. Appropriations will be equal to the fully authorized amount for both programs.

The FY 2009 federal budget says only that "[o]ffsets for the [SRS Act] are provided within the topline of the President's Budget throughout the Department of Agriculture and elsewhere."[58] Within the FY 2009 budget for the Department of Agriculture, the offsets for the SRS Act are not clearly indicated.

Pros and Cons of the Idea

As seen during the past decade, appropriations can provide significant funding for counties and schools. Should Congress reauthorize or reform the county payments program, then large amounts of general Treasury funding will increase the effectiveness of any incentive structure created to promote national policy goals such as job creation or forest health (for example, through Title II of SRS).

Counties should be wary about federal lands payments that are linked to congressional politics and the year-to-year uncertainty of funding levels. Congress faces an increasingly difficult budget environment amid concerns about the growing federal debt. There also is growing pressure to reduce the deficit as well as fund other priorities.

The appropriations process also increases the likelihood that Congress will use the funding opportunity to attach riders or others changes to the federal lands payment program (e.g., altering future distribution formulas). This will provide mixed results for counties. On the positive side, this may make the program more responsive to new or unexpected needs. On the downside, it may increase the volatility of the program and make it much more difficult for county officials, federal agency officials, or others to conduct longer-term budgeting or initiate projects dependent on future county payments.

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[58] U.S. Forest Service, FY 2009 Forest Service Budget Justification, http://www.fs.fed.us/publications/budget-2009/fy2009-forest-service-budget-justification.pdf, pages 1-8 (last accessed 3/29/10).

FUNDING IDEA 3: UTILIZE IMPROVEMENTS TO FOREST HEALTH

Share a portion of receipts from participation in markets for carbon, water, and/or other services provided by public lands.

The Idea

Activities on public lands that increase forest health produce a wide range of values, and many of these values can be measured in economic terms. For example, improvements in carbon sequestration, water quality, recreation, and forest health all can be quantified. As a result, they can be monetized through willing seller/willing buyer markets, which is happening already in many parts of the country.[59]

This idea suggests that the Forest Service and BLM will participate in markets for ecosystem services. A portion of the receipts generated from market transactions involving these federal agencies could be directed to county governments and school districts.

Federal agency participation in markets for ecosystem service products can only occur if Congress adopts one of the ideas described earlier in this paper. For example, Idea 3 (expand the definition of gross receipts in revenue sharing) and Idea 4c (change the SRS formula) both suggest linking the economic values of ecosystem services to county payments. At first, these ideas would be funded with continuing federal appropriations, but they open the possibility of identifying and growing dedicated sources of funding in the future.

How the Idea Works

Originally county payments were funded from commodity receipts through the National Forest 25% Fund and the O&C lands revenue sharing programs. Several of the reform ideas presented earlier in this white paper suggest designing a payment program that expands the definition of "receipt" to incorporate the value of stewardship, restoration, and conservation activities on public lands that produce ecosystem service products. The products generated by these activities have real values, and significant work is underway to value ecosystem services produced on public lands.

While markets for the outputs from healthy forests currently are currently small, there are a growing number of efforts to tap into the potential of ecosystem markets.[60] The value traded in carbon credits, for

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[59] Ecosystem Marketplace has put together a matrix and profile paper summarizing the current state of Payment for Ecosystem Services (PES) internationally. *Forest Trends and the Ecosystem Marketplace*. 2008. Payments for Ecosystem Services: Market Profiles: http://www.ecosystemmarketplace.com. (last accessed 10/23/10). Oregon Senate Bill 513 Ecosystem Services Markets Working Group is putting together an assessment of ten of the most widely accepted ecosystem services quantification systems: http://oregon.gov/OWEB/SB513.shtml (last accessed 10/24/10). Groups like the Willamette Partnership are valuing ecosystem services in order to establish a credit exchange that assist landowners who want to participate in ecosystem markets. The accounting system, "Counting on the Environment," is an important step towards developing a market for ecosystem services in Oregon and the Pacific Northwest at large: http://willamettepartnership.org/ecosystem-credit-accounting/the-willamette-ecosystem-marketplace (last accessed 10/21/10).

[60] In Maryland, for example, the Total Maximum Daily Load requirements of the Clean Water Act apply to the Chesapeake Bay, in effect enforcing restoration and pollution laws. The Maryland Department of Natural Resources is interested in the viability of using ecosystem services markets as a way of regulating pollution. DNR is tracking ecosystem services, gathering data on ecosystem valuation, and if viable, will push for establishment of markets. The USDA Office of Ecosystem Markets was established by the Obama Administration to catalyze the development

example, is increasing and may grow significantly if carbon is taxed in one form or another. There is also a growing recognition of and a willingness to pay for watershed restoration as a cost-effective approach to maintaining healthy drinking supplies. Revenue derived from federal participation in such markets could be shared with counties where the product-generating public lands are.

Pros and Cons of the Idea

If market mechanisms can be developed that will partially or fully fund county payments, this approach will create direct incentives that support the general direction of current national forest management goals, by tapping into the various economic values and opportunities associated with producing clean air and water, wildlife habitat, cultural resources, and recreation on public lands.

While current markets are not large enough to fund county payments, adopting a payment distribution system based on the value of ecosystem service products could help change the existing system. Counties seeking to maximize payments will create the necessary demand to shift county payments from a system based on direct appropriations to a market-based approach, which would monetize improvements to forest health. This idea also will assist rural economies in diversifying their economic base to include a mix of industries, rather than just commodity production.

The disadvantages of this approach are that markets are relatively immature, there is weak market demand for forest health services, and, in some cases, measurement and monitoring of landscape health indicators create challenges. If started today, payments to counties from these markets will be extremely small and likely volatile, at least at first, as markets develop. In addition, there are concerns that ecosystem service products produced on federal lands may depress the values of similar services produced on private land.

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of markets for ecosystem services. http://www.fs.fed.us/ecosystemservices/OEM/index.shtml/index.shtml (last accessed 10/21/10)

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FUNDING IDEA 4: ENACT NEW FEES OR TAXES

Enact a new fee or tax on recipients of services supplied by public lands (e.g., recreation fees or taxes on water utilities for clean water delivery).

The Idea

Congress could introduce a fee or tax on services provided by public lands to offset the cost of the county payments program.

How the Idea Works

Public lands provide many services, such as recreation opportunities and clean water. A new fee or tax will be attached to such services, and the revenue will establish a dedicated funding source, reducing or eliminating the need for appropriations to fund county payments.

Federal public lands essentially will provide a service, which then will be levied to pay for improvements to the public lands, in order to provide more or better services in the future. At the same time, a portion of the fee revenue will be treated like commodity revenues and shared with counties.

Because this revenue will be tied to actual public land uses and values, it provides another opportunity to design an incentive structure that rewards public policy goals, such as assisting counties with legitimate costs, encouraging healthy forests, and avoiding future public costs.

The scale of impact will depend on a variety of factors, including: the activities covered; fee levels; which counties pay fees; and whether the fees are returned directly to counties where they incur or are instead pooled for distribution to all counties that qualify for federal land payments.

Pros and Cons of the Idea

It will be difficult to enact new fees and taxes and to set them at appropriate levels. In addition, many believe that public lands, and the benefits they provide such as cleaner air or water, should be provided to the public free of charge.

Another concern is that this proposal will have the net result of taxing healthy or successful uses of public lands, such as recreation opportunities or clean water generation, rather than assessing fees on harmful uses of federal lands.

FUNDING IDEA 5: SELL PUBLIC LANDS

Certain public lands could be sold to generate revenue to fund county payments either directly or to create a dedicated permanent fund that will provide county payments from interest earnings.

The Idea

Selected public lands could be sold to generate revenue that would be used to fund county payments either directly or channeled into a dedicated fund that will fund payments from interest earnings.

How the Idea Works

Motivated by a desire to generate funds that would be channeled into a mandatory account, the Bush Administration proposed empowering the Forest Service to sell certain federal lands to fund the SRS payments in 2007 and 2008. A similar proposal for the Oregon and California grant lands managed by the BLM in Oregon emerged in 2010. The proposal would provide a permanent funding source for the 18 counties in Oregon that contain the O&C lands, and would help to fund a 10-year extension of the SRS for Forest Service lands. The proposal aims to sell approximately half of the BLM O&C lands managed by the BLM.[61]

Like the other funding proposals, the impact to counties will depend on the amount of revenue generated from the sale of public lands, and whether the funds are returned directly to counties where they originated or are instead pooled for distribution to all counties qualifying for federal land payments.

Pros and Cons of the Idea

This funding idea will likely meet resistance in Congress. The Bush Administration's earlier proposals failed, and the House Committee on Natural Resources noted, for example, that it "was met with considerable concern by the Congress and the public."[62]

The current proposal is likely to fall short of expected economic goals because it assumes that timber supply drives the local economy, not timber demand. Timber harvests have declined across federal, state, and private lands in the current recession due to a steep fall in demand for wood products. There is little evidence to suggest that putting up huge amounts of public land for sale will increase demand for timber products, resulting in high sale prices and new logging jobs for Oregon.

The idea also runs counter to current economic opportunity around public lands. The BLM O&C lands have a different management structure than do other federal protected lands. But these lands contain significant natural resources associated with a diversifying regional economy. Managing these lands for a variety of resource values, including but not limited to commodity production, may offer greater long-term economic opportunities for Oregon, particularly in counties with access to metropolitan job markets and a well-educated work force.

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[61] See the Association of O&C Counties website describing the Federal Forest Counties and Schools Stabilization Act of 2010 at http://www.ffcssa.org/

[62] H.R. Report No. 110-505, pt. 1, at 7 (2006).

VI: CONCLUSION: THE DIFFICULTIES AND OPPORTUNITIES OF COUNTY PAYMENT REFORM

County governments are compensated for the tax-exempt status of federal public lands within their boundaries. These payments are important, at times constituting a significant portion of county and school budgets. They also affect how public lands are managed, and in turn influence the kind of economic opportunities available to counties.

Over the past 100 years, Congress has reformed and expanded federal land payments to counties, with each change reflecting new economic conditions and changing values of public lands. Most recently, Congress gave counties the option of decoupling payments from timber and other commodity development. Since 2001, with the majority of counties selecting to participate in SRS, and with PILT fully appropriated, county governments have seen an increase in payments and a decline in volatility.

Future county payments are at risk because of the pending sunset of SRS in 2011 and the uncertain appropriation for PILT after 2012 amid growing budget deficit concerns in Washington D.C. SRS's original intent was to be a temporary way to help transition counties away from dependence on commodity production for tax revenues. If SRS is not reauthorized, payments again would be tied to commodity receipts, meaning smaller and more volatile funding for most counties. Tying payments to commodity receipts would also mean fewer incentives to support stewardship and restoration activities, which—although they would create jobs and improve forest health—would not generate revenue-sharing receipts.

SRS has many additional merits. The program provides proportionately higher payments to counties with lower per capita income, and Titles II and III direct funds to stewardship and restoration activities, and wildfire risk reduction. However, there is also significant opportunity for improvement. SRS payments did not always go to the neediest counties, and the funding levels for Titles II and III are too small to meet significant forest restoration needs or to affect local economic conditions. Also, under the current formulation of SRS, county governments do not benefit financially from popular activities, such as stewardship and restoration, which improve forest health.

This paper explores a number of ideas for extending the county payments program, evaluating how each one will meet the goals of providing counties with stable and predictable compensation while reinforcing today's economic and land-health goals.

Many of the ideas presented in this paper suggest reforms to the SRS formula. Some would direct payments to counties in ways that would better meet economic goals; others would create incentives for counties to improve forest health and create jobs, either by collaborating with agencies or by doing so on their own.

Other ideas consider basing county payments on a tax equivalency system, which, although it would offer counties greater predictability and stability, would not benefit the majority of counties. Perhaps a more popular idea—if SRS is allowed to expire and the system returns to revenue sharing payments—is to expand the definition of "gross receipts" to include the value of stewardship and restoration activities.

Some of the ideas suggested in this paper require unique and relatively new measurement techniques. For example, the value of ecosystem services measured in this paper was based on existing studies. Changing the SRS formula so that it rewards activities that produce ecosystem services will create new incentive and will increase efforts to improve techniques for measuring these values.

The best solution may be to combine a number of ideas presented in this paper into a single formula, with "something for everyone." For example, the formula could have an element that directs payments to counties based on economic need, another element that rewards savings to taxpayers through fire risk reduction, and others that encourage collaboration and promote stewardship and restoration by giving county governments and land managers various ways to increase payments through improving forest health.

Congress will also have to decide how to fund county payments. While a number of ideas exist, including the sale of public lands and a return to commodity receipts, it is likely that in the short term Congress might need to continue a direct appropriation for SRS and PILT. However, in the longer term there is a great opportunity to change what services and value the public receives in exchange for these appropriations, and to tie these payments to activities that increase forest health and create jobs, while at the same time being fair and predictable for county governments.

The reauthorization of SRS will have a higher chance of success if supported by a diverse set of groups—conservationists, forest workers, agency managers, and the public—in addition to county governments. A much broader constituency can be developed to support a future SRS if the program is improved in order to benefit counties that need economic development support or to direct proportionately higher payments to areas with measurable improvements in forest health, fire risk reduction, or to areas with protected lands. Such reforms would have an important effect of creating incentives for county governments to support the types of land management that have widespread public support. Finally, changing SRS in these ways would be consistent with how Congress traditionally has reformed county payments, evolving the system to reflect new values and economic conditions.

APPENDIX A: FEDERAL LAND PAYMENT PROGRAMS DISCUSSED

This appendix describes the federal land payment programs discussed in this paper.

Forest Service 25% Fund

In 1906, the Forest Service began sharing a portion of commodity receipts, mainly from timber, with counties as compensation for non-taxable federal lands. The portion of receipts shared with counties was raised from 10 percent to the current 25 percent in 1908.[63]

The payments were to be used for roads and schools in the counties at the discretion of each state (states choose what portion of Forest Service payments must be spent on roads vs. schools).[64] States also differ on how they allocate funds to schools: some states pass the funds directly back to school districts based on national forest acreage in each district, others allocate the payments to a state school equalization fund, meaning Forest Service payments are distributed to schools across the state with no basis in national forest acreage.

In 2008, the 25% Fund was reformed to base revenue sharing payments on a 7-year rolling average of receipts, rather than on the current year's receipts.

The 25% Fund is permanently authorized and has a dedicated funding source in the form of commodity receipts. If the Secure Rural Schools and Community Self-Determination Act is not reauthorized for FY 2012 and beyond, all counties will still receive their proportionate share of the 25% Fund.

BLM Oregon and California Land Grant (O&C) Revenue Sharing Payments

In 1937, the Bureau of Land Management (BLM) began sharing commercial receipts generated on the revested and reconveyed Oregon and California Railroad grant lands (O&C) with counties along the same model as the Forest Service 25% Fund.[65] The main differences are the level of compensation (originally 75% and now 50%) and the permitted uses—payments are made directly to the county government, which can use them for any governmental purpose.

Secure Rural Schools and Community Self-Determination Act (SRS)

Congress passed SRS in 2000 to provide optional assistance to states and counties whose revenue sharing payments (Forest Service 25% Fund and BLM O&C 50% payments) declined from the 1980s through the 1990s. SRS guarantees each eligible county a payment equal to the highest three years of revenue sharing payments between 1986 and 1999. SRS also added two new titles to help counties diversify their economies beyond commodity extraction and help pay for services directly related to public lands, including emergency services and community wildfire preparedness.

[63] Act of May 23, 1908, Pub. L. No. 60-136 (the 25% Payment).

[64] Federal legislation mandated that payments fund county roads and schools, but left to states how to allocate the funds between these two services. See Congressional Research Service Memorandum, Forest Service Revenue-Sharing Payments: Distribution System. November 19, 1999. Ross Gorte. (Available from Headwaters Economics).

[65] O&C Lands Act, Pub. L. No. 74-405, tit. II(a) (1937).

The full payment amount was scheduled to transition downward over the six-year authorization period. Funding was derived first from receipts received by the federal government from activities of the Forest Service on national forest land, and the Bureau of Land Management on revested and reconveyed grant lands, with any surplus to be funded from federal Treasury funds.

SRS is organized into three titles:

> Title I: *Optional Payments for State and Counties*. Title I payments replace revenue sharing payments and must be used to fund county roads and schools. Counties receiving a total payment in excess of $100,000 must direct between 80 and 85 percent of funds to Title II or Title III projects.

> Title II: *Funding for Special Projects on Public Land*. The purpose of Title II dollars are to promote collaboration between the agencies and adjacent communities to help counties transition their economies away from dependence on commodity extraction. Newly formed Resource Advisory Committees (RACs) make recommendations for special projects on public lands funded with Title II dollars. Such projects must further the purposes of the SRS Act, including fostering investment in roads and other infrastructure, soil productivity, ecosystem health, watershed restoration and maintenance, control of noxious weeds, and reestablishment of native species. RACs typically have authority over some subset of a state's territory. For instance, there are six RACs for the State of Idaho: Central Idaho, Eastern Idaho, the Idaho Panhandle, North Central Idaho, South Central Idaho, and Southwest Idaho.[66]

> Title III: *County Funding for Special Projects*. Counties have the authority to develop and select Title III projects. Under the 2000 legislation, Title III funds can be used for search and rescue, community service work camps, easement purchases, forest related education opportunities, fire prevention and county planning, and community forestry.

SRS Reauthorization in 2008[67]

Congress did not make dramatic changes to Title II or Title III of the SRS Act in the 2008 reauthorization. The most substantial changes were to the funding formula of Title I. Under the current Title I, certain covered states—California, Louisiana, Oregon, Pennsylvania, South Carolina, South Dakota, Texas and Washington[68]—are given transition payments, which are pegged to the sums paid to states and counties in 2006 under the SRS Act as then implemented. In 2008, the covered states received 90 percent of such sums. In 2009 and 2010, they received 81 and 73 percent respectively.[69] As of 2011, covered states will start receiving the "formula payment," as described below.

States other than covered states may opt to receive a seven-year rolling average of 25% Fund payments, or the 50% payments. However, they may alternately elect to receive the Formula Payment. The Formula Payment is based on a share of the full funding amount, which is the total funding allocated on a nationwide basis for the SRS Act. The full funding amount nationwide is set at $500 million for FY 2008; $450 million for FY 2009; and $405 million for FY 2010. A formula is used to calculate the share that

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[66] For a list of current Forest Service RACs, see U.S. Forest Service, Resource Advisory Committees. https://fsplaces.fs.fed.us/fsfiles/unit/wo/secure_rural_schools.nsf (last accessed 3/23/10).
[67] SRS Act of 2008 Pub. L. No. 110-343.
[68] It is unclear from the legislative history why certain states were selected to be covered states.
[69] Pub. L. No. 110-343, tit.VI, § 103.

states and counties are entitled to receive.[70] Roughly speaking the share is a function of acreage of federal land, the three highest 25% payments or 50% payments for the years 1986 to1999, and per capita income.

SRS Title II retains the Resource Advisory Committee approval process. RACs continue to have significant leeway to innovate, however they are still constrained to choose projects consistent with the purposes of the SRS Act as outlined in Section 2. These purposes are not significantly different from those outlined in the earlier version of the SRS Act.

Title III has a significantly more narrow scope in the current legislation. Whereas the 2000 legislation provided funding for projects in six broad areas, the current legislation limits funding to projects in three specific areas. First, funds may be used to implement the Firewise Communities program, which seeks to provide education and assistance to homeowners to help them guard against personal and property damage from wildfires. Second, funds can be used to reimburse the county for search and rescue and other emergency services. Third, funds may be used to develop community wildfire protection plans in coordination with the Secretary of Agriculture or Interior, as appropriate. Counties need not seek federal approval in advance of the actual expenditures. Rather, they must seek reimbursement after the fact, by submitting certification to the Secretary of Agriculture, or Interior, (as appropriate) that the funds were used in accordance with Title III.

Funding for payments under the current version of the SRS Act is derived from (1) funds appropriated to carry out the act; (2) revenues, fees, penalties or miscellaneous receipts received by the federal government from activities by the Forest Service and Bureau of Land Management on applicable federal lands; and (3) to the extent of any shortfall, Treasury funds not otherwise appropriated.

Total SRS payments from the Forest Service and the BLM totaled $562 million in FY2009. Title I made up 85 percent of the total payment ($478 million), Title II made up 9 percent ($53 million), and Title III made up 5 percent ($32 million). SRS payments are set to transition down from a high of $623 million in FY 2008 to an estimated low of $378 million in 2011.

Lands eligible for SRS payments include all Forest Service lands and the Oregon and California lands (O&C) managed by the BLM in Oregon. The total SRS payment in FY2009 includes SRS payments made to counties as compensation for Forest Service and BLM O&C lands. Of the total SRS payment in FY2009, 17 percent ($95 million) was made to compensate 18 counties in Oregon for the BLM O&C lands in their jurisdictions. The rest of the SRS payment (83 percent, $467 million) was made to counties as compensation for Forest Service lands within their jurisdictions.

[70] See U.S. Forest Service, Title I- Secure Payments for States and Counties Containing Federal Land, http://www.fs.fed.us/srs/docs/calculations.pdf (last accessed 3/16/10).

Payments in Lieu of Taxes (PILT)

"Payments in Lieu of Taxes" (PILT) are federal payments to local governments that help offset losses in property taxes due to nontaxable federal lands within their boundaries.[71] The payments are made annually for tax-exempt federal lands administered by the BLM, the National Park Service, the U.S. Fish and Wildlife Service (all agencies of the Interior Department), the U.S. Forest service (part of the U.S. Department of Agriculture), and for federal water projects and some military installations. PILT payments can be used for any governmental purpose at the discretion of the receiving county. Only county governments are eligible for PILT payments.

PILT interacts with SRS in meaningful ways. PILT was passed in large part to increase and stabilize existing federal revenue sharing programs, including the Forest Service 25% Fund and the BLM O&C lands 50% revenue sharing program. The formula used to compute PILT payments begins with a base payment for every acre of eligible federally owned land within a county and is then reduced by the amount of revenue sharing payments from the previous year, and is subject to a population cap. A minimum base payment covers counties whose entitlement falls below a per-acre threshold after revenue sharing payments are subtracted and the population cap is determined.

PILT payments are in addition to other federal revenues (such as oil and gas leasing, livestock grazing, and timber harvesting) that the federal government transfers to the states. The DOI has distributed more than $4.7 billion dollars in PILT payments (on average, $147 million annually) to each state (except Rhode Island) plus the District of Columbia, Puerto Rico, Guam, and the Virgin Islands since these payments began in 1977.

PILT is permanently authorized and the funding formula is set in statute. Payments, however, must be appropriated by Congress on a recurring basis. While PILT received a guaranteed five-year full-appropriation as part of the Emergency Economic Stabilization Act of 2008, the program must receive a new appropriation for FY 2013.

[71] Public Law 94-565, dated October 20, 1976 as rewritten and amended by Public Law 97-258 on September 13, 1982 and codified at Chapter 69, Title 31 of the United States Code http://www.doi.gov/pilt/chapter69.html (last accessed 10/23/10).

APPENDIX B: METHODS USED TO CALCULATE ECONOMIC NEED

Idea 4a suggested reforming the SRS payment formula in order to give preferential assistance to counties with the greatest need. This appendix elaborates on some of the ideas presented in that section of the paper.

Calculating County Economic Need and Development Potential for a Revised SRS Formula

The current SRS formula uses per capita income (PCI) as a metric to make adjustments to the SRS base payments. The disadvantages of using this metric are:

PCI is total personal income divided by total population. In many counties non-labor income, such as dividends, interest and rent (money earned from investments), and transfer payments (including retirement payments), make up more than one-third of total personal income and are often the source of new real income growth (related in large part to an aging population). This means PCI can rise even when the overall economy is in decline. It is not unusual to find counties where non-labor income is growing while other measures of well-being, such as household income or average earnings per job, are declining.

A second concern with PCI is that it consists of total personal income divided by total population. In some counties the average family size is relatively large, leading to a large overall population. Dividing total personal income by population may in those instances result in a low PCI that does not accurately reflect the well-being of the average family.

Another problem with PCI is that it does not address economic development potential. Some counties have low education rates and are in rural areas with no easy access to larger markets. These counties could have a more limited set of economic opportunities available to them.[72]

The methods explained below offer an alternative way of measuring economic need and development potential. The metrics used for the formula are readily available nationwide for all counties from data published by federal agencies.

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[72] For a discussion of the importance of access to markets, see Rasker, R., P.H. Gude, J.A. Gude, and J. van den Noort. 2009. The Economic Importance of Air Travel in High-Amenity Rural Areas. *Journal of Rural Studies* 25(2009): 343-353. http://www.headwaterseconomics.org/3wests/Rasker_et_al_2009_Three_Wests.pdf (last accessed 10/23/10). Also see Headwaters Economics' "Three Wests" web page, which provides information on three distinct types of counties in the American West as measured by access to markets. www.headwaterseconomics.org/3wests.php (last accessed 10/23/10).

Measures of Economic Performance or Hardship:

A. Median Household Income: The sum of money received by household members 15 years old and over. It includes wage and salary income; self-employment income; interest, dividends, or net rental or royalty income from estates and trusts; Social Security and Railroad Retirement income; Supplemental Security Income, public assistance or welfare payments; and retirement, survivor, or disability pensions.[73]

The advantage of median household income is that is a comprehensive measure of all the sources of income, measured at the household level. The disadvantage is similar to the use of PCI in instances when household income is made up largely of non-labor sources. For this reason, an additional labor-related measure is needed.

B. Average Earnings Per Job: The total earnings divided by total full-time and part-time employment.[74]

The advantage of this measure is that it indicates the relative quality of jobs available in a county.

C. Percentage of Families Below the Poverty Level: The U.S. Bureau of the Census uses a sophisticated technique for measuring poverty for different family configurations. For example, the poverty threshold in 1999 for a family of four with two children less than 18 years was determined to be an annual income of $16,954.[75]

Measures of Economic Potential:

D. Percentage of the Population with a Bachelor's Degree or Higher: The percentage of the population 25 years or older who have earned at least a bachelor's degree.

Education is one of the most important indicators of the potential for economic success, and lack of education is closely linked to poverty. Studies show that areas whose workforce has a higher-than-average education level grow faster, have higher incomes, and suffer less during economic downturns than other regions.[76] Education rates make a difference in earnings and unemployment rates. In 2009, the average weekly earnings for someone with a bachelor's degree was $1,025, compared to $626 per week for someone with a high school diploma. While in 2009 the unemployment rate among college graduates was 5.2 percent, for high school graduates it was 9.7 percent.[77]

[73] For the full definition of Median Household Income, see the U.S. Bureau of the Census: http://factfinder.census.gov/home/en/epss/glossary_i.html#income (last accessed 9/9/10).
[74] For the full definition of Average Earnings per Job, see the Bureau of Economic Analysis, U.S. Department of Commerce: http://www.bea.gov/regional/definitions/ (last accessed 9/9/10).
[75] The term poverty, as used by the U.S. Census Bureau, is defined at: http://factfinder.census.gov/servlet/MetadataBrowserServlet?type=subject&id=POVERTYSF3&dsspName=DEC_2000_SF3&back=update&_lang=en (last accessed 9/9/10).
[76] For information on the relationship between level of education, earnings, year-round employment, and unemployment rates, see: U.S. Census Bureau's 2002 publication "The Big Payoff: Educational Attainment and Synthetic Estimates of Work-Life Earnings." http://www.census.gov/prod/2002pubs/p23-210.pdf (last accessed 9/9/10).
[77] The wage and unemployment effects of education are available from the Bureau of Labor Statistics: http://www.bls.gov/emp/ep_chart_001.htm (last accessed 10/23/10).

E. County Typology—Degree of Isolation from Markets: Counties are classified as belonging to one of five categories: Central Metropolitan Statistical Area, Outlying Metropolitan Statistical Area, Central Micropolitan Statistical Area, and Outlying Micropolitan Statistical Area. A fifth category for all other counties is Rural.

One of the principle determinants of economic success for a county is the ability of its businesses to trade with market centers and of its residents to work in centralized population centers. For example, someone living in a Core Metropolitan Area, or a nearby Outlying Metropolitan Statistical Area, has different employment opportunities from someone who lives in a Rural area. The five categories delineated above serve as a continuum from most densely populated to most sparsely populated. This typology serves as a measure of the degree of connection to markets, including labor markets.[78]

Definitions:

Metropolitan Statistical Areas: counties that have at least one urbanized area of 50,000 or more population, plus adjacent territory that has a high degree of social and economic integration with the core as measured by commuting ties. Metropolitan Statistical Areas are classified as either central or outlying.

Micropolitan Statistical Areas: counties that have at least one urban cluster of at least 10,000 but less than 50,000 population, plus adjacent territory that has a high degree of social and economic integration with the core as measured by commuting ties. Micropolitan Statistical Areas are classified as either central or outlying.

Rural: counties that are not designated as either metropolitan or micropolitan.

Central Areas: counties that contain the urban core of metropolitan and micropolitan areas.

Outlying Areas: counties adjacent to metropolitan or micropolitan counties that have a high degree of social and economic integration with the urban core, as measured by commuting to work.[79]

[78] *Ibid*, Rasker et al., 2009.
[79] Definitions of county typologies can be found at the U.S. Census Bureau.http://www.census.gov/population/www/metroareas/metroarea.html (last accessed 9/9/10).

Methods Used to Develop Maps

The following describes how the variables were used to develop the information that was presented in Figures 8 through11 presented under Idea 4a:

The five variables listed above were gathered for every county in the U.S. The variables were all normalized. They were recalculated to a zero to one index by dividing the individual county values for each variable by the highest value for that variable (for example, Index Household Income for Clark County, Idaho = Household Income (Clark County / Highest Household Income (Douglas County, CO).

The five indexed variables were then added or subtracted based on whether the variable indicates a strong or weak economy. For example, high average earnings per job is a positive while high number of families below the poverty level is a negative. Rural counties were given the lowest score, meaning they are the farthest from markets, while Central Metropolitan Statistical Area counties were given the highest score.

An economic performance and economic development potential score was calculated for each county as:

> Economic Performance Score = Poverty – Education – Household Income – Earnings per Job – Distance from Market.

To create the payment adjustment factor the economic performance score was divided at the median, with the top half of the counties (those with the worst economic performance) recalculated to a zero/one index and the bottom half to a zero/negative one index. We added one to the results of this calculation so that the economic performance index of the worst performing county is two, the median county is one, and the county with the best performing county is zero.

The new formula guarantees each county half of its base payment (the average payment the county received from FY 2008 to FY 2011), and adjusts the second half by the county's economic performance score. The worst performing county will receive one and a half times its current payment using this formula, while the best performing county will receive exactly half of its current payment. The median county receives the same payment.

The formula is:

> County Payment = (Base Payment * 0.5) + [(Base Payment *0.5) * Economic Performance Index]

APPENDIX C: METHODS USED TO ESTIMATE THE VALUE OF LAND AND WATERSHED HEALTH

Estimating the Activity-Based Value and the Product-Based Value of Stewardship Contracts and Forest Service Legacy Roads and Trails Remediation Initiative Spending

Two ideas in this paper (Idea 3 and Idea 4c) propose to link county payments to a broad set of values being produced on public lands. This section describes the methods used to define and measure those values. We look at two types of agency authorities and funding that are specifically designed to produce products associated with land and watershed health—stewardship contracting authorities and the Forest Legacy Roads and Trails Remediation Initiative (Legacy Roads).

Stewardship Contracts

Stewardship contracts provide the Forest Service and BLM with new authorities that allow the agencies to work more collaboratively and to complete restoration and stewardship work that will not necessarily pay for itself.[80]

Two of the new stewardship contracting authorities allow the agencies to trade goods for services and to retain residual receipts to spend on additional service work (for example, infrastructure projects and restoration activities). The ability to apply the value of commodities produced through a stewardship contract to service work provides new resources the agencies can use to complete a broader set of restoration, infrastructure, and stewardship goals associated with a stewardship contract relative to a traditional timber contract. These new authorities, along with others, mean that stewardship contracts can be designed to achieve non-commodity goals as a primary purpose of the contract.

For counties, the new authorities mean that the value of commodities produced by stewardship contracts is not eligible for revenue sharing payments.[81] Uncertainty around SRS reauthorization has led some states and counties to oppose expanded use of stewardship contracts in favor of traditional timber sales that generated commercial receipts eligible for revenue sharing.[82]

Reform to the Forest Service 25% Fund that calculates the value of receipts based on a 7-year rolling average—a reform intended to reduce year-to-year volatility in eligible receipts—has heightened concerns.[83] The reform means that what happens this year on the forest could affect a county's revenue sharing payment in 2012 and beyond if SRS is not reauthorized.

[80] USDA, Forest Service, Stewardship End Result Contracting. http://www.fs.fed.us/forestmanagement/stewardship/index.shtml (last accessed 10/23/10).

[81] Commodity values associated with stewardship contracts can be traded to a contractor for services provided, or receipts can be retained by the agencies and applied to needed service work in the same contract, or transferred to another approved project. USDA Forest Service, "Everything You Wanted to Know About Stewardship End Result Contracting… But Didn't Know What to Ask." http://www.fs.fed.us/forestmanagement/stewardship/index.shtml (last accessed 10/30/10).

[82] U.S. Government Accountability Office (GAO). 2008. Use of Stewardship Contracting is Increasing, but Agencies Could Benefit from Better Data and Contracting Strategies. GAO Report 1-66. Washington, D.C.

[83] Title IV of SRS 2008 "(Section 601(b)) amends 16 U.S.C. 500 (i.e., 25% Payments to States) to change the way in which the 25% payment is calculated. It provides for a 7-year rolling average, i.e., that the 25% payments are to be an amount equal to the annual average of 25% of all amounts received for the applicable FY and each of the preceding 6 FYs from each National Forest." http://www.fs.fed.us/srs/Title-IV.shtml (last accessed 10/23/10).

As the agencies expand their use of stewardship contracts, uncertainties about how SRS works will become more important, i.e., how revenue sharing payments are calculated and which receipts are eligible for revenue sharing.[84]

Forest Legacy Roads and Trails Remediation Initiative (Legacy Roads)

The Forest Service Legacy Road and Trail Remediation Initiative (Legacy Roads) provides funding to the agency to improve watershed health by repairing and removing forest roads. The primary goal is watershed health, but the funding is also intended to reduce future road maintenance costs and improve public safety across the Forest Service road system.[85]

Congress appropriated $40 million for Legacy Roads in FY 2008 and reappropriated funding in the last two years (2009 and 2010). The program is not permanently authorized and funding must be appropriated on an annual basis.[86]

Legacy Roads projects benefit counties through direct employment, cost savings associated with reduced sedimentation, and other benefits provided by healthy watersheds. For example, heavy sediment loads reduce the capacity of downstream hydro power generation and impose additional costs on metropolitan and agricultural water systems. Sedimentation can smother spawning gravels important to anadromous fish and poorly designed or damaged roads can also block access to upstream habitat.

While Legacy Roads projects create significant value on public lands (in the form of ecosystem service products associated with healthy watersheds) these values are not shared with counties. As the Forest Service conducts more restoration work, there will be more pressure to find ways to share the value of these activities with counties.

[84] According to the Pinchot Institute for Conservation "the Obama Administration's FY 2011 budget proposal for the USDA Forest Service brings a new focus to the use of stewardship contracts and agreements as a preferred land management option for the National Forest System. The budget includes a new $694 million Integrated Resource Restoration line item that is intended to focus agency resources on forest ecosystem restoration. A land management option that focuses on working with local communities to provide opportunities for rural economic development and ecosystem uplift, stewardship contracting, allows the USDA Forest Service and the USDOI Bureau of Land Management to focus their resources on ecosystem management." Pinchot Institute for Conservation. The Role of Communities in Stewardship Contracting: A Programmatic Review of Forest Service Projects - Report to the USDA Forest Service, FY2009. http://www.pinchot.org/gp/2009StewardshipContracting. (last accessed 10/23/10).

[85] USDA Forest Service, Region 6, Legacy Roads and Trails. http://www.fs.fed.us/r6/fishing/regional/habitat/legacy.html (last accessed 10/23/10).

[86] Wildlands CPR, a non-governmental organization advocating for continued Legacy Roads funding, provides a good summary. http://www.wildlandscpr.org/legacy-roads (last accessed 10/23/10).

Estimating Activity-Based Values

In this paper, activity-based values of stewardship contracts and Legacy Roads are defined as the sum of all the resources applied to complete the service work (e.g., forest thinning, re-vegetation, or road removal) prescribed by the stewardship contract or Legacy Roads project.

For stewardship contracts, the activity-based value is the sum of goods traded for services, retained agency receipts, and agency spending. For Legacy Roads projects, the activity-based value is the sum of agency funding and any matching funds contributed to completing the prescribed service work.

In FY 2009, the total activity-based value of stewardship contracts was $103 million, and the total activity-based value of Legacy Roads was $56 million.

The 25% Fund distributes payments to counties based on the total receipts generated by areas Congressionally designated as national forest, and the proportion of acres in each county area.[87] We used this method to estimate the activity-based value of stewardship contracts and Legacy Roads by county.

Stewardship contract data from the Forest Service are only available at the Forest Service regional scale. The BLM reports summary statistics for stewardship contracts by state. We estimated the value of Forest Service stewardship contracts based on each county's proportional acreage of all Forest Service land in the region, and BLM stewardship contracts based on each county's proportional acreage of BLM lands in the state. Legacy Roads data (Forest Service only) are available at the national forest scale.

Table 1 shows the activity-based value of stewardship contracts and Legacy Roads for the 20 counties in the nation that had the highest total values based on FY 2009 data.

[87] "Proclaimed" national forests are not the same as national forests. For example, the Beaverhead-Deerlodge National Forest in Montana is made up of two proclaimed national forests: the Beaverhead PNF and the Deerlodge PNF.

Table 1
Activity-Based Value of Stewardship Contracts and Legacy Roads by County, FY 2009.

		Activity-Based Value		
County	State	Stewardship Contracts	Legacy Roads	Total
Siskiyou County	California	1,673,891	5,446,564	7,120,455
Greenlee County	Arizona	5,224,450	213,863	5,438,313
Catron County	New Mexico	4,278,009	327,493	4,605,502
Idaho County	Idaho	3,125,674	1,293,318	4,418,992
El Dorado County	California	4,154,816	201,740	4,356,556
Coconino County	Arizona	3,236,935	371,443	3,608,378
Apache County	Arizona	3,430,151	140,413	3,570,564
Navajo County	Arizona	3,387,570	138,670	3,526,240
Deschutes County	Oregon	3,228,627	125,037	3,353,664
Tuolumne County	California	3,078,874	80,336	3,159,210
Douglas County	Oregon	1,421,641	1,108,735	2,530,376
Shoshone County	Idaho	1,764,178	482,154	2,246,332
Del Norte County	California	620,555	1,574,695	2,195,250
Trinity County	California	522,282	1,638,879	2,161,161
Ravalli County	Montana	1,441,365	705,512	2,146,878
Flathead County	Montana	1,771,753	276,262	2,048,015
Clackamas County	Oregon	1,718,740	325,938	2,044,678
Lake County	Oregon	1,951,440	53,854	2,005,294
Lincoln County	Montana	1,330,588	567,576	1,898,165
Klamath County	Oregon	1,575,073	108,794	1,683,867

Estimating Product-Based Values

The economic value of the services produced by stewardship contracts and Legacy Roads is a measure of how communities benefit from healthy watersheds, healthy forests, recreation opportunities, and carbon sequestration. Because these products, or ecosystem services, generally are not traded in markets, the prices of these services cannot be easily observed from market transactions.

Economists have developed methods to value goods and services that are not traded in a market, broadly defined as "non-market valuation methods." Non-market valuation methods fall into three general categories: revealed preference, stated preference, and the averted expenditure approach. All of these non-market valuation methods require extensive data regarding individuals' behavior and preferences or engineering costs.

When the time or resources are not available to do a full primary study, economists use an approach known as "benefit transfer," which involves applying estimates from valuation studies that evaluated similar policies or activities in other areas to the one being studied. While benefits transfer may not provide the precision possible with original studies, it can provide a range of reasonable values.

In this paper, we use the benefit transfer approach to estimate non-market values for a set of ecosystem services produced by stewardship contracts and by Legacy Roads during FY 2009. Where it is not currently possible to estimate these values, we identify the data or methodological gaps that will need to be filled to allow estimation.

Table 2 lists activities conducted as part of a stewardship contract or a Legacy Roads project, and the ecosystem service products they produce. A (+) sign in the matrix means the activity produces positive economic value, while a (–) sign means the activity generates an economic loss for that particular ecosystem service. For example, decommissioning system roads results in positive economic value (+) through erosion reduction that lowers the cost of maintaining water infrastructure downstream. A (+) or (–) also indicates we were able to find literature on the subject and know that it can be quantified.

Data from the BLM report accomplishments under the eight land management goals listed in Table 2, which are drawn from the authorizing legislation.[88] Stewardship contracts completed or approved in FY 2009 listed five of these eight management categories for 2009. The goals described in these eight activities are not specific enough to estimate the value of ecosystem service products, with the exception of noxious weed control, prescribed fire to improve habitat, and removing vegetation to improve forest health and reduce fire risk. The value of ecosystem service products produced in Oregon (including all BLM lands, not specific to the O&C lands) was $217,000. Because of these limitations, we could not isolate and measure the ecosystem services values produced by stewardship contracts on the BLM O&C lands in Oregon.

This omission does not appear to change the results significantly. One reason is that the BLM in Oregon has not applied stewardship contracts across significant acreage (according to agency data, acres treated for the eight management categories are only 3,243 compared to over 22,000 acres of wildfire mitigation projects alone on Forest Service lands in Region 6).

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[88] U.S. Department of the Interior, Bureau of Land Management. BLM Stewardship Project Guidance v 2.0, November 2005. http://www.blm.gov/pgdata/etc/medialib/blm/wo/Planning_and_Renewable_Resources/0.Par.48921.File.dat/Stewardship_Contracting_Guidance_2-0.pdf (last accessed 11/15/10).

Because of the scant current use of stewardship contracts by the BLM relative to the Forest Service, adopting an idea that reforms county payment distribution based at least in part on the value of products produced by stewardship contracts would work against Oregon. That said, the BLM O&C lands in Oregon have hugely significant forest resources and tremendous restoration needs. Adopting some version of Idea 3 or 4c could create the incentive necessary for counties and the BLM to work together to increase the amount of restoration and stewardship work taking place on the O&C lands, providing significant community benefits and realizing county payments that are more in-line with the forest resources and management needs in Oregon.

Table 2. Summary of ecosystem service categories and valuation status from SC and LRP projects.								
	Ecosystem Service							
Activity Category	Carbon sequestration	Erosion reduction	Fire risk mitigation	Noxious weed reduction	Recreation	Riparian habitat	Watershed health	Quantified?
Legacy Roads program activities (Forest Service Only)								
Install stream crossings		+				+		Yes
Restore stream habitat					+	+		Yes
Remove aquatic organism passages (AOP) barriers					+	+		No
Improve passenger car (PC) roads		+			+			Yes
Maintain PC roads		+			+			Yes
Improve high-clearance car (HC) roads		+			+			Yes
Maintain HC roads		+			+			Yes
Decommission system roads	+	+			-			Yes
Decommission unauthorized roads	+	+						Yes
Maintain trails		+			+			Yes
Improve trails		+			+			Yes
Improve watershed health						+	+	No
Stewardship contracting project activities, Forest Service								
Green tons of biomass for bio-energy	-		+					Yes
Acres of forest vegetation established	+	+						Yes
Acres of forest vegetation improved							+	Yes
Acres treated to reduce the risk of fire	-		+				+	Yes
Acres of non-WUI fuels treated	-		+				+	Yes
Acres of fuels treated in the WUI	-		+				+	Yes
Miles of stream habitat restored/enhanced		+			+	+		Yes
Acres of terrestrial habitat restored/enhanced					+		+	No
Acres of noxious weed/ invasive plants treated				+				Yes
Miles of HC roads improved		+			+			Yes
Miles of PC roads improved		+			+			Yes
Watersheds restored to fully functioning condition						+	+	No
Stewardship contracting project activities, BLM								

Table 2. Summary of ecosystem service categories and valuation status from SC and LRP projects.

	Ecosystem Service							
Activity Category	Carbon sequestration	Erosion reduction	Fire risk mitigation	Noxious weed reduction	Recreation	Riparian habitat	Watershed health	Quantified?
Road and trail maintenance or obliteration to restore or maintain water quality		+			+			No activities to date
Soil productivity, habitat for wildlife and fisheries, or other resource values					+	+		No
Setting of prescribed fires to improve the composition, structure, condition, and health of stands or to improve wildlife habitat					+	+		No
Removing vegetation or other activities to promote healthy forest stands, reduce fire hazards, or achieve other land management objectives			+					Yes
Watershed restoration and maintenance							+	No activities to date
Restoration and maintenance of wildlife and fish habitat						+		No
Control of noxious and exotic weeds and re-establishing native plant species				+				Yes
Improving rangeland health		+					+	No

Table 2 lists activities conducted as part of a stewardship contract or a Legacy Roads project, and the ecosystem service products they produce. A (+) sign in the matrix means the activity produces positive economic value, while a (–) sign means the activity generates an economic loss for that particular ecosystem service. For example, decommissioning system roads results in positive economic value (+) through erosion reduction that lowers the cost of maintaining water infrastructure downstream. A (+) or (–) also means we were able to find literature on the subject and know that it can be quantified.

Table 3 shows the product-based value of stewardship contracts and Legacy Roads for the 20 counties in the nation that had the highest total values based on FY 2009 data for four general categories of ecosystem service products: stream and watershed restoration, forest health, recreation, and carbon sequestration.

Figure 5 on page 29 shows these values by county for all counties eligible to receive Forest Service SRS payments nation-wide.

Figures 15 to 18 show the values for each of the component ecosystem service products for the same counties.

Table 3
Product-Based Value of Stewardship Contracts and Legacy Roads by County, FY 2009.

		Product-Based Value				
County	State	Stream and Watershed Restoration	Forest Health	Recreation	Carbon Sequestration	Total
Idaho County	Idaho	23,699,351	76,355,899	3,913,668	-1,899,012	102,069,905
Siskiyou County	California	4,928,005	77,548,479	2,586,155	-3,464,272	81,598,366
Lincoln County	Montana	3,197,789	29,058,489	403,300	-791,257	31,868,322
Okanogan County	Washington	10,701,709	19,821,798	59,955	-540,807	30,042,655
Chelan County	Washington	10,506,707	19,821,798	58,704	-540,910	29,846,299
Grant County	Oregon	2,566,030	21,919,882	69,316	-597,188	23,958,041
Mono County	California	4,854,027	19,100,838	61,850	-1,102,261	22,914,454
Trinity County	California	459,276	20,280,645	3,232,836	-1,340,371	22,632,385
Klamath County	Oregon	2,315,337	20,773,221	25,230	-571,492	22,542,296
Lane County	Oregon	3,710,189	17,025,843	469,775	-464,619	20,741,188
Modoc County	California	44,998	19,117,186	27,052	-1,263,791	17,925,445
Del Norte County	California	1,028,330	15,142,202	681,267	-675,166	16,176,633
Lake County	Oregon	1,594,720	14,398,765	12,509	-396,125	15,609,869
Wallowa County	Oregon	1,531,444	14,273,211	11,815	-392,416	15,424,054
Park County	Wyoming	7,754,521	6,813,902	82,553	-76,838	14,574,138
Plumas County	California	156,964	15,193,297	197,666	-1,004,373	14,543,554
Sanders County	Montana	1,990,725	12,229,415	105,296	-336,875	13,988,562
Fresno County	California	34,519	14,755,630	41,886	-975,459	13,856,575
Lassen County	California	2,865,758	11,168,651	165,100	-644,514	13,554,994
Douglas County	Oregon	3,094,763	10,464,378	241,526	-273,965	13,526,702

Figure 15

Economic Value of Forest Health Produced by Forest Stewardship and Restoration in FY 2009

Wildfire Risk Mitigation and Noxious Weed Control

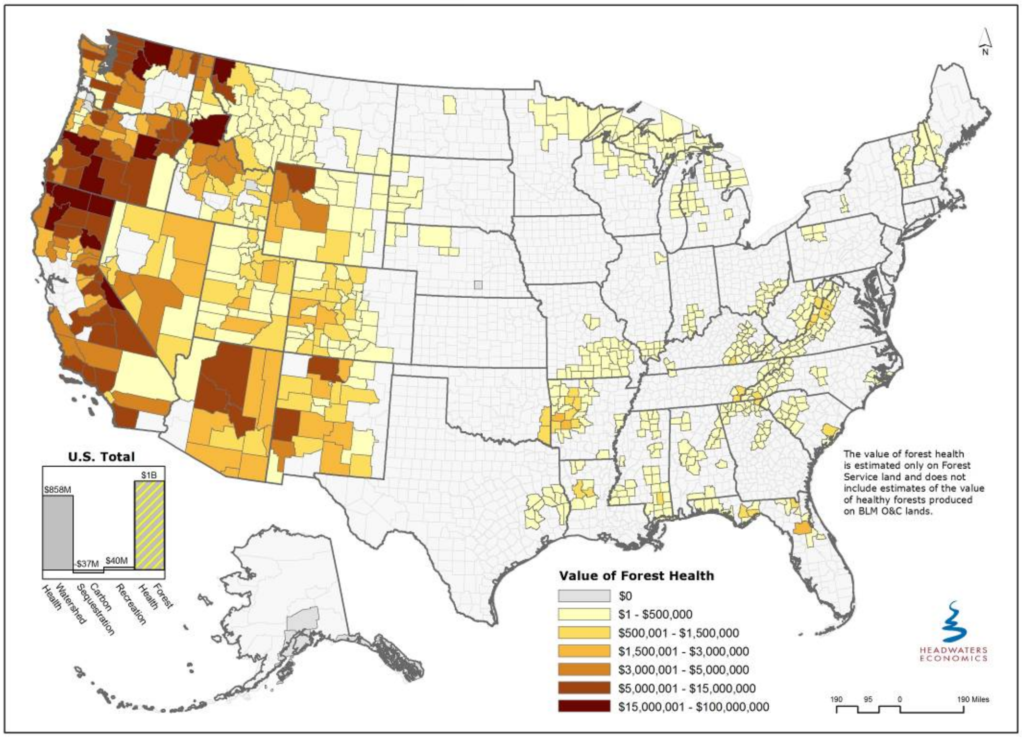


Figure 16

Economic Value of Recreation Produced by Forest Stewardship and Restoration in FY 2009

Forest Road and Trail Construction and Maintenance

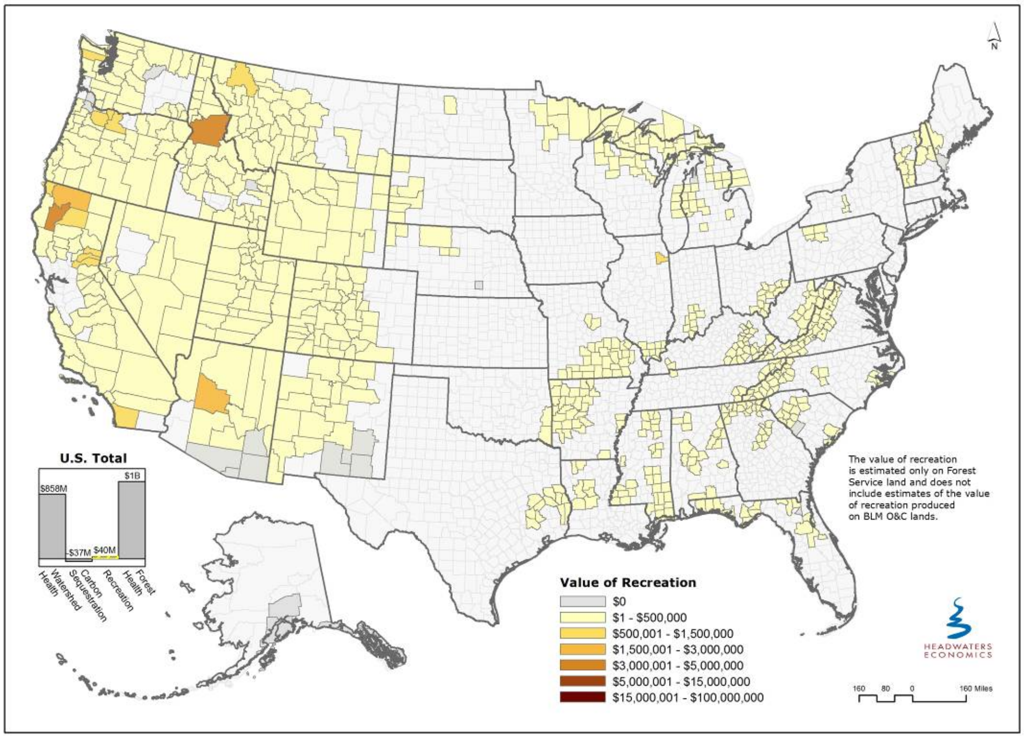


Figure 17

Economic Value of Watershed Health Produced by Forest Stewardship and Restoration in FY 2009
Riparian Restoration, Erosion Control, and Watershed Improvements

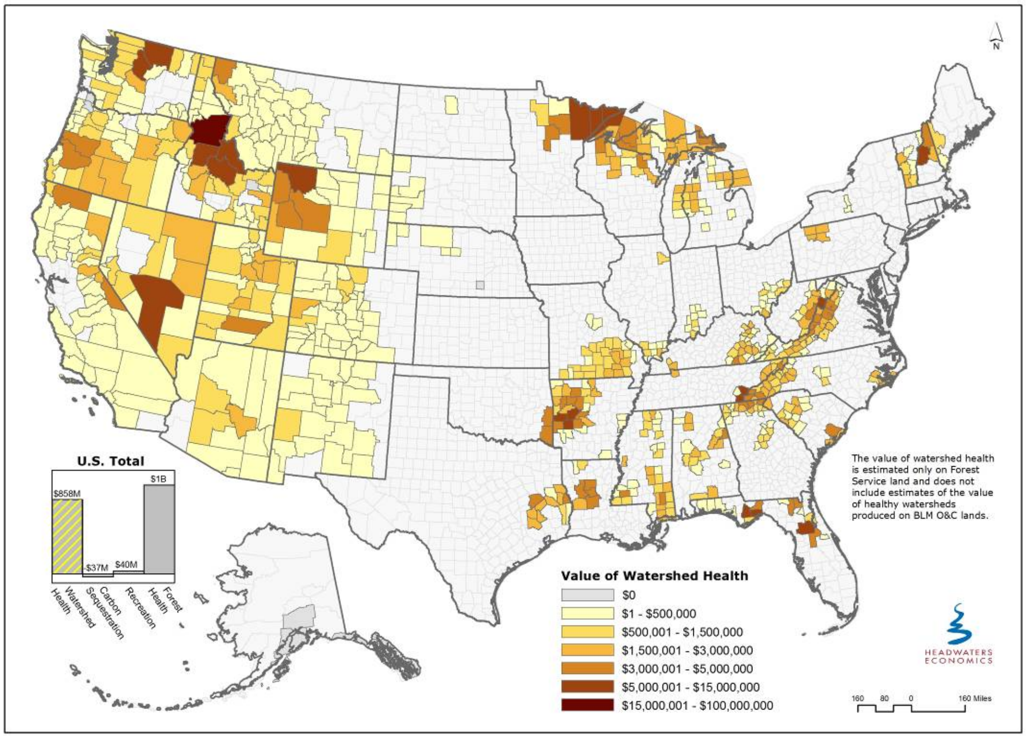
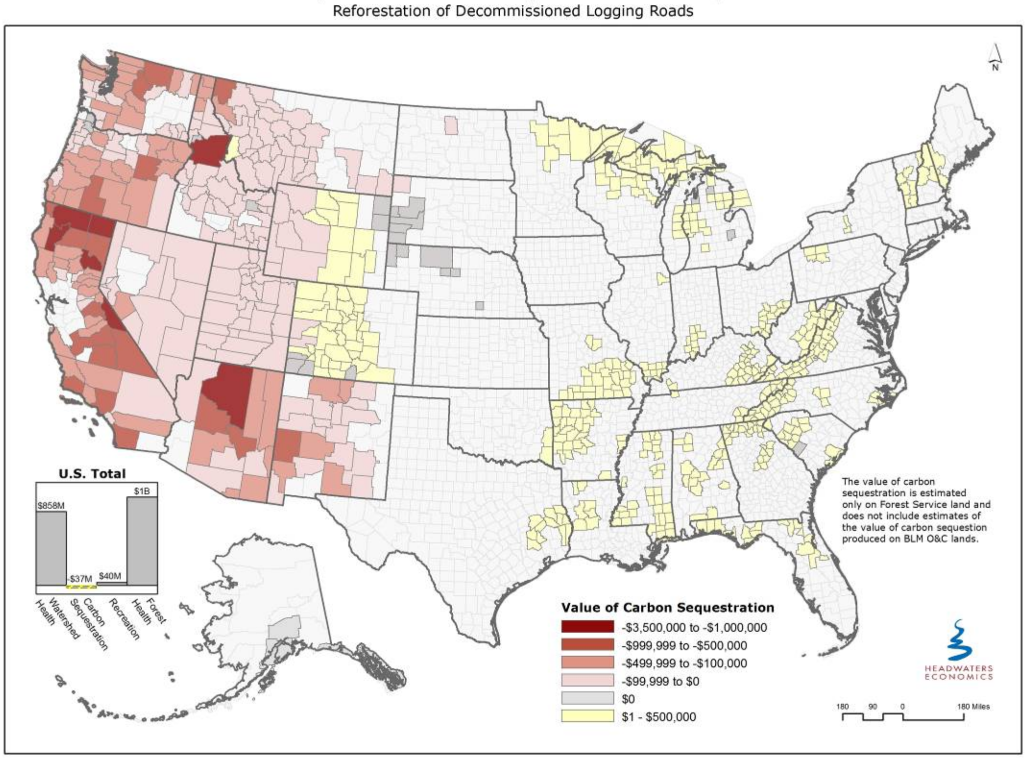


Figure 18

Economic Value of Carbon Sequestration Produced by Forest Stewardship and Restoration in FY 2009
Reforestation of Decommissioned Logging Roads



APPENDIX D: PAYMENTS IN LIEU OF TAXES

This appendix describes how PILT payments change relative to SRS payments. For a description of the PILT program, see Appendix A.

Estimating Future Payments in Lieu of Taxes (PILT)

Each county's PILT authorization is equal to a per-acre base payment that is reduced by prior year revenue sharing payments, and is subject to a population limit. How PILT changes relative to changes in Forest Service payments depends on both the amount of revenue sharing payments, and how each county's PILT payment is determined.[89] There are three types of counties under the PILT formula:

> Type A counties: Total revenue sharing payments do not exceed the difference between the PILT minimum payment and the full entitlement amount. PILT will increase and make up the loss of county government revenue.
>
> Type B counties: Total revenue sharing payments exceed the PILT minimum payment and the full entitlement amount. PILT will not increase until revenue sharing falls below this threshold.
>
> Type C counties: PILT payment is capped by the population limit and will not increase.

To estimate future PILT payments, we calculate the difference between the county governments share of FY 2008 Forest Service and BLM O&C payments and the county government's share of projected Forest Service and BLM O&C Payments.[90] This difference is subtracted from the prior year payments subtracted from the county's FY 2010 PILT payment. This amount is added to the FY 2010 PILT payment and represents the full funding amount for the estimated year.

Each county's estimated full funding amount is compared to the calculated payment ceiling (based on population) and the payment floor (based on a minimum per-acre amount) to determine the correct payment amount.

[89] Department of Interior. 2010. Payments in Lieu of Taxes (PILT) National Summary, Schedule 2: Payments by County.

[90] BLM payments under O&C are not counted against PILT. Only the portion of Forest Service payments directed to the county government are used, including the county road share of Title I or 25% Fund payments, and the Title III amount. Some counties may direct road funding to an autonomous road district to avoid the reduction in PILT payments. We were not able to determine which counties pursue this option and it was not factored into the estimates (making the PILT increase too high in these counties, assuming they are Type A counties).

APPENDIX E: DATA SOURCES USED IN MAPS

	Data Sources Used
Figure 1: Key Developments in the History of County Payments	U.S. Department of Interior. 2009. Payments in Lieu of Taxes (PILT) National Summary. http://www.doi.gov/pilt; U.S. Department of Agriculture. 2009. Forest Service Final Payment Detail Report ASR 10-3 and ASR 18-1. http://www.fs.fed.us/srs/. Pre 1986 25% Fund payments are estimated from historic timber cut and sold reports (FY 1905-2008 National Summary Cut and Sold Data and Graph. U.S. Department of Interior, Bureau of Land Management, Oregon State Office. County Payments Citizen Advisory Committee, Official Payments to Counties. http://www.blm.gov/or/rac/ctypaypayments.php.
Figure 2: How Are Federal Lands Payments Distributed Today?	U.S. Department of Interior. 2009. Payments in Lieu of Taxes (PILT) National Summary. http://www.doi.gov/pilt; U.S. Department of Agriculture. 2009. Forest Service Final Payment Detail Report ASR 10-3 and ASR 18-1. http://www.fs.fed.us/srs/; U.S. Department of Interior, Bureau of Land Management, Oregon State Office. County Payments Citizen Advisory Committee, Official Payments to Counties. http://www.blm.gov/or/rac/ctypaypayments.php.
Figure 3: How Important Are Federal Land Payments?	U.S. Department of Interior. 2009. Payments in Lieu of Taxes (PILT) National Summary. http://www.doi.gov/pilt; U.S. Department of Agriculture. 2009. Forest Service Final Payment Detail Report ASR 10-3 and ASR 18-1. http://www.fs.fed.us/srs/; U.S. Department of Interior, Bureau of Land Management, Oregon State Office. County Payments Citizen Advisory Committee, Official Payments to Counties. http://www.blm.gov/or/rac/ctypaypayments.php; U.S. Department of Commerce. 2009. Census of Governments Survey of State and Local Government Finances, Washington, D.C.
Figure 4: How Will Payments Change if SRS Expires and Counties Receive Revenue Sharing Payments (25% Fund and O&C 50% Payments)?	U.S. Department of Agriculture, Forest Service ASR 13-1, FY 2009. Proportional acreage is calculated from Forest Service ASR 10-2, FY 2009 that reports acres of national forest by county; U.S. Department of Interior. 2010. Payments in Lieu of Taxes (PILT) National Summary, Schedule 2: Payments by County; An Inquiry into Selected Aspects of Revenue Sharing on Federal Lands. 2002. A report to the Forest County Payments Committee, Washington, D.C. Research Unit 4802-Economic Aspects of Forest Management on Public Lands, Rocky Mountain Research Station, USDA Forest Service, Missoula, MT (An Inquiry into Selected Aspects of Revenue Sharing).

	Data Sources Used
Figure 5: The Value of Ecosystem Services Produced by Stewardship Contracts and Forest Legacy Roads and Trails Spending in FY 2009.	U.S. Department of Agriculture, Forest Service, Servicewide Automated Timber Sale Accounting (ATSA) tables, Stewardship Contracting Regional Summary, FY 2009; U.S. Department of Agriculture. 2009. Forest Service Final Payment Detail Report ASR 10-3 and ASR 18-1. http://www.fs.fed.us/srs/; U.S. Department of Agriculture, Forest Service, Legacy Roads and Trails Remediation Initiative, FY 2008 Project Reports. Methods for ecosystem services valuation can be found in Appendix C.
Figure 6: How Will Forest Service Payments Change if SRS Expires and the 25% Fund is Reformed to Include the Value of Activities that Produce Ecosystem Service Products?	U.S. Department of Interior. 2009. Payments in Lieu of Taxes (PILT) National Summary. U.S. Department of Agriculture, Forest Service, Servicewide Automated Timber Sale Accounting (ATSA) tables, Stewardship Contracting Regional Summary, FY 2009; U.S. Department of Agriculture. 2009. Forest Service Final Payment Detail Report ASR 10-3 and ASR 18-1. http://www.fs.fed.us/srs/; U.S. Department of Agriculture, Forest Service, Legacy Roads and Trails Remediation Initiative, FY 2008 Project Reports.
Figure 7: How Will Forest Service Payments Change if SRS Expires and the 25% Fund is Reformed to Include the Value of Ecosystem Service Products?	U.S. Department of Interior. 2009. Payments in Lieu of Taxes (PILT) National Summary. U.S. Department of Agriculture, Forest Service, Servicewide Automated Timber Sale Accounting (ATSA) tables, Stewardship Contracting Regional Summary, FY 2009; U.S. Department of Agriculture. 2009. Forest Service Final Payment Detail Report ASR 10-3 and ASR 18-1. http://www.fs.fed.us/srs/; U.S. Department of Agriculture, Forest Service, Legacy Roads and Trails Remediation Initiative, FY 2008 Project Reports. Methods for ecosystem services valuation can be found in Appendix C.
Figure 8: Counties Ranked by Economic Performance	U.S. Department of Commerce. 2010. Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C.; U.S. Department of Labor. 2010. Bureau of Labor Statistics, Local Area Unemployment Statistics, Washington, D.C.; U.S. Department of Labor. 2010. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, Washington, D.C.
Figure 9: County Economic Performance and Timber Dependency	U.S. Department of Commerce. 2010. Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C.; U.S. Department of Labor. 2010. Bureau of Labor Statistics, Local Area Unemployment Statistics, Washington, D.C.; U.S. Department of Labor. 2010. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, Washington, D.C.

	Data Sources Used
Figure 10: SRS Title II Payments Compared to County Economic Performance	U.S. Department of Agriculture. 2009. Forest Service Final Payment Detail Report ASR10-3 and ASR18-1; U.S. Department of Interior, Bureau of Land Management, Oregon State Office. County Payments Citizen Advisory Committee, Official Payments to Counties; U.S. Department of Commerce. 2010. Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C.; U.S. Department of Labor. 2010. Bureau of Labor Statistics, Local Area Unemployment Statistics, Washington, D.C.; U.S. Department of Labor. 2010. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, Washington, D.C.
Figure 11: How Will SRS Payments Change if the SRS Formula Adjusts for Economic Performance?	U.S. Department of Interior. 2009. Payments in Lieu of Taxes (PILT) National Summary. http://www.doi.gov/pilt; U.S. Department of Agriculture. 2009. Forest Service Final Payment Detail Report ASR 10-3 and ASR 18-1. http://www.fs.fed.us/srs/; U.S. Department of Interior, Bureau of Land Management, Oregon State Office. County Payments Citizen Advisory Committee, Official Payments to Counties. http://www.blm.gov/or/rac/ctypaypayments.php; U.S. Department of Commerce. 2010. Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C.; U.S. Department of Labor. 2010. Bureau of Labor Statistics, Local Area Unemployment Statistics, Washington, D.C.; U.S. Department of Labor. 2010. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, Washington, D.C.
Figure 12: How Will SRS Payments Change if the SRS Formula Adjusts for Ecosystem Service Values?	U.S. Department of Interior. 2009. Payments in Lieu of Taxes (PILT) National Summary. U.S. Department of Agriculture, Forest Service, Servicewide Automated Timber Sale Accounting (ATSA) tables, Stewardship Contracting Regional Summary, FY 2009; U.S. Department of Agriculture. 2009. Forest Service Final Payment Detail Report ASR 10-3 and ASR 18-1. http://www.fs.fed.us/srs/; U.S. Department of Agriculture, Forest Service, Legacy Roads and Trails Remediation Initiative, FY 2008 Project Reports. Methods for ecosystem services valuation can be found in Appendix C.
Figure 13: Where Are Protected Federal Public Lands?	Rasker, R. 2006. "An Exploration Into the Economic Impact of Industrial Development Versus Conservation on Western Public Lands." Society and Natural Resources. 19(3): 191-207; AK Bureau of Land Management 2009; AZ Land Resources Information System, 2009; MT Natural Heritage Program, 2008; Conservation Biology Institute, 2008 (for AR, CA, CT, KS, MN, MO, NE, NH, NY, OH, OK, RI, WI, WV); Conservation Biology Institute, 2006 (for remaining states).

	<u>Data Sources Used</u>
Figure 14: Where Are Federal Public Lands That Have Potential to Gain Protected Status?	Rasker, R. 2006. "An Exploration Into the Economic Impact of Industrial Development Versus Conservation on Western Public Lands." Society and Natural Resources. 19(3): 191-207; AK Bureau of Land Management 2009; AZ Land Resources Information System, 2009; MT Natural Heritage Program, 2008; Conservation Biology Institute, 2008 (for AR, CA, CT, KS, MN, MO, NE, NH, NY, OH, OK, RI, WI, WV); Conservation Biology Institute, 2006 (for remaining states).
Figures 15-18: (Value of Ecosystem Services)	See Appendix C.

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