

**OPPORTUNITIES TO IMPROVE AND EXPAND
INFRASTRUCTURE IMPORTANT TO FEDERAL
LANDS, RECREATION, WATER, AND RESOURCES**

HEARING
BEFORE THE
COMMITTEE ON
ENERGY AND NATURAL RESOURCES
UNITED STATES SENATE
ONE HUNDRED FIFTEENTH CONGRESS

FIRST SESSION

MARCH 21, 2017



Printed for the use of the
Committee on Energy and Natural Resources

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TUESDAY, MARCH 21, 2017

U.S. SENATE,
COMMITTEE ON ENERGY AND NATURAL RESOURCES,
Washington, DC.

The Committee met, pursuant to notice, at 10:02 a.m. in Room SD-366, Dirksen Senate Office Building, Hon. Lisa Murkowski, Chairman of the Committee, presiding.

**OPENING STATEMENT OF HON. LISA MURKOWSKI,
U.S. SENATOR FROM ALASKA**

The CHAIRMAN. Good morning, everyone. The Committee will come to order.

We are here today to continue our discussion about infrastructure. We had a good hearing last week and, I think, gained a lot of good insight.

Today's look is a little bit different. We are going to be focusing on infrastructure that is beneficial to our federal lands, to our waters and to the people and the communities that rely on them.

Infrastructure in this context means everything from trails for hikers and bikers, to sawmills and biomass facilities to process timber and slash from overgrown, fire-prone, federal forests. It also means water projects to control floods, deliver water to communities and store water to protect against drought, something that, of course, is on all of our minds here in the midst of Water Week 2017. It also means mineral development as federal lands can provide everything from the sand and gravel for roads to the trails as well but to the rare earths and other metals found in solar panels, electric vehicles and countless other technologies. It also means the infrastructure on our federal lands that is critical to the visitor experience but that our land management agencies have often failed to maintain according to schedule. The sewer and water systems, the roads, the buildings, the trails that all need work and repair. We call it the deferred maintenance backlog. And it is staggering.

The National Park Service backlog has now grown to nearly \$12 billion, the Forest Service backlog is over \$5 billion, and the Bureau of Reclamation has a backlog of over \$3 billion in maintenance needs. This is significant, and I don't think that any of us should kid ourselves. The backlog, in order to truly and meaningfully address it, is going to take real dollars to resolve. But whether

we are talking about aging infrastructure on federal lands or looking to build something new to respond to a community need or visitor demand, Congressional appropriations alone are not going to be enough. So, what else do we do?

This is the reason we have asked you to join us this morning. Leveraging private dollars and capacity through public/private partnerships is absolutely necessary in these tough budget times. I think it can be a win/win for both the Federal Government and rural, regional economies.

We should also remember that infrastructure is not just a matter of dollars. It is also about cutting the regulatory red tape that often holds projects back and adds to their costs. We had a great deal of that discussion in last week's hearing, talking about the uncertainty that with certain focus on regulation and overlay and overlap, that adds uncertainty to a process and certainly cost to a process as well.

How we might be able to address that, again, is something that I would hope to elicit in today's discussion.

When we talk about the regulatory red tape and those things that do hold projects back and add to the cost, we have seen the need for this in mining, water projects, community-supported forest thinning projects, timber sales and new recreation uses—just about, really, everywhere. Everywhere you look is an issue that relates to the regulation.

The take away is that navigating the current maze of congressional statutes, federal regulations, administrative directions, executive orders, secretarial memos and court decisions, is a mine field. And it is not necessarily for the faint at heart. We need to do better.

I think we owe it to our Western and our rural communities and the people who live near and depend on federal lands for their livelihoods to do better. We need to do better for the next generation so they too can experience the world class, outdoor recreation system that generations before them have enjoyed.

As I said, last week our Committee began to address the infrastructure challenges within our jurisdiction through the bipartisan energy bill that Senator Cantwell and I led on last year, as well as our wildfire and forest management discussion draft and other legislation that came from this Committee. Know that we will work to build on that through our infrastructure hearings. When Congress is ready to consider an infrastructure package, our Committee will be ready to make a serious contribution to it. This is an important subject.

I thank our witnesses for being here to discuss this with us. I also want to recognize and acknowledge our newest Committee member, Senator Strange, from the great State of Louisiana.

Senator STRANGE. Alabama.

The CHAIRMAN. Alabama. You are sitting at the end there. It's that southern accent.

[Laughter.]

Even though he sits at the end of this broad dais here, he has much to contribute on these matters that are so important in the energy sector and for the overall strength of our nation's economy.

It is good to have you as part of the Committee.

Senator STRANGE. Thank you, I am honored to serve with you on the Committee.

The CHAIRMAN. Fabulous.

With that, I will turn to Senator Cantwell for your opening remarks.

**STATEMENT OF HON. MARIA CANTWELL,
U.S. SENATOR FROM WASHINGTON**

Senator CANTWELL. Thank you, Madam Chair.

I am excited about today's hearing and to hear from the witnesses, because infrastructure to support our recreation economy is a very important subject.

Before I get started, I wanted to acknowledge the witness, Jill Simmons. Thank you for coming here to testify and welcome as the newest Director of the Washington Trails Association. That is a very important organization in our state, and I thank you for the amazing work that they do.

When it comes to our recreation economy, a report released at the end of last year by the Forest Service's Pacific Northwest Research Station, showed that in one year outdoor recreationists made more than 938 million visits to federal lands, spending \$51 billion and supporting 880,000 jobs. That is just the federal land piece of the \$646 billion outdoor recreation economy.

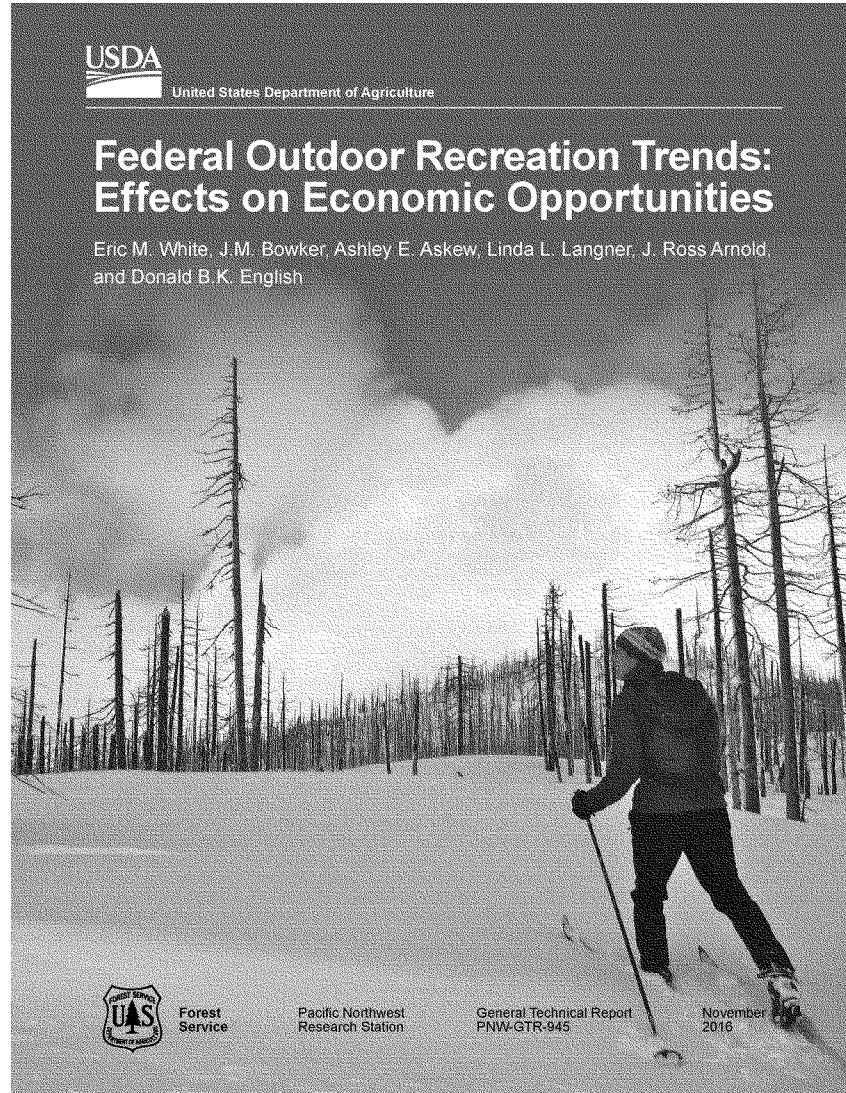
The report goes on to forecast increased participation in recreation activities on federal lands in the future and describes how these lands have encouraged businesses to locate in adjacent communities. Unfortunately, the report also discusses how the current infrastructure deficit and needs on federal lands are constraining our recreation use.

Madam Chair, I would like to enter that USDA report into the record today, if I could, in full.

The CHAIRMAN. It will be included.

Senator CANTWELL. Thank you.

[The information referred to follows:]



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Cover photos: Undeveloped skiing on the Willamette National Forest. Photo by Emily Jane Davis.

Abstract

White, Eric M.; Bowker, J.M.; Askew, Ashley E.; Langner, Linda L.; Arnold, J. Ross; English, Donald B.K. 2016. Federal outdoor recreation trends: effects on economic opportunities. Gen. Tech. Rep. PNW-GTR-945. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Station. 46 p.

Outdoor recreation is a central way that people interact with the natural environment. Federal land agencies are key providers of settings, facilities, and landscapes for recreation. Outdoor recreation is also an important driver of economic activity in rural communities near recreation destinations and across the United States. Future participation in outdoor recreation, and associated economic activity, will be influenced by demographic changes in population, lowering per capita land available for recreation, and changing recreation resource conditions, influenced partially by climate change. In this report, we summarize recent trends and current projections to 2030 of recreation participation and total days of recreation for 17 key outdoor recreation activities common on federal lands. We report the current economic activity supported by outdoor recreation on the seven agencies participating in the Federal Interagency Council on Outdoor Recreation and describe how anticipated future changes in recreation participation and climate may change the economic activity supported by outdoor recreation.

Keywords: Outdoor recreation, trends and projections, climate change impacts, demographic trends, federal lands, recreation opportunities, trip spending patterns, economic contributions.

Preface

This general technical report was sponsored by the National Center for Natural Resource Economics Research. The center is a virtual collaborative effort of the Washington office and the regional research stations within U.S. Department of Agriculture, Forest Service, Research and Development. The center was founded to respond rapidly to emerging natural resource economic issues of national significance by leveraging expertise across the Forest Service. The center sponsors research with funding from client organizations and regional research station contributions.

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Introduction

Outdoor recreation plays a significant role in American lives. It provides physical challenges and a sense of well-being, helps develop lifelong skills, provokes interest and inquiry, inspires wonder and awe of the natural world, and often provides an alternative to daily routines. Recreation contributes greatly to the physical, mental, and spiritual health of individuals; bonds family and friends; and instills pride in natural and cultural heritage. Federal lands contribute significantly, and in many cases uniquely, to the provision of nature-based outdoor recreation opportunities.

This report, prepared for the Federal Interagency Council on Outdoor Recreation (FICOR), focuses on the potential future role of federal lands in supplying outdoor recreation opportunities and therefore supporting associated jobs and income. The FICOR is a seven-agency council that promotes better coordination and collaboration among federal agencies whose missions or programs include providing outdoor recreation and conserving or managing natural and cultural resources. The FICOR agencies include the U.S. Department of the Interior (USDI), Bureau of Land Management (BLM), Bureau of Reclamation (BOR); Fish and Wildlife Service (FWS), National Park Service (NPS); U.S. Department of Agriculture Forest Service (FS); U.S. Department of Commerce (USDC); U.S. Department of Defense (USDOD); National Oceanic and Atmospheric Administration (NOAA), and the Army Corps of Engineers (USACE).

We begin with an overview of recent trends in outdoor recreation activity participation in the United States and projected recreation participation to 2030. The primary driving forces for participation are reviewed, and their effects on future recreation use are discussed. The federal land base for outdoor recreation and expectations for future availability are also described. Recreation visitation in 2012 on lands and waters managed by the FICOR agencies and the associated jobs provide the baseline for considering how projected recreation use might influence future economic effects.

The “future” look takes into account (1) the key factors that determine the level of economic activity in and around federal lands, (2) potential changes in recreation activities and associated spending patterns, and (3) other factors that influence spending. Finally, we discuss other contributions to local economies that may be influenced by federal recreation opportunities, including amenity migration, business relocation, and natural backdrops.

Choices for outdoor recreation today are different from choices made by previous generations of Americans, both in the mix of activities and relative popularity.

Outdoor Recreation Participation

Measuring Outdoor Recreation Participation in the United States

National trends in outdoor recreation participation are based primarily on the National Survey on Recreation and the Environment (NSRE). The NSRE was a general population telephone survey of people 16 years of age and older designed to measure participation in outdoor recreation activities and people's environmental behaviors and attitudes (Cordell 2012). The NSRE sampling was population-based, occurring across both rural and urban areas of the country, and included all activity participation whether on public or private land and water.

Historical Outdoor Recreation Trends

Choices for outdoor recreation today are different from choices made by previous generations of Americans, both in the mix of activities and relative popularity. Outdoor recreation participation grew through the 1960s and 1980s. Activities such as camping, canoeing, kayaking, and bicycling grew rapidly, influenced partly by improving equipment technology. New activities appeared, while a few activities declined in participation (Cordell 2012).

Between 1999 and 2009, nature-based outdoor recreation generally increased, although trends differ across individual activities. The number of U.S. participants¹ in 50 nature-based outdoor recreation activities increased 7.1 percent between 1999 and 2009, while the number of activity days² increased at least that much (table 1). Activities oriented toward viewing and photographing nature have been among the fastest growing activities, both in terms of number of participants and activity days of participation. Off-highway vehicle driving realized a 34-percent increase in participants. Several physically challenging activities, such as kayaking, snowboarding, and surfing also had relatively large increases in this timeframe (Cordell 2012).

Although there were increases in the number of participants for the majority of activities between 1999 and 2009, there were declines in some activities. Most of the traditional winter recreation activities experienced decreasing participation rates and days of activity, with the exception of snowboarding. In addition, several activities that had increased numbers of participants experienced a drop in total days of activity, indicating that the average number of days per participant declined. Examples included day hiking and horseback riding on trails. While more people recreate in the Eastern

¹ A participant is any individual 16 years of age or older who engaged in one or more recreation activities during the 12 months prior to the survey interview date.

² An activity day is any amount of time during the course of a calendar day in which an individual participates in a given activity. Thus, an individual may report multiple activity days for a given calendar day.

Table 1—Percentage change between 1999–2001 and 2005–2009 in total participants and total days for people age 16 and older participating in nature-based outdoor activities

Activity groups	Percentage change in total participants	Percentage change in total days ^a
	1999–2009	
Visiting developed sites:		
Developed site use—		
Family gathering	10.5	21.5
Picnicking	2.8	-5.8
Developed camping	1.1	0.5
Visiting interpretive sites—		
Visit outdoor nature center/zoo	10.2	18.6
Visit historical sites	8.1	7.0
Visit prehistoric sites	11.1	9.4
Viewing/photographing nature:		
Birding—		
Viewing/photographing birds	22.8	36.7
Viewing—		
Viewing/photographing natural scenery	17.9	62.6
Viewing/photographing flowers, etc.	29.4	83.5
Viewing/photographing other wildlife	25.4	51.8
Viewing/photographing birds	22.8	36.7
Gathering mushrooms, berries, etc.	28.6	30.1
Backcountry activities:		
Challenge—		
Mountain climbing	-5.9	-4.3
Caving	18.4	14.0
Rock climbing	9.5	12.3
Equestrian—		
Horseback riding on trails	1.6	-9.7
Hiking—		
Day hiking	15.4	-4.9
Visiting primitive areas—		
Backpacking	7.9	26.6
Primitive camping	3.2	6.6
Visit a wilderness	17.7	31.8
Motorized activities:		
Motorized off-road use—		
Off-highway vehicle driving	34.5	47.6
Motorized water—		
Motorboating	8.6	12.3
Waterskiing	33.1	20.0
Use personal watercraft	10.9	12.7

Table 1—Percentage change between 1999–2001 and 2005–2009 in total participants and total days for people age 16 and older participating in nature-based outdoor activities (continued)

Activity groups	Percentage change in total participants	Percentage change in total days ^a
	1999–2009	
Motorized snow		
Snowmobiling	-5.5	-23.7
Hunting and fishing:		
Hunting—		
Small game hunting	11.4	-0.7
Big game hunting	17.1	22.2
Migratory bird hunting	-1.1	0.4
Fishing—		
Anadromous fishing	24.1	9.7
Coldwater fishing	8.7	1.4
Saltwater fishing	17.2	-0.7
Warmwater fishing	17.1	13.1
Nonmotorized winter activities:		
Developed skiing—		
Downhill skiing	-8.5	-19.4
Snowboarding	33.7	32.6
Undeveloped skiing—		
Cross-country skiing	-21.7	-32.9
Snowshoeing	-9.4	-25.1
Nonmotorized water activities		
Swimming—		
Swimming in lakes, streams, etc.	14.0	16.0
Snorkeling	11.8	-0.6
Surfing	46.3	18.6
Scuba diving	-5.6	-15.6
Visit a beach	20.7	28.2
Visit waterside besides beach	6.3	28.1
Windsurfing	-10.1	-24.7
Floating—		
Canoeing	18.2	8.0
Kayaking	103.8	86.3
Rafting	-2.8	7.9

^a Because individuals may report multiple activity days for a given calendar day, these increases are not additive across activities.
Source: Cordell 2012

United States because of the U.S. population distribution, participation rates are uniformly higher in the West for all activities except hunting and fishing (Cordell 2012).

Recreation Participation in the Future

Past and recent outdoor recreation trends are important indicators of what might happen in the near future. However, simple trends do not address the underlying factors and associations that may be driving these trends. Thus, a trend may be of limited value as an indicator if the time horizon is long or if the trend's driving factors are expected to deviate substantially from historical patterns. Therefore, projection models developed for the 2010 Resources Planning Act (RPA) Assessment³ (USDA FS 2012a) are used in conjunction with external projections of relevant factors, including demographic, economic, land use, and climate factors, to simulate future recreation participation (Bowker et al. 2012). Outdoor recreation participation was projected for 17 recreation activity composites that were organized into seven activity groups that either occur in similar recreation settings or have a similar focus (table 2). These projections are based on the NSRE data described above and include nature-based recreation on all ownerships of land and water.

The 2010 RPA Assessment used multiple scenarios to explore a range of possible futures that account for uncertainties about future political, economic, social, and environmental change. A detailed description of these scenarios can be found in USDA FS (2012b). Projections to 2060, at 10-year intervals, associated with these scenarios incorporate changing population, socioeconomic characteristics, land availability, and the potential effects of climate change. For this report, we chose to use projected recreation participation through 2030 to focus on the timeframe most consistent with federal land management planning. We also chose to focus on the results from one socioeconomic scenario and its associated climate projections—the scenario referred to as RPA A1B in the 2010 RPA Assessment. Because population growth is an important determinant of recreation demand in the future, we chose the RPA A1B scenario because it is the most consistent with the U.S. Census Bureau's projected population growth in the United States at the time the RPA scenarios were developed (U.S. Census Bureau Population Division 2012).

The outdoor recreation projections resulted in estimates of per capita participation and average annual days per participant. Total participants and total annual days of participation were calculated by multiplying the RPA population projections by the participation rate and average days per participant (Bowker et al. 2012). Table 3 summarizes projected participation and use for the activity groups shown in table 2.

Outdoor recreation participation was projected for 17 recreation activity composites.

³ See <http://www.fs.fed.us/research/rpa/> for additional information about the RPA Assessment.

Table 2—Outdoor recreation activity groups and associated activity composites

Activity group	Modeled activity composite	Activities included in modeled activity composite
Visiting developed sites	Developed site use	Family gathering; picnicking; developed camping
	Visiting interpretive sites	Visiting nature centers, zoos, historic sites, and prehistoric sites
Viewing and photographing nature	Birding	Viewing/photographing birds
	Viewing	Viewing/photographing natural scenery, flowers, birds, other wildlife; gather mushrooms, berries, etc.
Backcountry activities	Challenge activities	Caving; mountain climbing; rock climbing
	Day hiking	Day hiking
	Equestrian	Horseback riding on trails
	Visiting primitive areas	Backpacking; primitive camping; visiting wilderness
Motorized activities	Motorized off-road use	Off-road driving
	Motorized snow use	Snowmobiling
	Motorized water use	Motorboating; waterskiing; personal watercraft use
Hunting and fishing	Hunting	Big game; small game; migratory birds
	Fishing	Anadromous; coldwater; warmwater; saltwater
Nonmotorized winter activities	Developed skiing	Downhill skiing; snowboarding
	Undeveloped skiing	Cross-country skiing; snowshoeing
Nonmotorized water activities	Swimming	Swimming in lakes, streams; snorkeling; surfing; scuba diving; visiting a beach; visiting waterside besides beach; windsurfing
	Floating	Canoeing; kayaking; rafting

Visiting developed sites—

The activities associated with developed-site use include venues popular with all age groups. Per capita participation in this activity group is currently highest among the 17 activity groups and is projected to remain the most popular through 2030. The number of potential developed-site users increases from over 190 to 246 million participants over the projection period, driven primarily by increasing population. Although the total number of participants is projected to increase, those participants are projected to have slightly fewer numbers of days recreating at developed sites each year, on average, compared to the current pattern.

Visiting interpretive sites is also popular across all ages and occurs primarily in developed settings. The projections indicate that participation rates of the population could increase by more than 3 percent, translating into a gain of more than 30 percent in the total number of participants by 2030. Two factors might influence the greater participation rate growth in this activity group compared to developed-site

Table 3—Projected participation and use for activity groups between 2008 and 2030

Activity groups	Per capita participation			Adult participants (millions)			Days per participant			Total days (millions)		
	2008 rate	2030 rate	Percent change	2008 number	2030 number	Percent change	2008 rate	2030 rate	Percent change	2008 number	2030 number	Percent change
Visiting developed sites:												
Developed-site use	0.819	0.825	0.7	192.7	245.9	27.6	11.67	11.58	-0.8	2,235	2,830	26.6
Visiting interpretive sites	0.669	0.690	3.2	157.4	205.7	30.7	7.81	8.02	2.6	1,243	1,666	34.1
Viewing/photographing nature:												
Birding	0.346	0.361	4.4	81.4	107.7	32.3	97.71	97.91	0.2	8,215	10,889	32.5
Viewing	0.805	0.814	1.2	189.4	242.7	28.1	169.59	163.96	-3.3	32,303	40,019	23.9
Backcountry activities:												
Challenge	0.107	0.111	3.6	25.1	33	31.3	4.77	4.74	-0.6	120	156	30.5
Equestrian	0.070	0.072	2.7	16.4	21.3	30.1	16.28	16.48	1.2	262	345	31.7
Hiking	0.333	0.343	3.1	78.3	102.2	30.5	22.89	23.41	2.3	1,826	2,437	33.5
Visiting primitive areas	0.383	0.375	-2.1	90.2	111.8	24.0	13.22	13.08	-1.1	1,233	1,512	22.6
Motorized activities:												
Motorized off-road use	0.204	0.194	-4.7	47.9	57.8	20.7	21.65	21.04	-2.8	1,048	1,229	17.3
Motorized water use	0.263	0.270	2.5	62.0	80.5	29.9	15.27	15.35	0.5	953	1,244	30.6
Motorized snow use	0.040	0.036	-10.4	9.4	10.7	13.6	7.25	7.16	-1.3	68	77	12.1
Hunting and fishing:												
Hunting	0.119	0.105	-11.6	27.9	31.3	12.0	19.13	18.17	-5.0	535	570	6.4
Fishing	0.309	0.301	-2.6	72.7	89.7	23.4	18.48	18.15	-1.8	1,363	1,651	21.1
Nonmotorized winter activities:												
Developed skiing	0.101	0.108	6.7	23.7	32.1	35.1	7.19	7.42	3.2	171	238	39.5
Undeveloped skiing	0.033	0.033	-0.6	7.8	9.8	25.9	6.58	6.72	2.1	51	66	28.6
Nonmotorized water activities:												
Swimming	0.609	0.630	3.4	143.2	187.5	31.0	23.98	24.12	0.6	3,459	4,558	31.7
Floating	0.169	0.162	-3.9	39.8	48.4	21.7	6.50	6.53	0.5	261	318	22.1

use. First, developed-site use is negatively correlated with age, which is expected to rise by 2030, and positively correlated with available federal land per capita, which is expected to decline. Those variables are less important in interpretive site participation. Secondly, in comparison to the other activity groups, visiting interpretive sites has one of the higher percentage increases in both average days per participant and total days of participation.

Viewing and photographing nature—

This category comprises birding and nature viewing, which includes viewing wildlife and nature, gathering, and nature study. Adult participation in birding averaged 35 percent in 2008. Nearly 81 percent of adults participated in the more broadly defined nature viewing during the same period. The participation rate for nature viewing is projected to increase by slightly more than 1 percent through 2030, whereas the participation rate for birding could increase by 4 percent. The viewing days per participant are anticipated to decline by over 3 percent. This decline is influenced by projected increases in population density and minority populations, as well as projected decreases in both forest and rangeland and national park acres per capita. The average annual days of participation exceed 160 and contribute to an estimate of total days nearly 10 times higher than any other nonviewing activity group. However, given the broad definition of viewing, much of this activity occurs in proximity to home, in transit to other recreation activities, or while participating in another activity.

Backcountry activities—

Backcountry activities are pursued in undeveloped, but accessible lands. This activity group includes challenge activities, equestrian activities, hiking, and visiting primitive areas. Challenge activities are often associated with young and affluent adults and include caving, mountain climbing, and rock climbing. Over 11 percent of adults are expected to participate in challenge activities by 2030, an increase of about 3.6 percent from 2008. The growth in the rate of participation is driven mostly by projected increases in income. The projected days per participant are almost unchanged through 2030. Participants in challenge activities report fewer than 5 days of participation per year, which is the lowest among all activity groups.

Participation in equestrian activities or trail riding per capita is projected to increase about 2.7 percent by 2030. As with the challenge activities, income also has a strong positive influence on the participation rate for trail riding. However, the days per participant change very little, perhaps suggesting that higher income participants have more competing uses for their time.

Hiking is the most popular single backcountry activity, with 33 percent adult participation in 2008. By 2030, the participation rate is projected to increase about 3 percent with the number of projected participants exceeding 100 million. Total days of hiking are projected to increase by about 33 percent, which is slightly more than the increase in participation (30 percent). The increase in hiking days is among the highest for all activity groups.

Hiking is the most popular single backcountry activity.

The final backcountry activity is visiting primitive areas. It is a composite activity consisting of people who backpack, primitive camp, or visit wilderness areas. The participation rate is projected to decline by over 2 percent by 2030. Increased population density and projected decreases in wilderness, forest, and rangeland acres per capita appear to correlate with the participation rate decline. Activity days per participant are projected to decline slightly less than participation rates.

Motorized activities—

Three categories of motorized activities were considered: off-road driving, motorized water use, and motorized snow use. Participation in off-road driving averaged a little more than 20 percent among the adult population in 2008. An expected decrease in the participation rate between 4 and 5 percent will lower participation to below 20 percent by 2030. The decrease is correlated with expected increases in the average age and the increasing proportion of Hispanics in the population. Annual days per participant are also projected to decline by almost 3 percent. The declines in both the participation rate and days per participant imply that the overall increases in total days will be less than the respective increase in population.

Motorized water use has the highest participation rate of the motorized activities. More than 80 million adults or 27 percent of the adult population are projected to participate in 2030. It is the only motorized activity with positive percentage increases in both participation rate and days per participant. Income growth appears to be a significant factor in the positive growth rates. Both total participants and total days grow by about 30 percent between 2008 and 2030.

Motorized snow use (snowmobiling) has one of the largest projected declines in participation rates across all activities. Snowmobiling is geographically limited to areas with adequate recreation opportunities and snow conditions and is undertaken by only about 4 percent of the population. By 2030, rates are projected to decline by more than 10 percent. Similar to off-road driving, these declines are correlated with increasing average age and increasing proportion of Hispanics in the population. Days per participant also decline, but at a much lower percentage than the participation rate. Snowmobilers will still average about 7 days per year on the snow.

Hunting and fishing—

The traditional wildlife pursuits of hunting and fishing remain popular outdoor activities, with about 28 million and 73 million annual adult participants, respectively, in 2008. However, on a per capita basis, these activities continue a decline from levels of past decades. The adult hunting participation rate is projected to decline by 11 to 12 percent by 2030. Increased education levels, increased population density, diminishing availability of private and public land, and strong negative relationships between growing minority populations and hunting appear to be influencing the decline in participation rate. Days per hunter are also projected to decline by about 5 percent. Total participants and total days of hunting continue to grow because of population growth, but at small increases of about 12 and 6.4 percent, respectively. Hunting exhibits the largest drop in the rates of participation and days per participant and the smallest increases in the number of participants and total days of participation.

The overall rate of decline in per capita participation and days per participant are not as drastic for fishing as hunting. The participation rate for fishing is projected to decline between 2 and 3 percent. The number of adult participants is still expected to increase by about 23 percent to over 89 million anglers. Average annual fishing days per participant are projected to fall a little less than 2 percent.

Nonmotorized winter activities—

Developed skiing (downhill skiing and snowboarding) is the only winter activity with projected percentage increases in both per capita participation and days per participant. The participation rates increase by 6 to 7 percent by 2030, the largest increase among all activity groups. Income growth is a strong driver in skiing participation. Days per participant also increase but at a more modest rate of 3 percent. The total days of 238 million in 2030 reflect an almost 40-percent increase above the 2008 levels.

Undeveloped skiing (cross-country skiing and snowshoeing) has the lowest participation rate for any of the activity groups. About 3 percent of the population participates, with the number of adult participants expected to remain below 10 million in 2030. Although per capita participation is expected to change little, the days per participant are projected to increase slightly owing to a positive correlation with mean population age. However, given this small increase and a static participation rate, the increase in annual undeveloped skiing days per year will most likely track population growth at about 29 percent.

Nonmotorized water activities—

This category consists of floating and various kinds of outdoor swimming activities, including snorkeling, surfing, diving, and visiting beaches or watersides. Swimming is the fourth most popular outdoor activity, with a 63 percent adult participation rate and 187 million participants projected for 2030. Although the projected percentage increase in days per participant is relatively flat, the projected total days will exceed 4.5 billion by 2030. This is driven by the popularity of swimming and the relatively high number of days people swim each year.

Floating activities include canoeing, kayaking, and rafting. By 2030, the participation rate is projected to decrease by almost 4 percent. The days per participant are projected to be virtually unchanged between 2008 and 2030 at about 6.5 days per year. Both the total adult participants and total days increase in future decades, but at levels less than the expected increase in population.

Climate Change and Recreation Trends and Projections

The results shown in table 3 were estimated without incorporating climate change into the projections. Climate variables were added to the projection models to assess whether participation and participation intensity were sensitive to climate effects (see Bowker et al. 2012 for details about the climate variables).

Except for a few activities, adding climate variables to the projection models does not greatly change projected future participation (Bowker et al. 2012). Generally, the effect of the climate variables is a minor change in both per capita participation and average days per year compared to the “no climate change” projection. The effect of climate is easier to understand when expressed as changes in total participation or total days. Table 4 shows the percentage changes between 2008 and 2030 for activity projections with and without climate effects in the model. It also displays the net difference, in percentage points, between the no climate change (no CC) versus climate change (CC) estimates as increases or decreases from the percentage for the no climate change projection. Overall, 14 of 17 activities showed average declines in total days of participation when accounting for climate change. Most of those reductions lower future projected percentage increases in total days by 5 percentage points or less. The percentage point decline was greatest for three activities: snowmobiling, undeveloped skiing (cross-country skiing, snowshoeing), and floating (canoeing, kayaking, rafting), accounting for average net decreases of 39, 36, and 9 percentage points, respectively. The effect of climate change on snowmobiling and undeveloped skiing actually reduced the projected days of participation in 2030 to levels lower

Snowmobiling, undeveloped skiing, and floating are the activities projected to have the greatest declines in participant days under climate change.

Table 4—Projected percentage of change in participants and days to 2030 with climate change (CC) and without climate change (No CC) the effects of climate change (Scenario RPA A1B), by recreation activity

Activity groups	Adult participants (millions)			Total days (millions)		
	Average % change, 2008 to 2030		Effects of CC	Average % change, 2008 to 2030		Effects of CC
	No CC	CC	% point difference	No CC	CC	% point difference
Visiting developed sites:						
Developed site use	27.6	26.5	-1.1	26.6	24.3	-2.3
Visiting interpretive sites	30.7	30.0	-0.6	34.1	35.4	1.4
Viewing and photographing nature:						
Birding	32.3	28.8	-3.5	32.5	28.3	-4.3
Viewing	28.1	27.8	-0.4	23.9	22.2	-1.6
Backcountry activities:						
Challenge	31.3	32.6	1.4	30.5	32.9	2.5
Equestrian	30.1	35.0	4.9	31.7	27.2	-4.5
Hiking	30.5	27.7	-2.8	33.5	31.0	-2.5
Visiting primitive areas	24.0	22.3	-1.6	22.6	18.8	-3.8
Motorized activities:						
Motorized off-road use	20.7	21.2	0.5	17.3	19.3	2.1
Motorized water use	29.9	26.3	-3.5	30.6	25.5	-5.1
Motorized snow use	13.6	-18.4	-32.0	12.1	-26.8	-38.9
Hunting and fishing:						
Hunting	12.0	10.5	-1.5	6.4	4.0	-2.4
Fishing	23.4	19.1	-4.2	21.1	16.1	-5.0
Nonmotorized winter activities:						
Developed skiing	35.1	34.7	-0.4	39.5	38.7	-0.8
Undeveloped skiing	25.9	-5.9	-31.8	28.6	-6.9	-35.5
Nonmotorized water activities:						
Swimming	31.0	31.0	0.0	31.7	29.8	-1.9
Floating	21.7	13.1	-8.5	22.1	13.1	-9.0

than those observed in 2008. The effects of climate change surpassed the gains in participant days resulting from population growth. Activities that could show a slight increase in total days under projected climate changes include interpretive site use, challenge sports, and off-road driving.

The general effects of climate change on projected percentage change in the number of total participants for 2030 is also shown and has similar results to the

climate effect on total days. The direction (increase or decrease) of the climate effect is often the same, but the magnitude of the difference is more muted for the analysis of participants. The primary exception is for equestrian activities, where the climate change models reduced the estimate of days by 4.5 percentage points and increased the number of participants by 4.9 percentage points. The opposite effect was evident for visiting interpretive sites, as climate change had a negative effect on the number of participants and a positive effect on days. The magnitude of the effect was relatively low at -0.6 and 1.4 percentage points, respectively. Thirteen of 17 activities are expected to experience fewer participants when climate change is included into the projection estimates.

However, the small percentage increases or decreases from incorporating climate change can have a noticeable impact on total participants and days if the activity has high levels of participation and average days. For example, climate change effects associated with developed-site use could result in 2 million fewer participants and 52 million fewer activity days in 2030, on average, than would be expected with no climate change (tables 3 and 4). The overall decline is 1.1 percentage points for total participants and 2.3 percentage points for days. In contrast, the 36 percentage point drop in days for undeveloped skiing only reduces the total activity days by only 18 million because participants engage in only 6 to 7 days of skiing annually.

The effects of climate change on outdoor recreation activities vary across alternative climate projections. In the set of climate projections used in the 2010 RPA Assessment (USDA FS 2012a), the most pronounced effects of anticipated climate change were associated with the climate projections with the greatest projected increases in average temperature and decreases in precipitation (Bowker et al. 2012).

Dominant Factors in Recreation Projections

Previous research (e.g., Cordell 2012) has established that population size, gender, race, ethnicity, education, income, and supply of and proximity to recreation settings can be highly correlated with the rate of outdoor recreation participation as well as age, place of residence, and participation intensity. The results of the recreation projections (Bowker et al. 2012) reinforce those findings, as summarized below.

Key differences in the model variables drive the projections of recreation participation. Population growth often is the most important factor. Income growth also has differential effects on projected participation, particularly for those activities that require wherewithal for effective participation, such as

developed skiing, challenge activities, equestrian activities, hunting, and motorized activities. The effects of population growth were often offset by more indirect effects. For example, increased population density in the vicinity of recreation sites can cause crowding onsite, which has been shown to reduce the quality of many nature-based recreation experiences. In most cases, population growth is sufficient to result in overall growth in total participants and total days of participation, even when participation rates or average days of participation are projected to decline.

Males are more apt to participate in backcountry activities, hunting and fishing, motorized activities, nonmotorized winter activities, and floating than are females, while the latter are more likely to participate in the viewing activities, swimming, equestrian, and visiting developed sites.

Ethnicity is still a strong factor on the decision to participate. However, it has little influence on the annual days of participation, once an individual chooses to participate. Minorities including African Americans, Hispanics, and Asians, are almost always less likely than Whites to participate in the various activities examined in this report. A notable exception occurs with hiking where, controlling for other socioeconomic and supply factors, Hispanics are more likely than Whites to participate. Respondents claiming American Indian, non-Hispanic identity are often more likely than Whites to participate in remote activities like hunting and fishing, motorized off-road use, motorized snow use, hiking, equestrian, and viewing. In absolute numbers, 70 to 75 percent of total participants across all activity groups are non-Hispanic Whites with Hispanic participants the next highest, averaging about 14 percent.

Those with an education beyond high school generally have higher participation rates for most activities. However, the level of education attained can influence participation somewhat. For example, the greater the education level, the more likely one would participate in birding, nonmotorized winter activities, backcountry activities, and viewing activities. More than a high school education lowers the probability of participation for fishing and hunting, motorized off-road use, and motorized snow activities. While participation rate generally increases with education, around 50 percent (\pm 5 percent) of participants across all activity groups have maximum education attainment of either a high school education or some college.

Income is positively associated with participation and use across all activities. However, for some activities such as birding, hiking, and hunting, the

effect is small, while for others, such as developed skiing and motorized water use, the effect is large. An important aspect of income growth, omitted from the analysis in this report, is that RPA Assessment scenarios used in this study accounted only for aggregate income growth and omitted any consideration of changing income distribution. This omission is serious and likely overlooks the fact that recreation access will probably become more partitioned by income class in the future.

Generally, land and water available per capita positively influence activity participation. Population growth combined with a stable public land base and declining private natural land base (from urbanization) resulted in a decline in per capita recreation opportunities over the projection period. This decline is likely to reduce participation rates for activities that require large spatial extents, such as hunting, off-road driving, and visiting primitive areas. Similarly, participation in water-based activities such as swimming, motorized boating, and nonmotorized boating are all positively correlated with the per capita water area. Fishing is positively correlated with both per capita water area and forest and rangeland area. A seemingly counterintuitive result occurred with the variable indicating whether the respondent lived in a coastal community. Here, participation in fishing, hunting, and viewing are negatively correlated with residence in a coastal county. Such a result could be driven by the fact that coastal populations in the country are dominated by highly urban areas. Finally, note that these results and projections do not account for factors outside the range of available data such as climate change effects on recreation resources, new technology, changes in relative costs, new infrastructure, and changes in tastes and preferences.

The amount of land and water available per capita for recreation influences recreation participation.

Federal Land Base for Outdoor Recreation

The United States has extensive land and water resources. Public lands held in trust by local, state, and federal governments are critical resources for nature-based outdoor recreation. While focusing on the federal land base, we briefly describe the role of state and local lands in providing recreation opportunities, based on Cordell et al. (2013). The distribution of federal land is uneven between the Eastern and Western United States, which influences the role of federal lands in providing outdoor recreation opportunities in different regions of the United States. Some of the information is provided by regions used in the RPA Assessment (fig. 1).

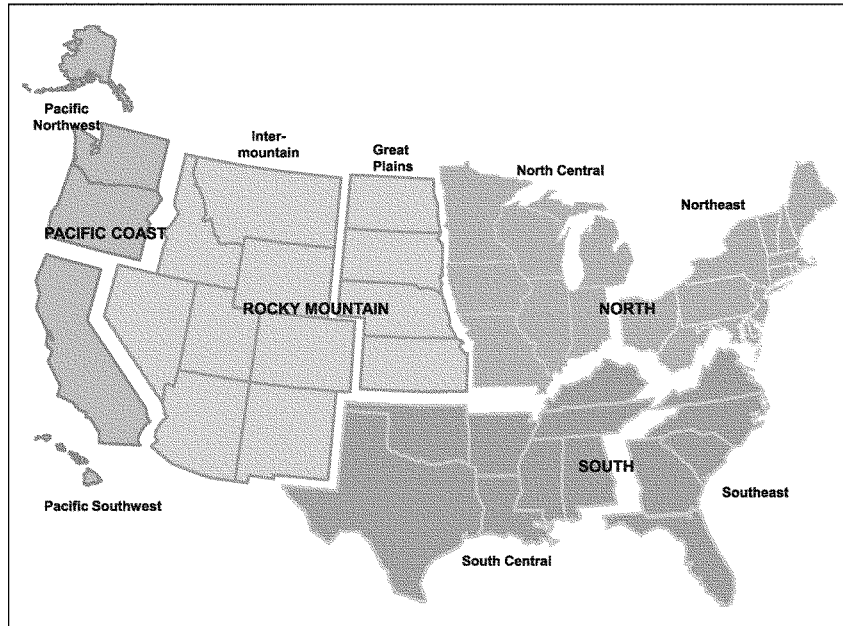


Figure 1—Resources Planning Act (RPA) Assessment regions of the United States.

Local and State Government Lands

Local governments own a small percentage of total public lands, but these holdings are very important because they tend to be located close to population centers. Urban parklands are an important resource in areas of high population density. These resources typically fill a key recreation niche, providing places for activities such as team sports and daily exercise such as walking or jogging. Generally, these resources are designed and managed to accommodate frequent and heavy density of use.

States manage a variety of lands that can provide recreation opportunities, including state parks, state forests, state wildlife areas, and other designations. State lands tend to occupy a niche between the more undeveloped and dispersed recreation opportunities of federal lands and the much more facility and development-oriented local lands. Similar to local government lands, state resources tend to occur in proximity to populated areas, especially in the Eastern United States,

where state lands play a much more significant role in providing outdoor recreation opportunities than in the West. Still, because of the lower population in the West, there are more state park system acres per capita in the West than in the East (Cordell et al. 2013).

States manage more than 6,500 individual parks and other categories of areas (e.g., natural areas, historic sites) that account for about 14 million acres. The North and Pacific Coast regions have the largest areas (about 5.2 million acres each), while the South has about 2.2 million acres, and the Rocky Mountain region about 1.4 million acres. About 25 million acres of U.S. forestland are managed by state forestry agencies. These lands are often available for recreation purposes, especially fishing, hunting, and wildlife watching. The largest percentage (64 percent) is in the North region, followed by the Pacific Coast region (20 percent). State forests and state wildlife and fish areas provide additional outdoor recreation opportunities (Cordell et al. 2013).

Federal Lands

Federal lands cover about 640 million acres in the United States,⁴ about 28 percent of the total land area. Nearly all federal land is open and available to the public for recreation. More than 92 percent of federal land is located in the West, with about 36 percent of all federal land in Alaska. The BLM and FS manage the majority of federal land. The acres of land managed by six of the seven FICOR agencies are shown in table 5, as well as the distribution of federal lands by RPA region. Because the Pacific Coast includes large federal holdings in Alaska, table 5 shows acreage for Alaska separately. The NOAA manages 14 marine-protected areas encompassing more than 170,000 square miles of marine and Great Lakes water from Washington State to the Florida Keys, and from Lake Huron to American Samoa. The network includes a system of 13 national marine sanctuaries and one marine national monument.⁵

Congressional designations offer additional direction to the management of federal lands that often affect the recreation opportunities available on those lands. The National Wilderness Preservation System (NWPS) includes more than 109 million acres of wilderness areas that represent the most pristine and protected of federal lands. More than half of the NWPS area is in Alaska, while the remainder is almost entirely in the Western United States. Other Congressionally designated areas provide unique recreation resources: national recreation areas (NRAs),

⁴ The 640 million acres does not include land managed by the Department of Defense.

⁵ <http://sanctuaries.noaa.gov/>.

Table 5—Area of federal land³ in the United States by Federal Interagency Council on Outdoor Recreation agency and Resources Planning Act region

Federal agency	North	South	Rocky Mountain	Pacific Coast ^b	Alaska	United States
<i>----- Thousand acres -----</i>						
Forest Service	12,161	13,396	100,096	45,101	22,207	192,961
National Park Service	1,225	5,129	10,763	9,954	52,621	79,691
Fish and Wildlife Service	1,568	4,522	10,496	1,767	76,886	95,239
Bureau of Reclamation	—	197	5,470	854	—	6,522
Bureau of Land Management	4	25	142,956	31,906	72,423	247,314
Army Corps of Engineers	2,557	7,104	3,540	526	19	13,746
Total	17,515	30,373	273,321	90,108	224,156	635,473

--- not applicable.

^aAcres reported by the Bureau of Reclamation and Army Corps of Engineers include water area.

^bPacific Coast acreage in this column does not include Alaska.

Sources: USDA FS (2013) data: http://www.fs.fed.us/land/staff/lar/LAR2013/Table_03.pdf

USDI National Park Service, (2010) data as reported in Gorte et al. (2012).

U.S. Fish & Wildlife Service (2013) data: http://www.fws.gov/refuges/realty/archives/pdf/2013_Annual_Report_of_LandsDataTables.pdf.

USDI Bureau of Reclamation, Recreation Fast Facts: <http://www.usbr.gov/recreation>.

USDI Bureau of Land Management, 2012 data: http://www.blm.gov/public_land_statistics/pls12/pls2012-web.pdf.

U.S. Army Corps of Engineers, Institute for Water Resources in partnership with the Engineer Research and Development Center and Natural Resources Management, Value to the Nation website: <http://www.CorpsResults.us> (last updated 2006).

national wild and scenic rivers (NWSRs), and the national trail system (NTS). The NRAs are intended to serve primarily as a recreation resource and be accessible to population centers. In 2008, 41 NRAs covered 7.4 million acres, with 90 percent of that acreage in the Western United States. The NWSR designation requires qualifying rivers to have outstanding scenic, wild, and recreation values. Almost 12,600 miles of 203 rivers in 39 states and Puerto Rico were designated as of April 2012;⁶ the Pacific Coast region contained more than half of the designated NWSR areas in 2009 (Cordell et al. 2013). Areas in the NTS include national historic trails and national recreation trails (NRTs). Currently, the NTS totals over 60,000 miles in all 50 states and comprises 11 national scenic trails and 19 national historic trails authorized by Congress, and more than 1,000 NRTs designated by the U.S. Departments of the Interior or Agriculture. The NRT system is unique in that it can be managed by any government agency at any level of government. In 2009, there were slightly more than 20,000 miles in the system, with the East accounting for almost 70 percent of the total trail miles (Cordell et al. 2013).

⁶ <http://www.rivers.gov/national-system.php>.

Federal land availability and facilities—

The seven FICOR agencies are critical providers of outdoor recreation opportunities to the American public as well as foreign tourists. The key activities for each agency focus on connecting the visiting public with the resources under their stewardship. All of the FICOR agencies balance recreation activity with resource management, where “management” can be construed as either preserving a specific resource or balancing joint production of several outputs from one resource unit. All of the FICOR agencies have goals that include some combination of providing public access to the resource base, promoting health of benefits from the resource, and improving connections with our Nation’s natural and cultural heritage.

The recreation resources managed by the FICOR agencies are extensive. However, if the area of federal lands and waters is assumed to remain stable, per capita availability can only decline over time as population increases. The ability of federal resources to meet future recreation participation depends on future recreation participation rates, the distribution of recreation participants in relation to recreation resources, and substitutes for federal opportunities. Transportation systems will continue to be critical for providing access to recreation opportunities. Figure 2 overlays the current land base of six of the FICOR agencies (excluding NOAA) in the United States on a map of county-level projected population change to 2030, following the population projections of the RPA A1B scenario from the 2010 RPA Assessment.

Although the federal land base may remain relatively static, legislative and executive designations, along with agency regulations and rules, can alter the mix of recreation opportunities available. Changes in designations can affect the mix between recreation activities (e.g., a change from motorized to nonmotorized use) or the mix between recreation and other uses (e.g., recreation and logging or mineral extraction). These types of changes can effectively increase or decrease federal acreage available for recreation.

The NPS, FWS, BLM, and FS provide a wide range of recreation opportunities, with dominant activities including sightseeing (including auto touring or pleasure driving), viewing nature and wildlife (including birds), and hiking and walking. Top activities across all NPS units are sightseeing, day hiking, visitor center use, and creative arts (photography, writing, painting, drawing, etc.).⁷ The greatest participation rates on FWS lands are for wildlife observation and birding, photography, hiking/walking, auto-tour driving, and freshwater fishing, although other popular

The ability of federal resources to meet future recreation participation depends on future recreation participation rates, the distribution of recreation participants in relation to recreation resources, and substitutes for federal opportunities.

⁷ <https://irma.nps.gov/Stats/Reports/National>.

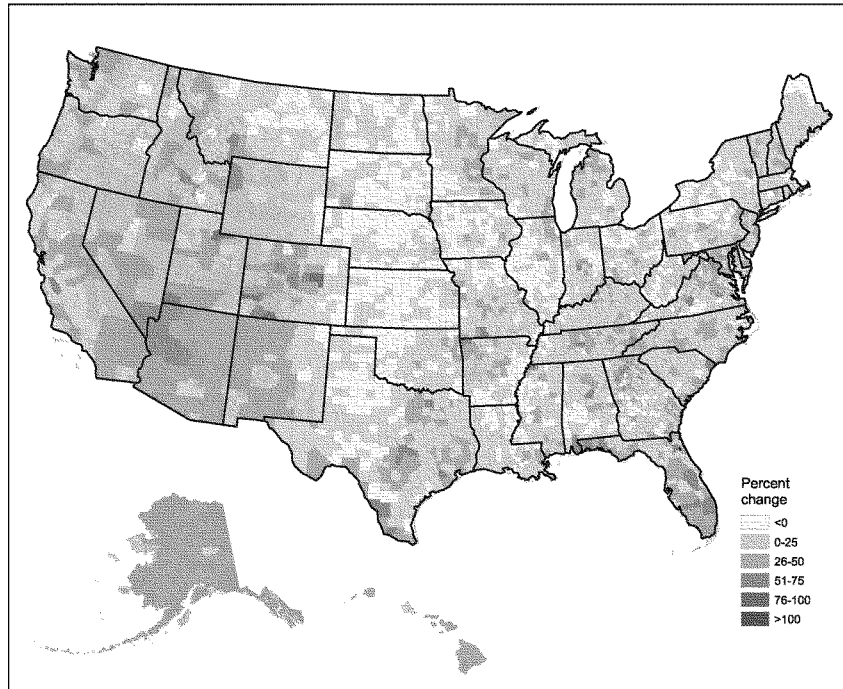


Figure 2—Federal lands (brown shading) overlaid on population change by county in the United States projected from 2010 to 2030, RPA A1B scenario. (Source of federal ownership overlay for six Federal Interagency Council on Outdoor Recreation agencies: Protected Area Database-United States [PAD-US]).

activities are hunting, bicycling, and nonmotorized boating.⁸ Bureau of Land Management officials indicated the activities with the highest recreational visitation on BLM lands are camping and picnicking, nonmotorized travel, off-highway travel, and hunting (USDI BLM 2013). The most common activities in which people participate on FS lands include viewing scenery/natural features, hiking/walking, relaxing/hanging out, and viewing wildlife.⁹

⁸Kilcullen, K. 2014. Personal communication. Chief of Visitor Services, U.S. Fish and Wildlife Service, 4401 N Fairfax Dr., Arlington, VA 22203.

⁹<http://www.fs.fed.us/recreation/programs/nvum/>.

The USACE, BOR, and NOAA are more focused on opportunities associated with water recreation. The USACE sites host 33 percent of all U.S. freshwater lake fishing; provide other water-based activities, and camping and hiking/walking opportunities.¹⁰ Similarly, the BOR provides extensive water-based opportunities. The BOR's day use and dispersed opportunities areas also accommodate activities such as camping, picnicking, hiking, wildlife viewing, and photography. The most common activities at NOAA marine sanctuaries are fishing, SCUBA, and snorkeling.

Proximity is important for many recreation visitors. For several agencies, including BLM, FS, FWS, and USACE, at least half of the visits come from people who live within 50 miles.¹¹ Thus, population growth or change in the communities in those proximate zones greatly affect the volume and nature of visitation. Even so, these agencies all have resources that can have regional, national, or international markets. Although there is considerable overlap in the recreation opportunities across the FICOR agencies, they could be segmented into dominant niches. The BLM and FS offer a range of opportunities from "big backyard" to backcountry; the FWS opportunities emphasize wildlife, fish, and birds, while the NPS is often associated with iconic natural and cultural resources. The USACE, BOR, and NOAA tend to focus on water and underwater resources.

Economic Contributions From Recreation on Federal Lands

Federal recreation resources offer opportunities for individuals to interact with forests and other natural resources. Federally managed public areas supply places individuals can use to recreate or exercise and landscapes that are aesthetically pleasing and provide desirable backdrops for living or working. Through these interactions with federal recreation resources, a number of positive economic effects accrue to people, individually and as communities. The most commonly recognized economic outcomes from federal recreation resources include business activity generated from spending by recreation visitors, increased property values and business attraction because of natural amenities those resources provide, and health benefits from physical activity and stress reduction.

Of the economic outcomes associated with federal recreation resources noted above, the most attention is typically given to the business activity created when

¹⁰ <http://www.usace.army.mil/Missions/CivilWorks/Recreation.aspx>.

¹¹ http://www.fs.fed.us/recreation/programs/nvum/2012%20National_Summary_Report_061413.pdf.

visitors spend money to recreate. This economic outcome is often a key consideration in federal natural resource planning; is a focus of local, regional, and national business groups; and is a primary interest of local and state community leaders. Americans spend an estimated \$646 billion annually on recreation equipment and the goods and services connected with outdoor recreation (Outdoor Industry Association 2013). The majority of that spending—\$525 billion—is made while recreating for purchasing food, lodging, fuel, and entertainment. Recreation trip spending includes purchases at home in preparation for the trip, enroute, and at the recreation destination. In total, American spending for recreation supports about 6.1 million full- and part-time jobs (Outdoor Industry Association 2013). How spending in support of recreation influences the economy in the future will be influenced, in large part, by future patterns of recreation participation.

People spend money at businesses while recreating on both public and private lands. But, from the standpoint of public lands management, there is substantial interest in how government provision of opportunities for recreation on public lands translates into economic activity in communities around federal recreation resources. Studies specific to federal lands indicate that those recreating on federal recreation resources spend at least \$51 billion in the local economies around their federal recreation destination (English et al. 2014, USDI 2014). This is a conservative estimate of overall spending relative to spending reported in national recreation industry analyses. Federal contribution analyses typically limit visitor expenditures to a geographic area in proximity to the federal recreation sites. The at-home and enroute spending of visitors traveling longer distances is typically not included in economic contribution analyses for agencies. Rather, the intent typically is to attribute the spending to a single destination and a single trip and focus the effects in and around federal recreation opportunities. This limits the magnitude and scope of what is included in federal contributions, but links the spending to resources and opportunities provided.

Factors Contributing to Economic Activity From Federal Recreation

The magnitude of business activity in local communities associated with outdoor recreation on federal lands is dependent on (1) the presence of people recreating on federal recreation lands, (2) the existence of businesses where visitors can spend money, and (3) spending by recreation visitors.

Recreation participation—

Recreation occurring on federal lands results from individual visitor preferences for outdoor recreation as well as the quality and quantity of recreation opportunities

supplied by federal agencies. The quality of opportunities for recreation activities such as camping, hiking, picnicking, observing nature, fishing, hunting, viewing wildlife, driving off-road, and others, will influence the amount and type of recreation on federal lands. Visitors to communities around federal recreation opportunities generate economic activity. A number of federal recreation destinations are unique, premier recreation destinations (i.e., “crown jewels”) that consistently attract large numbers of tourists who travel long distances to reach the site. The recreation activity at these sites often drives substantial economic activity in local communities. Tourism is the primary economic driver in many of these communities. Some other federal recreation destinations are in remote rural communities that tend to have few visitors, many of whom reside in the local area. Visitor spending in these locales is often relatively low with limited associated business activity. The majority of federal recreation areas are likely somewhere in the middle, receiving moderate levels of visitation that drive an important, but modest, component of local economic activity.

Opportunities for visitor spending—

The amount of visitor spending stimulated by federal recreation opportunities depends, in large part, on the presence of private businesses in nearby communities. Communities that are able to capture the most spending from recreation visitors have businesses that offer services and goods desired by those engaged in outdoor recreation. On average, expenditures for lodging; food, and drink in restaurants, bars, and grocery stores; and fuel account for the majority of recreation trip spending. Communities may increase the likelihood and magnitude of visitor spending by including complementary attractions/activities to lengthen visitor stays, or provide incentives for return visits.

The presence of private businesses operating as concessionaires or offering outfitter/guide services on federal lands often enhances the recreation opportunities accessible to visitors and leads to increased spending in local communities. Concessionaire and guide businesses are attracted to, and dependent on, the innate features of federal recreation resources and operate within guidelines set by federal agencies. Concessionaires and guides can provide key services and create access opportunities for a broader spectrum of recreation visitors. In some cases, concessionaires and guides may encourage longer stays and enhance the amount of spending in local communities by selling recreation packages that include services or products offered by other local businesses.

The primary effects of visitor purchases of goods and services are realized by businesses catering directly to visitor needs. However, the total economic activity is greatest when there are other local businesses that are intermediate suppliers to businesses selling directly to recreationists. For example, if a restaurant purchases

Spending from visitors in and around federal recreation resources creates economic activity in local communities.

meats, vegetables, or beverages from producers in the local area, money spent by recreationists accrues both to the restaurant serving recreationists as well as local food producers. Alternately, if a restaurant must source food from outside the local area, the money spent by recreationists leaks out of the local economy more rapidly as restaurant supplies are purchased from elsewhere.

Recreation visitor spending—

Spending from visitors in and around federal recreation resources creates economic activity in local communities. A variety of factors, including the size of the travel party, time spent in the local area, personal preferences and income, and shopping opportunities influence how much money people spend in local communities and their types of purchases. The specific recreation activity of the visitor has a secondary, and limited, influence on visitor spending.

Visitor spending is strongly influenced by the type of recreation trip: day use versus overnight trips, and destinations far from or close to home. Those characteristics of trip type alter the array of items and services a visitor must purchase during the recreation visit. Those staying overnight away from home usually spend money for lodging in hotels/motels, bed and breakfasts, or public or private campgrounds. An individual on a day trip does not need to purchase lodging. Visitors staying one or more nights in a community eat more meals in the area and often spend more money in local restaurants/bars and grocery stores. A day visitor may spend a relatively brief time in local communities and may eat meals at home before and after the trip. Finally, visitors staying more than one day in an area are more likely to spend money on entertainment, souvenirs, and other retail items. A visitor traveling a long distance from home, whether on a day trip or overnight trip, often has greater spending because the trip length requires increased purchases of items such as fuel.

Generally, the specific recreation activity has a secondary influence on visitor spending. Some activities have greater or lesser spending, on average, because of the types of purchases (e.g., lift tickets, fuel, and guide services) required to complete the trip. For example, downhill skiers at sites on federal lands are among the highest recreation spenders. On a per-night basis, these visitors spend significantly more than other visitors for recreation fees (e.g., lift tickets), restaurants and bars, and lodging. Conversely, some activities such as backpacking and hiking have spending levels that are lower than those of visitors on the same type of trip but engaged in a different primary activity. Visitors on backpacking trips are likely to make purchases near their home and have limited or no opportunities to spend money while recreating in the backcountry. Despite lower than average spending, hiking is one of the most popular activities on federal lands. The aggregate total spending of hikers and backpackers can be an important contribution to the economies of many rural communities.

Classification of Trip Spending and Recreation Visits

The FICOR agencies each develop estimates of total recreation use, the amount of money visitors spend in local communities, and how that spending affects local economies. In many cases, agencies have implemented monitoring systems to update estimates of total recreation use, visitor characteristics, and trip spending on a regular basis. For this discussion, we use spending estimates developed from the FS National Visitor Use Monitoring (NVUM) Program as an indicator of how projected future recreation participation could change the amount of recreation spending in local communities. The NVUM data are a useful source for this analysis because they are collected throughout the United States, represent visitors engaged in a broad range of recreation trips and activities, and come from surveys of users in a variety of settings near a diverse group of communities. The approach for estimating visitor spending through NVUM is generally consistent with that used by other FICOR agencies. Further, spending averages estimated from the NVUM data are consistent with spending averages estimated from the monitoring programs of other agencies. For the purpose of economic contribution analysis, the FICOR agencies are consistent and only consider visitor spending within about 50 miles of federal recreation resources. The marine sanctuaries managed by NOAA are one notable exception.

Visitor spending attributed to recreation on federal lands is categorized by the type of recreation trip. At the most aggregate level, trips are classified by the proximity of their origin to the destination and if the trip lasted more than one day. Trip origin distinguishes trips to recreation sites close to home (local trips) from trips involving longer distance travel (nonlocal trips). The cutoff distance can vary based on the recreation market area, but local trips are often less than 50 miles from the visitor's home to the recreation destination. The length of the trip is classified as (1) recreation trips that start and finish at home on the same day (day trips) or (2) trips that involve an overnight stay on federal lands or in local communities nearby (overnight trips). The combination of these trip types creates four separate categories and forms the core of trip types considered across all federal agencies. Most agencies refine the categories to explain more of the spending variation between trips. For example, the NPS classifies overnight trips into those staying in NPS campgrounds, NPS lodges, private hotels/motels outside the park, and private campgrounds (Cullinane et al. 2014). Further, the FS partitions overnight stays into those that include stays at hotels, motels, or campgrounds outside the national forest versus those in campgrounds, or other lodging on national forest lands (White et al. 2013). Lastly, recreation visitors who do not consider the federal site to be the primary motivating reason for the trip are often grouped

into a separate category. The spending of visitors in that “nonprimary” category is typically fully or partially excluded from analysis of economic contribution, leading to a more conservative estimate of the economic contribution of federal lands. At the national level across all activities, the FS uses seven trip types to classify all recreation visits to national forests (table 6). The FS visitor spending figures and the distribution of recreation visits across the trip types demonstrate the key features of classifying trips.

The type of recreation trip is the most important factor in explaining variation in visitor trip spending to federal recreation sites (White and Stynes 2008). Average spending figures estimated from NVUM data illustrate how recreation spending varies by trip type. Visitors traveling outside the local area of their home (nonlocal visitors) to recreate spend up to twice as much as visitors recreating near their homes (local visitors) (table 6). Further, those visitors who take trips where they stay overnight away from home (whether local or nonlocal trips) spend more than visitors on day trips. The greatest spending comes from visitors who travel far from home and stay overnight in communities near federal lands. These visitors spend on average 15 times more than those on local day trips.

Communities often make a considerable effort to attract overnight visitors (who tend to have higher spending). However, recreation visitors take a variety of trip types and total spending in communities is dependent on both the patterns of average spending and the distribution of visitation across trip types (table 6). Most visits to FS lands are associated with people on day trips recreating locally, near their homes (49 percent). Although day trips have relatively low levels of average spending, the high number of trips yields a significant amount of total spending.

Table 6—Average spending in local communities and the distribution recreation visits across Forest Service trip type categories

	Nonlocal day trips	Nonlocal overnight trips (camping)	Nonlocal overnight trips (hotels or motels)	Local day trips	Local overnight trips (camping)	Local overnight trips (hotels or motels)	Not primary ^a
Average party spending within 50 miles of recreation destinations ^b	\$63	\$233	\$514	\$33	\$162	\$213	NA
Percentage of all trips ^c	10	9	14	49	4	1	13

NA = not applicable.

^a The Forest Service recognizes a group termed “not primary” travelers. These visitors recreate on Forest Service land as part of a larger leisure or business trip that has some primary purpose other than Forest Service recreation. These visitors typically have high levels of spending, but only a portion of that spending is directly attributable to Forest Service land.

^b Average spending by trip type in local communities of travel parties recreating on U.S. Forest Service land.

^c Percentage distribution of U.S. Forest Service recreation trips across trip type categories.

Source: White et al. 2013.

The second most common type of trip to FS lands is by nonlocal visitors staying overnight. The high spending of that group, and the fairly large number of trips, combine to generate high levels of total spending. Relatively small changes in the level of visitation in that group can produce large swings in total spending.

Total spending in local communities is largely a function of the numbers of each trip type taken by visitors. The recreation activity can also play an important role if opportunities for expensive activities such as developed skiing and motorized vehicle use are available. Conversely, low spending activities, such as backcountry camping and hiking usually support less spending. However, lower spending for these activities may not hold for unique recreation opportunities or high-quality environments that draw visitors for extended stays. The recreation activity can provide important information about visitor spending, but except for special cases, like developed skiing, it should be considered as a secondary attribute after trip type when evaluating recreation spending.

Economic Contribution From Federal Recreation Opportunities

A recently completed analysis by the FICOR agencies uses spending and reported recreation visitation to provide estimates of the economic contribution of federal recreation to the national economy (English et al. 2014, USDI 2014). Outdoor recreationists made more than 938 million visits to federal lands in 2012, spending \$51 billion and supporting 880,000 jobs (English et al. 2014, USDI 2014). Table 7 provides a snapshot of the contributions that outdoor recreation had on jobs and the economy in 2012.

Outdoor recreationists made more than 938 million visits to federal lands in 2012, spending \$51 billion and supporting 880,000 jobs.

Table 7—2012 economic contributions of visitor spending for recreation on federal lands and waters (2012 dollars)

Agency	Recreation visits	Total visitor spending	Jobs supported
	<i>Millions</i>	<i>Billion dollars</i>	<i>Thousands</i>
National Park Service	283	15	243
Bureau of Land Management	59	3	58
U.S. Fish and Wildlife Service	47	2	37
Bureau of Reclamation	28	1	26
Forest Service	161	11	194
National Oceanic and Atmospheric Administration	NR ^a	5	135
U.S. Army Corps of Engineers	360	13	187
Total	938	51	880

^aNR = not reported.
Source: English 2014.

Economic Activity Associated With Future Recreation Participation

The RPA Assessment projections described earlier are used in this section as a reasonable estimate of the overall patterns of future recreation participation on federal lands. Those projections do not differentiate recreation participation on public or private lands. Moreover, while the projections are not specific to federal lands, the set of nature-based activities considered are closely related to many federal opportunities. Because consideration of trip type is fundamental to understanding visitor spending in local communities, we separately discuss activity spending for day and overnight trips and the distribution of visitation by activity across trip types. The effects of climate change on future recreation participation are discussed at the end of this section.

Visitor Spending on Day Trips

The level of average spending for day trips ranges from a low of \$21 dollars for local visitors to \$130 for visitors coming from longer distances (table 8). At the high end of spending are visitors engaged in developed skiing (downhill, snowboarding), all motorized activities, undeveloped skiing (cross country, snowshoeing), and hunting. These activities often require a significant investment in recreation fees, fuel, and supplies for completing the trip. Of these activities, developed skiing and motorized water recreation are projected to see the greatest percentage increases in participant days by 2030. Motorized off-road use, snowmobiling, and hunting are projected to have the lowest increases in participant days, ranging from 6 to 17 percent. Motorized recreation activities on federal lands are typically restricted to specific areas. Snowmobiling is further limited to times and regions of the country where weather conditions are conducive. Changes in recreation participation in motorized activities (and the associated changes in visitor spending) will likely affect a select subset of communities near federal lands. Because hunting occurs across a broad range of recreation resources and is distributed across the United States, although seasonally restricted, the effects of slow growth in participation could influence many communities.

Hiking, birding, and interpretive site use occur across a broad spectrum of recreation environments and represent three of the top four projected percentage increases in participant days. Hiking is currently the most common recreation activity on FS lands. The average spending of day trip visitors engaged in these general activities is among the lowest and is significantly less than specialized activities like motorized recreation or skiing. However, recreation participation

Table 8—Projected change in participant days^a and average spending of parties in local communities on recreation trips to U.S. Forest Service lands

Activity groups	Spending per party per trip in federal recreation communities (2007 dollars) (White and Stynes 2010)				
	Projected change in participant days, 2008–2030	Non local day trips	Nonlocal overnight trips	Local day trips	Local overnight trips
	<i>Percent</i>	<i>----- Dollars -----</i>			
Visiting developed sites	27	\$72	\$206	\$40	\$171
Visiting interpretive sites	34	\$65	\$473	\$37	\$195
Viewing/photographing nature:					
Birding	33	\$65	\$473	\$37	\$195
Viewing	24	\$65	\$473	\$37	\$195
Backcountry activities:					
Challenge	30	\$50	\$473	\$21	\$150
Equestrian	32	\$50	\$473	\$21	\$150
Hiking	33	\$50	\$473	\$21	\$150
Visiting primitive areas	23	\$50	\$134	\$21	\$120
Motorized activities:					
Motorized off-road use	17	\$109	\$277	\$58	\$134
Motorized water use	31	\$109	\$277	\$58	\$134
Motorized snow use	12	\$129	\$642	\$74	\$311
Hunting and fishing:					
Hunting	6	\$88	\$368	\$51	\$248
Fishing	21	\$55	\$331	\$38	\$161
Nonmotorized winter activities:					
Developed skiing	39	\$130	\$798	\$64	\$386
Undeveloped skiing	29	\$97	\$537	\$27	\$259
Nonmotorized water activities:					
Swimming	32	\$72	\$330	\$40	\$187
Floating	22	\$72	\$330	\$40	\$187

^a Results do not include climate change effects; see table 3.

in general activities is so great that the total spending is substantial. Most federal lands offer opportunities for visitors to engage in these activities. Therefore, anticipated future participation increases in these generalized activities is likely to have positive economic effects on numerous communities located around federal recreation resources.

Visitor Spending on Overnight Trips

Visitors traveling on overnight trips have the highest per-trip spending of any visitor type (table 8). Spending ranges from about \$120 for locals visiting primitive areas to almost \$800 for nonlocal developed-area skiers. The pattern of high spending noted for day trip visitors engaged in developed and undeveloped skiing and snowmobiling continues for overnight visitors as all three groups exceed \$500 per trip. Motorized water and off-road use are generally on the lower end of the overnight spending spectrum in contrast to their high spending as day use activities. In many cases, visitors engaged in these activities are camping and spending less on lodging than other overnight visitors.

Visitors on overnight trips use a variety of lodging types and have varying patterns of visitor spending. Campers tend to have high levels of spending for groceries and fuel, although some campers bring food purchased outside the local area. In many settings, these visitors also have relatively high spending on entertainment and souvenirs. Public or private area camping is split between developed site use (which includes developed campground camping) and visiting primitive areas (backcountry camping). Participation in both those activities is projected to increase in the coming decades (27 and 23 percent, respectively). Increased rates of camping will promote increased spending for groceries, fuel, souvenirs, and entertainment.

Those staying overnight in hotels/motels and lodges spend more in restaurants and bars and on entertainment than do campers. Winter recreationists engaged in developed skiing or snowmobiling have some of the highest levels of overnight visitor spending and use hotels/motels and lodges more than visitors engaged in other activities. Participation growth in developed skiing is projected to be very high, while motorized snow recreation is projected to see lower levels of growth. Visitors using cabins, seasonal homes, or staying with friends and relatives have spending patterns that are a mix of those camping and those using hotels/motels or lodges. They often eat some meals at the cabin (leading to grocery spending) and some meals in restaurants (leading to restaurant spending). Like campers, some of these visitors may bring food purchased from outside the local area. Cabin and seasonal home users participate in a variety of activities but have high levels of participation in winter recreation and general recreation activities like viewing and photographing nature, hiking, or visiting developed sites. All of those activities are projected to see increases in recreation participation in the future.

High Spending Trip Types and Recreation Activity Projections

A few activities (e.g., developed skiing and motorized recreation) have higher than average spending because participants need to purchase specific items (e.g., lift tickets or additional fuel) regardless of the type of trip taken. Other

activities generate high trip spending because visitors often stay overnight or take trips far from home. Both trip types lead to high trip spending and create significant economic effects for local communities. Federal recreation opportunities that facilitate overnight stays or encourage long-distance travel support these types of activities. The RPA projections, coupled with an understanding of what activities are most associated with overnight and long-distance trips, can provide insight into how total spending may change in the future because of changing trip type.

Distribution of Visitor Use by Trip Type and Activity

The intensity of visitor use within each of the trip types significantly affects total spending. Overnight trips from nonlocals, some coming from very long distances, are most common among visitors who engage in developed skiing, developed site use, swimming, and floating (table 9). A quarter or more of the trips in each of those activities occur in that trip type. Those four activities, along with the wildlife-related activities (birding, hunting, and fishing), have over 30 percent of their visitor use from people traveling 50 or more miles from home. Developed skiing is the only activity with greater than 50 percent of reported visitation (58 percent) coming from distances more than 50 miles from the site. Large percentage increases in participant days are projected for both developed skiing and birding. Relatively small percentage increases are projected for hunting, fishing, and floating. Federal recreation opportunities supporting birding and developed skiing should yield increased out-of-town travelers to communities near the visited sites. Communities close to federal hunting and fishing opportunities will probably see gains in out-of-town visitors, although those gains will not be as large because those activities require low densities of use for quality experiences.

Local day users tend to dominate recreation trips to FS lands with about two-thirds of the activities having 50 percent or more trips in that category; the largest proportions in backcountry activities, motorized activities, and undeveloped skiing. Relatively large increases in participant days are projected for most backcountry activities and motorized water use. If the distribution of trips across trip types is stable over time, the relatively large increases in participant days in these activities will likely yield associated increases in local trips. Although the spending of these visitors is lower than that of nonlocals, it can be an important economic activity in some communities. Thus, the volume of use from local day users generates significant cumulative economic activity despite their lower average trip spending.

The volume of use from local day users generates significant cumulative economic activity despite their lower average trip spending.

Table 9—Projected change in participant days and current distribution of recreation trips across trip type categories for visitors to U.S. Forest Service lands engaged in a variety of recreation activities^a

Activity groups	Projected change in participant days, 2008–2030	Nonlocal day trips	Nonlocal overnight trips	Local day trips	Local overnight trips	Not primary
<i>Percent</i>						
Visiting developed sites:						
Developed site use	27	9	25	43	8	15
Visiting interpretive sites	34	10	16	39	2	33
Viewing/photographing nature:						
Birding	33	10	21	55	7	7
Viewing	24	10	16	39	2	33
Backcountry activities:						
Challenge	30	8	13	62	2	15
Equestrian	32	8	13	62	2	15
Hiking	33	8	13	62	2	15
Visiting primitive areas	23	8	13	62	2	15
Motorized activities:						
Motorized off-road use	17	7	21	62	5	5
Motorized water use	31	7	21	62	5	5
Motorized snow use	12	7	21	62	5	5
Hunting and fishing:						
Hunting	6	10	21	55	7	7
Fishing	21	10	21	55	7	7
Nonmotorized winter activities:						
Developed skiing	39	14	44	36	2	4
Undeveloped skiing	29	7	16	68	2	7
Nonmotorized water activities:						
Swimming	32	9	25	43	8	15
Floating	22	9	25	43	8	15

^a Recreation trip type source: White and Styne (2010).

The Potential Influence of Climate Change

Future climate conditions—along with population growth, increasing wealth, and changing preferences, as alluded to above—will likely influence participation patterns in outdoor recreation. The recreation participation projections for 2030 displayed in table 9 do not include the influence of climate changes. Additional RPA Assessment projection models were estimated with the inclusion of variables to account for future climate conditions. Incorporating climate variables slightly lowered the estimates of participation days in 2030 for most activities relative to the projections without climate change (see table 4). In general, the effects of climate change were overwhelmed by increases in participation because of greater future population and income. Although most of the differences between the climate and no climate estimates are small and considered insignificant, three key recreation activities have much lower participation rates when climate change is incorporated (table 10).

Accounting for anticipated future climate change substantively reduces the projections of future recreation participation in motorized snow use, undeveloped skiing, and floating. Climate change is projected to decrease total participation in 2030 for the former two activities and to slow the growth of participation in floating. Some places that still have adequate snow in the future may see muted reductions, or even increases, as visitors are displaced from areas with poor snow conditions. Other locales could experience more significant variations in climate and have more extreme reductions in participation. Recreationists who engage in snowmobiling or undeveloped skiing on federal lands have some of the highest trip expenditures of federal lands recreationists. Large changes in the numbers of participant days in these activities could lead to meaningful reductions in the economic inputs to communities where those activities are currently popular. However, because winter recreation is constrained to areas with specific recreation opportunities and climate conditions, the effects of reductions in spending would not be felt across all communities near federal

Table 10—Projected future recreation participation with (CC) and without climate change (no CC) for select recreation activities

Activity group	Projected change in days of participation (no CC), 2008–2030	Projected change in days of participation (CC), 2008–2030
	Percent	
Motorized snow use	12	-27
Undeveloped skiing	29	-7
Floating	22	13

CC = climate change.

recreation opportunities. In those places that are affected, reductions could result in significant local economic changes unless the winter activities can be substituted for others in the same region. For example, in the absence of snow cover, snowmobile areas might be suitable for other forms of dispersed recreation.

Climate change is also projected to slow participation growth in floating (rafting, tubing, canoeing, kayaking). Floating is a general recreation activity that occurs on a wide range of locations across most federal land management agencies. Those engaged in floating have average levels of spending during their trips, although the popularity of floating creates an important contribution to the economies of many locales near federal lands. With changing climate, floating participation may grow more slowly than it might otherwise. Similar to nonmotorized winter activities, areas offering floating activities will be differentially affected as climate change effects will vary across regions. Some areas will improve and benefit in terms of local conditions, while other areas experience declines.

Amongst all racial and ethnic groups, visiting developed sites and viewing nature have the highest levels of participation. Racial and ethnic groups show greater differences in participation for more specialized recreation activities.

Demographic Change and Recreation Spending

The racial and ethnic diversity of the U.S. population is projected to continue to increase in the coming decades. Table 11 displays recreation participation by different race/ethnicity groups for the seven composite activity groups. Although the composite groups obscure important differences in individual activities, some overall trends are evident. Amongst all racial and ethnic groups, visiting developed sites and viewing nature have the highest levels of participation. Comparing across racial and ethnic groups, American Indians have the highest rates of participation in those activities, while African Americans report the lowest rates.

Racial and ethnic groups show greater differences in participation for more specialized recreation activities. African Americans and Asian/Pacific Islanders have

Table 11—Percentage of participation in outdoor recreation activity groups by racial and ethnic group, 2005–2009

Activity groups	White	African American	Asian/Pacific Islander	Hispanic	American Indian
Visiting developed sites	80	69	82	75	84
Viewing/photographing nature	78	59	73	71	79
Backcountry activities	46	21	34	43	60
Motorized activities	41	15	24	35	42
Hunting and fishing	38	21	19	32	38
Nonmotorized winter activities	13	4	11	12	7
Nonmotorized water activities	24	7	21	19	21

Source: Cordell 2012.

relatively low levels of participation in backcountry activities, motorized activities, and hunting and fishing. Hispanics have rates of participation in those aggregate activities that are more similar to, but lower than, participation by Whites. American Indians have by far the highest rate of participation in backcountry activities and participate in motorized activities and hunting and fishing similar to participation rates of Whites. The increasing share of Hispanic, African American, and Asian/Pacific Islanders in the population is projected to contribute to slower gains in participation in motorized recreation and hunting and fishing. Communities that currently see high levels of spending from visitors engaged in those activities may see slower growth in spending in the future.

Increasing diversity in the population is unlikely to decrease future levels of spending for people engaged in general activities such as visiting developed sites and viewing and photographing nature. Those sorts of activities account for a large share of current recreation visits to federal lands, are popular among most groups, and contribute significant levels of spending. Spending attributed to those general activities will likely remain largely unchanged as the population continues to diversify.

Winter recreation sports are key drivers of local economic activity in some communities. Visitors engaged in developed and undeveloped skiing and snowmobiling have the highest spending per trip in local communities. Among racial and ethnic groups, Whites, Hispanics, and Asian/Pacific Islanders show the greatest rates of participation in winter recreation. Anticipated increases in the number of Hispanics and Asian/Pacific Islanders will likely lead to continued popularity of winter snow sports, especially if the opportunities are not diminished by climate change.

Americans 45 and older report participating in fewer types of recreation activities as they age (table 12). Projected participation drops significantly for hunting and fishing, motorized activities, backcountry activities, and nonmotorized winter activities. However, general activities like visiting developed sites and viewing and photographing nature remain popular for almost two-thirds of older individuals. Local communities can expect to continue to see older Americans participating in these general recreation activities. Because most federal lands offer opportunities to participate in those activities, many local communities are in a position to continue to capture the economic benefits associated with these visitors.

Men typically report higher overall rates of participation in outdoor recreation activities than women. The largest differences occur for nonmotorized winter activities, hunting and fishing, and to a lesser extent motorized and backcountry activities. Therefore, continued slowing of hunting and fishing participation, as the population diversifies, and associated changes in spending may affect communities with high dependency on those activities.

Table 12—Participation rates in outdoor recreation activity groups by age group and gender, (2005–2009)

Activity group	Age 45–54	Age 55–64	Age 65+	Male	Female
	<i>Percent</i>				
Visiting developed sites	81	75	62	76	79
Viewing and photographing nature	80	75	65	74	75
Backcountry activities	48	37	22	49	35
Motorized activities	37	27	17	41	30
Hunting and fishing	38	29	20	46	23
Nonmotorized winter activities	10	5	2	15	8
Nonmotorized water activities	22	15	7	23	19

Other Considerations for Future Economic Contributions From Recreation

Future visitor spending patterns—

Expectations for the future effects on local communities from federal recreation opportunities are sensitive to a number of considerations beyond future participation rates. Effects of future changes in recreation participation on economic activity in communities are based on current visitor spending patterns. The current patterns in the expenditures for goods and services by federal recreation visitors have appeared stable in recent years. For example, after accounting for inflation, there has been relatively little change in the relative amounts that visitors spend on food versus gasoline versus lodging. In the future, aside from any inflationary differences, the types and amounts of things that visitors buy could change from current patterns. Changing technology, economic conditions, or preferences could result in unforeseen effects to local economies dependent on tourism associated with federal recreation resources.

User and entrance fee changes—

Changes in entrance or user fees charged by providers of federal recreation opportunities or concessionaires and guides operating on federal lands could change the amount of recreation visits to those resources or the patterns of spending of recreation visitors. The relationship between fees and recreation use is complex, making it difficult to accurately project changes. Bowker et al. (1999) reported that 95 percent of the public found fees or a combination of fees and taxes acceptable to fund recreation opportunities on public lands. Further, fees can be a relatively insignificant share of trip costs for some types of trips. Nonetheless, changes in

fees to recreate at federal sites could change future recreation activity participation beyond the projected levels noted in this report. There is some evidence that increased user fees are associated with reductions in recreation visits (e.g., Brown et al. 2008, Stevens et al. 2014). Conversely, a reduction in fees could lead to an increase in recreation use. However, to the extent that user fees are essential for site maintenance and improvements, a reduction in fees could affect the quality of visitor experiences, which may negatively affect participation. Unanticipated changes in recreation visits because of fee changes could lead to economic effects to local communities that differ from the reported projections.

Aside from entrance or access-fee changes, changes in the rates charged by concessionaires (e.g., increased lift-ticket fees or guide fees) could also affect recreation visit numbers (and the magnitude of future recreation visitor spending) or the patterns of recreation visitor spending. Differential changes in concessionaire fees could lead to substitution between activities or displacement to other sites for the same activities. Ultimately, however, the outcomes from changes in concessionaire fees are difficult to predict. In many cases, the recreation experience or novel recreation opportunity may be great enough to overwhelm the effect of minor increases in concessionaire fees.

Transportation costs—

Future, unforeseen cost increases for transportation fuels could result in recreation participation patterns that differ from those discussed here. Fuel constitutes a primary expense for visitors on recreation trips and increased transportation costs can greatly increase overall trip costs. With increased transportation expenses, individuals may complete fewer recreation trips or complete trips that are closer to home and require less transportation expense. There is some indication of this behavior by recreation visitors during fuel price increases experienced in the early 2000s (Cho et al. 2014, Stevens et al. 2014). A reduction in the number of recreation trips would likely reduce the overall amount of visitor spending injected in communities surrounding federal lands; visitors spend more when they take recreation trips that are away from their local home area. Further, communities that can attract visitors who have traveled from outside the local area achieve the greatest positive economic effect. Increased fuel cost could reduce the economic effects to federal recreation communities as recreationists change their trip behavior and travel shorter distances from home and less often leave their local areas. Conversely, changes in transportation technology, such as increased availability of electric/hybrid vehicles, could have a counter effect.

With increased transportation expenses, individuals may complete fewer recreation trips or complete trips that are closer to home and require less transportation expense.

Climate change—

For most activities, population increases and economic improvements are projected to yield increases in participant numbers that mute any negative effects of a changing climate. At the national level, most future recreation participation numbers are projected to continue to grow even after taking into account future climate. However, the anticipated climate changes differ across U.S. regions, and there will likely be variation in the regional effects on recreation from climate change. Because of regional variation in the effects of climate change, there will likely be some regions that experience positive responses in recreation participation because of changing climate. Such positive changes might come about, for example if shoulder seasons become longer, thereby increasing opportunities for activities such as camping and off-road vehicle use. At the same time, there will likely be other regions that experience deleterious effects from climate change that are more severe than that experienced elsewhere. For instance, we project that developed skiing participation will remain steady to increasing nationally under anticipated future climates; however, regions that are unable to maintain artificial snow production or that experience increased rain on snow or high overnight low temperatures may see significant declines in developed skiing because of poor snow conditions. This may be even more of a concern for more localized winter activities like snowmobiling and undeveloped skiing. Ultimately, for some activities, regional participation in outdoor recreation under a climate-changed environment may differ from the overall national pattern.

Capacity of recreation resources and community congestion—

There are constraints in the amount of recreation use that federal resources can accommodate with current infrastructure. For example, there are only so many camping sites at existing campgrounds; trailhead parking lots can provide access to a set number of vehicles; and some trails already have limited, permit-only access. It is uncertain whether existing federal facilities and lands will be able to provide expanded opportunities for all the future increases in recreation. Limitations in the capacities of federal opportunities may limit the extent to which federal resources capture expected future increases in recreation participation. If future users are unable to access federal opportunities (perhaps because campgrounds are full or permits cannot be obtained), potential participants may choose not to recreate, choose alternative activities where capacity is not an issue, or use substitute sites provided by other government or private providers.

Large increases in recreation participation days may bring large numbers of visitors into local communities around federal recreation resources. Although initial increases may bring about positive economic gains, significant increases in the

numbers of tourists in towns can also bring about many negative effects. Traffic congestion, wear to roads and infrastructure, increased costs for public safety, and noise and air pollution are just some of the costs that can accrue to communities because of high rates of tourism. Increased recreation participation may lead to gains to some local businesses, but those gains may be overwhelmed by costs to the broader community.

Economic dependence of local communities—

Some communities located around federal recreation lands have a high dependence on economic inputs from recreation spending and natural amenity economic inputs. Although strong connections between communities and federal recreation often lead to positive economic outcomes, high economic dependence on a single economic sector can leave a community vulnerable to changes in economic conditions. In the case of recreation, communities with a high dependence on recreation visitor spending may experience negative economic conditions if participation numbers decline or visitor spending patterns change significantly in the future.

Other Economic Outcomes From Federal Recreation Resources

Federal recreation lands also can provide positive economic outcomes for communities in a number of ways beyond attracting recreation visitors and promoting their spending. Commonly noted positive economic effects include aesthetic benefits that attract new residents and businesses to communities, contributions to improved health of rural populations, and the provision of scenic landscapes that serve as backdrops to those passing nearby. Several of these outcomes are briefly described below.

Amenity Migration

The populations and numbers of homes in communities around federal lands have been increasing more rapidly relative to other similar communities. The presence of large expanses of undeveloped, aesthetically pleasing views and opportunities for recreation has led to high levels of amenity migration to many communities around federal lands (McGranahan et al. 2011, Radeloff et al. 2010, Stein et al. 2007). In-migration of new residents and expansion in local housing stock can lead to increased tax bases for local governments, increased demand from the financial, real-estate, and construction sectors of local economies, and expansion in the service and retail businesses (e.g., restaurants and bars, stores, and entertainment). Although amenity migration can be traced in part to recreation opportunities, the economic effects of amenity migration on local economies and tax bases is additional to that reported in studies of the economic effects of visitor spending.

The presence of large expanses of undeveloped, aesthetically pleasing views and opportunities for recreation has led to high levels of amenity migration to many communities around federal lands.

Business Relocation

In addition to attracting new residents, the presence of appealing landscapes and the natural resource amenities of federal lands can encourage business to relocate to communities adjacent to federal lands. Businesses, especially those not tied to location-dependent manufacturing inputs, have relocated to areas that offer desirable amenities to potential employees. Relocation of businesses in particular industries (e.g., technology) can lead to further relocation of related businesses and the creation of business hubs—agglomerations of related businesses. In addition to business relocation, the appeal of some locales as convention destinations (and the success of convention-related businesses) can be credited in at least some part to the presence of amenity-rich federal resources. The role of federal lands in making convention destinations attractive has not been studied.

Health Benefits

With increasing rates of obesity, poor cardiovascular health, diabetes, and stress, positive economic effects can accrue to individuals and communities who take advantage of recreation opportunities on federal lands to pursue activities that can contribute to health. Urban residents often find places for rest, relaxation, and exercise at local- and county-government parks. In rural communities, which often lack those sorts of recreation resources, federal recreation resources may substitute for local government recreation resources. Across the United States, people living in the vicinity of FS land—many of them in rural locations—are estimated to burn about 146 billion calories annually while using FS recreation resources (Kline et al. 2011). With increased attention to healthcare costs, the role of federal recreation resources in contributing to improved individual and community health and well-being deserves more attention.

Recreation Backdrops

In addition to providing places for people to recreate, federal lands can provide the backdrop for recreation outings that never involve a formal visit to federal lands. For example, a tourist to Alaska might take a cruise or a ferry through the Inland Passage and view the Tongass National Forest but never set foot on federal lands. Likewise, a visitor to Las Vegas might take a helicopter ride over Grand Canyon National Park to view natural features but may never enter the park. In typical studies of the economic impact of federal recreation opportunities, the spending of those individuals is not counted. Although the spending of these visitors is excluded from official estimates, and not considered here, the spending of those who view federal recreation resources also generates positive economic effects in local communities.

Summary and Conclusions

Public lands are crucial resources for nature-based outdoor recreation. Assuming that the public land base for outdoor recreation remains stable into the future, an increasing population will result in decreasing per-person opportunities for recreation across most of the United States. Although there are many other factors involved in recreation supply, recreation resources will likely become less available and perhaps less desirable, as more people compete to use them. A major challenge for public natural resource managers and planners will be to ensure that recreation opportunities remain viable and adapt to a changing population. This could be accomplished through more creative and efficient management of existing federal recreation resources.

Choices in outdoor recreation activities have changed over time in response to changing preferences, demographics, and recreation opportunities. Overall, participation in nature-based outdoor recreation has grown in the last decade, continuing a long-term trend. At the same time, recreation visitation to state parks and federal lands has not increased at similar rates (Walls et al. 2009), indicating that recreationists are increasing their use of other lands. The change in recreation preferences at least partly reflects changing demographics in the American public. As the population ages and becomes more racially and ethnically diverse, it is unclear whether current recreation opportunities will meet future needs.

Given the growing diversity of the American population, and despite studies that have found increasing acculturation related to natural resource-based recreation (Johnson et al. 2005), the relatively low participation rates of all groups except non-Hispanic Whites may signal a shift in overall future recreation participation. The aging population may require different types of recreation opportunities. Recreation activities that have been dominated by rural residents are also likely to decline, as the American population becomes increasingly urbanized. Understanding the constraints on recreation participation of various groups could improve the ability of recreation providers to deliver recreation opportunities to underserved groups. Social factors such as time, money, lack of transportation, lack of facilities, lack of information, crowding at sites, poorly maintained facilities, and pollution are constraints felt by potential recreationists.

Based on the available data, future growth is projected for most recreation activities between 2008 and 2030. The five outdoor recreation activities projected to have the highest percentage growth in total days of participation are developed skiing, visiting interpretive sites, day hiking, birding, and equestrian activities. In contrast, the five activities expected to grow the least are hunting, motorized snow activities, motorized off-road use, floating, and fishing. Several of the activities

A major challenge for public natural resource managers and planners will be to ensure that recreation opportunities remain viable and adapt to a changing population.

with high projected growth, such as downhill skiing and equestrian activities, tend to require substantial financial commitments. This factor partially explains the low current participation rates and may limit growth in participant numbers and participant days depending on the distribution of future income growth. Projected population growth is high enough that the total number of participants and the total number of days for most recreation activities are projected to increase regardless of the direction of the trends in participation rates or days per participant.

Climate can affect individual willingness to participate in recreation activities or affect recreation resource availability and quality. The climate variables used in the recreation projection models discussed in this report were limited to those coming directly from the 2010 RPA Assessment climate projections, or variables derived from those basic variables. Generally, the climate variables used in these recreation models were presumed to affect willingness to participate and frequency of participation directly. Despite the lack of existing data, it is reasonable to expect that climate change will affect resource availability. For example, in the case of hunting and fishing, increasing temperatures will likely affect the distribution of plant and animal species that are fundamental to maintaining fish and game populations. Moreover, changes in precipitation may influence local snow cover and thus affect seasonal availability for activities like snowmobiling and undeveloped skiing. Disentangling the effects of the climate variables on recreation participation is difficult. Further exploration of these direct and indirect relationships at different scales will be fundamental to improving forecasts of recreation behavior in the future.

The magnitude of business activity in local communities associated with outdoor recreation on federal lands results from the combination of (1) people recreating on federal recreation lands, (2) the presence of businesses where visitors can spend money, and (3) the trip spending of those recreation visitors. Communities best able to capitalize from recreation visitor spending offer services and goods that cater to those engaged in outdoor recreation. Communities that have attractive combinations of lodging, restaurants/bars, and entertainment will see more spending from recreation visitors than communities without those things, all else being equal. Resource managers and policymakers can help facilitate positive economic outcomes in local communities by providing recreation opportunities that are consistent with activities that tend to involve overnight stays or long-distance travel, like skiing, developed site recreation, and water use. Providing “bundled” recreation sites or groups of interpretive sites that make it easy for visitors to engage in longer periods of recreation by visiting multiple sites in one area can promote longer stays, and thus, more opportunities to spend money in the community.

Studies specific to recreation on federal lands indicate that visitors spend at least \$51 billion in the local economies around the federal destination. Anticipated future increased participation in general recreation activities like hiking, viewing nature, and visiting developed sites will likely have positive economic effects on the numerous communities located around federal lands. Projected increases in more specialized recreation activities, like developed skiing, motorized vehicle use, and motorized water use, will likely lead to increased economic activity in communities located near those specialized places where visitors can engage in those types of activities.

Racial and ethnic diversity and the age of the U.S. population may alter future participation patterns for some recreation activities. However, generalist activities like hiking, viewing nature, and visiting developed recreation and historic sites remain popular with all population subgroups. Recreation sites that can provide recreation opportunities supporting those types of activities, and local communities around those sites, are in a position to see continued high levels of recreation use. Those engaged in winter recreation have the highest spending of any visitor group. Developed skiing remains popular with people from diverse racial and ethnic backgrounds, especially among young people. Developed skiing is expected to remain a popular recreation activity—and local economic driver—even in the context of an increasingly diverse population.

A changing climate may alter future recreation participation and lead to change in the amount and distribution of money spent in local communities. Expected future climate conditions may lead to lower participation in motorized snow activities and undeveloped skiing. Recreationists engaged in those activities have some of the highest trip expenditures of any federal lands recreationists. Thus, large reductions in the numbers of participant days in those activities would likely lead to reductions in the economic activity in communities dependent on those recreationists.

English Equivalents

When you know:	Multiply by:	To find:
Miles	1.609	Kilometers
Acres	.405	Hectares
Square miles	2.59	Square kilometers

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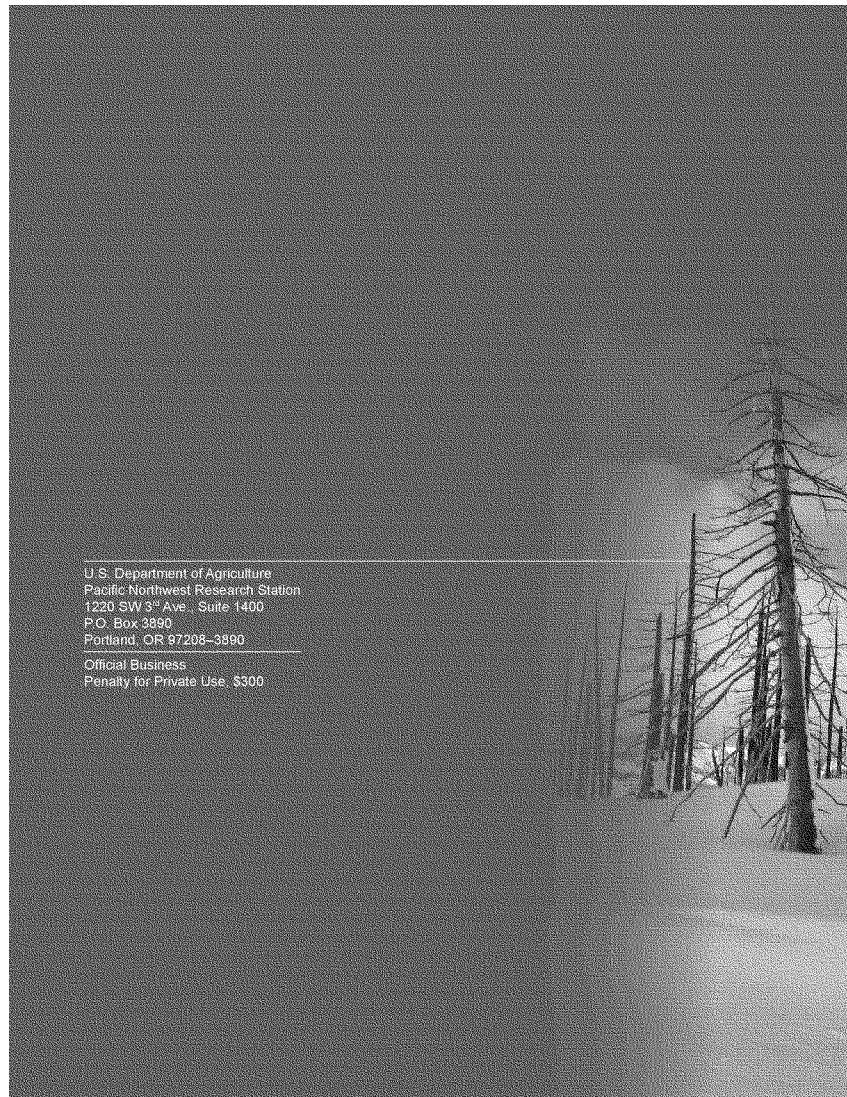
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Senator CANTWELL. Investing in infrastructure is key for maintaining and growing our economy, and this is one of the most basic areas where we can grow jobs. I thought that President Trump and the Republicans and Democrats in the Congress can agree on that, that we need a budget proposal that will help us do that.

Unfortunately, that is not what we are seeing in the President's proposed budget. Today my colleagues and I are sending a letter to the President detailing how devastating the Interior and Forest Service budget would be to infrastructure and the infrastructure jobs that we need.

It is ironic that we are gathered to discuss investing in infrastructure at the very time we are seeing a budget that kind of abandons that concept. The President's budget shortchanges the National Park Service, slashes the Land and Water Conservation Fund to its lowest level in 40 years, it cuts key tribal infrastructure programs, reduces PILT (the Payments In Lieu of Taxes program), makes no mention of the Secure Rural Schools program, and contains no plausible fix for fire borrowing, that my colleague, Senator Murkowski, just mentioned that we worked so hard on.

Let's just look at PILT and Secure Rural Schools. It highlights that we need to have progress made on these issues. We cannot claim to be saving money for an infrastructure package by taking money away from the infrastructure needs of states. Whether that's in counties who have to fund their schools in rural areas or increase access in communities or do road work, we need to work together to resolve these problems.

The issue is fundamentally about making investments in our economy, particularly for jobs. We need to be looking at the sectors that are the biggest contributors to the economy. Certainly, the biggest contributor or "bang for the buck" is the recreation economy and what we've been able to accomplish.

People spend \$646 billion a year in the U.S. outdoor recreation economy, and it is one of the largest industries in the country, directly employing six million Americans. In Washington State, there are 227,000 people directly employed in the outdoor recreation economy.

Recreation in the parks helps us support 300,000 jobs, and visitors spent an estimated \$16.9 billion in gateway communities last year. And last year during the Centennial anniversary of the National Park Service, a record 331 million people visited our parks, a seven percent increase over the previous year.

Recreation in our national forests provides 194,000 jobs. That is about 40 percent of the national forests' contribution to the GDP, so it's a very important part of our forest system.

I know the Chair and I discussed these issues and would like to have more influence over many of these issues, as it relates to the Forest Service.

[The information referred to follows:]

2012 Economic contributions of visitor spending for recreation on
federal lands and water (2012 dollars)

Agency	Recreation visits	Total visitor spending	Jobs supported
	<i>Millions</i>	<i>Billion dollars</i>	<i>Thousands</i>
National Park Service	283	15	243
Bureau of Land Management	59	3	58
U.S. Fish and Wildlife Service	47	2	37
Bureau of Reclamation	28	1	26
Forest Service	161	11	194
National Oceanic and Atmospheric Administration	NR*	5	135
U.S. Army Corps of Engineers	360	13	187
Total	938	51	880

*NR=not reported

Source: English, D.B.K. [et al.]. 2014. Outdoor recreation: jobs and income. Federal Interagency Council on Outdoor Recreation.

We have invited the ski industry areas association here today because I don't know that members of the public understand how much they also contribute to the economy. Each year people spend \$4 billion recreating at these resorts, and the primary reason listed for 16 percent of the visits to national forests last year was skiing and snowboarding. Washington has amazing ski places. We have ten different ski areas on our national forests and they generate a lot for our economy.

We need Congress to significantly increase the investment in our national parks, our forest lands, and other public lands. Yet, with the 12 percent budget cut proposed by the President, the National Park Service and other land management agencies will likely fall further and further behind in maintenance.

It is well known that the Park Service total deferred maintenance backlog is almost \$12 billion. This figure reflects the failure of Congress to keep pace with the infrastructure needs. It has been estimated the Park Service needs over \$800 million each year just to keep the maintenance backlog from getting any larger, yet the annual appropriations rarely meet 60 percent of that which means the backlog continues to grow.

It is a similar story on our national forests. A GAO report issued last year detailed the dire condition of the Forest Service's trails systems. Trails are essential and must continue to be invested in, but less than 25 percent of the Forest Service's trails are up to the Agency's standard for safety and use. Thousands of hours are performed by volunteer crews, like Jill's, and they more than exceed every federal dollar going in, with a \$1.60 local match. But we, on the federal side, need to do more.

We need to address, as the Chair mentioned too, rural communities and headwater issues while making investments for recreation on public lands. Much of our country's water infrastructure is aging and in need of repair. My colleague from Michigan is here and obviously, the failure in Flint, Michigan, and recent failures at the Oroville Dam in California have brought national attention to the state of our water supply system. As this infrastructure is aging and communities in the agriculture sector face challenges in meeting those water needs we must invest in ways to improve our business and our capacity. This means investing in more collaborative planning like the Yakima Basin and improving water conservation, recycling, groundwater storage and recovery.

Investing in our water infrastructure and our public lands is all about jobs. I hope, Madam Chair, if there is any infrastructure bill that moves this year, that it will include these issues (our outdoor economy and water) as part of that.

I look forward to hearing the testimony from the witnesses today.

The CHAIRMAN. Thank you, Senator Cantwell. I appreciate your comments and, again, the reminder how much, really, when you think about the economic impact that we see on our federal lands, comes from the recreation side. I know that I, personally, contribute in ways that are helpful.

[Laughter.]

Whether it is trails or being able to ski or just being outside.

Thank you to all of our witnesses for being here this morning. We appreciate the travel that it takes but also your commitment, not only to being here this morning, but for the work that you do.

We will have the panel led off by Marcia Argust, who is the Director for Restore America's Parks campaign. She is with The Pew Charitable Trusts here in Washington.

She will be followed by Mr. Bob Bonar. Mr. Bonar is the President of Snowbird Ski & Summer Resort. He is also the Chairman for the National Ski Areas Association Public Lands Committee from Snowbird, Utah, a lovely place. We appreciate you being here.

Ms. Simmons has been introduced a little bit by Senator Cantwell here as the Executive Director for the Washington Trails Association. It is nice to have you here, Jill.

David Spears is the President of the Association of American State Geologists from Virginia. Thank you for joining us.

Mr. Chris Treese is the External Affairs Manager for the Colorado River District from Glenwood Springs, Colorado. Welcome to the Committee.

The last member of our panel this morning is Mr. Brad Worsley, who is the President of Novo Power, from Snowflake, Arizona. I think we recognize Snowflake from one of our Committee members. We are pleased to have you here as well.

I would ask that you limit your comments to five minutes. Your full statements will be included as part of the record, but that will provide us an opportunity to ask questions at the conclusion of your remarks.

We will begin with Ms. Argust and just go straight down the table here.

Welcome and good morning.

STATEMENT OF MARCIA ARGUST, DIRECTOR, RESTORE AMERICA'S PARKS CAMPAIGN, THE PEW CHARITABLE TRUSTS

Ms. ARGUST. Thanks.

Chairman Murkowski, Ranking Member Cantwell and members of the Committee, thanks for hosting the hearing today and inviting me. I'd like to submit my full written testimony for the record.

I'm Marcia Argust with the Restore America's Parks program at The Pew Charitable Trusts. We're working to implement common sense solutions to address the deferred maintenance challenge facing the National Park System. Infrastructure, as mentioned, is part of that challenge.

The Park Service maintains 10,000 miles of roads, 18,000 miles of trails, more than 24,000 buildings, many of which are historic, and 2,000 sewage systems, many of them which are in Yellowstone Park. It cares for waterfronts and marinas, former military installations, campgrounds and iconic monuments. In total, the agency is responsible for protecting 75,000 assets, 41,000 of which need infrastructure repairs.

And as we've noted, as you've noted, the assets require \$11.9 billion to fix them. The Park Service is struggling to keep pace with these repairs for a number of reasons: aging facilities, unfair transportation cost burdens, pressures due to increased visitation and decreasing maintenance budgets, with the exception of the Centennial budget.

Our parks preserve our history and natural resources. They provide unmatched recreation, and they serve as economic engines. For all these reasons and more, restoring park infrastructure is a smart investment and it has potential to create jobs.

Reduction of the backlog will require multiple approaches. I'd like to highlight a few ideas here. We absolutely need reliable, annual appropriations and dedicated funding as well as adequate staff capacity. A more realistic funding approach to Park Service transportation costs must also be considered. Half of the backlog, \$6 billion, is due to transportation needs. Some of the most costly park road projects are parkways that have become major commuter routes. This is simply unsustainable.

While Congressional funding is key, we also need to be encouraging public/private partnerships to address the backlog. For example, job training can repair infrastructure. The Concrete Preservation Institute is an example of this. It's a non-profit organization that's partnering with DoD and the Park Service to do 12 weeks of construction skills training for soon-to-be discharged military personnel, and it's having them work on deferred maintenance projects on historic assets in parks. Construction firms then hire the alumni when they've completed their training and their military service. This program is currently only in two parks, but they'd like to expand. They simply don't have the capacity. Foundations, businesses and philanthropists should be lining up to engage in this program and we should be encouraging that.

Pew also supports opportunities for appropriate corporate partnerships. In Yellowstone National Park, Toyota Yellowstone Forever and the National Park Service has partnered to sustainably power a remote field station by repurposing hybrid vehicle car batteries and solar panels. Previously the station relied on polluting diesel and propane generators. This is the type of innovative corporate collaboration we should be encouraging to address deferred maintenance.

Another corporate example is that with the Park Service and Musco Lighting. At Mount Rushmore, Musco Lighting enabled the park to reduce energy consumption by 90 percent resulting in a major cost savings for the park.

Volunteerism is another area that should be encouraged and where modest investment can leverage more coordination and work orders—work hours devoted toward maintenance projects. The Park Service had over 330,000 participants contribute over one million hours of maintenance work last year, and that translated to a savings of \$20 million to the agency.

The Student Conservation Association which uses student crews on federal lands contributed over one million hours of service last year. Much of the students' work is on trails in parks, and trails have over \$530 million worth of repairs needed, as Jill might talk about.

In conclusion, repairing park infrastructure is a wise investment. Pew urges any infrastructure proposal to incorporate National Park maintenance provisions. This will help to ensure visitors and nearby residents safe access to park resources and recreation. It will also sustain the local economies that depend on parks and it will create infrastructure-related jobs.

Thank you, and I'm happy to address any questions later on.
[The prepared statement of Ms. Argust follows:]



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**Testimony of Marcia Argust
Director, Restore America's Parks campaign, The Pew Charitable Trusts
Before the Senate Committee on Energy and Natural Resources
March 21, 2017**

**On Opportunities to Improve and Expand Infrastructure Important to Federal Lands, Recreation,
Water, and Resources**

Chairman Murkowski, Ranking Member Cantwell, and Members of the Committee, thank you for inviting me here today to discuss infrastructure within our national park sites. I would like to submit my full written testimony for the record.

The Restore America's Parks campaign at The Pew Charitable Trusts seeks to conserve the natural and cultural assets of the National Park System by providing common sense, long-term solutions to the deferred maintenance challenge facing the National Park Service (NPS).

Established in 1916, today the NPS manages more than 400 nationally significant sites in all 50 states and several territories. The Park System encompasses wild landscapes, historic and cultural sites, scenic byways, trails, military parks, and iconic monuments that celebrate and commemorate the remarkable people, heritage, and ongoing story of America.

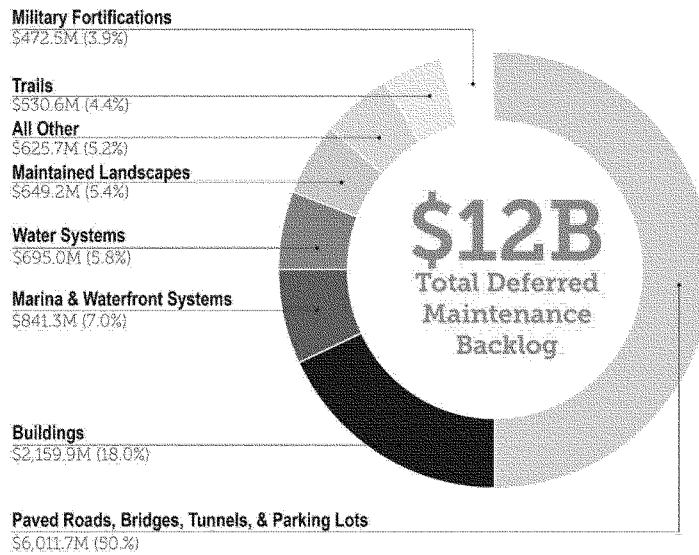
Our parks also encompass infrastructure. NPS maintains 10,000 miles of roads (over 5,000 of which are paved), nearly 1,500 bridges and 60 tunnels, 18,000 miles of trails, more than 24,000 buildings, and over 2,000 sewage systems, as well as former military installations, parking lots, waterfronts, campgrounds, electrical and water systems, interpretive facilities, and iconic monuments and memorials.

What Is Deferred Maintenance?

National parks often have the same infrastructure as a city or town, and as a result face the same deterioration and maintenance needs. In total, the agency is responsible for protecting and managing over 75,000 assets, while also ensuring that visitors can safely access and enjoy these resources. NPS assets are tangible properties that serve a specific park function and can include: roads and bridges, trails, historic buildings, employee housing, wastewater and electrical systems, military fortifications, monuments and memorials, and seawalls.

Maintenance is required at regular intervals to ensure acceptable park facility conditions; when this maintenance is delayed for more than a year, it's considered to be "deferred."

NPS Deferred Maintenance by Asset Type



The Causes of Deferred Maintenance

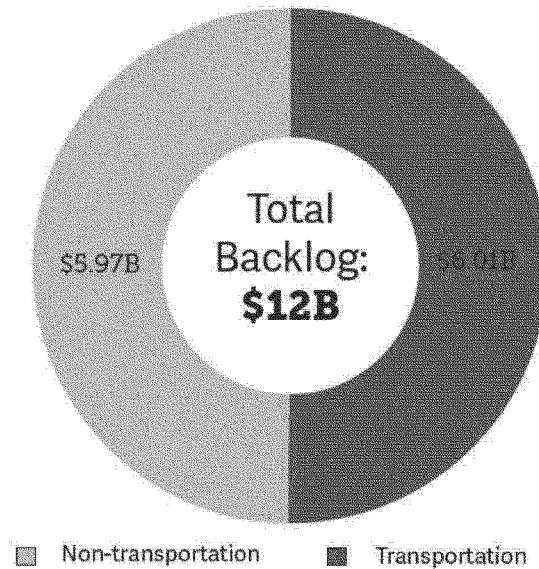
Due to aging facilities, strain on resources caused by increased visitation, and unreliable funding, NPS has been unable to keep pace with necessary infrastructure repairs. Based on 2015 data, the agency estimates it would cost \$11.9 billion if it were to fix all of the items on its deferred maintenance list.

Aging Infrastructure. Last year the National Park Service celebrated its 100th anniversary. Many units of the National Park System are older than 50 years, and their facilities and infrastructure are showing their age. According to a December 2016 Government Accounting Office (GAO) report, most of the NPS maintenance backlog is attributed to older park sites, stating specifically that “about \$10.5 billion in deferred maintenance was for park units established more than 40 years ago.” Most infrastructure has a finite lifespan, due to factors such as material longevity, weather, use, and design.

For example, at Grand Canyon National Park, more than \$150 million is needed to repair the Trans-Canyon Pipeline, an essential piece of infrastructure that brings water from a spring located in the North Rim to the South Rim. Built in the 1960s, the 16-mile pipeline is the sole potable water supply for five million park visitors, local residents, and concession operations. Its reliability is therefore an issue of public health and safety, as well as the maintenance of park assets since it is the only water source should a fire break out and threaten any of the park’s hundreds of historic structures. Annual fixes are costly and inconvenient. A 1995 flash-flood caused significant damage to the pipeline, requiring that it be shut down for 28 days; emergency measures were employed and 23 million gallons of water per day (85

trucks) had to be hauled in, at an expense of approximately \$5 million. In 2013, multiple breaks required the closure and evacuation of guests and employees from Phantom Ranch on the Canyon floor.

Mirroring the infrastructure problems of both urban and rural areas across the country, transportation needs comprise half of the backlog, roughly \$6 billion, and represent some of the most costly infrastructure projects.



Denali National Park in Alaska—one of our national jewels—just celebrated its 100th birthday. The park has \$53 million in deferred maintenance and its most pressing need is the 92 mile Denali Park Road, the only way to access the heart of the park. The harsh freeze-and-thaw cycles of the Alaskan climate have caused the paved and non-paved sections to deteriorate, requiring \$26 million in repairs.

Similarly, in Olympic National Park in Washington, the most visited park in the Northwest, the park has \$140 million in deferred maintenance and one of the highest cost needs is \$30 million in repairs to a section of Highway 101 (the primary route through the Olympic Peninsula) around the popular Lake Crescent area of the park.

Denali and Olympic National Parks are both national jewels that provide spectacular recreation opportunities and generate significant economic benefits for local communities in Alaska and Washington. It's critical to ensure that these parks and others like them are safe and well-maintained.

Rising Visitation Pressures. In addition to aging infrastructure, the NPS is experiencing visitation at record levels. According to data released this month by Secretary of the Interior Zinke, the National Park

System had 331 million visits in 2016, a seven percent increase from 2015. The National Park System must continue to be welcoming to visitors, providing unmatched recreation, wildlife viewing, and educational experiences. But, we must acknowledge and prepare for the increased wear that rising visitation can put on resources that are often already showing signs of deterioration.

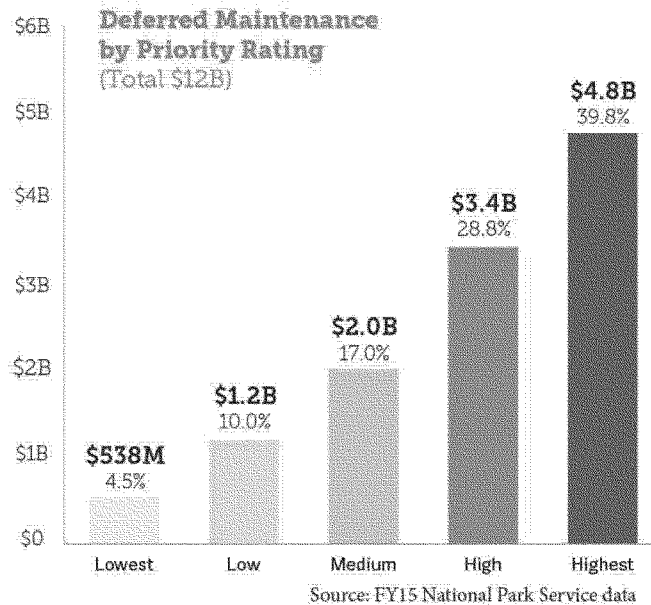
Unreliable Funding. Years of underfunding compound the challenges of preserving the physical integrity of NPS assets. From FY2006-FY2015, federal funding for the repair and rehabilitation, cyclic maintenance, and line-item construction portions of the NPS budget declined by 33 percent; this number increases to 43 percent when inflation is taken into account. The agency is typically \$250 - \$320 million short of the \$800 million it estimates it needs each year to maintain transportation and non-transportation assets at existing conditions.

The scenario of increased visitation at the same time that infrastructure is declining is not new to NPS. During the 1950s, there was significant visitor surge to our national parks. At 50 years old, early park infrastructure was showing signs of disrepair and the public noticed. There was a public outcry over the state of the parks, including the lack of visitor centers, inadequate bathrooms, and poor roads. Congress responded with an initiative referred to as Mission 66 and, from 1956 to 1966, invested a total of \$900 million to improve facilities within the National Park System. That figure is the equivalent of \$7.4 billion (1966) to \$8.8 billion (1956) in today's dollars (based on <http://www.dollartimes.com/inflation/inflation.php?amount=1&year=1985>).

Prioritizing Deferred Maintenance

Executive Order 13327, issued in 2004 by President G.W. Bush, required agencies to identify and categorize assets with the goal of improving overall operations and financial management. In compliance with this Executive Order, NPS began to develop a system to review its more than 75,000 assets, resulting in a deferred maintenance figure that is updated annually to reflect on-the-ground data.

Based on 2015 data, 41,000 of the National Park System's assets have deferred maintenance. As noted previously, the cost to address these repairs is estimated at \$11.9 billion. Approximately \$4.8 billion of the \$11.9 billion backlog is attributed to highest priority assets, or assets NPS deems critical to its mission.



Highest priority assets include memorials, historic buildings, visitor centers, key infrastructure, and other properties that a park unit may have been established to preserve. Specific examples include items like President Lincoln's boyhood home, the portico at the Jefferson Memorial, the main entry road to Mt. Rainier NP, and Martin Luther King's birth home. Maintenance shops, administrative buildings, and warehouses are examples of assets that typically serve a secondary role in supporting park facilities with a direct agency mission.

Using an approach referred to as the *Capital Investment Strategy*, the NPS prioritizes assets by looking at the overall importance a park facility or property has to the agency mission, in addition to other considerations, such as an asset's importance to resource protection, visitor experience, safety, and accessibility. By identifying its priority assets and projects, NPS is able to more strategically allocate limited resources to areas of greatest need.

The Path Forward

Preventing the escalation of the NPS maintenance backlog is not an insurmountable feat. But Congress and the Administration must pursue multiple approaches to ensure success, including federal funding, policy reforms, and increased opportunities for public-private partnerships. Focusing limited resources on priority assets must continue to be part of common sense solutions.

With the enactment of the NPS Organic Act in 1916, Congress mandated the agency "to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of

the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.” So while collaboration must be a part of the equation to resolve deferred maintenance, it should complement, not replace Congress’s responsibility to fund park infrastructure needs.

Pew recommends a multi-pronged approach to addressing deferred maintenance that includes:

Congressional Appropriations. Reliable annual appropriations for transportation needs and NPS park maintenance—specifically, line-item construction, cyclic, and repair and rehabilitation—are needed, as well as adequate staff capacity to implement projects. This would provide more certainty for planning and integration of projects, allowing for more cost-effectiveness. We appreciate initial recommendations in the President’s budget blueprint to ensure “that the National Park Service assets are preserved for future generations by increasing investment in deferred maintenance projects.”

Dedicated Annual Federal Funding. The establishment of a dedicated federal fund that would direct resources to the NPS maintenance backlog each year, both for non-transportation and transportation needs, is crucial. We propose federal funding of \$500 million per year over a period of 10 years. This fund should not be used to supplant annual appropriations. Piggybacking on the successful Centennial Challenge program, public-private matches would be encouraged by allowing maintenance projects with a non-federal match to be expedited.

Infrastructure Package. Any potential national infrastructure package, such as the one proposed by the Administration, must include deferred maintenance provisions specific to the parks, recognizing that national park buildings, roads, trails, aging electrical and water systems, and monuments need significant updating.

User Fees. The Federal Lands Recreation and Enhancement Act (FLREA), the law which authorizes the government to charge user fees on public lands, is due for reauthorization in 2017. Its reauthorization is an opportunity to consider user fee increases (including park entry fees, filming fees, and commercial buses fees). FLREA might also consider more efficient ways for NPS to collect fees, making it more cost-effective for a greater number of park units to collect entry fees.

Volunteerism. NPS’s largest volunteer initiative, the Volunteer in the Park (VIP) program, had over 330,000 participants who contributed over eight million hours of volunteer work, with over 1.16 million of those hours spent on maintenance in 2016. This translates to a savings of \$27.3 million to NPS, based on an independent sector model of \$23.56 per hour for each volunteer hour contributed. NPS could benefit from one to two volunteer coordinators in each of its seven regions, enabling the agency to better leverage and coordinate its growing volunteer force.

Programs like the Student Conservation Association (SCA) should be encouraged. The SCA is modeled after the federal Civilian Conservation Corps program, which built much of our national park infrastructure in the 1930s and 1940s. SCA student crews repair and enhance federal lands, particularly parks, while receiving job training. In 2016, 9,638 SCA participants contributed 1.3 million hours of service. In Alaska, SCA placed 250 young adults at national parks throughout the state, where they learn stewardship skills while undertaking maintenance work.

Partnerships. NPS currently has authority to enter into various types of partnerships and agreements, which has led to alliances with Park Friends Groups, corporations, and non-governmental organizations. These

opportunities need to occur more broadly throughout the National Park System, achieving a cost-savings while reducing the maintenance backlog.

Job Training for Veterans

There are several examples of programs in national parks that provide job training for veterans or active duty service members while drawing down deferred maintenance—these initiatives are a win-win and need be replicated in more park units.

The *Mission Continues* is a new partnership with NPS, the National Park Foundation and Boeing that is aimed at protecting, restoring, and rebuilding America's natural and cultural resources by working with veterans. The program is intended to expand opportunities for volunteer service and career development for post-9/11 veterans within national parks across the country. Veterans have recently worked on projects such as improving accessibility at Fort Ricketts in Washington, DC, clearing trails at Ebey's Landing National Historical Reserve in Washington State and tending the hallowed grounds at Battleground National Cemetery in Washington, DC.

The Concrete Preservation Institute (CPI) is a non-profit that partners with the Department of Defense and the NPS to train soon-to-be-discharged active duty military personnel for careers in the construction industry. CPI currently operates in Golden Gate National Recreation Area (CA) and World War II Valor in the Pacific National Monument Pearl Harbor, where participants undergo a 12-week, hands-on program acquiring skills and training in the concrete and construction industry while they do deferred maintenance work on historic assets within the park sites. CPI receives financial and material support from some of the largest construction firms in the country. These firms recognize the desperate need for skilled labor in the concrete industry and work closely with CPI to place program alumni after they complete training and military service. CPI is a win for parks, veterans, and companies; investments in programs such as this should be strongly encouraged—with businesses, foundations, philanthropists—so there is capacity to provide training to more service members as well as address park maintenance.

Corporate Partnerships. Pew supports opportunities for appropriate corporate partnerships that enable NPS to reduce deferred maintenance costs. There are numerous examples of successful partnerships and more should be encouraged.

One example of a successful partnership is that with Musco Lighting, a company known for lighting major sporting events such as the Olympics and the Super Bowl. Musco has partnered with NPS to light some of the country's most iconic landmarks, such as the White House and Washington Monument, the Statue of Liberty, and Mount Rushmore. The updated lighting systems enhance visitor experience, improve resource protection, preserve the dark sky environment, and reduce costs. At Mount Rushmore, the lighting system installed by Musco reduced energy consumption by 90 percent resulting in major sustainability achievements and cost savings for the park.

Another example occurs in Yellowstone National Park, our nation's first national park. The Lamar Buffalo Ranch Battery Project is a partnership with Toyota, Indy Power Systems, Sharp USA SolarWorld, Patriot Solar, Yellowstone Forever, and the NPS. Initiated in 2014, the project reuses hybrid vehicle car batteries to sustainably power a remote field station in the park. Solar panels are used to generate energy and the renewable energy is then stored in the re-purposed battery packs and used to power the ranger station and environmental education center at the Ranch. Previously, the remote field station relied on noisy, polluting diesel and propane generators for electricity. The Yellowstone-Toyota partnership is the type of innovative corporate collaboration we should be encouraging to address deferred maintenance projects.

Community Collaboration. Communities adjacent to park units are benefactors of park tourism; in 2015, park visitors spent nearly \$17 billion in local communities, translating to tax revenue and jobs. Most gateways recognize this benefit and want to ensure that their park neighbors continue to provide a safe, positive visitor experience. In the case of Bandelier National Monument in New Mexico, Los Alamos County has stepped up to address a safety issue facing the monument. NPS is in the process of replacing the primary electrical system at Bandelier National Monument; the electrical lines are over 50 years old and severely deteriorated, leading to safety-risks for visitors and fire-risks for the park and surrounding community including the Los Alamos National Laboratory.

NPS and the staff at Bandelier negotiated with Los Alamos County, their current power provider, to replace the electrical system to the County's standards. NPS is in the process of burying these upgraded power lines, using specialized sleeves that make repairing and replacing more efficient and less costly. Once replaced, Los Alamos County will assume ownership and maintenance for the lines. Historically, a "burn-out" on a section of the line would cost approximately \$10,000 for a repair; in the future, the County will be responsible for identifying and fixing any power issue, typically within 24 hours, providing a cost-savings for NPS, as well as increased safety for visitors and community members. Collaboration between individual parks and local communities should be considered more frequently, where feasible.

Historic Leasing Credit

Over 46 percent of the assets on the deferred maintenance list are considered historic. We support the increased use of historic leasing to repurpose and reuse park sites. One successful example is the block of historic houses within the Martin Luther King, Jr. National Historic Site in Atlanta. NPS funds the maintenance for all of the federally-owned houses within the park unit with revenue generated by leasing 29 of the federally-owned historic buildings for private residential purposes. These structures include apartments, duplexes and single family homes and the leasing program has proven to be very popular.

New Technologies. As NPS enters its second century, the agency should be a showcase for smart technology and sustainable practices. Implementation of new technologies provide an opportunity for more efficient management and cost savings, as well. Examples might include sensor technologies that provide real-time data on road conditions, trash collection, and electrical outages. The opportunity to purchase park passes online should be implemented on a large-scale, and user-friendly technology to allow for more efficient collection of fees at park entrance booths should be considered. While remaining consistent with historic preservation requirements, when designing or repairing facilities, NPS should consider using materials and techniques that prolong an asset's lifespan.

The Importance of Improving Infrastructure Within the National Park System

Restoring the infrastructure and physical integrity of our national park assets is a common sense investment:

- **Preservation.** Our national park units document our nation's history—both the high and low points. This history must be protected and preserved for current and future generations to experience and learn from.
- **Accessibility.** Park resources can only be experienced by visitors if they are accessible. Park roads, bridges, trails, and historic resources need to be routinely maintained to ensure accessibility and safety.
- **Revenue.** Parks are proven economic generators. Local gateway communities received \$16.9 billion in direct park visitor spending in 2015 with a cumulative nationwide boost of \$32 billion and 295,000 jobs. It's critical that parks continue to be destinations that provide a positive experience for visitors and sustain neighboring communities.

- Cost Savings. Repairs become more costly with delay.
- Job Creation. Addressing park maintenance has the potential to create a significant number of infrastructure-related jobs in the U.S.

Conclusion

Our National Park System showcases America's spectacular natural resources and documents our heritage. From stories that are important to Native American tribes and military veterans, to sites that capture the painful history of the Civil War, Japanese internment, and the Civil Rights movement, to iconic landscape parks, we must invest in the maintenance of park infrastructure, ensuring the integrity of America's "best idea" for generations to come.

I appreciate the opportunity to share these views and am happy to answer any questions the Committee may have.

The CHAIRMAN. Thank you, Ms. Argust.
Mr. Bonar?

STATEMENT OF BOB BONAR, PRESIDENT, SNOWBIRD SKI & SUMMER RESORT, AND CHAIRMAN, NATIONAL SKI AREAS ASSOCIATION'S PUBLIC LANDS COMMITTEE

Mr. BONAR. Chairman Murkowski, Ranking Member Cantwell and members of the Committee, thank you for the opportunity to testify today on behalf of Snowbird Resort and the National Ski Area Association on the important topic of private investment in infrastructure on public land.

Snowbird was founded in 1971 by the late Dick Bass in Little Cottonwood Canyon on the Wasatch-Cache National Forest in Utah. We operate on a year-round basis accommodating 480,000 skiers and snowboarder visits per year.

Snowbird has made significant capital investments on the mountain over the past 46 years totaling \$300 million. We have plans to make significant investments in the future as well, totaling \$55 million. With the help of this Committee and our partners in recreation, the U.S. Forest Service, we hope to be able to make those investments and do so in an efficient and timely manner.

I serve as Chairman of the National Ski Areas Association's Public Lands Committee, representing the 122 ski resorts that operate on National Forest System lands in 13 states. Collectively, we make significant capital investment in infrastructure, and we need Congress' help to remove impediments to allow more investment in the future.

Public land resorts work in partnership with the Forest Service to deliver an outdoor recreation experience unmatched in the world. Our model public/private partnership greatly benefits rural economies, improves the health and fitness of millions of Americans, of all ages, promotes appreciation for the national environment and delivers a return to the U.S. Government through fees paid for use of the land.

Ski areas are the economic drivers in many rural communities in which they operate and are frequently the largest employers in these communities. Over the past five years, the U.S. ski industry has averaged 57 million skiers/snowboarders annually and more than half of those visits occur on public land. In total, the ski industry, including retail apparel/equipment, supports \$62 billion in tourist-related revenue, creates 964,000 jobs and \$4.6 billion in annual retail sales.

Ski areas are developed sites that are designated to accommodate very large numbers of visitors. While ski areas pay for all capital improvements onsite and the review process as well, our improvement projects are simply not moving forward as quickly as they used to.

I will next elaborate on the investments we are poised to make and why this process is hamstrung and what solutions might be applied to allow us to invest more and sooner in this much needed infrastructure.

Ski areas are, excuse me, poised to invest in infrastructure on public lands because of the favorable economy that we have right now, strong skier/snowboarder visits and great snow this year.

Congress opened up authority for year-round uses at ski areas by enacting the Ski Area Recreational Opportunity Enhancement Act in 2011 and demand for summer activities is sharply on the rise.

Here are some examples of typical infrastructure improvements we're looking at at the ski resorts.

Ski areas constantly invest in lift infrastructure to improve our guest experience and uphill capacity, more circulation on the mountain, replacing aging lifts and to serve new terrain. Snowbird is planning to invest in two new lifts in the near future in Mary Ellen Gulch which will total \$17 million. Like many resorts, we need to and hope to replace older lifts totaling \$12 million. Lift infrastructure investments are critical, absolutely critical, to the future of our businesses.

Ski areas also need to upgrade snowmaking systems to be more consistent and reliable ski conditions, especially early season in time for the holidays. Water facilities related to snowmaking are also critical infrastructure. The snow that we make with this infrastructure benefits the entire community in winter, not just at the ski area.

Ski areas need to invest in on-mountain facilities for guest services including rest rooms, rentals, ski schools and dining. Last season Snowbird opened a 23,000 square foot lodge on top of our mountain called "the Summit" as part of a \$35 million capital improvement that took seven years to approve.

Ski areas are investing heavily in summer activities as well, such as zip lines, rope courses, mountain coasters, alpine slides, bike parks and other amenities. Snowbird already has many of these amenities and facilities and is planning to add two new zip lines soon.

There's a great potential for resorts to expand year-round activities, but already overwhelmed agency staff now have summer projects to approve in addition to the winter projects.

When ski areas are ready to build something and capital is available to fund it, we need the approval process to be predictable and move forward quickly. Unfortunately, that is not always the case. In fact, some regions, particularly the Pacific Northwest, face a situation where no new projects are being considered by the Forest Service.

Mount Hood Meadows in Oregon, which is highlighted in our written testimony, recently proposed a new \$12 million lodge to address overcrowding and current retail dining and ski school facilities, but the application was denied. Similarly, Timberline Lodge in Oregon proposed a project to replace an aging lift at the resort but was denied due to lack of staff. The upshot of having no process or slow process for ski resort projects is that money that would be invested in infrastructure remains sitting on the sidelines.

Even when resorts are lucky enough to get their projects rolling in the review process, there are two major factors that have bogged down the process. One, understaffing at the Forest Service, and two, layers of regulation that need to be streamlined.

The Forest Service recreation program is understaffed and underfunded due to firefighting costs and the resulting downsizing of jobs, among special use administrators. It has become close to im-

possible to move ski area improvement projects forward in a timely manner as there is literally no one at the desk to move them along.

The review process should be streamlined for highly developed sites, like ski areas, that have likely been reviewed more than any other acres on the national forest. Replacing an existing chair lift in the same alignment or replacing a building in the same footprint should be covered by a categorical exclusion, not an EIS. Incidental tree removal that occurs at resorts in conjunction with projects should not be treated as a full-blown timber sale. Streamlining in these areas would save millions of dollars and benefit both the agency and the ski industry.

So I've been saving the best news for last. There are solutions to reduce the hurdles to private investment in infrastructure at ski resorts. First, Congress should enact legislation to locally retain a percentage of ski area permit fees paid to the Forest Service and support ski area administration, permit administration and facilitate the approval of these projects. We want to thank Senator Wyden and Senator Gardner for their leadership on the ski retention legislation to date. We're looking forward to working with you and other committee members on capturing these fees locally to provide adequate staff and eliminate the backlog of critical ski area infrastructure projects. Second, a team of winter sports specialists funded by fee retention could help streamline and expedite the NEPA review process. More CEs, less EISs particularly when replacing lifts and buildings and less timber process. Third, we would dramatically increase the use of contracting in ski resort NEPA review using private sector specialists instead of the overwhelmed Forest Service staff.

The CHAIRMAN. Mr. Bonar, can I ask you to wrap, please?

Mr. BONAR. Yes, thank you very much.

I'm finished and I thank you for the—allowing me to run over for a couple minutes and for testimony today. Thank you. I am happy to answer any questions. Thank you.

The CHAIRMAN. We like the fact that we have suggestions at the end which makes it good.

Mr. BONAR. Okay, thank you.

[The prepared statement of Mr. Bonar follows:]

Statement of Bob Bonar
President, Snowbird Ski & Summer Resort
Chairman, National Ski Areas Association's Public Lands Committee
Before the United States Senate
Committee on Energy & Natural Resources
Opportunities to Improve and Expand Infrastructure Important to Federal Lands,
Recreation, Water and Resources
March 21, 2017

Chairman Murkowski, Ranking Member Cantwell and members of the Committee, thank you for the opportunity to provide written testimony. On behalf of Snowbird Ski & Summer Resort and the National Ski Areas Association (NSAA), I am pleased to provide testimony on the important issue of private investment in infrastructure on public land.

Snowbird was founded in 1971 by the late Dick Bass in Little Cottonwood Canyon on the Wasatch Cache National Forest in Utah. We operate on a year round basis accommodating 480,000 skier/snowboarder visits per year. Snowbird has made significant capital investments on the mountain over the past 46 years totaling \$ 300M. We have plans to make significant investments in the future as well totaling \$55M. With the help of this Committee and our partners in recreation, the U.S. Forest Service, we hope to be able to make those investments, and do so in an efficient and timely fashion. I serve as Chair of the NSAA Public Lands Committee. NSAA's member resorts include the 122 ski areas that operate on National Forest System lands. These public land resorts are in the states of Arizona, California, Colorado, Idaho, Montana, Nevada, New Hampshire, New Mexico, Oregon, Utah, Vermont, Washington and Wyoming. Collectively we make significant capital investments in infrastructure on public land, and we need Congress' help to remove impediments to allow more investment in the future.

Background

Public land resorts work in partnership with the U.S. Forest Service to deliver an outdoor recreation experience unmatched in the world. Our longstanding partnership—dating back to the 1940s, is a model public-private partnership that greatly benefits the American public. The recreation opportunities provided at public land ski areas provide a boost to rural economies, improve the health and fitness of millions of Americans of all ages, promote appreciation for the natural environment, and deliver a return to the US government through fees paid for use of the land.

Ski areas are the economic drivers in the rural communities in which they operate. They are frequently the largest employers in mountain communities and contribute greatly to their economies. Over the past five years, the US ski industry has averaged 57 million skier/snowboarder visits annually, and about 60% of those visits occur on public land. In total, the US ski industry (resorts, equipment, apparel and retailers) supports \$62 billion in tourist-related revenue, 964,000 jobs and \$4.6 billion in annual retail sales.

Ski areas are *developed* sites that are designed to accommodate very large numbers of visitors. Ski areas pay for all of the on-site improvements including roads, parking lots, bathrooms, trails, chair lifts, dining areas and lodges, guest services facilities (rental and ski school), maintenance

facilities, patrol facilities and other needed facilities. While ski areas pay for all review processes as well as the capital improvements themselves, our improvement projects are not moving forward like they used to. Our testimony below will elaborate on why the process is hamstrung and what solutions might be applied to allow us to invest *more and sooner* in much needed infrastructure at public land resorts.

Ski Area Investments in Infrastructure

Ski areas are poised to invest in infrastructure on public lands. The economy is favorable and skier/snowboarder visits have been strong as a result of positive economic conditions and great snow. Congress opened up authority for year round uses at ski areas by enacting the Ski Area Recreational Opportunity Enhancement Act (SAROE) in 2011, and demand for summer and shoulder season activities is sharply on the rise. Examples of infrastructure investments at ski areas include:

Chairlifts. Ski areas are constantly looking to invest in lift infrastructure to improve our guests' experience and uphill capacity, improve circulation on the mountain and remove bottlenecks, replace aging lifts for safety reasons, and to serve new terrain. Snowbird is planning two new lifts in the near future in Mary Ellen Gulch in the American Fork Canyon, which will total \$ \$17M. Like many resorts, we hope to replace two older lifts totaling \$12M. Lift infrastructure investments are absolutely critical to our business, and unfortunately they produce lengthy and expensive review processes.

Snowmaking and Water Facilities. Ski areas need to upgrade snowmaking systems for more consistent, dependable and reliable conditions, especially early in the season in time for holiday visitation - and to improve snowmaking capacity and efficiency. Water facilities related to snowmaking are also critical infrastructure that we need to invest in. The snow we make benefits the entire community in winter. Not just the ski area, nearby restaurants, hotels, gas stations and retail, but also the electricians and the plumbers and all of the jobs that stem from a healthy economy.

On-Mountain Facilities. Ski areas need to invest in on-mountain facilities for restrooms, rentals, ski school and dining to enhance guest experience. Last season, Snowbird opened a new 23,000 square foot lodge at the top of Hidden Peak called "the Summit" as part of a \$35 million capital investment project that took seven (7) years to approve.

Four-Season Operations. Ski areas are investing heavily in non-skiing related infrastructure such as zip lines, ropes courses, mountain coasters, alpine slides, mountain bike parks and other amenities in our transition to 4-season operations. Snowbird already has many of these activities and is planning to add two more zip lines. Vail Resorts expects to invest a total of \$80-\$85M company-wide in their summer "Epic Discovery" program utilizing SAROE. This summer, Aspen Skiing Co. will be installing a mountain coaster, challenge course, canopy tour, climbing wall, 14.4 miles of bike trails and teaching terrain and related facilities and structures through an \$8.5M investment (plus \$800,000 for process) at Snowmass Resort. Ski area investments in year round facilities can transform both the ski area and the local community from single season destinations into year-round destinations for the public. There is great potential for resorts to expand their offerings of year-round recreation activities, but snags in process have hindered the transition to four seasons that Congress envisioned in passing SAROE in 2011.

Employee Housing. Ski areas already have some employee housing on their permit areas, but demand for employee housing in mountain communities has never been higher. A combination

of factors have resulted in a shortage of employee housing creating a crisis in mountain communities, including lack of availability of private land and the emergence of VRBO, Air BnB and other online rental portals which have eliminated season-long rentals for employees. Countless newspaper articles over the past few years have featured images of employees living in cars in mountain communities. According to a recent NSAA survey, 65% of resort respondents were interested in investing in employee housing on their permit areas or on nearby federal lands. Vail Resorts has set aside \$30 million to partner in mountain communities to address critical shortages of housing. Ski areas are ready to invest in employee housing, but are waiting for Forest Service clarifying guidance to the field in order to proceed with proposals.

Lengthy and Expensive Process

When ski areas are ready to build something and capital is available to fund it, we need the approval process to be predictable and move quickly. Unfortunately, even though the ski area pays for all of the capital improvements and all of the review process to make those improvements, we still are not getting project approvals done in a timely fashion. In fact, resorts in some regions, particularly the Pacific Northwest, face a situation where no new projects are being considered by the Forest Service. We highlighted the example of Mt. Hood Meadows in Oregon in the attachment to this testimony, where the ski area proposed a new \$12M lodge (\$14M with review costs) in 2016 to meet guest service demands and address overcrowding in current rental, dining and ski school facilities. In response, the ski area received a denial letter from the agency (attached) stating that 40 projects are in line ahead of it "and there are no resources to process this request." Similarly, Timberline Lodge & Ski Area in Oregon proposed a project of replacing an aging lift at the resort, but was declined due to lack of capacity to staff the review process, which was expected to require an EIS. The upshot of having no process or even slow process for ski area projects is that money that would be invested in infrastructure to benefit the public remains on the sidelines.

The Forest Service recreation program is understaffed and underfunded. Current recreation program staffing levels are at 40 percent of what they were in the year 2000, due to firefighting costs and the resulting downsizing and fragmentation of jobs among special uses administrators. Day-to-day permit administration has suffered as a result, and it has become close to impossible to move ski area improvement projects forward. Key employees are often put on "detail" in another location or are diverted to do firefighting work, and there is literally no one in the desk to move ski area projects along.

The review process is also overkill for sites like ski areas that are highly developed and quite frankly have likely been reviewed more than any other acres on the national forests. We have too many EISs rather than EAs or CEs. When we are replacing a chair lift in the same alignment and merely increasing it from a 2 passenger to a 4 passenger lift, we should not start from square one in the NEPA review process, and we should not be required to do an EIS. Lift replacements should have their own category under NEPA Categorical Exclusions because they have minimal environmental effects and the effects are known. This simple change would save millions nationwide in dollars and time spent for both the industry and the agency. The case of Timberline Lodge, noted previously, is particularly troubling. Replacement of an aging lift is a safety issue, and it should be moved to the front of the line in terms of agency review. Likewise, replacing a building in an existing footprint, such as Mt. Hood Meadow's proposal highlighted in the attachment, should not require an EIS. Again, this kind of project has minimal incremental environmental effects, and the effects are already known.

Another good example of excessive regulation is the arduous process the agency applies to the removal of trees from our permit area. Even though the amount of trees that we remove is tiny

in comparison to the agency's overall timber program – our resorts are subjected to a full blown timber sale when we remove trees. Whether we are widening a run, removing trees for safety or removing *dead* trees, agency policy requires excessive tree measurement, tree marking, and environmental review. This can, and should be fixed for both of our benefits. Every hour the USFS spends on our timber removal projects is an hour that could be redirected to addressing either an actual timber sale or a fuels mitigation project or other agency priorities.

Solutions

I have been saving the good news for last. There are solutions to reduce the hurdles to private investment in infrastructure at ski areas: (1) dedicating more resources to agency staffing and training; (2) simplifying and streamlining the process; and (3) using more private sector contracting to perform agency functions in the review process.

The first solution I mentioned - dedicating more resources to agency staffing and training - is the most important one. Congress could enact legislation to locally retain a percentage of ski area permit fees paid to the Forest Service to support ski area permit administration and facilitate project approvals. We want to thank Senator Wyden and Senator Gardner for their leadership on the topic of ski fee retention to date. We look forward to working with all of the Senators on this committee from ski states on ski fee retention in the future. Fee retention would allow the agency to have adequate and trained staff to focus on ski area permit administration and eliminate the backlog of critical ski area infrastructure projects. A cadre of winter sports or developed recreation specialists on staff with the agency could help streamline and expedite the NEPA review process, consistent with legal requirements of course, particularly on projects that occur in already impacted or disturbed areas. They could also greatly streamline the timber removal approval process at ski areas. Finally, increased use of third party technical consultants, instead of overwhelmed USFS staff, to perform NEPA studies and prepare NEPA documents for proposed projects at ski areas should be explored. Ski areas already pay third parties to assist with the NEPA process, but this new alternative would entail hiring pre-approved private sector specialists, such as soils engineers and botanists, to complete the work which often presents bottlenecks due to lack of agency specialists. The agency would still make the ultimate decision of whether to approve the project, but the bulk of the review work would be performed by outside specialists, at the expense of the ski area, in a more efficient and expedited manner.

There are many benefits associated with applying these solutions. Private investment in infrastructure that can: accommodate millions of visitors and help US ski areas remain world class destinations; provide significant economic boosts to rural economies; provide year round employment opportunities in mountain communities; increase fee receipts by the agency; and foster a better guest experience for visitors of all ages.

Thank you for the opportunity to provide this testimony.

MBD DEVELOPMENT

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1202 NW 17TH AVENUE
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October 27, 2016

Lisa Northrop
Forest Supervisor
Mt. Hood National Forest -- United States Forest Service
16400 Champion Way
Sandy, Oregon 97055

**RE: Mt. Hood Meadows Oreg., LLC Proposed NEPA Projects
South Lodge Expansion
Response to October 11, 2016 Correspondence**

Dear Supervisor Northrop:

I am in receipt of your October 11, 2016 letter in which you rejected and returned, without review and without opportunity for appeal, our submittal for approval of a proposed project involving a \$12,000,000 new addition building (on previously disturbed ground) adjacent to the existing Mt. Hood Meadows South Lodge facility. This action was based on the Forest Service's inability to perform a timely review.

Such inability to timely review new special use proposals deprives the community of significant economic benefits that would accrue from construction and enhanced operational employment, as well as the enjoyment of updated recreational facilities by the public. We share your desire to resolve the constraints creating the backlog you describe in your letter, and to keep these projects moving forward.

Regulatory 'pauses' and other administrative delays should not create barriers to public interest use of the Mt. Hood National Forests. These pauses are avoidable. Avoidance of these barriers could be accomplished by a significant shift in the methodology used by the Mt. Hood National Forest in the processing and review of special use proposals.

Over the course of the past few years, we have discussed with you, District Ranger Janeen Tervo and now Special Use Permit Administrator Scott Kaden, various options for streamlining and improving NEPA processing within the Mt. Hood National Forest. These options include, but are not limited to:

- Creating Winter Sports Team of specialists, who expedite NEPA processes, consistent with law and administrative rule, for less invasive projects;
- Using third party specialists and other NEPA consultants who can apply their expertise to facilitate a more efficient NEPA Process;
- Guaranteeing annual "collection agreement" payments for multiple years to assure stable funding sources; and
- Working with the Oregon Congressional Delegation to obtain for the Agency authority to retain permit fees within the Mt. Hood National Forest to provide the resources necessary to expedite the permit application approval process, including funding a more robust

Lisa Northrop
Forest Supervisor
Mt. Hood National Forest
United States Forest Service
October 27, 2016
Page two

NEPA capability. We note that this idea has already been included by Senator Wyden in the "Recreation, Not Red Tape" reforms being considered by the Congress.

We would like to meet with you, Janeen and Scott in November 2016 to discuss how we can move forward with alternatives to accomplish necessary NEPA work for the benefit of all the stakeholders of the Mt Hood National Forest, including that needed for the South Lodge Addition project at Mt. Hood Meadows

Please let me know your availability, and that of your staff, for this meeting as soon as possible.

Sincerely,



Matthew B. Drake
President
MBD Development
Manager, Mt. Hood Meadows Oreg., LLC

Cc: Janeen Tervo, USFS
Scott Kaden, USFS
Ron Wyden, United States Senator
Jeff Merkley, United States Senator
Greg Walden, United States Congressman
Earl Blumenauer, United States Congressman
MHMO, LLC Board of Directors
Steve Warila, MHMO, LLC
Jake Bolland, MHMO, LLC
Michael Berry, NSAA
Geraldine Link, NSAA
John Gifford, PNSAA
Greg Leo, The Leo Company

Attachment: Letter from Supervisor Lisa Northrop dated October 11, 2016



United States
Department of
Agriculture

Forest
Service

Mt. Hood National Forest

16400 Champion Way
Sandy, OR 97055-7248
503-668-1700
FAX: 503-668-1641

File Code: 2720
Date: October 11, 2016

Matthew Drake
Chairman and CEO
Mt. Hood Meadows, Oreg., LLC
Post Office Box 490
Mt. Hood, Oregon 97041

Dear Mr. Drake:

This letter is in response to your June 30, 2016 Standard Form 299 submittal, which proposes a substantial addition to Mt. Hood Meadows existing South Lodge facility.

As you are aware, the Mt. Hood National Forest is not currently accepting new special use proposals for new uses or actions requiring environmental analysis until the proposals accepted during the previous open seasons have been processed. The Forest must process proposals from all occupants of the Forest in a fair and equitable manner. The Forest established a process to ensure consistent management of proposals; to maintain access to National Forest System lands; and to safeguard stewardship of natural resources through a variety of land management efforts. Once the current proposals are processed, the Forest will initiate an open season for new proposals such as this one.

The Forest has staff and resources currently working on five projects of direct benefit to Mt. Hood Meadows, Oreg., LLC (MHM) – and a large, complex land exchange project that requires reallocation of Region 6 and Forest resources away from other projects to process. In addition to the projects of benefit to MHM, the Forest is processing 44 other special use-related proposals across the Forest, along with the many other land management projects and responsibilities outside of special uses.

The new South Lodge addition proposal was not submitted during a designated open season. The project does not qualify as an exceptional case - limited to projects where immediate health and safety issues exist. Given these circumstances and with more than 40 projects in the program of work queue, it is not in the public's interest (36 Code of Federal Regulations 251.54 Special Use Proposal Second-Level screening) to accept this proposal because there are no resources to process the request. For these reasons, your proposal is denied, and I am returning MHM's proposal.

I encourage you to submit this proposal during the Forest's next open season. I will give full consideration to a subsequent proposal submitted during future open seasons. Please contact Janeen Tervo at (541) 352-1201 to discuss any concerns or questions you have with this decision. If desired, Janeen and I are willing to meet with you to discuss the items noted above. Please note that return of your proposal is not subject to administrative appeal (Forest Service Handbook 2709.11, Section 12.4).

Sincerely,

LISA A. NORTHRUP
Forest Supervisor

OCT 11 2016
FGD _____ MBK _____ JB _____
JLH _____ ADR _____ AEH _____
SRH _____ FILE _____



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The CHAIRMAN. It gives us something to feed off with our questions.

Let's go to Ms. Simmons.

**STATEMENT OF JILL SIMMONS, EXECUTIVE DIRECTOR,
WASHINGTON TRAILS ASSOCIATION**

Ms. SIMMONS. Good morning, Chairman Murkowski, Ranking Member Cantwell and members of the Committee. My name is Jill Simmons, and I'm the Executive Director of the Washington Trails Association, the nation's largest trail maintenance and hiking advocacy organization.

Thank you for the opportunity to discuss the importance of recreation infrastructure on federal lands. I'm here today to talk about the risks to the economic engine of the outdoor recreation economy, an economy that in 2013 was estimated to generate \$646 billion in consumer spending, an amount greater than the 2015 GDP of all but six states.

The recreation economy is at risk because of decades of chronic underinvestment in infrastructure on public lands which will be exacerbated by the current Administration's proposed budget that includes deep cuts to the agencies that are needed to keep this economic engine humming.

But I'm also here to talk about some good news. There are hundreds of organizations and thousands of volunteers who are ready and willing to leverage increased federal investment many times over with their sweat equity to ensure trails and other recreation infrastructure remain available for all Americans to enjoy.

Take my organization, for example. The Washington Trails Association runs a trail maintenance program where last year more than 4,700 volunteers donated 150,000 hours of their time to maintaining trails. More than half of those hours were on federal land, thanks to strong partnerships with the Forest Service and the Park Service.

Just two weeks ago, I went out on one of our volunteer work parties. Twenty volunteers worked all day to build up the tread and improve the drainage along the trail. As you can imagine with it being winter in the Northwest, it was wet and muddy work but it was a lot of fun. But what impressed me the most was the commitment of these volunteers. The 20 people I worked with in the mud that day had collectively donated more than 5,000 days to maintaining trails. Yes, that's more than 13-1/2 years.

But volunteers cannot do it alone. Volunteer programs must work effectively. In order for volunteer programs to work effectively there must be adequate staffing at land management agencies and sufficient construction and maintenance budgets. From expertise on federal regulation to site-specific knowledge, federal employees and their supporting budgets are essential to the success of programs like ours.

What's more, we're helping to maintain publicly-owned infrastructure that is increasingly in demand. Since 1977 the number of recreation visitor days on National Forest trails has increased 376 percent. The Forest Service has reported that recreation is, by far, the single biggest use of the National Forest System. And in Washington State, 54 percent of residents report hiking every year,

a number that grows to 72 percent if you include all types of trail users, like hunters and equestrians.

People head out on the trail for many reasons: exercise, recreation, peace and quiet, but they all have one thing in common. On the way to the trail and back again they support the local, state and national economy. In fact, as I mentioned earlier, outdoor recreation is an economic driver that should not be ignored—employing more than six million Americans and contributing nearly \$40 billion in federal taxes and another \$40 billion in state and local taxes.

A recent study in my own home State of Washington showed that the state's recreation economy generates \$21.6 billion in annual consumer spending and \$2 billion in state and local tax revenue. At a time when visitation to our public lands is at an all-time high, federal trail maintenance backlogs run in the hundreds of millions of dollars. A 2013 GAO report found that the Forest Service has only been able to maintain 25 percent of its trails to agency standards.

Without trails to draw them in, people won't have a reason to stop at the local restaurant or the gas stations that are scattered throughout gateway communities across the United States. Chronic underinvestment cannot continue if we want to keep the recreation economy growing.

I believe that enhanced federal funding and creative partnerships are key to reducing the infrastructure backlog on federal lands. Washington Trails Association has been working for nearly 25 years to maintain trails. We stretch tax dollars, donating more than \$3 million in volunteer labor annually.

The American people are demonstrating year over year that we want to use our lands for hiking and outdoor recreation. Washington Trails Association and the many partner organizations we work with stand ready to leverage federal investment with the hard work of our volunteers. The people who use and love our nation's trails want to partner with you to keep our public lands available for everyone to enjoy.

Thank you for the opportunity to speak with you today and I look forward to questions.

[The prepared statement of Ms. Simmons follows:]



Washington Trails Association

705 Second Avenue, Suite 300, Seattle WA 98104 • 206.625.1367 • wta.org

Statement of Jill Simmons, Executive Director, Washington Trails Association Before the Senate Committee on Energy and Natural Resources Regarding Recreation Infrastructure on Federal Lands

March 21, 2017

Executive Summary

- Washington Trails Association is the nation's largest state-based trail maintenance and hiking advocacy nonprofit organization with more than 15,000 member households.
- 54 percent of Washington state residents go for a hike each year¹; 72 percent of Washington state residents participate in outdoor activities that take place on or involve trails.²
- Outdoor recreation drives \$646 billion nationally in annual consumer spending, employing 6.1 million Americans and contributing \$39.9 billion in federal taxes and \$39.7 billion in state and local taxes.³
- A Government Accountability Office report describes how the Forest Service's trail system, one of the primary ways people access federal lands, has an incredible backlog of trail maintenance needs. The GAO estimates the "trail maintenance backlog to be \$314 million in fiscal year 2012, with an additional \$210 million for annual maintenance, capital improvement, and operations."
- For nearly 25 years, Washington Trails Association has led volunteer trail maintenance on federal, state and local public lands in Washington state, resulting in more than 1.6 million hours of donated work by more than 28,000 volunteers. The value of this volunteer labor is equal to a \$32 million investment in recreation infrastructure on public lands.
- Washington Trails Association believes public-nonprofit partnerships, like our volunteer trail maintenance program, are key to reducing the infrastructure backlog on federal lands, but volunteers cannot do it alone. In order to increase our volunteer trail work, there must be additional investment in land management agencies to address the maintenance backlog for trails, campgrounds and access roads on federal lands.
- Washington Trails Association stands ready to leverage increased federal investment in recreation infrastructure on federal lands with the sweat equity of our thousands of volunteers who are eager to help steward the places they love.
- The Administration's proposed budget takes us in the wrong direction, exacerbating chronic agency underfunding. Budget cuts to the Department of Interior and the Department of Agriculture will have a negative impact on trail users and the agencies trying to manage our public lands.

¹ http://www.rco.wa.gov/documents/rec_trends/2013-2018SCORP-FullRpt.pdf

² http://www.rco.wa.gov/documents/rcfb/2013-2018Trails_Plan&Appendices.pdf

³ <https://outdoorindustry.org/resource/the-outdoor-recreation-economy-2012>

Introduction

Good morning Chairman Murkowski, Ranking Member Cantwell and Members of the Committee. Thank you for the opportunity to discuss the importance of recreation infrastructure on federal lands. My name is Jill Simmons and I am the Executive Director at Washington Trails Association.

Founded in 1966, Washington Trails Association (WTA) is the nation's largest state-based trail maintenance and hiking advocacy nonprofit organization with more than 15,000 member households. Washington Trails Association's mission is to preserve, enhance and promote hiking opportunities in Washington state through collaboration, education, advocacy and volunteer trail maintenance. Each year more than 4,700 Washington Trails Association volunteers perform 150,000 hours of trail maintenance across Washington. That equates to \$3.9 million in donated labor to our public lands annually. More than 50 percent of the 150,000 hours of volunteer trail maintenance is provided on federal lands, including national forests and parks.

In addition to the on-the-ground impact on trails, Washington Trails Association's reach is profound. We have an expansive website with trail suggestions and trip reports. Each year more than 4.5 million people go to Washington Trails Association's website in search of recreation opportunities and the chance to protect wild places for their children's children. This incredible number reflects the fact that 54 percent of Washington state residents go for a hike each year.⁴ Through Washington Trails Association's online trip reports, our dedicated community tells us about their hiking experiences, regularly highlighting the need to invest in our federal lands, create more equitable access to the outdoors and preserve quality hiking experiences.

Washington Trails Association's community extends to partnerships with organizations around the state and nation. We work closely with our federal land managers – namely the United States Forest Service and National Park Service – to build and maintain sustainable trail systems. We also work with the recreation industry, such as outdoor retailer REI, to invest in our wild places and the recreation economy.

Washington state is rapidly growing. Our state population was 4.1 million in 1980.⁵ Today it has nearly doubled to approximately 7.3 million and is estimated to grow to 9.1 million by 2040.⁶ With this growth comes increased demand for outdoor recreation opportunities. In recent years, our federal land management partners have seen a dramatic increase in the number of visitors to their lands, including on trails.

The trend of growing visitorship and use of the National Forest System for recreation can be seen across the country. Since 1977, the number of recreation visitor days on national forest trails has increased 376 percent.⁷ And, the Forest Service has reported that recreation is by far the single greatest use of the National Forest System.⁸ Recreation and visitor spending on national forests contributes \$13 billion to the economy annually and provides 205,000 jobs.⁹

Washington Trails Association believes that a thriving future for Washington state, and the rest of the nation, will come from embracing recreation not only as a way of life but also as a key economic driver. In fact, recreation already has a significant economic impact, which will only increase as more people get outside to enjoy our public lands.

⁴ http://www.rco.wa.gov/documents/rec_trends/2013-2018SCORP-FullRpt.pdf

⁵ <https://www.census.gov>

⁶ <http://www.ofm.wa.gov/pop/forecasts.asp>

⁷ USDA Forest Service. *Fiscal Year 2013 President's Budget*

⁸ USDA Forest Service. *A Sustainable Recreation Future*. Draft 12/16/2015. Page 1.

⁹ <https://www.usda.gov/media/press-releases/2016/06/17/forest-service-makes-it-easier-visitors-enjoy-national-forests-and>

The Recreation Economy in Washington State & Nationally

Whether a lifelong Washingtonian or a newcomer to the state, hiking and outdoor recreation is a key part of their identity for many Washingtonians. The mountains not only lure individuals interested in a weekend adventure, they also call to the technology industry transplants and small business startups to set up shop and make Washington home. Beyond attracting new talent and businesses to our state, the recreation economy in Washington generates \$21.6 billion in annual consumer spending and \$2 billion in state and local tax revenue. Additionally, nearly 200,000 Washington residents are employed thanks to the recreation economy.¹⁰ These economic benefits reach every county of our state.

Many rural towns in Washington are nestled against the boundaries of our national forests and parks. These “gateway communities” rely on outdoor recreation visitors spending money on food, gas, lodging and gear. Washington communities such as Darrington, Bellingham, Winthrop, Skykomish and Trout Lake see recreation as crucial to sustaining their livelihoods.

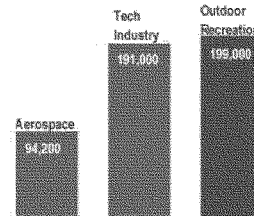
For example, the town of Trout Lake, Washington, is at the base of Mount Adams and next to the Yakama Nation. In 2015, catastrophic fires destroyed miles of trail and wildlands on the Gifford Pinchot National Forest. The community of Trout Lake felt the loss of visitors and the recreation tourism economy in the aftermath of the fires. This year Washington Trails Association, local community groups and the Yakama Nation are working together to open trails and spark renewed interest in this beautiful region of Washington state. As popular trails reopen on federal lands with Washington Trails Association’s help, the town of Trout Lake expects to see its tourism numbers rebound as hikers and campers stop by for the famous huckleberry milkshakes at the local gas station. And the story of this community is not unique. There are thousands of “Trout Lakes” across Washington state and the rest of the nation.

The value of the recreation economy can also be seen on a national scale. Outdoor recreation drives \$646 billion in annual consumer spending, employing 6.1 million Americans and contributing \$39.9 billion in federal taxes and \$39.7 billion in state and local taxes.¹¹

A good example of the purchasing power of outdoor enthusiasts can be seen by recent earnings from REI, a Washington-based and nationally recognized outdoor retailer. The retailer reported annual revenues of \$2.56 billion in 2016, a 5.5 percent increase over 2015. REI recognizes the necessity of investing in our public lands, as illustrated by annual donations of millions of dollars to support efforts nationwide to build and maintain trails, clean up beaches and restore local parks.

While REI is a great example of the purchasing power of the outdoor retail economy, many more examples are bound to come to light thanks to the passage late last year of the “Outdoor REC Act.” The new federal law will ensure that, for the first time, the outdoor recreation economy is counted as part of the U.S. Gross Domestic Product. This change will provide new measures of the impact outdoor recreation has on the overall U.S. economy. Washington Trails Association believes that the numbers will demonstrate conclusively that investing

Jobs in Washington



Sources: Washington Aerospace Partnership, 2012; TechAmerica Foundation, 2012; Washington Recreation and Conservation Office, 2015.

¹⁰ <http://www.rco.wa.gov/documents/ORTF/EconomicAnalysisOutdoorRec.pdf>

¹¹ <https://outdoorindustry.org/resource/the-outdoor-recreation-economy-2012>

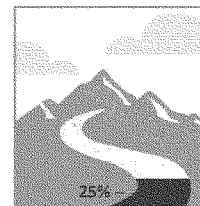
in trails, campgrounds, and access roads on federal lands is an investment in a significant and growing economic driver.

In fact, without investments in infrastructure, such as trails and recreational access roads on our public lands, we run the risk of diminishing recreation's economic impact. Trail maintenance backlogs in the hundreds of millions of dollars mean that people soon may no longer be able to visit their favorite lake or mountain vista. And without that hike to draw them, they will not stop for a meal at the mom-and-pop burger joints that are scattered throughout the gateway communities in Washington state and around the country.

Federal Lands Recreation Infrastructure and Chronic Underfunding

For more than 20 years, federal land budgets have been chronically underfunded. This underfunding has decreased land management agencies' resources and staffing and, therefore, their ability to maintain trails, campgrounds, recreational road access and other recreation infrastructure.

In 2013, the United States Government Accountability Office (GAO) produced a report outlining the negative impacts of the maintenance backlog on United States Forest Service trails. Forest Service data show that national forests receive about 165 million visits each year, 40 percent of which are visitors coming to hike on trails. The report describes how the Forest Service's trail system, one of the primary ways people access federal lands, has an incredible backlog of trail maintenance. The report estimated the value of the Forest Service "trail maintenance backlog to be \$314 million in fiscal year 2012, with an additional \$210 million for annual maintenance, capital improvement, and operations." One of the most startling revelations in the report was that the Forest Service has only been able to keep a quarter of its 158,000 miles of recreational trails up to the agency's standards.¹² Due to the lack of adequate funding in the five years since the report was published, the backlog of maintenance needs has undoubtedly increased.



Only 25% of Forest Service trails are maintained to standard, creating unsafe trails and loss of access to hikers and other trail users.

Similarly, the National Park Service has reported an infrastructure repair backlog estimated at \$11.9 billion (FY 2015). This estimate includes vital repairs to aging historical structures and thousands of miles of roads and trails, bridges, tunnels, sewers, drainage and other infrastructure. Trail infrastructure needs, such as placing crucial footbridges over rivers and fixing trail-closing washouts, are estimated at \$482 million.

At a time when visitation to our public lands is at an all-time high, this cycle of chronic underfunding cannot continue. Land management agencies cannot see their budgets further reduced. But that is exactly what the Trump Administration's budget proposal does — a 12 percent cut to the Department of Interior, home to our National Park Service, and an even greater 21 percent cut to the Department of Agriculture, which manages our national forests. These cuts will only deepen the maintenance backlog issues on our federal lands, resulting in trail closures, washed out roads and shuttered ranger stations.

¹² <http://www.gao.gov/assets/660/655555.pdf>

The Need for Investment

Due to dwindling resources and staffing, federal land management agencies have increasingly relied on partner organizations, such as Washington Trails Association. As an organization that has led more than 1.6 million volunteer hours on trails in Washington state involving more than 28,000 volunteers (totaling \$32 million in donated labor), Washington Trails Association values these partnerships. We are committed to caring for our public lands, but our volunteers cannot do it alone.

Washington Trails Association will continue to work hard to chip away at the backlog of maintenance needs, but we rely on federal support to make our volunteer trail maintenance programs work. Washington Trails Association and other organizations that conduct maintenance on federal lands receive government grants to fund, in part, our trail work. We leverage those dollars significantly through private funding and volunteer hours to have an even greater impact. As an example, since 1996, the federal Recreational Trails Program (funded through the transportation budget) has contributed more than \$2.3 million to Washington Trails Association's volunteer trail projects. Coupling this investment in these projects with our volunteers' donated time valued at about \$9 million, the total investment going into federal lands is worth nearly \$12 million. Imagine the impact we could have if additional investments were made to improve and expand recreation infrastructure and support volunteer trail maintenance programs on federal lands.

In addition, in order for community organizations to effectively work on federal lands, there must be adequate staffing within land management agencies and sufficient construction and maintenance budgets to facilitate the on-the-ground efforts of our volunteers. From expertise on federal regulations to site-specific knowledge of preferred use and management policies, federal employees are vital to the success of volunteer work on public lands. Further, there are critical projects that cannot be carried out by volunteers, such as the installation of major bridges, but that are needed to get to other places on federal lands where volunteers can do the work.

Washington Trails Association has been partnering with the Forest Service and National Park Service for nearly 25 years. During this time our expertise has grown along with our volunteer hours of service. Some people think that trail work is as simple as shoveling a little dirt, but we understand it is much more complex, which is why these agencies trust us to perform well. And Washington Trails Association is not alone; many other nonprofit organizations have also answered the call to help care for our public lands, including Back Country Horsemen of Washington, Evergreen Mountain Bike Alliance, Pacific Crest Trail Association and Washington Conservation Corps, to name a few.

Together, we are answering the call for increased volunteerism on federal lands highlighted in the National Forest System Trails Stewardship Act, which passed into law late last year. And we stand ready to do so again in response to increased federal investment in recreation infrastructure. We will leverage those investments many times over by bringing the sweat equity of the many trail users who want to help care for the places they love.

With increased support, we are confident that together we can create the trail and recreation system that is being demanded by the millions of visitors to our public lands. In turn, this will foster Washington state's and local communities' outdoor recreation economies, keeping them competitive and sustainable in this rapidly changing world.

This concludes my testimony. I thank the Committee for providing me this opportunity to testify. I would be happy to answer any questions the Committee may have.

The CHAIRMAN. Thank you, Ms. Simmons.
Mr. Spears, welcome to the Committee.

**STATEMENT OF DAVID B. SPEARS, PRESIDENT,
ASSOCIATION OF AMERICAN STATE GEOLOGISTS**

Mr. SPEARS. Thank you, Chairman Murkowski, Ranking Member Cantwell and members of the Committee. My name is David Spears, and I am President of the Association of American State Geologists. Our members are the chief executives of the state geological surveys. Every one of your states has a geological survey, either in an Executive Branch agency or in a state university.

Like the U.S. Geological Survey (USGS), our activities are focused on geologic and topographic mapping, identification and assessment of mineral, energy and water resources and the reduction of risk from geologic hazards such as earthquakes, volcanoes and landslides. We collaborate closely with the USGS on these topics, often through cooperative programs such as the National Cooperative Geologic Mapping Program, the National Earthquake Hazards Reduction Program and the National Geological and Geophysical Data Preservation Program. We are proud of the positive impact our activities have had on our nation's economic prosperity, national security and environmental protection.

We're here today to talk about infrastructure, and no input is more essential to infrastructure than minerals. And I'm using the term "minerals" broadly to include all non-fuel mineral materials such as sand, gravel, crushed stone, metals and industrial minerals. These are the raw materials essential to building almost anything.

Road construction and maintenance require large quantities of crushed stone for the road base and then either asphalt or concrete for the road surface. Constructing just one mile of two-lane highway requires between 20,000 and 40,000 tons of sand, gravel and crushed stone.

According to the United Nations, "Sand and gravel represent the highest volume of raw material used on earth after water." These materials have a relatively low unit price, but because they are bulky, transporting them is expensive; therefore, having adequate supplies available locally is important to the economy of every community.

Constructing bridges, trails, buildings, airports, power plants and water infrastructure requires limestone and aggregate for concrete, clay for bricks, copper for wiring and steel for framing, along with other minerals for paint, fixtures, pipes and appliances. And with changing technology, demand for new mineral commodities is growing.

We've all heard about the rare-earth elements which are essential for cell phones, solar panels, electric vehicles, wind turbines and military applications. Currently, the U.S. is 100 percent reliant on imports for these rare-earth elements. According to the USGS, in 2016 there were 20 essential mineral commodities on which the U.S. was 100 percent import-reliant, and the largest supplier of minerals imported to the U.S. was China.

Much of our nation's mineral production comes from federal lands, especially in the West. Potash for fertilizer is produced from

federal land in Utah. Lithium for batteries is produced from federal lands in Nevada. Metals such as copper and gold are mined in Alaska, Arizona, Nevada and Montana. And these are just a few examples of the dozens of mineral commodities contributed to the U.S. economy by federally-owned land. According to USGS, the value of non-fuel mineral raw materials produced in the U.S. in 2016 was nearly \$75 billion, and these raw materials, combined with domestically recycled materials, were consumed by downstream industries to produce products worth an estimated \$2.78 trillion.

The primary source of information about the location and quantity of mineral materials for infrastructure is geologic mapping. Geologic maps also help reduce infrastructure costs by identifying landslides, sinkholes and otherwise unstable ground which should be avoided early in the planning stages of construction. State and federal geoscience agencies have produced geologic maps to cover about half of the U.S. at a level of detail sufficient for making wise land-use decisions, but large data gaps remain.

Airborne data-collection technologies such as magnetics, radiometrics, gravity and LiDAR are helping to expand our knowledge of the nation's geology and are leveraging investment in "boots-on-the-ground" geologic mapping and physical sampling. Detailed mapping enables smart decisions on which lands to protect and which lands to develop.

In summary, expanding and maintaining our nation's infrastructure will require minerals. Responsibly managing our mineral resources, reducing reliance on imports and reducing the risk of natural hazards will require cooperation between state and federal geological surveys to fill the significant gaps in our current knowledge. Investment in infrastructure will require investment in geology.

Thank you.

[The prepared statement of Mr. Spears follows:]

David B. Spears, P.G.

President, Association of American State Geologists

Testimony on “Opportunities to Improve and Expand Infrastructure Important to Federal Lands,
Recreation, Water, and Resources”

U.S. Senate Committee on Energy and Natural Resources

March 21, 2017

Chairman Murkowski, Ranking Member Cantwell, and Members of the Committee:

My name is David Spears and I am President of the Association of American State Geologists. Our members are the chief executives of the state geological surveys. Almost every one of your states has a geological survey, either in an executive branch agency or in a state university. Like the U.S. Geological Survey, our activities are focused on geologic and topographic mapping, identification and assessment of mineral, energy, and water resources, and the reduction of risk from geologic hazards such as earthquakes, volcanoes, and landslides. We collaborate closely with the USGS on these topics, often through cooperative programs such as the National Cooperative Geologic Mapping Program, the National Earthquake Hazards Reduction Program, and the National Geological and Geophysical Data Preservation Program. We are proud of the positive impact our activities have on our nation’s economic prosperity, national security, and environmental protection.

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Airborne data-collection technologies such as magnetics, radiometrics, gravity, and LiDAR are helping to expand our knowledge of the nation's geology, and are leveraging investment in "boots-on-the-ground" geologic mapping and physical sampling. Detailed mapping enables smart decisions on which lands to protect, and which lands to develop.

In summary, expanding and maintaining our nation's infrastructure will require minerals. Responsibly managing our mineral resources, reducing reliance on imports, and reducing the risk of natural hazards will require cooperation between state and federal geological surveys to fill the significant gaps in our current knowledge. Investment in infrastructure will require investment in geology. Thank you.

The CHAIRMAN. Thank you, Mr. Spears.
Mr. Treese?

STATEMENT OF CHRIS TREESE, MANAGER, EXTERNAL AFFAIRS, COLORADO RIVER WATER CONSERVATION DISTRICT, AND BOARD MEMBER, NATIONAL WATER RESOURCES ASSOCIATION

Mr. TREESE. Madam Chair, Ranking Member Cantwell, Senator Gardner, always a pleasure. Members of the Committee, thank you for the invitation and the opportunity to visit with you today.

Senator GARDNER. Welcome.

Mr. TREESE. My name is Chris Treese. I am representing my employer, the Colorado River Water Conservation District. We're responsible for the protection and development of the Colorado River for both Western Colorado and the state. I also have the distinct honor today of also representing the National Water Resources Association and the Family Farm Alliance. Both organizations that represent and advocate for reliable water supplies and wise water use by and for farmers, ranchers, municipalities and industry throughout the West.

I commend the Committee for your timing of this hearing coinciding with Water Week 2017 and tomorrow being World Water Day, both highlighting the universal importance of water.

I want to begin by recognizing Reclamation's historic investments in water storage and delivery, in fulfillment of its mission to settle the West and make the deserts blue. Today it may be tempting to let Reclamation declare victory and tell them their work here is done; however, Reclamation and all the federal agencies have been good partners with Western water providers and must continue in this partnership role, albeit with a refocused mission.

Western water providers are anxious to pursue new water supply options. New investment is required in water conveyance, surface water storage, aquifer storage and recovery, new wastewater technologies, water reuse, desalination and broad efficiency and conservation measures.

However, we must concurrently ensure maintenance of our existing but aging infrastructure. A Family Farm Alliance 2015 study found that irrigated agriculture contributes \$172 billion to total household income annually just in the Western U.S., yet this economic force is at risk from an aging infrastructure. Nearly all of Reclamation's irrigation projects are more than 50 years old, and many have already celebrated their centennials.

Our organizations believe federal infrastructure investment must not be limited to traditional brick and mortar. To maximize multiple benefits and produce the greatest return on investment, federal infrastructure investments must include capital maintenance and rehabilitation for aging infrastructure, integrated planning, forest management, watershed protections and system-wide efficiency and conservation measures.

My written testimony includes additional examples of the scale and variety of financing of opportunities as well as innovative financing measures necessary to preserve and advance Western water infrastructure. I want to stress that the water community is

already partnered with the Federal Government to realize the shared goals of a stable and sustainable water supply.

Regarding potential legislation, we encourage Congress to include water infrastructure in any infrastructure legislation, to maintain the tax exempt status of municipal bonds, maximize the use of and fully fund state revolving funds, target funding increases for Reclamation and the Army Corps for existing programs assisting water supply development, addressing aging infrastructure, meeting rural water development needs and increasing drought resiliency, fully fund the WIFIA and last year's WIIN Act, expand Reclamation's WaterSMART grant program and explore simpler processes for transferring title of federal projects to local agencies that have been repaying and managing those operations.

And finally, I'd like to echo the Chair and Ranking Member's recognition of the need for improved forest management and resolution of so-called fire borrowing. Our national forests are the primary source of water for the vast majority of the West. Healthy and resilient forests are required for a safe and sustainable water supply.

Members, we stand on the shoulders of past generations' investment in infrastructure. Now it's our responsibility to invest in the infrastructure for future generations.

Thank you for the opportunity to present to you today. I look forward to questions.

[The prepared statement of Mr. Treese follows:]

Chris Treese
Manager, External Affairs, Colorado River Water Conservation District
Board Member, National Water Resources Association
Advisory Committee Member, Family Farm Alliance

Testimony Before the United States Senate
Committee on Energy and Natural Resources

**Hearing to receive testimony on opportunities to improve and expand infrastructure
important to federal lands, recreation, water, and resources.**

March 21, 2017

Chairman Murkowski, Ranking Member Cantwell, and Members of the Committee:

Thank you for the opportunity to appear before you to discuss the importance of water infrastructure in the Western United States. My name is Chris Treese, and I am the external affairs manager for the Colorado River Water Conservation District (River District), located in Glenwood Springs, Colorado. The River District is the principal water policy and planning agency for the fifteen counties of northwest and west central Colorado. We are responsible for the conservation, use, protection, and development of Colorado's apportionment of the Colorado River. The River District comprises approximately 29,000 square miles, roughly 28% of the land area of Colorado. Seventy percent of our district is made up of lands managed by the federal government.

Our district belongs to the National Water Resources Association (NWRA) and the Family Farm Alliance (Alliance), two organizations that I also represent with this testimony. NWRA represents state water associations, irrigation districts, municipal water providers, end water users and their collective interests in the management of irrigation and municipal water supplies throughout the western United States and portions of the South. NWRA advocates for federal policies, legislation, and regulations promoting protection, management, development, and beneficial use of water resources in these regions. The Alliance advocates for family farmers, ranchers, irrigation districts, and allied industries in seventeen Western states. The Alliance is focused on one mission – to ensure the availability of reliable, affordable irrigation water supplies to Western farmers and ranchers.

The NWRA and the Alliance are organizations that represent the water users that are the cornerstone of western communities and their economies.

In the world of Western water, a massive flood event or devastating drought is sure to get policy makers focused on the need to update and create more effective water management policy. The recent, multi-year drought in the arid Southwest has ramped up Congressional interest in legislation that would allow Western water providers to better address the current drought as well as improve preparations for future dry times. Now, the heaviest rains in a decade have

overwhelmed parts of the West Coast underscoring the critical importance of having modernized infrastructure in place to optimize water resources management.

Many communities of the semi-arid and arid West – as well as the farms and ranches they are intertwined with – owe their existence, in large part, to the certainty provided by water stored and delivered by the Bureau of Reclamation and other state and local water storage projects. The federal government has a enduring role in water supply infrastructure development and management that, consistent with state water laws, includes working with local water managers on a policy level and, in partnership with them, providing available federal funding and federal cost-share opportunities in support of their efforts to secure a stable and sustainable water supply.

Importance of Water Infrastructure

I appreciate the opportunity to testify about the importance of water infrastructure before the Committee today. This historically Western Committee also has strong representation from the Eastern and Southern United States. Water challenges vary from region to region; however, water's importance is paramount regardless of location.

Today's hearing, and the chance to discuss water infrastructure, is especially timely as it coincides with Water Week 2017, a week when water and wastewater organizations from around the nation travel to D.C. to highlight the national importance of water. Like members of this Committee, the groups participating in Water Week recognize the critical importance of water to every part of our nation and society. They recognize that different communities have different kinds of water needs and that an "all of the above" response to our nation's water challenges is necessary to solve important but complex and varied water problems.

Water managers from throughout the West are actively investing in new water supply options, embracing technology, utilizing green infrastructure and looking to use water as efficiently as possible. Thanks in large part to these efforts, water usage in the U.S. for agricultural, industrial and municipal uses have declined since the mid 1980's while at the same time populations, crop production, and demands have increased. Local water managers are looking to their federal partners to ensure that this impressive track record of water innovation can continue and be improved.

As a part of this "all-of-the-above" solution, it is critical that water infrastructure for both agricultural and municipal water providers is recognized as nationally important and qualified as such in potential infrastructure legislation. We believe qualifying projects should include water conveyance, surface water storage, aquifer storage and recovery, wastewater, water reuse, desalination, and efficiency investments. We also believe that infrastructure legislation must apply to the remediation of aging infrastructure as well as to the development of new infrastructure. Moreover, meaningful infrastructure legislation should encourage integrated water planning from watershed to wastewater discharge. Investments in forest health and watershed management can have as high or greater returns as traditional brick-and-mortar capital investments.

Water is the lifeblood of our nation. Without reliable water, every sector of our economy would suffer – from agriculture, to manufacturing, to high-tech. Food cannot be grown, businesses cannot operate, and homes and schools cannot be built or operate without water. Critical water infrastructure must be maintained and modernized to ensure the delivery and safety of water today and for future generations. As Congress discusses the development of an infrastructure package, it is of paramount importance that maintenance and rehabilitation of water infrastructure is a high priority.

Western water managers face significant regulatory and policy-related challenges. Water infrastructure that was built early in the last century is aging, and once-reliable federal grant and loan programs have been greatly diminished. Meanwhile, little progress has been made at the federal level towards developing new and improved water infrastructure to keep up with the growing water demands of expanding cities, energy production, and environmental needs. While water conservation, water efficiency, and water transfers are important tools for addressing certain water supply challenges, these tools must be balanced with supply enhancement measures that provide long-term solutions for the varying and specific circumstances in the West.

Water infrastructure is perhaps the most important, yet overlooked, form of infrastructure in our nation. An investment in water infrastructure is an investment in the very foundation of our nation's economy, its health, and its future. Access to a sustainable supply of water is a fundamental necessity for all economic development. Conversely, adverse economic consequences are certain if we do not invest and reinvest in our water infrastructure. According to the American Society of Civil Engineers 2016 Infrastructure Report Card, released last week, lack of investment in water and wastewater systems will cause the U.S. to lose nearly 500,000 jobs by 2025 and 956,000 jobs by 2040. This lack of investment will also lead to a loss of \$3.2 trillion in GDP by 2040.

Western irrigated agriculture is a significant contributor to the national economy. The Family Farm Alliance in 2015 published "The Economic Importance of Western Irrigated Agriculture" (prepared by the Pacific Northwest Project), a white paper specifically drafted for policy makers seeking to better understand the direct economic impact of Western irrigated agriculture and to acknowledge the growing chorus of voices bringing attention to food security and irrigated agriculture as a national economic issue. For the 17 Western states studied in the 2015 report, the total household income impacts from irrigated agriculture, associated service industries, and food processing sectors is \$172 billion annually. Irrigated farming and ranching is a huge economic driver in the West, particularly in rural communities. Further the fact that Americans spend less of their disposable income on food than any other nation in the world ensures a vibrant, consumer-driven economy. However, this economic force would virtually disappear, along with the rural American communities dependent on farming and ranching, if the water infrastructure that supports it crumbles. Given the magnitude of the food security issue to the nation's economic and social wellbeing, policy makers must prioritize protection of our water infrastructure.

This economically critical infrastructure is aging and is in need of improvement. Many of the Bureau of Reclamation facilities are between 50 and 100 years old. Reclamation has reported an infrastructure and maintenance backlog of approximately \$3 billion. Such aging infrastructure presents a further challenge because it requires ever increasing maintenance and replacement investments. As of 2013, the replacement value of Reclamation's infrastructure assets was \$94.5 billion. As the saying goes, an ounce of prevention is worth a pound of cure. Investing in this infrastructure on the front end will save taxpayers' money in the long run and allow us to preserve it, and the many benefits it provides, for future generations.

In addition to maintaining existing infrastructure, there are also numerous opportunities to expand water supply operations in a manner that supports the economy, ecosystems and western communities.

Case Studies in "All of the Above" Infrastructure Investment Opportunities

New Surface Water Storage: Sites Reservoir

Sites Reservoir is designed to be a large, off-stream reservoir located west of Colusa in the Sacramento Valley of Northern California. The estimated water yield would be between 470,000 to 640,000 acre-feet per year. The reservoir would be operated as part of the California State Water Project and is projected to cost between \$2.3–3.2 billion. According to a 2013 Bureau of Reclamation study, it would provide economic benefits of between \$248.8–276.2 million per year, while annual operating costs would be in the range of \$10–20 million.

Infrastructure for Water Delivery: Columbia Basin Project East Low Canal Widening

The Columbia Basin Project delivers water to over 670,000 acres in central Washington state allowing land to flourish providing specialty crop production worth over \$1.6 billion through the economy. The local irrigation districts and the State of Washington are working with the Bureau of Reclamation to boost water delivery by expanding the East Low Canal bringing a sustainable surface water supply to an area that suffers from a declining aquifer. The Washington State Department of Ecology estimates moving irrigators from groundwater, to surface water, prevents 3,600 jobs from being lost and saves \$840 million each year in agricultural production.

Integrated Water Management: Yakima Basin

The Yakima Basin in Washington State is home to some of the most productive agricultural land in the world. Yakima County ranks first in the nation in the production of numerous crops, including apples and hops. The importance of the hop crop should be especially apparent to those that just celebrated St. Patrick's Day. Agricultural producers, state, tribal and local governments, and the federal government are working through the implementation of the Yakima Basin Water Enhancement Project. This basin-wide integrated water management project has brought diverse groups together to work on water management and is supporting agricultural industries in the Yakima basin that produce more than \$1.8 billion in crops and \$1.4 billion in food processing while supporting more than 5,700 jobs. This type of integrated planning could benefit other water

projects as well. I know that water managers in the Yakima Basin greatly appreciate Senator Cantwell's work and dedication to this process.

Surface Water Delivery to Move Rural Communities off Impaired Groundwater: Arkansas Valley Conduit

The Arkansas Valley Conduit would utilize clean water stored in the Bureau of Reclamation's Pueblo Reservoir to replace groundwater supplies for 50,000 people in rural southeastern Colorado. Those groundwater supplies are contaminated with radionuclides at levels which violate the Safe Drinking Water Act, and the water providers are under enforcement orders from the Colorado Department of Public Health. This project, now in final feasibility, has a revenue stream sufficient to fully repay the capital costs, as defined in PL 11-111.

Expansion of Existing Surface Storage: Fontenelle Reservoir

The Fontenelle Dam, located in southwest Wyoming on the Green River, is a principal feature of the federal Seedskaadee Project. The current active storage capacity of the reservoir is 260,000 acre-feet. Since 2011, Wyoming has proposed expanding the active storage capacity of the reservoir. The House of Representatives recently passed H.R. 648, this bill allows the Fontenelle Dam to be modified to increase the active storage capacity to 345,000 acre-feet. The expansion of this project will increase storage without noticeable change to the environmental footprint of the project.

Reallocation of Existing Storage: Chatfield Reservoir

Chatfield Reservoir in metro Denver, Colorado is a U.S. Army Corps of Engineers' (Corps) facility with flood control as its primary purpose. The Corps determined Chatfield Reservoir can accommodate an additional 20,600 acre feet of water storage for water supply without compromising its flood control function. This additional storage space will be used by municipal and agricultural water providers to help meet the diverse needs of the state. Project participants will undertake recreational modifications and environmental mitigations at Chatfield State Park to address the impacts of additional water storage.

Innovative Aquifer Storage: Groundwater Recharge in California and Arizona

Metropolitan Water District of Southern California (MWD) has been exploring a water purification project to reuse water currently discharged to the ocean to recharge regional groundwater basins. Through a partnership with the Sanitation Districts of Los Angeles County, MWD is expected to build a new water purification plant and up to 60 miles of distribution lines to convey the water to four groundwater basins in Los Angeles and Orange counties, allowing for additional natural filtration. According to MWD, the estimated construction cost is \$2.7 billion. The program would produce up to 168,000 acre feet per year (150 million gallons of purified water per day), enough water to serve more than 335,000 homes.

In Arizona, the Salt River Project (SRP) has partnered with cities to develop two groundwater recharge facilities. These facilities, the Granite Reef Underground Storage Project and the New River Agua Fria Underground Storage Project, enable Arizona to use its allocation of Colorado River Water. These facilities are permitted to store 168,000 acre-feet of water each year. SRP has been working in aquifer storage since 1994 and continues to look for innovative options to store water underground.

The Role of the Federal Government in Modernizing and Expanding Water Infrastructure

We need new water storage to adapt to our changing hydrology and develop usable and sustainable supplies to meet growing demands for water. Even with downward pressures on the budget, the federal government must be a partner with non-federal water users in solving water problems in the West by developing innovative policy and financing mechanisms with a very low federal cost. These types of programs should make water infrastructure development more attractive and affordable for non-federal interests to invest in projects the federal government can no longer fund. New water supply infrastructure must be developed to capture water in good years and replace diminishing snowpack during drought conditions, provide for growing recreational and environmental needs, address climate change and variability, allow for continued economic and population growth, and protect the vitality of the West and the Nation.

a) Federal Funding and Competitive Cost-Shared Grant Programs

Western water providers have invested billions in local and regional projects and strategies in recent years to improve water supply reliability. Those investments have been a major factor in the West's ability to manage through years of severe drought.

New federally-backed tools to assist in financing new and improved water infrastructure will be needed in the coming years. Water infrastructure is a long-term investment, and longer repayment and lower interest terms will be crucial to attracting investment in these water supply facilities. Such arrangements could include investments in everything from new water storage reservoirs (both on- and off-stream as well as groundwater storage), regulating reservoirs, canal lining, piping open channels, computerized water management and delivery systems, real-time monitoring of ecosystem functions and river flows to manage limited water supplies to benefit both fish and people, and watershed-based integrated regional water management project planning and implementation.

We need to develop innovative ways to encourage non-federal investments in new water infrastructure without requiring that the federal government actually build or fully fund that infrastructure. We believe such investments would allow for more cost-effective construction and operation and maintenance of much needed new water supply infrastructure and not impact federal budgets. Bridging the overall funding gap will require a partnership between the federal, state and local governments. This partnership will necessitate diverse revenue streams to ensure that communities, both large and small, along with agricultural, municipal and industrial water providers are all able to meet the water infrastructure needs of the future.

We encourage Congress to:

- **Make water infrastructure a high priority in any infrastructure legislation.**
- **Maintain the tax-exempt status of municipal bonds, one of the most valuable financing tools used by our nation’s water suppliers to build and improve infrastructure.**
- **Maximize the use of State Revolving Funds (SRF) for investments in drinking water and wastewater management.**
- **Strategically target funding increases for the Bureau of Reclamation and the Army Corps of Engineers to assist in the development of projects that increase water supply, address current and future drought and water shortage concerns, meet aging infrastructure needs, address rural water needs, and increase project operational efficiency.**
- **Fully fund the Water Infrastructure Finance and Innovation Act (WIFIA).** The WIFIA program was recently updated by the 114th Congress in the passage of the Water Infrastructure Improvements for the Nation (WIIN) Act of 2016 and WIFIA loans were funded for the first time to the tune of \$17 million in the continuing resolution funding the federal government through April 28, 2017.
- **Consider a “WIFIA-like” alternative for agricultural water providers.** The proposed Reclamation Infrastructure Finance and Innovation Act (RIFIA) and the New WATER Act (H.R. 434) would authorize a new affordable financing mechanism for certain large water supply projects in the West. The RIFIA provisions would be similar to WIFIA but focused on water supply infrastructure.
- **Jump start investments authorized by WIIN that provided critical new authorizations for water infrastructure development.**
- **Expand Reclamation’s Water SMART grants to include a larger (up to \$20 million) competitive 50-50 cost-shared grant for water supply management projects integrated into a regional watershed plan could help fund larger water conveyance and conservation infrastructure.**
- **Find ways to improve coordination of WaterSMART and other water management programs at Reclamation with existing conservation programs at the U.S. Department of Agriculture’s Natural Resources Conservation Service (NRCS).** This would lead to more effective federal investments in on- and off-farm water management improvements.
- **Make maximum use of existing financing tools for project beneficiaries, including direct loans and loan guarantees, such as those authorized by The Rural Water**

Supply Act of 2006 (PL 109-451). Efforts must continue to compel Reclamation and the Office of Management and Budget to implement this program, that is already authorized by Congress, and to investigate opportunities to develop similar loan and loan guarantee programs that can help fund new water infrastructure projects.

- **Fully funding the State Revolving Fund (SRF) programs for new and modernized drinking water and wastewater infrastructure.** SRF programs provide vital, grants and low interest loans to predominantly rural communities to ensure safe drinking water and compliance with evolving Clean Water Act requirements.

We fully understand that the federal funding mechanisms used in the past to build Reclamation water infrastructure may be gone. We view the future of water infrastructure as one where local districts plan, design, finance, construct, operate and maintain new water facilities, sometimes on federally-owned lands, as integrated features of existing federal projects. Innovative ideas currently being explored (and potentially in need of federal legislative authorities) include long-term leases of federally owned property, full or partial title transfers of federal property to project beneficiaries. We need to encourage the innovative nature embedded in private-public partnerships (P3) to build non-federal water infrastructure, while also recognizing that a P3 relationship may not work for many smaller or rural water providers. More can be done to engage the unique relationships Reclamation has with project water users who depend on Department of the Interior infrastructure.

We also encourage Congress to look for opportunities to reduce costs without adverse ecosystem impacts. Water users are responsible members of the regulated community. We recognize that reasonable regulations provide warranted environmental protections without creating unnecessary regulatory burdens or delays. Nevertheless, Congress should look for opportunities to improve the federal regulatory process by streamlining regulations, improving coordination, reducing duplication, and increasing transparency. Clarity on rule development and better-coordinated federal permitting processes would reduce permitting timelines and save taxpayer dollars without compromising environmental protections.

b) Bureau of Reclamation Policy Recommendations

Of all federal agencies, Western water users work closest with the Bureau of Reclamation, whose core mission is to provide for the delivery of water and power from its Western U.S. facilities in a manner that meets applicable requirements of state and federal law. Essential components of the core mission are: 1) providing for the operation and maintenance of existing facilities that are likely to remain in federal ownership; 2) providing for the rehabilitation and replacement of infrastructure that is likely to remain in federal ownership; and 3) possessing the ability to manage the construction of new projects that Congress may fund through Reclamation.

Even casual observers would note that Reclamation has carried out few major new construction projects in recent decades. Even though the designers and builders of Reclamation's most

impressive works have long since retired, Reclamation staff members from regional and area offices can continue to play a key role in helping to find the right path to make multi-agency processes and projects work, as well as direct strategic investment in capital maintenance and rehabilitations. When strong relationships are developed between Reclamation employees (especially those in area or regional offices) and local water users, strong, cooperative and innovative solutions can and have been reached (such as in the Yakima River Basin (Washington)). There are other models in the West where successful projects have been completed as well. A template for success might be one where state and federal agency regulators establish criteria, federal and non-federal funding agencies write the checks, and local districts and their consultants implement and satisfy regulatory criteria and funding-eligibility requirements.

The Bureau of Reclamation must either hire skilled and experienced engineers and managers or turn to their non-federal project managers and the private sector partners to provide the human resources necessary to maintain and improve Reclamation's facilities. Meeting the challenge of modernizing the West's aging water infrastructure will require highly qualified professionals serving in the public and private sectors. Reclamation's February 2006 *Managing for Excellence* Action Plan should be updated and used as a key resource to help address these concerns.

Congress should work to establish a simpler approach to facilitate transferring the title from federal ownership to non-Federal ownership of small-scale, single-purpose Reclamation projects and facilities. Title transfers are a positive means of strengthening control of water resources at the local level. In addition, they help reduce federal costs and allow for a better allocation of federal resources. Reclamation should work with Congress to develop a legislative concept for a programmatic approach intended to simplify transfer of "non-complicated" facilities. This would greatly reduce the hurdles and expense that can impede title transfers beneficial to local interests and to the federal government. NWRA and the Alliance are happy to commit to working with Congress to accomplish this.

c) Forest Health Threats to Water Supply and Infrastructure

Improving the condition of our nation's forested lands is of primary importance to water providers. National Forest lands are overwhelmingly the largest, single source of water in the U.S. and, in most regions of the West, contribute nearly all of the water that supplies our farms and cities. In addition, water infrastructure can be severely damaged or rendered useless by fire and post-fire flooding and debris flows.

The unhealthy state of our national forests, which were reserved specifically to protect water resources, has led to catastrophic wildfires that threaten the reliability, volume, and quality of water for tens of millions of Americans, along with the wildlife, recreational, and multi-purpose values of these lands. Large-scale, catastrophic wildfires today are more frequent and significantly larger than in the past. In Colorado alone, from 2004 through 2007, fires burned an average of 40,000 acres annually. However, from 2008 to 2015, that annual average jumped to 140,000 acres.

Unfortunately, Colorado is not alone. Increasingly, wildfires are threatening water supplies and water infrastructure throughout the west. In recent years:

- Denver Water has spent tens of millions of dollars to remove around 1 million cubic yards of fire related debris from Strontia Springs Reservoir,
- In Arizona, water providers have had to upgrade water treatment facilities by adding carbon filtration to handle the increased levels of organics and sediment at a cost of hundreds of millions of dollars.
- The Greater Wenatchee Irrigation District in Washington lost power to pump irrigation water during a critical growing time due to wildfire threatening crops and the livelihoods of farmers that depend on them.
- Placer County Water Agency and other local agencies in California spent \$8 million to repair and protect water and energy infrastructure following the King Fire.

We believe it is critical that both forest management reforms and resolution of the “fire borrowing” issue are addressed in comprehensive legislation focused on improving the health and resiliency of our federal forests. Only by addressing both issues together can we ensure that on-the-ground forest management and restoration activities will proceed at the pace and scale equal to the problem and begin to improve the forest conditions that led to the recent devastating and costly fire seasons.

d) Opportunities for Water Storage Infrastructure Development

For many reasons – political, economic, societal, environmental – the construction of traditional surface storage projects is undertaken on a much more limited basis than in decades past. The most frequent reasons center around economics or an inadequate water market associated with the given facilities. In other cases, environmental, safety or geologic challenges came to light during a project’s development, and rendered its construction, completion or operation unfeasible. Political opposition often contributed to a project’s demise, leaving the facilities “on the books” awaiting further action, but with external events and new priorities passing them by. Even if funding and authorization is secured for a new storage project, the existing procedures for developing additional water supplies can make project approval incredibly burdensome and time consuming with companion costs outstripping the ability of local water providers to accommodate.

Individual surface storage proposals must be evaluated and the associated benefits and risks must be viewed in a net, comprehensive manner. While some critics of new storage projects focus on perceived negative impacts associated with new facility construction (e.g., loss of habitat, disruption of “natural” stream flow patterns, and potential evaporative losses), these perceived impacts must also be compared to the wide range of multi-purpose benefits that storage projects provide. Properly designed and constructed surface storage projects provide additional water management flexibility to better meet downstream urban, industrial and agricultural water needs,

improve flood control, generate clean hydropower, provide recreation opportunities, and create additional instream flows that benefit downstream habitats.

The aforementioned WIIN Act contains provisions that allow irrigation districts to voluntarily prepay contracts with the federal government. The funding that is expected to be generated by these prepayments over the next ten years would be placed into an account to fund (finance) either the construction of new state-led water storage projects or the expansion of current federally-owned water storage reservoirs. The WIIN Act also authorizes Reclamation to implement a water storage enhancement program to fund new or expanded surface and groundwater storage construction for the purposes of increased municipal supply, agricultural irrigation, and to reduce impacts to fish and wildlife. The Trump Administration's Bureau of Reclamation should work to ensure that these authorities are implemented as a priority.

Conclusion

In closing I want to re-emphasize the importance of water infrastructure to our nation, its economy, and its health. A strong commitment to water infrastructure must be made in any infrastructure package that Congress and the Administration considers.

The infrastructure challenges our Nation faces are daunting, and they will require innovative solutions. The infrastructure investments made by prior generations have benefited this country for over a hundred of years. Now it is this generation's responsibility to invest in infrastructure and invest for future generations. It is our hope that you and others in the 115th Congress will embrace a core philosophy shared by the River District, Family Farm Alliance and NWRA: the best solutions are driven locally by people with an "on-the-ground" reality who are willing to partner with state and/or federal agencies to achieve our national goals of safe, reliable and sustainable water supplies.

Thank you again for the opportunity to testify and for your attention to the many infrastructure challenges facing our nation. Please know that the NWRA, the Family Farm Alliance and our members stand ready to assist you in your efforts.

The CHAIRMAN. Thank you, Mr. Treese. We appreciate your comments.

Mr. Worsley, welcome.

**STATEMENT OF BRADLEY WORSLEY, PRESIDENT,
NOVO POWER, LLC**

Mr. WORSLEY. Thank you, Senators. And my name is Brad Worsley. I'm the President and CEO of Novo Power.

Biomass is very personal to me. In late 2000, my family completed the construction of a multi-generational home in the beautiful mountains of Northern Arizona. In 2002, the Rodeo Chedeski fire ravished over half a million acres of that forest burning it to the ground, included in which was the acres where our family home was built.

This disaster, followed by the Wallow fire just eight years later, highlighted a need for action. So we became educated on the subject. We procured a census done on the territory of Arizona in the 1900s, early 1900s, and we found that the acreage where our home existed traditionally held 5 to 15 trees per acre. Today, there are as many as 2,000 trees per acre—the same sunlight, the same water, and the same nutrients. We have a very unhealthy forest.

We were saddened by the inaction caused by the timber wars of the '80s and '90s, and we didn't agree with the U.S. Government's policy on no fire. It was a God-given way to manage our forests, and for 100 years we have reduced and limited that power and that cleansing mechanism.

Because nothing was being done, we did something. And in 2008 we completed the construction of a biomass power plant, 28 megawatts in Northern Arizona, Snowflake, Arizona. That facility today is the keystone of the needed infrastructure for forest restoration. You've probably mostly have heard of the 4FRI project, the Four Forest Restoration Initiative, the largest CFLR project in the country, that has a standing requirement of doing, or goal of doing, 50,000 acres of mechanical thinning annually. Last year, we did 17,000 acres and it was our best year.

We are woefully behind in our attempts to get that work done, and the 17,000 acres that were done were because of the capacity generated by this singular biomass facility. We have about a third of the needed infrastructure in Arizona to manage our national forest.

Now I've looked at all types of technologies that can manage biomass and I'm telling you, as my professional opinion, that the best way to do it is to touch at the very least amount of times, cut it, grind it and make power from it.

When we do that, we are significantly reducing the air quality issues that are generated in these mega fires that are happening in Arizona and across the Western United States. We reduced, by almost 98 percent, the particulate matter that goes into the air while burned because of the systems that we have at our facility.

We are also a huge resource in Arizona, potentially one of the only resources in restoring our national forests, and 15,000 acres a year are treated and restored because of our facility.

Mr. Treese here talked about the water infrastructure. What happens after forest fires is we silt out our dams and our reservoirs

and we spend decades spending exorbitant amount of money to treat that water post-fire.

We also have a huge benefit as it relates to the renewable energy sector. We are a baseload power. That means that we stabilize the grid. Well, I love solar and I love wind, but we are baseload and we don't destabilize that grid.

We also have a huge economic impact. In my humble opinion, it's the most important 28 gigawatts generated in Arizona because of the forest restoration, because of the watershed management. A million acres of the four million acres that we have in Arizona that were established to provide watershed to a desert have burned to the ground. We cannot afford to lose more watershed.

These are the types of things that we do. But without your help, without help building infrastructure, we're never going to get there. The East side of the State of Arizona runs without subsidy because we have the needed infrastructure. We have sawmills, we have pellet mills, we have a biomass facility and we do it without subsidy. It is not going to happen on the west side of the state unless there is some form of assistance. Now what type of assistance am I talking about?

We need to advance the pace and efficiency of U.S. Forest Service action. In Arizona, we have plenty of NEPA-ready acres, but we can't allow acre prep to become the new NEPA bottleneck.

We need to ensure that biomass is considered a renewable power.

We need regulatory certainty in that area. People like to argue over that. Most certainly as it relates to forest restoration, it is carbon neutral. But what we're doing is preserving those things that are carbon receptors.

We want to see fiscal incentives provided for biomass power to capture the real value it's giving to the state. It does more per megawatt than any other type of renewable power for the state of the structure.

We'd like to see something like, 10 percent of fire spending, fire-fighting spending in previous years, spent to prevent fires the next year. Last year we spent almost \$1 billion. Well, how about \$100 million to preserve our forests rather than burning them to the ground?

We'd like to maybe see increased weight limits on U.S. highways, it's 50 percent of the cost of removing that biomass and a five ton increase, 90,000 pounds, allows for us to haul that material cheaper. The U.S. Government could buy the power directly for their military bases.

And then, specifically in Arizona, we'd like to see a new RFP for 300,000 to 500,000 acres put out on the 4FRI layout and footprint so that we can invite new investment.

And we can do this. And I'm open to any questions.

[The prepared statement of Mr. Worsley follows:]

Mr. Bradley Worsley
 President
 Novo Power, LLC
 PO Box 2649
 Snowflake, AZ 85937

Biomass Power: A Critical Element of Forest Maintenance
The Story of Novo Power in Snowflake, Arizona

My name is Brad Worsley and I am here on behalf of my family's biomass power facility, Novo Power, located in Snowflake, Arizona. It is my firm belief that biomass power and healthy forests and watersheds go hand-in-hand, and that the benefits of biomass power go far beyond electricity on the grid. Investing in biomass power helps fund badly needed forest and watershed maintenance, saves money for the U.S. Forest Service and taxpayers, and supports local economies. I am going to tell you some of the lessons we have learned through our experience in Arizona – but many of these lessons are directly applicable to federal and private lands across the country.

In the face of massive high intensity forest crown fires, Novo Power has chosen to act. Our story is personal. We built a multi-generational home on a small homestead deep in the Apache-Sitgreaves Forest. In 2002, the Rodeo Chediski fire changed the landscape around our home for the next several generations. The deep loss we felt led us to educate ourselves on the issues. We learned that the condition of the dense green forests of Northern Arizona are far departed from their historical range. We obtained a census on the Territory of Arizona from the early 1900's and learned that the forest looked very different when the pioneers arrived and began to settle the country. Acreage with 5-15 trees per acre and gaps large enough to drive a covered wagon through, now are made up of dog hair thickets where as many as 2,000 trees per acre fight for the nutrients, sunlight, and water that used to support a tiny fraction of the current tree population. We were saddened by the U.S. Forest Service policies on fire suppression that all but eliminated the natural form of cleansing and forest management. We were irritated by the fighting and ensuing inaction caused by the "timber wars" of the 80's and 90's. We decided that if no one was going to act, we would.

In 2006, we entered Power Purchase Agreements with Salt River Projects (SRP) and Arizona Public Services (APS) to build a 28 megawatt (MW) Biomass facility to assist in the restoration of our National Forests. By June of 2008 we were operational. The first few years were laden with challenges, the most significant of which was the changing debt markets. The economy was about to enter the worst recession since the Great Depression and the Biomass plant came in 1.5 time over projected build budget. In 2010, the bank took the plant into receivership in hopes of running the plant more efficiently. Our family was relegated to the sidelines until an opportunity to repurchase the plant surfaced in early 2013. We were more than willing to finish what we started and we jumped back in with both feet. We had learned so much and were determined to not repeat the mistakes of the past. Since July of 2013, we have profitably run the facility while increasing output by over 10% with uptime levels that rival the best run facilities in the country.

This Novo Power Biomass facility is the keystone of the successful accelerated, industry-funded, landscape-scale restoration of Arizona national forests under the Four Forest Restoration Initiative

(4FRI). Over 90% of all acres thinning under this contract in 2016 was made possible by having the biomass from those acres burned at our facility. The great success of 4FRI to date has been the spirit of collaboration that has brought Industry, Environmentalists, Academia, USFS, and others to the same negotiating table. No one is getting everything they want but everyone is getting most of what they want. What we all realized is that no one won in the catastrophic forest fires that burned through Arizona over the last 20 years. The social consensus between the parties is based on the realization that restoration, starts with the removal of the excess biomass which causes the dangerously high fuel load on the landscape, and that this is impossible to accomplish without a place to dispose of the biomass responsibly and ecologically, such as a biomass facility with controlled emissions. If the forest products industry wanted the small round wood, they would need to find a solution to the removal and disposal of biomass – pre-commercial trees and brush, tree tops, limbs and logging residues that have little or no value other than as fuel. These materials, also known as “high hazard fuel” to foresters, increase exponentially the risk of catastrophic wildfire if not removed from the landscape. This is the reason why best available science forest restoration, such as implemented under the 4FRI project, requires the removal of biomass during mechanical thinning treatments. We support this position and believe that science, as well as common sense support it as well. Consequently, two of the challenges of forest restoration in Arizona, are that biomass represents more than 50% of the woody mass that must be removed from every acre treated with mechanical thinning, and that there are very few utilization opportunities for biomass that are economically viable enough to fund the restoration treatments. Therefore, biomass removal and utilization become a limiting factor on the implementation of restoration. We affectionately call this the biomass bottleneck.

To date, almost all acres thinned in the 4FRI area have been made possible by bringing the low value biomass to our facility to be burned. The challenge is twofold.

First, we have reached our capacity. Our facility, at best, can only resolve the biomass bottleneck for approximately 15,000 acres of National Forest each year. This is one of the two reasons why 4FRI only treated around 17,000 acres in 2016. With a goal of 50,000 acres per year, we are woefully underperforming our objectives in 4FRI. The two solutions to this problem are to add contractor capacity, and to add biomass disposal infrastructure in the state. The small round wood utilization infrastructure will follow, if we can find a way to handle the biomass.

The second problem is the changing power markets. When we repurchased the facility in 2013 we immediately began an effort to extend the life of our current power purchase agreements and increase our capacity, but the changing renewable energy markets have decreased interest by the Utilities in biomass power because they can buy intermittent solar and wind for half the price. This market change in the macro level environment has lead me to campaign for biomass power with a simple slogan “not all electrons are created equal!”

Although every electron will do the same thing, the process of creating that electron varies significantly along with its benefit to the environment and to society. My opinion is that the megawatts we generate at Novo Power are the most valuable megawatts produced in the state. Here is some critical data to support that assertion:

- By funding forest and watershed restoration, biomass electricity addresses directly the two Arizona priorities of Fire and Water. Forest restoration mitigates the risk of catastrophic fires,

and prevents the further loss of watershed functions. It may even help a little bit with water augmentation.

- Biomass truly meets the definition of green energy, being produced locally and supporting directly the local economy and residents of the community where it is produced. Novo Power sources all of their raw feed stock from within 150 miles of our facility, which means all of the jobs are created and maintained in AZ. The number of indirect employees that work fulltime to support our little facility exceeds 100.
- Novo Power has a major impact on the rural economy of the White Mountain communities with ~40 direct employees. 2016 numbers show:
 - Novo Power Payroll with Benefits: \$3.4M
 - Wood Supplier Payments: \$7.9M
 - 3rd Party Services/Supplies: \$3.97M
- The Bureau of Economic Statistics states that a 1.33 revenue multiplier applies to our direct economic impact to the economics of the local communities. Our overall economic impact therefore totals \$27.8 million (M).
- Novo Power is also a 50% owner of Novo Star Wood Products, a local sawmill. We have an additional 20 employees and revenues in excess of \$4.7M at NovoStar.
- Our feedstock is the no value/low value biomass that is making our forest unhealthy. Every ton we process improves the health of our National Forest:
 - Over 25% (~1 Million Acres) of the Ponderosa Pine National Forest in Arizona has burned in catastrophic wildfire in the last 15 years.
 - Prior to Novo Power going online, the cost to suppress these two fires along with private property damage exceeded costs of \$250M.
 - In comparison, the San Juan fire of 2014 had similar potential but was limited to 7,000 acres and a cost of only \$6.5M because it ran into acres where we had carried out restoration services.
 - We received a letter of endorsement from the Apache-Sitgreaves National Forest stating that we save over \$1M annually in prescribed burning cost by removing and disposing of the biomass generated through restoration logging, as compared to leaving it in the forest.
 - The ~15,000 acres annually we assist in restoring are critical habitat for endangered animals such as the Goshawk and Mexican Spotted Owl.
- Our National Forest is the mechanism for capturing, storing, and releasing the rainfall in our state. In a state where the vast majority of its citizens live in a desert, the National Forest is perhaps the most important asset to the state. Beyond the real risk of burning more capacity to the ground, we protect the critical water infrastructure that exists in the state. Our reservoirs

are in real risk of “silting out” in the next generation along with the increasing cost to treat waters following forest fire.

- Our forest also generates some \$3Billion dollars of revenue from hunting, fishing, hiking, tourism, etc. The work we do protects this industry by making the land friendlier to tourists and by removing potentially hazardous trees.
- Burning this wood in a controlled environment has the following benefits:
 - Methane is generated when biomass decays naturally in the woods. Methane is 25x more potent in capturing greenhouse gases in the atmosphere than CO₂. When burned in a biomass facility, CO₂ is released instead of Methane. Whereas fossil fuels release new carbon into the atmosphere from underground, the CO₂ released by a biomass facility is already part of the atmosphere, having been absorbed over the past few decades by growing trees.
 - By burning in a controlled and filtered environment, particulate matter emissions are reduced by 90-98%.
 - SO₂ emissions release acid into the environment and are a cause of acid rain. Our Biomass plant emits less than 10% of SO₂ per megawatt in comparison to a coal powered facility.
 - NO_x emissions generally create the "haze" seen in major cities and around industrial facilities. Our biomass plant emits less than 50% NO_x per megawatt in comparison to a coal powered facility.
- We produce a renewable accredited power. We provide a baseload power at all times to the grid rather than the intermittent power generated by wind and solar. Biomass can be an excellent complementary power source to wind and solar and can take the place of natural gas or coal powered facilities.

The most important forest restoration next step in Arizona is to build additional infrastructure to process biomass. It is my opinion that one of the most economical and practical ways to process the biomass is to take it in raw form and make power from it. The more process steps we add to the biomass utilization, the more we make its disposal cost prohibitive. A simple example of this reality is based in the following data. One megawatt of power requires one bone dry ton of biomass to generate in our plant. We pay approximately \$38 per bone dry ton for the biomass prepped to enter our boiler. If you were to pelletize this biomass to co-burn in a coal facility the cost on locally sourced pellets would be in the range of \$120-\$150 per bone dry ton. We generate a finished power product for significantly less than the raw cost of pellets alone. We have proven in the last 4 years that a biomass plant facilitates restoration and brings increased investment in higher value uses for the round wood. The Apache-Sitgreaves forest cannot keep enough wood in front of our industry and they provide \$0 in subsidy for those acres. In fact, as stated above, they receive a \$1 million benefit.

At this point, Arizona needs your help. Until we get our next major biomass facility built we will likely stagnate in a prolonged stalemate to solve this problem. Conversely, if a biomass solution is

implemented soon, the remaining objectives will be met in short order and we will see the largest restoration project in the country provide the impact we all hoped for. Here is how you can help:

- **Advance the pace and efficiency of Forest Service action.** This could involve moving to a more efficient and faster preparation process (Designation by Description (DxD) or Designation by Prescription (DxP)) and by adopting technology that allows for the limited funds to prep more acres (digital prescription technology). We cannot allow prep to “become the new NEPA” as the bottleneck to restoration implementation.
- **Insure that biomass electricity, generated from forest biomass removal, remains classified as a renewable energy.** The carbon foot print and emission impacts of a biomass facility are minimal – especially if you consider one of its key benefits: the reduction of risk for catastrophic forest fires, which release massive amounts of carbon into the air.
- **Provide fiscal incentives to make biomass power cost-competitive with other renewable energy sources.** Biomass power has long received half the benefits of other renewable energy sources through the Section 45 tax credit program, which expired for biomass on December 31, 2016. When facilities were eligible for benefits, it was harder for them to take advantage given the length of time it takes to build a facility. A new approach to tax incentives for biomass is needed.
- **Work with us to reduce the cost of transporting fuels to facilities, which is one of our biggest expenditures.** This can come in the form of matching payments or transportation credits like the Biomass Crop Assistance Program (BCAP), or in the form of a price per megawatt generated incentive. This ought to be tied directly to biomass harvested off National Forest so as not to incentivize the facilities that run on byproducts from other forest industry. This subsidy ought to come in the form of spending tied to preventive vs reactive restoration measures. If done right, this could help the U.S. Forest Service greatly reduce the amount it spends on fire suppression. For example, if we spend \$1 Billion fighting fires in 2017, there should be a fund of \$100 Million in 2018 for restoration services targeted at reducing catastrophic fire. The Biomass Power Association is lobbying for a similar fund for removing high hazard fuels from USFS lands with \$117 Million in annual funding.
- The US government can provide power purchase agreements directly to the biomass facility to power government facilities like military bases, educational and administrative buildings. For example, Fort Drum in New York is powered by a biomass facility.
- Implement a pilot project in Arizona, as previously done in a few northwestern states that would allow a higher maximum truck weight on interstates for biomass related industry, in order to bring costs down through more cost effective transportation.
- Require that the Forest Service release by September 2017 a new RFP of 300,000 to 500,000 acres within the 4FRI area, in order to attract additional investments in round wood and biomass utilization in Arizona in order to meet the 50,000 acres annual objective of 4FRI.

The end goal is to restore the forest to a condition where we can reintroduce low intensity fire back into the ecosystem and let it play its indispensable role in preventing catastrophic wildfire. In the meantime, we use mechanized thinning as a first treatment that allows subsequent controlled burns. We remove the fuel load and restore the acres to pre-settlement reference condition and we do so while mitigating the risk of catastrophic fire, and at a fraction of the cost to fighting such fires. I often find it ironic that we focus on the cost of suppressing fire while not recognizing the enormous loss in natural resources in these mega-fires. We lose timber, water, animal life, recreational revenues, personal property, cultural identity and way of life, while emitting a horrific amount of particulate

matter and carbon into the atmosphere, and destroying the very mechanism that could recapture it. We have to fund the ecological services required to restore this national resource, and biomass removal and disposal has a big part to play in this restoration effort. If we deal with this issue correctly, industry will quickly do at landscape scale in Arizona what it has already done in the White Mountain: that is fund and implement industry-funded ecological restoration. What we have accomplished in East Arizona can be replicated in other areas of the state, the West, and across the entire country.

The CHAIRMAN. Thank you. Great testimony, and I appreciate the contributions from all of you here this morning.

You know, it is interesting, when you think about the enormous potential on our federal lands. We have heard from many of the specific areas, whether it is your focus on the biomass and what we can receive or the benefits from our national forests. Mr. Spears, you talk about the critical minerals. You talk about the elements, just the sand and the gravel. When Ms. Simmons wants to build a trail, she needs some of the stuff that you take from out of the earth there. Of course, we cannot do any of it unless we have water sources that are available, that are reliable and that are safe in many, many different ways. And then, of course, we have the recreation aspect of all of our federal lands. Again, a clear reminder of this multiple-use concept that we talk about.

Oftentimes though, there is not a level of equity when you think about where those dollars go in managing these lands for multiple use. Several of you have suggested that what we see in shortcomings, whether it is on trails or whether it is for our ski resorts or in our water supply, the fact that Forest Service has been up against, what we call, forest borrowing for as many years as they have, just basically throwing everything out of whack and the ability to manage other aspects within their jurisdiction. It is very frustrating. So I appreciate what you have all raised.

What I am hearing consistently though, is that what would be helpful from your perspective is if we can do more here to reduce some of the uncertainty when it comes to the regulations that are coming your way, to alleviate some of the delays and the costs that are associated with that.

I want to ask just a general question here because when we are talking about multiple-use for some that want to use the trails or want to go skiing, they do not necessarily want to see a mining operation where you have gravel extraction or rock to provide for crushing or they do not want to see the dam here.

Mr. Spears, you cited the USGS report on the Mineral Commodity Summaries and a recognition that, from a vulnerability perspective, we are headed down the road of greater reliance on others for the stuff that we need, whether it is the sand and gravel or whether it is the copper that we need for some of our high-tech initiatives.

Are we all in agreement that regardless of where our interest is, we still need to provide for greater opportunities for accessing our minerals throughout the country? Do we agree that is a sound thing, if done properly?

You mentioned the mapping, Mr. Spears, and the fact that we are about 50 percent there. But to better analyze where those resources are, recognizing that there are some areas where we are never going to touch that. Mr. Spears is saying yes, but of course, I expect him to say yes.

[Laughter.]

Mr. SPEARS. Well, I would like to address that.

So, yeah, timber is managed by foresters knowing, you know, how many trees per acre, how many board feet per acre. So it requires a level of mapping and GIS. Similarly, the mapping—the management of minerals would require knowing what's down

there, often in the subsurface where you can't see it. So that requires investment in geophysics and mapping.

But I'm not saying we need to mine the earth. I'm saying that we need to know what's in what places before we make decisions about what we're going to do with the surface of that land.

And I'd just like to say that as geologists we take a longer-term view of things than some people do. One of my favorite places to go hiking in Virginia is called the St. Mary's Wilderness. It's a beautiful hiking trail, but when you get way back in the wilderness there's a little area called Ore Bank which was an important source of manganese ore during World War I. So this was only about 100 years ago there was a mine in this location. That mine was closed after, in the 1920s that mine was closed and now it's a beautiful wilderness area and a very popular hiking destination.

If we look at the temporal progression of land use, it's not necessary that when an area is mined it's forever destroyed, that Reclamation is a viable response and a viable way of recovering land and returning it to other uses.

The CHAIRMAN. I am going to turn to my colleague, Senator Cantwell, and we will have an opportunity for more questions.

Senator CANTWELL. Thank you, Madam Chair.

I wanted to ask, Ms. Simmons and maybe others, Ms. Argust or others, who might want to comment on the President's budget that is cutting greater than one half of the land acquisition funds, as it relates to the Land and Water Conservation Fund (LWCF).

How have you seen this program work to help us in maintaining lands and giving people access, and do you worry that this would mean reductions in some of those projects that you are trying to help further investments in?

Ms. SIMMONS. Thank you, Senator, for your question.

And yes, Washington Trails Association does support the Land and Water Conservation Fund and has seen it used many times over as a critical piece of building our trail infrastructure.

I think one example is the Pacific Crest Trail which is one of the nation's most iconic trails that runs 2,600 miles through our nation and through a large part of our state. There, the trails cross through a lot of private land holdings and there have often been willing sellers that understand it's important for the management of a trail like that to consolidate ownership and be able to build and maintain the trail collectively.

So in those places the Land and Water Conservation Fund has been critical. I know of other trails in our state now that have portions still in private ownership and there are landowners that would be willing to and understand the benefits of consolidating.

So we have deep concerns about what's proposed, and we see a huge opportunity for those types of funding to be used in the future.

Senator CANTWELL. Ms. Argust, did you have any comments on that?

Ms. ARGUST. Sure. I don't work specifically on LWCF but I would say in terms of the parks that LWCF can certainly be a cost savings, consolidating land parcels and also increasing management efficiencies for the park, reducing user conflicts, also increasing

public access. I would also say that LWCF does not increase deferred maintenance. I think that's very important to note.

Senator CANTWELL. Yes.

I remember an instance, I think, in Mount Rainier on the Carbon River. We needed to improve the trail because it kept flooding every year. So basically, it saved us dollars by making improvements and moving the trail to higher ground.

I wanted to ask you, Mr. Worsley, you mentioned these issues. Obviously, the Chair and I worked very hard on trying to get our colleagues in the House to agree to something that would be a better solution.

Do you think we need longer-term contracts? My idea, and I think there are many people who were interested in supporting it, on the Pine Pilot was to say that if we did some fuel reduction and gave mill owners longer-term certainty, like 20-year contracts, they could plan and hopefully give priority to things like cross-laminated timber, as a way to actually store carbon in the new building materials. Do you think we need longer-term contracts with some of these mills to give them predictability?

Mr. WORSLEY. Certainly.

When you look at ways to efficiently process something that has almost no value, when I talk about this low value/no value biomass, not the value of why there's always uses for that, it generally is going to require significant capital investment in the ballpark of \$100, \$200, \$300 million, in order to get the kind of scale that will drive costs low enough to make a profit on this type of material. It is impossible to go get lending on that kind of capital without certainty of supply, so long-term contracts certainly help in that area. And if you are trying to stimulate, like a place in Arizona, where you don't have that industry, you're going to have to stimulate it through long-term contracts.

If there's an area where there's active capital markets, there's no need, let the capital markets work themselves out. But if you are trying to stimulate an area that's in need, yes, absolutely.

Senator CANTWELL. And do you think that is 20 years? Do you know a timeframe that you think would be sufficient?

Mr. WORSLEY. Well, listen, 10 years is very difficult to write off \$300 million, so, you know, 20 years certainly helps.

Senator CANTWELL. Okay. Thank you.

Thank you, Madam Chair.

The CHAIRMAN. Senator Cassidy.

Senator CASSIDY. Ms. Argust, I am not sure anybody has spoke to what I am about to ask, but you seem the best and maybe Ms. Simmons after that.

Clearly, we would like to have more money for maintenance. Now we can generate more money, appropriate more money, and also use money more wisely.

It is always my impression that the cost of a repair at a government facility is 1-1/2 to 3 times that which it would be in the private sector, for whatever reason. Is that presumption true for work in the National Park Service? Is it more expensive to do the same repair through the National Park Service as if it were a private entity doing it on their own property?

Ms. ARGUST. So let me better understand your question. Is it more expensive for the Park Service to do it themselves or to contract it? Is that what you're asking?

Senator CASSIDY. I guess what I'm asking—let me relate it this way. In South Louisiana if we build a levy, if the local municipality or the political subdivision builds a levy, it is going to cost \$1 million. If the Army Corps of Engineers builds a levy, it will cost \$1.2 million to \$2 million. So, the Army Corps' involvement will increase the cost by a multiple, dependent on whom you speak with.

Is that same phenomena true in the National Park Service? For example, if a foundation who was able to contract with whomever they wish without federal procurement guidelines fixes a road is it less expensive than if the National Park Service contracts for that road to be fixed?

Ms. ARGUST. Yeah, to be honest I think you're best to ask a Park Service official that, but I will say that for major projects, in most cases, the Park Service does contract that work out.

Senator CASSIDY. Well, they would still be subject to federal procurement guidelines though, I presume.

Ms. Simmons, you do trails, do you have any thoughts on that?

Ms. SIMMONS. Well, I'm not qualified and I don't know enough to speak about the specifics around the cost of projects done by private company versus by the public agencies.

I will say that, I think, the Forest Service, the Park Service and organizations like mine have been working together to think about creative ways to do more and stretch the dollars farther. And so the public/private partnerships like the one that my organization runs is just an example of where, in fact, we can bring volunteer labor with some base support from the Federal Government to stretch those dollars further.

So, I don't think the answer is that it needs to be necessarily privatization. There are other creative models.

And I know—

Senator CASSIDY. I have limited time, so let me stop you there.

Ms. SIMMONS. Yup.

Senator CASSIDY. Although I would, if the staff could, kind of research that, I think that would be useful for us to know.

Secondly, my brother-in-law has a camp right outside of Yosemite, so we are fortunate to go there once or twice every decade. Then I go through other places, and I see the concessionaires.

Do you have any sense of whether these concessions contracts are, sometimes those are, kind of, legacy contracts which, frankly, work to the disadvantage of the federal taxpayer and sometimes the other federal taxpayer does okay with this? Do you have any sense of how the concessions contracts work with the National Park Service? Are they a good deal or not a good deal or perhaps you do not feel qualified to answer?

Ms. ARGUST. Well, I think that there are folks who would like to reform how concessioner contracts are done and that is a hot button issue. But I think the Park Service has been working very hard when they—

Senator CASSIDY. Now reform suggests less than optimal and so knowing not hardly anything.

Ms. ARGUST. I'm referring to the 1998 Concessions Act.

But I do know that when the Park Service is renegotiating agreements and taking in bids, they are working very hard to do a better job, in for instance, making sure that concessioners wrap in deferred maintenance into those agreements and contracts. That is not always the case and I'm making this applicable to deferred maintenance because that's what I know most about.

But, for instance, in some cases you cannot get a feasible contract that gets a concessionaire to do all the deferred maintenance because it would not be economically viable for them. In the case of Yosemite, Ahwahnee Hotel, which is currently called something else, the Majestic, I think, that has \$51 million of deferred maintenance and a concessioner would not take that on. So things like that do need to be taken into account when the Park Service makes an agreement with concessioners.

Senator CASSIDY. Okay, I am out of time. I yield back. Thank you.

The CHAIRMAN. Thank you, Senator Cassidy.

Senator Wyden.

Senator WYDEN. Thank you very much, Madam Chair.

And I want to thank all our witnesses for talking about potential for outdoor recreation.

I want to begin when I was Chair of this Committee and we started talking about the potential for recreation. What I was really stunned by was how the framework of laws governing the various natural resource agencies just had not kept up with the times. It was not as if somebody at one of these agencies got up in the morning and said, I want to spend my day being rotten to people who are involved in skiing. But the problem was that the laws were written for a time, really of the last century, I think that is the most charitable thing you can say.

After listening to folks at home and some of the organizations you all work with, I have introduced a bill called Recreation, Not Red Tape. The idea is to modernize the system so as to get more people outdoors more quickly. Two of the provisions, I think, relate directly to some of what I've heard this morning.

The first is we ought to require all agency permits and passes to be made available online. I have heard stories that just curdle your blood about how people get up in the middle of the night to wait in some kind of line and after they are done with that line, they go on to some other kind of line. So the availability of online pass sales has been shown to increase the number of passes that are actually sold. There is a pilot project going on in our part of the world to test out the online sales. I think we are going to hear more about that. But to me, that ought to be non-negotiable. You ought to be able to get all your passes online.

The second provision that Senator Gardner also has an interest in, we are going to see if we can script Senator Daines into this too, is a provision to retain all ski area permit fees collected by the agencies.

The way it would work is instead of sending the money raised by ski area permit fees to the Treasury, the money would stay with the agencies to use for things like maintenance projects, visitor amenities and processing permits. So the fee visitors already pay

would go back to maintaining the very mountaintops they were collected on.

The question for you, Mr. Bonar, is how would the ski area permit fix, the provision that is in the Recreation, Not Red Tape bill now, how would that help ski areas make the improvements to ski infrastructure and how would that end up benefiting the public?

Mr. BONAR. Senator Wyden, thank you for the question.

The Forest Service simply, right now, does not have the bandwidth or the staff to review ski resort proposals. We need to be replacing old lifts, old infrastructure. We need to make other improvements within our ski area permit areas, and the Forest Service right now, because most of their funding or so much of their funding is now used for fighting fires, they simply don't have the staff to do that.

Senator WYDEN. I appreciate your making a plug for the bill. Senator Crapo and I have to stop fire borrowing. Senator Murkowski and Senator Cantwell and Senator Daines, we are all involved in the plot on that. But go ahead, I interrupted you.

Mr. BONAR. Oh, that's okay.

So, you know, we see the fee retention as being crucial for us to be able to invest money and be able to move forward on these critical needs.

Right now we have, as I said in my statement, many ski resorts that need to replace old ski lifts and aging infrastructure in other ways. It's critical that we are able to make those improvements for safety reasons and also because we're seeing increased visitation year-round at all the resorts. And it's really important that we're able to move forward on those projects by increasing that funding for the Forest Service staff.

Senator WYDEN. So you would support the provision in the bill strongly?

Mr. BONAR. Yes, I think all the ski resorts would because of this backlog of projects.

Senator WYDEN. Well, I can just tell you, in the Pacific Northwest no new projects are being considered by the Forest Service. We have highlighted the example in Mount Hood, the meadows, and I know you touched on it as well.

I think the point really is that unless we move to, sort of, update the recreation policies for the times, I think, we are going to see more and more of these challenges where there is gridlock on permits, people cannot get them online. These are common sense, bipartisan type ideas.

I thank you, Madam Chair, and I thank our witnesses and am sorry to be in and out this morning. I think what the Chair is working on is an extremely important area and we appreciate your input.

Mr. BONAR. Thank you, Senator.

Senator WYDEN. Thank you, Madam Chair.

The CHAIRMAN. Thank you, Senator Wyden, I appreciate it.

Senator Daines.

Senator DAINES. Senator Wyden, you should join the Skier's Caucus here, by the way.

[Laughter.]

We would love to have you. The Chair is an excellent skier. I can testify to that fact.

Madam Chair, thank you for having this hearing today.

I serve as this Committee's National Parks Subcommittee Chair. It is one of my top priorities. Working alongside Chair Murkowski and my colleagues on this Committee, along with a fellow Montanan, Secretary of the Interior Zinke, we are going to be working to reduce the National Park Service maintenance backlog.

As Congress and the Administration consider ways to strengthen the nation's infrastructure, I am happy that National Park Service deferred maintenance is now part of that conversation. FY'15 numbers estimate it to be \$11.9 billion. We know the number has only increased as that data is over a year old.

Fifty percent of the deferred maintenance backlog is roads. There are over 3,400 water systems with deferred maintenance needs and this backlog has steadily increased over time. I believe Congress must act.

The Secretary of the Interior, Secretary Zinke, grew up in the shadows of Glacier National Park. He grew up about 30 minutes away from Glacier National Park. I grew up about 90 minutes away from Yellowstone National Park. So this is a product of our own experiences, fellow Montanans and how we, as Americans, love our national parks. I am committed to fighting for as much appropriation as possible, as a member of the Interior Subcommittee, alongside Senator Murkowski.

I would also like to explore some creative ways we can facilitate new investments in our maintenance backlog. We are going to have to be creative, whether it is more public/private partnerships or the use of innovation and technology.

In Senator King's home State of Maine, there is a pilot project at Acadia National Park which began just last year to collect entrance fees through online passes. Senator Wyden mentioned this online pass idea. In fact, I worked for 12 years in the cloud computing business, and I am a firm believer that we do need to leverage some modern technology to solve some of our constraints and the problems that we face.

The National Park Service maintenance backlog is no different. Nowadays everybody wants to share their experience on Snapchat, on Instagram, on Facebook and that just continues to build more interest in our parks which is a good thing.

In Montana we saw record visitation rates last summer. During peak visitation times, to keep traffic moving, sometimes they would just wave cars through into the park because if you saw the lines and you have families all excited to come to our national parks, who wants to wait in a long line of traffic when you cannot wait to get in to see the wildlife or the wonders of our national parks? What happens? The parks lose much needed revenue and this is for good reason. Traffic gets so bad in summer months it does become a public safety issue, and it puts a serious strain on our infrastructure.

With that as background, I want to start with Mr. Treese. In your written testimony, you share multiple cases with opportunities and studies to expand water infrastructure that supports western communities. You did not mention any in Montana, but I have

a couple to add. One will be the Dry-Redwater and the Musselshell-Judith water systems. There are over 35,000 Montanans and North Dakotans whose current public water system does not meet safe drinking water standards.

This afternoon I am introducing legislation, the Clean Water for Rural Communities Act, to authorize Reclamation to construct both of these projects.

My question is, would you please elaborate on the importance of clean, reliable water to health and the economic being of rural America?

Mr. TREESE. Thank you, Senator. I appreciate that opportunity.

Yes, rural water. I live in rural Colorado and am familiar with the projects you talk about. Rural water is critical and perhaps important in this discussion because rural water may be one of the areas that doesn't make the headlines that some of the infrastructure that has been mentioned nationally might garner or might be broader recognized. But rural water is critical, critical to the health and welfare of the United States, as well as our economy.

I appreciate your legislation. I had an opportunity to talk to staff about your legislation last night. I'm impressed by it and look forward to supporting it.

Senator DAINES. Thank you, Mr. Treese.

As I wrap up I am going to ask you a question, Mr. Worsley. In Montana, we have seen harvest in our national forests decline by more than 70 percent versus the past generation. The number of mills in my home state declined; it went from 30 to eight. When I grew up we had 30, now we have eight. There are seven million federally-controlled acres in Montana. They are at high risk of wildfire.

My question. Can you speak to why it is so critical to retain mills and a wood product workforce in a state like Montana?

Mr. WORSLEY. Well, not only is there huge economic benefit, but we have a natural resource that is going to waste.

There was a question earlier about whether we support mining for minerals. We sometimes do a horrible job of utilizing and maximizing the use of our natural resources and burning to the ground hundreds of millions of acres is align to that reality. And so, there's a huge economic benefit. There's a use of natural resources that is critical. And a lot of times once this stuff goes away, it doesn't come back. And so, once that infrastructure closes, to get it restarted is just almost impossible.

Senator DAINES. Yes, we have seen that in Colorado.

I am out of time, and I know Montanans are tired of breathing smoke in the summertime and then the damage environmentally to our watersheds.

Mr. WORSLEY. That's right.

Senator DAINES. And wildfires as well.

Thank you, Madam Chair.

The CHAIRMAN. Thanks.

Senator Stabenow.

Senator STABENOW. Well, thank you, Madam Chair, for this hearing.

I feel this morning, after listening to each of our witnesses, I want to say, Amen, to each of you and also indicate that it is not

only National Water Day, it is National Ag Day. And we will not have agriculture, we will not have food unless we have an abundant, clean water supply.

And so, there's a lot in common. As the Ranking Democrat on the Agriculture Committee, when we look at conservation efforts on privately-owned land which are managed through the Agriculture Committee, again, so much in common.

There is no question, I could go right down the line, in terms of our national forests and what they mean in terms of jobs and outdoor recreation. I am very concerned about the cuts in President Trump's budget as it relates to those things.

I invite you all to Sleeping Bear Dunes in Northwest Michigan, if you have not been there, to see God's country up north. In fact, anywhere in Michigan is God's country, but we have absolutely beautiful places.

When we look at infrastructure, yes, it is not only trails, it is not only all of the things that I support that you have been talking about, but we have large infrastructure projects like the Soo Locks where commerce comes through the Great Lakes. Right now, if the large lock, Poe Lock, shuts down or has a problem, there is no second lock that will allow the barges to come through to bring the minerals or to focus on the other areas. So infrastructure, in many ways, relates to what we are doing on public lands and private lands and water, and I do not think we have focused on that enough.

I do want to talk about water, specifically, as you can imagine being surrounded by water in Michigan.

Mr. Treese, I completely agree with what you said about water being the lifeblood of our nation. And certainly, in Michigan, the Great Lakes are part of our DNA and also part of the backbone of our economy.

I have to say in the President's budget, and this is not for the hearing today, but the President completely zeros out the Great Lakes restoration initiative, zeros out monies that we have been using through legislation developed, on a bipartisan basis, to protect our waters in our Great Lakes. We intend to do everything possible to make sure that that elimination of funding does not happen for a number of reasons.

But along with the zeroing out of the Great Lakes restoration initiative is a 15 percent cut to the U.S. Geological Services, which also is critically important to the Great Lakes as well as everything else that you talked about Mr. Spears, in terms of access to minerals and so on.

But when we look at the fact that President Trump's cut would be the lowest funding level for the USGS since Fiscal Year 2002 and yet, the pressures, the demands, the challenges on our Great Lakes continue to grow. I am very concerned that what the U.S. Geological Survey has done to protect the Great Lakes, developing toxins to kill sea lamprey, for instance, without harming other fish. Now we have the Asian Carp which is a huge challenge and threat to us in terms of fish and boating and quality of life and water.

When we look at researching how to get the Great Lakes fish populations to thrive and the fact that we have over 75,000 jobs directly related to fishing in Michigan and hundreds of thousands of

jobs indirectly related to fishing, not counting boating and other activities outdoors or algae blooms that threaten the drinking water of our 40 million people a day that get their water from the Great Lakes. Senator Portman and I co-chair the bipartisan Great Lakes Task Force, and he certainly can speak to the fact that algae blooms have left 400,000 people in Toledo without drinking water.

So, all of that to say and actually, Mr. Treese, you may assume I am directing this to you, which I assume you are concerned about the cuts. But actually, I wanted to ask, Mr. Treese, just in terms of the importance of federal assistance and support, as it relates to water projects. Obviously in Colorado it is not the Great Lakes, but certainly, when we look at western water managers and the importance of focusing on interstate waters and so on, I wonder if you might speak from your state's perspective about why it is important to be able to invest in protecting our water.

Mr. TREESE. Thank you, Senator.

Colorado covets the amount of water you have around the Great Lakes.

[Laughter.]

Senator STABENOW. And you cannot have it.

[Laughter.]

Unless you want to move to Michigan—we would love to have you move to Michigan.

Mr. TREESE. I understand, thank you.

I think the regional initiatives you mentioned, they are notable for their size, their multi-state, multi-party involvement, the Chesapeake Bay Initiative in this area.

Senator STABENOW. Right.

Mr. TREESE. And the Colorado River efforts, the multi-state efforts that are involved in the Colorado River, are all critical. And the Federal Government is an essential partner in those. The local communities, the states and the Federal Government must be equal partners in those processes if they are going to be successful. To have the Federal Government unilaterally withdraw or significantly decrease their participation, financial and human resource participation, is to, frankly, doom those initiatives to failure.

Senator STABENOW. One of the things I wanted to mention as well on water infrastructure is that, again, with my agriculture hat on, rural water and sewer projects which are so critical to my hometown of Claire and to communities across America, small towns across America, is zeroed out in the President's budget which is also stunning to me.

I mean there seems to be a wholesale attack, Madam Chair, on water infrastructure and I know we are going to want to work in a bipartisan basis to make sure that we have support for that infrastructure going forward in the budget.

Thank you.

The CHAIRMAN. A big part of our consideration.

Senator Flake.

Senator FLAKE. Thank you.

Mr. Treese, I assure you in Arizona we covet the water you have in California, or Colorado, so—

[Laughter.]

So, anyway, it is all in where you are.

I am sorry for not being here earlier. There was a Gorsuch hearing going on a few doors away, so that is occupying a lot of time.

It is nice to have Brad Worsley here. Thank you for making the trip from Arizona.

In Arizona, we have had two once-in-a-lifetime fires in the last 15 years. And if you are from Northern Arizona, as I am, you have seen the devastation that has occurred there. It has been a tough thing to watch.

After the Rodeo Chedeski fire back 15 years ago, we realized that we needed industry in Northern Arizona in order to partner with the Federal Government or we simply were not going to do the amount of forest restoration that we needed.

Fortunately some industry has stepped up to the plate, including Novo Power and others that Brad is very familiar with. We have to have industry, private industry, that is functioning, and the infrastructure that is needed there—the infrastructure that is needed in terms of roads and what not to get wood out of the forest is vital here.

I want to thank Brad for serving on my Healthy Forest Advisory Panel, and I am looking forward to suggestions that you have. I have read the written testimony, but I was interested in hearing some about the role of transportation, the cost, to your industry. You have advocated there is a pilot project in Arizona to increase weight limits on state roads, and I wanted to hear from you on how a similar program on federal highways could help existing industry reach deeper into the forest to be able to treat those areas that need to be treated.

Mr. WORSLEY. You bet.

Let me first, I know it's decorum to praise your local Senators, but I have to tell you, Senator Flake and Senator McCain give a disproportionate amount of time. I sat with the biomass group this morning and they were just so shocked that I speak with them regularly and their efforts on our behalf. So we are definitely appreciative of our two sitting Senators.

Over 50 percent of your cost to move biomass is in transportation. And so, a small addition to what a highway can handle, go from 80,000 pounds to 90,000 pounds, is a 20 percent increase in haul capacity. So you're talking a 20 percent benefit on the largest expense in hauling biomass. The state is doing it and they've seen it work successfully. It's been a huge success.

Unfortunately, our trucks can only go some routes. You know, if we've got a problem on the west side of the state, we've got to see Interstate I-17 and I-40 and others increase by 10,000 pounds in order to see that same savings that we're seeing on the east side of the state.

Senator FLAKE. It sounds like you are suggesting we could take advantage of the existing infrastructure of the Forest Service, if they did a better job, the Forest Service, in considering the cost of transportation, given the locations of the mills.

How would you suggest that they better incorporate transportation costs in their planning?

Mr. WORSLEY. Yeah, I think you've raised an important point. This isn't any more dollars. This is—these roads can handle,

they're engineered to handle this kind of weight. And given its impact to the state, I think it would be a zero-cost proposition.

But it's also important that the state—that the Federal Government, the national forest, takes the consideration to haul distances. So when they're offering products they can't say, here's everything that's 100 miles from your mill. They have to take into consideration we can share costs, spread costs, but we need stuff closer and stuff farther away and there needs to be that balance in their planning.

Senator FLAKE. We have had issues in Arizona with the cost of doing NEPA, doing the prep work there required by NEPA, to make sure that we have acreage that has passed the environmental test to be able to access and be treated.

You mentioned in your testimony that we cannot allow prep to be the new NEPA. Can you explain what you mean by that?

Mr. WORSLEY. I can.

Most states deal with getting NEPA-ready acres. We have over 500,000 NEPA-ready acres in Arizona, and by 2019, it will be darn near a million. Now what we have to do is make those acres available, and prep is becoming the new NEPA. The Forest Service is grossly out of date as it relates to technology and efforts. To go paint every single tree is such a waste of time and resources. The technology is there, and industry is pressing. We can, through GPS and tablet technology, tell you what we cut, how we cut it, when we cut it, where we cut it, and just provide designation by prescription or by diameter and let us go to work and save all of that money and make that acreage available. So absolutely, we cannot let prep become the old NEPA bottleneck in Arizona.

Senator FLAKE. Right. Well, thank you.

If I may, in Arizona, we have, with the ponderosa pine forest, a healthy forest traditionally has about 20 trees per acre. We have areas with 200 trees per acre.

Can you talk some about the areas that you have been able to go in, the difference between that acreage in terms of the fire hazard, fuels reduction you have been able to do, compared to the old or what we have seen over the past couple of decades?

Mr. WORSLEY. You bet, Senator Flake.

I'll increase that statistic. We have 2,000 trees per acre in some areas, and so we have a situation where we have a gross overgrown.

Just think about being able to drive a covered wagon through the forests of Arizona. That's what they came into in the 1900s. Today you couldn't drive a motorcycle through those forests, so we are significantly reducing on that.

If you ever walk onto a forest fire, post-burn, what's left? What's left is the big trees. What burned to the ground was all of this high hazard fuel, all of this biomass.

So, when you now drive up the rim, which I know you do often, you can see through that forest again and that's because of the work we're doing, not in removing big trees, but in removing trees that are three feet tall and one inch around and doing that in a high scale and with mechanization in order to make it cost-effective.

Senator FLAKE. Well, thank you.

Unless any of you want to answer a question on separation of powers or the Chevron doctrine, I better get back in to the other hearing. So thank you.

[Laughter.]

The CHAIRMAN. Thanks, Senator Flake. We appreciate the work you are doing over in Judiciary too.

Senator Cortez Masto.

Senator CORTEZ MASTO. Thank you, Madam Chair. Thank you for putting together this esteemed panel of witnesses on such an important topic.

As you may or may not know, I represent the State of Nevada which has the largest amount of public lands in our state, in the country. So the topics that we are discussing today are very, very important, not only to me, but to many of the constituents that I represent.

I want to see the outdoor recreation industry expand and provide folks visiting my state an incredible experience in exploring the wonderful beauty of Nevada, and I believe we need to preserve and repair our infrastructure in these natural areas for future generations.

I also know that Nevada is one of the driest states in the nation with only 9.63 inches of average annual rainfall, so we are particularly focused and innovative when it comes to our water supply and resources, particularly, since we have the lowest allotment of water along the Colorado, as you well know.

Then we also have, and I am very proud of, our mining industry in the State of Nevada. I graduated from the University of Nevada, Reno. At the time, it was the Mackey School of Mines—one of our departments and colleges there. It is now the Mackey School of Earth Sciences and Engineering.

I appreciate the comments today and would like to start with Mr. Spears. You talked a little bit about airborne data collection technologies. I think, as we talk about updating our infrastructure, the use of technologies is so important. This helps us really, kind of, pinpoint areas where we can manage our natural resources and everything else that we just talked about and our great opportunity to utilize the outdoors. Can you talk a little bit more about how you think that airborne data collection technologies and the use of it will help and benefit mining operations and the economy in general?

Mr. SPEARS. Sure, Senator.

Putting people on the ground is very expensive. Putting planes in the air is also expensive, but you can cover vast areas at the same cost as putting people on the ground.

There's no substitute for having people on the ground actually collecting physical samples, but to cover large areas with a single kind of technology such as LiDAR which gives you centimeter scale model of the surface of the landscape, there's really no substitute for that.

But also, less well known technologies like arrow magnetics, the ground is naturally magnetic. Arrow radiometrics, the earth naturally glows in certain wavelengths of the electromagnetic spectrum. We can fly over with passive techniques just observing the natural

background, physical properties that the earth is already displaying, and tell something about what's down there.

For example, magnetics will tell you about the presence of iron, certain iron bearing minerals, like magnetite, that will show up from the air from a mile up you can tell how much magnetite is in the ground. And magnetite is often a leader, an indicator mineral, for other things such as copper or zinc or lead.

So investment in airborne technologies can be a very efficient way of giving us a picture of our subsurface infrastructure, subsurface resources.

Senator CORTEZ MASTO. Thank you.

Mr. Treese, I want to focus a little on the Bureau of Reclamation. Do you think that the Bureau should integrate its water supply management project grants into a regional watershed plan? The reason why I ask that, and a couple of things I think we do an incredible job, at times, working together with other states and regionalizing, I think the states do, in trying to work together to manage, but I am not sure it is always done at the federal level as well. I would like your thoughts with respect to the Bureau of Reclamation.

Mr. TREESE. Thank you, Senator.

Yes, I absolutely agree. I believe the new Farm bill has a regional conservation partnership program. My district has taken advantage of one of those competitive grants.

It is a regional—it has a goal of regional cooperation and inter-agency cooperation. We've been successful in seeking and receiving the cooperation of local districts and the state.

We have been less successful in receiving the cooperation of the Department of Agriculture and the Department of the Interior in realizing the goals of that grant, and I think that an explicit statement in the funding of some of their programs and coordination between the departments is imperative for the success of the federal investment.

Senator CORTEZ MASTO. Thank you.

I see my time is up. I appreciate the comments today. Thank you so much for appearing before the Committee today.

The CHAIRMAN. Thank you.

Senator Gardner.

Senator GARDNER. Thank you, Madam Chairman. And thank you to all the witnesses for your time and testimony and work today. I appreciate the opportunity to learn from you about how we can work together in the future, on water issues, infrastructure issues and make some great things happen.

Welcome, Mr. Treese, to the Committee. I appreciate your expertise over the years in working with you on a number of policies affecting what is the most important river, waterway, in the Western United States, the Colorado River.

The entire Colorado River Basin feeds an incredible population, economy, agriculture, resource issues, you name it. And your working advocacy is truly appreciated. But it also means that effective water management in the West is more critical than ever as the growing states of Nevada, Utah and Colorado continue to rely more and more heavily on 50-year-old, 60-year-old, 70-year-old infrastructure projects.

The Western states are some of the fastest growing in the nation. California and beyond have been plagued by significant drought over the years and resource challenges.

Colorado is a unique state when it comes to our water. We are the only state that does our water law the way we do, or headwaters, not just the Colorado River, but the Platte, the Arkansas, the Rio Grande, Republican River basins, one area of agreement for water managers representing all those river basins in Colorado is the need to continue our investment in infrastructure. So we have a couple of challenges facing water infrastructure in Colorado.

One of them is the permitting process and then aquatic and nuisance species. The projects in Colorado like the Northern Integrated Supply Project, Gross Reservoir Expansion, others, on the Western Slope as well, began their federal permitting process years ago, and just now, still do not have final permitting approval, final approval.

So I would ask you two questions. Number one, can you discuss the impacts of federal permitting process on infrastructure development with regard to timelines, long-term planning decisions and economic costs? And number two, the invasive species issues and the impact they could have on Colorado's water infrastructure?

Mr. TREESE. Thank you, Senator Gardner, thank you for the kind words.

Yes, first to the permitting issues. The expense of permitting has multiplied the cost of projects, projects that were budgeted both in time and dollars have had, have seen, tremendous delays. They've seen multi-year delays, all resulting in additional costs and less certainty that the Chairwoman mentioned, as an important element of any natural resource project. That, the loss of that certainty and the expense associated, eventually gets passed on to the consumers, and that has been an impact throughout the West.

The invasive species, a critical issue. Colorado is one of the few states, essentially one of a handful of states, along the spine of the Rockies that is not currently infected by the Zebra or the Quagga mussels. Nationwide, they have colonized waterways and clogged infrastructure. There is no simple, cheap or permanent solution to the remedy once infected.

The efforts to prevent and through, primarily through, inspection have been successful in Colorado and New Mexico, Idaho, Wyoming. And I think, again, the federal partnership is critical. We have enjoyed it in the past. We have lost it in the recent past. And that partnership with federal involvement in federal facilities and others, all is connected, as you described that Colorado is the headwater state. If you infect the Colorado River, if you infect the Platte, the Arkansas, downstream states are going to suffer commensurately.

Senator GARDNER. Mr. Treese, I think in some of the studies on infrastructure needs in Colorado that have been performed over the past several years, one study identified, I think it was, the statewide water supply initiative, the second phase study, identified around \$15 billion of water infrastructure needs just to meet the next two decades of projected municipal, industrial, agricultural need in Colorado. Is that still a ballpark figure today?

Mr. TREESE. It is.

Senator GARDNER. That is \$15 billion that we need just in Colorado alone in water infrastructure. So this is a critical conversation that we are having to meet the economies', communities', industries' needs in Colorado and, of course, even more outside of the state.

Thank you, Mr. Treese, for being here today.

Mr. Bonar, thank you again for talking about much needed infrastructure issues at our ski resorts and our national forests.

Colorado, home to the White River National Forest, a number one, most heavily used forest in the country, home to a number of great recreation opportunities, both in the summer and the winter. Of course, with the passage in 2011 of the Ski Area Recreational Opportunity Enhancement Act that you mentioned, it has opened up even more opportunities for families to enjoy the great Colorado outdoors.

Vail Resort is planning on investing a total of \$80 to \$85 million for their summer program alone, but what I am hearing from some of these other ski resorts in Vail and others in Colorado is that the Forest Service simply does not have the ability, because of resource demands on the Forest Service budget, to meet the requirements that they have, in terms of permitting and staffing issues that are going to be needed if they invest \$85 million.

What does an approach to ski fee retention mean? What does it mean to you? You talked about it in your opening statement, but what does it mean to you and how can Congress help build the infrastructure necessary for the ski industry while not simply increasing the number of Forest Service employees?

Mr. BONAR. You know, we would just simply like to see the fees that all the ski resorts pay, in Snowbird's case it's about \$250,000 a year, for the use of the land. We'd like to see a portion of that stay with our local forests so that they can more adequately staff the positions that a lot of those have been eliminated. We would like to see those staffed up again so that they can make the adequate analysis that they need to make on all the backlog projects that we have, whether they're summer projects or winter projects.

Senator GARDNER. Very good. Thank you, Mr. Bonar.

Thanks, Madam Chair.

The CHAIRMAN. Thank you, Senator Gardner.

I want to go back to you, Mr. Spears, for a moment following on Senator Cortez Masto's questions about mapping. Again, we are talking about an infrastructure package coming out of the Congress that could potentially be huge, perhaps as much as a trillion dollars, I don't know for sure.

[Laughter.]

I do not know whether that is where we are going to end up, but right now there is a big focus, and rightly so, on aging infrastructure, inadequate infrastructure, and how we build it out. Again, knowing where to build it is important, and knowing that we have those resources that will then be required to build it are equally important.

It was just a couple of years ago we celebrated with a big ceremony in a hangar with cakes and balloons the fact that Alaska was now finally 57 percent mapped. Now I don't know where you celebrate 57 percent of anything—

[Laughter.]

But we did it in Alaska because it was like oh, we are just a little more than half way there. But that is just mapping the terrain, so we have a long ways to go. Understanding and being able to inventory what it is that we have so that we move forward smartly with infrastructure is really important.

You have talked a little bit about some of the technologies that can help us more readily and hopefully less expensively identify this, but it seems to me that we could be in a situation where we are in such a hurry to get shovel ready projects moving that we have not done enough on the front end in terms of making sure that we have got good inventory understanding and mapping. Am I alone in my concerns there or do you think we are doing okay?

Mr. SPEARS. You're not alone, Madam Chair.

The fact is the U.S. Geological Survey currently invests about \$25 million a year of its roughly \$1 billion budget in geologic mapping, a small fraction of that, about \$5 million a year, goes to the states for cooperative programs and is matched by the states. It's a relatively small investment in something that means so much to this country.

With just a modest increase in that program we could rapidly accelerate the percentage of our country that is understood geologically in terms of its mineral resources and natural hazards.

The CHAIRMAN. Well that is certainly something that we would like to continue the work on. It is something we have been leading on, but I think you are right, we need to be doing much more in that vein.

Speaking a little bit about public/private partnerships leveraging dollars, I think we recognize that we are in a budget environment where it is just tough around here. As we saw from the skinny budget that was laid down, there is a lot in it that a lot of us really do not like because it is going to impact the programs and priorities that, for many of us in our parts of the country, are very, very key to our economy and really key to our quality of life.

As we talk about the infrastructure challenges on our parks and the public lands, we have done some things recently, specifically as it relates to national parks, with appropriations last year. We had the Centennial Challenge account, which received a \$5 million increase. ONPS got an increase of \$43 million—this is where we do the repair and rehab as well as cyclical maintenance, so that was a six percent increase. The construction account received a \$112 million increase, which was an 81 percent increase. But even so, even with these small and, believe me, when we are talking about a \$12 billion hole, it does not get us there. We recognize that it is not just through the appropriations process, but it is how we are leveraging, how we move toward these public/private partnerships.

Within the Park Service, Ms. Argust, is there more that we can be doing administratively? I recognize that legislation around here is usually just a long time in coming. Is there more that we can be doing administratively to improve the infrastructure, specifically, within the Park Service and greater areas where we can tap into this public/private partnership that perhaps we just have not hit yet?

We have the Centennial Act's Challenge Fund, I think, that we can look to. I do not know whether that is being accessed to the degree and to the extent that is most effective, but if you can comment on that, please?

Ms. ARGUST. Right.

I think there are some things that can be done, but again, I will point out that they do need staff, right, to implement some of these ideas.

Let me just start with, for instance, their volunteer programs. They could do more with that. If the volunteers are able to do maintenance programs that are more detailed, if they had volunteers and volunteer coordinators in each region. Right now, they have one volunteer manager for the entire Park Service, who is in the DC office, so it makes it difficult to leverage and coordinate all those volunteers.

The CHAIRMAN. Let me ask about that, and maybe Ms. Simmons, you might want to jump in here.

Because we had a situation a couple years ago where the Forest Service budget decreased. They maintain cabins, Forest Service cabins, that people can visit. The community of Ketchikan saw that because of the budget cuts that the Forest Service was proposing, basically, dismantling some of these Forest Service cabins. The volunteers said, hey, wait a minute, we can step in here. We can provide for the upkeep, and it seemed like a perfect fit.

As it turned out, the hoops that a volunteer had to jump through in order to qualify to be an acceptable volunteer to maintain these cabins, whether it was being able to demonstrate that you could safely operate a chain saw, going through a safety course that most people would say, well, wait a minute, I am an outdoorsman, I am a woodsman, I don't necessarily carry my red cross card with me everywhere. It was very frustrating to the local people because the agency was so concerned about liability and the volunteers were saying, hey, I just want to make sure that this cabin is going to be there for us.

Are we making things too complicated for our volunteers? I appreciate what you are saying about the need to have somebody that organizes it, absolutely, but is it working like we need it to?

Ms. ARGUST. So, instead of in this case, talking about volunteers, I'll talk about some of the partner groups and friends groups who do a lot of work and projects for the Park Service and provide funding.

What we've heard is sometimes the paperwork can be a burden. They could do more if there wasn't that paperwork. Some of the friends groups don't have the staff to do that or the friends groups themselves don't have that capacity so that can be an issue that we should be thinking about.

I do want to talk about opportunities with public/private partnerships. I think the Park Service really is trying to use public/private partnerships and agreements to address the backlog, but there are obstacles to that. In some cases, you have parks that have fantastic friends groups that can do a lot. In other areas, there aren't any friends groups. The Martin Luther King historic site in Atlanta doesn't have a friends group or you might have regions where they have friends groups but they're relatively small and they just can't

put up the matching funds, say for Centennial Challenge projects. So, those are issues.

And also, to be frank, some friends groups or other partners groups and philanthropists just don't want to fund, you know, sewage systems. They don't want to fund roads, and that's understandable.

I should also point out with corporate partnerships, there is a public perception problem. People hear parks, they hear corporate partnerships and there is a concern that that's going to lead to a banner across Mount Rushmore. That is not the case.

The National Park Service is working with the National Park Foundation. They're doing some great work with corporations, and we should be encouraging that. It is not going to solve all the repairs needed for infrastructure by any means. We're going to have to rely on appropriations, but we should be encouraging more of that type of partnership.

The CHAIRMAN. When I think through the Centennial Act, we do have some opportunities there. But how we help shape and guide some of that, I think, remains to be seen.

Ms. Simmons, can you comment on what we can be doing to make sure that volunteers really do feel welcome, whether it is paperwork or whether it is the agency saying thanks, but no thanks?

Ms. SIMMONS. Thank you, Madam Chair.

Well I want to be clear that we do not work on structures, our volunteers don't work on structures and so, I can't comment to the specifics of restoring cabins.

The CHAIRMAN. But you build trails, you—

Ms. SIMMONS. But we do build trails.

The CHAIRMAN. Yes.

Ms. SIMMONS. And I think we can say quite definitively, we think there's great power in using volunteers. And we've been fortunate to have nearly 25 years of a relationship with the Forest Service and our local forest to work out the kinks and to establish the relationships and the systems and the trust that works really well.

I think that a key for us has really been understanding. We take anyone, regardless of experience, but we have crew leads and assistant crew leads that have been well trained and know how to manage volunteers. And so, there's a balance between the expertise and everyone who comes to build the trails, that can be developed. And we've been fortunate to work really cooperatively with the Forest Service to figure out how to make this happen in Washington State.

The CHAIRMAN. Well, that is good. That is a good success story.

I know people that have been involved with either establishing trails or maintaining trails over the years going way back to my parents', grandparents' days in the Tongass, who still look at that trail and say, I helped make that trail. And there is a real sense of pride. The family says, yes, that was my grandpa's trail. That really does allow for great community buy-in and support for what it is that we are doing.

Senator Cortez Masto, do you have any follow-up questions?

Senator CORTEZ MASTO. No, thank you.

The CHAIRMAN. I want to thank each of you for your input here this morning. I think the hearing today has been very interesting.

Following on what we heard last Tuesday, I think, as a Committee, we have got a great deal to work with. When we think about an infrastructure proposal that can really help this country, help our economy, but also ensure that whether it is clean water, whether it is ensuring that our communities are safe from the threat of wildfire, whether it is how we enjoy our amazing open spaces, whether they are trails or parks or skiing, and making sure that these resources that we have on our land, under our land, are respected, is a great part of what we do here in this Committee.

Everybody else is talking about infrastructure and what they can contribute to the package. I think within this Committee we have the most exciting part of that portfolio, so I look forward to working with you as we help advance this.

Thank you very much for your time this morning.

We stand adjourned.

[Whereupon, at 11:57 a.m. the hearing was adjourned.]

APPENDIX MATERIAL SUBMITTED

**U.S. Senate Committee on Energy and Natural Resources
March 21, 2017 Hearing: Opportunities to Improve and Expand Infrastructure
Important to Federal Lands, Recreation, Water, and Resources
Questions for the Record Submitted to Ms. Marcia Argust**

Question from Senator John Barrasso

Question: Your written testimony discussed a number of causes of, and solutions for, the deferred maintenance backlog. In your opinion, does the deferred maintenance backlog, and the actual infrastructure needs it represents, affect the communities surrounding public lands?

Yes. Regarding the National Park System specifically, the deferred maintenance backlog has the potential to impact communities surrounding the park units. According to a 2015 NPS visitor spending report, park visitors spent an estimated \$16.9 billion in towns and cities within a 60-mile radius of park sites. This spending generated over 295,000 jobs and a \$32 million boost to the national economy. Below is a sample of what we have heard from gateway community representatives about the importance of addressing park maintenance:

"Each year, guests from more than 20 states and six countries stay at my RV park, resort, and cottages to enjoy the fabled Sleeping Bear Dunes and its many trails and activities. Many community business owners rely on that tourism to make a living. That's why it's so important that we maintain the park's roads, trails, campgrounds, and picnic areas so that visitors will continue to make the trip to this beautiful landscape." (Gary Becker, president, Indigo Bluffs RV Park & Resort, Empire, Michigan)

"The Denali Borough communities benefit from a thriving Denali National Park in many ways. We support funding the maintenance backlog to keep Denali a great place to enjoy." (Clay Walker, Denali Borough mayor)

"Yellowstone National Park was the reason we located our family's fly-fishing business at the west entrance to the park nearly 40 years ago. Since then, thousands of our customers have been introduced to the sport and conservation. There's so much public streams and lakes with native and wild trout that we must ensure the park is maintained so people can continue to experience it." (Craig Mathews, Blue Ribbon Flies).

"Moccasin Bend is home to Civil War battles and Native American archeological treasures, but mounting overdue repairs are jeopardizing our ability to protect these resources and allow visitors to access the area." (Michael Wurzel, executive director of Friends of Moccasin Bend, Chickamauga and Chattanooga National Military Park)

It is critical that park infrastructure is kept in good repair so that visitors and local residents can safely access park resources. Limited access, outdated, and unsafe facilities can negatively impact park visitor experience, which in turn may have a negative impact on the communities that depend on park tourism for their economic livelihood.

Investing in the maintenance and restoration of deteriorating park infrastructure also has the potential to benefit local economies by creating significant numbers of jobs in fields such as road construction, masonry and concrete repair, carpentry, welding, and roofing.

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Questions from Senator Joe Manchin III

Question 1: West Virginia's natural resources provide us with incredible vistas and outdoor recreational opportunities. I believe in protecting these resources for future generations of West Virginians and for our visitors from around the world. But, I am also a pragmatist and I believe that we must balance the economy and the environment. West Virginia has a long tradition of being an energy exporting state. That's a tradition that we are determined to continue but – in order to do so - our nation's energy infrastructure must be modernized and expanded in an environmentally responsible way. I want to make sure that, when these projects cross public lands, federal agencies with permitting authority are doing their part. I'm sure you are aware that the National Park Service and other agencies are currently engaged in permitting several pipeline projects in my state, with FERC as the lead agency

In your written testimony you said that Congress needs to work to streamline the permitting process for infrastructure on federally managed lands. Please identify the top regulatory change that you seek made to streamline permitting process and remove duplications while still ensuring robust public engagement?

My written testimony did not address streamlining the permitting process within the National Park Service (NPS).

Question 2: In West Virginia, we have the 17,000 acre Canaan Valley National Wildlife Refuge. The headquarters of the Refuge is a 7,000 square foot facility that was constructed in 1975. The building was originally a complex containing a restaurant and apartments, and was converted to be used as the Refuge headquarters after it was acquired in 1999. The building is in subpar condition to serve as an adequate headquarters building for the Refuge—it even experienced a fire sometime before the building was acquired and is not up to current codes. The building has undergone an assessment to determine the cost and scale of the work needed to rehabilitate the building so that it is up to code. But, after reviewing the assessment and seeing the building in person, it is clear that a new building is the best option.

Ms. Argust, President Trump has promised to do an infrastructure package, and this is a shovel ready project. What does your organization believe Congress should do to ensure this type of project and other deferred maintenance projects be addressed in an infrastructure package?

We recommend the following actions be taken to ensure that an infrastructure package will successfully address maintenance issues and projects within the National Park System:

- *Include robust funding to address NPS' highest priority assets and transportation megaprojects.*
- *Ensure that proper levels of NPS staff are retained and employed so that project funds can be spent expeditiously. Additionally, appropriate funding must be allocated for the hiring of contractors, as many large-scale or specialized deferred maintenance repairs*

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necessitate skill sets not typical of NPS employees. An infrastructure package should also be designed to foster enhanced opportunities for local contractors.

- *Focus on providing funding for planning, design, and permitting so that projects of greatest need can be addressed, not simply those that are “shovel-ready.” Lack of sufficient funding for deferred maintenance over the years has resulted in minimal capacity for long-range planning. Typically, planning and design work associated with projects are not developed unless construction funding is guaranteed.*
- *Allow for funds to be obligated over a multi-year timeframe.*

These provisions would be a significant start to restoring the infrastructure within our National Park System. Moving forward, smart investments in preventive funding—such as appropriations for repair and rehabilitation and cyclic maintenance—along with dedicated funding and policy reforms, need to be implemented to keep deferred maintenance from escalating.

Question 3: Outdoor recreation is a significant economic engine for my state, supporting 82,000 direct jobs in West Virginia. It generates \$2 billion in wages and salaries, \$7.6 billion in retail sales and services, and brings in \$532 million in tax revenue every year. West Virginia’s outdoor recreation industry relies on various forms of infrastructure to ensure access to public lands or rivers. While the rivers themselves are public, the land around them is not. If you can’t launch legally, you can’t use the river. The Land and Water Conservation Fund (LWCF) plays a crucial role in enhancing and maintaining access for outdoorsmen and women. For example, all public access points along West Virginia’s Lower and Middle Gauley River, which are used by over 50,000 people annually, were made possible by LWCF funding. LWCF has also protected 57,000 acres in the Gauley River and New River Gorge Recreation Area that include not just river access but over 2,000 named rock climbing routes and protection of the remnants of 19th and 20th century mining towns in the New River Gorge. LWCF protects our unique West Virginia heritage and helps diversify the base of visitors to the area. Roughly 1.2 million visitors enjoy these two parks annually, bringing \$53 million to the local economy and directly supporting more than 700 jobs.

The Trump Administration has said that an infrastructure package is one of his legislative priorities. Would you agree that strategic federal land conservation projects, made by the Land and Water Conservation Fund, can be included as part of a larger infrastructure proposal?

Do you agree that the infrastructure investment plan should include an investment in our national and cultural infrastructure that supports our outdoor recreation industry?

While the Restore America’s Parks Campaign is focused on NPS’ deferred maintenance backlog, an infrastructure package could include strategic federal land conservation projects made by the Land and Water Conservation Fund (LWCF). LWCF acquisitions can increase management

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efficiencies within agencies, consolidate land parcels, decrease user conflicts, and enhance public access and recreation opportunities,

Regarding your second question, investments in NPS infrastructure support our outdoor recreation industry. Many of the NPS assets requiring repairs are related to recreation and user needs—such as trails (NPS maintains 18,000 miles of trails, requiring over \$530 million in maintenance), campgrounds (NPS maintains over 1,400 campgrounds requiring almost \$73 million in repairs), and marinas and constructed waterways (NPS owns over 1,400 marinas, constructed waterways, and waterfronts—these include boat launches, docks, boat rental facilities, seawalls, canals, buoys, canoe trails, river access points, and shorelines—with a deferred maintenance price tag of \$893million).

Local gateways communities and businesses recognize the recreation and economic value of national parks and have indicated support for providing more resources to address deferred maintenance. The Outdoor Industry Association (OIA) is also supportive of efforts to restore infrastructure within our national parks. See attached letter.

Questions from Senator Mazie Hirono

Questions: The Land and Water Conservation Fund (LWCF) is the premier federal program that provides the infrastructure and conservation support for Hawaii's national parks, trails and recreation areas. The McCandless Ranch is a parcel in Hawaii that is proposed to be added to the Hakalau Forest NWR via the support of the LWCF. The McCandless Ranch is in an area that receives annual rainfall totals of more than 200 inches. Healthy native forests such as those found on the McCandless Ranch are proving to be much better at capturing rainfall and cloud moisture than degraded areas. This makes protecting these forest and watershed areas within the boundaries of Hawaii's national parks and wildlife refuges important for groundwater recharge and water security in Hawaii.

Would you agree that strategic federal land conservation projects made through the LWCF are a critical component of any infrastructure proposals considered by Congress? Do you agree that green infrastructure, such as the forests and watersheds found in our National Parks and Wildlife Refuges, be prioritized along with energy, water, transportation and other key forms of infrastructure?

While the Restore America's Parks Campaign is focused on NPS's deferred maintenance backlog, we agree that an infrastructure package could include strategic federal land conservation projects, made by the Land and Water Conservation Fund (LWCF). LWCF acquisitions can increase management efficiencies within agencies, consolidate land parcels, decrease user conflicts, and enhance public access and recreation opportunities,

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We also agree that green infrastructure should be included in an infrastructure package. Take flood risk reduction projects for example: healthy wetlands, salt marshes, dunes, and riverine areas can act as holding basins for floodwaters, decreasing the effects of flooding on people, homes, and businesses in adjacent communities while providing habitat for fish and wildlife. Along the coasts, such natural areas act as the first line of defense to reduce the effects of storm surge.

Research has shown that using nature-based solutions to mitigate the threats posed by severe weather can be both economical and long-lasting. One recent study found that coastal wetlands provide an estimated \$23 billion each year in storm protection benefits. Another study found that coastal habitats such as salt marshes and mangroves can be more cost-effective than engineered structures in lessening storm surge and can provide a buffer to properties during storms. We cannot afford to leave these savings on the table as we consider new infrastructure investments.

Questions from Senator Catherine Cortez Masto

Question 1: How many jobs are created by visitor spending? With increased attendance at National Parks, how many more jobs could we anticipate if we addressed some of these infrastructure concerns?

According to a NPS 2015 visitor spending report, the 307 million park visits recorded that year led to \$16.9 billion in direct spending in local gateway communities. This spending led to a cumulative economic outpour of \$32 billion nationwide and the creation of 295,000 jobs.

NPS reported 331 million visits in 2016, however, the agency has not yet released updated 2016 visitor spending and job numbers. Pew has commissioned an analysis to determine the number of infrastructure-related jobs that could potentially be created if Congress were to invest in restoring NPS infrastructure. The preliminary analysis, conducted by The Cadmus Group, indicates that 130,000 direct and indirect jobs could be created if the estimated \$11.9 billion backlog were fully addressed.

Question 2: How long do you think the current infrastructure will last with an increased number of visitors?

This is a question best directed to the NPS, as park assets vary in age, materials, design, and location (all of which can impact an asset's lifespan). According to a December 2016 report issued by the Government Accounting Office (GAO), however, over \$10.5 billion of the NPS backlog is in park units that were established more than 40 years ago.

The prospect of increased visitation combined with decaying infrastructure is not a new phenomenon for the NPS. During the 1950s, the number of national parks visitors surged. At that time, the NPS was 50 years old and already some of its infrastructure was showing

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signs of disrepair. There was a public outcry over the state of the parks, including the lack of visitor centers, inadequate bathrooms, and poor roads. Congress responded with an initiative referred to as Mission 66 and, from 1956 to 1966, invested a total of \$900 million to improve facilities within the National Park System. In today's dollars, that figure would be the equivalent of spending between \$7 and 8 billion dollars (based on <http://www.dollartimes.com/inflation/inflation.php?amount=1&year=1985>).

Restore America's Parks

April 4, 2017

The Honorable Lisa Murkowski
Chair
Interior Subcommittee
Committee on Appropriations
Washington, DC 20510

The Honorable Ken Calvert
Chair
House Subcommittee on
Interior, Environment, and Related Agencies
Washington, DC 20515

The Honorable Tom Udall
Ranking Minority Member
Interior Subcommittee
Committee on Appropriations
Washington, DC 20510

The Honorable Betty McCollum
Ranking Minority Member
House Subcommittee on
Interior, Environment, and Related Agencies
Washington, DC 20515

Dear Chair Murkowski, Chair Calvert, Ranking Member Udall, and Ranking Member McCollum:

2016 marked the 100th birthday of the National Park Service (NPS), which oversees more than 400 natural and cultural areas in all 50 states and most U.S. territories. NPS faces a growing challenge in adequately maintaining its sites to ensure that visitors can experience the parks' natural beauty and learn about our nation's history. After decades of underfunding, NPS has an infrastructure repair backlog estimated at \$11.9 billion (FY 2015). This includes crucial repairs to aging historical structures and thousands of miles of roads and trails, bridges, tunnels, sewers, drainage, and other vital infrastructure.

Writer and historian Wallace Stegner said that national parks are "the best idea we ever had. Absolutely American, absolutely democratic, they reflect us at our best rather than our worst." As companies, organizations, and associations, we support addressing the infrastructure repair backlog throughout these parks.

To address the backlog and put our national parks on sound financial footing for the future, we must do the following

- Create a guaranteed federal fund that will chip away at the estimated \$11.9 billion backlog over time.
- Implement policy reforms, such as entry and vendor fees, that will help to prevent repair backlog from accruing to begin with.
- Direct more Highway Trust Fund dollars to NPS, as half of the estimated \$11.9 billion backlog is attributed to the 10,000 miles of roads and hundreds of bridges and tunnels that NPS must maintain and repair.
- Provide additional opportunities for public-private opportunities to address infrastructure repair.

From the Grand Canyon and the Great Smoky Mountains, to the Statue of Liberty to battlefields like Gettysburg, the National Park System serves as a living testament to our citizens' valor, our hardships, our victories, and our traditions as Americans. We need to ensure that our children and grandchildren are able to see and appreciate our rich history in these places, and to learn more about the people and lands that have shaped us as a nation.

We urge you to work with us to protect our national parks well into the future and, in particular, to support guaranteed funding for infrastructure repair needs.

Sincerely,

National Supporters

American Alpine Club
 American Alpine Institute
 American Cultural Resources Association
 American Institute of Architects
 Archaeological Institute of America
 American Hiking Society
 Asian and Pacific Islander Americans in Historic Preservation
 Coalition to Protect America's National Parks
 Family Motor Coach Association
 GreenLatinos
 Hispanics Enjoying Camping Hiking & the Outdoors (HECHO)
 International Dark-Sky Association
 International Inbound Travel Association
 International Mountain Bicycling Association
 Institute for Bird Populations
 Kappa Alpha Phi Fraternity, Inc.
 National Parks Conservation Association
 National Trust for Historic Preservation
 Outdoor Industry Association
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 Society for American Archaeology
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Alexander City Chamber of Commerce	Greater Jackson County Chamber of Commerce
Cherokee County Chamber of Commerce	MainStreet Alexander City
Colbert County Tourism and Convention Bureau	Shoals Chamber of Commerce
Dadeville Area Chamber of Commerce	Selma and Dallas Co. Chamber of Commerce
Florence-Lauderdale Convention and Visitors Bureau	and Tourism Information

Gateway Community businesses and organizations

Friends of the Preserve at Little River Canyon

Alaska

Gateway Community resolutions

City of Homer
City of Seward
Kenai Borough
Municipality of Skagway Borough

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)

Cooper Landing Chamber of Commerce	Kodiak Chamber of Commerce
Cordova Chamber of Commerce	Mat-Su Convention and Visitors Bureau
Discover Kodiak	Seward Chamber of Commerce
Explore Fairbanks	Skagway Chamber of Commerce
Greater Whittier Chamber of Commerce	Skagway Convention and Visitors Bureau
Kenai Peninsula Tourism Marketing Council	Soldotna Chamber of Commerce
Talkeetna Chamber of Commerce	
Valdez Convention and Visitors Bureau	

Arizona

Gateway Community resolutions

City of Cottonwood
City of Tucson
Pima County

Elected Officials

Andrea Dalessandro, State Senator, District 2
(Green Valley)
Olivia Cajero Bedford, State Senator, District 3
(Tucson)
Lisa Otondo, State Senator, District 4 (Tucson)
Jamescita Peshlakai, State Senator, District 7
(Cameron)
Steve Farley, State Senator, District 9 (Tucson)
David Bradley, State Senator, District 10
(Yuma)
Matt Kopec, former State Representative,
District 9 (Tucson)
Art Babbott, County Commissioner, Coconino
County
Diane Jones, Mayor, Cottonwood
Coral Evans, Mayor, Flagstaff
Jamie Whelan, Vice Mayor, Flagstaff

Celia Barotz, City Council, Flagstaff
Jonathan Rothschild, Mayor, Tucson
Karin Uhlich, City Council, Tucson
Paul Cunningham, City Council, Tucson
Regina Romero, City Council, Tucson
Steve Kozachik, City Council, Tucson
Shirley Scott, City Council, Tucson
Adelita Grijalva, School Board, Tucson
Beki Quintero, School Board, Tucson
Eva Carrillo Dong, School Board, Tucson
Ramon Valadez, Board of Supervisors, Pima
County
Raymond Carroll, Board of Supervisors, Pima
County
Richard Elias, Board of Supervisors, Pima
County

Statewide Supporters

Arizona Center for Law in the Public Interest
Arizona Conservation Corps
Arizona Native Plant Society

Arizona Preservation Foundation
Latinos for National Parks
Western National Parks Association

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)

Ajo District Chamber of Commerce
Bisbee Visitor Center/Discover Bisbee
Bowie Chamber of Commerce
Dolan Springs Chamber of Commerce
Florence Visitor Center
Gila Bend Chamber of Commerce
Greater Douglas Chamber of Commerce
Greater Oro Valley Chamber of Commerce
Greater Vail Area Chamber of Commerce
Green Valley Sahuarita Chamber of Commerce
and Visitor Center

Marana Chamber of Commerce
Nogales-Santa Cruz County Chamber of
Commerce and Visitor Center
Sedona Chamber of Commerce and Tourism
Bureau
Sunland Visitor Center
Visit Mesa
Visit Tucson
Willcox Chamber of Commerce

Gateway Community businesses and organizations

Arizona Vintage Sign Coalition
BK's Carne Asada & Hot Dogs
Blair Charity Group
Blenman Elm Housing, LLC
Bourn Companies

Canyon Inn Flagstaff
Casa Maria Catholic Worker Community
Cascabel Conservation Association
Cesar Chavez Holiday Coalition
Chambers Chambers, LLC

CIC Hotels	O.A.R.S. Family of Companies
City Center for Collaborative Learning	Peach Properties
Coalition for Sonoran Desert Protection	Poster Frost Mirto Architecture
Conecta Los Puntos	Raven Eye Design LLC
Crow Communications Group, Inc.	REA Media Group
Dan Cavanagh, Inc	RF Strategies
DeTours of AZ	RLB Rider Levett Bucknall
Economic & Human Dimensions Research Assoc.	Rocco's Little Chicago
Empire Fagan Coalition	Safford Peak Watershed Education Team
Four Peaks Brewing Company	Sandor Vineyards
Flame Tree Initiative	Save the Scenic Santa Ritas
Friends of Cabeza Prieta	Sierra Club – Grand Canyon Chapter
Friends of Flagstaff's Future	Sierra Club – Rincon Group
Friends of Ironwood Forest	Sky Island Alliance
Friends of Madera Canyon	Sky Island Watch
Friends of Petrified Forest National Park	Society for Ecological Restoration
Friends of Saguaro National Park	Sonoran Institute
Friends of Tortolita	Southwestern Biological Institute
Gadsden Company	Stewart Travel
Gates Pass Area Neighborhood Association	Super 8 Hotel - Conference Center
General Air Control	NAU/Downtown
Hotel Congress	The Shanty
JL Investments	Tortolita Homeowners Association
Kahtoola, Inc.	Tucson Audubon Society
Linda Cato Arts	Tucson Electric Vehicle Association
Modern Works Music Publishing	Tucson Herpetological Society
Natural Allies	Tucson Historic Preservation Foundation
Northern Arizona Center for Entrepreneurship & Technology	Tucson Mountains Association
Northwest Neighborhood Alliance	Watershed Management Group
	Western Sky Communications

Arkansas

Statewide Supporters

Arkansas Hospitality Association	Southeast Tourism Society
Arkansas State Parks, Recreation, and Travel Commission	

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)

Arkansas State Chamber of Commerce	Harrison Convention and Visitors Bureau
Bentonville-Bella Vista Chamber of Commerce	Norfolk Lake Chamber and Tourism
Calico Rock Area Chamber of Commerce	Northwest Arkansas Council
Dumas Chamber of Commerce	Ozark Mountain Region
Experience Fayetteville	Rogers-Lowell Area Chamber of Commerce
Fayetteville Chamber of Commerce	Searcy County Chamber of Commerce
Fort Smith Convention and Visitors Bureau	Visit Bentonville
Greater Hot Springs Chamber of Commerce	Visit Hot Springs

Gateway Community businesses and organizations

Friends of Hot Springs National Park	Friends of the North Fork and White Rivers
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California

Gateway Community resolutions

Town of Fairfax
City of Novato
City of Petaluma
Town of Ross

Elected Officials

Cecilia Aguiar-Curry, Assembly, 4th District
Richard Kerr, Mayor, Adelanto
Paul Pitino, Mayor, Arcata
Mary Sure Maurer, Mayor, Calabasas
Randall Bonner, City Council, Canyon Lake
Randall Stone, City Council, Chico
Joseph Tessari, Mayor, Eastvale
Brady Jenkins, Mayor, Firebaugh
Serge Dedina, Mayor, Imperial Beach
John McCauley, Mayor, Mill Valley
Dawn Haggerty, Mayor, Canyon Lake
Blake Inscore, Mayor Pro Tem, Crescent City
Renee Goddard, Mayor, Fairfax
Jack Castro, City Manager, Huron
Bruce Blayney, Mayor, Kingsburg
Catherine Way, Mayor, Larkspur
Derek Robinson, Mayor Pro Tem, Madera
Tim Stearns, Mayor Pro Tem, Mt. Shasta
Evan Phelps, Mayor, Nevada
Reinette Senum, City Council, Nevada
Valerie Moberg, City Council, Nevada
Janet Goodson, Vice Mayor, Oroville
Carmen Ramirez, Mayor Pro Tem, Oxnard

Robert Moon, Mayor, Palm Springs
David Glass, Mayor, Petaluma
Dave King, Vice Mayor, Petaluma
Jim Cunningham, Mayor, Poway
Mary Fast, City Council, Reedley
Susan Rohan, Mayor, Roseville
Kathleen Hoertkorn, Mayor, Ross
Frank Gonzalesz, Mayor, Sanger
Kate Colin, Vice Mayor, San Rafael
Helene Schneider, Mayor, Santa Barbara
Harwood White, Mayor Pro Tem, Santa Barbara
Peter Zahn, Deputy Mayor, Solana Beach
Julie Fulkerson, Former Mayor, Trinidad
Gary Soiseth, Mayor, Turlock
Erik Nasarenko, Mayor, Ventura
Warren Gubler, Vice Mayor, Visalia
Robert Leone, Mayor, Yucca Valley
Rodrigo Espinoza, Supervisor, Merced County
Richard Anderson, Supervisor, Nevada County
John Gray, Supervisor, Tuolumne County
Matthew Serratto, City Council, Merced
Jose Ornelas, City Council, San Joaquin
Norman Shaskey, City Council, Yreka

Statewide Supporters

Asian and Pacific Islanders Americans in Historic Preservation
California Wilderness Coalition
Coalition for Responsible Transportation Priorities
CREEC Network
Endangered Habitats League
Forests Forever
Western National Parks Association

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)

Anderson Chamber of Commerce
Bishop Area Chamber of Commerce and Visit
Bishop
Calaveras Visitors Bureau
Camarillo Chamber of Commerce and Visit
Camarillo

Cathedral City Chamber of Commerce
Crescent City/Del Norte County Chamber of
Commerce
Death Valley Chamber of Commerce
Fresno/Clovis Convention and Visitors Bureau
Goleta Valley Chamber of Commerce

Half Moon Bay Coastside Chamber of
Commerce and Visitors Bureau
Joshua Tree Chamber of Commerce
King City Chamber
Lake Almanor Chamber & Visitor Center
Larkspur Chamber of Commerce
Mammoth Lakes Chamber of Commerce
Mammoth Lakes Tourism
Millbrae Chamber of Commerce
Mt. Shasta Chamber of Commerce
Oakhurst Chamber of Commerce
Oxnard Chamber of Commerce
Oxnard Convention and Visitors Bureau
Palm Desert Area Chamber of Commerce
Red Bluff Chamber of Commerce
Ridgecrest Area Convention and Visitors Bureau
San Benito County Chamber of Commerce and
Visitors Bureau
San Carlos Chamber of Commerce

Gateway Community businesses and organizations

Aimee June Winery
All Solar Electric
Applied Solar Energy
Arts Alliance of Three Rivers
ASI Peak Adventures
Audubon Canyon Ranch
Aztec Mobilhome Estates
Bay Area Discovery Museum
Bear Yuba Land Trust
BeeGreenFarm
Big Sur Garden Gallery
Big Sur Tours
Big Wheel Tours
Buckeye Tree Lodge
Calaveras Winegrape Alliance
Cal-Flor Accessory Systems
California Native Plant Society - Mount Lassen
Chapter
California Native Plant Society - Alta Peak
Chapter
Castle Rock Climbing School
Cedar Lanes
Center for Sierra Nevada Conservation
Central California Inbound & Refined Journeys
Central Sierra Environmental Resource Center
Channel Islands Outfitters
Clearwater Lodge – Fall River Mills
Cliffhanger Guides
Committee for Green Foothills
Community Energy Services Corporation

San Francisco Chamber of Commerce
San Francisco Convention and Visitors Bureau
San Mateo Chamber of Commerce
San Mateo County/Silicon Valley Convention
and Visitors Bureau
Santa Barbara Chamber of Commerce
Santa Barbara Convention and Visitors Bureau
Santa Monica Tourism and Travel
Simi Valley Chamber Tourism Alliance
Soledad-Mission Chamber of Commerce
Tehachapi Chamber of Commerce
Tehama Country Visitor Center
Tulelake Chamber of Commerce
Twentynine Palms Chamber of Commerce
Ventura County Lodging Association
Ventura Visitor and Convention Bureau
Visalia Convention and Visitors Bureau
West Marin Chamber of Commerce

Community Venture Partners, Inc.
Conscious Elders Network
Conservation Corps North Bay
Courtyard by Marriott, Larkspur
Coyote Corner
Desert Adventures Red Jeep Tours & Events
Diner on Main/California Banquet Corp.
Eagle House Victorian Inn
Eagle Rider Motorcycles
El Morocco Inn & Day Spa
Five Dot Ranch
Grass Valley Retreat Home Rental
Gray Whales Count
Green Gulch Farm
Greenway Partners
Homestead Inn
Hostelling International USA- Los Angeles Santa
Monica Hostel
Island Packers Company
Johnny's Bar & Grill
Johns Place Restaurant, Twentynine Palms
Joshua Tree adventures
Let's Go! Travel
Maturango Museum
McKellar Family Farms
Mother Road Enterprises
Mount Shasta Bioregional Ecology Center
Mount Shasta Retreat
Museum of Contemporary Art Santa Barbara
Naylor's Organic Family Farm Stay

North Shore Ace Hardware	Tehama Oaks Winery
Ojai Raptor Center	The Joshua Tree Tortoise Telegraph Newspaper
Ol' Buckaroo Diner, Three Rivers	The Kaweah Commonwealth
Ore-Cal Resource Conservation & Development	The O.A.R.S. Family of Companies
Platypus Tours Limited	The O.A.R.S. Foundation
Red and White Fleet	The Sun Runner Magazine
Reimer's Candies	Theatre on the Ridge
Rio Sierra Riverhouse	Tributary Whitewaters Tour
River's Edge Boutique	Trickle Creek Ranch
Sagewater Spa	Tule Lake Committee, Inc.
Sail Channel Islands	Turtle Island Restoration Network
Samudra Skin & Sea	Uprising Adventure Guides, Inc.
San Francisco Baykeeper	Urban Hiker SF
San Francisco Parks Alliance	Ventana Wildlife Society
Santa Barbara Botanic Garden	Visalia Fox Theatre
Santa Barbara Museum of Natural History	We Care Spa
Sequoia Riverlands Trust	WildCare
Sequoia Village Inn, LLC	WildEarth Guardians
Servpro of Palm Springs	Wilderness Youth Project
SF Fire Engine Tours & Adventures	Wildling Museum of Art and Nature
Sierra Cascade Land Trust Council	YExplore Yosemite Adventures
Sierra Club - Yahi Group	Yosemite Bug Rustic Mountain Resort
Siskiyou Land Trusts	Yosemite Highway Herald
SW Stories with Steve Brown (KVCR PBS TV)	Yosemite Naturalist
Spin & Margies Desert Hideaway	Zach Green Films
Sushi Ran	

Colorado

Gateway Community resolutions

City of Cortez	Town of Grand Lake
Town of Estes Park	City of Montrose
Grand County	

Elected Officials

Suzanne Jones, Mayor, Boulder	Rosalie Pinney, County Commissioner, Grand County
Lisa Morzel, City Council, Boulder	Becky Elder, Town Trustee, Manitou Springs
Jan Burton, City Council, Boulder	Rex Swanson, Mayor, Montrose
Bob Holcomb, Town Trustee, Estes Park	Dan Gibbs, County Commissioner, Summit County
Patrick Martchink, Town Trustee, Estes Park	Kam Stiegelmeier, County Commissioner, Summit County
Wendy Koenig, Town Trustee, Estes Park	Thomas Davidson, County Commissioner, Summit County
Bob Overbeck, City Council, Fort Collins	John Schafer, City Council, Woodland Park
E. Jane Tollet, County Commissioner, Grand County	
Kristen Manguso, County Commissioner, Grand County	
Merrit Linke, County Commissioner, Grand County	

Statewide Supporters

Colorado Mountain Club
 Colorado Youth Corps Association
 Continental Divide Trail Coalition
 HistoriCorp

Southwest Conservation Corps
 The Colorado Mountain Bike Association
 Volunteers for Outdoor Colorado
 Western National Parks Association

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)

Alamosa County Chamber of Commerce
 Alamosa Convention & Visitors Bureau
 Boulder Convention and Visitors Bureau
 Colorado Springs Convention and Visitors Bureau
 Dolores Chamber and Visitor Center
 Estes Park Economic Development Corporation
 Estes Area Lodging Association
 Grand County Economic Development

Grand County Tourism Board
 Grand Junction Visitor and Convention Bureau
 Gunnison-Crested Butte Tourism Association
 Moffat Co. Tourism Association
 Montrose Chamber of Commerce
 Rangely Area Chamber of Commerce
 Visit La Junta
 Visit Longmont
 Visit Estes

Gateway Community businesses and organizations

A La Carte
 Alpine Archaeological Consultants, Inc.
 Arkansas River Tours
 Bluff Lake Nature Center
 Bureau
 Carefree of Colorado
 Center of Southwest Studies, Fort Lewis College
 Coalition for the Upper South Platte
 Conservation Legacy
 Dawn Wilson Photography
 Eden Valley Institute
 Ela Family Farms
 Environmental Learning for Kids (ELK)
 Estes Park ATV
 Estes Park Mountain Shop
 Fall River Village
 Fishpond, Inc.
 Friends of the Peak
 Gold Strike Inn
 Great Divide Pictures
 Heaven's Popcorn
 Images of Rocky Mountain National Park
 Inkwell & Brew
 Jovial Concepts
 Jump Start
 Junction West RV Park
 Kind Coffee
 Lewis & Co
 Lucky Bear B&B
 Macdonald Bookshop

Mountain Man Fruit and Nut Co.
 Rinaldo's Paris Bakery
 Rocky Mountain Conservancy
 Rocky Mountain Holiday Tours
 Rocky Mountain Salsa
 Sagebrush BBQ and Grill
 Sea to Summit
 Smart Cookie Treats
 Sticks-N-Stones
 Styria Bakery
 Swiftcurrent Lodge, Inc.
 The Bearded Monkey
 The Caramel Crisp Shop
 The Gearage
 The Greenway Foundation
 The Hiking Hut
 The Hoof and Feather Gallery
 The Hub
 The Trading Post
 Turtle Mountain Tea
 Tussey Kids Clothing
 Voormi
 Walking Mountains Science Center
 Western Resource Advocates
 Wild Spirits Gallery
 WildEarth Guardians
 Wildside 4X4 Tours
 Wymbrier Home
 YMCA of the Rockies
 Zippity Zoo Barnyards

Connecticut

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)
Wilton Chamber of Commerce

Delaware

Statewide Supporters
Delaware Wild Lands
Delaware Nature Society

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)
Greater Wilmington Convention and Visitors Bureau

District of Columbia

Gateway Community businesses and organizations
Cultural Heritage Partners, PLLC
Georgetown Heritage

Florida

<i>Statewide Supporters</i>	Florida Restaurant & Lodging Association
Florida Hospitality Industry Association	
Gulf Restoration Network	
Southeast Tourism Society	

<i>Chambers of Commerce and Convention and Visitors Bureaus (CVBs)</i>	
Bradenton Area Convention and Visitors Bureau	Marco Island Chamber of Commerce
Brevard Tourism Development Council	Southeast Volusia Chamber of Commerce
Convention and Visitors Bureau	St. Augustine, Point Vedra, and The Beaches
Fort Walton Beach Chamber of Commerce	Visitors and Convention Bureau
Greater Pensacola Chamber of Commerce	Titusville Chamber of Commerce
Homestead Main Street	Tropical Everglades Visitors Association
New Smyrna Beach Area Visitors Bureau	Visit Jacksonville
Okaloosa County Tourist Development Council	Visit Pensacola
Coconut Grove Chamber of Commerce	
Destin Chamber of Commerce	
Greater Naples Chamber of Commerce	
JAX Chamber of Commerce	

Gateway Community businesses and organizations
JFM LLC
Sweat, LLC
SouthArc, Inc.

Georgia

Gateway Community resolutions

City of Atlanta

Statewide Supporters

Georgia Restaurant Association

Southeast Tourism Society

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)

Brunswick-Golden Isles Chamber of Commerce

Cobb Travel and Tourism

Dooly County Chamber of Commerce

Explore Gwinnett

Fort Oglethorpe Tourism Association

Golden Isles Convention and Visitors Bureau

Macon Convention and Visitors Bureau

Macon County Chamber of Commerce

Savannah Area Chamber of Commerce

St. Mary's Convention and Visitors Bureau

Tybee Island Chamber of Commerce

Visit Savannah

Visit Tybee Island

Gateway Community businesses and organizations

6th Cavalry Museum

Hawaii

Statewide Supporters

Hawaii Lodging and Tourism Association

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)

Chamber of Commerce Hawaii (statewide)

Maui Hotel and Lodging Association

Molokai Chamber of Commerce

Gateway Community businesses and organizations

Hotel Molokai

Makani Kai Air

Idaho

Elected Officials

Marc Bolduc, County Commissioner, Golding County

Statewide Supporters

Continental Divide Trail Coalition

Idaho Lodging & Restaurant Association

Idaho Retailers Association

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)

Hagerman Valley Chamber of Commerce

Hailey Chamber of Commerce

Jerome Chamber of Commerce

Lincoln County Chamber of Commerce

Orofino Chamber of Commerce

Pocatello-Chubbuck Chamber of Commerce

Rigby Chamber of Commerce

Teton Regional Economic Coalition

Twin Falls Chamber of Commerce

Visit Pocatello

Yellowstone Teton Territory

Gateway Community businesses and organizations

BT's Fly Fishing & Photography

Illinois

Statewide Supporters

Illinois Hotel & Lodging Association

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)

South Chicago Chamber of Commerce
Springfield Convention & Visitors Bureau

Indiana

Statewide Supporters

Indiana Tourism Association

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)

Indiana Dunes Tourism
Northern Indiana Tourism Development Commission
Perry County Chamber of Commerce
Perry County Development Corporation
Portage Economic Development Corporation
Spencer County Chamber of Commerce

Iowa

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)

Allamakee County Economic Development & Tourism
Waukon Chamber of Commerce

Kansas

Statewide Supporters

Western National Parks Association

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)

Chase County Chamber of Commerce
Emporia Area Chamber and Visitors Bureau
Fort Scott Chamber of Commerce and Tourism Center
Topeka Convention and Visitors Bureau

Kentucky

Gateway Community resolutions

Barren County
City of Brownsville
City of Cave City
Edmonson County

City of Horse Cave
City of Munfordville
City of Park City
Warren County

Elected Officials

Sonny Prunty, City Council, Brownsville
 Dwayne Hatcher, Mayor, Cave City
 Joseph Durbin, County Commissioner,
 Edmonson County

Mark Young, County Commissioner, Warren
 County
 Tom Lawrence, County Commissioner, Warren
 County

Statewide Supporters

Kentucky Association of Convention and
 Visitors Bureaus
 Kentucky Hotel and Lodging Association

Kentucky Travel Industry Association
 Southeast Tourism Society

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)

Kentucky Chamber of Commerce (statewide)
 Bell County Tourism
 Bowling Green Area Convention and Visitors
 Bureau
 Cave City Chamber of Commerce
 Cave City Tourism and Convention Commission
 Caveland Marketing Association, Inc.
 Edmonson County Chamber of Commerce

Elizabethtown Convention and Visitors Bureau
 Glasgow - Barren County Chamber of
 Commerce
 Hardin County Chamber of Commerce
 Harrodsburg/Mercer County Tourist
 Commission
 Hart County Chamber of Commerce

Gateway Community businesses and organizations

Baymont Inn and Suites-Bowling Green
 Candlewood Suites-Bowling Green
 Fairfield Inn and Suites-Bowling Green
 Gerald Printing

Holiday Inn Express-Bowling Green
 Jellystone Park of Mammoth Cave
 Lost River Cave

Louisiana***Gateway Community resolutions***

City of Leesville
 City of Monroe
 City of Natchitoches

City of New Orleans
 St. Bernard Parish

Elected Officials

Regina Barrow, State Senator, District 15 (Baton
 Rouge)
 Barbara Norton, State Representative, District 3
 (Shreveport)
 Kenny Cox, State Representative, District 23
 (Natchitoches)
 Ed Price, State Representative, District 58
 (Gonzales)
 Paula Davis, State Representative, District 69
 (Baton Rouge)
 Walt Leger III, State Representative, District 91
 (New Orleans)
 Mitch Landrieu, Mayor, New Orleans
 Stacy Head, City Council President, New
 Orleans

James Gray, City Council, New Orleans
 Jared Brossett, City Council, New Orleans
 Jason Williams, City Council, New Orleans
 LaToya Cantrell, City Council, New Orleans
 Nadine Ramsey, City Council, New Orleans
 Susan Guidry, City Council, New Orleans
 Woody Koppel, School Board, New Orleans
 Dawn Collins, School Board, New Orleans
 Nolan Marshall, School Board, New Orleans
 Barbara Frieberg, School Board, Baton Rouge
 Connie Bernard, School Board, Baton Rouge
 David Tatum, School Board, Baton Rouge
 Vereta Lee, School Board, Baton Rouge
 Lee Posey, Mayor, Natchitoches
 Don Mims, City Council, Natchitoches

Sylvia Marrow, City Council, Natchitoches
 Eddie Harrington, City Council, Natchitoches
 Dale Nielsen, City Council, Natchitoches
 Lawrence Batiste, City Council, Natchitoches
 Rick Allen, Mayor, Leesville
 Chris Robertson, City Council, Leesville

Willie Mae Kennedy, City Council, Leesville
 Danny Dowd, City Council, Leesville
 Tony Shapkoﬀ, City Council, Leesville
 Alice Guess, City Council, Leesville
 William Thomas, City Council, Leesville

Statewide Supporters

Gulf Restoration Network
 Louisiana Council of Teachers of English
 Louisiana Environmental Action Network
 Louisiana Landmarks Society
 Louisiana Living History Foundation
 Southeast Tourism Society

Louisiana Public Adjusters
 Louisiana Travel Promotion Association
 Louisiana Weekly
 Louisiana Women's Network

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)

Jefferson Chamber of Commerce
 Lake Charles/Southwest Louisiana Convention & Visitors Bureau
 Madison Parish Tourism
 Natchitoches Convention and Visitors Bureau
 New Orleans Convention and Visitors Bureau
 St. Bernard Chamber of Commerce
 Visit Jefferson Parish

Gateway Community businesses and organizations

6th District New Orleans Police Advisory
 Council
 AARP-New Orleans Chapter
 Lambert Law Office
 AJ Sisco Photography
 American Association of Blacks in Energy -
 Southwest Chapter
 Archcessory, Inc.
 Area Agency on Aging New Orleans
 Axxess-It
 Barbara Cambias Clark Personal Trainers
 Baton Rouge Nanny
 BBL&G Financial Consulting
 Beads by the Dozen
 Benroe Housing Initiatives
 Blue Camp Arts LLC
 Broadspire
 Burton Steel Photography
 Cafe Amelie
 Cafe Reconcile
 Carriere and Dunn CPAs
 Carrollton Riverbend Neighborhood Association
 Center for Restorative Breast Surgery
 Champions of Greater New Orleans
 Chic Nouvelle

Ciolino Law Firm
 City of New Orleans Sewerage and Water Board
 Claver Foundation
 Cogent Concepts
 Commander's Palace
 Community Volunteers Association
 Couchsurfing.com
 Creole Queen History Cruise
 Crimestoppers Inc.
 Cumulus Media Baton Rouge Office
 D Sixty 7 Consulting
 Dan Wally Baker Dance
 Debbie de la Houssaye French Translator
 District Attorney's Office of New Orleans
 Dr. Stanton Lee, Internal Medicine
 DYNEL Inc
 Einstein Charter School
 Elder Action Coalition of New Orleans
 Elite Construction
 Elizabeth Livingston, Artist
 Encore Learning
 Evan Barnes Chauffeurs
 Evan Barnes Chauffeurs
 eVentures Technologies
 EWI Healthcare

Faubourg Marigny Improvement Association	New Orleans Ballet Association
Faubourg St. John Neighborhood Association	New Orleans Coalition
Frances Chapman Freelance	New Orleans Council on Aging
Friends of Merci Academy	New Orleans Creole Belle Baby Dolls
Friends of Our Lady of Good Counsel	New Orleans Family Justice Center
Genevieve Trimble, Author	New Orleans Fringe Festival
Mark Lewis, Author	New Orleans Healing Center
Green Party of Louisiana	New Orleans Rose Association
Gretna Historic Home Tours	New Orleans Senior Fest
Gretna Visitors Center	NOLA Beer Blog
Gulf South Strategies	Nolavore
H2NOLA	Ocean Star Media LLC
Heller Draper Law Firm	Operation Comeback
Historic New Orleans Collection	Orleans Assessor's Office
Hog Dat Nation	Orleans Parish Sheriff's Office
Holistic Resolution Inc	Our Lady of Lourdes Church Alumni
Hometown Productions	Pendarvis Media
Hop and Jaunt Advertising	Preservation in Print
Hoskins General Contractor and Landscaping	Preservation Resource Center
HRI Properties	Presse Dufour
Hubie Vigreux Photography	Renew Charter School
Irish Channel Neighborhood Association	Rhodes Funeral Home
Jauntiness Productions	Scott Shea ESQ
Jefferson Aging and Disability Resource Center	Servesafe
Jefferson Council on Aging	Simmons and White Consulting
Jeffersonghostwalk.com	Southern Louisiana Community College
Jericho Road Episcopal Housing	Southern Oaks Plantation
Kabuki Hats	Southern University AG Center
L9 Center for the Arts	St. John Farmers Market Advisory Board
LA Manimals	St. Mary's Academy
Ladies Auxiliary, Knights of Peter Claver	St. Peter Claver Catholic Church
Latter and Blum Realtors	Stephen Clayton Art Gallery
Lemann Playground No. 2	T & L Advertising
Living History Foundation	The Company Burger
Lofton Staffing	The Marketing Center
Lots of Green LLC	The Walker Group
Loyola University Student Union	Tina J. Studio
LSU Ambassadors	True Tales from Mardi Gras NOLA
Maraud Foundation	Uptown Auto Specialists
Marshall Studios	Valmont Properties
Mary Lane Carleton, Preservation Consultant	Vieux Carre Property Owners and Renters Association
Melissa Lee Communications	Walter L Cohen High School Alumni Group
Messy Cookers Jazz Band	WCW Inc.
Michael Duplantier, ESQ	WIN Partners
Mighty Muffins	Wise Buys
Mr. Everything Cafe	Women's Center for Healing
National Association of Black Accountants, Louisiana	Y'all Come to the Table
Neighborhood Partnerships Network	Yvonne Perret, Author

Maine

Statewide Supporters

Maine Tourism Association

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)

Machias Bay Area Chamber of Commerce

Maryland

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)

Baltimore City Chamber of Commerce

Berlin Main Street Association

Dorchester Chamber of Commerce

Hagerstown-Washington County Chamber of Commerce

Heart of Chesapeake Country Heritage Area

Montgomery County Chamber of Commerce

Ocean City Chamber of Commerce

Prince George's County Convention and Visitors Bureau

Visit Baltimore

Visit Montgomery

Gateway Community businesses and organizations

Applied Archaeology and History Associates, Inc.

World Black History on Periscope

Massachusetts

Resolutions

Town of Eastham

City of Lowell

Elected Officials

Joan Lovely, State Senator, 2nd District (Essex)

Dan Wolf, former State Senator, Cape and Islands District

Adrian Madaro, State Representative, 1st District (Suffolk)

Timothy Whelan, State Representative, 1st District (Barnstable)

Matthew Muratore, State Representative, 1st District (Plymouth)

Sarah Peake, State Representative, 4th District (Barnstable)

Paul Tucker, State Representative, 7th District (Essex)

Robert Koczera, State Representative, 11th District (Bristol)

Daniel Hunt, State Representative, 13th District (Suffolk)

Cory Atkins, State Representative, 14th District (Middlesex)

Timothy Madden, State Representative, Barnstable, Dukes, and Nantucket District

Martin Walsh, Mayor, Boston

Andrea Campbell, City Council, Boston

Annisssa Essaibi-George, City Council, Boston

Bill Linehan, City Council, Boston

E. Denise Simmons, Mayor, Cambridge

Edward Kennedy, Mayor, Lowell

Cory Belanger, City Council, Lowell

Thomas Koch, Mayor, Quincy

Brian Palmucci, City Council, Quincy

Ian Cain, City Council, Quincy

William Harris, City Council, Quincy
 Kimberly Driscoll, Mayor, Salem
 Josh Turiel, City Council President, Salem
 David Eppley, City Council, Salem
 Stephen Dibble, City Council, Salem
 Stephen Lovely, City Council, Salem
 Jonathan Mitchell, Mayor, New Bedford

Domenic Sarno, Mayor, Springfield
 Adam Gomez, City Council, Springfield
 Kateri Walsh, City Council, Springfield
 Marcus Williams, City Council, Springfield
 Michael Fenton, City Council, Springfield
 Timothy Rooke, City Council, Springfield

Statewide Supporters

Environmental League of Massachusetts
 Massachusetts Historical Society
 Massachusetts Restaurant Association

Preservation Massachusetts
 Retailers Association of Massachusetts

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)

Greater Boston Convention & Visitors Bureau
 Greater Merrimack Valley Convention and
 Visitors Bureau
 Boston Green Tourism
 Brewster Chamber of Commerce
 Cambridge Chamber of Commerce
 Cape Cod Canal Region Chamber of Commerce
 Cape Cod Chamber of Commerce
 Concord Chamber of Commerce
 Dennis Chamber of Commerce
 Destination Plymouth
 Destination Salem
 Eastham Chamber of Commerce
 Hanover/Norwell Business Council
 Lexington Retailers Association

Marshfield Chamber of Commerce
 New Bedford Area Chamber of Commerce
 North Shore Chamber of Commerce
 Orleans Chamber of Commerce
 Plymouth Area Chamber of Commerce
 Plymouth County Development Council
 Plymouth Plantation
 Provincetown Chamber of Commerce
 Rockland Chamber of Commerce
 Salem Chamber of Commerce
 Sandwich Chamber of Commerce
 Wellfleet Chamber of Commerce
 Weymouth Chamber of Commerce
 Yarmouth Chamber of Commerce

Gateway Community businesses and organizations

118Group, LLC
 Abigail Adams Historical Society
 Ad+Genuity Marketing Solutions, Inc.
 AdamsComm, Inc.
 Archaeological Institute of America – Worcester
 Chapter
 Atlantic Design Engineers, Inc.
 Atlantic Renewable Energy Services, Inc.
 B12 Technologies
 Back to Nature Rentals
 Backworks
 Bakken CPA, PC
 Baldwin Realty Group
 Bewitched After Dark Tours
 Bluebird Café
 Bond Printing & Marketing
 Boston Duck Tours
 Boston Harbor Now
 Boston Preservation Alliance
 Bostonian Society

Bright Language Testing
 BVA Energy LLC
 Café' Chew
 Cape Cod Beer
 Cape Cod Coffee
 Cape Codder Resort & Spa
 Cape Navigate
 Captain Tom Lawrence House Inn
 CARE for the Cape and Islands
 carlsonCREATIVE, inc.
 Carney Environmental
 Catania Hospitality Group
 Centerline Communications
 Chip Bishop Communications
 City of New Bedford Office of Tourism
 Marketing
 Clapp's Guest House
 Client Marketing Power
 Codfish Press
 Conway Enterprises Ltd. Inc.

Cornerstone Cafe'	Moore Media, Inc.
Craft Beer Cellar	Murphy Business Brokers, Cape Cod
Dan'l Webster Inn & Spa	Nantucket Sound
Eastham Ace Hardware	New England Aquarium
Edible Cape Cod	O'Sullivan and Associates
Friends of the Public Garden	Pickle Jar Kitchen
Girls Incorporated of Greater Lowell	Plymouth 400, Inc
Goldenrod Foundation	Seafood Sam's
Goldsmith, Inc.	Sports Travel and Tours
Greater Boston Concierge Association	Springfield Regional Chamber
H&R Block - Hyannis	The Association to Preserve Cape Cod, Inc.
Hearth n' Kettle Restaurants	(APCC)
Historic Boston Incorporated	The Captain's Manor Inn
Kinlin Grover Real Estate	The Clam Man
Kiskadee Coffee	The Freedom Trail Foundation
Lowell Heritage Partnership	The Hot Chocolate Sparrow
Lowell Parks & Conservation Trust, Inc.	The Scoop
Lowell Plan, Inc.	The Saunders Hotel Group
Main Street Hospitality Group at The Red Lion	Tiny & Sons Auto Glass
Inn	Triffletti & Costa, P.C.
Marspec Inc. (dba Marine Specialties)	Wellfleet Motel & Lodge
Mashpee Wampanoag Tribe	WeNeedAVacation.Com
MassIgnite	Wolfe Adventures & Tours, LLC
Merrimack Valley Housing Partnership	

Michigan

Statewide Supporters

Michigan Lodging and Tourism Association
Michigan Manufactured Housing, Recreation Vehicle, and Campground Association

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)

Alger County Chamber of Commerce	Keweenaw Convention and Visitors Bureau
Empire Chamber of Commerce	Leland Chamber of Commerce
Frankfort-Elberta Chamber of Commerce	Munising Downtown Development Authority
Glen Lake Chamber of Commerce	Suttons Bay Chamber of Commerce
Greater Munising Bay Partnership for	Traverse City Tourism
Commerce Development	

Gateway Community businesses and organizations

Arbor Woods Vacation Homes	Indigo Bluffs RV Park and Resort
Art's Tavern	Leelanau Coffee Roasting Company
Cherry Republic	Sleeping Bear Surf and Kayak
Empire Outdoors	

Minnesota

Elected Officials

Nancy Tyra-Lukens, Mayor, Eden Prairie
Tina Folch, City Council, Hastings
Doug Menikheim, City Council, Stillwater
Amy Brendmoen, City Council, St. Paul

Dai Thao, City Council, St. Paul
Rebecca Noecker, City Council, St. Paul
Russ Stark, City Council, St. Paul

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)

Cook County Chamber of Commerce
Destination Voyageurs National Park
Falls Chamber of Commerce
International Falls, Rainy Lake and Ranier
Convention and Visitors Bureau

Inver Grove Convention and Visitors Bureau
Kabetogama Lake Association
Pipestone Chamber of Commerce
Visit Cook County
Visit St. Paul

Gateway Community businesses and organizations

Arrowhead Lodge and Resort
Cycle Path Paddle
Finn Sisu Sporting Goods
Gear West
North Star Canoes

NorthWest Canoe
Piragis Northwoods Company
Superior North Outdoor Center
Wilderness Inquiry

Mississippi

Gateway Community resolutions

City of Natchez
City of Ridgeland
City of Tupelo

City of Vicksburg
City of Corinth

Elected Officials

Hob Bryan, State Senator, 7th District (Amory)
John Horhn, State Senator, 26th District (Jackson)
David Blount, State Senator, 27th District (Jackson)
Bob Dearing, State Senator, 37th District (Natchez)
D. Stephen, State Representative, 16th District (Plantersville)
Oscar Denton, State Representative, 55th District (Vicksburg)
Robert Johnson III, State Representative, 94th District (Natchez)

Butch Brown, Mayor, Natchez
Gloria Holland, Mayor, Plantersville
Sadie Holland, Justice Court Judge, Plantersville
Gene McGee, Mayor, Ridgeland
D.I. Smith, Alderman, Ridgeland
Jason Shelton, Mayor, Tupelo
Jim Johnson, Sherriff, Tupelo
Lynn Bryan, City Council, Tupelo
George Flaggs, Mayor, Vicksburg
Billie Joe Holland, County Supervisor, Lee County

Statewide Supporters

Bed and Breakfast Association of Mississippi
Gulf Restoration Network
Mississippi Main Street Association
Natchez Trace Compact
Southeast Tourism Society

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)

Canton Chamber of Commerce Main Street Association	Mississippi Gulf Coast Regional Convention & Visitors Bureau
Canton Convention and Visitors Bureau	Okolona Area Chamber of Commerce
Calhoun County Economic Development Association	Ridgeland Tourism Commission
Claiborne County-Port Gibson Chamber	The Alliance: Corinth and Alcorn Co.
Clinton Chamber of Commerce	Tishomingo Co. Tourism Council
Kosciusko-Attala Development Corporation	Tupelo Convention and Visitors Bureau
	Visit Jackson

Gateway Community businesses and organizations

A2Z Printing	Jones Lumber Company
African-American Military History Museum	Jordan Flooring
Ajax Diner	Jordan, Kaiser and Sessions Engineering
B&B Concrete	KC Grist Consulting
Baria-Jones Law Firm	Ketco Enterprises
Battle Focus	Kings Tavern Natchez
Black Jack Oil	Kossen Equipment
Blaylock Fine Art Photography, Inc	LB Properties LLC
Borum Family Health Clinic for Children and Adults	Luckett Communications
Boys & Girls Clubs of North Mississippi	Magnolia Cultural LLC
Capital Financial Group - Tupelo office	Middleton Law Firm
Carby And Carby PC	Mindful Therapy
Cathead Vodka	Mississippi e-Center
CDA Hospitality	Mitchell McNutt Lawfirm
Century Commercial Real Estate Services	Molpus Woodlands Group
Charboneau Distillery	Natchez Arts Gallery
Clapton Realty Company	Natchez Childrens Services
Cotton Alley Cafe	Natchez, Inc.
Craft Spirits LLC	Open Air Tours
Crowd Qwest LLC	P3 Strategies LLC
Duvall Decker Architects	Peters Real Estate
Echo Pictures	Phelps Dunbar Tupelo
Eichelberger Law Firm	Pig Out Inn
Elgin Plantation Guest House	Plan House Printing
Forum Family Health Clinic	Prime Time Agency
FR Blankenstein Wholesale	Reed's Clothing
Fred Richards, CPA	Risk Management Partners
General Pump Hardware Store	Ritter Law Firm
Grennell Paint Quarter Horses	Rolling Roasters Bistro
Guice Agency	Safe and Sound Home Care
Harden Enterprises	Salmon Architect, LLC
Hardy Reed Financial Consultants	Scent from Natchez
Historic Natchez Foundation	Shanty Bellum
Hudson Management Corp. dba McDonalds	Silas Simmons, CPA
Imaginary Company	Slover and Associates
J. Britt Lighting and Interiors	Sportsman Lawn and Landscape
James Bell, Attorney	Stahlman Management Services
James L. Weir Law Firm	StateStreet Group, LLC
	Stedman Real Estate

Stephens and Hobdy Insurance
 Stratton Bull Law Firm
 The Archaeological Conservancy-Southeast
 The Greenlea Company
 The Learning Skills Center
 The Link Centre
 Tour by Design

Truly, Smith and Latham PLLC
 Twin Oaks Natchez, LLC
 Walter Brown Attorney
 Water Fresh, Inc.
 Wayfil Jewelry
 Wood Law Firm

Missouri

Statewide Supporters

Missouri Lodging Association

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)

Carthage Chamber of Commerce
 Carthage Convention and Visitors Bureau
 Eminence Chamber of Commerce
 Explore St. Louis

Joplin Convention and Visitors Bureau
 Salem Area Chamber of Commerce
 Springfield Convention and Visitors Bureau
 Van Buren Chamber of Commerce

Montana

Statewide Supporters

Continental Divide Trail Coalition
 Montana Conservation Corps
 Western National Parks Association

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)

Beaverhead Chamber of Commerce
 Big Sky Chamber of Commerce
 Big Sky Convention and Visitors Bureau
 Dillon Convention and Visitors Bureau
 Gardiner Chamber of Commerce
 Laurel Chamber of Commerce
 Southwest Montana Tourism

Gateway Community businesses and organizations

Clark Fork Trout
 Rocky Mountain International

Nebraska

Statewide Supporters

Nebraska Hotel & Lodging Association
 Nebraska Restaurant Association

Western National Parks Association

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)

Beatrice Chamber of Commerce
 Crawford Chamber of Commerce
 Gage County Tourism

Main Street Beatrice
 Scottsbluff/Gering United Chamber of Commerce

Nevada

Gateway Community resolutions

City of Boulder City
City of Ely

City of Henderson
City of Reno

Elected Officials

James Bilbray, former U.S. Congressman
Richard Segerblom, State Senator, 3rd District
(Las Vegas)
Elliot Anderson, State Assemblyman, 15th
District (Las Vegas)
Carolyn Goodman, Mayor, Las Vegas
Pamela Goynes-Brown, Mayor Pro Tem, Las
Vegas
Mike Saunders, Deputy Attorney, Las Vegas
Steve Sisolak, Chair-County Commission, Clark
County
Larry Brown, County Commission, Clark
County
Chris Giunchigliani, County Commission, Clark
County
Marilyn Kirkpatrick, County Commission, Clark
County
Andy Hafen, Mayor, Henderson

John Lee, Mayor, North Las Vegas
Anita Wood, City Council, North Las Vegas
Isaac Barron, City Council, North Las Vegas
Richard Cherchio, City Council, North Las
Vegas
Melody Van Camp, Mayor, Ely
Kurt Carson, City Council, Ely
Jolene Gardner, City Council, Ely
Pat Robison, City Council, Ely
San Hanson, City Council, Ely
Bruce Setterstrom, City Council, Ely
Roy Edgington, Jr., Mayor, Fernley
Stana Hurlburt, Mayor, Caliente
Allan Litman, Mayor, Mesquite
David Bobzien, City Council, Reno
Chris Garvey, Trustee, Clark County School
Board

Statewide Supporters

Nevada Conservation League & Education Fund
Western National Parks Association

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)

Beatty Chamber of Commerce
Boulder City Chamber of Commerce
Henderson Chamber of Commerce
Las Vegas Asian Chamber of Commerce

Las Vegas Convention and Visitors Authority
Ward 5 Chamber of Commerce
White Pine Chamber of Commerce

Gateway Community businesses and organizations

1 Sun Solar Companies
Accessible Trails Foundation
Archaeological Institute of America Society
Southern Nevada (Las Vegas)
Battle Born Progress
Better Education Today
Billy's BBQ
Carolina Chacon Consulting
Carter Powersports
Central Rotary Club – Las Vegas
Girl Scouts of the Sierra Nevada
Chung Insurance Agency Incorporated

Colucci Animal Trappers and Savers Inc.
Community Services of Nevada
Desert Research Institute
Desert Wind Coffee Roasters
Doral Academy
Education Space
Family to Family Connection
Filthy Animal Apparel
Friends of Gold Butte
Friends of Nevada Wilderness
Friends of Sloan Canyon
Fundraising For Futures

Girl Scout Troop #44 – Las Vegas	Principal Architect LEBODESIGN
Girl Scouts of Southern Nevada	Principal, Anne Johnson, AIA
GLVAR Green Committee	Principal, DECO Lights
Go Solar Las Vegas	Professor, CSN
Goldwater Consulting	Reba Labat Agency LLC
Goldwell Open Air Museum	Red Rock Citizens
Great Basin Institute	RoadUp
Heddy's Fabric	Sandbags LLC
Integrity Partners Inc.	Save Nevada's Water Ban Fracking In Nevada
Kenny Guinn Center for Policy Priorities	SH Architecture
Kiwanis Club of Las Vegas	Sol-Up
Kiwanis Club of the Las Vegas Strip	Southern Nevada Building Construction Trade
Las Vegas Foundation	Council
Las Vegas Health & Fitness Chamber of	Southwest Energy Efficiency Project – Nevada
Commerce	Source Direct Promotions
Laborers International Union Local 872	Summer Swim School
Las Vegas Kids Directory	The Blue Nevadan
Las Vegas Young Professionals	The Magic School
League of Women Voters of Las Vegas Valley	The Vegas Dad
LM Enterprises LLC	The Zen Speaker
Losander Inc.	Trina Johnson Events
Mardy's Designs	Troph LLC
Montoya Law	Vegas Tows LLC
Murrieta & Associates Consulting LLC	Verdek
Nevada Nuclear Waste Task Force	Visual Eye Photography
North Las Vegas Kiwanis Club	Weston Tutoring
North Las Vegas Rotary Club	WOLF Consulting
On the Ranch	Young Democrats of Nevada
Powered By Sunshine	

New Hampshire

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)

Lebanon Area Chamber of Commerce

New Jersey

Elected Officials

Susan McCartney, City Council, West Orange

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)

Eastern Monmouth Area Chamber of Commerce	Morris County Economic Development
Greater Newton Chamber of Commerce	Corporation
Hudson Co. Chamber of Commerce	Morris County Tourism Bureau
Morris County Chamber of Commerce	Sussex Co. Chamber of Commerce
	West Orange Chamber of Commerce

Gateway Community businesses and organizations

Friends of Thomas Edison National Historic Park

New Mexico

Gateway Community resolutions

City of Los Alamos

City of Santa Fe

Elected Officials

Mimi Stewart, State Senator, 17th District
(Albuquerque)

Brian Egolf, Speaker of the House, 47th District
(Santa Fe)

Dale Janway, Mayor, Carlsbad

Ken Miyagashima, Mayor, Las Cruces

Javier Gonzales, Mayor, Santa Fe

Susan O'Leary, Vice Chair County Council, Los
Alamos

Pete Sheehey, County Commissioner, Los
Alamos

Pat Davis, City Council, Albuquerque

Statewide Supporters

Americans for Indian Opportunity

Backcountry Horsemen of New Mexico

Conservation Voters NM

Continental Divide Trail Coalition

Environment New Mexico

EPICS (Education for Parents of Indian Children
with Special Needs)

Interfaith Power & Light

Native American Voters Alliance

New Mexico Hospitality Association

New Mexico Restaurant Association

New Mexico Voices for Children

New Mexico Wilderness Alliance

New Mexico Wildlife Federation

One New Mexico

Opportunity New Mexico

Southwest Conservation Corps

Strong Families New Mexico

Western National Parks Association

Wildearth Guardians

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)

New Mexico Chamber Executives Association

Alamogordo Chamber of Commerce

Albuquerque Chamber of Commerce

Albuquerque Westside Chamber of Commerce

Clayton-Union Co. Chamber of Commerce

Espanola Valley Chamber of Commerce

Farmington Chamber of Commerce

Gallup-McKinley County Chamber of

Commerce

Grants-Cibola County Chamber of Commerce

Las Cruces Green Chamber of Commerce

Los Alamos Chamber of Commerce

Los Alamos Commerce & Development
Corporation

Mora Valley Chamber of Commerce

Otero County Economic Development Council

Raton Chamber and Economic Development

Ruidoso Chamber of Commerce

Santa Fe Chamber of Commerce

Santa Fe Green Chamber of Commerce

Silver City Arts and Cultural District

Silver City Grant Co. Chamber

Visit Carlsbad

Visit Raton

Gateway Community businesses and organizations

Albuquerque Wildlife Federation

Amigos Bravos

Atlixco Productions LLC

Bold Visions Conservation

Buffalo Tours in Los Alamos

CB Fox Department Store – Los Alamos

Conservation Legacy

EDJ Ink – Los Alamos

EdwardJones Investing--Los Alamos

Far Flung Adventures

Focus Ink – Los Alamos

Friends of Bandelier

Gila Conservation Coalition

Gila Resources Information Project

Green Fire Times

Infinity Wellness

JACO Outfitters, LLC

Jewish Community Center of Greater Albuquerque	Rio Grande Chapter of the Sierra Club
Juntos, a project of CVNM Education Fund	Rio Grande Valley Great Old Broads for Wilderness
Los Alamos Historical Society	Rio Puerco Alliance
Los Alamos National Labs (LANL) Foundation	Southwest Organizing Project
Metzger's Hardware – Los Alamos	Taos Land Trust
North Road Inn – Los Alamos	Teres Kids
Pajarito Environmental Education Center/Los Alamos Nature Center	Voces LLC
Partnership for Responsible Business	YWCA Middle Rio Grande

New York

Elected Officials

Anthony Picente, County Executive, Oneida County

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)

Columbia County Tourism
 Dutchess County Regional Chamber of Commerce
 Dutchess Tourism
 Greater Patchogue Chamber of Commerce
 Oneida County Tourism
 Oyster Bay Main Street Association

North Carolina

Statewide Supporters

North Carolina Restaurant & Lodging Association
 Southeast Tourism Society

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)

Alleghany County Chamber of Commerce	Greensboro Convention and Visitors Bureau
Andrews Chamber of Commerce	Henderson County Chamber of Commerce
Asheville Area Chamber of Commerce	Henderson County Tourism Development Authority
Asheville Convention and Visitors Bureau	Outer Banks Chamber of Commerce
Avery County Chamber of Commerce	Outer Banks Visitors Bureau
Blowing Rock Chamber of Commerce	Watauga/Boone Tourist Development Authority
Blowing Rock Tourism Development Authority	Wilmington and Beaches Convention and Visitors Bureau
Boone Area Chamber of Commerce	Wilmington Chamber of Commerce
Brevard/Transylvania Chamber of Commerce	
Crystal Coast Tourism Authority	

Gateway Community businesses and organizations

Antler Ridge Vacation Rentals
 Di Santi Watson Capua Wilson & Garrett, PLLC – Blowing Rock
 Jerome D. Miller, CFP – Blowing Rock
 Mast General Store, Inc. -- Boone
 ZAP Fitness – Blowing Rock

North Dakota

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)

Beulah Chamber of Commerce and Convention and Visitors Bureau	McKenzie County Tourism Bureau
Hazen Chamber of Commerce	Medora Convention and Visitors Bureau

Gateway Community businesses and organizations

Rocky Mountain International

Ohio

Statewide Supporters

Ohio Hotel & Lodging Association	Ohio Travel Association
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Chambers of Commerce and Convention and Visitors Bureaus (CVBs)

Akron Summit Convention and Visitors Bureau	Lake Erie Shores and Islands Visitors Bureau
Canton Regional Chamber of Commerce	Mentor Area Chamber of Commerce
Cuyahoga Valley Chamber of Commerce	Nordonia Hills Chamber of Commerce
Dayton Area Chamber of Commerce	Put-in-Bay Chamber of Commerce & Visitors Bureau
Dayton Convention and Visitors Bureau	Stark County Convention and Visitors Bureau
Destination Cleveland	Xenia Area Chamber of Commerce
Lake County Ohio Visitors Bureau	

Oklahoma

Statewide Supporters

Western National Parks Association

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)

Cheyenne Roger Mills Chamber of Commerce

Gateway Community businesses and organizations

Green Country Inn

Oregon

Statewide Supporters

Association of Northwest Steelheaders	Northwest Youth Corps
NW Guides & Anglers Association	Oregon Restaurant & Lodging Association

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)

Astoria-Warrenton Chamber of Commerce	Illinois Valley Community Development Organization
Grant County Chamber of Commerce	Klamath County Chamber of Commerce
Grants Pass & Josephine County Chamber of Commerce	Travel Portland

Gateway Community businesses and organizations

Central Oregon Fly Tyers Guild	Sagara Outdoor Products
Level Beer	Wasatch Custom Angling Products
Gigantic Brewing Company	

Pennsylvania

Elected Officials

Annette Atkinson, Supervisor, Middle Smithfield Township
 Mark Oney, Supervisor, Middle Smithfield Township
 Michael Dwyer, Middle Smithfield Township

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)

Allegheny Ridge Corporation	Middle Smithfield Township Economic
Destination Gettysburg	Development Committee
Explore Altoona	Philadelphia Convention and Visitors Bureau
Fayette Chamber of Commerce	Phoenixville Regional Chamber of Commerce
Great Valley Regional Chamber of Commerce	Pocono Mountains Visitor Bureau
Greater Johnstown/Cambria County Convention and Visitors Bureau	Somerset County Chamber of Commerce
Greater Reading Convention and Visitors Bureau	TriCounty Area Chamber of Commerce
Greater Scranton Chamber of Commerce	Tyrone Chamber of Commerce
Lackawanna County Convention and Visitors Bureau	Valley Forge Tourism and Convention Bureau
	Visit Philadelphia

Rhode Island

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)

Providence Convention and Visitors Bureau

Gateway Community businesses and organizations

Collette Travel
 Preserve Rhode Island

South Carolina

Elected Officials

Mike Rowe, Mayor, Town of Ninety Six

Statewide Supporters

Southeast Tourism Society

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)

Cherokee County Chamber of Commerce	Spartanburg Area Chamber of Commerce
Greenwood SC Chamber of Commerce	Visit Greenwood
Orangeburg County Chamber of Commerce	York County Convention and Visitors Bureau
Sea Islands Chamber of Commerce	

Gateway Community businesses and organizations

Arcadia Publishing and The History Press

South Dakota

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)

Hill City Area Chamber of Commerce	Vermillion Area Chamber of Commerce and
Hot Springs Area Chamber of Commerce	Convention and Visitors Bureau
Rapid City Convention and Visitors Bureau	Yankton Area Chamber of Commerce and
South Dakota Hotel & Lodging Association	Convention and Visitors Bureau
South Dakota Retailers Association	

Gateway Community businesses and organizations

Rocky Mountain International

Tennessee

Gateway Community resolutions

Town of Dandridge	City of Pigeon Forge
City of Gatlinburg	City of Savannah
Town of Greeneville	City of Sevierville
City of Maryville	

Elected Officials

Steve McDaniel, State Representative, 72 nd District	Kevin Davis, Mayor, Hardin County
Andy Berke, Mayor, Chattanooga	Mike Werner, Mayor, Gatlinburg
Madeline Rogero, Mayor, Knoxville	Bryan Atchley, Mayor, Sevierville
Don Mull, Mayor, Alcoa	Mark Potts, Mayor, Jefferson City
Connie Ball, Mayor, Newport	Jonathan Dagley, Mayor, Wartburg
Ann Davis, Mayor, Athens	Jack Lay, Mayor, Oneida
David Wear, Mayor, Pigeon Forge	George Potter, Mayor, Huntsville
Gary Jacobs, Mayor, Centerville	Jim Hickman, City Manager, Waynesboro
Gary Welch, City Manager, Savannah	Jeff Howell, Mayor, Waynesboro
Christa Martin, Vice Mayor, Columbia	Ken Moore, Mayor, Franklin
	Shane McFarland, Mayor, Murfreesboro

Statewide Supporters

Dollywood	Tennessee Geographic Alliance
Scenic Tennessee	Tennessee Green Hospitality Program
Southeast Conservation Corps	Tennessee Hospitality and Tourism Association
Southeast Tourism Society	TenneSEA
Sustainable Tennessee	Tennessee Ornithological Society
Tennessee Chapter of the Sierra Club	Tennessee Returned Peace Corps Volunteers
Tennessee Citizens for Wilderness Planning	Tennessee Urban Forestry Council
Tennessee Clean Water Network	Tennessee Walkingmen
Tennessee Conservation Voters	Tennessee Wildlife Federation
Tennessee Council of Trout Unlimited	The Land Trust for Tennessee
Tennessee Environmental Council	

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)

Blount Chamber of Commerce	Sevierville Chamber of Commerce
Carter County Tourism Association	Stewart County Chamber of Commerce
Chattanooga Convention & Visitors Bureau	Wears Valley Area Chamber of Commerce
Cocke County Partnership	

Gateway Community businesses and organizations

212 Market
 A Walk in the Woods
 A/Trail, Inc.
 Author Johnny Molloy
 Benjamin Walls Fine Art Gallery
 Benton MacKaye Trail Association
 Big East Fork Retreat and Farms
 Biketopia
 Black Bear Solar Institute
 Bowman Adventures
 Bradfield Environmental Consulting
 Brent McCamish Photography
 Caney Fork Outdoors
 Cedar City Consulting
 Center for Sustainable Stewardship
 Chattanooga Audubon Society
 Cherokee Rafting
 CLIMB Nashville
 Clinch River Chapter of Trout Unlimited
 Coast 2 Coast
 Coker Creek Village
 Cole Scott Consulting
 Creekview Farm Retreat B&B
 Cumberland Transit
 D.A. Ramsey Photography
 Dynamic Capabilities Group
 Eastern Fly Outfitters
 Equestrian Legacy Radio
 Escape to the Southeast Travel Guide
 Explore Oak Ridge
 Fly South
 Fort Donelson Camp #62
 Four Bridges Outfitters
 Friends of Moccasin Bend National Park
 Friends of Shiloh National Military Park
 Friends of the Great Smoky Mountains National Park
 Gear Closet
 Glen Leven Farm
 Gran Fondo Cycles
 Greater Knoxville Hospitality Association
 Greater Nashville Hospitality Association
 Green Spaces
 Green View Properties
 Greenways of Nashville
 GSM Outfitters
 Hike The Smokys.com
 Hikey Mikey
 JK Woodworks
 Johnson City Hiking Club
 Johnson City Parks and Recreation
 Johnson Management and Media
 Kilowatt Ours
 Knoxville Botanical Garden and Arboretum
 Kristin Knoll
 Legacy Parks Foundation
 Lequire Gallery
 Lifeview Outdoors
 Lilly Pad Obed
 Little River Chapter of Trout Unlimited
 Lori Putnam - Artist
 Mahoney's Outfitters
 Mast General Store, Inc.
 McKee Outdoors
 Melinda Welton Bird Works Consulting
 Memphis Cyclist
 Mid-Appalachian Highlands
 Morning Pointe
 Mud Creek Farms
 Nashville Underground Radio
 New Paradigm Development Partners
 North Chickamauga Creek Conservancy
 Old Timers Hiking Club
 Once Upon a Time Wilderness Adventures
 Outdoor Chattanooga
 Over Your Head Productions
 Overmountain Chapter of Trout Unlimited
 Panther Creek Bike Shop
 Pride of Place/Tennessee Bottle Bill Project
 R and R Fly Fishing
 R.B.'s Cyclery Inc.
 Rock Creek Outfitters
 Scenic Knoxville
 Shiloh Accounting
 Sierra Club - Cherokee Group
 Smoky Mountain Navigator
 Smoky Mountains Outdoor Unlimited
 Smoky Mountains Rafting
 South Chickamauga Creek Greenway Alliance
 Southeast Pack Trips
 Stones River Paddle Company
 Strategic Solutions Partnership LLC
 Team Green Adventures
 Tellico Grains Bakery Inc
 Tennessee Fly Company
 Tennessee Ornithological Society - Memphis Chapter
 Tennessee State Naturalist Emeritus

The Art of David Wright	Trout Unlimited - Overmountain Chapter
The Blue Mason Coffeehouse	Viking Mountain Lodge
The Compost Company	Wahoo's Adventures
The Crash Pad Chattanooga	Walk Bike Tennessee
The Nugget on Coker Creek	Watauga Group of the Tennessee Sierra Club
Trace Bikes	Watauga Watershed Alliance
Trees Knoxville	Wayne County Chamber
Trekka Outfitters	Webb Brothers Float Service
Trout Unlimited - Appalachian Chapter	West Bicycles
Trout Unlimited - Cumberland Chapter	Wild Birds Unlimited
Trout Unlimited - Hiwassee Chapter	Will Skelton

Texas

Statewide Supporters

American Youthworks/TX Conservation Corps	Texas Restaurant Association
Gulf Restoration Network	Western National Parks Association

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)

Alpine Chamber of Commerce	Marble Falls/Lake LBJ Chamber of Commerce
Bellmead Chamber of Commerce	and Convention and Visitors Bureau
Del Rio Chamber and Convention and Visitors	Odessa Chamber of Commerce
Bureau	Odessa Convention and Visitors Bureau
Dumas/Moore Chamber	Port Aransas Chamber of Commerce
Dripping Springs Visitors Bureau	Port Isabel Chamber of Commerce
El Paso Chamber of Commerce	South Padre Island Chamber
El Paso Hispanic Chamber of Commerce	Tyler County Chamber of Commerce
Fort Davis Chamber of Commerce	Visit El Paso
Greater Waco Chamber of Commerce	Visit Fredericksburg TX
Hewitt Chamber of Commerce	Waco Convention and Visitors Bureau
Johnson City Visitor Center and Chamber of	
Commerce	

Gateway Community businesses and organizations

Taxa Outdoors

Utah

Statewide Supporters

Utah Hotel & Lodging Association	Utah Tourism Industry Association
Utah Restaurant Association	Western National Parks Association
Utah Scenic Byways	

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)

Salt Lake Chamber of Commerce	Cache Valley Visitors Bureau
Economic Development Corporation of Utah	Cedar City Chamber of Commerce
Bear River Valley Chamber of Commerce	Cedar City-Brian Head Tourism
Brigham Area Chamber of Commerce	Davis County Tourism and Events
Cache Chamber of Commerce	Hurricane Valley Chamber of Commerce

Kanab Area Chamber of Commerce	Vernal Area Chamber of Commerce
Moab Area Travel Council	Visit Salt Lake
Utah Valley Chamber of Commerce	Visit St. George
Utah Valley Convention and Visitors Bureau	Washington Area Chamber of Commerce

Gateway Community businesses and organizations

Boy Scout Troop 1874
Goulding's Lodge & Tours

Vermont

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)

Woodstock Area Chamber of Commerce

Gateway Community businesses and organizations

Inn Consulting Partners

Virginia

Statewide Supporters

Southeast Tourism Society

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)

Appomattox County Chamber of Commerce	Loudoun County Visitor Center
Botetourt County Chamber of Commerce	Petersburg Area Regional Tourism
Businesses of Rappahannock	Petersburg Chamber of Commerce
Chincoteague Visitor's Center and Chamber of Commerce	Stanardsville Area Revitalization
Colonial Beach Chamber of Commerce	Top of Virginia Regional Chamber of Commerce
Colonial Heights Chamber of Commerce	Tysons Regional Chamber of Commerce
Crater Planning District Commission	Visit Fairfax
Culpeper Tourism and Economic Development	Visit Virginia's Blue Ridge
Eastern Shore of Virginia Tourism	Winchester – Frederick County Convention and Visitors Bureau
Floyd County Chamber of Commerce	York County Chamber of Commerce
Greater McLean Chamber of Commerce	

Gateway Community businesses and organizations

Danbra Tours LLC	Mast General Store, Inc.
Friends of Dyke Marsh	Trust for the George Washington Memorial Parkway
Great Appalachian Valley Conservation Corps	

Washington

Gateway Community resolutions

City of Covington
City of Seattle
City of Shoreline

Elected Officials

Pat McCarthy, Washington State Auditor
 Dave Somers, Executive, Snohomish County
 Jerome Delvin, Commissioner, Benton County
 Mark Ozias, Commissioner, Clallam County
 Mark Boldt, Commissioner, Clark County
 David Sullivan, Comm., Jefferson County
 Claudia Balducci, Commissioner, King County
 Jean Kohl-Welles, Commissioner, King County
 Frank Wolfe, Commissioner, Pacific County
 Dan Roach, Commissioner, Pierce County
 Derek Young, Commissioner, Pierce County
 Rick Talbert, Commissioner, Pierce County
 Ken Dahlstedt, Commissioner, Skagit County
 Ron Wesen, Commissioner, Skagit County
 James Duncan, Commissioner, Walla Walla Co.
 James Johnson, Commissioner, Walla Walla Co.
 Todd Vanek, Mayor, Colfax
 Louis Janke, Mayor, Colville
 Tom Trulove, Mayor, Cheney
 Pete Kmet, Mayor, Tumwater
 Crystal Dinger, Mayor, Ocean Shores
 Randy Taylor, Mayor, Prosser
 Liz Reynolds, Mayor, Enumclaw

Terry Goetz, Mayor Pro Tem, Odessa
 Glorinda Kuchenbuch, Mayor, Wilbur
 Andy Ryder, Mayor, Lacey
 Pat Johnson, Mayor, Buckley
 Royal DeVaney, Mayor, Waterville
 Marilyn Strickland, Mayor, Tacoma
 Ryan Mello, Deputy Mayor, Tacoma
 Frank Chestnut, Mayor, Cosmopolis
 Linda Lehman, Mayor, Benton City
 Glenn Johnson, Mayor, Pullman
 Val Tollefson, Mayor, Bainbridge Island
 Ann McEnerney-Ogle, Mayor Pro Tem, Vancouver
 Alishia Topper, City Council, Vancouver
 Sean Smith, Mayor Pro Tem, Covington
 Debora Juarez, City Council, Seattle
 Kshama Sawant, City Council, Seattle
 Lisa Herbold, City Council, Seattle
 Lorena Gonzalez, City Council, Seattle
 Mike O'Brien, City Council, Seattle
 Sally Bagshaw, City Council, Seattle
 John Creighton, Port of Seattle Commission

Statewide Supporters

Backcountry Horsemen of Washington
 Conservation Northwest
 Washington Bed & Breakfast Guild (WBBG)
 Washington Council of Trout Unlimited

Washington Tourism Alliance
 Washington Trust for Historic Preservation
 Washington Wild
 Washington Wildlife Federation

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)

Downtown Bellingham Partnership
 Greater Seattle Business Association
 Jefferson County Washington Tourism
 Coordinating Council
 Kent Downtown Partnership
 Langley Main Street Association
 North Hood Canal Chamber of Commerce

Olympia-Lacey-Tumwater Visitor &
 Convention Bureau
 Olympic Peninsula Gateway Visitor Center
 Seattle Metropolitan Chamber of Commerce
 The Port Townsend Main Street Program
 Vancouver Downtown Association
 Whidbey and Camano Islands Tourism
 Yakima Valley Tourism

Gateway Community businesses and organizations

Bellevue-Issaquah Trout Unlimited
 Bitterroot Net Company
 Calyx Sustainable Tourism
 Clark County Trout Unlimited
 Columbia River Chapter - Association of NW
 Steelheaders
 Dianna Denny Design
 Duna Fisheries, LLC
 Emerald Water Anglers, LLC

Emerging Rivers Guide Services
 Etta's Place Suites
 Evergreen Escapes
 ExOfficio
 Filson
 Fort Vancouver National Trust
 Hiatt Consulting, LLC
 Historic Downtown Chelan Association
 Historic Seattle

Icicle Valley Trout Unlimited	Orca Network
Islandwood	Recreation Northwest
Izaak Walton League - Seattle Chapter	Sandstone Distillery
Laird Norton Wealth Management	SMJ Management
Mountain Gear, Inc.	Spokane Preservation Advocates
Mountains to Sound Greenway Trust	The Avid Angler
National Parks Revealed	The Inn at Mallard Cove, a Bed & Breakfast
North Sound Chapter Trout Unlimited	Troutwater - Fly Shop, Guide Service, Outfitters
Norvise Fly Tying System	Vancouver Audubon Society
Oak Harbor Main Street	Vancouver Wildlife League
Olympia Chapter Trout Unlimited	Visit Seattle
Olympic Peninsula Fishing Innovations	Washington Hometown
Olympic Raft & Kayak	Willapa Hills Audubon Society
Orca Conservancy	Wirta Hospitality

West Virginia

Statewide Supporters

Southeast Tourism Society

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)

Beckley-Raleigh County Chamber of Commerce	Summersville Convention and Visitors Bureau
Jefferson County Chamber of Commerce	Visit Southern West Virginia
Mercer County Convention and Visitors Bureau	

Gateway Community businesses and organizations

BRIDGE Network

Wisconsin

Elected Officials

David Bowen, State Representative, 10 th District	David Metille, City Council President, Ashland
Jonathan Brostoff, State Representative, 19 th District	Kate Beaton, City Council, Eau Claire
Bryan Kennedy, Mayor, Glendale	John Gelhard, City Council, Glendale

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)

Bayfield Chamber and Convention and Visitors Bureau	Falls Chamber of Commerce
Bayfield County Tourism	Madeline Island Chamber of Commerce
	Washburn Area Chamber of Commerce

Gateway Community businesses and organizations

Animaashi Sailing Company	Door County Kayak Tours
Artha	Ecology Sports
Antique Garden Inn	Franklin Victorian Bed & Breakfast
Bay Point Inn	Golden Properties
Blue Bike Burrito	Greens N Grains
CamRock Cafe and Sport	Kavarna Coffeehouse
Crystal River Inn	Lake Ripley Lodge

Pine Harbor Campground
 Rutabaga Paddlesports LLC
 Sandy's Clothing & Art
 Tangled Up In Hue
 The Konkapot Lodge
 The Lamar Center

The Purple Tree
 True Blue Houskeeping
 White Winter Winery
 WI River Outings
 Wisconsin Canoe Company

Wyoming

Statewide Supporters

Continental Divide Trail Coalition
 Western National Parks Association

Chambers of Commerce and Convention and Visitors Bureaus (CVBs)

Campbell County Convention and Visitors Bureau
 Go Goshen/Goshen Co. Chamber

Gateway Community businesses and organizations

Rocky Mountain International

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Question from Chairman Lisa Murkowski

Question: What new or innovative ideas would you recommend be implemented to keep pace with increased visitation, permit requests, and permittee oversight on federal lands?

Answer: There are three innovative ideas that we would recommend to keep pace with increased visits and permitting needs for resorts on federal lands:

(1) Through the passage of ski fee retention legislation, Congress could help dedicate more resources to agency staffing and training to facilitate better ski area permit administration. Such legislation would locally, at the National Forest or Ranger District level, retain a percentage of the \$33 million annual ski area permit fees paid to the USFS to complete project reviews in a timely fashion and eliminate the backlog of critical ski area infrastructure projects.

(2) Assigning specific USFS personnel to winter recreation permitting would also be significantly beneficial. A team of winter sports or developed recreation specialists on staff with the agency could help streamline and expedite the NEPA review process, consistent with legal requirements of course.

(3) Establish appropriate levels of NEPA review. The current review process is excessive for sites like ski areas that are highly developed and, quite frankly, have likely been reviewed more than any other acres on the National Forests. When we are replacing a chair lift in the same alignment and merely increasing it from a two-passenger to a four-passenger lift, we should not start from square one in the NEPA review process, and we should not be required to do an EIS. Likewise, replacing a building in an existing footprint should not require an EIS.

Another good example of excessive regulation is the arduous process the agency applies to the removal of trees from our permit areas. Even though the number of trees that we remove is tiny in comparison to the agency's overall timber program, our resorts are subjected to the same level of review as a full-blown timber sale when we remove trees. Whether we are widening a run, removing trees for safety or removing *dead* trees, agency policy requires excessive tree measurement, tree marking, and environmental review.

This inappropriately high level of NEPA review should be rectified for the benefit of both the USFS and the ski resorts. Every hour the USFS spends on NEPA processes that go beyond what is required and meaningful could be redirected to addressing the agency's many real priorities.

One easy solution would be establishing an appropriate set of Categorical Exclusions from higher-level NEPA review for winter recreation. Lift replacements, building upgrades, snowmaking installations, associated tree removal, and other routine ski area maintenance and development projects should have their own categories for exclusion because they have minimal environmental effects and those effects are known. This simple change would save millions nationwide in dollars and time spent for both the industry and the agency.

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(4) More private sector contracting to assist in the agency review process should be encouraged. Increased use of skilled and experienced third-party contractors, instead of overwhelmed USFS staff, to perform NEPA studies and prepare NEPA documents for proposed projects at ski areas should be a priority. Ski areas already pay third parties to assist with the NEPA process, but this process could be improved by establishing a pre-approved roster of private sector NEPA and natural resource specialists to complete the work that often presents bottlenecks due to lack of agency specialists. The agency would still sign off on the NEPA documentation and make the ultimate decision of whether to approve the project, but the bulk of the review work would be performed by outside specialists, at the expense of the ski area, in a more efficient and expedited manner.

There are many benefits associated with applying these solutions to facilitate investment by facilitating appropriate NEPA review. Private investment in infrastructure: accommodate millions of visitors and help US ski areas remain world-class destinations; provide significant economic boosts to local economies; provide year-round employment opportunities in mountain communities; increase fee receipts by the agency; and foster a better guest experience for National Forest visitors of all ages.

Question from Senator John Barrasso

Question: In her written testimony, Ms. Argust discussed a number of causes of, and solutions for, the deferred maintenance backlog. In your opinion, does the deferred maintenance backlog, and the actual infrastructure needs it represents, affect the communities surrounding public lands?

Answer: Ski areas are unique in that we do not rely on the agency for maintenance of facilities or trails. Ski areas own all of the capital improvements associated with our permit areas, and we do all of the maintenance ourselves. What we face is *deferred decision making* on our own maintenance and improvements. Those deferred decisions and the resulting backlog on capital investments by ski areas certainly affect the communities surrounding public lands.

By way of example, ski areas are poised to transition to four-season operations with the addition of facilities such as zip lines, ropes courses, mountain coasters, alpine slides, mountain bike parks and other summer recreation amenities. Ski area investments in year round facilities can transform both the ski area and the local community into year-round destinations. Those investments will benefit the local community with a more robust economy and stable, year-round jobs. Deferred decision-making has delayed the transition to four-season operations that Congress envisioned when it passed SAROE in 2011.

Deferred decision making in winter should also be addressed, as ski area investments in winter can also benefit the local community greatly. For example, when ski areas upgrade snowmaking

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systems for more consistent, dependable and reliable conditions, especially early in the season in time for holiday visitation – those improvements benefit the entire community. The snow we make with those improvements benefits not only the ski area but nearby restaurants, hotels, gas stations retail, and all of the employment sectors that thrive in a healthy economy.

Questions from Senator Catherine Cortez Masto

Question 1: What do you believe makes the public private partnership between public land resorts like yours and the USFS successful?

Answer: As I mentioned in my oral testimony, public land resorts have worked in partnership with the Forest Service dating back to the 1940s. There are a number of key ingredients to the success of this partnership. The very foundation of our partnership is a mutual understanding that we could not do what we do without each other. The USFS provides the land and a dedicated staff that truly appreciates the unique experience we bring to the recreating public. The resorts provide the necessary capital, business acumen and operational capability to accommodate large numbers of visitors in a high quality recreation setting. We *both* bring a strong stewardship value to the table that makes the landscape special and attractive for our visitors to experience. We also make communication and mutual respect a high priority in our relationship and have operated under a formal MOU articulating these priorities for decades. Together, these ingredients have supported a partnership that benefits rural economies, improves the health and fitness of millions of Americans, provides people of all ages great outdoor experiences and promotes appreciation for the natural environment.

Question 2: You mentioned that the USFS recreation program is understaffed and underfunded. How much have firefighting expenditures contributed to that issue?

Answer: Firefighting expenditures have profoundly impacted the USFS's budget, and in particular, the recreation program. The fire suppression budget continues to eat into the operational and program budget of the USFS in the annual budgeting process as well as through the borrowing across accounts when the suppression account is exhausted, a seemingly annual occurrence. Recreation program budgets have been negatively affected by this practice year after year. Current recreation program staffing levels are at 40 percent of what they were in the year 2000, due to these costs and the resulting downsizing and fragmentation of jobs among special uses administrators. Fire fighting costs are expected to increase in the future, and if the "fire borrowing" problem is not fixed by Congress, the USFS recreation program will not be able to meet even the most basic statutory requirements placed on it.

The ski industry has played an active role for decades in the coalition of interests united by the common goal of fixing the fire borrowing problem in the agency's budget. While our numerous calls for fixes to the fire funding problem have not been answered to date, we are hopeful that

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Congress will address this problem in the near term with increased awareness about the crisis that we now face.

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Questions from Senator Catherine Cortez Masto

Question 1: The outdoor recreation industry is thriving in Nevada and I intend to support this industry as well as protect public lands, which drive the outdoor economy. There has been a significant increase in visitation at Red Rock Canyon, for example, and they don't have the recreational capabilities to handle the current numbers of visitors.

What do you believe makes the partnership between volunteer organizations like yours and federal agencies so successful and what can Nevada learn from that model?

Washington Trails Association's volunteer trail maintenance program was developed nearly 25 years ago. The foundation of the partnership between Washington Trails Association (WTA) and federal agencies is built on strong relationships between our staff and land managers. It takes time to develop those relationships and the agencies need adequate staffing in order to work effectively with volunteer programs. While volunteer programs stretch tax dollars, they cannot replace them. Federal agencies need consistent funding to employ volunteer coordinators, recreation managers, trail coordinators and trail field staff. These employees are key to creating successful partnerships between federal agencies and nonprofits. For example, we have had significant success with our volunteer program on the Mt. Baker-Snoqualmie National Forest thanks to strong agency personnel that help us identify the best projects for volunteers, keep us apprised of any changes in public lands policies and are able to quickly respond to program needs. WTA meets with trail coordinators annually to identify projects, maintain ongoing communication to plan projects and work with them to adapt plans when needed. These trail coordinators play a critical role in helping the forest maximize available resources by determining which projects are best suited for volunteer organizations like WTA and which projects should be tackled by agency trail crews, such as when specific technical expertise is required.

Another key to success is the development of a robust community of trail maintenance volunteers. Washington Trails Association cultivates and trains crew leaders and assistant crew leaders who are experts in teaching trail building and maintenance to others. This allows us to effectively engage a large number of volunteers, the majority of whom have no trail building experience or expertise. The skilled, talented and committed people leading our volunteer crews are focused on the dual goals of building trails to agency standards and ensuring that the work we do is a rewarding volunteer experience. As a result, federal land managers trust us to do the job well and volunteers have fun doing it. Over two decades, our organization has built the credibility needed to take on challenging projects and consistently deliver the desired results.

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Question 2: In Nevada, we also have many rural towns that serve as “gateway communities” and rely on outdoor recreation visitors to sustain their local economies.

What is the best way for federal agencies to promote outdoor recreation and in turn support these communities?

One of the best ways for federal agencies to promote outdoor recreation is by making outdoor recreation a priority in their land management objectives and, in turn, making funding investments in outdoor recreation infrastructure on public lands. By increasing investment in trails and other recreation infrastructure, gateway communities can market these recreation opportunities and drive people to their communities to stay for a day, a weekend or a week. In turn, federal agencies can also promote and market these recreation opportunities and the nearby communities.

In Washington state, we have a number of towns that thrive on the outdoor recreation available on federal lands. The town of Winthrop, in the Methow Valley not too far from the Canadian border, is a great example. Winthrop is one of Washington’s recreation hubs, offering year-round recreation. In the winter, the town provides one of the best cross-country ski trail systems in the country. In the summer, Winthrop touts its mountain location by marketing opportunities for hiking, backpacking, mountain biking and trail running. Many of these opportunities take place on nearby national forest lands.

In Winthrop, organizations and individuals interested in promoting outdoor recreation to support the community have joined together to develop a coalition called the Methow Trails Collaborative. The mission of the group is to “build and strengthen relationships among trail managers, advocates and user groups to support and enhance sustainable trail experiences in the Methow Valley.” The local Forest Service office, the Methow Valley Ranger District, plays an active role in the collaborative. Other state and local agencies are also members of the collaborative, as well as nonprofit organizations and local businesses. By joining forces to promote outdoor recreation, coordinate on trail projects and create high-quality volunteer stewardship opportunities to maintain trails, the collaborative can accomplish more together than each entity can do alone.

Question 3: How do the backlogs in infrastructure improvements affect jobs and the economies in adjacent communities?

When federal land managers don’t get the funding they need in order to provide high-quality recreation experience, the needs of recreation infrastructure, such as trails and campgrounds, are often deferred year after year as non-essential activities. This deferment and under investment adds up over time. Poor infrastructure can create an unsafe or negative experience for a hiker, mountain biker, equestrian or other recreationist, which can dissuade people from returning.

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For example, if a hiker drives two hours to a trailhead only to begin their hike and find a critical bridge is washed out, forcing the hiker to turn around, she may not hike in that area again. On the way to that trail, the hiker stopped to top off her car's gas tank and get a bite to eat in a nearby town. If the hiker doesn't return, that town loses out on the sale of the tank of gas and food. Multiply this example by the countless people who face this situation each year and our gateway communities can suffer.

In Washington state, the upper Suiattle River Road, a major recreation access road, was washed out for more than a decade due to intense flooding. The blocked-off section of the road included connections to seven popular trailheads, two campgrounds, a rental cabin and many hunting and fishing locations. It took a decade for the road to finally receive much needed repairs, but when it did, the nearby town of Darrington celebrated. A grand reopening party included a ribbon cutting, community barbeque and tours of the repaired road. Darrington relies on outdoor recreation to draw in visitors. Local leaders knew that having such an important recreational access road reopened would draw people to town on the way to their adventures.

Washington Trails Association has dedicated the years since the reopening of the road to fixing trails in the area that had not received maintenance in years. Partner organizations such as the Pacific Crest Trail Association and Back Country Horsemen of Washington organized volunteer work parties as well, which has restored access to hundreds of miles of trails, providing more access for recreationists to enjoy our country's wild places.

Question 4: How do you see the Administration's proposed budget affecting the rural communities that rely on outdoor recreation?

Despite the fact that visitation to our public lands is at an all-time high, a 20-plus year cycle of chronic underfunding for our federal agencies continues unabated.

In 2013, the United States Government Accountability Office (GAO) produced a report outlining the negative impacts of the maintenance backlog on United States Forest Service trails. The report estimated the value of the Forest Service "trail maintenance backlog to be \$314 million in fiscal year 2012, with an additional \$210 million for annual maintenance, capital improvement, and operations." One of the most startling revelations in the report was that the Forest Service has only been able to keep a quarter of its 158,000 miles of recreational trails up to the agency's standards.

Similarly, the National Park Service has reported an infrastructure repair backlog estimated at \$11.9 billion (FY 2015). This estimate includes vital repairs to aging

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historical structures and thousands of miles of roads and trails, bridges, tunnels, sewers, drainage and other infrastructure. Trail infrastructure needs, such as placing crucial footbridges over rivers and fixing trail-closing washouts, are estimated at \$482 million.

The Trump Administration's proposed cuts — a 12 percent cut to the Department of Interior, home to our National Park Service, and an even greater 21 percent cut to the Department of Agriculture, which manages our national forests, will only deepen the maintenance backlog issues on our federal lands, resulting in trail closures, washed out roads and shuttered ranger stations.

Furthermore, these proposed cuts are short-sighted. They overlook the significant economic engine of outdoor recreation in the United States. In fact, according to a 2012 report by Outdoor Industry Association, the outdoor recreation industry generates \$646 billion in consumer spending nationwide, an amount greater than the 2015 GDP of all but six states. Federal agency budgets for outdoor recreation infrastructure are investments in our nation's economic prosperity.

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Questions from Chairman Lisa Murkowski

Question 1: Raw minerals and materials are critical components in the infrastructure that we use to power and drive our economy. Can you highlight some of the minerals and materials that are needed to produce steel and cement? Do we have the capacity to produce more of those materials in the U.S.?

Steel is composed primarily of iron, the least expensive and most widely used metal. In 2016, the U.S. produced iron ore from nine mines in Minnesota and Michigan. Because of declines in domestic steel production, the U.S. is a net exporter of iron. Manganese, nickel, chromium, molybdenum, titanium, vanadium, and niobium are all important elements used in steel alloys.

Manganese, nickel, and chromium are important ingredients in stainless steel. None of them have a suitable substitute. The U.S. is 100% import-reliant for manganese, 58% for chromium, and 25% for nickel. The U.S. has not produced manganese since 1970, and known remaining domestic resources are low-grade. U.S. chromium production comes from recycling and releases from government stockpiles; no primary chromium ore is currently produced in the U.S., although unmined chromium resources remain in the Stillwater Complex in Montana. U.S. nickel production comes from a single mine in Michigan.

Molybdenum increases the heat and corrosion resistance of steel, so it is used extensively in structural steel. Two mines in Colorado produce molybdenum as a primary product; seven copper mines in western states produce molybdenum as a by-product. Because of the relatively low volume of domestic steel production, the U.S. is a net exporter of molybdenum.

Titanium and vanadium are used to produce strong, lightweight steel alloys used in aircraft engines, military applications, medical devices, and various industrial applications. The U.S. is 100% import-reliant for vanadium and 45% import-reliant for titanium used in steel.

A small amount of niobium added to steel greatly improves its strength; therefore, niobium steel is often used in the construction of interstate gas and oil pipelines. The U.S. currently has no domestic niobium production and is, therefore, 100% reliant on imports. According to USGS, known domestic niobium resources are of low grade and mineralogically complex. Additional geological studies are needed to determine if other niobium resources exist in the U.S.

Cement is composed primarily of calcined lime, which comes from limestone. Cement is commonly combined with aggregate (sand plus gravel or crushed stone) to form concrete. In the U.S., cement is produced by nearly 100 plants in 34 states. About 12% of the cement consumed in the U.S. in 2016 was imported. Domestic production of cement is reportedly well below the capacity of the industry, due to weak demand.

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Question 2: Can you speak to the state-federal relationship that state geologists have with federal agencies, like the U.S. Geological Survey? How could it be improved?

The state geologists, working through the Association of American State Geologists, have an excellent collaborative relationship with the U.S. Geological Survey. The USGS has geoscience programs in almost every state, and in many cases they work closely with the state geological survey. The AASG places a high value on its cooperative programs with USGS, especially the National Cooperative Geologic Mapping Program, the National Geological and Geophysical Data Preservation Program, the National Energy Resources Data System, and the National Groundwater Monitoring Network.

One large point of contention in recent years has been the growth of many USGS programs, but not the cooperative programs with the states. A glaring example is the National Cooperative Geologic Mapping Program, which drives most of the geologic mapping performed in the U.S. Out of a total USGS budget of over \$1 billion, only \$25 million is dedicated to geologic mapping. The production of geologic maps, which should be one of the primary activities of USGS, receives only 2.5% of overall bureau funding. Of the \$25 million, about \$5 million is dedicated to STATEMAP, the cooperative program through which state geological surveys receive funding for geologic mapping. The program is highly productive; every penny of federal funding must be matched 100% by state funding. Grants are given on a one-year cycle, with program deliverables due every twelve months. Therefore, the state geological surveys are held to a high standard of productivity.

The value of this program is widely recognized in Congress, in the states, and in various federal agencies that consume geoscience data. Efforts by AASG to increase funding for the program have met with little success, even though we find strong support on Capitol Hill. We are told that in order to increase funding, the increase must first appear in the USGS budget request. The USGS has not requested significant increased funding for NCGMP in over a decade. The best way to improve the relationship between USGS and AASG would be for the USGS to increase funding to these cooperative programs that are so important to the states.

Other federal agencies with which the AASG works closely, commonly pursuant to Memoranda of Agreement (MOAs) include the Bureau of Ocean Energy Management, the U.S. Forest Service, NASA, the Natural Resources Conservation Service, and the National Park Service.

Question 3: Two programs that support mapping are the National Cooperative Geologic Mapping Program and the National Geological and Geophysical Data Preservation Program. These programs expire in 2018. Do you support reauthorizing these programs? If so, why?

Yes, we strongly support reauthorization of both of these programs. As described above, the National Cooperative Geologic Mapping Program drives almost all geologic mapping in the U.S.

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With only about half of the nation mapped at a scale useful for mineral, energy, and water resource identification and geologic hazard risk mitigation, the remaining need is great. A modest increase of \$10 million per year to the program, of which about \$5 million would go to the state geological surveys pursuant to requirements set out in the National Cooperative Geologic Mapping Act, would enable the states to double their annual output of geologic maps.

The National Geological and Geophysical Data Preservation Program, which is currently funded at \$1.3 million per year, enables state geological surveys to preserve, catalog, and distribute information about significant collections of rock samples, well logs, geophysical surveys, photographs, and other important geoscience information. These vital materials are often in poor states of preservation and access, and in danger of permanent loss. The federal dollars must be matched 100% by the states. The program has met with great success, with many examples of economic development spurred by the availability of NGGDPP-generated information. For example, in 2008, reinspection of rock chips from a plugged oil well in Texas, preserved, cataloged, and made publicly available with NGGDPP funding, led to the discovery of the Eagle Ford Shale deposit, which has had a \$25 billion economic impact.

The AASG would like to enter its NCGMP and NGGDPP fact sheets into the record.



NATIONAL COOPERATIVE GEOLOGIC MAPPING PROGRAM (NCGMP)

PREPARED BY: The Association of American State Geologists, March 2016

Status of FY 2017 appropriation						
Authorized	FY 2016 appropriated	President's budget request	AASG request	House mark	Senate mark	Conference
\$64.0M	\$24.4M	\$24.5M	\$30.0M	—	—	—

We encourage Congress to **grow the funding to \$30.0M** for the National Cooperative Geologic Mapping Program in FY 2017 by

- **restoring the recent cuts to the base program** and
- **incorporating funding for new initiatives**

Program Value

- **Produces essential resource information.** The geologic map products provide objective scientific-based information for robust land, energy, minerals, water, and biologic resource decisions. These products are also essential to assess natural hazards, mitigate risks, and address national security issues.
- **Drives economic growth.** These products spur economic growth through direct and indirect employment, cost savings for business and government, new business opportunities, plus effective and sustained resource management.
- **Offers high cost-benefit value.** Several recent cost-benefit studies have looked at the economic value of geologic maps:
 - In Ohio, developers and engineers who used modern geologic maps saved about \$50,000 for every project. Typically, many projects use the same map, multiplying these cost savings many times over.
 - Economists at the Illinois Geological Survey documented Kentucky's geologic maps to be worth 25 to 39 times the cost of the mapping.
- **Creates 50:50 funding match.** All federal dollars in the STATEMAP and EDMAP efforts are matched 50:50 with state dollars. Despite this, significant state geologic mapping resources that *could* be used to match federal dollars in the STATEMAP effort are "being left on the table."
 - A 2003 survey by the Association of American State Geologists identified approximately \$18M of state money that was available to match federal dollars.
 - Since FY 2001, more than \$10M annually in state money has remained unleveraged and unmatched by federal dollars.

Program Description

Geologic maps record the nature and distribution of rock and soil materials as well as the water, energy, and mineral resources at and below the land surface. The NCGMP is designed to support the production of modern geologic maps, commonly in digital form, at detailed, locally useful scales.

- The three-part program consists of
 - **FEDMAP**, a federal mapping effort by the U.S. Geological Survey,
 - **STATEMAP**, a state mapping effort by state geological surveys, and
 - **EDMAP**, a university training/mapping effort.
- The STATEMAP and EDMAP projects are
 - prioritized by individual state geologic mapping advisory committees,
 - evaluated by a competitive, peer-reviewed process, and
 - funded by a 50:50 match of federal and state dollars.
- Since its beginning in 1993, the NCGMP has
 - supported new mapping in 49 of 50 states plus Puerto Rico,
 - distributed over \$117M in federal dollars to the states through STATEMAP and EDMAP, and
 - generated more than 5,000 new geologic maps and digital versions of earlier detailed maps that are regularly used by state, county, and local governments and the private sector.

History

- Created by the National Geologic Mapping Act of 1992 [PL 102-285]
- Reauthorized in 1997 [PL 105-36], 1999 [PL 106-148], and 2009 [PL 111-111]
- All Congressional action with strong bipartisan support

FY	Recent funding history				
	Authorized	Appropriated	FEDMAP	STATEMAP	EDMAP
2007	\$64.0M	\$25.4M	\$17.6M	\$7.2M	\$0.6M
2008	64.0	26.6	18.4	7.6	0.6
2009	64.0	27.7	18.7	8.4	0.6
2010	64.0	28.2	18.9	8.6	0.7
2011	64.0	27.7	18.7	8.4	0.6
2012	64.0	26.3	17.8	7.9	0.6
2013	64.0	24.4	16.9	6.9	0.5
2014	64.0	24.4	16.9	6.9	0.5
2015	64.0	24.4	16.9	6.9	0.5
2016	64.0	24.4	16.9	6.9	0.5

Note: The budget “address” for the NCGMP is:

Appropriation Bill: Department of the Interior and Related Agencies
 Account: U.S. Geological Survey—Appropriations for Surveys, Investigations, and Research
 Budget Activity: Core Science Systems
 Budget Subactivity: National Cooperative Geologic Mapping Program



National Geological and Geophysical Data Preservation Program (NGGDPP)

Prepared by the Association of American State Geologists (AASG)

The AASG strongly supports the reauthorization of the NGGDPP. In order for the Program to reach its intended goals, the AASG believes it should begin growing by \$ 5 M per Fiscal Year until it reaches the original authorized level of \$ 30 M per Fiscal Year.

Geoscience issues that are critical and of immediate concern to the Nation's security include the following:

- Water supplies, especially their location, quantity, and quality
- Domestic metal and industrial mineral sources to meet rising demands
- Re-examination of samples utilizing new technological breakthroughs
- Domestic energy sources: Oil, gas, coal, geothermal, and renewables to meet rising demands
- Identification, mapping, and prediction of geologic hazards
- Training the next generation of Geoscientists, especially geologic mappers

All of these issues rely on the analysis of geological and geophysical samples, collections, and data that already exist. Regrettably, these vital materials are often in poor states of preservation and access, and in danger of permanent loss.

The Challenge

Geoscience data preservation in the United States consists of a set of disparate facilities and programs, of variable effectiveness and with little coordination. More than 25 percent of this nation's geological data repositories are currently at or near their storage capacity. Some have exceeded their capacity and are relying on temporary, non-climate-controlled portable storage. While industry and government have made substantial investments to acquire geoscience data and collections for over 150 years, volumes of expensive and difficult-to-obtain subsurface information are currently at risk of disposal or ruin; once these data are lost, they probably will never be replaced.

A Promising Remedy

Congress established the National Geological and Geophysical Data Preservation Program (NGGDPP) through the National Energy Policy Act of 2005 [PL 109-38, Sec. 351] to address these issues. In order to assure the proper and continued preservation of irreplaceable geoscience data, the NGGDPP needs to be reauthorized.

Highlights of the Act

The NGGDPP was established to:

- Create a National network of cooperating geoscience materials centers and data archives, representing a partnership between U.S. Department of the Interior Bureaus and the State Geological Surveys;
- Archive geologic, geophysical, and engineering-geologic data, maps, well logs, and samples in accordance with National and international formats and standards;
- Permit ready access to the holdings of all collections through a common, distributed Internet-based National Digital Catalog of archived materials;
- Provide federal assistance, matched by state and private funds, to support physical and digital infrastructure efforts, outreach, public awareness, and workshops;
- Ensure that this Nation's next generation of Earth Scientists has the necessary reference material with which to train;
- Designate the U.S. Geological Survey (USGS) as the program administrator to coordinate geologic material centers and data archives with other Department of Interior Bureaus, the State Geological Surveys and the Association of American State Geologists (AASG); and
- Encourage private industry and universities to partner with State Geological Surveys and the USGS to leverage resources.

Current Activities

The USGS Data Preservation Program administrator has:

- Initiated a modest grants program to facilitate the initial inventory of geological and geophysical data and samples held by State Geological Surveys and DOI agencies, to assess their preservation and data-rescue needs.
- Initiated the design, implementation, and population of a National Digital Catalog.
- Established detailed guidelines for the distribution of program funds.
- Established minimum standards and best practices and archiving of the geologic data and collections.
- Completed guidelines for institutions to create and implement long-range data preservation plans.

Recent Funding History

The Data Preservation Program was funded at \$1.3M in each of FY-14 to FY-16. **AASG endorses an appropriation of \$ 5 M for FY-17.**

Note: The budget "address" for the NGGDPP is:

- Appropriation Bill: Department of the Interior, Environment, and Related Agencies
- Bureau: U.S. Geological Survey—Appropriations for Surveys, Investigations, and Research
- Activity: Core Science Systems
- Subactivity: Science Synthesis, Analysis & Research
- Component: **National Geological and Geophysical Data Preservation Program**

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Questions from Chairman Lisa Murkowski

Question 1: In your discussion of infrastructure investment opportunities you call for an “all-of-the-above” approach, a phrase we often use in the energy context. From a water perspective, what does this type of approach entail and why is it important for water management?

Response: Communities have varied and different water needs; an “all of the above” response to our nation’s water challenges is imperative.

Water managers throughout the West are actively investing in new water supply options, embracing technology, utilizing green infrastructure and looking to use water as efficiently as possible.

It is critical that policy conversations and federal infrastructure legislation include water infrastructure for both agricultural and municipal water. Qualifying investments should include water conveyance, surface water storage (both on- and off-stream), regulating reservoirs, aquifer storage and recovery, wastewater, water reuse, desalination, canal lining, computerized water management and delivery systems, real-time monitoring of ecosystem functions and river flows for both fish and people, watershed-based integrated regional water management, and other efficiency investments. Infrastructure legislation must also apply to the remediation of our aging infrastructure as well as to the development of new infrastructure.

Congress should recognize the diverse nature of the water supply community and ensure that funding mechanisms are available to a broad spectrum of users. Important tools like tax-exempt municipal bonds should be protected. Newer forms of financing like WIFIA should continue to be supported while not losing sight of the importance of appropriated dollars for infrastructure investment.

Question 2: The need to repair or replace aging water infrastructure is something we have heard about for some time. What negative impacts are you seeing financially and operationally as a result of the aging water facilities?

Response: Failure to rehabilitate and upgrade our water infrastructure results in over-diversions from our streams and rivers, regional water quality suffers from leaching and deep percolation, farm fields fail to receive full water allocations resulting in reduced yields and threatened sustainability.

The more than one million miles of pipes beneath our streets is nearing the end of its useful life and approaching the age at which it needs to be replaced. In an undated American Water Works Association report, it notes nationwide the required investment will roughly double from about

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\$13 billion a year in 2010 to almost \$30 billion annually by the 2040s for replacement alone. If growth is included, needed investment increases to nearly \$50 billion over the same period.

Similarly, our western water delivery infrastructure, primarily supporting our nation's agriculture, is between 50 and 100 years old. The U.S. Bureau of Reclamation has reported an infrastructure and maintenance backlog of approximately \$3 billion. Non-federal infrastructure is in similar condition. Such aging infrastructure presents a further challenge because it requires ever increasing maintenance and replacement investments. As of 2013, the replacement value of Reclamation's infrastructure assets was \$94.5 billion.

In the American West, Federal water supply systems are essential components of communities, farms, and the environment. These facilities are an integral part of the nation's food-production system and their consistent operation helps ensure our farmers' ability to provide a reliable and secure food supply for our own citizens and the world. Population growth, environmental demands and climate change are placing an unprecedented strain on aging water storage and conveyance systems designed primarily for agricultural use.

Protecting this national asset is absolutely essential to American economic security. Repairing and modernizing our western water infrastructure will also directly address some of the West's vexing water supply problems by improving water resource management and conservation. These in turn will produce greater energy efficiencies and provide more flexibility to meet environmental needs, thereby alleviating conflict.

Question 3: In your testimony, you discuss the need to evaluate the benefits of new surface storage projects comprehensively, and that some projects have been shelved due a narrow focus on the perceived negative impacts. Can you discuss the benefits you see being overlooked? Are there policy changes that would facilitate projects being considered in a more comprehensive way?

Response: Individual surface storage proposals must be evaluated and the associated benefits and risks must be viewed in a holistic and comprehensive manner. While some critics of new storage projects focus on perceived negative impacts associated with new facility construction (e.g., loss of habitat, disruption of "natural" stream flow patterns, and potential evaporative losses), these perceived impacts must also be compared to the wide range of multi-purpose benefits that storage projects provide.

Properly designed and constructed surface storage projects provide additional water management flexibility to better meet downstream urban, industrial and agricultural water needs, improve flood control, generate clean hydropower, provide recreation opportunities, and – yes, create additional flows that can benefit downstream fish and wildlife species.

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Surface storage is essential to providing drought protection, releasing water at specific times for water quality and environmental benefits, contributing to flood management, mitigating for lost snow pack due to climate change, and responding to other unforeseen circumstances.

In California, additional surface storage would have provided flexibility to the state's severely constrained water management system during the recent drought. That flexibility would include protections and improvements to the long-term sustainability of the Delta ecosystem, maintaining water quality and water supply reliability, and preventing and planning for catastrophic failure of the Delta system. With additional capacity and integrated operations, water diversion and deliveries can also be timed in ways that will allow for better response to the effects of earthquakes, floods and climate change.

The practical result of "no net loss" policies has been a substantial net gain in wetlands and other environmental benefits. New water projects today invariably are multi-purpose projects with operations committed to ensuring in-stream, riparian, and wetlands benefits. Nearly all of the Gold Medal fisheries in Colorado and elsewhere in the West are located immediately downstream of dams. This is a direct result of sustained stream flows and consistently favorable water quality of the released water.

The time required and companion expense associated with project permitting has steadily increased, to the point where today permitting costs represent 25% or more of total project costs and the time required for permitting equals or exceeds project construction. There are three water projects of varying sizes currently in their tenth or greater year of permitting in Colorado; none has a final Record of Decision.

Congress should look for opportunities to improve the federal regulatory process by streamlining regulations, improving coordination, reducing duplication, and increasing transparency. Clarity on rule development, establishment of common baseline evaluations usable by multiple projects, improved coordination among federal permitting processes, and elimination of duplicative permitting requirements would reduce permitting timelines and save taxpayer dollars, all without compromising environmental protections.

Question 4: We have heard frequently about the importance of healthy forests and watersheds to our water resources and I'm glad you mentioned it in your testimony. Can you explain in a bit more detail how forest management is impacting both your existing infrastructure and the need for new projects?

Response: A healthy forest will mitigate both droughts and floods, create and protect a healthy and functional soil profile, remove and decompose pollutants, maintain biodiversity, provide natural beauty, and provide reliable, high quality source water for people, agriculture and industry. Wildfires eliminate these benefits requiring substantial mitigation and remediation whose costs far exceed healthy forest management investments.

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Large-scale, catastrophic wildfires today are more frequent and significantly larger than in the past, even the recent past. In Colorado alone, from 2004 through 2007, fires burned an average of 40,000 acres annually. However, from 2008 to 2015, that average jumped to 140,000 acres annually.

Wildfires dramatically and adversely affect source-water quality, interrupt water storage opportunities, obstruct hydropower generation, hinder water delivery, and impact downstream communities and ecosystems reliant on water originating on the forest. Even communities hundreds of miles downstream of the fire may be affected by the aftermath.

In Colorado, summer rains that followed a major wildfire in the watershed that feeds Denver Water's Strontia Springs Reservoir washed more than one million cubic yards of ash and debris into the reservoir. This significant inflow of solids filled the reservoir to seven percent of its capacity, requiring Denver Water to spend more than \$16 million just on reservoir dredging that ultimately proved only marginally successful.

The water supply infrastructure of the West also plays a critical role in the generation of carbon-free, hydroelectric power. This generating capacity can also be affected by wildfire. In Northern California's Placer County, the King Fire burned a total of 156 square miles. This fire directly affected the Placer County Water Agency (PCWA) and its operations. PCWA provides drinking water for 250,000 citizens and enough renewable hydroelectric energy for 100,000 homes.

Questions from Senator Catherine Cortez Masto

Question 1: As you must know, water in Nevada is a scarce resource and infrastructure improvements are needed.

Do you think the federal government should incentivize or encourage utilities to take regional approaches for water delivery?

Response: Water supplies have traditionally been a local responsibility. The result is a complex network of individual water utilities and ditch and reservoir companies that are too often Balkanized and lack even emergency interconnections. Cooperative, regional, and multi-party partnerships that frequently provide cost and efficiency advantages and should be incentivized.

Direct federal agency participation proved an effective and efficient partnership in the Elkhead Reservoir Enlargement Project in western Colorado, where the US Fish & Wildlife Service paid roughly 40% of the cost of enlargement and received 40% of the increased storage capacity, which it uses for recovery of ESA-listed fish species.

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Chatfield Reservoir in metro-Denver is a U.S. Army Corps of Engineers' (Corps) facility with flood control as its primary purpose. The Corps determined Chatfield Reservoir could accommodate additional water storage for water supply without compromising its flood control function. A regional consortium of municipal and agricultural water providers are undertaking the recreational and environmental mitigations at Chatfield State Park to address the impacts of the additional water storage. They will *pro rata* share in the increased storage. Individually, most of the members of the consortium do not have the financial or institutional capacity to undertake this magnitude of infrastructure investment.

There are other, ongoing examples of improved regional water management and coordination. The Sites Joint Power Authority in California has approached the Sites off-stream reservoir project with the goal of generating water for the environment while improving statewide water reliability and regional sustainability in Northern California. In Washington state, a large cross-section of the water stakeholder interests and the Yakama Nation have worked together over the past several years in developing the Yakima Basin Integrated Plan. This is intended to help plan for expanded access to more irrigation and M&I water storage capacity and to help relieve tensions in the Yakima region over water supply management for all needs.

Regional approaches to water management can be beneficial; however, their success is linked to buy-in from local governmental entities like irrigation districts and individual municipal water providers. When looking at regional approaches to water management it is vital to work with local water providers.

Question 2: In rural communities, the availability of funding and resources to meet treatment standards and improve water reuse is more challenging. Which federal programs are best suited to help rural communities?

Response: There are numerous federal programs that are helping communities throughout the West meet evolving water quality and water supply standards. Each of these needs Congress' full support.

Fully funding of the State Revolving Funds (SRF) for investments in drinking water and wastewater requirements is perhaps the most effective existing mechanism for addressing rural water infrastructure needs as well as initiating "shovel ready" projects.

Maintaining the tax-exempt status of municipal bonds is imperative for continued local investment in required infrastructure.

The Water Infrastructure Finance and Innovation Act (WIFIA) program was recently updated by the 114th Congress, and WIFIA loans were funded for the first time in the current Continuing

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Resolution funding the federal government through April 28, 2017. Additionally, passage of the Water Infrastructure Improvements for the Nation (WIIN) Act of 2016 provided numerous infrastructure authorizations that will need future appropriations.

The proposed Reclamation Infrastructure Finance and Innovation Act (RIFIA) and the New WATER Act (H.R. 434) would authorize new, affordable financing mechanisms for certain large water supply projects in the West.

Reclamation's Water SMART grant program has been very successful in leveraging new and efficient capital investments. Water SMART could be expanded to include larger (up to \$20 million) competitive, cost-shared grants for water supply management projects.

Based on my agency's recent experience with the Regional Conservation Partnership Program (RCPP), improved coordination between U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS) and Reclamation would lead to more effective federal investments in on- and off-farm water management improvements.

Congress should maximize use of existing financing tools for project beneficiaries, including direct loans and loan guarantees, such as those authorized by The Rural Water Supply Act of 2006 (PL 109-451).

Question 3: Do you believe investing in better ways to capture stormwater could also help with flood control and water reuse?

Response: Stormwater management requirements are a relatively new (and expensive) challenge under the Clean Water Act but potentially with multiple benefits. Meeting municipal stormwater management requirements is requiring substantial capital investments nationwide.

There is no doubt stormwater management and flood control and prevention are inextricably tied to one another. It is worth noting, however, that surface water storage nearly always include flood control benefits.

Water reuse, where legal and available, is another potential benefit of integrated stormwater management planning that can and should be incentivized by the federal government.

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Question from Chairman Lisa Murkowski

Question: Your testimony highlights a need for increased capacity in Arizona in order to both meet the need for additional forest restoration activities, as well as the need for additional output of accredited renewable power. We have heard about similar challenges in other parts of the country as well. What are the main factors preventing the expansion of the biomass industry and what can be done to provide enough certainty to attract investments in needed facilities?

Answer: The three main factors preventing the expansion of the biomass industry are below:

1. The cost of building, maintaining, and providing fuel to a biomass facility exceeds the cost of intermittent solar and wind resources. Due to this reality Utilities are not issuing new Power Purchase Agreements to Biomass facilities based on the base cost alone. What is not considered in this assessment is that the value created by a Biomass facility far outweighs the cost. Biomass is a baseload power source and stabilizes the grid vs intermittent solar and wind. Biomass is critical to forest and watershed restoration. Every megawatt generated is another ton of high hazard fuel removed from the forest. Biomass also has a much larger impact to the local economy because of the continued employment for site personnel and the 3x multiplier of indirect jobs created to support the facility. Wind and Solar really only create strong economic impact to the local economy during construction.
2. The scientific base for considering Biomass a renewable power source is highly contingent on the agreement as to whether Biomass is carbon neutral. The argument continues to happen in the background creating regulatory uncertainty. Without going into great detail, the biomass facilities that use high hazard fuels from the National Forests are certainly carbon neutral as they are preserving the forest from catastrophic wildfire that can eliminate all of the trees on millions of acres.
3. Long term fuel availability is critical to capital investment and the USFS does not have a good track record of keeping the needed acres in front of industry.

In order to overcome the above challenges, there must be consensus and support around building sufficient Biomass infrastructure to support our national forests. This support can come in a myriad of ways but it boils down to valuing the impact of biomass to the County and State and assuring that the provider can share in that value. Potential ways of providing value would be as follows:

1. Provide Production Tax Credits (PTC's) for Biomass facilities as they do with Wind and Solar.
2. Provide payment for the restoration services provide on USFS acres. These funds ought to come in proportion to the spending on fire fighting. For example, \$1 Billion spent in fighting fires ought to trigger 10% or \$100 Million spent the subsequent year in prevention efforts.
3. Declare Biomass carbon neutral.

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4. Provide long term contracts in areas of the country where insufficient infrastructure exists and where fuel supply certainty will allow for capital investment.

Questions from Senator John Barrasso

Question 1: I believe that healthy, well-maintained public lands are critical to our economy. It is clear to me that Novo's harvest operations improve both the environment and the economy in Arizona. Can you talk a little bit about the impact your company, and the biomass industry, may have on other land uses like recreation or hunting?

Answer: By cleaning our national forest, we support the use of those lands for hunting, fishing, biking, camping, and all other forms of tourism. The forest becomes more resilient and fire proof from accidents caused by our use. If not treated, we will burn these acres to the ground and eliminate for years the recreations revenues generated by tourism on our national forest.

Question 2: During the beginning stages of the Novo project, what barriers did you face from the federal government?

Answer: The largest barrier we faced from the federal government, and many in the country still face, is access to the wood resource. The USFS is way out of date on their processes to make acreage available for thinning. At Novo Power we had to look for alternative fuels, off federal lands to assure we had sufficient fuel to run our facility. Long term, predictable supply is critical to secure the needed capital financing for a biomass facility and is critical to assure the facility stays in business.

Question 3: Many biomass facilities face challenges with the lack of transmission potential for the power they create. Did Novo face this challenge, and if so, how did you address it?

Answer: Due to the need to be near the resource often times the facilities are in rural communities which can minimize probability of being near transmission lines. In our case, we have sufficient transmission available.

Question 4: How does Novo deal with the potential uncertainty in timber supply from federal lands, given backlogs in processing timber harvests, among other administrative delays?

Answer: Novo Power found fuel sources off Federal lands for the biomass facility. We are unable to find timber resources in AZ for our saw mill without Federal land.

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Questions from Senator Joe Manchin III

Question 1: I included a provision in last year's energy bill that improved the Department of Energy's coal technology program budget and focus. The amendment would have increased funding for the Fossil Energy program but would have also authorized about \$22 million to be used in support of exploring the possibility of large-scale plants that co-fire biomass and coal with carbon capture.

Mr. Worsley, do you agree with me that biomass energy is a carbon neutral power source?

Answer: Yes, especially when considering the preservation of our National Forests.

What are some of the environmental benefits that a biomass power plant can bring to a local forest and a local economy?

Answer:

- Methane is generated when biomass decays naturally in the woods. Methane is 25x more potent in capturing greenhouse gases in the atmosphere than CO₂. When burned in a biomass facility, CO₂ is released instead of Methane. Whereas fossil fuels release new carbon into the atmosphere from underground, the CO₂ released by a biomass facility is already part of the atmosphere, having been absorbed over the past few decades by growing trees.
- By burning in a controlled and filtered environment, particulate matter emissions are reduced by 90-98% in comparison to a Forest Fire.
- SO₂ emissions release acid into the environment and are a cause of acid rain. Our Biomass plant emits less than 10% of SO₂ per megawatt in comparison to a coal powered facility.
- NO_x emissions generally create the "haze" seen in major cities and around industrial facilities. Our biomass plant emits less than 50% NO_x per megawatt in comparison to a coal powered facility.

What are some of the innovative technologies your company is examining to enhance the use of biomass and increase efficiency of these plants?

Answer:

1. We are exploring a gasification technology that potentially increase megawatt yield per bone dry ton by 50%.
2. We are exploring densification technology that would help increase haul radius.
3. We continuously explore efficiency measures to reduce our operating costs.

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Question 2: West Virginia's natural resources provide us with incredible vistas and outdoor recreational opportunities. I believe in protecting these resources for future generations of West Virginians and for our visitors from around the world. But, I am also a pragmatist and I believe that we must balance the economy and the environment. West Virginia has a long tradition of being an energy exporting state. That's a tradition that we are determined to continue but – in order to do so - our nation's energy infrastructure must be modernized and expanded in an environmentally responsible way. I want to make sure that, when these projects cross public lands, federal agencies with permitting authority are doing their part. I'm sure you are aware that the National Park Service and other agencies are currently engaged in permitting several pipeline projects in my state, with FERC as the lead agency

In your written testimony you said that Congress needs to work to streamline the permitting process for infrastructure on federally managed lands. Please identify the top regulatory change that you seek made to streamline permitting process and remove duplications while still ensuring robust public engagement?

Answer: To be clear, in reference to streamlining I am asking that the USFS enact efficiency measures within their processes in making acres available to industry. These measures include streamlining the NEPA process, streamlining the acre prep process, and assuring that they support the industry that will fail without sufficient acreage.

Questions from Senator Luther Strange

Questions: Mr. Worsley, I agree with your testimony's premise that biomass use from forest residuals should be recognized as carbon neutral.

- A. Do you think it is time for EPA and Congress to affirmatively recognize the carbon neutrality of biomass from forest or manufacturing residuals?

Answer: YES

- B. Does this lack of regulatory certainty complicate your business investment decisions?

Answer: Yes, the lack of regulatory certainty could be catastrophic to my business. If biomass power, generated off of high hazard fuels reduction, were to be considered not carbon neutral and by consequence a non-renewable power source, I could lose the power purchase agreements with my utilities.

* American Rivers * American Whitewater * Cascade Forest Conservancy * Conservation Northwest *
 * Pichuck Audubon Society * The Wilderness Society * Washington Wild * WildEarth Guardians *

March 19, 2017

The Honorable Senator Lisa Murkowski
 Chairwoman – Senate Committee on Energy and
 Natural Resources
 U.S. Senate
 522 Hart Senate Office Building
 Washington, D.C. 20510

The Honorable Senator Maria Cantwell
 Ranking Member – Senate Committee on Energy and
 Natural Resources
 U.S. Senate
 311 Hart Senate Office Building
 Washington, D.C. 20510

Subject: Written testimony in advance of the hearing on opportunities to improve and expand infrastructure important to federal lands, recreation, water and resources.

Dear Chairwoman Murkowski and Ranking Member Cantwell,

We are writing to thank you for hosting this hearing and for your efforts to improve infrastructure important to federal lands, recreation, water and resources. As conservation and recreation groups actively working (and playing) on federal lands, we are deeply concerned about the declining condition of federal forest infrastructure. We look forward to working with you as you begin charting a path forward.

Among the topics for the hearing is outdoor recreation on federal land, which is the single greatest use of the National Forest System. The number of recreation visits on national forests rose from about 5 million in 1925 to nearly 147 million today—a growth rate of 2,800%!¹ This huge growth supports thousands of jobs and with a \$10.3 billion contribution to the Gross Domestic Product, recreation surpasses the combined contribution of grazing, forest products and energy/mineral production on forest service lands.²

We are excited to see so many Americans getting out and enjoying public lands. But we also understand and have experienced how the neglect of investment in infrastructure has threatened the public's ability to access trails, campgrounds, and fishing holes. It is not only the infrastructure such as toilets, signs, picnic tables, but it all starts with the roads that people use to get to the places they love.

Nationally, the U.S. Forest Service has over 370,000 miles of road—that's equivalent to driving roundtrip from Washington D.C. to Anchorage 43 times. Only 18% of these roads are maintained for passenger cars, with the remaining 72% maintained for high-clearance vehicles. The U.S. Forest Service does its best to maintain as many miles of roads as possible, but with shrinking budgets, the agency can usually only lightly maintain about 15% of the 370,000 miles per year.

The chronic underfunding and lack of routine maintenance means that deferred maintenance grows and grows. For the U.S. Forest Service, deferred maintenance in 2015 reached \$5.2 billion, with 57% due to roads.³ When roads are neglected, they are highly vulnerable to any weather event. For example last winter, in one watershed in the Mt. Baker-Snoqualmie National Forest (Nooksack), 45% of the roads were closed because they washed out during storms. The forest sustained \$2M in damage due to last winter's storms and the Gifford Pinchot National Forest sustained \$3.5M in storm-related road damage. Many of these damaged roads have not yet been fixed—effectively eliminating recreational access for months and often years. More closures occurred this winter but have not yet been tallied. If we want to support access to national forests and the economic growth of gateway communities that depend on the outdoor recreation economy, then the road infrastructure must be addressed.

¹ USDA Forest Service. A Sustainable Recreation Future. December 2015.

² USDA Forest Service. A Sustainable Recreation Future. December 2015.

³ USDA Forest Service. National Forest System Statistics FY 2015. April 2016.

Washington State, as one example:

In Washington State, the Forest Service road challenge is compounded by the weather (large amounts of rainfall), soils (unstable in many portions), geography (roads built in the wrong place) and endangered/threatened fish listings (salmon redds buried by sediment and/or salmon and trout having access to spawning grounds blocked by undersized culverts). Additionally:

- The Forest Service road system is old: built decades ago and financed nearly 75% by appropriations.
- Road maintenance budgets in OR & WA dropped from a high of \$120M in 1990 to just over \$20M in 2015.⁴
- The road network continues to support forest management activities but also supports a strong recreation economy in Washington with 12 million visitor days a year and over \$535 million in annual expenditures⁵.
- Road and culvert failures eliminate access to forests and dump tons of sediment into streams harming fish. This impacts the \$1.1B sportfishing industry, the \$535M national forest recreation industry and the \$92M shellfish economy in Washington.
- Reduced annual road maintenance budgets translate to increased deferred maintenance liability—now over \$385M. At the current rate, it will take over 200 years to address the deferred maintenance needs of all national forests in Washington State.
- Nearly 86% of the state's population⁶ depends on drinking water from national forest lands. Poorly maintained roads bleed sediment into waterways, increasing turbidity and increasing costs to filter water for public drinking water supplies. Effective forest management can decrease drinking water treatment and chemical costs by 20 percent⁷.
- Washington State is under a court order to repair hundreds of culverts that block passage for salmon to spawning grounds (2016 decision by the 9th Circuit Court of Appeals). Washington's national forests still have 994 barriers to fish passage (61 are barriers for anadromous fish).

Washington State is not alone. All national forests are burdened by this infrastructure liability that looms larger every day, but the specific challenges may differ across the country.

Moving Forward:

For ten years, our coalition has advocated for smart solutions to this problem. This starts with a plan to “right-size” the road system. Some of this work has been done when the U.S. Forest Service completed its Travel Analysis Process to determine the access needs, environmental risks and costs of the road system in each national forest. This information can be used to determine where targeted investments should be made. Rightsizing the road system to a more manageable size over time reduces both its fiscal and environmental burden. It also enables the agency to keep a significantly higher portion of the road system maintained to standard allowing better and more reliable access.

Being strategic and targeting projects to include the repair of key roads and trails used for public access, replacement of failed or undersized culverts to reconnect fish habitat, and stormproofing or reclaiming roads to prevent sediment pollution from entering waterways important for salmon, trout, and drinking water, the agency can begin to get a handle on this challenge. By using the results from the travel analysis process, infrastructure problems are addressed in real time, which enables the Forest Service to efficiently plan, design, and implement treatments. Road work also often requires skilled workers which creates high wage jobs for

⁴ U.S. Forest Service Region 6. Road maintenance budget allocations. 2016.

⁵ Economic Analysis of Outdoor Recreation in Washington State. Earth Economics. January 2015.

⁶ U.S. Forest Service. Water and the Forest Service. January 2000.

⁷ Ernst, Caryn. 2004. Protecting the Source. Published by the Trust for Public Land & American Water Works Association. Available at https://www.tpl.org/sites/default/files/cloud.tpl.org/pubs/water-protecting_the_source_final.pdf.

contractors, including those who specialize in stream restoration, environmental design, and heavy equipment operation.

Conclusion:

We want to be able to continue to access our public lands and recreate in our own unique ways but we are deeply concerned about losing that access due to neglect and lack of investment in the infrastructure that gets us to the places we love. Investing maintenance dollars in roads that are needed, investing in treatments to reduce road-related impacts to drinking water and fisheries and rightsizing the overall road network is one way to begin to make a tangible difference on the ground. The great news is that these investments will pay off with job creation, recreational spending, reduced costs to drinking water systems, increased commercial, tribal and sportfishing opportunities and more-guaranteed access.

Thank you for having this important discussion!

Sincerely,

Marlies Wierenga
Pacific Northwest Conservation Manager
WildEarth Guardians

Mike Anderson
Senior Policy Analyst
The Wilderness Society

Nicole Budine
Policy and Campaign Manager
Cascade Forest Conservancy

Allen Gibbs
Conservation Chair
Pilchuck Audubon Society

Wendy McDermott
Director, Rivers of Puget Sound and Columbia Basin
American Rivers

Thomas O'Keefe
Pacific Northwest Stewardship Director
American Whitewater

Tom Uniack
Executive Director
Washington Wild

Dave Wernitz
Science and Conservation Director
Conservation Northwest



BACKCOUNTRY HUNTERS & ANGLERS

March 20, 2017

Senate Committee on Energy & Natural Resources

Re: Hearing to receive testimony on opportunities to improve and expand infrastructure important to federal lands, recreation, water, and resources

Dear Committee Members,

Backcountry Hunters & Anglers provides the following recommendations for the record to the Senate Committee on Energy and Natural Resources and tomorrow's hearing "to receive testimony on opportunities to improve and expand infrastructure important to federal lands, recreation, water, and resources."

BHA is the sportsmen's voice for our wild public lands, waters and wildlife. We seek to ensure North America's outdoor heritage of hunting and fishing in a natural setting through education and work on behalf of fish, wildlife and wild places. With more than 250,000 members and supporters and chapters in 25 states and British Columbia, BHA is attracting support from sportsmen and women all across the continent.

North America's public lands and waters are the lifeblood of America's hunters and anglers. These are the cherished wild places that restore our spirits and provide the solace of solitude. They're where we go to challenge ourselves in pursuit of adventure and game. They are strongholds of important wildlife habitat and fisheries, providing places where a range of species – everything from elk and mule deer to grouse, waterfowl and native trout – can grow to maturity and thrive.

The lands and waters that make up this unique public legacy are the infrastructure for an outdoor recreation economy that drives \$646 billion in our country annually. Beyond hunting and fishing opportunities, infrastructure investments in public lands and waters supports 6.1 million direct jobs. When we include historical preservation, cultural resources, and other facets tied to public lands and waters, this economic contribution rises to \$1.06 trillion annually and bolsters 9.4 million American jobs. These are sustainable economic engines and jobs that can sustain our country through the hardest of times (our outdoor recreation sector saw a 5% increase during the most recent economic recession and remained strong throughout the entire economic downturn) so it is imperative that we elevate our commitment as we discuss infrastructure and budgeting needs to ensure adequate resources are allocated to strategic areas.

Specifically, we encourage the Committee to regard the following:



BACKCOUNTRY HUNTERS & ANGLERS

- Support permanent reauthorization and full dedicated annual funding for the Land and Water Conservation Fund. Created by Congress more than 50 years ago, the LWCF is a bipartisan commitment to safeguard natural areas, water resources and our cultural heritage and to provide recreation opportunities to all Americans. Previously authorized for up to \$900 million annually, the LWCF provides matching grants to states and local governments for the acquisition of irreplaceable lands that improve outdoor recreation, develop public facilities and advance shared federal land conservation strategies. The program is intended to create and maintain a nationwide legacy of high quality recreation areas and facilities to stimulate non-federal investments in the protection and maintenance of recreation resources. While LWCF monies are leveraged in partnership with state and local efforts to acquire and protect inholdings and expansions in our national parks, national wildlife refuges, national forests, national trails and BLM lands, the program itself has been chronically underfunded. This leads to missed opportunities for investing in areas that benefit fish, wildlife and outdoor recreation like hunting and fishing.

LWCF may be our most effective tool for increasing management efficiencies and eliminating challenges related to operations and maintenance by facilitating land purchases from willing-seller landowners that occupy checkerboard areas of land within park boundaries and other important landscapes. These strategies directly reduce agency costs and benefit wildfire resources that provide public safety and contribute to resource protection. We can't, however, let LWCF funds be diverted to maintenance costs. The result would be catastrophic and the original spirit of the program would be permanently eroded on top of increasing management costs, challenges with incompatible development within various jurisdictional boundaries, and new expenses related to fire and pest treatments.

Whether we're talking about large western landscapes and waters that support clean water or parks in local communities that provide safe places for our children and green spaces for smart transportation needs, it's clear that we must secure permanent reauthorization of LWCF and full, dedicated, annual funding in perpetuity.

- We must work together to integrate conservation funding into infrastructure building efforts (legislative and administrative) by advancing the following legislative opportunities:
 - The Wildfire Disaster Funding Act, which would end the practice of fire borrowing;
 - The Recovering America's Wildlife Act, which has bipartisan support for the Wildlife Conservation and Restoration Account by dedicating \$1.3 billion dollars annually from existing energy revenues (onshore and OCS) that will fund species management efforts;



BACKCOUNTRY HUNTERS & ANGLERS

- A federal trust fund that will enhance public access and support maintenance and long-term sustainability of all our nation's public lands, including national wildlife refuges and other lands managed by the Department of the Interior (BLM, Park Service, etc.), U.S. Department of Agriculture (national forests) and other facilities under federal management.
- The American Heritage and Conservation Trust Act, which would, amongst other important funding considerations like developing a public access and infrastructure maintenance account, fully fund the Land and Water Conservation Fund at \$900 million.
- Support reauthorizations and robust annual funding for other critical programs such as the North American Wetlands Conservation Act and the National Fish and Wildlife Foundation. NAWCA alone is a wildly successful wetland conservation program that has helped safeguard more than 33.4 million acres since 1989 and supports an incredible network of natural infrastructure around the country. In addition to conserving valuable habitat and providing natural infrastructure, these programs secure thousands of acres of new public hunting and fishing access each year.

Now, more than ever before, we need wild lands: places to rekindle the fire at the heart of the human soul. BHA is a nonpartisan group of hunters and anglers who are standing up for these places and for the outdoor opportunities they represent. We thank the members of the committee in advance for their consideration of our public lands, waters, and wildlife as they review critical infrastructure needs. Together we can create jobs, build a more robust economy and address important management needs like the maintenance backlog and do so in thoughtful ways that also increase investments in habitat and provide adequate funding to federal management agencies to enhance our proud public lands legacy.



www.corpsnetwork.org

March 20, 2017

The Honorable Lisa Murkowski
Chairwoman

Senate Energy and Natural Resources Committee
304 Dirksen Senate Building
Washington, DC 20510

The Honorable Maria Cantwell
Ranking Member

Senate Energy & Natural Resources Committee
511 Hart Senate Office Building
Washington, DC 20510

Dear Chairman Murkowski and Ranking Member Cantwell,

On behalf of the Corps Network, I write with respect to the hearing scheduled for Tuesday, March 21 “Opportunities to Improve and Expand Infrastructure Important to Federal Lands, Recreation, Water, and Resources.” Thank you for your attention to this important issue and for recognizing that in the ongoing debate about infrastructure, our nation’s parks and forests should be an area of focus as well.

With record-high park visitation numbers just released, and unanimously supported legislation last Congress to officially recognize the \$646 billion outdoor recreation economy, it has never been more obvious that our federal lands are not only a treasured resource for all American’s, but also help drive significant economic growth and activity. Unfortunately, those resources are also in need of investment, and innovative investment strategies at that, in order to ensure continued enjoyment, access, and recreation opportunities for all Americans and the effective use of taxpayer resources.

The 135 locally-based Corps of the Corps Network have been partnering with parks and forests around the country to help government be more efficient and accomplish needed projects in a cost-effective manner. More of these innovative public-private partnerships should be developed, and taxpayer funds could be better leveraged, by prioritizing the use of Corps in an infrastructure package using existing funding to increase access, recreation opportunities, productivity of fish and wildlife habitat, enhance multi-use trails, and address wildfires, backlog maintenance, and historic preservation. Corps already have authority in federal law for these partnerships with DOI, USDA, DOT, and USACE and bring a significant match of 20% to these projects as well, making limited federal funds go even further.

Another innovative approach is to develop a 21st Century Conservation Service Corps (21CSC). The bipartisan 21CSC Act (HR 5114 & S1993 in the 114th Congress) was the subject of a subcommittee hearing on March 17, 2016. The 21CSC Act would simply update existing law to engage more Corps on important projects, provide new fundraising and partnership tools, and engage more young adults and veterans in Corps. The 21CSC is supported by the past five Secretaries of Interior (two republicans and three democrats) and has support from a broad range of private sector partners like the North Face, REI, KEEN, the Outdoor Industry Association, Thule, Coca-Cola and American Eagle.

Corps provide young adults and veterans (Corpsmembers) the opportunity to serve their country, advance their education and obtain in-demand skills and credentials. Serving in crews and individual placements, Corpsmembers perform important conservation, infrastructure, wildfire and invasives remediation, disaster response, recreation, and community development service projects on public lands and in rural and urban communities. Corps enroll over 25,000 youth and veterans annually in all 50 states and DC, Puerto Rico, and American Samoa. Engaging young adults and veterans in Corps on

#CorpsWork #21CSC | 1275 K St. NW, Suite 1050 | Washington, DC 20005 | p: 202.737.6272 | f: 202.737.6277



www.corpsnetwork.org

natural resource and infrastructure projects on parks and forests, also helps develop the next generation of conservation stewards, recreationists, entrepreneurs, and sportsmen and women.

Corps have also engaged in their own innovative partnerships that should be expanded and prioritized in an infrastructure package. For example, as part of their concessionaire contract, Delaware North partnered with a Corps and the National Trust for Historic Preservation to preserve a historic stable in Shenandoah National Park, which was selected by the park superintendent as important. The project saved 20% over typical costs, reduced the backlog of deferred maintenance in the park without any expenditure of federal funds, and provided technical skills to Corpsmembers. Corps also supplement park and forest staff and conduct outreach, lead volunteer groups to help get projects done, engage with friend's groups on fundraising and projects, and partner with sportsmen and recreation organizations on projects important to generating more revenue, visitation, and recreation.

Modern day Corps are locally run, highly skilled, efficiently managed and cost-effective at completing quality projects. According to a study by Booz Allen Hamilton commissioned by NPS, utilizing Corps saves over 50%. In addition, 99.6% of federal partners said they would work with Corps again. We're proud to have the Western Governors Association as supporters with a policy resolution that states "We recognize Conservation Corps as essential partners in meeting ongoing demands for natural resource management needs and as effective workforce and career development programs for young people."

Corps are essential partners in that they help accomplish a significant amount of priority work for parks and forests. Recently, Corps accomplished the following: 1,577,252 acres of wildlife habitat improved and made accessible; 1,502,078 trees managed & planted; 365,000 acres of invasive species removed; 32,000 acres of fire fuel reduced; 21,861 miles of multi-use trails constructed and improved; 16,000 recreation facilities improved; 8,200 acres of erosion, landslide, and flood prevention; 2,600 miles of fish and waterway habitat restored; 500 wildfires and disasters responded to; and 190 historic structures preserved. Corpsmembers also received over 14,000 credentials.

As you can see, there are a number of ways that Corps can be better utilized on a variety of federal lands infrastructure projects, and there is a large body of work to show the success and potential effectiveness of expanding on these types of partnerships. As an infrastructure package develops, we respectfully urge you to include Corps as a priority project partner and identify other innovative ways for us to be engaged in improving our nation's federal lands for all Americans. Thank you for your time and consideration of these issues.

Sincerely,

Mary Ellen Sprenkel
President & CEO

Cc: Members of the Senate Energy and Natural Resources Committee

Enclosure: Corps by State of the Corps Network



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CORPS of THE CORPS NETWORK

National & Regional Organizations:

American Conservation Experience
AmeriCorps NCCC
Community Training Works, Inc./YACC
Conservation Legacy
Greening Youth Foundation
Student Conservation Association (SCA)

ALASKA

Anchorage Park Foundation/YEP
Student Conservation Association (Anchorage Office)

ARIZONA

American Conservation Experience
Arizona Conservation Corps (Flagstaff, Tucson)
Work in State: CCYC (UT); NYC (OR); RMYC (NM)

ARKANSAS

Cass Job Corps Civilian Conservation Center
Ouachita Job Corps Civilian Conservation Center

CALIFORNIA

AmeriCorps NCCC (Pacific Region)
California Conservation Corps
Civicoops
Conservation Corps of Long Beach
Conservation Corps North Bay
Desert Restoration Corps (SCA)
Fresno EOC Local Conservation Corps
Greater Valley Conservation Corps
Kern Service and Conservation Corps
Los Angeles Conservation Corps
Orange County Conservation Corps
Sacramento Regional Conservation Corps
San Francisco Conservation Corps
San Gabriel Valley Conservation Corps
San Joaquin Regional Conservation Corps
San Jose Conservation Corps & Charter School
Sequoia Community Corps
Sonoma County Youth Ecology Corps
Student Conservation Association (Oakland)
Urban Conservation Corps /S.C.A. Mtns Foundation
Urban Corps of San Diego County
Work in State: ACE (AZ); ACC (AZ); NCC (NV); NYC (OR)

COLORADO

AmeriCorps NCCC (Southwest Region)
Collbran Job Corps Civilian Conservation Center
Conservation Legacy (HQ)

COLORADO (cont.)

Environment for the Americas
Serve Colorado
Larimer County Conservation Corps
Mile High Youth Corps
Rocky Mountain Conservancy
Rocky Mountain Youth Corps (Steamboat Springs)
Southwest Conservation Corps (Four Corners, Los Valles)
Western Colorado Conservation Corps
Work in State: CCYC (UT)

CONNECTICUT

Knox Parks Foundation – Green Crew

DELEWARE

Delaware State Parks Youth Conservation Corps
Delaware State Parks Veterans Conservation Corps

DISTRICT OF COLUMBIA

AmeriCorps National Civilian Community Corps (HQ)
Student Conservation Association (Capital Region)

FLORIDA

Community Training Works, Inc. / Young American CC
Greater Miami Service Corps

GEORGIA

Greening Youth Foundation (HQ)

HAWAII

KUPU/Hawaii Youth Conservation Corps

IDAHO

Centennial Job Corps Civilian Conservation Center
Idaho Conservation Corps
SCA Idaho AmeriCorps
Work in State: MCC (MT); NCC (NV); NYC (OR); UCC (UT)

ILLINOIS

Greencorps Chicago
Golconda Job Corps Civilian Conservation Center
Peoria Corps
Student Conservation Association (Chicago)
Youth Conservation Corps, Inc.
YouthBuild Lake County



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IOWA

AmeriCorps NCCC (North Central Region)
Conservation Corps Minnesota & Iowa (Ames)

KENTUCKY

Frenchburg Job Corps Civilian Conservation Center Great
Onyx Job Corps Civilian Conservation Center
Pine Knot Job Corps Civilian Conservation Center

LOUISIANA

Limitless Vistas, Inc.
Work in State: AYW (TX)

MAINE

Maine Conservation Corps

MARYLAND (cont.)

AmeriCorps NCCC (Southwest Region)
Civic Works
Maryland Conservation Corps
Montgomery County Conservation Corps
Work in State: CCCWV (WV)

MASSACHUSETTS

Massachusetts Corps (SCA)

MICHIGAN

Detroit Conservation Corps
Great Lakes Conservation Corps
Michigan Civilian Conservation Corps
Student Conservation Association (Detroit)
SEEDS Youth Conservation Corps
Work in State: CCMI (MN), GLCCC (WI)

MINNESOTA

Conservation Corps Minnesota & Iowa

MISSISSIPPI

CLIMB Community Development Corporation

MISSOURI

Mingo Job Corps Civilian Conservation Center
Work in State: CCMI (MN)

MONTANA

Anaconda Job Corps Civilian Conservation Center
Montana Conservation Corps
Trapper Creek Job Corps Civilian Conserv. Center

NEBRASKA

Pine Ridge Job Corps Civilian Conservation Corps

NEVADA

Nevada Conservation Corps (Great Basin Institute)
Work in State: ACC (AZ)

NEW HAMPSHIRE

New Hampshire Corps (SCA)
Work in State: GMC (VT)

NEW JERSEY

New Jersey Youth Corps of Atlantic Cape May
New Jersey Youth Corps of Camden/The Work Group
New Jersey Youth Corps of Elizabeth
New Jersey Youth Corps of Jersey City
New Jersey Youth Corps of Middlesex County
New Jersey Youth Corps of Monmouth County
New Jersey Youth Corps of Newark
New Jersey Youth Corps of Paterson
New Jersey Youth Corps of Phillipsburg
New Jersey Youth Corps of Trenton
New Jersey Youth Corps of Trenton Isles
New Jersey Youth Corps of Vineland
New York New Jersey Trail Conference
Student Conservation Association (New Jersey)

NEW MEXICO

EcoServants
Rocky Mountain Youth Corps (Taos)
Southwest Conservation Corps (Ancestral Lands)
YouthWorks Santa Fe

NEW YORK

Adirondack Corps (SCA)
Excelsior Conservation Corps
Green City Force
Hudson Valley Corps (SCA)
New York City Justice Corps – Bronx
New York City Justice Corps – Brooklyn
New York City Justice Corps – Harlem
New York City Justice Corps – Queens
New York Restoration Project
Onondaga Earth Corps
Student Conservation Association (New York City)
The Place/Headwaters Youth Conservation Corps
The Service Collaborative of WNY, Inc.
Work in State: NYNJTC (NJ)

NORTH CAROLINA

American Conservation Experience
L.B. Johnson Job Corps Civilian Conservation Center
North Carolina Youth Conservation Corps
Northwest Piedmont Service Corps
Oconaluftee Job Corps Civilian Conservation Center



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Schenk Job Corps Civilian Conservation Center
Work in State: VYCC (VT), ATCLC (WV)

NORTH DAKOTA

Work in State: CCMI (MN); MCC (MT)

OHIO

WSOS Community Action

OKLAHOMA

Work in State: AYW (TX)

OREGON

Angell Job Corps Civilian Conservation Center
Heart of Oregon
Northwest Youth Corps
Oregon Volunteers
Timber Lake Job Corps Civilian Conservation Center
Wolf Creek Job Corps Civilian Conservation Center

PENNSYLVANIA

PowerCorpsPHL
Student Conservation Association (Pittsburg/Philadelphia)

SOUTH CAROLINA

Palmetto Conservation Corps
St. Bernard Project
The Sustainability Institute/Energy Conservation Corps

SOUTH DAKOTA

Boxelder Job Corps Civilian Conservation Center
Work in State: CCMI (MN)

TENNESSEE

Jacobs Creek Job Corps Civilian Conserv. Center
Knox County CAC AmeriCorps
Southeast Youth Corps

TEXAS

American YouthWorks, incl. Texas Conservation Corps
Student Conservation Association (Houston)
Work in State: Southwest Conservation Corps

UTAH

American Conservation Experience
Canyon Country Youth Corps

UTAH (cont.)

Utah Conservation Corps
Weber Basin Job Corps Civilian Conservation Center
Work in State: ACC (AZ)

VERMONT

Green Mountain Club
Vermont Youth Conservation Corps

VIRGINIA

Flatwoods Job Corps Civilian Conservation Corps
SCA (Student Conservation Association) (HQ)
Virginia Service and Conservation Corps
Virginia State Parks Youth Conservation
Work in State: ATCLC (WV)

WASHINGTON

Columbia Basin Job Corps Civilian Conserv. Center Curlew
Job Corps Civilian Conservation Center EarthCorps
Fort Simcoe Job Corps Conservation Center
Mt. Adams Institute
Student Conservation Association (Seattle)
Washington Conservation Corps
Work in State: NYC (OR)

WEST VIRGINIA

Appalachian Trail Conservancy Leadership Corps
Citizens Conservation Corps
Harpers Ferry Job Corps Civilian Conserv. Center

WISCONSIN

Blackwell Job Corps Civilian Conservation Center
Fresh Start - ADVOCAP
Fresh Start - Renewal Unlimited, Inc.
Great Lakes Community Conservation Corps
Milwaukee Community Service Corps
Operation Fresh Start
Student Conservation Association (Milwaukee)
WisCorps / Wisconsin Conservation Corps
Work in State: CCMI (MN)

WYOMING

Wyoming Conservation Corps
Work in State: RMYC (CO); MCC (MT); UCC (UT)



March 21, 2017

The Honorable Lisa Murkowski
U.S. Senate
522 Hart Senate Office Building
Washington, D.C. 20510

The Honorable Maria Cantwell
U.S. Senate
511 Hart Senate Office Building
Washington, D.C. 20510

Re: Hearing to receive testimony on opportunities to improve and expand infrastructure important to federal lands, recreation, water, and resources (March 21, 2017)

Dear Chairman Murkowski and Ranking Member Cantwell,

The Mountain Pact, a network of mountain towns and chambers of commerce in the Intermountain West, appreciates the U.S. Senate Committee on Energy and Natural Resources' consideration of opportunities to improve and expand infrastructure important to federal lands, recreation, water, and resources. Public lands play a critical role in supporting rural jobs and local economies, and they provide our communities with a competitive advantage to attract businesses and employees wanting to live close to outdoor recreation opportunities. Any infrastructure plan must also invest in America's public lands – on which the outdoor recreation economy relies – through the Land and Water Conservation Fund and other funding to address infrastructure needs, maintenance backlogs at our nation's parks, wildlife refuges, forest, and other public lands.

Millions of residents and tourists enjoy the diverse outdoor recreation opportunities of the Intermountain West, and many towns and individuals rely on this tourism for their livelihoods. Hunting, fishing, hiking, and outdoor recreation contribute \$646 billion to the US economy with 6.1 million Americans jobs tied to the outdoor recreation industry – almost equal to pharmaceuticals and motor vehicles and parts combined.¹

Most of the outdoor recreation takes place on public lands; 46.9% of the 11 western states is owned and managed by either the United States Department of Agriculture or the Department of Interior.² Yet, much of this land—critical infrastructure for rural economic development—has received inadequate management and funding over recent decades, and is in need of infrastructure investments. Critical investments in public lands infrastructure must include maintenance, habitat protection, and improvements to accessibility such as conservation easements that incentivize private landowners to allow the public to pass through their land in order to access public lands. While it is important to address the national parks maintenance backlog, recent analyses³ have found that hundreds of millions of dollars in projects identified are costs that should be borne by concessionaires or funded through a different legislative process. Also, the backlog must not be addressed at the expense of other investments through the Department of the Interior important for the outdoor economy and rural communities.

Investments in natural resources create more jobs than other types of infrastructure spending because

¹ Secretary Jewell Offers Vision for Next 100 Years of Conservation in America. Department of Interior. April 2016. Available online at: <https://www.doi.gov/pressreleases/secretary-jewell-offers-vision-next-100-years-conservation-america>

² Federal Land Ownership: Overview & Data. Congressional Research Data. December 2014. Available online at: <https://www.fas.org/sfp/crs/misc/R42346.pdf>

³ Yosemite for Sale How Trump Could Privatize America's National Parks. Center for American Progress. February 2017. Available online at: <https://cdn.americanprogress.org/content/uploads/2017/02/10035249/ParkServiceBacklog-brief.pdf>

most of the investment goes into labor rather than capital expenses. About 20 jobs are created per \$1 million invested in recreation and up to 33 jobs are created per \$1 million invested in environmental restoration.⁴ The Land and Water Conservation Fund alone provides a strong return on investment; for every \$1 of LWCF funds invested results in a return of \$4 in economic value.⁵

In order for the outdoor recreation economy, its \$646 billion contribution to the US economy, and its 6.1 million (mostly rural) Americans jobs to continue to grow, the public lands infrastructure on which it relies must be supported by the federal government through increased infrastructure investment.

The Mountain Pact is a network of such outdoor recreation-based mountain towns in the Intermountain West working together to build economic and environmental resilience in our communities through a shared voice on federal policy. The Mountain Pact represents approximately 200,000 permanent residents, 40 million visitors, and 5,200 small and medium-sized businesses. Attached please find a recent series of letters from local governments and other Intermountain West stakeholders in regarding the value of the outdoor recreation economy.

We appreciate the Committee's attention to infrastructure on public lands and the opportunity to comment. Please contact me at diana@themountainpact.org with any questions.


Sincerely,





Diana Madson
Executive Director | The Mountain Pact

⁴ Defining and evaluating the ecological restoration economy. BenDor, T., Lester, T.W., Livengood, A., Davis, A., Yonavjak, A. *Restoration Ecology* 23(3): 209-219. April 2015. Available online at: <http://dx.doi.org/10.1111/rec.12206>
⁵ Return on the Investment from the Land & Water Conservation Fund. The Trust for Public Land. November 2010. Available online at: <https://www.tpl.org/sites/default/files/cloud.tpl.org/pubs/benefits-LWCF-ROI-Report-11-2010.pdf>.

Mountain Communities for Environmental & Economic Resilience

 Diana Madson, Executive Director

 diana@themountainpact.org

 530.539.4071

Attachment: Mountain Pact cover letter to Congressional leadership, local government letters to members of Congress, and chamber and economic development corporation letter to President Trump and Interior Secretary Zinke.



March 6, 2017

The Honorable Mitch McConnell
United States Senate
317 Russell Senate Office Building
Washington, D.C. 20510

The Honorable Chuck Schumer
United States Senate
322 Hart Senate Office Building
Washington, D.C. 20510

The Honorable Paul Ryan
United States House of Representatives
1233 Longworth House Office Building
Washington, D.C. 20515

The Honorable Nancy Pelosi
United States House of Representatives
233 Cannon House Office Building
Washington, D.C. 20515

Dear Senator Mitch McConnell, Senator Chuck Schumer, Representative Paul Ryan, and Representative Nancy Pelosi,

I am writing to introduce you to The Mountain Pact and share the attached letters from mountain communities, chambers of commerce, and economic development corporations (EDCs) highlighting the economic benefits of national public lands in the Intermountain West, and in particular, the new jobs study made possible by the bipartisan Outdoor Recreation Jobs and Economic Impact Analysis Act ('Outdoor REC Act') [S. 6518 and H.R. 4665] of 2016.

Passed unanimously by the U.S. Congress, the Outdoor REC Act requires that the federal government study and complete the first-ever analysis of the jobs associated with tourism, hunting and fishing, manufacturing of outdoor gear, and other economic implications of visits to our national parks and other public lands, which our communities depend on. Finally, this economic impact will be recognized and counted toward the national GDP.

As you know, the outdoor recreation economy is already recognized for contributing an estimated \$646 billion to the US economy with 6.1 million direct Americans jobs. It drives our local economies, not only through spending directly associated with outdoor recreation, but also by making our communities attractive to new residents, entrepreneurs and small businesses. Visitors to and uses of our national public lands, local jobs, and the economy of Western communities are inextricably linked.

The Mountain Pact is a network of such outdoor recreation-based mountain towns in the Intermountain West working together to build economic and environmental resilience in our communities through a shared voice on federal policy. The Mountain Pact represents approximately 240,000 permanent residents, 43 million visitors, and 5,200 small and medium-sized businesses.

Attached please find forty-three letters from local governments and other Intermountain West stakeholders in support of implementation of the Outdoor REC Act-authorized study. It is vital to local jobs in these states, and to the future of our towns. Please contact me at diana@themountainpact.org with any questions.

Thank you for your continued support for our outdoor economy.

Sincerely,

Diana Madson
Executive Director, The Mountain Pact

Mountain Communities for Environmental & Economic Resilience

👤 Diana Madson, Executive Director

✉️ diana@themountainpact.org

☎️ 530.539.4071



The Mountain Pact



February 7, 2017

President Donald Trump
The White House
1600 Pennsylvania Ave, N.W.
Washington, D.C. 20500

The Honorable Ryan Zinke
Secretary U.S. Department of the Interior
1849 C Street, N.W.
Washington, D.C. 20240

Dear President Trump and Secretary Zinke,

As chambers of commerce and economic development corporations (EDCs) in world-class tourism destinations, we share our enthusiastic support of the Outdoor Recreation Jobs and Economic Impact Act ("Outdoor REC Act") [S. 6518/H.R. 4665]. In late 2016, the Outdoor REC Act passed the U.S. Senate and the House of Representatives with strong support, including co-sponsorship from then-Congressman Zinke. Before the passage of this bill, the federal government did not account for the outdoor recreation industry's contribution to the U.S. economy, estimated at of \$646 billion year. With the Outdoor REC Act, Congress has directed the Bureau of Economic Analysis (BEA) to collect, track, and analyze data to report on the local and collective economic impact of America's outdoor economy.

Together, our local chambers of commerce and EDCs represent 5,200 businesses, 12 towns, 200,000 permanent residents and 40 million annual visitors. We are surrounded by and serve as the gateways to unparalleled outdoor recreation opportunities that support our local businesses, entrepreneurs and regional economies. The tourism generated from people adventuring into the neighboring public lands helps our communities to diversify economically by making them more attractive to new residents, entrepreneurs and small businesses, and investments that provide towns with a competitive advantage to attract retirees, businesses and telecommuters wanting to live close to outdoor recreation opportunities.

According to the Outdoor Industry Association, outdoor recreation supports 6.1 million American jobs, and \$80 billion in federal, state, and local tax revenues. Through a comprehensive BEA analysis, the Outdoor REC Act is an important step in valuing the impact of use and visits to the natural and cultural assets that our communities depend on for local jobs, revenue and quality of life for our residents.

While the Outdoor REC Act directs the study of the outdoor economy by the BEA, the law did not include allocated funding for annual maintenance of the modeling and economic analysis. We respectfully request that your Administration put its full support behind the analysis and completion of the outdoor recreation economy study. It is of utmost importance to Western businesses, our chambers, and local economies.

We look forward to working with you both to not only ensure that the Bureau of Economic Analysis study is funded and completed, but to also support the national public lands on which our communities depend

Thank you for your time.

Sincerely,

Alta Chamber and Visitors Bureau
Aspen Chamber Resort Association
Bend Chamber of Commerce
Crested Butte/Mt. Crested Butte Chamber of Commerce
Estes Park Economic Development Corporation
Estes Valley Partners for Commerce
Jackson Hole Chamber of Commerce
Leadville Lake County Chamber of Commerce
Lake Tahoe South Shore Chamber of Commerce
Mammoth Lakes Chamber of Commerce
Ouray Chamber Resort Association
Ridgway Area Chamber of Commerce
Taos Ski Valley Chamber of Commerce
Vail Valley Partnership

FOR THE EXCLUSIVE USE OF DIANA@THEMOUNTAINPACT.ORG

From the Denver Business Journal:

<http://www.bizjournals.com/denver/news/2017/02/03/opinionoutdoor-rec-act-gives-boost-to-major.html>

Opinion: Outdoor Rec Act gives boost to major Colorado industry

Feb 3, 2017, 6:15am MST

When the Outdoor Recreation Jobs and Economic Impact Act was passed in early December, it gave assurances to Colorado's tourism-dependent economies that America is committed to the outdoor recreation industry -- at least to the extent that other industries are acknowledged by the federal government.

The Outdoor REC Act passed with bipartisan support in the U.S. Congress, directing the Bureau of Economic Analysis (BEA) to measure and quantify the economic value and jobs associated with outdoor recreation, such as those related to hunting and fishing, manufacturing outdoor gear, retail and hospitality, and other economic implications of visits to our national parks and public lands. The Vail Valley and other mountain communities throughout the country thrive on outdoor recreation as a key driver of our local economies.

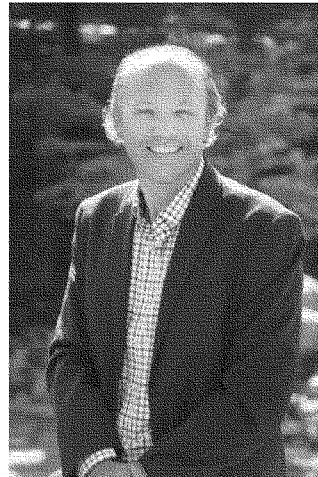
For over 50 years, Vail Valley partnership has been working on behalf of the economic vitality of this area. Not only do we work as the regional chamber of commerce and economic development agency for this area, we also promote it as a year round destination for outdoor recreation enthusiasts.

The Vail Valley is a world famous ski region and is an increasingly popular location for mountain biking, hiking, golfing, horseback riding and other types of outdoor recreation. The community's shops, restaurants, hotels and other local businesses cater to tourists who are drawn to incomparable beauty and recreation opportunities in this region -- or non-tourism businesses that appreciate our recreational assets. The revenue generated by outdoor recreation helps our community to diversify economically by making it more attractive to new residents, entrepreneurs and small businesses.

Our local economy is dependent on this outdoor recreation and it is the role of Vail Valley Partnership to help ensure an environment where local businesses can survive and thrive.

That is why we celebrate the Outdoor REC Act and applaud the bipartisan effort behind escalating this important bill -- especially the leadership of Colorado Senator Cory Gardner.

The Outdoor REC Act will quantify the contributions of mountain communities like those in the Vail Valley to the U.S. economy. The revenue generated by the outdoor industry is estimated at \$646 billion and 6.1 million direct American jobs. Providing information on the structure and interaction of all sectors of the economy is essential function of the



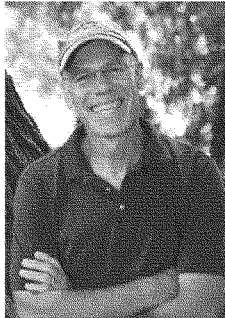
BROOKE HEATHER PHOTOGRAPHER
Chris Romer, Vail Valley Partnership

government. The results of this BEA study will be a critical tool for policymakers to better understand the direct and indirect economic impacts of outdoor recreation when making decisions. For example, when making the case for investment in trail maintenance or forest restoration, advocates for outdoor recreation and public lands will have official federal economic data to back it up. With the BEA study results, policymakers will have the objective data they need to understand that the connection between visits to and uses of our national public lands, local jobs, and the economy of Western communities, are inextricably linked.

Vail Valley Partnership is joining chambers of commerce and economic development corporations from mountain communities across the Intermountain West on a joint letter to the Trump Administration, requesting that it put its full support behind the analysis and completion of the outdoor recreation economy study.

Outdoor Recreation is an important economic driver here in the Vail Valley as well as throughout the country in rural, tourism dependent regions. Vail Valley Partnership looks forward to how this new law, and the critical economic information it now requires the government to collect and publish will benefit our members, local businesses, and regional economy in the coming years.

http://missoulian.com/news/opinion/columnists/outdoor-rec-act-a-lifeline-for-Whitefish/article_820ca958-43b4-588b-b1d2-6843c8edcc7c.html



GUEST COLUMN

Outdoor REC Act a lifeline for Whitefish

RICHARD HILDNER Feb 20, 2017

When Republicans and Democrats agree on an idea, you know it's likely a good one. Recently, the president signed the Outdoor Recreation Jobs and Economic Impact Act, a bill that the U.S. Congress passed with unanimous, bipartisan support, including that of U.S. Rep. Ryan Zinke, nominee for secretary of the Department of the Interior. Now, for the first time, the nation will have an accurate accounting of jobs associated with America's great outdoors.

As a member of the Whitefish City Council, I am delighted by news of this bill's passage, as our success in creating jobs locally will now be measured as part of the nation's economic growth.

People are drawn to this area for paddling the Whitefish River, fishing, rafting, hiking and playing in Glacier National Park, or enjoying the slopes at the Whitefish Mountain Ski Resort. Whitefish is known for its endless opportunities for recreation, but without fail, visitors also fall in love with our vibrant community. Local businesses involved in hospitality, dining, guiding and other recreation-based activities are an important economic foundation here in Whitefish.

Although we already know first hand that tourism-dependent mountain towns like Whitefish are a significant contributor to the American economy, the Outdoor REC Act now directs the federal Bureau of Economic Analysis to coordinate and examine the value of recreation nationwide. For those of us who serve in local government and want to see a more efficient federal bureaucracy, this enhanced accounting, communication and cooperation is exciting. But that's only the start. This coordination will result in reporting the economic impact of local outdoor recreation and start including outdoor rec dollars when measuring the country's Gross Domestic Product — a number that affects almost every aspect of America's economic policies.

Until passage of the Outdoor REC Act, income generated by outdoor recreation was not included as a part of the GDP. Although federal accountants measure the role of other economic sectors such as the arts, oil and gas, and manufacturing, the outdoor industry heretofore was ignored. Yet the outdoor economy is huge: according to the Interior Department, it generates \$646 billion to the U.S. economy and provides 6.1 million direct Americans jobs — almost equal to pharmaceuticals and automobile manufacturing combined.

The Outdoor REC Act is an important first step toward better understanding of and accounting for the powerful influence in job creation and economic growth of mountain towns like ours, whose economies are closely linked to outdoor recreation and tourism. Now the federal government has begun to fully recognize and record the economic benefits of outdoor recreation.

Thanks to bipartisan leadership in Congress, the Outdoor REC Act has ensured that the jobs associated with tourism, hunting and fishing, manufacturing of outdoor gear, and visitation to our national parks, forests, monuments and other national public lands will finally be recognized and counted.

I want to personally thank Zinke for understanding the importance of Western public lands not only for our identity and lifestyle, but for building our local economies, as well. I am hopeful that Congressman Zinke, if confirmed as secretary of Interior, will protect and defend our public lands and the jobs and outdoor economy that are dependent upon them.

Richard Hildner is a retired high school teacher and member of the Whitefish City Council.



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www.trpa.org

February 2, 2017

The Honorable Mark Amodei
United States House of Representatives
332 Cannon House Office Building
Washington, D.C. 20515

Dear Congressman Amodei,

On behalf of the Tahoe Regional Planning Agency, I'd like to extend our sincere gratitude for your leadership on two important pieces of legislation last year. First, passage of the Lake Tahoe Restoration Act in late 2016 marks a milestone for the Tahoe Basin eight years in the making. Thank you for your tenacity in helping us move the bill over the finish line. The Act will provide the federal share of vital support for both the environment and economy of Lake Tahoe and we look forward to working with you on appropriations to implement the bill.

We would also like to thank you for your support of the Outdoor Recreation Jobs and Economic Impact Act ('Outdoor REC Act') [S. 6518/H.R. 4665]. Outdoor recreation is an economic powerhouse that annually accounts for \$646 billion in consumer spending, 6.1 million American jobs, and \$80 billion in federal, state, and local tax revenue.

With Lake Tahoe's approximate 53,000 permanent residents and up to 24 million visitors per year, Lake Tahoe serves as the gateway to world-class outdoor recreation opportunities that drive our local economy. The Outdoor REC Act will finally put a dollar figure on the natural assets our community depends on for local jobs, revenue, and quality of life. We look forward to working with you to ensure the Bureau of Economic Analysis study is completed.

Again, thank you for your ongoing support. We are eager to work with your office to turn the vision for the Lake Tahoe Restoration Act into reality for the benefit of future generations of residents and visitors to Lake Tahoe.

Sincerely,

Joanne S. Marchetta,
Executive Director

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February 2, 2017

The Honorable Dean Heller
United States Senate
324 Hart Senate Office Building
Washington, D.C. 20510

Dear Senator Heller,

On behalf of the Tahoe Regional Planning Agency, please accept our most sincere thanks for your tireless leadership on the Lake Tahoe Restoration Act over the last few years. Passage of our bill in December was a major milestone for the Tahoe Basin. Your continued leadership and support for Lake Tahoe is truly appreciated. The Act will provide the federal share of vital support for both the environment and economy of Lake Tahoe and we look forward to working with you on securing appropriations to implement the bill.

We would also like to thank you for your support of the Outdoor Recreation Jobs and Economic Impact Act ('Outdoor REC Act') [S. 6518/H.R. 4665]. Outdoor recreation is an economic powerhouse that annually accounts for \$646 billion in consumer spending, 6.1 million American jobs, and \$80 billion in federal, state, and local tax revenue.

With Lake Tahoe's approximate 53,000 permanent residents and up to 24 million visitors per year, Lake Tahoe serves as the gateway to world-class outdoor recreation opportunities that drive our local economy. The Outdoor REC Act will finally put a dollar figure on the natural assets our community depends on for local jobs, revenue, and quality of life. We look forward to working with you to ensure the Bureau of Economic Analysis study is completed.

From serving as TRPA's Governing Board Chair to your leadership in the US Senate, Lake Tahoe is fortunate to have such a stalwart champion. Thank you!

Sincerely,

Joanne S. Marchetta,
Executive Director

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February 2, 2017

The Honorable Catherine Cortez Masto
United States Senate
331 Hart Senate Office Building
Washington, D.C. 20510

Dear Senator Cortez Masto:

On behalf of the Tahoe Regional Planning Agency, I'd like to congratulate you on your successful campaign for the United States Senate. We have worked closely with Senator Reid's office for many years on a number of key pieces of environmental legislation.

First, passage of the Lake Tahoe Restoration Act in late 2016 marks a milestone for the Tahoe Basin eight years in the making. The Act will provide the federal share of vital support for both the environment and economy of Lake Tahoe and we look forward to working with you on appropriations to implement the bill.

Second, the Outdoor Recreation Jobs and Economic Impact Act ('Outdoor REC Act') [S. 6518/H.R. 4665]. Outdoor recreation is an economic powerhouse that annually accounts for \$646 billion in consumer spending, 6.1 million American jobs, and \$80 billion in federal, state, and local tax revenue.

With Lake Tahoe's approximate 53,000 permanent residents and up to 24 million visitors per year, Lake Tahoe serves as the gateway to world-class outdoor recreation opportunities that drive our local economy. The Outdoor REC Act will finally put a dollar figure on the natural assets our community depends on for local jobs, revenue, and quality of life. We look forward to working with you to ensure the Bureau of Economic Analysis study is completed.

We look forward to working with you and are eager to turn the vision for the Lake Tahoe Restoration Act into reality for the benefit of future generations of residents and visitors to Lake Tahoe.

Sincerely,

Joanne S. Marchetta,
Executive Director

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February 2, 2017

The Honorable Tom McClintock
United States House of Representative
2331 Rayburn House Office Building
Washington, D.C. 20515

Dear Congressman McClintock,

On behalf of the Tahoe Regional Planning Agency, I'd like to extend our sincere gratitude for your support of two important pieces of legislation last year. First, passage of the Lake Tahoe Restoration Act in late 2016 marks a milestone for the Tahoe Basin eight years in the making. Thank you for your leadership in the House of Representatives which led to the ultimate passage of the bill. The Act will provide the federal share of vital support for both the environment and economy of Lake Tahoe and we look forward to working with you on securing appropriations to implement the bill.

We would also like to thank you for your support of the Outdoor Recreation Jobs and Economic Impact Act ('Outdoor REC Act') [S. 6518/H.R. 4665]. Outdoor recreation is an economic powerhouse that annually accounts for \$646 billion in consumer spending, 6.1 million American jobs, and \$80 billion in federal, state, and local tax revenue.

With Lake Tahoe's approximate 53,000 permanent residents and up to 24 million visitors per year, Lake Tahoe serves as the gateway to world-class outdoor recreation opportunities that drive our local economy. The Outdoor REC Act will finally put a dollar figure on the natural assets our community depends on for local jobs, revenue, and quality of life. We look forward to working with you to ensure the Bureau of Economic Analysis study is completed.

Again, thank you for your ongoing support. We are eager to work with your office to turn the vision for the Lake Tahoe Restoration Act into reality for the benefit of future generations of residents and visitors to Lake Tahoe.

Sincerely,

Joanne S. Marchetta,
Executive Director

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February 2, 2017

The Honorable Kamala Harris
United States Senate
331 Hart Senate Office Building
Washington, D.C. 20510

Dear Senator Harris:

On behalf of the Tahoe Regional Planning Agency, I'd like to offer our most sincere congratulations on your successful campaign for the United States Senate. We worked closely with Senator Boxer on a number of key pieces of environmental legislation and we look forward to working with your office going forward.

Passage of the Lake Tahoe Restoration Act in late 2016 marks a milestone for the Tahoe Basin eight years in the making. We worked with our California and Nevada congressional delegation to secure passage of the Act which provides the federal share of vital support for both the environment and economy of Lake Tahoe. Our next step is to secure appropriations to implement the bill to match state and local contributions.

Also of note late last year was passage of the Outdoor Recreation Jobs and Economic Impact Act ('Outdoor REC Act') [S. 6518/H.R. 4665]. Outdoor recreation is an economic powerhouse that annually accounts for \$646 billion in consumer spending, 6.1 million American jobs, and \$80 billion in federal, state, and local tax revenue.

With Lake Tahoe's approximate 53,000 permanent residents and up to 24 million visitors per year, Lake Tahoe serves as the gateway to world-class outdoor recreation opportunities that drive our local economy. The Outdoor REC Act will finally put a dollar figure on the natural assets our community depends on for local jobs, revenue, and quality of life. We look forward to working with you to ensure the Bureau of Economic Analysis study is completed.

Again, congratulations on becoming California's next US Senator. We are eager to work with you to turn the vision for the Lake Tahoe Restoration Act into reality for the benefit of future generations of residents and visitors to Lake Tahoe.

Sincerely,

Joanne S. Marchetta,
Executive Director

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February 2, 2017

The Honorable Dianne Feinstein
United States Senate
331 Hart Senate Office Building
Washington, D.C. 20510

Dear Senator Feinstein,

On behalf of the Tahoe Regional Planning Agency, please accept our most sincere thanks for your tireless leadership on the Lake Tahoe Restoration Act over the last eight years. Passage of our bill in December was a major milestone for the Tahoe Basin and your tenacity was unwavering throughout the multi-year process. Your continued leadership and interest in Lake Tahoe is truly appreciated. The Act will provide the federal share of vital support for both the environment and economy of Lake Tahoe and we look forward to working with you on securing appropriations to implement the bill.

We would also like to thank you for your support of the Outdoor Recreation Jobs and Economic Impact Act ('Outdoor REC Act') [S. 6518/H.R. 4665]. Outdoor recreation is an economic powerhouse that annually accounts for \$646 billion in consumer spending, 6.1 million American jobs, and \$80 billion in federal, state, and local tax revenue.

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Again, thank you for your ongoing support for our "Tahoe Team." We are grateful for your passion to protect Lake Tahoe for the benefit of future generations.

Sincerely,

Joanne S. Marchetta,
Executive Director

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Town Council

Morgan Goodwin, Mayor
 Carolyn Wallace Dee, Vice Mayor
 Patrick Flora, Council Member
 Jessica Abrams, Council Member
 David Tirman, Council Member

Department Heads

Tony Lashbrook, Town Manager
 Andy Morris, Town Attorney
 Robert Leftwich, Chief of Police
 Vacant, Community Development Director
 Kim Szczurek, Administrative Services Director
 Judy Price, Town Clerk
 Daniel Wilkins, Public Works Director/Town Engineer

January 18, 2017

The Honorable Kamala Harris
 United States Senate
 40B Dirksen Senate Office Building
 Washington, D.C. 20510

Dear Kamala Harris,

Congratulations on your election to the U.S. Congress. As a constituent mountain community in a world-class tourist destination, we want to bring your attention to and share our enthusiastic support of the Outdoor Recreation Jobs and Economic Impact Act ("Outdoor REC Act") [S. 6518/H.R. 4665]. In late 2016, the Outdoor REC Act passed the U.S. Senate and the House of Representatives with strong support. Before the passage of this bill, the federal government did not account for the outdoor recreation industry's contribution to the U.S. economy, estimated at \$646 billion year. With the Outdoor REC Act, Congress has directed the Bureau of Economic Analysis (BEA) to collect, track, and analyze data to report on the local and collective economic impact of America's outdoor economy.

Our community represents 16,165 permanent residents and millions of annual visitors to our community and the region. We are surrounded by and serve as the gateway to unparalleled outdoor recreation opportunities that drive our local economy. The tourism generated from people adventuring into these neighboring public lands helps attract and employ local residents, provides a market for local goods and services, and generates significant tax revenues we invest in local infrastructure and services.

The Outdoor REC Act is the first step to putting an independent analysis on the impact of use of and visits to the natural and cultural assets that our communities depends on for local jobs, revenue and quality of life for our residents. While the Outdoor REC Act directs the study of the outdoor economy by the BEA, the law did not allocate funding for the completion of the study.

We respectfully request your support in the 115th Congress in ensuring that the BEA study is funded in the fiscal year 2018 budget and completed. It is of utmost importance to our community and local economy.

Tahoe/Truckee



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 Police Department: 530-550-2323 / Fax: 530-582-7771 / email: policedepartment@townoftruckee.com

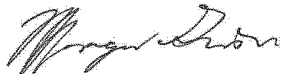
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Page 2

We look forward to working with you to not only ensure that the completion of the BEA study but to also further support the national public lands on which our local jobs and national outdoor economy relies.

Thank you for your time and your support.

Sincerely,

A handwritten signature in black ink, appearing to read "Morgan Goodwin". The signature is fluid and cursive, with the first name "Morgan" being more prominent than the last name "Goodwin".

Morgan Goodwin, Mayor

Town Council

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 Patrick Flora, Council Member
 Jessica Abrams, Council Member
 David Timman, Council Member

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 Vacant, Community Development Director
 Kim Szczurek, Administrative Services Director
 Judy Price, Town Clerk
 Daniel Wilkins, Public Works Director/Town Engineer

January 24, 2017

The Honorable Tom McClintock
 United States House of Representative
 2331 Rayburn House Office Building
 Washington, D.C. 20515

Dear Representative Tom McClintock,

The Town of Truckee extends our sincere gratitude for your support of the Outdoor Recreation Jobs and Economic Impact Act ("Outdoor REC Act") [S. 6518/H.R. 4665]. Outdoor recreation is an economic powerhouse that annually accounts for \$646 billion in consumer spending, 6.1 million American jobs, and \$80 billion in federal, state, and local tax revenue.

Our community represents 16,165 permanent residents and millions of annual visitors to our community and the region. Truckee is surrounded by and serves as the gateway to world-class outdoor recreation opportunities that drive our local economy. The tourism generated from people adventuring into these neighboring public lands helps attract and employ local residents, provides a market for local goods and services, and generates significant tax revenues we invest in local infrastructure and services.

The Outdoor REC Act will finally put a dollar figure on the natural assets that my community depends on for local jobs, revenue and quality of life for our residents.

We thank you for your dedication to protecting and enhancing our national parks, monuments, forests, wildlife areas, and other public lands. We look forward to working with you to not only ensure that the Bureau of Economic Analysis study is completed but to also further support the national public lands on which our local jobs and national outdoor economy relies.

Thank you for your time and your support.

Sincerely,

Morgan Goodwin, Mayor

Tahoe/Truckee



2012

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www.townoftruckee.com

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 Police Department: 530-550-2323 / Fax: 530-582-7771 / email: policedepartment@townoftruckee.com

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Robert Leftwich, Chief of Police
Vacant, Community Development Director
Kim Szczurek, Administrative Services Director
Judy Price, Town Clerk
Daniel Wilkins, Public Works Director/Town Engineer

January 18, 2017

The Honorable Dianne Feinstein
United States Senate
331 Hart Senate Office Building
Washington, D.C. 20510

Dear Senator Dianne Feinstein,

The Town of Truckee extends our sincere gratitude for your support of the Outdoor Recreation Jobs and Economic Impact Act ("Outdoor REC Act") [S. 6518/H.R. 4665]. Outdoor recreation is an economic powerhouse that annually accounts for \$646 billion in consumer spending, 6.1 million American jobs, and \$80 billion in federal, state, and local tax revenue.

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The Outdoor REC Act will finally put a dollar figure on the natural assets that my community depends on for local jobs, revenue and quality of life for our residents.

We thank you for your dedication to protecting and enhancing our national parks, monuments, forests, wildlife areas, and other public lands. We look forward to working with you to not only ensure that the Bureau of Economic Analysis study is completed but to also further support the national public lands on which our local jobs and national outdoor economy relies.

Thank you for your time and your support.

Sincerely,

A handwritten signature in cursive script, appearing to read "Morgan Goodwin".

Morgan Goodwin, Mayor

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www.townoftruckee.com

Tahoe/Truckee



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Police Department: 530-550-2323 / Fax: 530-582-7771 / email: policedepartment@townoftruckee.com
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Town of Mammoth Lakes

P.O. Box 1609, Mammoth Lakes, CA, 93546
 (760) 965-3600
www.townofmammothlakes.ca.gov

January 18, 2017

The Honorable Paul Cook
 United States House of Representatives
 1222 Longworth House Office Building
 Washington, D.C. 20515

Dear Representative Cook,

The Town of Mammoth Lakes extends our sincere gratitude for your support of the Outdoor Recreation Jobs and Economic Impact Act ('Outdoor REC Act') [S. 6518/H.R. 4665]. Outdoor recreation is an economic powerhouse that annually accounts for \$646 billion in consumer spending, 6.1 million American jobs, and \$80 billion in federal, state, and local tax revenue.

The Town of Mammoth Lakes is a small, remote community in the Eastern Sierra region of about 8,000 full-time residents. Mammoth Lakes is a tourist destination, servicing an average of 2.8 million visitors each year. We are geographically isolated from populated areas by several hundred miles and are supported by our one primary industry – recreation-based tourism.

Mammoth Lakes is surrounded by Federal lands, and visitors travel from all over the world to recreate in these areas year-round. Mammoth Mountain Ski Area, located within the Town boundaries, operates under a special use permit with the United States Forest Service, and attracts an average of over one million skiers and snowboarders each winter. In the summer, hiking, fishing, and camping, and other outdoor recreational activities opportunities are abundant.

The economy of Mammoth Lakes is greatly dependent upon outdoor recreation. The majority of jobs and businesses here are either directly or indirectly related to the recreation industry. The Outdoor REC Act will finally put a dollar figure on the natural assets that our community depends on for local jobs, revenue, and quality of life for our residents.

We thank you for your dedication to protecting and enhancing our national parks, monuments, forests, wildlife areas, and other public lands. We look forward to working with you to not only ensure that the Bureau of Economic Analysis study is completed but to also further support the national public lands on which our local jobs and national outdoor economy relies.

Sincerely,

Shields Richardson
 Mayor


Town of Mammoth Lakes

P.O. Box 1609, Mammoth Lakes, CA, 93546
 (760) 965-3600
www.townofmammothlakes.ca.gov

January 18, 2017

The Honorable Dianne Feinstein
 United States Senate
 331 Hart Senate Office Building
 Washington, D.C. 20510

Dear Senator Feinstein,

The Town of Mammoth Lakes extends our sincere gratitude for your support of the Outdoor Recreation Jobs and Economic Impact Act ("Outdoor REC Act") [S. 6518/H.R. 4665]. Outdoor recreation is an economic powerhouse that annually accounts for \$646 billion in consumer spending, 6.1 million American jobs, and \$80 billion in federal, state, and local tax revenue.

The Town of Mammoth Lakes is a small, remote community in the Eastern Sierra region of about 8,000 full-time residents. Mammoth Lakes is a tourist destination, servicing an average of 2.8 million visitors each year. We are geographically isolated from populated areas by several hundred miles and are supported by our one primary industry – recreation-based tourism.

Mammoth Lakes is surrounded by Federal lands, and visitors travel from all over the world to recreate in these areas year-round. Mammoth Mountain Ski Area, located within the Town boundaries, operates under a special use permit with the United States Forest Service, and attracts an average of over one million skiers and snowboarders each winter. In the summer, hiking, fishing, and camping, and other outdoor recreational activities opportunities are abundant.

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We thank you for your dedication to protecting and enhancing our national parks, monuments, forests, wildlife areas, and other public lands. We look forward to working with you to not only ensure that the Bureau of Economic Analysis study is completed but to also further support the national public lands on which our local jobs and national outdoor economy relies.

Sincerely,

Shields Richardson
 Mayor



Town of Mammoth Lakes

P.O. Box 1609, Mammoth Lakes, CA, 93546
 (760) 965-3600
www.townofmammothlakes.ca.gov

January 18, 2017

The Honorable Kamala Harris
 United States Senate
 40B Dirksen Senate Office Building
 Washington, DC 20510

Dear Senator Harris,

Congratulations on your election to the U.S. Congress. As a constituent mountain community in a world-class tourist destination, we want to bring your attention to and share our enthusiastic support of the Outdoor Recreation Jobs and Economic Impact Act ('Outdoor REC Act') [S. 6518/H.R. 4665]. In late 2016, the Outdoor REC Act passed the U.S. Senate and the House of Representatives with strong support. Before the passage of this bill, the federal government did not account for the outdoor recreation industry's contribution to the U.S. economy, estimated at \$646 billion year. With the Outdoor REC Act, Congress has directed the Bureau of Economic Analysis (BEA) to collect, track, and analyze data to report on the local and collective economic impact of America's outdoor economy.

The Town of Mammoth Lakes is a small, remote community in the Eastern Sierra region of about 8,000 full-time residents. Mammoth Lakes is a tourist destination, servicing an average of 2.8 million visitors each year. We are geographically isolated from populated areas by several hundred miles and are supported by our one primary industry – recreation-based tourism.

Mammoth Lakes is surrounded by Federal lands, and visitors travel from all over the world to recreate in these areas year-round. Mammoth Mountain Ski Area, located within the Town boundaries, operates under a special use permit with the United States Forest Service, and attracts an average of over one million skiers and snowboarders each winter. In the summer, hiking, fishing, and camping, and other outdoor recreational activities opportunities are abundant.

The economy of Mammoth Lakes is greatly dependent upon outdoor recreation. The majority of jobs and businesses here are either directly or indirectly related to the recreation industry. The Outdoor REC Act is the first step to putting an independent analysis on the impact of use of and visits to the natural and cultural assets that our community depends on for local jobs, revenue and quality of life for our residents. While the Outdoor REC Act directs the study of the outdoor economy by the BEA, the law did not allocate funding for the completion of the study.

We respectfully request your support in the 115th Congress in ensuring that the BEA study is funded in the fiscal year 2018 budget and completed. It is of utmost importance to our community and local economy.

We look forward to working with you to not only ensure that the completion of the BEA study but to also further support the national public lands on which our local jobs and national outdoor economy relies.

Sincerely,


 Shields Richardson, Mayor



THE CITY OF ASPEN

January 18, 2017

The Honorable Scott Tipton
United States House of Representative
218 Cannon House of Office Building
Washington, D.C. 20515

Dear Representative Scott Tipton,

The City of Aspen extends our sincere gratitude for your co-sponsorship of the Outdoor Recreation Jobs and Economic Impact Act ('Outdoor REC Act') [S. 6518/H.R. 4665]. Outdoor recreation is an economic powerhouse that annually accounts for \$646 billion in consumer spending, 6.1 million American jobs, and \$80 billion in federal, state, and local tax revenue.

Our community represents 6,882 permanent residents and over a million annual visitors. Aspen is surrounded by and serves as the gateway to world-class outdoor recreation opportunities that drive our local economy. The tourism generated from people adventuring into these neighboring public lands helps attract and employ local residents, provides a market for local goods and services, and generates significant tax revenues.

The Outdoor REC Act will finally put a dollar figure on the natural assets that our community depends on for local jobs and quality of life for our residents.

We thank you for your dedication to protecting and enhancing our national parks, monuments, forests, wildlife areas, and other public lands. We look forward to working with you to not only ensure that the Bureau of Economic Analysis study is completed but to also further support the national public lands on which our local jobs and national outdoor economy relies.

Thank you for your time and your support.

Sincerely,

Mayor Steve Skadron
City of Aspen, Colorado



THE CITY OF ASPEN

January 18, 2017

The Honorable Michael Bennet
United States Senate
261 Russel Senate Office Building
Washington, D.C. 20510

Dear Senator Michael Bennet,

The City of Aspen extends our sincere gratitude for your co-sponsorship of the Outdoor Recreation Jobs and Economic Impact Act ('Outdoor REC Act') [S. 6518/H.R. 4665]. Outdoor recreation is an economic powerhouse that annually accounts for \$646 billion in consumer spending, 6.1 million American jobs, and \$80 billion in federal, state, and local tax revenue.

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Thank you for your time and your support.

Sincerely,

Mayor Steve Skadron
City of Aspen, Colorado



THE CITY OF ASPEN

January 18, 2017

The Honorable Cory Gardner
United States Senate
354 Russel Senate Office Building
Washington, D.C. 20510

Dear Senator Cory Gardner,

The City of Aspen extends our sincere gratitude for your co-sponsorship of the Outdoor Recreation Jobs and Economic Impact Act ('Outdoor REC Act') [S. 6518/H.R. 4665]. Outdoor recreation is an economic powerhouse that annually accounts for \$646 billion in consumer spending, 6.1 million American jobs, and \$80 billion in federal, state, and local tax revenue.

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Thank you for your time and your support.

Sincerely,

Mayor Steve Skadron
City of Aspen, Colorado



Town of Buena Vista

Post Office Box 2002
Buena Vista, Colorado 81211
Phone: (719) 395-8643
Fax: (719) 395-8644

January 25, 2017

Honorable Doug Lamborn
United States House of Representative
2402 Rayburn House Office Building
Washington, D.C. 20515

Dear Representative Doug Lamborn,

The Town of Buena Vista extends our sincere gratitude for your co-sponsorship of the Outdoor Recreation Jobs and Economic Impact Act ("Outdoor REC Act") [S. 6518/H.R. 4665]. Outdoor recreation is an economic powerhouse that annually accounts for \$646 billion in consumer spending, 6.1 million American jobs, and \$80 billion in federal, state, and local tax revenue.

We are the commercial hub for nearly 8,000 residents with roughly 2,800 within town limits. We also see thousands of visitors each year. As you know, Buena Vista is surrounded by the Collegiate Peaks and serves as the gateway to world-class outdoor recreation opportunities that drive our local economy. The tourism generated from people adventuring into these neighboring public lands helps attract and employ local residents, provides a market for local goods and services, and generates significant tax revenues we invest in local infrastructure and services.

The Outdoor REC Act will finally put a dollar figure on the natural assets that my community depends on for local jobs, revenue, and quality of life for our residents.

We thank you for your dedication to protecting and enhancing our national parks, monuments, forests, wildlife areas, and other public lands. We look forward to working with you to not only ensure that the Bureau of Economic Analysis study is completed but to also further support the national public lands critical to our local jobs and our national outdoor economy.

Thank you for your time and your support.

Sincerely,

Joel Benson, Mayor



Town of Buena Vista
Post Office Box 2002
Buena Vista, Colorado 81211
Phone: (719) 395-8643
Fax: (719) 395-8644

January 25, 2017

The Honorable Michael Bennet
United States Senate
261 Russel Senate Office Building
Washington, D.C. 20510

Dear Senator Michael Bennet,

The Town of Buena Vista extends our sincere gratitude for your co-sponsorship of the Outdoor Recreation Jobs and Economic Impact Act ("Outdoor REC Act") [S. 6518/H.R. 4665]. Outdoor recreation is an economic powerhouse that annually accounts for \$646 billion in consumer spending, 6.1 million American jobs, and \$80 billion in federal, state, and local tax revenue.

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Thank you for your time and your support.

Sincerely,

Joel Benson, Mayor



Town of Buena Vista

Post Office Box 2002
Buena Vista, Colorado 81211
Phone: (719) 395-8643
Fax: (719) 395-8644

January 25, 2017

Honorable Cory Gardner
United States Senate
354 Russel Senate Office Building
Washington, D.C. 20510

Dear Senator Cory Gardner,

The Town of Buena Vista extends our sincere gratitude for your co-sponsorship of the Outdoor Recreation Jobs and Economic Impact Act ('Outdoor REC Act') [S. 6518/H.R. 4665]. Outdoor recreation is an economic powerhouse that annually accounts for \$646 billion in consumer spending, 6.1 million American jobs, and \$80 billion in federal, state, and local tax revenue.

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Thank you for your time and your support.

Sincerely,

Joel Benson, Mayor



January 11, 2017

The Honorable Senator Michael Bennet
1127 Sherman Street, Suite 150
Denver, CO 80203

Re: Co-Sponsorship of the Outdoor Recreation

Dear Senator Bennet,

The Town of Estes Park extends our sincere gratitude for your co-sponsorship of the Outdoor Recreation Jobs and Economic Impact Act ('Outdoor REC Act') [S. 6518/H.R. 4665]. Outdoor recreation is an economic powerhouse that annually accounts for \$646 billion in consumer spending, \$6.1 million American jobs, and \$80 billion in federal, state, and local tax revenue.

The Estes valley represents approximately 12,000 residents and over 4 million visitors each year. Estes Park serves as the gateway to world-class outdoor recreation opportunities that drive our local economy. The tourism generated from people adventuring into these neighboring public lands helps attract and employ local residents, provides a market for local goods and services, and generates significant tax revenues not only for local infrastructure and services, but provides significant contributions to the entire State of Colorado as well.

The Outdoor REC Act will finally put a dollar figure on the natural assets that our community depends on for local jobs, revenue and quality of life for our residents.

We thank you for your dedication to protecting and enhancing our National Parks, monuments, forests, wildlife areas, and other public lands. We look forward to working with you to not only ensure that the Bureau of Economic Analysis study is completed but to also further support the national public lands on which our local jobs and national outdoor economy relies.

Thank you for your time and your support.

Sincerely,

TOWN OF ESTES PARK

Todd Jirsa
Mayor

cc: Board of Trustees

170 MACGREGOR AVE. P.O. BOX 1200

Administrative Services
Town Clerk



ESTES PARK, CO 80517 www.estes.org

970-577-4777
townclerk@estes.org



January 11, 2017

The Honorable Representative Jared Polis
1644 Walnut Street
Boulder, CO 80302

Re: Co-Sponsorship of the Outdoor Recreation

Dear Representative Polis,

The Town of Estes Park extends our sincere gratitude for your co-sponsorship of the Outdoor Recreation Jobs and Economic Impact Act ('Outdoor REC Act') [S. 6518/H.R. 4665]. Outdoor recreation is an economic powerhouse that annually accounts for \$646 billion in consumer spending, \$6.1 million American jobs, and \$80 billion in federal, state, and local tax revenue.

The Estes valley represents approximately 12,000 residents and over 4 million visitors each year. Estes Park serves as the gateway to world-class outdoor recreation opportunities that drive our local economy. The tourism generated from people adventuring into these neighboring public lands helps attract and employ local residents, provides a market for local goods and services, and generates significant tax revenues not only for local infrastructure and services, but provides significant contributions to the entire State of Colorado as well.

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Thank you for your time and your support.

Sincerely,

TOWN OF ESTES PARK


Todd Jirsa
Mayor

cc: Board of Trustees

170 MACGREGOR AVE. P.O. BOX 1200

Administrative Services



ESTES PARK, CO 80517

www.estes.org

970-577-4777



January 11, 2017

The Honorable Senator Cory Gardner
1125 17th Street, Suite 525
Denver, CO 80203

Re: Co-Sponsorship of the Outdoor Recreation

Dear Senator Gardner,

The Town of Estes Park extends our sincere gratitude for your co-sponsorship of the Outdoor Recreation Jobs and Economic Impact Act ('Outdoor REC Act') [S. 6518/H.R. 4665]. Outdoor recreation is an economic powerhouse that annually accounts for \$646 billion in consumer spending, \$6.1 million American jobs, and \$80 billion in federal, state, and local tax revenue.

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Thank you for your time and your support.

Sincerely,

TOWN OF ESTES PARK


Todd Jirsa
Mayor

cc: Board of Trustees

170 MACGREGOR AVE. P.O. BOX 1200

Administrative Services
Town Clerk



ESTES PARK, CO 80517 www.estes.org

970-577-4777
townclerk@estes.org



TOWN HALL PO Box 10 | 201 N. Railroad Street | Ridgway, Colorado 81432 | 970.626.5308 | www.town.ridgway.co.us

January 12, 2017

Honorable Scott Tipton
United States House of Representative
218 Cannon House of Office Building
Washington, D.C. 20515

Dear Representative Scott Tipton,

The Town of Ridgway extends our sincere gratitude for your support of the Outdoor Recreation Jobs and Economic Impact Act ('Outdoor REC Act') [S. 6518/H.R. 4665]. Outdoor recreation is an economic powerhouse that annually accounts for \$646 billion in consumer spending, 6.1 million American jobs, and \$80 billion in federal, state, and local tax revenue.

Our community represents 900+ permanent residents and fifteen thousand annual visitors. Ridgway is surrounded by and serves as the gateway to world-class outdoor recreation opportunities that drive our local economy. The tourism generated from people adventuring into these neighboring public lands helps attract and employ local residents, provides a market for local goods and services, and generates significant tax revenues we invest in local infrastructure and services.

The Outdoor REC Act will finally put a dollar figure on the natural assets that my community depends on for local jobs, revenue and quality of life for our residents.

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Thank you for your time and your support.

Sincerely,


John I. Clark
Mayor

January 12, 2017

Dear Senator Michael Bennet,

Our community represents 900+ permanent residents and fifteen thousand annual visitors. Ridgway is surrounded by and serves as the gateway to world-class outdoor recreation opportunities that drive our local economy. The tourism generated from people adventuring into these neighboring public lands helps attract and employ local residents, provides a market for local goods and services, and generates significant tax revenues we invest in local infrastructure and services.

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Thank you for your time and your support.

Sincerely,


John I. Clark
Mayor



TOWN HALL PO Box 10 | 201 N. Railroad Street | Ridgway, Colorado 81432 | 970.626.5308 | www.town.ridgway.co.us

January 12, 2017

Honorable Cory Gardner
United States Senate
354 Russel Senate Office Building
Washington, D.C. 20510

Dear Senator Cory Gardner,

The Town of Ridgway extends our sincere gratitude for your support of the Outdoor Recreation Jobs and Economic Impact Act ('Outdoor REC Act') [S. 6518/H.R. 4665]. Outdoor recreation is an economic powerhouse that annually accounts for \$646 billion in consumer spending, 6.1 million American jobs, and \$80 billion in federal, state, and local tax revenue.

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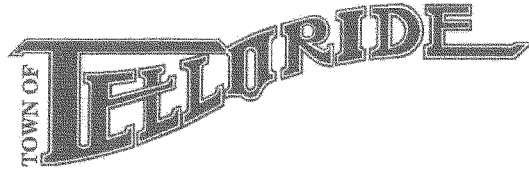
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Thank you for your time and your support.

Sincerely,


John I. Clark
Mayor

This document contains confidential information and is intended only for the individual named. If you are not the named individual you should not disseminate, distribute or copy this e-mail. Please notify the sender immediately by e-mail if you have not received this e-mail by mistake. Confidential e-mails may be subject to review. Please see www.town.ridgway.co.us for more information.



January 23, 2017

Honorable Scott Tipton
United States House of Representative
218 Cannon House of Office Building
Washington, D.C. 20515

Dear Representative Scott Tipton,

The Town of Telluride extends our sincere gratitude for your support of the Outdoor Recreation Jobs and Economic Impact Act ('Outdoor REC Act') [S. 6518/H.R. 4665]. Outdoor recreation is an economic powerhouse that annually accounts for \$646 billion in consumer spending, 6.1 million American jobs, and \$80 billion in federal, state, and local tax revenue.

Our community represents 2,319 permanent residents and close to half a million annual visitors. Telluride is surrounded by and serves as the gateway to world-class outdoor recreation opportunities that drive our local economy. The tourism generated from people adventuring into these neighboring public lands helps attract and employ local residents, provides a market for local goods and services, and generates significant tax revenues we invest in local infrastructure and services.

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Thank you for your time and your support.

Sincerely,

A handwritten signature in dark ink that reads "Sean Murphy". The signature is written in a cursive, flowing style.

Sean Murphy, Mayor
Town of Telluride



January 23, 2017

Honorable Michael Bennet
United States Senate
261 Russel Senate Office Building
Washington, D.C. 20510

Dear Senator Michael Bennet,

The Town of Telluride extends our sincere gratitude for your co-sponsorship of the Outdoor Recreation Jobs and Economic Impact Act ('Outdoor REC Act') [S. 6518/H.R. 4665]. Outdoor recreation is an economic powerhouse that annually accounts for \$646 billion in consumer spending, 6.1 million American jobs, and \$80 billion in federal, state, and local tax revenue.

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Thank you for your time and your support.

Sincerely,

A handwritten signature in cursive script that reads "Sean Murphy".

Sean Murphy, Mayor
Town of Telluride

P.O. Box 397 Telluride, CO 81435



January 23, 2017

Honorable Cory Gardner
United States Senate
354 Russel Senate Office Building
Washington, D.C. 20510

Dear Senator Cory Gardner,

The Town of Telluride extends our sincere gratitude for your leadership on the Outdoor Recreation Jobs and Economic Impact Act ('Outdoor REC Act') [S. 6518/H.R. 4665]. Outdoor recreation is an economic powerhouse that annually accounts for \$646 billion in consumer spending, 6.1 million American jobs, and \$80 billion in federal, state, and local tax revenue.

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Thank you for your time and your support.

Sincerely,

A handwritten signature in cursive script that reads "Sean Murphy".

Sean Murphy, Mayor
Town of Telluride

P.O. Box 397 Telluride, CO 81435



PO Box 100, 7 Firehouse Road, Taos Ski Valley, NM 87525
(575) 776-8220 (575) 776-1145 Fax
E-mail: vtsv@vtsv.org Website: www.vtsv.org

Mayor: Neal King
Council: Kathleen Bennett, J. Christopher Staggs,
Christof Brownell, Thomas Wittman
Administrator: Mark G. Fratrack
Clerk/Treasurer: Ann M. Wooldridge

January 18, 2017

Honorable Martin Heinrich
United States Senate
303 Hart Senate Office Building
Washington, D.C. 20510

Dear Senator Martin Heinrich,

The Village of Taos Ski Valley extends our sincere gratitude for your support of the Outdoor Recreation Jobs and Economic Impact Act ('Outdoor REC Act') [S. 6518/H.R. 4665]. Outdoor recreation is an economic powerhouse that annually accounts for \$646 billion in consumer spending, 6.1 million American jobs, and \$80 billion in federal, state, and local tax revenue.

Our community represents 70 permanent residents, but Taos Ski Valley is the region's economic engine and source of employment for the surrounding communities to include Town of Taos and Taos County; we have 250,000 to 350,000 annual visitors depending on skiing conditions and snow fall. Taos Ski Valley is surrounded by and serves as the gateway to world-class outdoor recreation opportunities that drive our local economy. The tourism generated from people adventuring into these neighboring public lands helps attract and employ local residents, provides a market for local goods and services, and generates significant tax revenues we invest in local infrastructure and services.

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Thank you for your time and your support.

Sincerely,

Neal King
Mayor



PO Box 100, 7 Firehouse Road, Taos Ski Valley, NM 87525
(575) 776-8220 (575) 776-1145 Fax
E-mail: vtsv@vtsv.org Website: www.vtsv.org

Mayor: Neal King
Council: Kathleen Bennett, J. Christopher Stagg,
Christof Brownell, Thomas Wittman
Administrator: Mark G. Fratrack
Clerk/Treasurer: Ann M. Wooldridge

January 18, 2017

Honorable Ben Lujan
United States House of Representatives
2446 Rayburn House Office Building
Washington, D.C. 20515

Dear Representative Ben Lujan,

The Village of Taos Ski Valley extends our sincere gratitude for your support of the Outdoor Recreation Jobs and Economic Impact Act ("Outdoor REC Act") [S. 6518/H.R. 4665]. Outdoor recreation is an economic powerhouse that annually accounts for \$646 billion in consumer spending, 6.1 million American jobs, and \$80 billion in federal, state, and local tax revenue.

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Thank you for your time and your support.

Sincerely,

Neal King
Mayor



PO Box 100, 7 Firehouse Road, Taos Ski Valley, NM 87525
(575) 776-8220 (575) 776-1145 Fax
E-mail: vtsv@vtsv.org Website: www.vtsv.org

Mayor: Neal King
Council: Kathleen Bennett, J. Christopher Stagg,
Christof Brownell, Thomas Wittman
Administrator: Mark G. Fratrack
Clerk/Treasurer: Ann M. Wooldridge

January 18, 2017

Honorable Tom Udall
United States Senate
531 Hart Senate Office Building
Washington, D.C. 20510

Dear Senator Tom Udall,

The Village of Taos Ski Valley extends our sincere gratitude for your support of the Outdoor Recreation Jobs and Economic Impact Act ("Outdoor REC Act") [S. 6518/H.R. 4665]. Outdoor recreation is an economic powerhouse that annually accounts for \$646 billion in consumer spending, 6.1 million American jobs, and \$80 billion in federal, state, and local tax revenue.

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Thank you for your time and your support.

Sincerely,

Neal King
Mayor



CITY OF BEND

January 4, 2017

710 NW WALL STREET
PO BOX 431
BEND, OR 97709
541-388-5505 TEL
Relay Users Dial 7-1-1
541-385-6676 fax
bendoregon.gov

MAYOR
Jim Clinton

MAYOR PRO TEM
Sally Russell

CITY COUNCILOR
Nathan Boddie
Barb Campbell
Victor Chudowsky

Doug Knight
Casey Roats

CITY MANAGER
Eric King

Honorable Greg Walden
United States House of Representatives
2185 Rayburn House Office Building
Washington, D.C. 20515

Dear Representative Greg Walden,

The City of Bend extends our sincere gratitude for your support of the Outdoor Recreation Jobs and Economic Impact Act ("Outdoor REC Act") [S. 6518/H.R. 4665]. Outdoor recreation is an economic powerhouse that annually accounts for \$646 billion in consumer spending, 6.1 million American jobs, and \$80 billion in federal, state, and local tax revenue.

Our community represents approximately 83,500 permanent residents and between 2.5 and 3 million annual visitors. Bend is surrounded by and serves as the gateway to world-class outdoor recreation opportunities that drive our local economy. The tourism generated from people adventuring into these neighboring public lands helps attract and employ local residents, provides a market for local goods and services, and generates significant tax revenues we invest in local infrastructure and services.

The Outdoor REC Act will finally put a dollar figure on the natural assets that my community depends on for local jobs, revenue and quality of life for our residents.

We thank you for your dedication to protecting and enhancing our national parks, monuments, forests, wildlife areas, and other public lands. We look forward to working with you to not only ensure that the Bureau of Economic Analysis study is completed but to also further support the national public lands on which our local jobs and national outdoor economy relies.

Thank you for your time and your support.

Sincerely,

Nathan Boddie
City Councilor



CITY OF BEND

January 4, 2017

710 NW WALL STREET
PO BOX 431
BEND, OR 97709
541-388-5505 TEL
Relay Users Dial 7-1-1
541-385-6675 fax
bendoregon.gov

MAYOR
Jim Clinton

MAYOR PRO TEM
Sally Russell

CITY COUNCILOR
Nathan Boddie
Barb Campbell
Victor Chudowsky

Doug Knight
Casey Roats

CITY MANAGER
Eric King

Honorable Jeff Merkley
United States Senate
313 Hart Senate Office Building
Washington, D.C. 20510

Dear Senator Jeff Merkley,

The City of Bend extends our sincere gratitude for your support of the Outdoor Recreation Jobs and Economic Impact Act ("Outdoor REC Act") [S. 6518/H.R. 4665]. Outdoor recreation is an economic powerhouse that annually accounts for \$646 billion in consumer spending, 6.1 million American jobs, and \$80 billion in federal, state, and local tax revenue.

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Thank you for your time and your support.

Nathan Boddie
City Councilor



CITY OF BEND

January 4, 2017

710 NW WALL STREET
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MAYOR
Jim Clinton

MAYOR PRO TEM
Sally Russell

CITY COUNCILOR
Nathan Boddie
Barb Campbell
Victor Chudowsky

Doug Knight
Casey Roats

CITY MANAGER
Eric Kling

Honorable Ron Wyden
United States Senate
221 Dirksen Senate Office Building
Washington, D.C. 20510

Dear Senator Ron Wyden,

The City of Bend extends our sincere gratitude for your co-sponsorship of the Outdoor Recreation Jobs and Economic Impact Act ("Outdoor REC Act") [S. 6518/H.R. 4665]. Outdoor recreation is an economic powerhouse that annually accounts for \$646 billion in consumer spending, 6.1 million American jobs, and \$80 billion in federal, state, and local tax revenue.

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Thank you for your time and your support.

Sincerely,

Nathan Boddie
City Councilor

MAYOR
TOM POLLARD

TOWN COUNCIL
CLIFF CURRY
ELISE MORGAN
PAUL MOXLEY
HARRIS SONDAG



TOWN OF ALTA
P.O. BOX 8016
ALTA, UTAH
84092-8016
TEL (801) 623-5105 / 742-3522
FAX (801) 742-1006
TTY 711

January 25, 2017

Honorable Orrin G. Hatch
United States Senate
104 Hart Senate Office Building
Washington, D.C. 20510

Dear Senator Hatch,

The Town of Alta extends our sincere gratitude for your support of the Outdoor Recreation Jobs and Economic Impact Act ("Outdoor REC Act") [S. 6518/H.R. 4665]. Outdoor recreation is an economic powerhouse that annually accounts for \$646 billion in consumer spending, 6.1 million American jobs, and \$80 billion in federal, state, and local tax revenue.

Our community represents 383 permanent residents and hosts almost 750,000 annual visitors, who come to Alta for world famous powder skiing, and for nearly every other conceivable form of outdoor recreation. In Alta, nearly all of this recreation takes place on public lands managed by the United States Forest Service, and we are proud to be a gateway to these amazing resources. Recreation access is the foundation of a dynamic yet sustainable local economy of family-owned businesses, which serve customers from around the world and provide hundreds of Utahns with quality employment.

We are confident the Outdoor REC Act will finally help establish a dollar value for the natural resources that attract people to Alta. We thank you for your dedication to protecting and enhancing Utah's outdoor recreation economy. We look forward to working with you to not only ensure that the Bureau of Economic Analysis study is completed but also to further support sound management of the public lands on which not only our local jobs, but our national outdoor economy relies.

Thank you for your time and your support.

Sincerely,

Tom Pollard, Mayor

MAYOR
TOM POLLARD

TOWN COUNCIL
CLIFF CURRY
ELISE MORGAN
PAUL MOXLEY
HARRIS SONDAK



TOWN OF ALTA
P.O. BOX 8016
ALTA, UTAH
84092-8016
TEL (801)363-5105 / 742-3522
FAX (801)742-1006
TTY 711

January 25, 2016

Honorable Jason Chaffetz
United States House of Representatives
2236 Rayburn House Office Building
Washington, D.C. 20515

Dear Representative Chaffetz,

The Town of Alta extends our sincere gratitude for your support of the Outdoor Recreation Jobs and Economic Impact Act ("Outdoor REC Act") [S. 6518/H.R. 4665]. Outdoor recreation is an economic powerhouse that annually accounts for \$646 billion in consumer spending, 6.1 million American jobs, and \$80 billion in federal, state, and local tax revenue.

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We are confident the Outdoor REC Act will finally help establish a dollar value for the natural resources that attract people to Alta, and elevate the visibility of the outdoor recreation industry as a sector of the American economy. We thank you for your dedication to protecting and enhancing Utah's outdoor recreation economy. We look forward to working with you to not only ensure that the Bureau of Economic Analysis study is completed but also to further support sound management of the public lands on which not only our local jobs, but our national outdoor economy relies.

Thank you for your time and your support.

Sincerely,

Tom Pollard, Mayor

MAYOR
TOM POLLARD

TOWN COUNCIL
CLIFF CURRY
ELISE MORGAN
PAUL MOXLEY
HARRIS SONDAK



TOWN OF ALTA
P.O. BOX 8016
ALTA, UTAH
84092-6016
TEL (801) 363-5105 / 742-3522
FAX (801) 742-1006
TTY 711

January 25, 2017

Honorable Mike Lee
United States Senate
361A Russel Senate Office Building
Washington, D.C. 20510

Dear Senator Mike Lee,

The Town of Alta extends our sincere gratitude for your support of the Outdoor Recreation Jobs and Economic Impact Act ("Outdoor REC Act") [S. 6518/H.R. 4665]. Outdoor recreation is an economic powerhouse that annually accounts for \$646 billion in consumer spending, 6.1 million American jobs, and \$89 billion in federal, state, and local tax revenue.

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Thank you for your time and your support.

Sincerely,

Tom Pollard, Mayor



www.tetonwyo.org

Commissioners

Mark Newcomb, Chair
Natalia D. Macker, Vice Chair
Greg Epstein
Smokey Rhea
Paul Vogelheim

January 30, 2017

The Honorable John Barrasso
United States Senate
307 Dirksen Senate Office Building
Washington, D.C. 20510

Dear Sen. Barrasso,

Teton County extends our sincere gratitude for your support of the Outdoor Recreation Jobs and Economic Impact Act ("Outdoor REC Act") [S. 6518/H.R. 4665]. Outdoor recreation is an economic powerhouse that annually accounts for \$646 billion in consumer spending, 6.1 million American jobs, and \$80 billion in federal, state, and local tax revenue.

Our community represents more than 23,000 residents and over 3 million annual visitors. Teton County is surrounded by and serves as the gateway to world-class outdoor recreation opportunities that drive our local economy. The tourism generated from people adventuring into these neighboring public lands helps attract and employ local residents, provides a market for local goods and services, and generates significant tax revenues we invest in local infrastructure and services.

The Outdoor REC Act will finally put a dollar figure on the natural assets that our communities depend on for local jobs, revenue and quality of life for our residents.

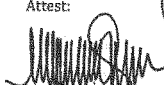
We thank you for your dedication to protecting and enhancing our national parks, monuments, forests, wildlife areas, and other public lands. We look forward to working with you to not only ensure that the Bureau of Economic Analysis study is completed but to also further support the national public lands on which our local jobs and national outdoor economy relies.

Thank you for your time and your support.

Sincerely,


Mark Newcomb
Teton County Commission, Chair

Attest:


Sherry L. Daigle
Teton County Clerk
By: Melissa K. Shinkle,
Chief Deputy Clerk



PO Box 3594
200 South Willow St.
Jackson, Wyoming 83001

Tel: 307.733.8094
Fax: 307.733.4451

Email:
commissioners@tetonwyo.org



www.tetonwyo.org

Commissioners

Mark Newcomb, Chair
Natalia D. Macker, Vice Chair
Greg Epstein
Smokey Rhea
Paul Vogelheim

January 30, 2017

The Honorable Michael Enzi
United States Senate
379A Russel Senate Office Building
Washington, D.C. 20510

Dear Sen. Enzi,

Teton County extends our sincere gratitude for your co-sponsorship of the Outdoor Recreation Jobs and Economic Impact Act ("Outdoor REC Act") [S. 6518/H.R. 4665]. Outdoor recreation is an economic powerhouse that annually accounts for \$646 billion in consumer spending, 6.1 million American jobs, and \$80 billion in federal, state, and local tax revenue.

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The Outdoor REC Act will finally put a dollar figure on the natural assets that our communities depend on for local jobs, revenue and quality of life for our residents.


We thank you for your dedication to protecting and enhancing our national parks, monuments, forests, wildlife areas, and other public lands. We look forward to working with you to not only ensure that the Bureau of Economic Analysis study is completed but to also further support the national public lands on which our local jobs and national outdoor economy relies.

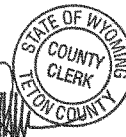
Thank you for your time and your support.

Sincerely,


Mark Newcomb
Teton County Commission, Chair

Attest:


Sherry L. Dangle
Teton County Clerk
By: Melissa K. Shinkle,
Chief Deputy Clerk



PO Box 3594
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Jackson, Wyoming 83001

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www.tetonwyo.org

Mark Newcomb, Chair
Natalia Macker, Vice-Chair
Greg Epstein
Smokey Rhea
Paul Vogelheim

PO Box 3594
200 South Willow Street
Jackson, Wyoming 83001

ph: 307.733.8094
fax: 307.733.4451

January 30, 2017

The Honorable Liz Cheney
United States House of Representative
416 Cannon House Office Building
Washington, D.C. 20515

Dear Representative Cheney,

Congratulations on your election to the U.S. Congress. As a constituent mountain community in a world-class tourist destination, we want to bring your attention to and share our enthusiastic support of the Outdoor Recreation Jobs and Economic Impact Act ("Outdoor REC Act") [S. 6518/H.R. 4665].

In late 2016, the Outdoor REC Act passed the U.S. Senate and the House of Representatives with strong support. Before the passage of this bill, the federal government did not account for the outdoor recreation industry's contribution to the U.S. economy, estimated at \$646 billion year. With the Outdoor REC Act, Congress has directed the Bureau of Economic Analysis (BEA) to collect, track, and analyze data to report on the local and collective economic impact of America's outdoor economy.

Our county represents more than 23,000 residents and over 3 million annual visitors. We are surrounded by and serve as the gateway to unparalleled outdoor recreation opportunities that drive our local economy. The tourism generated from people adventuring into these neighboring public lands helps attract and employ local residents, provides a market for local goods and services, and generates significant tax revenues we invest in local infrastructure and services.

The Outdoor REC Act is the first step to putting an independent analysis on the impact of use of and visits to the natural and cultural assets that our communities depends on for local jobs, revenue and quality of life for our residents. While the Outdoor REC Act directs the study of the outdoor economy by the BEA, the law did not allocate funding for the completion of the study.

We respectfully request your support in the 115th Congress in ensuring that the BEA study is funded in the fiscal year 2018 budget and completed. It is of utmost importance to our community and local economy.

We look forward to working with you to not only ensure that the completion of the BEA study but to also further support the national public lands on which our local jobs and national outdoor economy relies.

Thank you for your time and your support.

Best regards,

Mark Newcomb
Teton County Commission, Chair

Attest:

Sherry L. Daigle
Teton County Clerk
By: **Helissa K. Shinkle.**





City of Leavenworth

700 Highway 2 / Post Office Box 287
Leavenworth, Washington 98826
(509) 548-5275 / Fax: (509) 548-6429
Web: www.cityofleavenworth.com

City Council

Cheryl K. Farivar - *Mayor*
Elmer Larsen
Carolyn Wilson - *Mayor Pro Tem*
Gretchen Wearne
Mia Bretz
Margaret Neighbors
Richard Brinkman
Sharon Waters
Joel Walinski - *City Administrator*

January 23, 2017

The Honorable Patty Murray
United States Senate
154 Russel Senate Office Building
Washington, D.C. 20510

Dear Senator Murray,

The City of Leavenworth extends our sincere gratitude for your co-sponsorship of the Outdoor Recreation Jobs and Economic Impact Act ('Outdoor REC Act') [S. 6518/H.R. 4665]. Outdoor recreation is an economic powerhouse that annually accounts for \$646 billion in consumer spending, 6.1 million American jobs, and \$80 billion in federal, state, and local tax revenue.

Our community represents 1,995 permanent residents and approximately 2.5 million visitors annually. Leavenworth is surrounded by and serves as the gateway to world-class outdoor recreation opportunities that drive our local economy. The tourism generated from people adventuring into these neighboring public lands helps attract and employ local residents, provides a market for local goods and services, and generates significant tax revenues we invest in local infrastructure and services.

The Outdoor REC Act will finally put a dollar figure on the natural assets that my community depends on for local jobs, revenue, and quality of life for our residents.

We thank you for your dedication to protecting and enhancing our national parks, monuments, forests, wildlife areas, and other public lands. We look forward to working with you to not only ensure that the Bureau of Economic Analysis study is completed, but to also further support the national public lands on which our local jobs and national outdoor economy relies.

Thank you for your time and your support.

Sincerely,

A handwritten signature in dark ink, appearing to read "Cheryl K. Farivar", is written over a faint, larger version of the same signature.

Mayor Cheryl K. Farivar

CC: Leavenworth City Council
File



City of Leavenworth

700 Highway 2 / Post Office Box 287
Leavenworth, Washington 98826
(509) 548-5275 / Fax: (509) 548-6429
Web: www.cityofleavenworth.com

City Council

Cheryl K. Farivar - *Mayor*
Elmer Larsen
Carolyn Wilson - *Mayor Pro Tem*
Gretchen Wearne
Mia Bretz
Margaret Neighbors
Richard Brinkman
Sharon Waters
Joel Walinski - *City Administrator*

January 23, 2017

The Honorable Maria Cantwell
United States Senate
511 Hart Senate Office Building
Washington, D.C. 20510

Dear Senator Cantwell,

The City of Leavenworth extends our sincere gratitude for your co-sponsorship of the Outdoor Recreation Jobs and Economic Impact Act ('Outdoor REC Act') [S. 6518/H.R. 4665]. Outdoor recreation is an economic powerhouse that annually accounts for \$646 billion in consumer spending, 6.1 million American jobs, and \$80 billion in federal, state, and local tax revenue.

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Sincerely,

Mayor Cheryl K. Farivar

CC: Leavenworth City Council
File



City of Leavenworth

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Gretchen Wearne
Mia Bretz
Margaret Neighbors
Richard Brinkman
Sharon Waters
Joel Walinski - *City Administrator*

January 23, 2017

The Honorable Dave Reichert
United States Representative
1127 Longworth HOB
Washington, D.C. 20515

Dear Representative Reichert,

The City of Leavenworth extends our sincere gratitude for your co-sponsorship of the Outdoor Recreation Jobs and Economic Impact Act ('Outdoor REC Act') [S. 6518/H.R. 4665]. Outdoor recreation is an economic powerhouse that annually accounts for \$646 billion in consumer spending, 6.1 million American jobs, and \$80 billion in federal, state, and local tax revenue.

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Thank you for your time and your support.

Sincerely,

Mayor Cheryl K. Farivar

CC: Leavenworth City Council
File



GREENWAY
BOARD OF DIRECTORS

[illegible]

President
Karl S. Meyer (7), Nashville

President-Elect
 Ted McCone (R, Principal)
 Oppose Abortion

Founding President
Jon Oke, Chairman Emeritus
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Immediate Past President
 Bill Chapman, Jr., President and CEO
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John Dunn Esq., Attorney

Treasurer, Operations Committee Chair
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Eric Artz (E, 2017) COO
KFF Group

Program Committee Chair
 Doug McDufford, *OT, Assistant Region Manager*
 Washington State Department of Motor Vehicles

Executive Director
 1-800-455-7777
 10000 Highway 100, Suite 1000
 Dallas, Texas 75243-4699

Testimony of the Mountains to Sound Greenway Trust

United States Senate
Energy and Natural Resources Committee

Hearing to receive testimony on opportunities to improve and expand infrastructure important to federal lands, recreation, water, and resources
March 21, 2017

Senator Lisa Murkowski, Chairman
Senator Maria Cantwell, Ranking Member

Thank you for the opportunity to submit testimony regarding opportunities to improve and expand infrastructure important to federal lands, outdoor recreation, clean water, and other natural resources.

The Mountains to Sound Greenway is the landscape connecting Seattle to Ellensburg surrounding Interstate 90, including wilderness lands, rural areas and historic sites, and the 15th largest metropolitan area in the country. This spectacular landscape has not happened by accident. More than two decades of collaborative work have preserved the natural heritage of the Greenway, leading us to propose that the U.S. Congress designate this 1.5-million-acre landscape as a National Heritage Area.

This proposed National Heritage Area is a major recreation destination for tourists and residents alike, providing enormous economic and quality of life benefits to Washington State. We believe that increased federal investment in recreation infrastructure is essential to keep and enhance our outdoor recreation economy in this part of the country.

Outdoor recreation is a major economic driver

The outdoor recreation industry is a significant contributor to our state and national economy. A recent report in Washington State estimates that outdoor recreation generates \$21.6 billion dollars in annual expenditures and supports nearly 200,000 jobs, many of those in rural areas. In addition to direct employment in the outdoor industry, Washington State retains a competitive advantage as an attractive location for companies and talent due to the abundant opportunities for outdoor recreation.

Also, investing in recreation infrastructure immediately creates many local jobs as small businesses and crews deploy to rebuild trails and day-use areas. With funding through private donations and public grants, the Greenway Trust directly supports more than two dozen professional, skilled and labor jobs as well as multiple local contractors. Federal investment in recreation infrastructure creates prevailing wage jobs like these in rural areas around the country.

Without investments in trails and access roads, deteriorating facilities will dampen the popularity of outdoor recreation and we will risk losing these many economic benefits.

Dr. Eusebio Cordero Morera
50 m. Oficina (transitorio) Quito

MTSGREENWAY.ORG

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Address 601 Dempsey Road, Westerville, Ohio 43081-8978 U.S.A.
Phone 800.551.7379 • 614.898.7791 **Fax** 614.898.7786
Email ngwa@ngwa.org **Websites** NGWA.org and WellOwner.org

March 21, 2017

The Honorable Lisa Murkowski
 U.S. Senate
 Energy & Natural Resources Committee
 Washington, DC 20515

The Honorable Maria Cantwell
 U.S. Senate
 Energy & Natural Resources Committee
 Washington, DC 20515

Re: March 21 hearing on improving and expanding infrastructure

Dear Chairman Murkowski and Ranking Member Cantwell,

On behalf of the National Ground Water Association's (NGWA) thousands of members across the United States, we commend the attention the Energy and Natural Resources Committee is giving water infrastructure during the March 21 hearing, "*Hearing to receive testimony on opportunities to improve and expand infrastructure important to federal lands, recreation, water, and resources.*" NGWA is the largest organization of groundwater professionals in the world, whose mission is to promote the responsible protection, management and use of groundwater.

As water resources and infrastructure improvements are considered, please consider the role of aquifers as "natural" infrastructure play in water storage and infrastructure. Aquifers have tremendous water storage capacity, but this capacity is often overlooked and instead, priority is placed on constructing new surface storage. We urge the committee to look at managed aquifer recharge as an integral part of improving and expanding water infrastructure.

Aquifers exist as natural capital infrastructure and storing water underground is less expensive than building new dams, avoids the massive losses to evaporation from surface water reservoirs, and greatly reduces the environmental effects of changes in the natural flow of rivers. Underground water storage also can help alleviate problems with land subsidence, which damages the state's flood control infrastructure.

Thank you for your attention to this important matter. Please contact Lauren Schapker, NGWA's Government Affairs Director, at lschapker@ngwa.org or 202.888.9151 with questions or if NGWA can be of assistance.

Sincerely,

Kevin McCray, CAE
 Chief Executive Officer
 National Ground Water Association

cc: Members, Senate Energy and Natural Resources Committee



SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES
366 DIRKSEN SENATE OFFICE BUILDING
HEARING ON OPPORTUNITIES TO IMPROVE AND EXPAND INFRASTRUCTURE
IMPORTANT TO FEDERAL LANDS, RECREATION, WATER AND RESOURCES
MARCH 21, 2017
TESTIMONY OF THE NATIONAL TRUST FOR HISTORIC PRESERVATION

Chairman Murkowski, Ranking Member Cantwell and members of the Committee, I appreciate the opportunity to share the National Trust for Historic Preservation's perspectives on opportunities to improve and expand infrastructure on federal lands. My name is Pam Bowman and I am the Director of Public Lands Policy.

The National Trust for Historic Preservation is a privately-funded charitable, educational and nonprofit organization chartered by Congress in 1949 in order to "facilitate public participation in historic preservation" and to further the purposes of federal historic preservation laws.¹ The intent of Congress was for the National Trust "to mobilize and coordinate public interest, participation and resources in the preservation and interpretation of sites and buildings."² With headquarters in Washington, D.C., nine field offices, 27 historic sites, more than one million members and supporters and a national network of partners in states, territories, and the District of Columbia, the National Trust works to save America's historic places and advocates for historic preservation as a fundamental value in programs and policies at all levels of government.

We appreciate the Committee scheduling this hearing to explore opportunities to improve aspects of our nation's infrastructure and thereby preserve the ability for Americans and visitors to enjoy and experience natural wonders and iconic historic resources on federal lands.

The Need

The National Park System in particular is one of our nation's best ideas – a network of 417 parks and sites that protect spectacular historic, cultural, and natural resources and tell the stories of remarkable people and events in our country's history. The National Park Service (NPS) is responsible for maintaining a system comprised of more than 84 million acres across all 50 states, the District of Columbia, and many U.S. territories.

The National Park System tells an incredible story at sites as diverse as Gettysburg National Military Park, the Statue of Liberty, Ebey's Landing National Historical Reserve, the Martin Luther King Jr. National Historic Site, and Native American cultural sites like those at Mesa Verde National Park. National parks, and the historic and cultural sites they protect, are some of our nation's most popular attractions. In 2015 alone, they generated over 307 million visits

¹ 54 U.S.C. §§ 312102(a), 320101.

² S. Rep. No. 1110, 81st Cong., 1st Sess. 4 (1949).

with visitors spending an estimated \$16.9 billion in nearby communities – spending that supported 295,300 jobs and provided a \$32 billion boost to the national economy.

The size and complexity of the NPS infrastructure and the importance of preserving our parks' invaluable resources represent a significant challenge. Unfortunately, after 100 years of operation and inconsistent public funding, the National Park System faces a deferred maintenance backlog estimated at \$12 billion, of which 47% is attributed to historic assets.³

Deferred maintenance in our national parks puts historic and cultural sites at risk of permanent damage or loss, and in the absence of funding, the condition of these assets will continue to deteriorate and become more expensive to repair and preserve in the future. Some of the National Park Service's most significant historic sites are at risk of falling into disrepair. For example, the Statue of Liberty National Monument in New York Harbor, which includes Ellis Island – an iconic symbol of American freedom and immigration – has repair needs of over \$160 million.

Direct Federal Investments

The NPS maintenance backlog of approximately \$12 billion demonstrates that additional investments and new strategies are necessary if NPS is to meet their stewardship responsibilities. We are encouraged by Secretary Zinke's statements of support for reducing the maintenance backlog and prioritizing this issue as part of policy proposals seeking to make investments in our nation's infrastructure, as well as the recommendation in the President's budget blueprint "that the National Park Service assets are preserved for future generations by increasing investment in deferred maintenance projects."

We believe that congressional appropriations that provide sustained and robust funding levels for Repair and Rehabilitation, Cyclic Maintenance, and Line-Item Construction are needed to alleviate the infrastructure backlog and ensure adequate preservation and protection of resources in our parks. After years of level funding or modest increases for both Repair and Rehabilitation and Cyclic Maintenance, we were pleased to see increases for FY16 enacted of \$35 million for both accounts. Additional investments—such as those proposed by the House and Senate Appropriations Committees for FY17—will contribute to the successful preservation of historic sites and other resources in the National Park System.

Additionally, a reliable, dedicated federal funding source distinct from annual appropriations to address the deferred maintenance backlog, along with providing sufficient staffing capacity would ensure that we preserve historic sites, maintain buildings and infrastructure in safe condition, and keep our parks open and accessible.

The nation faces a challenging fiscal environment, and the National Trust recognizes there is a need for fiscal restraint and cost-effective federal investments. However, we do not believe that preservation and conservation programs should suffer from disproportionate funding reductions, or that a successful solution to address the maintenance backlog can omit significant financial investments. Given the unprecedented size of the maintenance backlog, we understand the need to explore complementary proposals and opportunities, and we offer two such options for your consideration.

³ The Pew Charitable Trusts, "NPS Deferred Maintenance: By the Numbers" <http://forum.savingplaces.org/HigherLogic/System/DownloadDocumentFile.ashx?DocumentFileKey=e437bdf8-85ad-6a3d-6d1b-d343c374d4ac&forceDialog=0> accessed March 2017

Historic Leasing

Leasing of historic buildings in the National Park System to private parties is an effective and proven public-private partnership that can be used as part of a suite of options to mitigate the deferred maintenance backlog in our national parks. Historic leases alleviate the burden on the National Park Service to maintain historic buildings and for long-term commercial leases of 60 years, an incentive is available for the lessee to utilize the federal 20% historic tax credit and invest in qualified rehabilitation expenses.

Congressional support for this approach has long existed, as evidenced by grants of authority to enter into public-private partnerships and historic leases, which Congress has extended to the NPS over the years. The House Appropriations Committee has also noted, in part, that “leasing of historic park buildings has proven to be an effective public-private partnership that has brought private investment to the repair and maintenance of historic park resources.”⁴

The Department of the Interior reported to Congress that among the 27,000 assets on the List of Classified Structures (LCS), potentially 9,000 structures could be evaluated for re-use through leasing. Even with the availability of leasing authority included in the National Historic Preservation Act and the Concessions Management Act, along with Congressional encouragement, the NPS has struggled to fully use its authority to preserve historic structures and cultural resources. Barriers to full use of this authority—including unduly restrictive policy interpretations or statutory and regulatory hurdles—have often stood in the way.

Despite these obstacles, there are numerous examples where historic leasing and public-private partnership agreements have been used to authorize non-federal entities to operate businesses, provide services and housing, and manage event spaces in historic structures within the national park system. In many cases, the involvement of non-federal entities has meant the difference between preservation and reuse, or deterioration and neglect of irreplaceable historic resources. The American public has directly benefited from these private investments through increased opportunities to enjoy historic properties that otherwise would have been unavailable.

Several historic leasing examples highlight some of the many historic leasing success stories, along with a few challenges, that illustrate the potential of this opportunity:

Klondike Gold Rush National Historic Park, Alaska

The NPS has acquired and restored many of the most historic buildings along the main thoroughfare in Skagway, Alaska to ensure protection of the cultural landscape features of the park. Local park administrators began an active push to use leases here in 1986 that has been very successful. Seven historic leases have been extended to commercial businesses in the park that cater to tourists. Under these leases, the Park Service received \$368,572 in rent in 2012 that was used to fund historic property maintenance.

Cuyahoga Valley National Park, Ohio

Of all of the units of the national park system, Cuyahoga Valley National Park (CVNP) has perhaps been the most creative in using a variety of leases, partnership agreements, concessions contracts and sales with easements to restore and maintain the historic properties that make up the park’s cultural landscape. To ensure flexibility to support its leasing needs, the park’s staff developed two separate leasing programs. The “Historic Property Leasing Program” was established to handle individual buildings and the “Countryside Program” was developed to

⁴ House Report 114-170, accompanying the Department of the Interior, Environment and Related Agencies Appropriation Bill, FY2016

address farms and associated historic buildings.

Under the Historic Property Leasing Program, NPS requires lessees to pay for repair and rehabilitation of the historic house and establishes a rental amount that takes the private investment into account. Several historic properties have been successfully leased under these terms. Notably, since 1987 the National Register-listed Inn at Brandywine Falls has operated under a 50-year lease as a bed and breakfast that makes 6 rooms available to guests on a year-round basis. Other attempts to use leasing to manage individual historic houses have proven to be problematic.

In its Countryside Program, the park has been successful in leasing farms to private operators. For example, in 1999, working through its Countryside Program, the park entered into a Cooperative Agreement with the non-profit Cuyahoga Valley Countryside Conservancy (CVCC). Under the terms of the agreement, CVCC coordinates efforts to rehabilitate a working agricultural landscape within the park. Prior to developing this leasing program, NPS used its own funds to repair and restore the farmhouses in the park and only required authorized private farmers to maintain high priority farm fields and cultural landscapes. Now, through the cooperative agreement with CVCC, the park has been able to shift historic maintenance responsibilities almost entirely onto the lessees and more of the farmlands are being used and maintained.

Valley Forge National Historical Park, Pennsylvania

Valley Forge National Historic Park is dedicated to preserving and interpreting the winter encampment site of the Continental Army during the American Revolution. The park includes numerous historic structures that post-date the Revolutionary War and are thus outside the historical time period that is the main interpretive focus of the park. In 2009, park staff successfully negotiated a 40-year lease agreement for the David Walker Farmstead, a 3.7-acre site that is listed on the National Register of Historic Places. The lessee is the Montessori Children's House of Valley Forge, a non-profit organization that uses the farmstead as a school. The Montessori school has invested over \$3 million dollars into restoration and maintenance, including funding the removal of non-historic elements, such as an adjacent, non-historic 1958 house.

Golden Gate National Recreation Area, California

The Golden Gate National Recreation Area is a large park unit that spans multiple sites across the greater San Francisco Bay region. NPS personnel have successfully used historic leases and cooperative agreements to work with a diverse array of local partners to provide assistance and funding for historic facility repairs within the park system unit.

A significant success story is found north of the Golden Gate Bridge at Fort Baker in Sausalito. Through a long-term lease that permitted utilization of the federal historic tax credit, the former officer's residences at Fort Baker have been impeccably restored and transformed into the Cavallo Point, the Lodge at the Golden Gate. The Argonaut Hotel is another exemplary leasing example in the Pacific West Region. The hotel is located in the century-old Haslett Warehouse within the San Francisco Maritime National Historic Park. Under a 60-year lease this one-time fish cannery is now open to the public as a hotel. The rehabilitated historic building includes the park's Visitor Center onsite. The length of the lease term allowed the hotel operators to qualify for federal historic tax credits that made the building's rehabilitation financially feasible. Without the investment of private funds, and the utilization of the federal historic tax credit, it is likely that these beautifully restored buildings would be sitting unused.

Another example of creative use of leasing and cooperative agreements is the successful Fort Mason Center, a non-profit arts and cultural center housed at the historic military base site. The

Center serves as the home for over 15 primarily arts-related small businesses and non-profit organizations that offer services ranging from a used books store to a vegetarian restaurant. The Center also offers the former Officers Club for rent as a public event space. The Center operated under a cooperative agreement with the NPS for over 30 years, but in 2005 the relationship was converted to a lease. This conversion provided greater stability and assurances of continued operation to the lessee. The National Park was assured of significant and continued investment in maintenance by the lessee in return. The lease includes all of the historic buildings in Lower Fort Mason, which allows the Center to manage sub-leases with a variety of organizations.

Despite successful examples of historic leasing being used to rehabilitate historic structures in almost every NPS region, some Superintendents have not used the NPS's leasing authorities to their full extent. Other issues, such as a lack of leasing expertise, staff capacity, and more general policy concerns also stand in the way.

Specific recommendations for utilization of historic leasing by the National Park Service are outlined in a report⁵ produced by the National Trust that also includes several policy recommendations to expand and enhance the use of this entrepreneurial tool. While not a solution to the entire maintenance backlog, expanding leasing authority and implementation by park superintendents, as well as providing comprehensive guidance and encouragement for the use of historic leasing, paves the way for collaborative, cost-effective arrangements that improve park maintenance and enhance visitor experience.

Volunteerism

Efforts to increase the exposure of our national parks to young people – particularly those from underserved communities – include programs such as the Every Kid in a Park campaign and public-private partnerships that provide opportunities for youth corps and other groups to engage in interactive experiences within the National Park System.

As part of our commitment to these initiatives and to assist the NPS in reducing the maintenance backlog of historic properties, the National Trust launched the HOPE (Hands-On Preservation Experience) Crew initiative in 2014 to train young adults in preservation skills, while helping to protect and restore historic sites. Youth and veterans are trained in the preservation skills necessary to perform preservation work in the parks and other federal lands through a cooperative agreement between the NPS, other federal land management agencies, and several NGOs including the Student Conservation Association and The Corps Network.

In the first two years of the program, HOPE Crew has engaged over 300 Corps members (youth and veteran), spent 60,000 hours completing 67 projects and supporting over \$8 million of preservation work, including rehabilitating structures at Martin Luther King, Jr. National Historic Site, Little Big Horn Battlefield National Monument, Golden Gate National Recreation Area, and Shenandoah National Park. Projects like these help reduce the maintenance backlog while also providing job skills and education for the next generation of stewards of America's most important historic sites.

⁵ Historic Leasing in the National Park System: Preserving History Through Effective Partnerships; <http://forum.savingplaces.org/viewdocument/historic-leasing-in-the-national-pa?>; September 2013.

Infrastructure Investment

Thank you again for the opportunity to present the National Trust's perspectives on these issues, and we look forward to working with the committee and other stakeholders as you consider proposals to improve and expand the nation's infrastructure as it relates to our federal lands. We hope these investments continue to sustain our nation's rich heritage of cultural and historic resources that generate lasting economic vitality for communities throughout the nation.

From: [Mike Leahy](#)
To: [fortherecord \(Energy\)](#)
Subject: For the Record: Outdoor Infrastructure Priorities for Wildlife, Hunters & Anglers
Date: Wednesday, March 22, 2017 11:06:23 AM
Attachments: image001.png
 Outdoor Infrastructure ltr-Sportsmen to President Trump 2.15.17.pdf

As the Senate Energy & Natural Resources Committee considers the testimony received from its hearing on opportunities to improve and expand infrastructure important to federal lands, recreation, water, and resources, we hope the Committee will consider the outdoor infrastructure priorities identified by more than 50 sportsmen organizations in a recent letter to President Trump (attached), and ask that the letter and this email be included in the hearing record. These groups highlighted confronting the forest fire crisis through funding and management solutions, and addressing the maintenance backlog on public lands, along with other priorities including recovering America's wildlife, advancing sportsmen legislative priorities, and restoring degraded habitat.

Additional infrastructure priorities we ask the Committee to support include:

Conserve America's Private Lands: Restoring degraded wildlife habitat on private lands and large landscapes would spur significant rural job growth, while reconnecting key wildlife migratory corridors and cleaning up contaminated waterways. For example, there is bipartisan support for investing a portion of the Abandoned Mine Reclamation Fund in habitat restoration that could help put people back to work, revitalize communities, and expand hunting and fishing opportunities. Similarly, restoring degraded grasslands and coastal and inland wetlands would increase duck and pheasant populations and hunting opportunities, while strengthening local economies.

Construct Next Generation Energy Infrastructure: As America makes long awaited investments in power transmission and distribution upgrades to improve the reliability and resiliency of our electric power grid, we must commit to deeper investments in wildlife friendly renewable energy, energy efficiency, energy storage, and more sustainable transportation. Modern mass transit, electrified transportation systems, and renewable energy technologies like wind – both on- and offshore -- distributed and utility-scale solar, and programs like Atmosphere to Electrons, Wind for Schools, SunShot Initiative, Energy Efficiency and Conservation Block Grant and Federal Energy Management Programs need robust support. Investments should go beyond tax credits to include research and development grants to spur the greatest innovation.

Create the Vital Infrastructure Program (VIP): VIP would focus on major federal investments to jumpstart innovative new projects that enhance the way we move goods and freight to modernizing highways and transit systems, to providing resilient protection to regions at risk. VIP transportation projects will also fund other types of infrastructure investments of national significance, including large-scale restoration efforts with landscape-scale benefits to mitigate the impacts of severe weather events.

Build Resilient Communities: Extreme weather events leave communities unprepared to address disasters in real-time. Federal funding that supports critical infrastructure resiliency competition requires investments in the Resilient Communities Revolving Loan Fund, State and Federal resiliency or restoration plans, and the Federal Emergency Management flood risk reduction.

Thank you,

Mike Leahy
Sr. Manager, Public Lands and Sportsmen Policy
National Wildlife Federation



Mike Leahy
Sr. Manager, Public Lands & Sportsmen
National Wildlife Federation
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202-797-6826

www.nwf.org

Uniting all Americans to ensure wildlife thrive in a rapidly changing world

Alabama Wildlife Federation * Archery Trade Association * Arkansas Wildlife Federation * Association of Fish and Wildlife Agencies * Boone and Crockett Club * Camp Fire Club of America * Congressional Sportsmen's Foundation * Conservation Federation of Missouri * Conservation Force * Council to Advance Hunting and the Shooting Sports * Dallas Safari Club Delta Waterfowl * Ducks Unlimited * Florida Wildlife Federation * Georgia Wildlife Federation Houston Safari Club * Indiana Wildlife Federation * Iowa Wildlife Federation * Izaak Walton League of America * Kansas Wildlife Federation * Louisiana Wildlife Federation * Masters of Foxhounds Association * Michigan United Conservation Clubs * Minnesota Conservation Federation * Mississippi Wildlife Federation * Montana Wildlife Federation * National Bobwhite Conservation Initiative * National Trappers Association * National Wild Turkey Federation * National Wildlife Federation * National Wildlife Refuge Association * Nevada Wildlife Federation * New Mexico Wildlife Federation * North American Grouse Partnership * North Carolina Wildlife Federation * North Dakota Wildlife Federation * Orion - The Hunter's Institute * Pheasants Forever * Quail Forever * Quality Deer Management Association * Rocky Mountain Elk Foundation * Ruffed Grouse Society * Shikar Safari Club International * South Carolina Wildlife Federation * South Dakota Wildlife Federation * Sportsmen's Alliance Tennessee Wildlife Federation * The Conservation Fund * The Wildlife Society * Theodore Roosevelt Conservation Partnership * Whitetails Unlimited * Wildlife Forever * Wild Sheep Foundation * Wildlife Management Institute * Wisconsin Wildlife Federation * Wyoming Wildlife Federation

February 15, 2017

The Honorable Donald J. Trump
President of the United States
The White House
1600 Pennsylvania Avenue NW
Washington, District of Columbia 20500

Dear Mr. President,

On behalf of the millions of hunters, anglers, shooters, and outdoor enthusiasts that our organizations represent, we write to thank you for your commitment to America's sportsmen and women. We especially want to thank you for nominating Representative Ryan Zinke to serve as Secretary of Interior and Governor Sonny Perdue for Secretary of Agriculture, both of whom are sportsmen who understand our nation's conservation heritage.

We write because we believe that there is an opportunity for your Administration to advance three campaign promises simultaneously—creating American jobs, revitalizing rural America, and honoring the conservation legacy of Theodore Roosevelt—by including strategic investments in America's outdoor economy into the President's infrastructure package.

America's outdoor economy is one of the fastest growing parts of our nation's economy, generating more than \$646 billion in annual economic benefit, supporting 6.1 million jobs, and attracting more than 140 million participants (including nearly 40 million hunters and anglers). This burgeoning sector depends upon healthy and accessible public lands, clean water, clean air, and abundant wildlife populations. Investments in natural infrastructure as part of an

infrastructure package would bolster the outdoor economy, while creating more jobs (15-28 per \$1 million invested) and producing a greater return on investment (\$2-2.62 return per \$1 invested) than other types of investments because most of the investment goes into labor. Investments in natural infrastructure are an opportunity to significantly improve wildlife habitat and water quality while securing dramatic infrastructure investment savings for the taxpayer. Importantly, many of the jobs created would be in rural communities facing high unemployment.

We specifically encourage the Administration to dedicate 5% of the \$1 trillion infrastructure package (\$5 billion/year) toward natural infrastructure and conservation investments that will grow America's outdoor economy, including:

1. **Recover America's Wildlife:** Much of the outdoor economy is predicated on healthy wildlife populations, yet thousands of wildlife species are at-risk with more than 1,500 listings pending under the Endangered Species Act. Investing in restoration projects at the state-level (through the Wildlife Conservation and Restoration program at \$1.3B/year) will drive non-regulatory collaboration to save at-risk wildlife, reduce the need for expensive "emergency room" measures, and avoid tens of billions of dollars in regulatory/ litigation paralysis—all of which create jobs and strengthen America's economy. The Blue Ribbon Panel on Sustaining America's Diverse Fish and Wildlife Resources stands ready to help.
2. **Advance Bipartisan Sportsman Legislation:** America's sportsmen have been waiting more than six years for bipartisan sportsmen legislation that expands hunting and fishing access and creates jobs by implementing key on-the-ground conservation and natural infrastructure projects through the North American Wetland Conservation Act, National Fish Habitat Conservation Through Partnerships Act, and a modernized Land and Water Conservation Fund.
3. **Confront Forest Fire Crisis:** Larger and more frequent wildfires are harming local rural economies, affecting millions of acres of wildlife habitat, and consuming more than half of the U.S. Forest Service budget. There are broadly supported bipartisan solutions that will address the fire funding crisis and improve the agency's ability to restore wildlife habitat, increase timber yields, and expand recreational opportunities—all of which create jobs.
4. **Address Maintenance Backlog:** As Rep. Zinke discussed during his confirmation hearing, there is a significant maintenance backlog for our National Parks, National Wildlife Refuges, National Forests, Bureau of Land Management Lands, and Tribal lands. This backlog is hindering the growth of the outdoor economy, contributing to conflicts with local communities, and preventing millions of outdoor enthusiasts from enjoying public lands and spending money in local economies. Such investments will create tens of thousands of jobs.
5. **Restore Degraded Habitat:** Restoring degraded wildlife habitat on private lands and large landscapes would spur significant rural job growth, while reconnecting key wildlife migratory corridors and cleaning up contaminated waterways. For example, there is bipartisan support for investing a portion of the Abandoned Mine Reclamation Fund in habitat restoration that could help put people back to work, revitalize communities, and expand hunting and fishing opportunities. Similarly, restoring degraded grasslands and coastal and inland wetlands would increase duck and pheasant populations and hunting opportunities, while strengthening local economies.

In addition to accelerating the growth of America's outdoor economy, we suggest that projects across the entire package be encouraged to enhance wildlife habitat and expand hunter and angler access to lands and waterways. We also recommend that the Administration adopt a simple proposition when considering how best to pay for the infrastructure package: If public resources are taken out of the ground, some of the monetized value should be put back into the ground through investments in conservation and natural infrastructure, as listed above. This principle will ensure that wealth and jobs are not transferred out of rural America and that we are instead "leaving this land even a better land for our descendants than it is for us," as Theodore Roosevelt envisioned.

Including the investments above in your infrastructure package will create significant jobs and help ensure that you and your administration leave a conservation legacy worthy of President Roosevelt himself. Together, we will show that we can maximize economic growth, while also restoring fish and wildlife populations, expanding access to public lands, ensuring clean air and water, and creating more outdoor recreation opportunities for all Americans. Thank you for embracing hunting, fishing and our nation's outdoor heritage.

Sincerely,

Alabama Wildlife Federation
 Archery Trade Association
 Arkansas Wildlife Federation
 Association of Fish and Wildlife Agencies
 Boone and Crockett Club
 Camp Fire Club of America
 Congressional Sportsmen's Foundation
 Conservation Federation of Missouri
 Conservation Force
 Council to Advance Hunting and the
 Shooting Sports
 Dallas Safari Club
 Delta Waterfowl
 Ducks Unlimited
 Florida Wildlife Federation
 Georgia Wildlife Federation
 Houston Safari Club
 Indiana Wildlife Federation
 Iowa Wildlife Federation
 Izaak Walton League of America
 Kansas Wildlife Federation
 Louisiana Wildlife Federation
 Masters of Foxhounds Association
 Michigan United Conservation Clubs
 Minnesota Conservation Federation
 Mississippi Wildlife Federation
 Montana Wildlife Federation
 National Bobwhite Conservation Initiative
 National Trappers Association

National Wild Turkey Federation
 National Wildlife Federation
 National Wildlife Refuge Association
 Nevada Wildlife Federation
 New Mexico Wildlife Federation
 North American Grouse Partnership
 North Carolina Wildlife Federation
 North Dakota Wildlife Federation
 Orion- The Hunter's Institute
 Pheasants Forever
 Quail Forever
 Quality Deer Management Association
 Rocky Mountain Elk Foundation
 Ruffed Grouse Society
 Shikar Safari Club International
 South Carolina Wildlife Federation
 South Dakota Wildlife Federation
 Sportsmen's Alliance
 Tennessee Wildlife Federation
 The Conservation Fund
 The Wildlife Society
 Theodore Roosevelt Conservation
 Partnership
 Whitetails Unlimited
 Wildlife Forever
 Wild Sheep Foundation
 Wildlife Management Institute
 Wisconsin Wildlife Federation
 Wyoming Wildlife Federation



March 28, 2017

Chairman Lisa Murkowski
Senate Committee on Energy and Natural Resources
374 Dirksen Senate Office Building
Washington, DC 20510

Ranking Member Maria Cantwell
Senate Committee on Energy and Natural Resources
374 Dirksen Senate Office Building
Washington, DC 20510

Dear Chairman Murkowski and Ranking Member Cantwell,

Ormat Technologies, Inc. is a clean energy project developer headquartered in Reno, Nevada with over thirty years of experience in geothermal power.

On March 21, 2017, your Committee held a hearing on opportunities to improve and expand infrastructure important to federal lands, recreation, water, and resources. First, Ormat supports the Committee's notion that energy projects, including power generation, are a type of infrastructure. Geothermal should be eligible to take advantage of any federal incentive programs and thoughtful permitting reforms to support infrastructure build-out.

Second, we submit that the geothermal energy concepts articulated in last year's S. 2012, the *Energy Policy Modernization Act*, would be a strong addition to any infrastructure legislation that focused on energy and public lands. The geothermal industry worked closely with you and your staff over many months to assemble the concepts in S. 2012, and they were captured in Section 3005-3012 of the final bill. As a reminder, those provisions were as follows:

- **3005** – Provides a Sense of Congress for geothermal energy urging the Secretary of Interior to “significantly increase” geothermal production from federal lands. Also requires the U.S. Geological Survey (USGS) to identify sites capable of producing 50,000 megawatts of geothermal power within 10 years.
- **3006** – Directs BLM to identify high priority areas for geothermal development and to facilitate required leasing and development.
- **3007** – Allows geothermal development by co-production of electricity from oil and gas leases on federal lands using geothermal technologies.
- **3008** - Set up a noncompetitive leasing process where existing geothermal leaseholders on federal lands can move to lease adjoining lands administratively without rebidding.
- **3009** – Report to Congress from Departments of Interior and Energy
- **3010** – Authorization of Appropriations
- **3011** - Establishes priority areas for geothermal, wind and solar on public lands, requires a supplemental Programmatic Environmental Impact Statement, for all three, and allows Interior Secretary to decide when PEIS is adequate review to avoid additional duplicative EIS's.



- **3012** - Allows for the use of a categorical exclusion to the National Environmental Policy Act (NEPA) to permit geothermal "slim holes" for observation and exploration test wells to be drilled. The new section limits when the exclusion can be used by acreage and environmental impact, requires complete restoration of any site within three years, allows the relevant Secretary to deny any exclusion based on extraordinary circumstances, and includes review and public notice provisions.

Commercial geothermal is the poster child for how public lands can be utilized wisely to support American infrastructure and economic development. Ninety percent of the known geothermal resources which could be economically developed in the U.S. are on federal lands, which means the productivity of our industry is a direct result of cooperation with our Department of Interior partners at the state, regional and federal offices. When we work together effectively, geothermal creates enormous benefits to the stability of the local grid – we are baseload power source with capacity factors over 95%, but can be dispatched or "ramped" very quickly in order to respond to other intermittent power sources or changing demand. Geothermal also results in the most jobs per megawatt of any type of power generation.

We ask that the Committee include the S. 2012 geothermal title in any upcoming infrastructure legislation. We also hope to work with you on including a few targeted new ideas to improve the permitting process for geothermal on public lands.

Thank you for the opportunity to comment and for all your hard work on energy issues so far this Congress. Please contact me at Jnordquist@ormat.com or 775-336-0164 if you would like to discuss further.

Sincerely,

Josh Nordquist
Director, Business Development
Ormat Technologies

OUTDOOR ALLIANCE

March 21, 2017

Senator Lisa Murkowski
Chair, Committee on Energy and Natural Resources
709 Hart Senate Office Building
Washington, DC 20510

Senator Maria Cantwell
Ranking Member, Committee on Energy and Natural Resources
511 Hart Senate Office Building
Washington, DC 20510

Re: Hearing to receive testimony on opportunities to improve and expand infrastructure important to federal lands, recreation, water, and resources

Dear Chair Murkowski and Ranking Member Cantwell:

Thank you for the opportunity to share the views of the outdoor recreation community on infrastructure opportunities for our public lands and waters.

Outdoor Alliance is a coalition of eight member-based organizations representing the human powered outdoor recreation community. The coalition includes Access Fund, American Canoe Association, American Whitewater, International Mountain Bicycling Association, Winter Wildlands Alliance, The Mountaineers, the American Alpine Club, and the Mazamas and represents the interests of the millions of Americans who climb, paddle, mountain bike, and backcountry ski and snowshoe on our nation's public lands, waters, and snowscapes.

In addition to the personal benefits outdoor recreation provides for millions of Americans, outdoor recreation is a proven economic driver, supporting communities across the country, often in more rural areas. Each year, outdoor recreation contributes more than \$646 billion to the U.S. economy, supporting more than 6.1 million jobs and generating more than \$39.9 billion in federal tax revenue and \$39.7 billion in state and local taxes.¹ These benefits depend on maintaining clean, healthy, and well-managed public lands, but also on providing the infrastructure that makes our public lands accessible and enjoyable for a wide range of visitors.

¹ Outdoor Industry Association, The Outdoor Recreation Economy 2012, available at <https://outdoorindustry.org/resource/the-outdoor-recreation-economy-2012/>.



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In recent years, our public lands have suffered from inadequate investment in federal land management agencies, which perform essential work in stewarding our public lands for a wide array of uses and benefits. This problem has been exacerbated by the current method of funding for wildfire suppression activities, which consume an ever-growing share of these agencies' budgets.

Key Considerations

As the committee considers much needed investments in our country's public lands and waters, we think several key principles are important to bear in mind.

First, providing necessary resources for the land management agencies is essential. Our community is deeply troubled by the President's proposed budget, which would slash resources available for public lands management. We believe strongly that the agencies must be given additional resources to carry out their important work and to make up for past shortfalls. Fortunately, these expenditures remain exceedingly strong investments in the American economy, producing outsize returns in economic growth. As an example, a recent study demonstrates that federal dollars spent through the Land and Water Conservation Fund have a return on investment of more than 4 to 1.²

Second, we believe firmly in the principle embodied in the Federal Lands Recreation Enhancement Act (FLREA) concerning the appropriate place for user fees on public lands. Fees may be appropriate where particular, highly-developed amenities are offered on public lands or in places where limited-entry permitting is necessary to preserve the environment or the user experience, but they should not be charged simply for access to undeveloped public lands. Funding for appropriate infrastructure on public lands and the activities of the land management agencies should be appropriated by Congress, particularly given the strong economic return on investment and the public interest in ensuring that Congress does not unintentionally create additional barriers to entry for healthy outdoor activities that benefit participants and the economies of public lands gateway communities.

Finally, as Congress considers infrastructure investments on public lands, it is essential to preserve opportunities for public participation through processes like land management planning and review under the National Environmental Policy Act (NEPA). Outdoor recreation and its attendant benefits depend on access to healthy, pleasant, and ecologically sound environments. Development of any kind—for activities from

² The Trust for Public Land, Return on the Investment from the Land and Water Conservation Fund, available at http://www.lwcfcoalition.org/files/LWCF%20ROI%20Report_11%2029%2010.pdf.



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energy development to recreation—must be pursued in a way cognizant of its effect on the broader landscape and on other users and uses. Planning processes—from Forest Planning to BLM resource management plan development to advanced energy planning like Master Leasing Plans—are invaluable investments in ensuring that development is pursued in a thoughtful manner, avoiding or mitigating conflicts and environmental degradation to the greatest extent possible.

Trail Stewardship

Chronic underfunding of the National Park Service has resulted in \$11.9 billion in deferred maintenance. In the absence of required maintenance, life expectancy of infrastructure assets is reduced, and the initial capital investment for facilities is compromised.³

In 2013, a Government Accountability Office report found the Forest Service had a \$314 million deferred-maintenance backlog for trails, along with \$210 million in unfinished annual maintenance, capital improvements, and operations in its trails program.⁴ The report further notes that trails not maintained to quality standards have a range of negative effects, such as inhibiting trail use and harming natural resources, and deferring maintenance can add to maintenance costs.

Trails and other simple infrastructure needs are a basic, yet far too often overlooked, component of an accessible and enjoyable public lands system. Congress should ensure that land management agencies have the resources they need to address trail construction and maintenance needs, including ensuring that agencies have the necessary capacity to take advantage of volunteers eager to engage in basic, on-the-ground stewardship activity.

Opportunities to Improve Public Access to Waterways When a Bridge is Reconstructed

Across the country, bridge right-of-ways serve as an important access point for those recreating on rivers. When a bridge is constructed, it represents an important opportunity to evaluate how the public is using the site for river access and identify

³ NPS Deferred Maintenance Report FY 2015, available at <https://www.nps.gov/subjects/plandesignconstruct/defermain.htm>.

⁴ Forest Service Trails: Long- and Short-Term Improvements Could Reduce Maintenance Backlog and Enhance System Sustainability, GAO-13-618: Published: Jun 27, 2013, available at <http://www.gao.gov/products/GAO-13-618>.



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opportunities to both improve public safety and enhance the quality of the user experience for fishermen, canoeists, and the general public.

In many cases, bridge construction projects are an opportunity to address public access to the waterways they cross. It is often a simple matter of designing the landscaping to accommodate a foot trail to the water and making sure vehicles can safely park outside the travelway. In other cases however, bridge designs proceed forward without an understanding of public use for access to a waterway and opportunities are lost. We are seeking more consistency with federally-funded projects to ensure the multiple public benefits that can be achieved with proper planning on the front end.

The states of California⁵, Maryland⁶, Virginia⁷, and Washington⁸ have all recognized the connection between transportation planning and outdoor recreation when a bridge is constructed or reconstructed and have laws and policies in place that require an evaluation of public access needs to the waterway. We believe it is appropriate to apply these policies nationally for federally-funded projects.

Land and Water Conservation

The Land and Water Conservation Fund continues to be an overwhelmingly successful program for meeting recreation infrastructure needs on public lands and in communities across the country. Over the life of the program, LWCF has funded critical protections for river corridors in places like West Virginia's Gauley and New Rivers and helped establish public river access points for canoers, kayakers, and rafters in places like Washington's White Salmon River. LWCF has made possible thousands of miles of singletrack for mountain bikers and hikers, including at areas like the world-class trail system at Lory State Park near Fort Collins, Colorado, and Toro Park, California, home to challenging trails and spectacular views of Monterey Bay. LWCF has funded close-to-home recreation opportunities in all fifty states and every congressional district.

⁵ California Streets and Highways Code § 84.5.

⁶ Annotated Code of Maryland, Transportation §2-103.1(c)(7).

⁷ MOU for Cooperative Action to Develop/Enhance Public Water Access at Bridge Crossings and Roads Among Virginia Department of Transportation, Department of Game and Inland Fisheries, and Department of Conservation and Recreation, Governor of Virginia Terence R. McAuliffe, July 7th, 2015, available at <https://governor.virginia.gov/newsroom/newsarticle?articleId=11810>.

⁸ RCW 47.01.500.



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We greatly appreciate your efforts at securing permanent reauthorization of this valuable program, and hope to see those efforts continue in this new Congress as the committee looks for ways to meet infrastructure needs on public lands.

Best regards,



Adam Cramer
Executive Director
Outdoor Alliance

cc: Brady Robinson, Executive Director, Access Fund
Wade Blackwood, Executive Director, American Canoe Association
Mark Singleton, Executive Director, American Whitewater
Dave Wiens, Executive Director, International Mountain Bicycling Association
Mark Menlove, Executive Director, Winter Wildlands Alliance
Tom Vogl, Chief Executive Officer, The Mountaineers
Phil Powers, Executive Director, American Alpine Club
Lee Davis, Executive Director, the Mazamas





March 20, 2017

Senator Lisa Murkowski
Chair, Senate Committee on Energy and Natural Resources
709 Hart Senate Building
Washington, DC 20510

Senator Maria Cantwell
Ranking Member, Senate Committee on Energy and Natural Resources
511 Hart Senate Office Building
Washington, DC 20510

RE: Senate Energy and Natural Resources Committee Hearing to receive testimony on opportunities to improve and expand infrastructure important to federal lands, recreation, water and resources. 366 Dirksen House Office Building; 10:00 AM

Chairwoman Murkowski, Ranking Member Cantwell, and Members of the Committee:

Thank you for calling this hearing today and highlighting the important role of recreation infrastructure, especially on public lands. Outdoor Industry Association (OIA) is the national trade association for suppliers, manufacturers and retailers in the \$646 billion outdoor recreation industry, with more than 1200 members nationwide. The outdoor industry supports more than 6.1 million American jobs and makes other significant contributions toward the goal of healthy communities and healthy economies across the United States.

Public lands and waters of all types, such as trail systems, rivers, lakes and parks, are powerful assets and are the foundational infrastructure that generates economic activity across every state in the country. America's natural landscapes and waterways are also its greatest attraction, for international visitors and for the recruitment and retention of American businesses, workers and their families. Simply marketing and advertising them is not enough; we must protect these lands and waters, invest in their infrastructure, address the substantial maintenance backlog and enhance the visitor experiences to continue to promote this powerful economic driver and job creator and the world-class experiences they provide.

The \$12 billion National Park Service (NPS) maintenance backlog, and cumulative \$20 billion maintenance backlog on our national public lands, must be addressed in any infrastructure package passed by Congress. Much of the NPS, Bureau of Land Management, Fish and Wildlife Service and United States Forest Service maintenance backlog is grey infrastructure- roads and bridges. However, our green infrastructure, trails (hiking, biking, ATV, off road), boat put-ins and campgrounds (RV & tent) have a backlog of projects as well, and if addressed, would pay dividends to the health of local communities and local economies. As Congress contemplates this infrastructure package, it is our hope that a recreation title is included that provides innovative ideas and resources for both the grey and green infrastructure that our businesses and the American people rely on.



Our shared recreation assets play an increasingly important role in mainstream business development and economic revitalization. Proximity to shared open spaces such as forests, trails, rivers and lakes makes for desirable places to live, work and retire and drive this economic engine that cannot be outsourced. As a member of the Senate Energy and Natural Resources committee you have the opportunity to encourage economic development, smart investments and prosperity across the country by enhancing recreation access and infrastructure within cities and rural communities through an infrastructure package that is a priority for Congress and the administration, as was evident in budget priorities laid out last week.

The outdoor industry contributes \$80 billion every year in taxes when you combine local and state (\$40 billion) and federal (\$40 billion) tax dollars. Unfortunately, outdoor recreation assets reap very little of that through reinvestment back into our shared public lands and waters- the infrastructure needed for the recreation economy. Businesses in our industry are no different than businesses in other sectors. They rely on certainty that they can have ensured access to adequate infrastructure to plan their investments and grow jobs in a certain area. Corporations and businesses of all types are attracted to the quality of life that results from access to well-maintained green spaces and interconnected trails as a key tool for recruiting and retaining highly skilled workers and entrepreneurs that create many American jobs in rural and gateway communities.

By focusing on the economic development opportunities associated with recreation assets, there is real potential to drive sustained economic growth in communities that are suffering from the boom and bust cycle of extractive industries. Communities lucky enough to have nearby public lands have growth opportunities that can complement these traditional land uses and provide sustainable jobs in both the near and long term.

Some ideas on making these projects a reality through innovative public/private partnerships:

- Utilize youth or conservation corps (who are funded from public and private partnership dollars, many from the outdoor industry) and that provide young people jobs and training, often in rural communities, and can lower the cost of many of the projects on our public lands, while investing in our next generation
- Reauthorize (and re-visit) the Federal Lands Recreation Enhancement Act (FLREA) and the cost of entrance fees at our parks, especially during peak season and for international travelers. We are hopeful that FLREA will address some ways to increase revenue that can be used on maintenance at local units to improve recreation and access. One such opportunity is to allow the fees paid by ski areas that operate under special use permits on public lands to be reinvested in local recreational infrastructure projects.
- Improve the special use permitting system on public lands that is so critical to local economies and gateway communities across the country, both as a job creator and as a tourism driver. An improved permitting process will benefit the economies of gateway communities, increase revenue to land management agencies, and introduce and educate new visitors to public lands through guided experiences.



- Support the use of programmatic environmental assessments, which allow for strategic planning and NEPA on the front end of the planning process, looking at the whole unit, rather than one-offs that need to be done at the time a permit is requested or activity is being considered. This will allow land managers to plan economic growth for the entire landscape, with more agility to support specific projects and programs under a tighter timeframe and with less red-tape.
- Utilize 21st century technology on public lands to more accurately collect fees (and donations for projects), disperse visitors and highlight closures or areas that are overcrowded and ensure younger visitors can stay connected at campgrounds or in local gateway communities.
- Work with local stakeholders to identify shovel-ready projects on our public lands that have local buy in and resources and would improve recreation access or infrastructure. County commissioners and State Outdoor Recreation Directors stand ready to improve the value of their recreation assets through updated or improved infrastructure.
- Address wildfire funding/borrowing so that in years of severe wildfire important maintenance projects that have often already been contracted and started, don't get delayed (adding to backlog and cost) or halted altogether because funding has been diverted to fight longer, hotter and more destructive wildfires.
- Fully fund the Land and Water Conservation Fund (LWCF). Conservation investments, through LWCF, play an essential role in securing America's vital outdoor recreation infrastructure. Maintenance spending and LWCF projects represent two sides of the infrastructure coin — just as crucial expenditures on existing public lands maintain and enhance their utility for public use, LWCF is needed to provide recreation access to those already-public lands, including many popular national park, forest, and other federal areas where access currently is restricted or unavailable. Moreover, conservation of adjacent properties and inholdings is central to protecting the existing investment in our public lands, where consolidating public ownership and preventing incompatible development are often vital to the visitor experience.

While there are countless examples of our members engaging in public private partnerships with the federal government or a friends group to provide much-needed maintenance work on our shared public lands, this approach needs to be in addition to federal appropriations, as much of this support is garnered from matching government funding. These are America's public lands and heritage and they should be budgeted for accordingly. In fact, every \$1 invested in our National Parks brings \$10 of revenue into local communities and we need to evaluate our domestic infrastructure spending in a way that Americans are benefiting from every dollar invested, as they do from thoughtful investments on our national public lands.

Please consider OIA, our member companies across the country, and the 142 million Americans who recreate outside each year, partners who are ready and willing to work with you and the committee on innovative infrastructure ideas that will contribute to the growth and success of American jobs and the outdoor recreation economy. Thank you for your time and attention to this important issue and we look forward to our work together.



Sincerely,

[Handwritten signature]

Jessica Wahl
Government Affairs Manager
Outdoor Industry Association



March 21, 2017

Hon. Lisa Murkowski, Chairman
United States Senate
Committee on Energy & Natural Resources
304 Dirksen Senate Office Building
Washington, DC 20510

Hon. Maria Cantwell, Ranking Member
United States Senate
Committee on Energy & Natural Resources
304 Dirksen Senate Office Building
Washington, DC 20510

Re: Hearing on Opportunities to Improve and Expand Infrastructure
Important to Federal Lands, Recreation, Water and Resources

Dear Chairman Murkowski and Senator Cantwell:

Poseidon Water LLC ("Poseidon") commends the Energy & Natural Resources Committee ("Committee") for conducting today's timely hearing on how to facilitate further development of infrastructure related to resources under the Committee's jurisdiction. We respectfully request that this letter be entered into the hearing record, and would be pleased to respond to any questions or requests for further information the Committee may have.

Overview of Poseidon

Poseidon is one of the nation's leading private developers of water infrastructure projects. Throughout our company's history dating to 1995, we have focused primarily on water supply and wastewater treatment projects. These include the nation's very first P3 water project, a wastewater treatment modernization project undertaken for the city of Cranston, Rhode Island in 1997. Most recently, in 2015 Poseidon successfully completed the largest seawater desalination project in the Americas, the Claude "Bud" Lewis Carlsbad Desalination Plant. This plant now produces 50 million gallons per day of high-quality drinking water, meeting nearly ten percent of the daily urban water needs of San Diego County, California.

Poseidon has been a longtime proponent of the use of public-private partnership (P3) to support the timely and efficient delivery of water projects. We believe there is tremendous, but largely untapped, potential to use the P3 model throughout the US water sector. The time has come for the Congress to enact certain reforms that can enable increased use of this approach to meet the pressing need for the renewal of this critical infrastructure system.

Poseidon Water LLC

75 State Street, Suite 2701A Boston, Massachusetts 02109 Phone: (617) 315-4444 www.poseidonwater.com

Chairman Murkowski and Sen. Cantwell, Senate E&NR Committee
March 21, 2017

The Nation's Water Infrastructure Challenge

After decades of underinvestment, America's aging water infrastructure has reached an advanced stage of deterioration. The American Society of Civil Engineers (ASCE), in its recently-released 2017 Infrastructure Report Card, issued grades of "D" to the nation's drinking water sector and "D+" to its wastewater treatment sector. Experts agree that further deterioration of these systems poses a serious threat to the nation's public health and environmental quality. The renewal of these systems also presents a major opportunity for economic renewal and the generation of thousands of high-quality jobs. Within the coming decade, investment needs in the water sector are widely estimated to be in the range of several hundred billion dollars.

The primary barrier to renewal of this critical infrastructure is the shortage of public sector capital. In today's political and fiscal climate, all levels of government face severe constraints that are unlikely to abate in the foreseeable future. At the same time, there is strong public opposition to the privatization of critical public water assets. Opponents of privatization fear that the outright divestment of these assets could lead to the loss of accountability for, and control over, functions that are deeply imbued with a public interest.

The Public-Private Partnership or P3 Model

Given the convergence of these three factors – the urgent need for water infrastructure renewal, the reluctance to commit large sums from public funding sources, and the reluctance to permit the outright privatization of water assets – it is imperative that our nation find new ways to meet these needs. The P3 model offers a proven approach. Well-structured P3s enable access to abundant capital sources seeking stable, long-term returns. They can thereby preserve the public sector's limited financial capacity, enabling government to address other pressing needs while avoiding added tax and debt burdens. At the same time, they preserve public oversight, participation and accountability for critical public functions.

A well-designed P3 typically entails assembly of a broad expert team. Such teams comprise one or more public sector entities alongside debt and equity financing sources, as well as partners skilled in diverse disciplines including: overall project development; siting and permitting; engineering; design; construction; operations & maintenance; and finance. While no one entity can possess all of these capacities, in the aggregate these teams can combine the skills and resources to plan, execute and operate highly complex projects. Very early in the project development process, participants engage in a detailed and explicit contracting process. All known and anticipated project risks are identified, evaluated and assigned to the project partner best able to manage them. This rigorous, transparent process results in a well-documented and analyzed investment opportunity that supports the use of non-recourse project finance. Overall, this approach leads to increased certainty around project timelines, improved performance and competitive overall cost.

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Chairman Murkowski and Sen. Cantwell, Senate E&NR Committee
March 21, 2017

The P3 approach is not universally applicable. It requires the creation of some form of revenue stream to compensate for the costs and risks involved. This revenue stream may be tied to the construction of a new asset, or the increased productivity, capacity or efficiency of an existing one. It is typically secured through a long-term lease or franchise agreement. At the end of the term of this agreement, ownership and control of the new asset may pass to the public sector entity, at zero or nominal cost. Thus, a P3 is clearly distinguishable from a privatization, and should be viewed instead as an alternative model of project delivery.

Barriers and Disincentives to the Use of P3s

There is ample precedent for the use of P3s to meet America's water infrastructure needs. Already, P3s are being used with increased frequency to finance U.S. roadways and airports. Outside the US, P3s have been used to address water supply and wastewater treatment needs. At the state level within the US, P3s have been used successfully, as witnessed by Poseidon's own experience in California, Rhode Island and elsewhere.

To date, though, P3s have yet to be used to construct federal water infrastructure projects. The failure to use this model more broadly is not due to a lack of interest, but instead results from a variety of barriers and disincentives encoded in federal law and policy. These include, for example, the following:

- Annual federal budgeting process. Under federal law including the Anti-Deficiency Act, federal agencies may not make multi-year, forward commitments to provide for repayment over time of investments in infrastructure projects. As a result, infrastructure investments are limited to those that can be funded from a single annual appropriation. To address this barrier, budgetary rules should be reexamined. Congress should consider new rules and/or interpretations to allow the contemplation of future-year payment streams. For example, agencies might be expressly permitted to make commitments that, in calculating future-year budget requests to Congress, they will include repayment streams associated with their P3 contract obligations.
- Differential access to tax-exempt financing. Public authorities and private entities typically have differential costs of capital, owing to the fact that public bodies have access to tax-exempt financing whereas private lending is typically taxable. Infrastructure projects often qualify for private activity bonds (PABs), tax-exempt bonds issued by or on behalf of local or state governments for the purpose of providing special financing benefits for qualified projects. However, the quantity of PABs available in the financing marketplace is subject to caps on a state-by-state basis. To stimulate lending for the infrastructure sector, Congress should consider raising the caps that limit availability of these PABs.

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March 21, 2017

- Legacy attitudes. In large part, the reticence to use private capital sources to meet the pressing need for water infrastructure renewal arises from an enduring presumption that these needs must be funded with public dollars, simply because provision of water supply and treatment services is a matter of public interest. This presumption has long since been overcome in any number of other capital-intensive infrastructure sectors. Private developers of America's energy, railway, airport and, increasingly, highway infrastructure routinely attract tens of billions of dollars in private capital annually to meet evolving needs.

Conclusion

As a leading developer of major water projects for more than twenty years, Poseidon Water is experienced in encountering and addressing a variety of issues associated with the use of P3s. Given the urgent needs in our nation's water sector, we believe it that this model of project delivery offers an alternative that is both highly promising and very timely. Across the aisle in Congress, and across the broad geography of the United States, there is now strong recognition of the need for a vigorous program of infrastructure renewal to address water and other needs. We encourage the Committee to take a serious look at barriers in law and policy to the wider use of the P3 approach.

Please let me know if you have any questions regarding this letter. Thank you for your leadership on the important issue of infrastructure renewal, and for your consideration of these comments.

Sincerely,



Carlos A. Riva
President & CEO
Poseidon Water LLC

Poseidon Water LLC

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Statement of Jeremiah L. Rieman,
 Director of Economic Diversification Strategy and Initiatives
 Office of Governor Matthew H. Mead
 Regarding Federal Land Infrastructure Challenges
 U.S. Senate Committee on Energy and Natural Resources
 Tuesday, March 21, 2017

Chairman Murkowski and Ranking Member Cantwell, thank you for holding today's hearing to examine opportunities to improve and expand infrastructure important to federal lands, recreation, water and resources. I appreciate the opportunity to submit testimony on carbon capture and carbon dioxide pipeline infrastructure for enhanced oil recovery (CO₂-EOR) on behalf of Wyoming and the State CO₂-EOR Deployment Work Group.

The State CO₂-EOR Deployment Work Group brings together officials from 14 oil and gas-producing states with industry and other experts to make federal and state policy recommendation and support the deployment of carbon capture and EOR. Governor Mead is the co-chair of the initiative with Governor Steve Bullock of Montana.

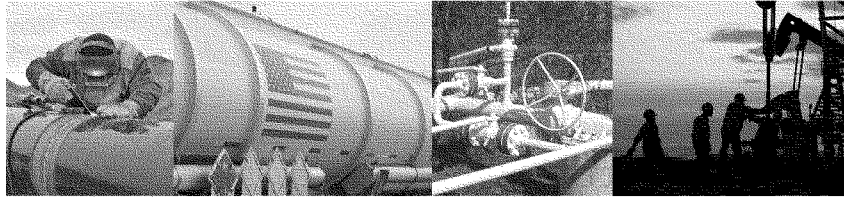
Together with the National Enhanced Oil Recovery Initiative (NEORI) of industry, labor and environmental interests, states in the Work Group have called for federal legislation to provide financial incentives for carbon capture projects, not just for the energy sector of our economy, but for industrial facilities as well. I would like to thank Senator Barrasso for his leadership on this issue and acknowledge the support of other committee members as well, including Chairman Murkowski, Senator Portman, Senator Duckworth, and Senator Franken, all of whom were cosponsors of legislation in the last Congress and hopefully will be working with us again this year to shepherd a bill through as part of comprehensive tax reform.

In addition to its recommendations for federal carbon capture incentives legislation, the Work Group released a white paper last month encouraging the federal government to take a strong leadership role in supporting the development of CO₂ pipeline infrastructure. In particular, the Work Group recommends supplementing private capital with federal financing for priority trunk pipelines to transport CO₂ from industrial facilities and power plants to oilfields for enhanced oil recovery with safe and permanent geologic storage.

Both Governors Mead and Bullock have been monitoring the discussions on infrastructure thus far this year. There has not been any mention of the need for CO₂ pipelines. I ask members of this Committee to review the recommendations of the Work Group and consider another hearing on infrastructure to look more broadly at the need for expanding CO₂ pipelines and opportunities for a federal role to foster that deployment. ^[BC1]

The development of regional and national CO₂ pipeline networks, together with proposed tax credits and other financial incentives for industrial and power plant carbon capture, can support long-term production and use of America's abundant and affordable coal, oil and natural gas resources, put our nation further down the path of replacing imported oil, and create high-paying jobs in energy-producing and industrial states and regions of the country, all while significantly reducing net carbon emissions.

The Work Group's white paper is included for the Committee's review and for inclusion in the hearing record. Thank you for your interest in this important issue. I stand ready to respond to any questions you might have about the Work Group's recommendations and to provide additional information regarding the need for CO₂ pipeline infrastructure. I look forward to working with you on a comprehensive national infrastructure agenda this year.



**21st Century Energy Infrastructure:
Policy Recommendations for Development
of American CO₂ Pipeline Networks**

White paper prepared by the
State CO₂-EOR Deployment Work Group

February 2017

Acknowledgements

While the final recommendations of this white paper represent the joint conclusions of state officials in the State CO₂-EOR Deployment Work Group, participating state officials want to recognize the contributions of leading private sector stakeholders and CO₂-enhanced oil recovery experts who lent their expertise and guidance to the effort. The state representatives extend their thanks to all who contributed to this white paper, and to the Hewlett Foundation for the funding that made this work possible.

State CO₂-EOR Deployment Work Group Participant List

Representatives of Co-convening Governors

- Matthew Fry, Policy Advisor, Office of Wyoming Governor Matt Mead
- Dan Lloyd, Business Development Specialist, Office of Montana Governor Steve Bullock

Participating State Officials

- Stuart Ellsworth, Engineering Manager, Colorado Oil & Gas Conservation Commission
- Michael Kennedy, Assistant Director, Kentucky Energy & Environment Cabinet
- Shawn Shurden, Commission Counsel, Mississippi Public Service Commission
- Patrick McDonnell, Secretary, Pennsylvania Department of Environmental Protection
- Leslie Savage, Chief Geologist, Railroad Commission of Texas
- Rob Simmons, Energy Policy & Law Manager, Utah Governor's Office of Energy Development
- Michael Teague, Oklahoma Secretary of Energy & Environment
- Ted Thomas, Chairman, Arkansas Public Service Commission
- Robert Worstall, Deputy Chief, Division of Oil & Gas Resources, Ohio Department of Natural Resources
- Tristan Vance, Director, Indiana Office of Energy Development

Participating Stakeholders & Experts

- Fatima Ahmad, Solutions Fellow, Center for Climate & Energy Solutions
- Shannon Angielski, Executive Director, Carbon Utilization Research Council
- Jeff Brown, Lecturer in Management, Stanford University Graduate School of Business
- Steven Carpenter, Director, Enhanced Oil Recovery Institute, University of Wyoming
- Al Collins, Senior Director for Regulatory Affairs, Occidental Petroleum Corporation
- Ben Cook, Assistant Professor, Enhanced Oil Recovery Institute, University of Wyoming
- Phil DiPietro, Technology Manager, GE Oil & Gas Technology Center
- Sarah Forbes, Scientist, Office of Fossil Energy, U.S. Department of Energy
- Julio Friedmann, Senior Adviser for Energy Innovation, Lawrence Livermore National Laboratory
- Judith Greenwald, Principal, Greenwald Consulting
- Scott Hornafius, President, Elk Petroleum
- Rob Hurlless, Deputy Director, Enhanced Oil Recovery Institute, University of Wyoming

- Dina Kruger, Principal, Kruger Environmental Strategies
- Sasha Mackler, former Vice President, Summit Power Group (now at Enviva LP)
- Steve Melzer, Geological Engineer and Principal, Melzer Consulting
- Julie Moore, Senior Director, State Government Affairs, Occidental Petroleum Corporation
- Deepika Nagabhushan, Policy Associate, Clean Air Task Force
- John Thompson, Director, Fossil Transition Project, Clean Air Task Force
- Keith Tracy, former Director of CO₂ Midstream Operations, Chaparral Energy

Great Plains Institute Staff

- Brad Crabtree, Vice President for Fossil Energy
- Dane McFarlane, Senior Research Analyst
- Brendan Jordan, Vice President
- Doug Scott, Vice President for Strategic Initiatives
- Patrice Lahlum, Program Consultant

About the State CO₂-EOR Deployment Work Group

Wyoming Governor Matt Mead (R) and Montana Governor Steve Bullock (D) jointly convened the State CO₂-EOR Deployment Work Group in September 2015 as a key follow-on to the Western Governors Association resolution calling for federal incentives to accelerate the deployment of carbon capture from power plants and industrial facilities and increase the use of CO₂ in enhanced oil recovery, while safely and permanently storing the CO₂ underground in the process.

Twelve states currently participate in the Work Group: Arkansas, Colorado, Indiana, Kentucky, Mississippi, Montana, Pennsylvania, Ohio, Oklahoma, Texas, Utah and Wyoming. State participation varies by state and includes governors' staff, cabinet secretaries, utility commissioners, and agency and commission staff. Some state representatives participate at the direction of the governor; others do not. State representatives were joined by leading enhanced oil recovery, electric power, coal industry, regulatory and NGO experts.

The Work Group identified three principal roles for its work, including modeling analysis and policy identification, developing recommendations for state and federal policy makers, and supporting the implementation of those policy recommendations. The Work Group aims to foster:

- Expansion of CO₂ capture from power plants and industrial facilities;
- Buildout of pipeline infrastructure to transport that CO₂; and
- Use of CO₂ in oil production, along with its safe and permanent storage.

The Work Group released a comprehensive set of federal and state policy recommendations in December 2016 – [Putting the Puzzle Together: State & Federal Policy Drivers for Growing America's Carbon Capture & CO₂-EOR Industry](#).

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Introduction

Development of regional and national carbon dioxide (CO₂) pipeline networks, together with proposed tax credits and other financial incentives for industrial and power plant carbon capture, can support long-term production and use of America's abundant and affordable coal, oil and natural gas resources, put our nation further down the path of replacing imported oil and create high-paying jobs in energy-producing and industrial states and regions of the country, all while significantly reducing net carbon emissions.

American oil fields are poised to rapidly expand production through utilization of man-made CO₂ for enhanced oil recovery (EOR). This promise can be realized, if the oil industry can gain access to large, secure volumes of CO₂, transported via pipeline networks and purchased from industrial facilities and power plants where that CO₂ would otherwise be emitted to the atmosphere and wasted.

Nearly a half-century ago, the EOR industry got its start by capturing CO₂ at commercial scale from man-made sources, and it later began drilling for and utilizing naturally occurring geologic CO₂. The oil industry first purchased CO₂ captured through natural gas processing, then expanded to fertilizer production, coal gasification, chemical and ethanol production and, most recently, added refinery hydrogen production, coal-fired electric power generation and steel manufacturing (see Figure 1 on the next page).

However, in most cases, the costs of CO₂ capture, compression and pipeline transport remain higher than revenue received from sales of the CO₂ to the oil industry. Expanding carbon capture at industrial and power generation facilities would transform CO₂ from a liability into a resource, by driving an increase in American oil production and by storing that CO₂ safely and permanently underground in the process. In addition to federal incentives needed to deploy carbon capture equipment across industries, **a primary obstacle to scaling up this national opportunity is the lack of infrastructure: trunk pipelines are needed to link industrial and power plant CO₂ sources to oilfield customers, and they must be built at very large scale across regions to make economic sense.**

Report Outlines Federal Financial Incentives for CO₂-EOR

Putting the Puzzle Together: State & Federal Policy Drivers for Growing America's Carbon Capture & CO₂-EOR Industry, a report released by the State CO₂-EOR Deployment Work Group in December 2016, provides analyses and federal and state incentive recommendations, including:

- Improving and expanding the existing section 45Q tax credit for storage of captured CO₂;
- Deploying a revenue neutral mechanism to stabilize the price paid for CO₂—and carbon capture project revenue—by removing volatility and investment risk associated with CO₂ prices linked to oil prices; and
- Offering tax-exempt private activity bonds and master limited partnership tax status to provide project financing on better terms.

Today's lack of necessary long-distance, large-volume CO₂ pipelines creates a serious transport problem for potential CO₂ suppliers and customers that stifles both energy and industrial development. This dilemma is not unlike the situation for Midwestern farmers and Western ranchers prior to the coming of the railroads, Texas natural gas producers before the development of long-distance interstate gas pipelines, the unrealized hydropower potential in the Northwest before construction of huge electric transmission lines, or the slow crawl of truck traffic before President Eisenhower spurred the buildout of an efficient interstate highway system. The federal government initially had a hand in fixing all four of these national infrastructure problems before ultimately passing the torch to industry and the states.

Importantly, no safety or technical barriers exist to large-scale CO₂ pipeline deployment. CO₂ pipelines have an excellent safety record of over 40 years of operation with no serious injuries or fatalities ever reported. Today, over 4,500 miles of pipeline transport CO₂ for EOR at wells producing 400,000 barrels of oil per day. These pipelines have operated for decades under existing policy and regulatory oversight at the local, state and federal level.

Figure 1: Past Commercial Carbon Capture Deployment Milestones

Successful commercial-scale carbon capture deployment has a long history through the capture, compression and pipeline transport of CO₂ for EOR with geologic storage, especially in the U.S. Industrial processes where large-scale carbon capture is demonstrated and in commercial operation include natural gas processing, fertilizer production, coal gasification, ethanol production, refinery hydrogen production and, most recently, coal-fired electric power generation and steel production.

1972: Val Verde gas processing plants in Texas. Several natural gas processing facilities began supplying CO₂ in West Texas through the first large-scale, long-distance CO₂ pipeline to an oilfield.

1982: Koch Nitrogen Company Enid Fertilizer plant in Oklahoma. This fertilizer production plant supplies CO₂ to oil fields in southern Oklahoma.

1986: Exxon Shute Creek Gas Processing Facility in Wyoming. This natural gas processing plant serves ExxonMobil, Chevron and Anadarko Petroleum CO₂ pipeline systems to oil fields in Wyoming and Colorado and is the largest commercial carbon capture facility in the world at 7 million MT of capacity annually.

2000: Dakota Gasification's Great Plains Synfuels Plant in North Dakota. This coal gasification plant produces synthetic natural gas, fertilizer and other byproducts and has supplied over 30 million MT of CO₂ to Cenovus and Apache-operated EOR fields in southern Saskatchewan as of 2015.

2003: Core Energy/South Chester Gas Processing Plant in Michigan. CO₂ is captured by Core Energy from natural gas processing for EOR in northern Michigan, with over 2 million MT captured to date.

2009: Chaparral/Conestoga Energy Partners' Arkalon Bioethanol plant in Kansas. The first ethanol plant to deploy carbon capture, it supplies 170,000 MT of CO₂ per year to Chaparral Energy, which uses it for EOR in Texas oil fields.

2010: Occidental Petroleum's Century Plant in Texas. The CO₂ stream from this natural gas processing facility is compressed and transported for use in the Permian Basin.

2012: Air Products Port Arthur Steam Methane Reformer Project in Texas. Two hydrogen production units at this refinery produce a million tons of CO₂ annually for use in Texas oilfields.

2012: Conestoga Energy Partners/PetroSantander Bonanza Bioethanol plant in Kansas. This ethanol plant captures and supplies approximately 100,000 MT per year of CO₂ to an EOR field in Kansas.

2013: ConocoPhillips Lost Cabin plant in Wyoming. The CO₂ stream from this natural gas processing facility is compressed and transported to the Bell Creek oil field in Montana via Denbury Resources' Greencore pipeline.

2013: Chaparral/CVR Energy Coffeyville Gasification Plant in Kansas. The CO₂ stream (approximately 850,000 MT per year) from a nitrogen fertilizer production process based on gasification of petroleum coke is captured, compressed and transported to a Chaparral-operated oil field in northeastern Oklahoma.

2014: SaskPower Boundary Dam project in Saskatchewan, Canada. SaskPower commenced operation of the first commercial-scale retrofit of an existing coal-fired power plant with carbon capture technology, selling CO₂ locally for EOR in Saskatchewan.

2016: Abu Dhabi Carbon Capture Project, United Arab Emirates. This project involves the capture of CO₂ from the Emirates Steel Factory in Abu Dhabi and its transportation to the Abu Dhabi National Oil Company (ADNOC) reservoirs for EOR.

2017: Petra Nova in Texas. Commencing commercial operation in January 2017, this project is designed to capture 1.6 million tons of CO₂ per year from an existing coal-fired power plant. At 240 MW, Petra Nova is the world's largest post-combustion carbon capture facility installed on an existing coal-fueled power plant.

Key Recommendations and Benefits

The State CO₂-EOR Deployment Work Group recommends that President Trump and Congress incorporate the development of long-distance, large-volume CO₂ pipelines as a priority component of a broader national infrastructure agenda.

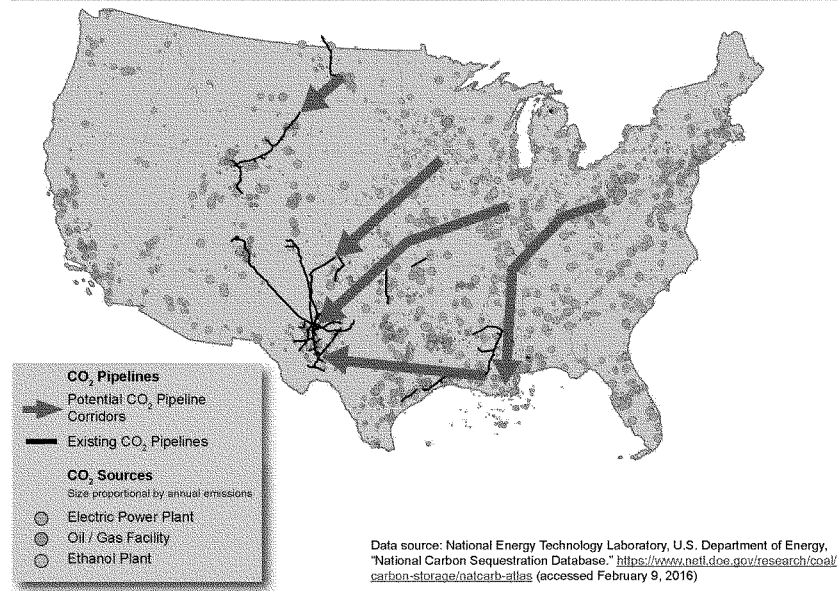
The state officials, industry leaders and other experts in the Work Group launched their work in 2015 with the development and deployment of carbon capture and CO₂ pipeline infrastructure as a top priority. Thus, Work Group members and participating states support the Administration and Congress' new focus on our nation's infrastructure, and they would welcome the opportunity to be partners in this effort.

Work Group participants also urge implementation of policies that direct the federal government to play a targeted role, supplementing private capital, in financing increased capacity for priority trunk pipelines to transport CO₂ from industrial facilities and power plants not currently served by pipeline infrastructure to oilfields for EOR.

Finally, Congress and the President should, in consultation with states, tribal governments and key stakeholders, identify and foster the development of five such priority CO₂ trunk pipelines, including support for planning, streamlined permitting, and financing. These trunk pipelines should link key industrial, fossil power-generating, and agricultural regions of the country with the potential to supply significant CO₂ to major hubs of domestic oil and gas production. A vital element in the design of the larger pipeline network is the enormous potential of the Permian Basin region and its proven CO₂ potential and vast resources of residual oil zones.¹ Each trunk pipeline for man-made CO₂ would be comparable in scale and volume to the 30-inch diameter Cortez pipeline, the world's largest CO₂ pipeline. Cortez can transport approximately 30 million tons of CO₂ annually along a 500-mile route from southern Colorado and through New Mexico to the Permian Basin of Texas.

The map below (see Figure 2) does not reflect any decisions to site, permit or build particular CO₂ pipelines by states and stakeholders participating in the Work Group, nor the federal government. Instead, **this map was prepared by the Work Group for illustrative purposes to show how just five pipeline corridors, strategically placed, could expand on existing commercial CO₂ pipeline networks to build out a national system of infrastructure with the capacity to help scale up American oil production and geologic storage of power plant and industrial carbon emissions.** With the addition over time of several connecting pipelines of modest length, this roughly horseshoe-shaped system would link the Upper and Lower Midwest in the east to the Gulf Coast and the Permian Basin of Texas and New Mexico in the south to the Rockies and Northern Plains of the U.S. and Canada in the west.

Figure 2: Potential Regional CO₂ Pipeline Corridors (Illustrative Purposes Only)



The five potential priority CO₂ trunk pipeline corridors suggested by this map are:

- **North Dakota to Montana, Wyoming and Colorado.** Moving CO₂ from coal gasification, coal and natural gas-fired power generation and ethanol production southwest into southeastern Montana, connecting the existing North Dakota-Saskatchewan and Wyoming-Colorado-Montana pipeline systems;
- **Upper Midwest to the Permian Basin.** Moving CO₂ from ethanol, fossil power generation, fertilizer production and other industries in the corn-producing heartland of the Upper Midwest into the vast potential and proven reservoirs of the Permian Basin of Texas and New Mexico;
- **Illinois Basin-Midwest to the Permian Basin.** Moving CO₂ from Midwestern ethanol production, fossil power plants and other industries to midcontinent oilfields in Oklahoma, Kansas and Arkansas and the Permian Basin;
- **Louisiana Gulf Coast to the Permian Basin.** Moving CO₂ from the cluster of refining, petrochemical and other industrial facilities in Louisiana to oilfields along the Louisiana and Texas Gulf Coast and on into the Permian Basin; and
- **Ohio River Valley-Lower Midwest to Gulf Coast.** Moving CO₂ from fossil power generation, steel production, and other industries in the industrial and manufacturing heartland of the Lower Midwest to Midwestern oilfields and down to onshore and offshore fields of the Gulf Coast of Alabama, Mississippi and Louisiana.

Benefits of Building Out a National CO₂ Pipeline Infrastructure Network

Establishing a CO₂ pipeline infrastructure of this magnitude, in conjunction with targeted federal incentives for deployment of carbon capture technology, could expand the annual supply of man-made (anthropogenic) CO₂ available for EOR by 150 million tons by 2030, resulting in:

- A tripling of the U.S. EOR industry, with new domestic oil production of approximately 375 million barrels per year;
- An estimated reduction of 22 percent in current U.S. oil imports or \$30 billion in reduced annual expenditures on foreign oil; and
- A reduction of roughly four percent in U.S. stationary source CO₂ emissions from current levels.

This level of CO₂ pipeline infrastructure development has the potential to:

- Drive an estimated \$75 billion of capital investment;
- Stimulate more than \$30 billion per year in economic activity;
- Support thousands of high-paying construction, energy, mining, manufacturing, engineering and technically-skilled operations and services jobs;
- Generate additional state and federal revenues through new energy production and other economic activity; and
- Secure and expand a major competitive advantage the U.S. oil and gas industry holds in utilizing CO₂ for hydrocarbon recovery with safe and permanent geologic storage.

By providing needed common infrastructure, new CO₂ pipelines will improve the competitiveness of existing domestic manufacturing, attract new manufacturing, and help onshore and return industrial production of petrochemicals, cement, steel, and other heavy industries.

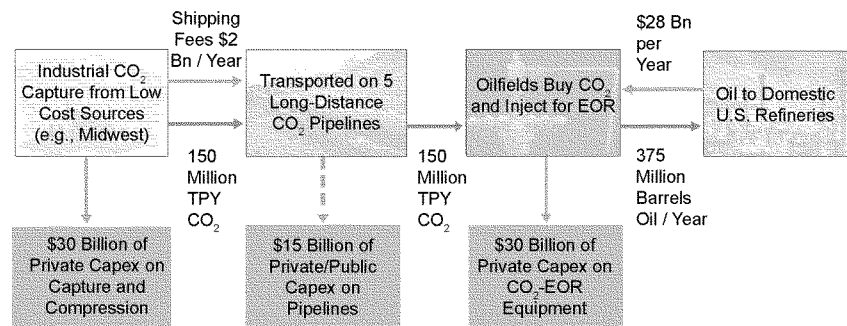
There are a number of ways the federal government could provide assistance, including:

1. Federal financial support could leverage substantially greater pipeline infrastructure capacity at a small proportion of total pipeline cost by financing the modest incremental expense of constructing increased capacity up front through, for example, the U.S. Department of Energy's (DOE) Loan Programs Office;²
2. DOE Office of Fossil Energy's Regional Industrial Carbon Capture Initiative could work with states and private sector partners to identify corridors for these pipelines that would connect industrial CO₂ sources with EOR opportunities, provide technical and financial analyses to support early private investment and commercial deployment and help address financial and other barriers to investment and deployment;

3. Governors or federal agencies could nominate these pipelines as high priority infrastructure projects for streamlined environmental review and approval, and these pipelines can use American-made equipment and materials, in accordance with President Trump's January 24th executive orders;^{3,4}
4. These projects could be included as high priority projects in federal infrastructure legislation being developed by Congress, for example by expanding the scope of the Transportation Infrastructure Finance and Innovation Act (TIFIA) to include pipelines; and
5. Congress could enact tax incentives for carbon capture, pipeline transport and storage, such as extension and reform of the Section 45Q Tax Credit for Carbon Dioxide Sequestration and eligibility of carbon capture projects for tax-exempt Private Activity Bonds, both of which enjoy broad bipartisan support.

While the total pipeline investment for five such large projects would be approximately \$15 billion, the amount of federal support needed would be considerably smaller. The federal investment might be only the debt, or a portion of the debt. For instance, if the federal government made all the loans, and loans were 50 percent of total pipeline financing, the federal share would be \$7.5 billion. If, as described later in this document, the federal government acted as a short-term "bridge lender" to support super-sized, scale-efficient pipelines, the federal share would likely be on the order of only \$2-4 billion.

Figure 3: Economic Power of Proposed CO₂ Pipeline Investment:
\$75 Billion of Investment & \$30+ Billion/Year Activity



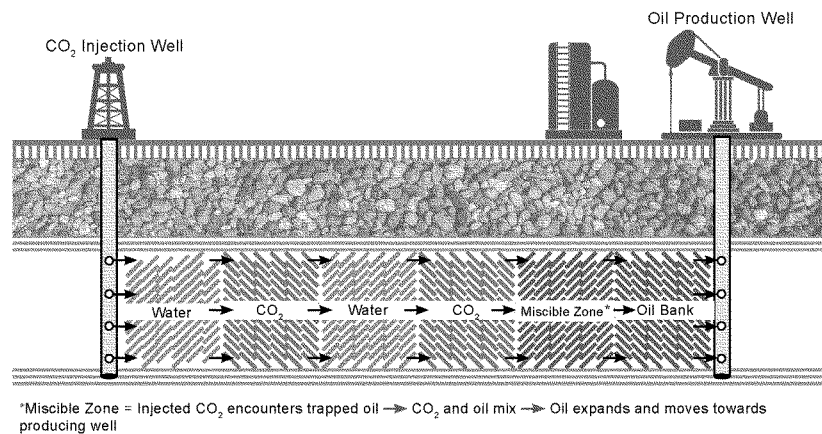
Today's CO₂ Industry – Opportunities for the Future

CO₂-EOR represents a well-understood and commercially successful technique for oil production that enables cost-effective recovery of remaining crude from mature oil fields. In the early or primary phase of traditional oil production, the extraction of oil and gas decreases the fluid pressures in a reservoir. Often, a secondary phase involving injection of water to restore reservoir pressure has followed the primary phase, enabling production of still more of the original oil in place. Eventually, waterflooding reaches a point of diminishing economic returns.⁵ Then, most of those fields are suitable for a tertiary phase of production that commonly involves CO₂ injection—referred to as “CO₂ floods”—to recover still more of the remaining oil. Suitable fields tend to be deep and at high pressures, causing CO₂ to function like a liquid that readily dissolves in the oil. Such fields also have a high degree of structural integrity, so that CO₂ floods move in a controlled, predictable fashion.

Commercial CO₂-EOR was pioneered in West Texas in 1972. In the ensuing 45 years, the U.S. independent oil and gas industry turned the practice into a robust and growing industry that accounted for approximately 4 percent of domestic oil production in 2014. The first two large-scale CO₂-EOR projects in the United States (SACROC and Crossett in West Texas) remain in operation today.

Capturing, compressing and transporting CO₂ via pipeline to an oilfield transforms CO₂ from a liability into a valuable commodity with remarkable properties and potential for enhancing oil production. When injected into an existing oilfield, CO₂ lowers the viscosity of the remaining oil, reduces interfacial tension, and swells the oil, thereby allowing oil affixed to the rock and trapped in pore spaces to flow more freely and be produced through traditional means.

Figure 4: How Carbon Dioxide and Water Can Be Used to Produce Residual Oil



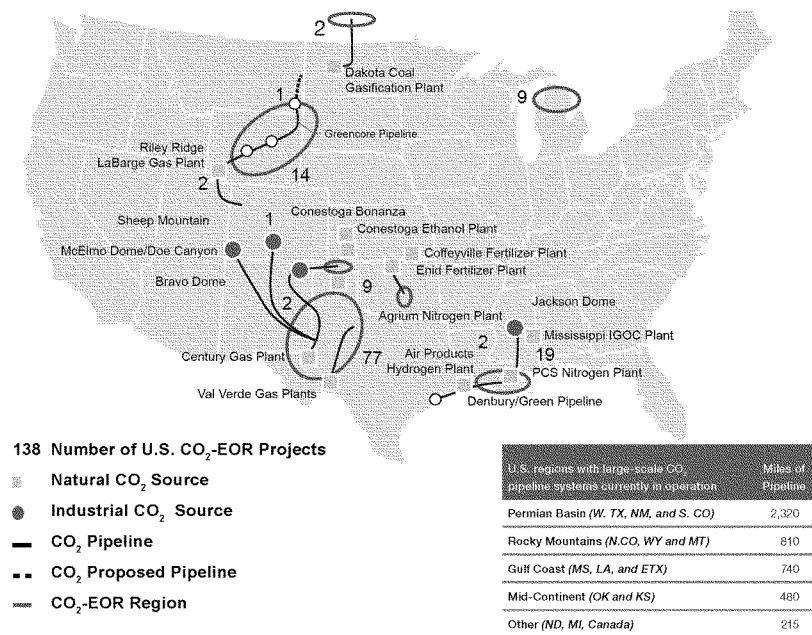
Source: Carbon Dioxide Enhanced Oil Recovery: Untapped Domestic Energy Supply and Long Term Carbon Storage Solution, National Energy Technology Laboratory, U.S. Department of Energy.

A majority of injected CO₂ remains in the reservoir in the first pass; that CO₂ which does return to the surface with the produced oil is then separated, compressed, and re-injected. With standard operating procedures, this process results in only *de minimis* emissions (less than two percent) from what constitutes a closed-loop system from CO₂ source to oilfield sink.

Traditional production techniques yield one-third to one-half of the original oil in place. If oil companies could readily source ample CO₂ from pipeline networks to existing oilfields, operators would have the potential to extract a further 10-20 percent of the original oil resource. With access to CO₂, the same oilfield, with the same leases, drilling pads, extraction wells, and oil pipelines, would yield significantly more production.

However, insufficient access to CO₂ constrains long-term growth of EOR production. Two types of CO₂ supply the EOR industry, naturally occurring from geologic domes and man-made from industrial and power plant sources. The latter provides roughly one-fourth of the total volume of CO₂ purchased and injected by oilfield operators.

Figure 5: Current CO₂-EOR Operations & Infrastructure



Source: Quadrennial Energy Review: Energy Transmission, Storage, and Distribution Infrastructure, April 2015.

The CO₂ first used in EOR was man-made and stripped from natural gas produced from fields in Texas and later in Wyoming. Today, Exxon's Shute Creek gas processing plant at the LaBarge gas field in Wyoming is the largest operating carbon capture facility in the world,⁶ capable of separating over seven million tons of CO₂ per year and supplying a pipeline network and EOR fields spanning much of Wyoming and extending into Colorado.

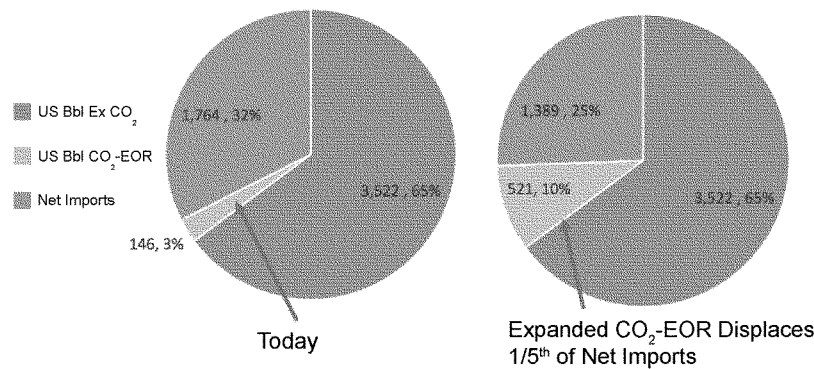
Despite a long history of capturing, compressing and transporting man-made CO₂ for EOR, naturally occurring, but limited geologic CO₂ procured from underground domes now dominates the industry supply. For instance, CO₂ is transported via Kinder Morgan's Cortez pipeline—the world's largest—from McElmo Dome in southern Colorado across all of New Mexico, ultimately reaching the Permian Basin in Texas.

Taken together, natural and man-made CO₂ supplies about 79 million tons a year, supporting U.S. CO₂-EOR oil production of about 146 million barrels a year.

Increasing man-made CO₂ supplies by 150 million tons per year through expanded carbon capture and the buildout of five major pipeline corridors would increase annual U.S. EOR production by approximately 375 million barrels.

Figure 6: New CO₂-EOR Reduces Oil Imports

Annual U.S. oil supply in millions of barrels/yr of crude and petroleum products. Excludes natural gas liquids, ethanol, and biodiesel. Source: U.S. Energy Information Agency 2016 Annual Energy Outlook, Table 11.

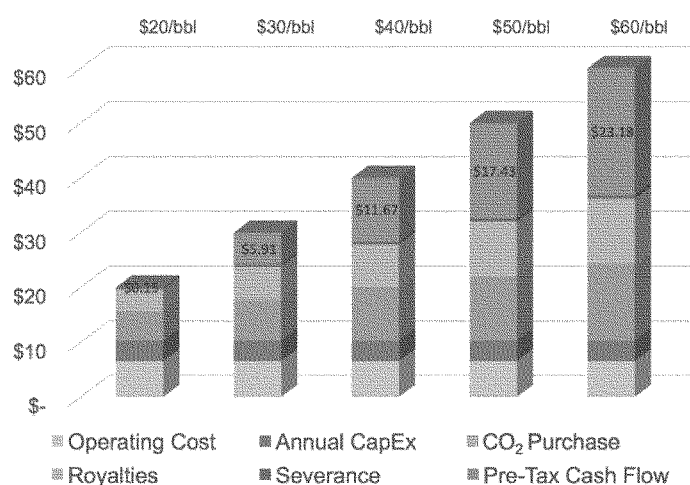


Since our nation still imports a net 1.76 billion barrels per year of foreign oil, a cost-competitive increase in U.S. domestic CO₂-EOR production of this magnitude could reduce our net imports by more than one-fifth.

CO₂-EOR can become a game changer for U.S. domestic energy production. According to 2013 analysis from the U.S. DOE's National Energy Technology Laboratory, the U.S. has the potential to produce an estimated 28 billion barrels of economically recoverable oil from conventional oil fields with today's industry best practices. Next-generation techniques have the potential to yield an estimated 81 billion barrels. For comparison, total U.S. proved reserves of oil stood at just under 40 billion barrels in 2014.

CO₂-EOR enhances our nation's energy and economic security by lessening our dependence on foreign oil, often imported from unstable and hostile areas, and reducing our trade deficit by keeping dollars currently spent on oil imports at work in the U.S. economy. Moreover, EOR operations remain relatively robust in the face of oil price declines triggered by foreign actors such as OPEC. Once the extensive infrastructure of wells, surface processing facilities, and CO₂ pipeline transport has been financed and constructed, an EOR operation is designed to operate and pay off its investors over 20 to 40 years, depending on the size of the field. An EOR operation has large initial investment costs compared to conventional onshore oil production, but very low cash costs of operation—and many of those cash costs, including royalties, severance taxes, and even CO₂ purchase costs, typically decline when oil prices fall. Thus, as shown in the chart below (Figure 7), an established EOR flood that has reached full operational levels may be able to cover day-to-day operating costs at oil prices as low as \$20 per barrel.

Figure 7. Cash Flow at Various Oil Prices for CO₂-EOR Flood



In contrast, some newer technologies such as hydraulic fracturing can be very profitable, but require consistent re-investment in order to maintain oil production volumes. In an environment where oil prices have been driven to very low levels (e.g., because of actions by OPEC or other foreign actors), that reinvestment may not occur, and domestic oil production volumes begin to fall. Even with considerable and ongoing innovation and cost reductions in hydraulic fracturing, experts peg the break-even level for drilling new wells at a considerably higher range of \$35-50 per barrel (depending on the particular site).

CO₂ Pipelines are Key to 21st Century Energy Infrastructure^{7, 8}

CO₂ from many man-made sources, especially from industrial processes with low costs of carbon capture, could readily supply oilfields with the right pipeline infrastructure in place. For example, ethanol and fertilizer plants emit CO₂ to the atmosphere that they would rather sell into a pipeline bound for an American oilfield. Even in the absence of regulatory requirements limiting CO₂ emissions, a number of industrial facilities located within reasonable proximity of oilfields have already been tapped. For example, fertilizer plants at Enid, Oklahoma, and Coffeyville, Kansas, were both close enough to oilfields to make the construction of short (~100 miles), small-diameter (~8 inch) pipelines feasible for CO₂-EOR.

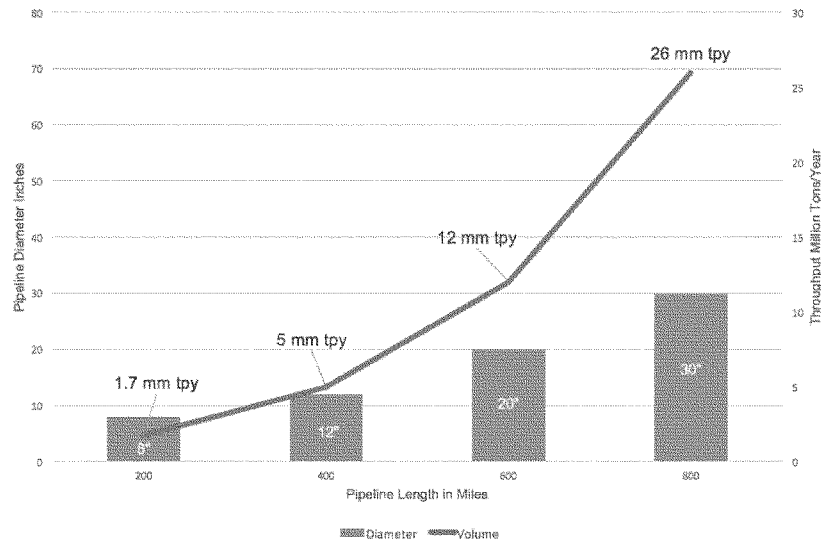
ADM (Archer Daniels Midland) captured 300,000 tons of CO₂ per year at its Decatur, Illinois, ethanol plant, and anticipates increasing capture capacity to 1.1 million tons per year—but that volume alone is not enough to make feasible the construction of a 600+ mile-long pipeline to reach large-scale EOR opportunities.⁹ Thus, the CO₂ is being injected into a saline aquifer 7,000 feet below the plant. If a company like ADM could transport the CO₂, an entirely new revenue stream would emerge—in turn supporting the entire economic value chain of farmers, fertilizer makers, seed providers, and agricultural equipment manufacturers that supply ADM with its corn. Further, the global competitors of our ethanol producers, such as Brazil, currently lack the same extra revenue opportunity.

Like natural gas pipelines, building large, high-capacity CO₂ pipelines creates economies of scale and opportunities to realize major cost savings. The reason is simple. Pipelines are categorized by diameter (typically running as small as 8 inches up to more than 30 inches). The main cost of a pipeline—the tons of steel and miles of welds needed—is based on its *circumference* (i.e. the girth of the belt of steel it takes to go around the pipe as it is formed), which increases in direct proportion to the diameter. However, the capacity of the pipeline or, in this case, the volume of CO₂ it can transport, is based upon its cross-sectional *area*, which increases exponentially with diameter. Thus, doubling the diameter of the pipeline doubles the circumference, but quadruples the cross-sectional area and, therefore, quadruples the throughput capacity of the pipeline.¹⁰

So, by spending twice as much money to build a larger pipeline, an owner can get four times as much throughput capacity. Spending four times the money garners an even greater return—16 times the capacity.¹¹ The scale economies mean that pressurized gas can be moved long distances at reasonable tariffs, but only if pipelines are built at sufficiently large diameter to drive down capital cost per unit of CO₂ throughput capacity.

In simple terms, at today's expected oil prices (using estimates from futures markets or U.S. government forecasts), CO₂ will be worth roughly \$25 per ton delivered to U.S. oilfields a decade from now. To make it worthwhile to capture and compress CO₂ at industrial and power plant sites far from those oil fields, the transport cost needs to be well under \$25. For example, if the CO₂ is worth \$25 at the oilfield, and it costs \$10 to ship, \$15 per ton remains to cover capture and compression costs and profit for an Iowa fertilizer plant or an Illinois ethanol distillery. If it costs \$25 per ton just to move the CO₂, it will not be economical for a plant owner to capture, compress and transport CO₂. Instead, that plant owner will opt to vent the CO₂, no oil company will have an opportunity to buy it, and the potential oil production, job creation and emissions reduction benefits are all lost.

Figure 8. CO₂ Pipeline Diameter and Volume to Keep Transport Tariffs at \$10/ton



The chart above shows the pipeline size needed to drive down transport costs to \$10 per ton—the longer you build the pipe, the larger it must be to make sense economically:

- To go only 200 miles¹² (far left of chart), with a \$10 per ton tariff (transport fee), the pipeline can be eight inches in diameter and only needs to carry 1.7 million tons of CO₂ per year. (The total capital required is \$150 million, or \$750,000 per mile.)
- To go 800 miles (far right of chart), still keeping the tariff at \$10, the pipeline needs to be expanded to 30 inches in diameter, carrying 26 million tons per year. (The total capital required is \$2.4 billion, or \$3 million per mile.)

From the first example to the second example above, the pipeline cost per mile quadruples from \$750,000 per mile to \$3 million per mile, but the capacity increases a staggering 16-fold, from 1.7 million to 26 million tons of CO₂ per year. An extraordinary economy of scale is realized. However, to obtain such savings in the real commercial world, the pipeline business deal becomes very complex. The pipeline developer must assemble a larger number of CO₂ suppliers, a larger number of oilfield customers, and a much greater sum of financing (\$2.4 billion), all at once.

Rationale for Federal Involvement in CO₂ Pipeline Infrastructure Development

The potential for a major buildout of CO₂ pipeline infrastructure, together with the ramping up of industrial and power plant carbon capture, to deliver domestic energy production, jobs and environmental benefits on a truly national scale warrants a role for the federal government in supporting the financing of CO₂ pipeline infrastructure and in providing incentives for commercial carbon capture deployment.

Supersizing the capacity of the first CO₂ trunk pipelines constructed in states and regions not yet presently served by pipeline infrastructure capitalizes on the demonstrable cost-savings from economies of scale. Additionally, it will also de-risk and lower the cost of capital for tens of billions of dollars in private investment needed in carbon capture projects at industrial facilities and power plants, as well as in infrastructure required to prepare an oilfield for CO₂ injection and EOR.

Fortunately, private sector industrial CO₂ suppliers and oil industry customers can carry *most, but not all*, of the cost of a large capacity pipeline for a few years, while the remaining CO₂ suppliers and customers are identified. To illustrate, we use numbers similar to those in the chart in Figure 8:

- A small group of shippers needing to transport CO₂ 800 miles, aggregating to only 12 million tons per year of volume, could make use of a large 30-inch diameter pipeline, instead of the smaller 20-inch line normally utilized for that volume. The 30-inch pipe can function at this smaller volume, even though it can carry much more—26 million tons per year (see the far right of pipeline bar chart above). The flexibility comes from a pipeline operator's ability to vary pressures—lower pressure for lower volumes, higher pressure for higher volumes.
- Until the rest of the suppliers and customers are recruited, the initial shippers, if unaided, would face a relatively high transport charge of \$19 per ton—a level that would normally deter prospective shippers. However, once CO₂ shippers for the full 26 million tons per year have signed on, tariffs can fall to a more commercially attractive \$10 per ton.
- However, accomplishing this favorable outcome for energy independence, jobs and the economy depends on finding an alternative to charging a prohibitive \$19 per ton for the first shippers. To keep the initial shipping fee down to a more feasible \$12 per ton, for instance, approximately \$84 million per year in cash would be required during an assumed five-year period of operation before additional CO₂ suppliers and customers are brought on board (i.e., an expenditure of \$500 million—including interest cost—would economically bridge the gap before the pipeline was filled to capacity).
- Finally, with the full complement of shippers (26 million tons per year) on board, a feasibly small repayment surcharge of \$1.50 per ton would repay that \$500 million bridge financing with interest.¹³

- Ultimately, a pipeline of this size could sell \$650 million of CO₂ per year, driving EOR production of nearly \$5 billion dollars of oil per year. More importantly the critical \$500 million bridging investment created annual savings of \$100 million per year in transportation costs.

The analysis of the Work Group suggests a critical supplementary role to private capital that the federal government is well-positioned to play. **Federal financial support could leverage substantially greater pipeline infrastructure capacity at a small proportion of total pipeline cost by financing the modest incremental expense of constructing increased capacity up front.** Federal taxpayers' infrastructure investment could then be recouped over time through minor tariff increases spread across many additional shippers added to the system as new carbon capture projects and EOR operations deploy and use the pipeline.

Under such an approach, all private sector participants—industry CO₂ suppliers, pipeline owners and EOR operators—come out financially ahead by constructing a higher-capacity pipeline with a modest federal financing component and adding shippers over time. By contrast, acting alone and building a smaller, optimized pipeline upfront would require permanently higher tariffs over the life of the project.

For its part, the federal government's incremental financing role for this CO₂ pipeline infrastructure would yield the extraordinary energy security, jobs, economic, fiscal and environmental benefits for our nation outlined at the beginning of this paper.

Additional Federal Recommendations

The State CO₂-EOR Deployment Work Group offers the following recommendations for a federal financing, siting and permitting role in CO₂ pipeline corridor development that enables construction of increased capacity upfront, potentially with options for states to supplement federal support. The Work Group urges the following:

- DOE should recognize long-distance CO₂ pipeline corridors as an "innovative" technology under the DOE Loan Program Office's funding available for Advanced Fossil Energy Projects. There has never been a long-distance (in excess of 200 miles) CO₂ pipeline constructed in the U.S. expressly to carry man-made CO₂ to oilfields, or one built with increased capacity to facilitate and accelerate future deployment of carbon capture and EOR projects.
The Canadian energy powerhouse of Alberta is pursuing just such a supersized CO₂ pipeline, the Alberta Carbon Trunk Line, in partnership with industry and in consultation with First Nations and other key stakeholders. The Carbon Trunk Line benefits from a combination of provincial and federal government financial participation.
- The US Congress should expand the mission of USDOT's Transportation Infrastructure Finance and Innovation Act (TIFIA)¹⁴ subordinated loan program to include CO₂ pipeline networks as part of its mission. This program has been used to spur innovative road and rail projects, such the Alameda Corridor Project to de-bottleneck freight movement from ports to railroads through the congestion of Los Angeles.

- Congress should authorize and direct federal agencies to play a supplementary role to private investors by financing additional capacity in strategic CO₂ trunk line projects until a sufficient customer base has been established to recoup the federal investment through tariffs.
 - In a historic example of the significant impact such a federal financing role can have, the federal government initially financed and owned the 1300 and 1500-mile oil pipelines (20 and 24-inch, respectively) from Texas to New England that eventually were privatized (sold for approximately \$1.6 billion in today's dollars) and converted to natural gas pipelines as the Texas Eastern Transmission Corporation.¹⁵ Those lines remain an important backbone of the U.S. energy system 75 years later.
 - To take another interesting example, once the federal Bonneville Power Administration had initially strung 1,000 miles of transmission lines between the Pacific Northwest and California, an enterprising group of utilities was able to piggyback on that federal investment by paying for capacity upgrades that greatly increased the lines' capacity.
- Pursuant to President Trump's January 24th executive order, Governors or heads of federal agencies should identify long-distance CO₂ pipelines as high-priority infrastructure projects for expedited environmental reviews and approvals.¹⁶
- The Administration should develop a more concerted federal policy¹⁷ and require better coordination and consultation between federal agencies and with state, tribal and local governments and stakeholders regarding pipeline corridor siting and permitting. The development and utilization of designated pipeline corridors is a highly efficient and effective way to incentivize pipeline infrastructure development. Pipeline corridors are delineated primarily by siting them adjacent to existing infrastructure and in conformance with federal agency land use and planning documents. The benefits of utilizing designated corridors include: streamlined regulatory authorization, reduced environmental impacts, and increased constructability for project proponents.
- Federal land management agencies should:
 - Actively issue themselves right-of-way (ROW) grants that they will designate and manage as pipeline corridors on lands that they own or administer.
 - Allocate resources to complete National Environmental Policy Act (NEPA) analyses, which are required for ROW grants.
 - Develop their NEPA analyses at as close to project-level scale as possible. Fine scale analyses will allow the agencies to disclose the majority of impacts associated with building pipelines within the designated corridors. These robust analyses will allow pipeline projects to proceed with a much less costly and time-consuming authorization process.
 - Foster relationships to the greatest extent allowed by law with appropriate state, tribal and local governments, as well as industry, NGOs and other stakeholders, to ensure that designated corridors encompass all reasonably

foreseeable development scenarios. To formalize these cooperative relationships, memorandums or agreements should be developed to describe the roles and responsibilities of each partner.

Conclusion

American oil fields are poised to rapidly expand production through utilization of man-made CO₂ for enhanced oil recovery. This promise can be realized if the oil industry can gain access to large, secure volumes of CO₂, transported via pipeline networks and purchased from industrial facilities and power plants where that CO₂ would otherwise be emitted to the atmosphere and wasted.

The State CO₂-EOR Deployment Work Group recommends that President Trump and Congress incorporate the development of long-distance, large-volume CO₂ pipelines as a priority component of a broader national infrastructure agenda.

In particular, Congress and the President should, in consultation with states, tribal governments and key stakeholders, identify and foster the development of five priority CO₂ trunk pipelines. This would include support for planning, streamlined permitting, and financing to transport CO₂ to oilfields for EOR from industrial facilities and power plants not currently served by pipeline infrastructure.

Development and expansion of regional and national CO₂ pipeline networks, together with proposed tax credits and other financial incentives for industrial and power plant carbon capture, can support long-term production and use of America's abundant and affordable coal, oil and natural gas resources, put our nation further down the path of replacing imported oil and create high-paying jobs in energy-producing and industrial states and regions of the country, all while significantly reducing net carbon emissions.

Endnotes

1. Identifying and developing technology for enabling small producers to pursue the residual oil zone (ROZ) fairways in the Permian Basin San Andres. Final Report <http://www.netl.doe.gov/file%20library/research/oil-gas/10123-17-final-report.pdf>
2. In order to be eligible for LPO financing, a project must use fossil energy; avoid or store greenhouse gas emissions; be innovative; and provide a reasonable prospect of repaying the federal loan.
3. "...it is the policy of the executive branch to streamline and expedite, in a manner consistent with law, environmental reviews and approvals for all infrastructure projects, especially projects that are a high priority for the Nation, such as improving the U.S. electric grid and telecommunications systems and repairing and upgrading critical port facilities, airports, pipelines, bridges, and highways...upon request by the Governor of a State, or the head of any executive department or agency (agency), or on his or her own initiative, the Chairman of the White House Council on Environmental Quality (CEQ) shall, within 30 days after a request is made, decide whether an infrastructure project qualifies as a "high priority" infrastructure project...the Chairman of the CEQ shall coordinate with the head of the relevant agency to establish, in a manner consistent with law, expedited procedures and deadlines for completion of environmental reviews and approvals for such projects..." <https://www.whitehouse.gov/the-press-office/2017/01/24/executive-order-expediting-environmental-reviews-and-approvals-high>.
4. "The Secretary of Commerce, in consultation with all relevant executive departments and agencies, shall develop a plan under which all new pipelines, as well as retrofitted, repaired, or expanded pipelines, inside the borders of the United States, including portions of pipelines, use materials and equipment produced in the United States, to the maximum extent possible and to the extent permitted by law. The Secretary shall submit the plan to the President within 180 days of the date of this memorandum..." <https://www.whitehouse.gov/the-press-office/2017/01/24/presidential-memorandum-regarding-construction-american-pipelines>.
5. Some operators go directly to CO₂, where it is readily available and skip the waterflooding phase.
6. Information on the Shute Creek facility can be found at: <https://www.globalccsinstitute.com/projects/large-scale-ccs-projects>
7. "CO₂ EOR: A Model for Significant Carbon Reductions," L. Steven Melzer and C. Michael Ming, Paper Presented at the Symposium on the Role of EOR in Accelerating the Deployment of CCS, July 23, 2010, Massachusetts Institute of Technology. <https://rfflibrary.wordpress.com/2011/05/25/role-of-enhanced-oil-recovery-in-accelerating-the-deployment-of-carbon-capture-and-sequestration/>

8. A Policy, Legal, and Regulatory Evaluation of the Feasibility of a National Pipeline Infrastructure for the Transport and Storage of Carbon Dioxide, Interstate Oil and Gas Compact Commission, December 31, 2011. <http://groundwork.iogcc.ok.gov/node/987>
9. Decatur to North Burbank Field (Chaparral) is about 600 miles. To Permian hubs (Denver City) is approximately 900 miles.
10. The surface area of a pipe (cylinder) = length x circumference = length x (2 x π x radius). The volume of a pipe (cylinder) = length x cross-sectional area = length x (π x radius²).

Steel needed vs. volume of a one-foot long pipe					
Diameter	Radius = D/2	Area of steel plate needed to form the pipe = 12 inches x Circumference	Area vs. 2 inch diameter pipe	Volume of gas contained inside the pipe = 12 inches x Area	Volume vs. 2 inch diameter pipe
2 inch	1 inch	$12 \times 2 \times 3.14 \times 1 = 75.3$ sq-in	1x	$12 \times \pi \times 1^2 = 37.7$ cubic-in	1x
4 inch	2 inch	$12 \times 2 \times 3.14 \times 2 = 150.8$ sq-in	2x	$12 \times \pi \times 2^2 = 150.8$ cubic-in	4x
8 inch	4 inch	$12 \times 2 \times 3.14 \times 4 = 301.4$ sq-in	4x	$12 \times \pi \times 4^2 = 603.2$ cubic-in	16x
16 inch	8 inch	$12 \times 2 \times 3.14 \times 16 = 602.8$ sq-in	8x	$12 \times \pi \times 8^2 = 2,411$ cubic-in	64x

11. The main cost that has to be recovered through transportation tariff rates charged to pipeline shippers is the annual financing charge based upon the original capital cost.
12. Note that in the chart we assume the pipeline climbs 4 feet per mile, since industrial sources in the Midwest (for example) are located at low elevations (for example, 1,000) feet, whereas much of the oil production region lies at altitudes 3,000 to 4,000 feet higher.
13. The repayment surcharge is relatively small because it is spread over the full 26 million ton per year customer base and extended over the full life of the pipeline.

14. The TIFIA program was modeled on the Alameda Corridor \$400 million loan, though it is not clear that the actual loan was technically a TIFIA loan at the time. (Source: <https://www.gpo.gov/fdsys/pkg/CHRG-107hhrg77859/html/CHRG-107hhrg77859.htm>)

TIFIA Eligibility - <https://www.transportation.gov/buildamerica/programs-services/tifia/eligibility>

Any type of project that is eligible for Federal assistance through existing surface transportation programs (highway projects and transit capital projects) is eligible for the TIFIA credit program, including intelligent transportation systems (ITS). In addition, the following types of projects are eligible: international bridges and tunnels; intercity passenger bus and rail facilities and vehicles; publicly owned freight rail facilities; private facilities providing public benefit for highway users; intermodal freight transfer facilities; projects that provide access to such facilities; service improvements on or adjacent to the National Highway System; and projects located within the boundary of a port terminal under certain conditions.

An eligible project must be included in the applicable State Transportation Improvement Program. Major requirements include a capital cost of at least \$50 million (or 33.3 percent of a state's annual apportionment of Federal aid funds, whichever is less) or \$15 million in the case of ITS. TIFIA credit assistance is limited to a maximum of 33 percent of the total eligible project costs. Senior debt must be rated investment grade. The project also must be supported in whole or in part from user charges or other non-Federal dedicated funding sources and be included in the state's transportation plan. Applicable Federal requirements include, but are not limited to Titles 23 and 49 of the U.S. Code, NEPA, Buy America provisions, and the Civil Rights and Uniform Relocation Acts.

Qualified projects are evaluated by the Secretary against eight statutory criteria, including among others, impact on the environment, significance to the national transportation system, and the extent to which they generate economic benefits, leverage private capital and promote innovative technologies.

15. Big Inch definition on Wikipedia: https://en.wikipedia.org/wiki/Big_Inch
The Big Inch and Little Big Inch, collectively known as the Inch pipelines, are petroleum pipelines extending from Texas to New Jersey, built between 1942 and 1944 as emergency war measures in the U.S. Before World War II, petroleum products were transported from the oil fields of Texas to the northeastern states by oil tanker. After the United States entered the war on January 1, 1942, this vital link was attacked by German submarines in the Operation Paukenschlag, threatening both the oil supplies to the northeast and its onward transshipment to Great Britain. The Secretary of the Interior, Harold Ickes, championed the pipeline project as a way of transporting petroleum by the more secure interior route.

The pipelines were government financed and owned, but were built and operated by the War Emergency Pipelines company, a non-profit corporation backed by a consortium of the largest American oil companies. It was the longest, biggest and heaviest project of its type then undertaken; the Big and Little Big Inch pipelines were 1,254 and 1,475 miles (2018 and 2,374 kilometers) long, respectively, with

35 pumping stations along their routes. The project required 16,000 people and 725,000 short tons of materials. It was praised as an example of private-public sector cooperation and featured extensively in U.S. government propaganda.

After the end of the war, there were extended arguments over how the pipelines should be used. In 1947, the Texas East Transmission Corporation purchased the pipelines for \$143,127,000, the largest post-war disposal of war-surplus property. The corporation converted them to transport natural gas, transforming the energy market in the northeast. The Little Big Inch was returned to carry oil in 1957. The pipelines are owned by Spectra Energy Partners and Enterprise Products and remain in use.

16. "...it is the policy of the executive branch to streamline and expedite, in a manner consistent with law, environmental reviews and approvals for all infrastructure projects, especially projects that are a high priority for the Nation, such as improving the U.S. electric grid and telecommunications systems and repairing and upgrading critical port facilities, airports, pipelines, bridges, and highways... upon request by the Governor of a State, or the head of any executive department or agency (agency), or on his or her own initiative, the Chairman of the White House Council on Environmental Quality (CEQ) shall, within 30 days after a request is made, decide whether an infrastructure project qualifies as a "high priority" infrastructure project... the Chairman of the CEQ shall coordinate with the head of the relevant agency to establish, in a manner consistent with law, expedited procedures and deadlines for completion of environmental reviews and approvals for such projects. <https://www.whitehouse.gov/the-press-office/2017/01/24/executive-order-expediting-environmental-reviews-and-approvals-high>.
17. USDOE, A Review of the CO₂ Pipeline Infrastructure in the U.S., DOE/NETL-2014/1681, April 21, 2015.



Laura Ziemer
Senior Counsel and Water Policy Advisor

March 22, 2017

The Honorable Senator Lisa Murkowski, Chairman
Senate Committee on Energy and Natural Resources
United States Senate
304 Dirksen Senate Building
Washington D.C. 20510

The Honorable Senator Maria Cantwell, Ranking Member
Senate Committee on Energy and Natural Resources
United States Senate
304 Dirksen Senate Building
Washington D.C. 20510

Re: Letter for the Record for the March 21, 2017 Hearing on Infrastructure

Dear Chairman Murkowski and Ranking Member Cantwell:

Thank you for the opportunity to submit for the record the following testimony in response to the Committee's March 21, 2017, hearing on infrastructure. The priorities outlined below for any infrastructure initiative, whether developed by the Trump Administration or by Congress, are critical to American infrastructure and jobs, and provide multiple benefits for river health, public lands, recreation and water infrastructure.

Trout Unlimited (TU) represents more than 155,000 conservation-minded members, organized into 380 chapters in 35 state councils. Our mission is to conserve, protect and restore the Nation's trout and salmon fisheries and their watersheds. We have 280 staff spread across America who work with our members and a wide variety of partners – including farmers, ranchers, miners and state and local agencies – to accomplish our mission.

1. A comprehensive Infrastructure Package should feature strategic, cost-effective investments that promote innovation and collaboration among stakeholders.

The best proposals for infrastructure investment create new partnerships and provide benefits across different sectors. A recent Treasury Department [report](#) of 40 proposed infrastructure projects of "major economic significance" demonstrates this value. Three of the 40 infrastructure projects identified as being essential, major projects, were investments in restoring aquatic ecosystem functioning to protect against flooding, and scored among the highest cost-benefit ratios of all the projects (at p. 4 ("planning underway" project numbers 5, 6, and 10) and pp. A-46, A-48, and A-56)).

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TU works on projects that build drought and flood resilience for rural communities and agricultural regions. These projects address rural transportation infrastructure and public safety while simultaneously building partnerships on projects that provide multiple benefits. TU believes that linking investment in natural infrastructure with water infrastructure upgrades is essential in order to reduce inefficiencies and project delays, and maximize benefits, including improved trout habitat and watershed health. Two examples of such projects include TU's Montana Sun River project and TU's Washington Wenatchee River project.

In the upper Missouri River basin's Sun River, TU, the Fort Shaw Irrigation District, and members of the Sun River Watershed Group worked to create multi-sector benefits. The Bureau of Reclamation's WaterSMART program provided significant irrigation infrastructure funding and was matched by state and local dollars, contributions from the Irrigation District, and private contributions from the Coca-Cola Company. The Natural Resources Conservation Service contributed to the success of the project with new on-ranch center pivots that required less water to be delivered, to match the more efficient delivery of water through the irrigation district. The Coca-Cola Company's contributions were essential to securing the flow restoration benefits to the chronically dewatered Sun River from the irrigation infrastructure upgrades within Fort Shaw Irrigation District. Two thousand feet of lined canal and PVC pipe, and a new bypass canal, created the opportunity to keep more water for the Sun River's wild trout fishery, which have more than doubled their population over the last three years. Today, anglers from all over can enjoy fishing along the Sun River.

In eastern Washington's Wenatchee River, TU worked with Pioneer Water Users (Pioneer) to change their point of diversion from the flow-limited Wenatchee River to the Columbia River, thereby protecting over 38 csf's in the Wenatchee River, improving habitat for imperiled spring Chinook, steelhead and bull trout. Pioneer benefitted by adopting the most sophisticated irrigation system in the state that will last through the next century: the whole system is managed by a "brain" that dictates how the pressurized system rotates water use among five pumps. The instream benefit to the Wenatchee is complemented in the Columbia by the fact that the system is based on demand. Withdrawal from the Columbia River only occurs when that the agricultural users need water. This collaboration also increased the water security for the town of Wenatchee by transferring saved water to their municipal supply. Although not a simple project—17 separate permits were obtained and 12 funders contributed to the project—its \$3.4 million total cost for 7,823.5 acre-feet provides municipal, irrigation, and habitat benefits for imperiled species at \$435 per acre-foot of water savings—demonstrating the success of investing in innovative infrastructure solutions to creating multiple benefits.

2. Investment in Natural Infrastructure Should be Linked with Water Infrastructure Upgrades to Maximize Cost-Effectiveness and Create Multiple Benefits.

Every aging, century-old piece of irrigation and water delivery infrastructure in the West is an opportunity to build flood and drought resilience through improved water storage and delivery and improved river health. Every obsolete culvert on Eastern highways, and pollutant-leaching abandoned mine across the nation, offers opportunities to improve watershed health. Flood and drought resiliency, and improved fish habitat, come from functional watershed processes, which work more cheaply and more effectively with less capital investment than constructed structures. Restoration of watershed function is a sound investment that pays dividends over the long-term, without the depreciation in value and on-going, mounting expense of operation and maintenance of built structures. Linking a water infrastructure project with upstream or downstream investments in natural aquatic functioning increases the cost-effectiveness of the project and increases the range of project benefits. A comprehensive infrastructure package should prioritize infrastructure investments that provide multiple benefits. These projects both upgrade existing infrastructure, but at the same time restore natural riverine processes that provide flood mitigation services through intact floodplains. Other projects will relieve water delivery bottlenecks by improving natural flows that provide drought resiliency while upgrading water delivery infrastructure.

A key Bureau of Reclamation program that this Committee should support is WaterSMART, which was created during President George W. Bush's Administration. WaterSMART is a successful program that finances innovative upgrades of western water infrastructure to save water. The Bureau of Reclamation's WaterSMART funding of water infrastructure projects—from large diversion dams to small headgate repairs—prioritize “win-win” projects that provide multiple benefits. These are projects that can improve water storage and delivery, improve a farmer or rancher's operation, as well as improve the river or stream that supplies the water.

Infrastructure projects should also support regional, cooperative initiatives, which have taken watershed restoration and infrastructure reform to scale. Successful western examples are the Klamath and Yakima River basin collaboratives. These multi-stakeholder investment plans stack benefits, and they recognize economic and business risks of avoiding upgrades and missing opportunities to promote resiliency. These are investment plans that have been made with a whole-system view—not just straight update and replace, but based upon comprehensive, system-level evaluations. They are supported by a broad range of stakeholders, including states, counties and communities.

3. Natural Infrastructure Investments Should Enhance Public Land Access and Address 21st Century Land Management Challenges.

In many locations throughout the West, public lands are the backbone of local economies and an outdoor recreation industry that contributes a total \$646 billion annually to the economy and 6.1 million direct jobs. Strategic investments in conservation

and recreation will help to grow and diversify the financial health of communities that are gateways to our nation's public lands. However, this will require a commitment to address the growing maintenance backlog, ensure adequate resources for our public land management agencies and fully funding programs that open up access for hunters, anglers and outdoor recreationists.

The health of our public lands is plagued by inadequate funding to ensure that our land management agencies have the resources to be effective land managers. Since 1998 we have seen a 39% decrease in staffing for managing National Forests, creating problems such as a \$314 million trail maintenance backlog that impact millions of hunters, anglers and other recreationists that depend on our nation's public lands.

This maintenance backlog is a pervasive across land management agencies, and affects not only trails, but also an aging public land infrastructure that includes facilities, road networks, recreation sites, and ecosystem services such as clean water for 60 million Americans who rely on drinking water that originates on the national forests and grasslands. We must address this maintenance backlog and invest in our public lands, but raiding programs such as the Land and Water Conservation Funds is not the answer or a sustainable solution. In Montana alone, there are nearly two million acres of public land that are inaccessible to the public. If fully funded, the Land and Water Conservation Fund will help to expand hunter and angler access to lands and ensure that the benefits of these public lands are fully realized. A start to addressing the public land infrastructure backlog would be for Congress to end fire borrowing, which is the fiscally reckless practice of raiding agency funds earmarked for other priorities and using them to battle wildfires.

In summary, the cost is high of neglecting these essential water and public lands infrastructure upgrades. Neglect of water infrastructure risks floods from failing dams, under-sized culverts, and bridges that need larger spans across floodplains. Neglect of water infrastructure also makes the impact of drought worse by wasting water in failing water delivery infrastructure. Protecting and enhancing public lands is an investment strategy that will yield continued economic growth and quality of life across our nation, while creating jobs and sustaining our outdoor traditions. Trout Unlimited urges the Committee to support an infrastructure package that provides multi-sector benefit, cost-effective projects that build partnerships and are smart, high-yield investments.

Thank you for your interest in this important discussion. Please do not hesitate to contact me at lziemer@tu.org or (406) 522-7695 if more detail or specific examples would be of assistance.

Yours truly,



Laura Ziemer

