Investing in Communities, Investing in the Land

Summary Report

By Wildlands CPR

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Adapted from

Reinvestment in Jobs, Communities and Forests:
The Benefits and Costs of a National Program for Road Removal
on U.S. Forest Service Lands, A Preliminary Analysis

A study by
The Center for Environmental Economic Development (CEED)

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For the complete study, go to Wildlands CPR's website at www.wildlandscpr.org.

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Introduction

In 1995 and 1996, rain on snow events led to over 900 landslides throughout the Clearwater National Forest in Idaho. A short while after the landslides, the staff at the Clearwater held public meetings to explain proposals for dealing with the landslides and to hear local concerns. The meeting was contentious. Many of the local folks were upset that roads were being blamed for the landslides and that the result might be massive road closures on the forest. However, seven years later, the Forest, in partnership with the Nez Perce tribe, is reclaiming approximately 40 miles of road per year with more public support than opposition. Their program balances ecological needs with human use and builds credibility by paying attention to which roads are important to communities and which roads are most damaging to wildlands and wildlife. The Forest and Tribe present displays at county fairs, give presentations and lead field visits. The result of these efforts has been increasing support for the program. One man, a member of a local motorized recreation group, initially opposed road decommissioning. He now suggests roads for removal and stabilization and organizes volunteers to work on restoration projects.The other aspect that has led to success is local hiring for road removal projects. After working with the Nez Perce and Clearwater for seven years, some of the operators now prefer restoration projects. Road removal and restoration have become an important part of local economies.

Several communities in the Pacific Northwest and the northern Rockies have started looking to public-lands restoration to utilize their skills, local knowledge, and love of the forests, while also creating good jobs for their communities. While the focus of much of this work has been on thinning and fuels reduction, there is also a great need for road-related work, including maintenance, culvert upgrades, and removal. For rural communities this work has the potential to create high-skill, high-wage, locally-based jobs, to improve community water supplies, and to enrich fishing and hunting opportunities. Studies in Oregon and northern California have shown that roadwork requiring heavy equipment tends to be more locally-based than thinning and planting work, where crews often come from hundreds of miles away.

The following summary is based on a study conducted for Wildlands CPR by the Center for Environmental Economic Development (CEED). The study provides a preliminary analysis of how a national program of road removal on Forest Service lands can benefit forests and local communities. With 523,000 miles of roads splintering America's National Forests, it is Wildlands CPR's conviction that such a road removal program — combined with full maintenance of the remaining road system, and based on principles of ecological integrity, workforce sustainability, and social and cultural empowerment — can help bridge the gap between healthy forests and sustainable communities.

Background

Right now, our fish, wildlife, water and backcountry lands are threatened by more roads than we need or can afford to maintain. After years of congressional debate about spending on Forest Service road construction, the Forest Service finally began a national transportation policy assessment and revision in the late 1990s, resulting in the National Forest System Road Management Rule and Policy (Road Strategy), which went into effect in May 2001. This policy affects 446,000 miles of classified and unclassified roads under Forest Service jurisdiction, and helps the agency determine the minimum road system needed to meet the needs of communities and ecosystems while still being affordable to maintain. To achieve this minimum road system, the Forest Service will have to remove some of their roads, which is what some districts on some forests have been doing for a decade. The Forest Service estimates that it has closed over 10,000 miles of roads since 1998. Some of these closures involved installing gates or other physical blockages, while in other instances roads were simply abandoned and removed from the Forest Service transportation system with no on-the-ground treatment. In a few instances, roads were removed and slopes recontoured, using the very same excavators, bulldozers, and dump trucks used to build the roads in the first place.

Recontoured road on the Clearwater National Forest.

Photo by Bethanie Walder.

Heavy equipment plays a leading role in road removal.

Photo by J. McCullah.

Background, cont'd

In the Roads Strategy, the Forest Service estimates they could decommission between 100,000-186,000 miles of roads over the next 20-40 years. At the same time, they will improve and possibly upgrade approximately 60,000 miles of roads that get the most public use. If the decommissioning process goes beyond simply installing gates, it could bring significant employment opportunities to many rural communities located near Forest Service lands. A full decommissioning program could employ over 3,000 people throughout the country. Combine that with full maintenance of the remaining roads, and the Forest Service road system could be turned from a liability into an asset.

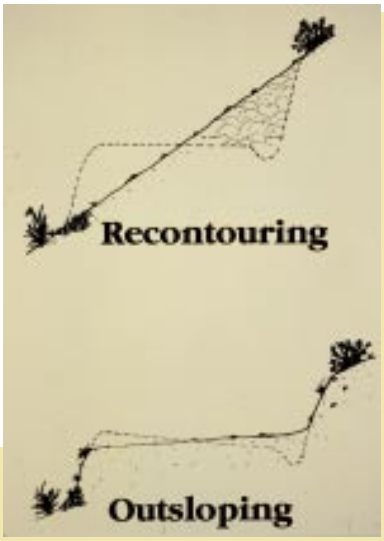
If we look back at the Cost Benefit Analysis conducted for the Road Strategy, we see that it focused on jobs lost due to reduced road construction and the resulting decline in timber harvesting. It did not assess the benefits of jobs gained through road obliteration, though it did state that "increased job opportunities may also be available as a result of increased road decommissioning and reconstruction on all NFS lands" (Cost Benefit Analysis, E15). Wildlands CPR suggested that conducting a more balanced and illustrative economic analysis of the costs and benefits of this policy might help the Forest Service gain public support instead of public opposition to their Road Strategy. CEED's study aims to do just that by investigating decommissioning of Forest Service roads at the national, regional, and local levels as it relates to constructed capital, natural capital, human capital, and social and cultural capital.

What is Road Removal?

Roads have both direct and indirect ecological effects on wildlands, most notably habitat destruction from road building and road-induced landslides. Other impacts include collisions, noise pollution, chemical pollution, and changes in wildlife behavior. Roads also fragment and isolate plant and animal populations, cause edge effects, and act as corridors for non-native species invasion. Roads directly impact aquatic ecosystems. Large amounts of sediment originating from roads reach streams and rivers, degrading habitat and impairing fish reproduction (Harr and Nichols 1993). Finally, roads fundamentally disrupt natural drainage patterns by diverting water and by preventing water infiltration into soil (Wemple et al. 1996). The extreme result of this is massive road failure and landslides.

Road decommissioning involves taking roads out of service. This can be done by blocking access or by some combination of other road decommissioning techniques, such as removing culverts and unstable road shoulders, or full removal of roads by recontouring, restoring natural slopes, and revegetating. Road removal includes removing stream crossings, constructing cross-road drains, ripping road surfaces, recontouring road prisms, and outsloping.

Removing roads is the best and most long-term solution to addressing the well-documented impacts of roads on wildland ecosystems. Road removal curtails adverse ecological and hydrological impacts, reduces impacts associated with motorized access, and saves money while creating jobs.



This graphic illustrates two types of road removal.

Graphic by Matt Simms.

What Roads Are Likely Candidates For Removal?

As previously mentioned, many Forest Service roads were built for resource extraction. The main "arterial" roads were built to much higher standards than the smaller roads built in individual project areas. With only limited road-maintenance funds, the Forest Service has been forced to prioritize its maintenance based on use of the road or environmental impact. The Forest Service has five maintenance levels:

Level 1:	Single Purpose Roads (usually for Forest Service administrative use)
Level 2:	High Clearance Vehicles
Level 3-5:	Passenger Cars

CEED's study focuses on level 1 & 2 roads only, since these roads are the main focus of the Forest Service's road-decommissioning program. In addition, since there is a substantial cost difference between removing a level 1 or 2 road and removing a level 3-5 road (e.g. a paved road), we decided to focus on the smaller road classes to be consistent with Forest Service plans. This does not mean, however, that road removal does not occur on higher-level roads, as can be seen from the Karuk tribe example presented later in this paper. It does mean that our cost and job estimates do not include such examples, so as not to skew the results of the study.

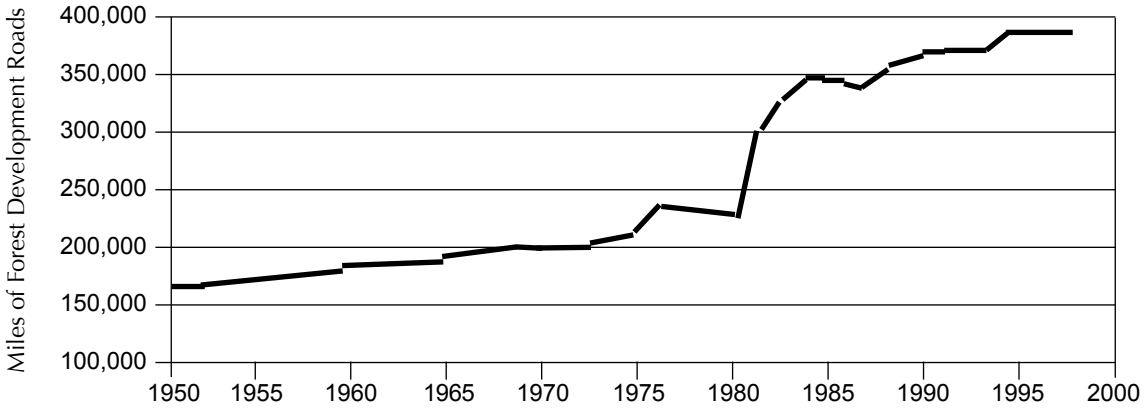
Roads constructed adjacent to rivers can threaten water quality and are prime candidates for removal.

Photo by Bill Haskins.

Timeline

This study employs a twenty-year time line for a road-removal program based on the road decommissioning schedule laid out by the Forest Service in the Roadless Area Rule (FEIS 2000). However, there is no reason why decommissioning all the unneeded roads at a constant annual rate over the next twenty years would be the optimal schedule for road decommissioning. The National Forest Road System did not grow evenly over time. The total number of National Forest System roads almost tripled from approximately 100,000 miles in 1944 to the current 386,000, an increase of 286,000 miles over the approximately fifty-year period. The biggest increase occurred between 1980 and 1985, when total NFS roads went from approximately 225,000 to 350,000 miles, an increase of more than 50 percent in this five-year period alone (see Figure 1). With such an uneven pattern for road construction, it would not be surprising that the appropriate annual level of decommissioning would vary. This road decommissioning would occur side-by-side with full maintenance of the roads that remain in use, thus providing a steady source of employment for trained workers.

Figure 1: Mileage History of Forest Development Roads (USDA 1998)



Pulling fill from a road slope.

Photo by Scott Bagley.

Constructed Capital

Constructed capital includes "infrastructure" items such as buildings, tools, equipment, and inventories of goods, as well as energy, water, and transportation facilities and services. For the purposes of CEED's study, constructed capital encompasses the Forest Service system of roads, alternative road decommissioning and road-removal programs, road maintenance (which is not extensively addressed in the current study but will be in future work) and the monetary flows, jobs, and other market benefits associated with the constructed-capital aspects of National Forest System roads.

As mentioned earlier, the Forest Service is planning to decommission between 100,000-186,000 miles of unneeded roads over the next 20-40 years. If we focus on the more active end of the decommissioning spectrum, we see that road obliteration for small roads with gentle terrain and few stream crossings ranges from several hundred dollars to $20,000 per mile. Estimates for road obliteration of medium-sized and major roads range from $40,000-$70,000 and $100,000-$250,000 per mile respectively (Bagley 1998, USDA 2000b). As previously discussed, this study does not analyze large-scale road removal projects, though these will also be necessary.

CEED's study defines three basic road-decommissioning alternatives for small roads. The first two are based on the two scenarios described in the Roadless Area Conservation FEIS and have an estimated cost of $7,500 per mile. The third, the Complete Unneeded Road Removal Alternative (Complete URR), is an alternative developed especially for this report and has an estimated cost of $10,000 per mile. This more aggressive decommissioning program includes culvert removal, water barring, ripping, and recontouring. Because costs per mile can vary tremendously depending on the terrain, road decommissioning can also be estimated using cost per cubic yard of roadfill removed and stabilized. These costs can range from $.65 to $7.88 per cubic yard (Bureau of Land Management 1998, California Department of Parks and Recreation 1994 and 1997).

A summary of the three alternatives is described in figure 2 below:

Figure 2.

Comparison of Road Removal Options

Program Name	Total Miles*	Miles/Yr	$/mile	Annual Cost (in millions)	Jobs/year
1. "Status Quo"	50,000	2,500	$ 7,500	$18.75	619
2. "Critical Funding"	140,000	7,000	$ 7,500	$52.50	1733
3. "Complete URR"	186,000	9,300**	$10,000	$93.00	3069

* Over twenty years

** With a greater proportion of road obliteration and more thorough road decommissioning treatments.

We can derive a rough, first approximation of the employment impact of a national road-removal program from an "analyses of the 1995 Resource Planning Act Program [which] showed that about thirty-three jobs economy wide are supported per $1 million expenditure on building and maintaining roads [and that the] case can be made that removing existing roads and restoring the land underlying them would support roughly the same rate of employment" (Clearwater National Forest, Roads Analysis).

The job creation estimates are "economy wide" and include peripheral jobs. For example, the study identifies dozens of tasks that can be done by both heavy equipment operators and others such as engineers, GIS techs, road-obliteration inspectors, and riparian restoration and revegetation workers. Local workers would fill these labor-intensive jobs. Furthermore, workers would be required for manufacturing, assembling, transporting, and selling the heavy equipment. Indirectly, over a twenty-year period, road removal would generate more than $600 million related to the manufacture of heavy equipment, which could become substantial income to a variety of sectors and regions of the economy.

A national program of road removal would decommission 186,000 miles of unneeded roads over a twenty-year period at an average of 9,300 miles per year at an average cost of $10,000 per mile, or an expenditure of $93 million annually. If thirty-three jobs were generated per million-dollar expenditure economy-wide, this would create more than 3,069 jobs annually. The vast majority of local jobs created would involve heavy-equipment operators. Through such a restoration program, the Forest Service can restore balance, save money, and create local jobs, all while improving the special qualities of our public lands.

Thousands of miles of unauthorized routes exist on public lands, like this one on the Flathead National Forest, Montana.

Photo by Keith Hammer.

Natural Capital

While our society has been very successful at building our constructed capital, we have done so to the detriment of our natural capital. Natural capital includes natural resources and functional components of ecosystems from which flow goods (natural resource harvests) and services (climate regulation, gas exchange, purification of water and air, and so forth). The capacity of forests and watersheds to provide essential habitat, water purification, flood control, and other ecosystem services has been impaired due to road-building. These impacts include sedimentation and landslides, hydrologic and water quality effects, biological invasions, habitat fragmentation, and forest disease.

Environmental benefits of road decommissioning include reduction of landslides and erosion, which cost millions of dollars annually. For example, the removal of stream crossings in Redwood National Park and on private lands in northern California averages between $1.00 and $3.50 per cubic yard (Bagley 1998; Spreiter 1992; Pacific Watershed Associates 1996). Comparing this one-time expense with the ongoing post-failure sediment mitigation cost of $7.70 per cubic yard reveals an important economic benefit of road removal: the cost of removing sediment from waterways after a failure is significantly higher than the cost of preventing it from eroding in the first place.

Unpaved roads in the Little Tennesee River basin in northwestern North Carolina were estimated to contribute between 520,080 and 681,200 tons of sediment runoff per year. At an estimated cost of $1.94 per ton (1995 dollars; note: measurement is in tons which can not easily be converted to cubic yards), unpaved roads in this area impose a yearly cost on municipalities and private citizens of between $1,009,000 and $1,321,500 (Niemi and Whitelaw 1997). Removing roads, which stops soil-erosion and sedimentation, is more cost-efficient than repairing damaged waterways, restoring habitat, and recovering threatened and endangered species.

Road removal limits costs to municipal water districts by reducing the need for costly filtration facilities (see Box 1). Road removal can reduce the costs from invasive species whose spread is promoted by roads, while also improving habitat and enhancing a host of recreational and non-market, passive-use values.

Box 1
Cedar River Watershed, Seattle, Washington

One ongoing road-removal program in Washington state provides an excellent example of how to save money while restoring habitat and providing jobs. The Cedar River and Tolt River watersheds outside of Seattle provide clean, untreated drinking water to that city. The city has now closed access to the Cedar River watershed and is removing approximately ten miles of road per year at a cost of approximately $30,000 per mile. To meet their goal of removing two-hundred miles over the next twenty years, they will spend approximately $6 million. One alternative is a multi-million dollar water filtration facility with ongoing facility costs thereafter. The city believes road decommissioning contributes to making a filtration plant unnecessary and is much cheaper over time than building a filtration system. Furthermore, they'll end up with a restored watershed and continued clean water.

Wildlands CPR file photo.

Heavy equipment operators are part of the skilled workforce needed to remove and restore forest roads.

Photo of Wendel Larkin by J. McCullah.

Human Capital

Human capital includes individual abilities, skills, and experience that together serve as the basis for human productivity in all its forms, within labor markets, households, and volunteer activities. Human and social capital can be increased by road removal-related training programs that emphasize interdisciplinary training and skill certification, and that promote a highly-skilled, well-compensated workforce. Two questions CEED's study examines are: 1) What is the nature of the training that would be provided, and 2) how could that training result in a greater likelihood of cumulative employment experience?

The study acknowledges the importance of quality jobs criteria including:

1) family wage, fully trained, journeyman level (careers)
2) certified training and apprenticeship with skills standards and curricula
3) ensure a safe healthy workplace
4) year-round jobs
5) trained pools of contractors to bid on stewardship-style contracts

(van Daalen 2001)

The Western Council of Industrial Workers offers some strategies for implementing restoration training and contracting programs, including training and apprenticeship programs, contracting and quality jobs criteria, and ecological checklists (WCIW 2001).

Training related to road decommissioning and road removal can be an important part of restoration work. Training programs cover contracting, implementation, supervision, monitoring, and onsite training (See Box 2). Weeklong, five-day programs have been conducted at an approximate cost of $600 per participant (not including meals and lodging). At this rate, a twenty-participant weeklong program could be conducted at a cost of $12,000.

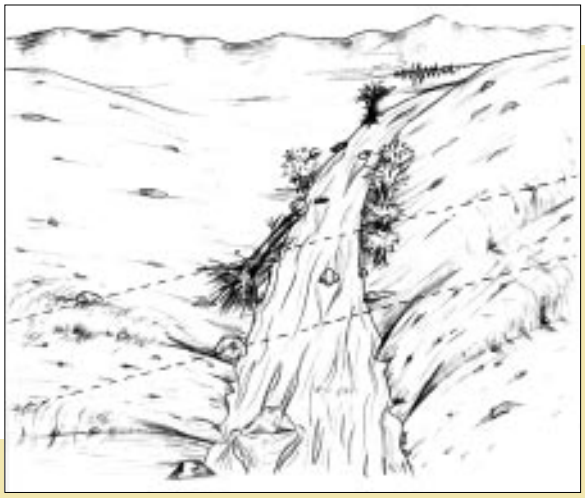
Currently restoration job training is an "unfunded mandate." Although the level of funding needed nationally is difficult to determine, if each of the 155 National Forests allocated $32,000 annually, this would total approximately $5,000,000. This additional amount for road decommissioning-related training could potentially train hundreds of workers per year or be used for more advanced training of existing forest workers.

Box 2
Redwood Community Action Agency

Redwood Community Action Agency's "Ecosystem Management Training Programs in Humboldt County" cover aspects such as landslide stabilization, road decommissioning, culvert brushing, culvert and ditch maintenance, water-bar creation, and erosion inventories. Skills taught include the construction of drainage structures, culvert and drop inlet maintenance, pulling stream crossings, regrading prism, outsloping, inboarding, and stormproofing roads (RCAA 2002).

"It's good to feel like the good guys again and to be a part of the solution."

— Heavy equipment contractor doing road decommissioning for fisheries restoration.



Properly restored stream crossing.

Graphic by Matt Simms.

Social and Cultural Capital

Social and cultural capital make up the unique aspects of a community that set it apart from others. Social capital refers to the networks of civic engagement, community involvement, and trust essential to the function of democratic societies, and essential to vibrant economies (Putnam 2000). Cultural capital refers to the body of stories, visions, and myths shared by people and providing the framework for how people view the world and their roles in it.

According to the Forest Community Research Assessment of the Northwest Economic Adjustment Initiative (NEAI) of the Northwest Forest Plan, "social and human capacity building…are key elements in reaching affected communities and improving well-being." Healing the divisiveness that currently exists regarding forest-management issues, particularly on federal land, improving community participation in planning and decisions related to forests, and expanding Forest Service technical assistance to communities may be the means to achieve the other identified goals such as improving economic stability through sustainable local jobs.

In regard to cultural capital, many Native American tribes are looking to restoration of tribal lands as a way to address these economic challenges. An Environmental Protection Agency report regarding the Karuk tribe in northern California notes that "building the tribe's capability to play an appropriate role in ecosystem management is the only means by which ecosystem restoration, cultural survival, and community prosperity can be achieved (EPA 2003)." Forest Community Research's NEAI Assessment suggests that "the elements that contributed to the success of tribal worker re-training and ecosystem workforce development programs have applicability in non-tribal contexts." See Box 3.

Establishing native vegetation is key to restoring road surfaces.

Wildlands CPR file photo.

Overall the study suggests a need to build the social capital essential for translating scientific knowledge into social consensus and consensus into action. Funding for engaging local participants in the evaluation process through participatory research could contribute to building capacity for community collaborations regarding road management, road decommissioning, and road removal. Again, if we consider a $5 million annual allocation for community capacity, this would provide an average of $32,000 for each of the 155 National Forests and could be used for technical assistance and participatory research projects.

Whether planting native vegetation, or moving debris, road restoration contributes to social and cultural capital.

Wildlands CPR file photo.

Partnerships in road restoration build community and help restore natural capital.

Here, Wildlands CPR volunteers and Forest Service personnel work together to revegetate a removed road.

Wildlands CPR file photo.

Box 3
Karuk Tribe — Road Removal in Northern California

> "We are fix-the-world people, that is who we are, this is a summary of our mandate from the Creator. We, as people living on the river, see this (Steinacher) road system that goes to nowhere and serves no purpose other than to pose a threat to those resources that are who we are. We are fishing people and those fishery resources represent who we are. The threat to those resources posed by this road spawned the idea of doing something about it."
>
> — Leaf Hillman, Karuk Vice Chairman

For years the tribal lands of the Karuk tribe of northern California have been honeycombed with mining and logging roads. Sedimentation from these roads now threatens the habitat of coho and chinook salmon, as well as steelhead trout. The Steinacher Road, once serving as the region's main corridor, was identified as the largest contributor of sediment to Steinacher and Wooley Creeks, which eventually lead to the lower Salmon River.

The Karuk tribe has entered into "memorandums of understanding" with the Klamath and Six Rivers National Forests to decommission the Steinacher Road. The Karuk and the Northern California Indian Development Council secured more than $1 million from seven different sources to help with the project. With assistance from the Northern California Indian Development Council, the Karuk initiated a Comprehensive Watershed Restoration Training and Implementation Program for tribal members and staff. The goal is to prepare members of a Tribal Restoration Division for careers as watershed restoration specialists while supplying on-the-job apprenticeships completing critical restoration work on projects throughout the tribe's ancestral territory.

To date, trained tribal members have removed about 94,800 cubic yards of sediment to stable locations and reestablished the natural drainage for five major streams that cross the abandoned Steinacher Road. Over the long term, they plan to decommission or upgrade another 2,000 miles of road. If funding can be secured, the partnership created between the Karuk and the Forest Service will continue to serve as a model for a systematic approach to long-term salmon recovery efforts on the Klamath River, as well as a way for tribal members to gain job skills while restoring part of their Ancestral Land.

Benefits and Costs

How do we as communities and citizens decide which roads to remove and which to maintain? One way to answer this is to assess the benefits and costs of removing versus maintaining any given road segment. To do this, we need to consider the present value of maintenance costs, environmental impacts, human capital/training, and social impacts.

The current appropriated annual maintenance for level 1 and 2 roads is approximately $67 per mile (calculated from USDA 1998). At a 5 percent discount rate, the present value of maintenance at the current appropriated level is $1,340. Recognizing that appropriated funding nationally is approximately 1/5 of the maintenance needed, the implied needed maintenance expenditure per mile of level 1 and 2 roads is $335. The present value of this annual maintenance cost would be $6,700 per mile. See Box 4.

There are four different options that can be considered for road management:

Option One:	Current level of (inadequate) maintenance
Option Two:	Full maintenance of a road
Option Three:	Abandonment of the road with no maintenance
Option Four:	Road decommissioning

It should be noted that decisions on specific road segments taken as a whole constitute a road management program for a National Forest. In most instances the National Forests use a combination of all four options, or at least the first three. The optimal program — both for communities and for the forest itself, would be a combination mostly consisting of options two and four — full road maintenance for the roads that remain open and full decommissioning for the roads that are no longer needed. Both inadequate maintenance and road abandonment have fewer benefits to local communities and increased ecological and economic costs over time.

Annually, the Forest Service and interested parties can evaluate road-management options quantitatively by comparing the access benefits that roads provide minus the present value of road-management costs to the benefits from reducing landslides, erosion, and other adverse environmental impacts minus the costs of decommissioning.

Consequently the question to be considered is whether the net present value of road use is greater than or less than the net present value of environmental damage:

Net Present Value of Road Use
< or >
Net Present Value of
Environmental Damage

The "tipping point" is the point that net present value of environmental damage exceeds the net present value of road use. If this is the case, then road decommissioning would be preferred even over full road maintenance. If the opposite is true, then road maintenance would be preferred.

Because of the difficulties of conducting a quantitative analysis such as that described above, road-management options can also be evaluated qualitatively through a grid approach, evaluating road value and environmental risk as was done in the Clearwater National Forest's Roads Analysis. In this model, category 3 roads would be most optimal for road decommissioning, category 2 roads would be most optimal for full maintenance, or even reconstruction in a more appropriate location. Categories 1 and 4 would be lower priorities for full maintenance and full decommissioning. See figure 3.

Volunteers decommissioning a user-created route in the Flathead National Forest.

Photo by D. Blank.

Box 4
Examples of Present Value

Alternatives can have different patterns of expenditures over time and we can not assume that an expenditure in the future has the same value as an expenditure today. Calculating the net present value of different alternatives enables us to compare a one-time expenditure like road removal, with ongoing costs like road maintenance. Net present value allows us to determine the amount of money needed now to finance a pattern of expenditures in a given alternative. If the present value of one alternative is higher than another, that alternative could be considered more expensive.

The following examples assume that all amounts have been adjusted to take inflation into account. To make calculations easier, a discount rate of 10% is used, so for these examples $1 now would be considered equivalent to $1.10 one year from now. In other words, one dollar invested now would return a net of $1.10 a year from now.

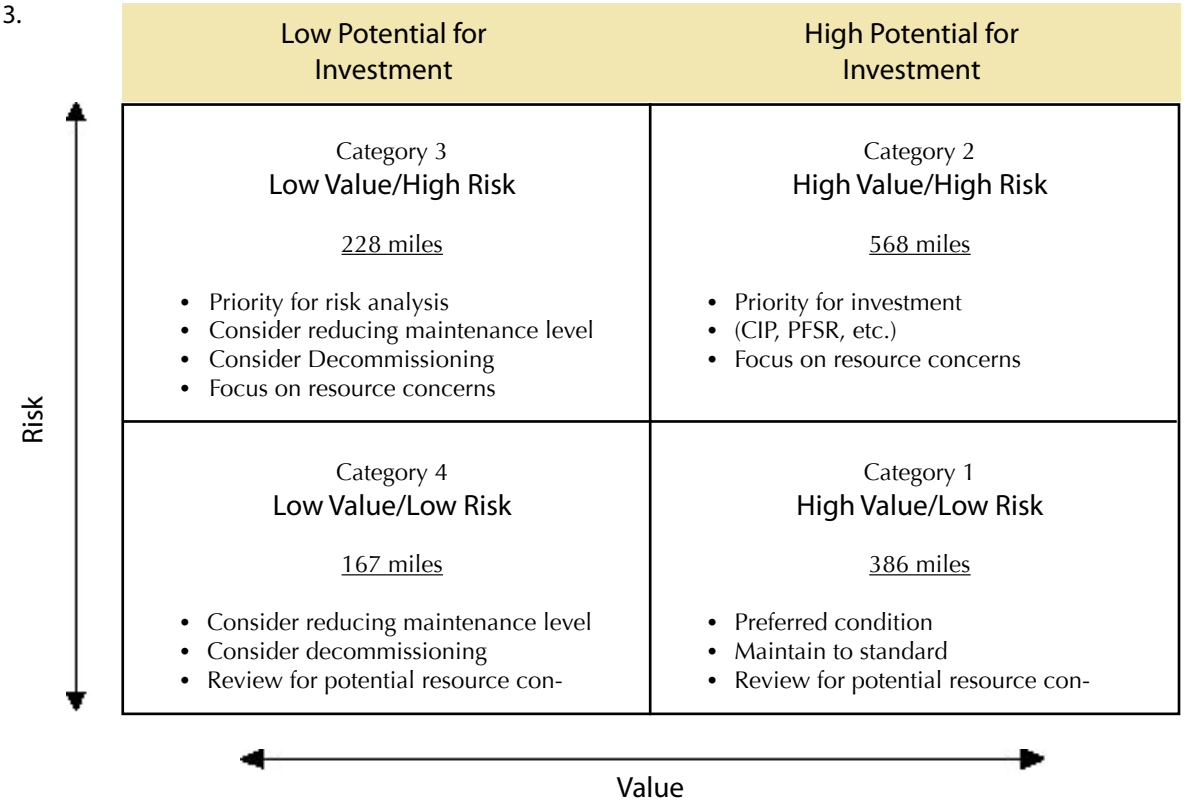
Example 1: Suppose maintenance costs for one treatment are $100 a year forever. In this case, we could say that the present value of the cost of maintenance is $1,000. In other words $1,000 invested at 10% would return $100 a year forever.

Example 2: Suppose maintenance costs for another treatment are $1,100 for the first year only and zero costs thereafter. This approach would also have a present-value cost of $1,000 since $1,000 invested now would return $1,100 a year from now.

Example 3: Suppose maintenance costs for a third treatment were $550 for the first year, $605 for the second year, and zero costs thereafter. The present value of the first year of costs is $500, and the present value of the second year of costs is also $500. It would take $500 to yield $550 at the end of one year at 10%. The resulting $550 would be spent by the end of the first year. An additional $500 compounded annually for two years would result in $50 the first year and an additional $55 yield the second year for a total of $605, a $105 increase in the principal by the end of the second year. So starting with $1,000 at 10% interest, a person could just cover a maintenance cost of $550 the first year and $605 the second year.

Discounting means that, with a discount rate of d, dollar costs or benefits expected to occur Y years in the future must be divided by a factor of (1+d)Y before they are added together to obtain net present value of cost.

Figure 3.



Recommendations

Once we've prioritized which roads to remove, what does implementation of a national road removal program look like? Below is a list of recommendations for the Forest Service; adjacent communities; federal, state, private and tribal representatives; and other interested groups and citizens.

Funding:

- After FY 2004, allocate funds based on five-year road-decommissioning funding packages. Such five-year funding could help heavy-equipment contractors and other workers with long-term planning and job stability.
- Base future appropriations on whether or not National Forests have successfully developed five-year road-decommissioning plans.
- Define multi-funding sources for demonstration road-management programs that include significant road-removal components.

Training:

- Allocate $5 million annually for training, or approximately $32,000 per forest.
- Institute road removal-related training programs that emphasize interdisciplinary training and skill certification, and that promote a highly-skilled, well-compensated workforce.

Roads Analysis:

- Prior to implementation of a national road-decommissioning program, increase funding for roads analysis and the identification of roads at high risk of becoming impassable and roads associated with significant adverse environmental impacts.
- Develop a descriptive reporting process for National Forests to classify road removal, using such terms as "closure," "ripping," "cross-ditching," "water-barring," "obliteration," etc., rather than only "decommissioning." The Siuslaw National Forest in Oregon provides a model with their Road and Upland Restoration Database. Information includes: acres of wildlife habitat benefited, miles of stream restored, cubic yards of fill removed, erosion control measures applied and type of decommissioning activity used.
- Evaluate road-management options quantitatively by comparing the benefits from the access that roads provide minus the present value of road-management costs to the benefits from reducing landslides, erosion and other adverse environmental impacts minus the costs of decommissioning.
- Evaluate road-management options qualitatively through the grid approach, evaluating road value and environmental risk as was done in Clearwater National Forest's roads analysis.
- Present a clear link to the Schedule Of Proposed Activities (SOPA) information on the homepage of National Forest websites and utilize a uniform format for NEPA/SOPA reporting.

Using an auger to decompact a desert road on the Coronado National Forest.

Photo by Bethanie Walder.

Community Capacity:

- Allocate $5 million annually (approximately $32,000 per forest) as an investment in social capital to improve community capacity for participatory research and collaborations regarding road management and road removal.
- Improve community participation in planning and decisions related to forest management.
- Expand Forest Service technical assistance to communities.

Using a small excavator to dig "tank traps" to decommission a road.

Wildlands CPR file photo.

Conclusion

Putting people to work restoring our natural areas will protect everyone's freedom to enjoy the quiet areas that make America special. The Complete Unneeded Road Removal Program proposes an investment in constructed, human and social capital of $103 million annually, which appears small in comparison to the $1.57 billion proposed for FY 2004 for forest-fuel reduction, fire fighting, and fire suppression. This expenditure will avoid future maintenance costs for unneeded roads, increase human capital through training and long-term employment opportunities, and build communities' capacities to collaborate and partner. At the same time it will build natural capital by improving water quality, habitat, recreation and other environmental benefits. As rural communities struggle to create sustainable economies, federal and private entities could fund a road removal program in conjunction with full maintenance of the remaining system. Doing so is an important first step in restoring both economic and ecological communities.

CEED's study suggests that a bottom-up process starting at the community level can lead to regional and national support for road removal from a diversity of constituencies. The road removal work pioneered in northern California and the Pacific Northwest is helping revitalize local economies while acting as a guide for a national restoration program. This study gives us every reason to believe that such a program could do the same in rural communities throughout the country. Putting a national road removal plan in place provides a rare opportunity to move our National Forest road program from a costly ecological and economic problem into a valuable community asset.

For the complete study, go to Wildlands CPR's website at www.wildlandscpr.org.

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Much of what we know about the economics of road removal comes from the experience at Redwood National Park.

Photo by J. McCullah.