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THE PRESIDENT'S BUDGET REQUEST FOR THE U.S. FOREST SERVICE FOR FISCAL YEAR 2018

HEARING

BEFORE THE

COMMITTEE ON ENERGY AND NATURAL RESOURCES UNITED STATES SENATE

ONE HUNDRED FIFTEENTH CONGRESS

FIRST SESSION

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THE PRESIDENT'S BUDGET REQUEST FOR THE U.S. FOREST SERVICE FOR FISCAL YEAR 2018

THURSDAY, JUNE 15, 2017

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

The Committee met, pursuant to notice, at 10:01 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.

The Committee will come to order. We are still waiting on the arrival of Senator Cantwell, but I understand that she will be here imminently. Recognizing that we have several votes that are set to commence around 11 o'clock, I would like to try to get things underway expeditiously here.

We are here this morning for the first of three budget hearings that we will conduct between now and next Tuesday. The topic this morning is the President's request for the U.S. Forest Service for Fiscal Year 2018. As we prepare to review that proposal, we welcome back the head of the Forest Service, Chief Tom Tidwell, to our Committee.

It's good to have you back. We appreciate you being here. For you and I, this is a little bit of déjà vu all over again because we did this just last Wednesday in the Interior Appropriations Subcommittee. The venue has changed a little bit. My views are the same so it is probably going to be—you are thinking it is going to be—an easy one, but know that I have saved all my hard questions for you for this morning. I do appreciate the opportunity to continue with that line of questioning.

The President's request for the Forest Service for FY'18 is $4.7 billion. That is $880 million less than last year when we factor in the $342 million in emergency funding that Congress provided above the 10-year average in the event of a severe fire season.

In Alaska, our fire season is already well underway, so this funding is, once again, a priority for me. While we are hoping for a better year compared to recent years, we have already had almost 200 fires in the state now in this season. Those fires have burned more than 112,000 acres. We have about 50 fires that are active as we speak.

The Forest Service request for its Wildland Fire Management Program is roughly $2.5 billion. Fire suppression is funded at the full 10-year average of just over $1 billion. While the budget does not propose a wildfire cap adjustment or any type of fix to end fire borrowing, I was pleased to see the Administration note that it is prepared to work with Congress to find a fiscally responsible solution. Chief, I hope you meant that because I certainly plan on taking you up on that offer and working with you to find that solution.

I also appreciate the Forest Service's acknowledgement that its primary responsibility is to manage our national forests. When making tough funding decisions, we need to make certain that we are meeting our basic forest health needs before funding other programs. I think it is a good sign that the agency's top priority in this request is to invest in national forest management.

Of course, that is not the only way this budget differs from the previous Administration's proposal for the Forest Service. Rather than a wish list of spending paid for with budget gimmicks, this new request proposes real cuts to a number of programs. And I mentioned some of them in our Appropriations hearing last week. Some of those cuts are worth considering, but some are concerning, like the proposed cuts to the recreation programs. Some could impact critical forest management activities like firefighting and hazardous fuels reduction, and some appear to contradict other proposals in the budget like the steep cut to capital improvement and maintenance which will make the timber target difficult, if not impossible, to reach.

We will look at all of those proposals carefully, but from the outset I do have a request. If you are going to worry about Forest Service budget cuts, you should also worry about the Forest Service management failures because those can have an even greater impact on the budgets and the economies of forested communities. The Forest Service failing to do its job, whether making timber available or something else, has significant impacts on real people and we cannot forget that. All of us know that those communities would much rather be able to shape their own futures instead of being forced to depend on unpredictable federal funding.

Ultimately, what I want is for the Forest Service to do more to make our forests the economic engines that they should be—not just in Alaska, but in the lower 48 as well. While Alaska paints a very stark picture of the need for robust and responsible uses of our national forests, the need is nationwide.

Recreation, tourism, and forest products can and must co-exist for us to have thriving and healthy communities and forests. This is not only a matter of federal funding but also reasonable access to resources and a real understanding of local communities' needs and opportunities. We have not had enough of that in recent years, but I am confident this Administration will head us in a good direction.

With that, given that Senator Cantwell has not yet joined the Committee, Chief, I would invite you to begin your comments and we will have an opportunity to hear from the Ranking Member when she arrives. So if you would like to proceed this morning—oops, would you withhold this morning?

[Laughter.]

Senator Cantwell, I apologize, we were trying to expedite things so that we can move to our votes. I have just concluded my opening statement, but would invite you to provide the same. Thank you.

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

Senator CANTWELL. Thank you, Madam Chair, and thank you for holding this hearing. Chief Tidwell, thank you for being here today.

Obviously, the health and the vitality of American forests are particularly interesting to people in our state after we suffered two of the worst fires a few years ago. I do not see how the President's budget even begins to enable the Forest Service to fulfill its motto of caring for the land and serving the people. This budget would not improve the health of our land nor enable you, as Chief, to provide the greatest benefit to our citizens.

I know that I read an article just yesterday that said, "Zinke, Perdue," meaning our two Secretaries of Agriculture and Interior, "embrace status quo on fire policy."

[The information referred to follows:]

FORESTS

Zinke, Perdue embrace status quo on fire policy

Brittany Patterson, E&E News reporter

Published: Wednesday, June 7, 2017

Leaders of the Interior and Agriculture departments have called for continued cooperation in the fight against wildfires, parroting language and policies endorsed by the previous administration.

Following a tour of the National Interagency Fire Center in Boise, Idaho, Interior Secretary Ryan Zinke and Agriculture Secretary Sonny Perdue last week signed a memorandum outlining the importance of cooperation between the two agencies in order to protect firefighters and communities during the 2017 wildfire season.

"We look forward to working with leaders in both Agencies along with our state and local partners to explore opportunities to improve our operational efficiency and take advantage of the firefighting infrastructure and assets that are currently in place," states the memo, which was sent to wildland fire leadership.

The move signals that the new administration plans to keep fire policy fairly stable, said Chris Topik, director of the Nature Conservancy's Restoring America's Forests program.

"Compared to some of the things we're hearing from other parts of the administration, it's a positive statement to say that there are strong existing partnerships out there in the forest and fire world and to build on them," he said.

While the memo focuses on continuing cooperation among fire officials, healthy forests are crucial for reducing levels of catastrophic wildfire and reducing the instances when wildfires burn so out of control that they threaten or take the lives of firefighters.

TNC and other conservation groups are warning that federally funded collaborative programs with a track record of making U.S. forests more resilient are targeted by the White House's recent budget request and could undermine efforts to reduce catastrophic fire.

58M acres at risk

Firefighting activities would be boosted under the fiscal 2018 proposal, but funding for state and private forestry programs — many of which facilitate forest thinning and prescribed burns that reduce the likelihood of catastrophic wildfire — would be gutted by 50 percent. One bipartisan program, in particular, has shown impressive results, but its budget is zeroed out under Trump's proposal.

"The Collaborative Forest Landscape Restoration program is one of the most premier programs," said Dylan Kruse, policy director for Oregon-based nonprofit, Sustainable Northwest.

"We definitely understand budget constraints, but with the stakeholders the program has brought together, the amount of work it's accomplishing — this is the kind of innovative program we should have in these agencies because it makes the dollars stretch farther."

Created by Congress in 2009, the CFLR program has racked up about 200 partners that have brought $100 million of private funding to the table. Since its implementation, the 23 projects under the program have treated more than 2 million acres of forest in landscapes the Forest Service deems highest-priority.

Studies show that treated forests are able to better withstand the stresses of drought, climate change and wildfire.

Since the program began, at a cost of $40 million a year, CFLR projects have collectively reduced hazardous fuels across 2 million acres of forests, restored wildlife habitat across 1.76 million acres and produced nearly 1.3 billion board feet of timber.

To put that in perspective, in 2014, the entire Forest Service treated more than 4.6 million acres and harvested 2.8 billion board feet of timber with access to significantly more resources.

The agency estimates 58 million acres of national forests are at high or very high risk of severe wildfire.

But the budget?

Going beyond the numbers, Mike Anderson, a senior policy analyst with the Wilderness Society, said his experience with the CFLR program has shown it is able to bring parties together that not long ago were at odds.

In south-central Oregon, he noted, a timber company, environmental groups and local county commissioners treated 100,000 acres under the Lakeview CFLR project.

But not every CFLR project has been smooth sailing. The Four Forest Restoration Initiative, or 4FRI, is a massive public-private forest restoration effort to thin more than 2.1 million acres of forest in northern Arizona between the Forest Service and private business partners.

The company running the job has faced criticism of its business plan by some 4FRI stakeholders and disputes with competing timber companies, further slowing its effort to rebuild the region's forest industry (***Climatewire***, July 9, 2015).

In response to a request for comment regarding why the CFLR program was zeroed out under the budget proposal, the USDA press office said the final numbers will be decided by appropriators in Congress, "so it is premature to comment on the specific impacts it may have on any USDA program."

Senator CANTWELL. I cannot imagine a universe where anyone thinks that status quo at the Forest Service is acceptable, particularly in regards to the fires that we have been facing. The National Academy of Science has been very specific on this in an article they published showing that the current approach, the Trump Administration approach, simply falls short in the new era of intense fires that we are now facing.

Treating our forests can reduce the amount of carbon released into the atmosphere and scientists are also telling us that the increased carbon levels causing climate change and extreme weather are major drivers of the fires we are experiencing today. So, as you know, we are caught in this very vicious cycle. But what is even more stressful is that the "status quo" of the President's budget proposal is to use money that would pay for things that we could do up front, like thinning and controlled burns, and instead are trying to use that dollar to extract fossil fuels on public lands.

During listening sessions in my state, in places like Colville, Wenatchee and Spokane, I have heard the same thing, "The science says that we should be focusing our nation's attention on funding and getting ahead of the fire problem."

I want to highlight a couple of the things in the President's proposed budget that reduce funding for firefighting. This budget proposes to cut almost $300 million from fighting forest fires and another decrease of $50 million for preventing wildfires.

[The information referred to follows:]

Trump's budget proposes a decrease of almost $300 million for fighting wildfires and another decrease of $50 million for preventing wildfires.

Senator CANTWELL. But the most troubling part of the President's proposal is the practice of using the 10-year average to budget for wildfires. Neither the President nor Congress have used the 10-year average to budget for the firefighting since 2015. My colleague here, the Chair of this Committee, and also in her role in Appropriations, provided enough money in each year's budget to give the Forest Service the dollars it needed to fight the fires without robbing from important programs.

Despite these efforts, we have heard just this month the Forest Service scientists saying that there is a 50 percent chance we will run out of the firefighting money this year, even though we have set aside some $1.6 billion for fire suppression. If that happens, the Forest Service will be back in the inevitable position of borrowing from programs to get firefighters to the line, and to make sure that we have the equipment and supplies we need to protect our communities. This budget, which goes in the opposite direction, which proposes cutting $300 million from fire suppression, is not the direction we need to go.

I hope that today we can discuss these important issues. We need better protection of our communities and firefighters, and we need to make real investments that will make our forests more resilient.

[The information referred to follows:]

The Trump Administration's Forest Service budget cuts funding for volunteer fire departments by -23%

Senator CANTWELL. We need to use our resources more efficiently on things like hasty response—hasty response is tools that help the community respond faster. I know you know this, because you have heard from many people in our state. Ideas like the pine pilot help us reduce fuel and put money into things like cross-laminated timber.

I also do not understand the prohibition in this budget on the Land and Water Conservation Fund. The Forest Service uses the Land and Water Conservation Fund to make the working forests help maintain our rural jobs and stabilize our forests and product infrastructure, so I do not understand that prohibition.

Obviously, I could go on and on about the recreation economy and how important those things go together with our national forests. They stimulate our economy, they give people access and we need to continue to make investments in that infrastructure.

Chief Tidwell, I cannot decide what I should focus more on in this budget proposal. I could have talked about how we do not see any interest here in the Secure Rural Schools (SRS) program. I see my colleague from Oregon is here. I am sure he will mention that. I could have talked about the proposal to zero out the legacy road and trail programs which we use in our state. I could have talked about the elimination of funding for collaboratives. My colleague and I had a chance to have breakfast a week ago with the Secretary of Agriculture, and he told me he just came back from the Pacific Northwest and heard what great things collaboratives were and that we had to encourage more of them. And then, here we are in this budget proposal not focusing on them . . . actually trying to cut funding for them.

So, anyway, lots to talk about. I am sure we will get a chance in the Q and A. Again, sorry for my delay, Madam Chair, this morning, but this is such an important hearing. I am glad we are having it and look forward to having a chance to ask questions of our witness, Chief Tidwell. And I thank him for his service.

The CHAIRMAN. Thank you, Senator Cantwell.

Chief, if you would like to present to the Committee this morning. Welcome back.

STATEMENT OF TOM TIDWELL, CHIEF, U.S. FOREST SERVICE, U.S. DEPARTMENT OF AGRICULTURE

Mr. TIDWELL. Madam Chair, Ranking Member Cantwell and members of the Committee, thank you again for the opportunity to be here to discuss the FY'18 budget request for the U.S. Forest Service.

Our budget request is really just driven by addressing some of the key priorities that we need to continue to work on. And it's one to restore the health of our forests and grasslands, it's to reduce the threat of wildfire to our communities and to provide the public service that helps to sustain rural communities across America.

This budget does provide for us to be able to treat 2.4 million acres to restore the health of our forests and grasslands and we predict it will produce 3.4 billion board feet. With this budget request, it also will allow us to treat 1.7 million acres of hazardous fuels in the wildland-urban interface to help reduce that threat. It also provides for all the resources we need to be able to continue

our success record of suppressing 98 percent of our fires during initial attack. And as you both mentioned, it does provide for the 10-year average cost of wildfire suppression.

And I want to thank both of you and members of this Committee for their ongoing support and leadership to find a solution to be able to fund, or find a solution, to the cost of wildfire suppression.

Back in 1998, 16 percent of our budget was in our fire programs, and today it's over 53 percent with a projection that by 2025 it's going to go to 67 percent. The 10-year average has increased $156 million from FY'16 to FY'18, and this is part of the problem as we've had to propose some very difficult reductions in our budget request. But part of that is driven by this constant need to be able to increase the 10-year average.

So each year that I've been up here, over numerous years now, I've been talking about the need to find a solution. So when you think about—and within our appropriation we can deal with 98, 99 percent of the 7,000 fires that we deal with on an average year—it's that 1 percent that usually results in close to 30 percent of our costs. And it's what, it's so difficult for us to be able to budget for that. It's difficult for me to be up here to tell you this is how much money I need and with the, you know, with our best scientists they can predict, like for FY'18 that we'll have a range of about $1 billion between the low end of fire costs and the high end. And we're 90 percent confident it's within that $1 billion range.

And so, this is one of the things that I want to continue to work with you to be able to find a solution to this because it has an impact, not only on our annual work when we have to transfer, but it has a continual impact on the erosion of our ability to manage our forests, to manage our grasslands and provide that service with year after year that the Appropriations Committee has to continue to put more money into the 10-year average.

I appreciate the concern on the reductions that our budget request is making, but it's a combination of being able to focus on the highest priority work and at the same time to be able to deal with this need to be able to increase our 10-year average.

I look forward to having a discussion with you and to be, hopefully, be able to make the case today that our national forests and grasslands, our nation's forests, they're a good investment for America. It's not only the economic activity, the jobs that are supported through the work and off these lands: it's the water that's needed for agriculture, it's the water for the 60 million people in this country that rely on the water off our national forests, it's the wildlife, it's the fisheries, it's the outdoor recreation, that all provide for the quality of life that we're able to enjoy in this country.

With that, I look forward to addressing your questions today.

[The prepared statement of Mr. Tidwell follows:]

Statement of Tom Tidwell, Chief of the USDA Forest Service
Before the Senate Committee on Energy and Natural Resources,
Concerning President's Fiscal Year 2018 Proposed Budget
for the USDA Forest Service
June 15, 2017

Madam Chairman and members of the Committee, thank you for inviting me here today to testify on the President's FY 2018 Budget request for the Forest Service. I appreciate the support this Committee has shown for the Forest Service in the past and I look forward to working with you in the coming months and years as we continue to improve our nation's forests and grasslands; increase our focus on the active management of our lands; and work with Congress on actions or options to address longstanding wildland fire funding concerns.

The 2018 President's Budget for the Forest Service is nearly $5.2 billion, of which $467 million is mandatory funding, and is a good investment for the American public. The funding and related work will support between 340,000 and 370,000 jobs in the economy and contribute more than $30 billion in Gross Domestic Product. The Administration's commitment to rural communities, jobs creation, shared stewardship, and the production of goods and services from National Forest System lands is demonstrated by the funding level of Forest Products and the movement of Hazardous Fuels from the Wildland Fire Management to the National Forest System. Through the use of tools like the Good Neighbor and other Farm Bill authorities utilizing funding within permanent and trust accounts, the Forest Service will sell 3.2 billion board feet of timber while improving the resilience of more than 1.7 million acres of National Forest System lands through hazardous fuels removal.

The Budget strengthens the agency's financial accountability and increases predictability in its budget planning and execution process at both the National and Regional level. Starting in FY 2018, Forest Service firefighters will charge all base hours (the first eight hours of each day) to Preparedness and, when fighting fires, charge any hours over eight per day to Suppression. The agency is continuing to strengthen its financial accountability and credibility through the implementation of policies that reinforce timely obligation of funds, the management of prior year unobligated balances, and quarterly review of unliquidated obligations.

The President's 2018 Budget

The FY 2018 request focuses on: acquiring knowledge to better manage forests and expand markets for wood and biomass; high priority projects on State and Private Forests; active forest management, as well as building agency capacity for active management. To address these focus areas, the Budget makes key investments in the following program areas:

- Forest Inventory and Analysis ($77 million, an increase of $2.14 million from the FY 2017 annualized Continuing Resolution level)—to continue to implement the annualized inventory program in all 50 States (including interior Alaska), the affiliated Pacific islands, Puerto Rico, and the U.S. Virgin Islands.
- Forest Health Management ($90.390 million, a decrease of $9.021 million from the FY 2017 annualized Continuing Resolution level)—to continue to treat prioritized areas to reduce the potential for new outbreaks; protect these areas from damaging insects, diseases, and invasive plants; and reduce the risks of undesired mortality from wildfire.
- Forest Stewardship ($20.5 million, a net decrease of $2.492 million from the FY 2017 Annualized Continuing Resolution level)—to provide assistance to private landowners

seeking to manage their forest lands. Better management of private lands supports the maintenance of nearby national forest and grasslands, and provides an economic contribution to local economies.

- Forest Products ($359.1 million, the same as the FY 2017 Annualized Continuing Resolution level)—to sell 3.2 billion board feet of timber and continue to build internal capacity in our workforce.
- Capital Improvement and Maintenance ($99.7 million, a decrease of $263.8 million)—to maintain a workforce that will implement critical infrastructure maintenance projects on National Forest System lands and remain ready to implement additional improvements that could be funded through the Administration's infrastructure initiatives.
- Hazardous Fuels ($354.3 million, a decrease of $20 million below the FY 2017 Annualized Continuing Resolution level)—As most hazardous fuels work takes place on NFS lands, the agency will be able to administer this program more efficiently and effectively if managed as part of the National Forest System. With the funding, fuels treatments in the wildland/urban interface will reduce the risk of catastrophic fire on 1.7 million acres.
- Preparedness ($1.34 billion, an increase of $259.1 million from the FY 2017 annualized Continuing Resolution level)—this increase funds all base 8 costs with Preparedness. This is not new funding, but was shifted from Suppression where a portion of base 8 costs have been charged since 2004. The Forest Service and the Department of the Interior are now using the same business rules.
- Suppression ($1.057 billion, an increase of $247.4 million from the FY 2017 annualized Continuing Resolution level)—this amount fully funds the 10-year average costs for fire suppression.
- The Budget for wildland fire management will fund up to 20 airtankers under exclusive use contracts. In 2018, these contracts will be funded with both Preparedness and Suppression funding.
- The Budget does not include a proposal for a fire funding fix, but I look forward to working with the Department of the Interior, Office of Management and Budget and you to develop a responsible approach that addresses risk management, performance accountability, cost containment, and the role of State and local government partners in ensuring adequate funds are available for wildfire suppression without undue disruption to land management operations.

Legislative Proposals

In connection with the FY 2018 President's Budget, we propose several key legislative changes to improve our effectiveness in delivering programs and services:

- *Federal Lands Recreation Enhancement Act.* The 2018 budget proposes general provision language for a one-year reauthorization of the Federal Lands Recreation Enhancement Act (FLREA) which is currently scheduled to expire on September 30, 2018. The Forest Service receives approximately $65 million annually in recreation fee revenue. Ninety-five percent of the recreation fees collected on a national forest stay at that national forest to be reinvested in recreation sites and services. If FLREA expires

without reauthorization, the agencies will have no recreation fee authority for operations and maintenance of recreation facilities or for payment for the National Recreation Reservation System.

- *Small Tracts Act Conveyance Authority.* We propose increasing the maximum value of the land that could be conveyed, from $150,000 to $500,000, to better align with current land values.
- *Extension of Grazing Permits.* We propose that the terms and conditions of section 325 of Public Law 108–108 (117 Stat. 1307), which regard grazing permits issued by the Forest Service on any lands not subject to administration under section 402 of the Federal Lands Policy and Management Act (43 U.S.C. 1752), shall remain in effect for FY 2018. This would address recent amendments to section 402 of the Federal Land Policy and Management Act and public concerns that the amendments do not apply to grazing permits issued by the Forest Service on the national grasslands and on eastern national forests.
- *Forest Service Facilities Realignment and Enhancement Act.* We propose a one-year reauthorization of the Forest Service Facilities Realignment and Enhancement Act of 2005 (FSREA). FSFREA would allow the Secretary to convey administrative sites that the Forest Service no longer needs, and retain the proceeds from the sales for the acquisition, improvement, maintenance, reconstruction, or construction of facilities. Reauthorization would allow for better utilization of existing resources, increase the agency's ability to address health and safety issues, and enhanced service to the public.
- *Communications Site Program.* The Forest Service seeks authority to retain $4.5 million annually to better manage the growing use of Forest Service lands for communications facilities. This will result in an increased annual return on investment to the Treasury within two years. This proposal will result in reduced processing time for new applications to provide better customer service (currently it takes one to three years to process a new application); enhanced and expanded telecommunications provided to rural communities via broadband, personal communications systems, and emergency services; and increased safety of visitors, agency staff, and first responders though additional communications capacity.

Our budget request focuses on sustaining jobs (especially in rural America), increasing economic contribution, sharing responsibility for the stewardship of our natural resources, and more effective and efficient delivery of products and services. Our requested budget will enable us to continue to make progress addressing the growing extent and magnitude of our management challenges on National Forest System lands. Through strategic partnerships, we can accomplish more work while also yielding more benefits for all Americans, for the sake of all generations to come. I look forward to working with this Committee to fulfill the President's goals and our key responsibilities for the long term benefit of Nation's forests and grasslands and all Americans. I will be glad to answer questions you may have at this time.

The CHAIRMAN. Thank you, Chief.

I should also note that Sherri Elliot is also with us this morning and is, I understand, prepared to answer any questions that may also come before the Committee.

Did you wish to make a statement, Ms. Elliott?

[No response.]

Great. Thank you.

Chief, let me ask a question about air tankers. This was something that did not come up at the Interior Approps Subcommittee hearing last week, but something, obviously, that we have been following. Over the past few years we have seen privately owned and operated, large air tankers that continue to demonstrate their ability to respond to these wildfires, and many are operating under exclusive use, multi-year, next-generation contracts from the Forest Service. They have been working with us as we work on this path toward modernization.

I understand that Forest Service expects to issue a new round of exclusive use, next-generation, 3.0 contracts for operation in 2018, really moving this transition from legacy World War II and Korean War era piston engine aircrafts to newer, turbine-powered equipment.

My first question, what is the timing and status of the next-generation 3.0 solicitation?

Mr. TIDWELL. Madam Chair, we're moving forward with the process to start the solicitation for this next round of large air tankers. And to do it so that by the time the legacy aircraft come off that we'll be able to replace the legacy aircraft with additional next generation aircraft. And so, that's our schedule, to be able to do that so that as those legacy aircraft come off of contract, then we'll be able to bring on additional next generation.

The CHAIRMAN. Do you anticipate the solicitation this year?

Mr. TIDWELL. Indeed, it will be later this year, yes.

The CHAIRMAN. I think you know that I have some concerns about the Forest Service buying air tankers and, just more generally, having a government-owned fleet. I think we recognize that there is more to operating an airplane than just owning one.

Our private owners, our operators, they have experience, they have made the investments to respond to the government specs for modern firefighting assets, and yet, they ultimately end up competing with the Federal Government for the work. So I have a series of questions to you in that vein.

We were told that the number for the large air tanker modernization strategy was somewhere between 18 and 28 next-generation, large air tankers. Are you still looking at that many air tankers to bring online?

Mr. TIDWELL. Yes. As we have found with the next-generation aircraft, they are actually proving to be even more effective than what we first anticipated as we've been able to understand the capabilities of the aircraft. The pilots have gained experience, our folks have gained more experience, with these faster aircraft that can deliver much larger loads.

But our strategy still holds that that range between 18 and 28 with, I believe, as we continue to see the number of homes that are built in the wildland-urban interface and the conditions that we

face that we'll probably be closer to the 28. For this year we have 21 large air tankers that are available. In '18 we will have another 21 that are available plus the planes that we can bring on with call-when-needed.

And so, that's our current strategy. And as we continue to be able to bring on additional aircraft and understand their capabilities, we'll adjust the number of planes that we need to just ensure that we are/can respond with adequate resources.

The CHAIRMAN. But what do you think the message is, though, to the private owners, to the operators, who have stepped up to meet the demands as you are looking for that modernized tanker? They have made the investments, they have made the commitments, and now you are saying, well, the effort is to move away, to basically have a government-owned fleet and—in terms of what we are doing with the exclusive-use fleet of air tankers—you have next-generation, private-owned and operated aircraft that can meet that need and yet, you are effectively saying you are not going to be needed. The investments that you have made are not going to be utilized.

Mr. TIDWELL. So the majority of our large air tankers will continue to be privately-owned and privately-operated. As we bring on the C-130Hs that have been provided for us over the next few years, they too will be operated and maintained by private contractors. We're still going to need people to step up, to be able to fly, operate and maintain those aircraft.

The CHAIRMAN. So how many of the C-130Hs, these military-converted aircraft, do you anticipate you will have as part of your fleet?

Mr. TIDWELL. We'll have seven of those but it will not be until 2021 before we have all seven available. So over the next few years we'll be bringing on probably one plane at a time. That's what we've been flying the last couple years. But it won't be until 2021 where we have all seven. Those aircraft also have a life span of anywhere from about 8 to 12 years. So it's one of the things we just have to look at to be able to factor that into the overall strategy.

I really appreciate how the industry has stepped up to be able to make the investment and providing the next-generation air tankers, but I also remember the year when we didn't have large air tankers because the contractor at that time chose not to meet the contract specs and we had to go through a fire season where we did not have an air tanker fleet.

Now, I don't anticipate that will ever happen, but I think there is some benefit to have a mixed fleet where we will continue to rely by the majority of the planes will be privately-owned and operated, but I think there's some benefit for the government to have a few planes that are owned by the government but operated by a private company so that we just have that, a little bit of insurance, that we'll always have aircraft that can fly.

The CHAIRMAN. Okay, we will keep on this conversation, but let me turn to Senator Cantwell.

Senator CANTWELL. Thank you, Madam Chair.

I, too, want to follow up on this, but I am going to defer to my colleague from Oregon because he has a tight time schedule this morning and I want to allow him to ask his questions.

Senator WYDEN. I want to thank my friend from Washington State for her courtesy, and I want to be clear that I am very much looking forward to working with the bipartisan leadership here, Senator Murkowski and Senator Cantwell.

This debate has been the longest-running battle since the Trojan War, and the reality is, you can almost set your clock by it. The infernos come to Oregon and Idaho and Senators Crapo and Risch and I traipse over to the National Interagency Fire Center to talk about our bipartisan push to change the system of fighting wildfires.

I think we all understand, certainly the three of us who have been at this for years and our colleagues, that this is a broken, common-sense-defying system of fighting fire where you borrow from prevention to put the fires out and then the problem just gets worse.

Senator Crapo and I have had this bill that now has more than 250 organizations of scientists and timber companies and environmentalists supporting it. I think the question is, how do we make the story different this year? How do we finally end the gridlock? The three of us, I know, feel very strongly about getting there.

I think what I would like to start with, Chief—you have been involved with us every step of the way, supported the legislation. Since we have been at this over four years, what has been the cost of inaction?

Mr. TIDWELL. Well Senator, there are several ways to look at that. You know, one of the ways is, I think back when we first started this discussion, if we could have found a solution it would have stopped the erosion of our active forest management programs, all the programs that provide the service. I think about the additional acres we could have treated over the last four years if we wouldn't of had this impact on the appropriator's ability to prevail/provide the funding.

If you look out over four years and you look at just the growth of, you know, the 10-year average, we could have easily been treating millions of more acres over the last four years. And then think about into the future, about the next 10 years.

So just with $156 million increase in the 10-year average, think about that over the next 10 years, $1.5 billion. And just think about what we could accomplish, the tens of millions of acres that we could treat to make a difference.

We have the science, we have the experience, and we have study after study that shows that our projects are effective to reduce the cost of wildfires. It reduces the severity of wildfires. And there are independent studies that show that this work makes a difference and that we can reduce the size of wildfires by anywhere from 30 to 70 percent and on average 41 percent by getting out there and doing the work. You've seen examples in your state. Senator Daines has seen examples. Senator Cantwell. Senator Murkowski. All of you have seen examples of this work that's being done.

Our challenge is to be able to get to a place where we can rightsize our budget so that we become more of that active management agency. And yes, we'll continue to do the wildfire suppression job and we'll continue to excel at that. But that's just one way

to be able to capture that. And I can go on about the number of homes that have been lost.

Senator WYDEN. Why don't we hold the record open, but I think that is particularly important for members to know that it is not some abstract thing, that the costs of inaction are extraordinary whether it is the millions of acres that could have been treated, homes lost, that kind of thing. So if you could get us that for the record.

One other question, if I might. You were extraordinarily helpful to us on the stewardship contract, as you know, in John Day—a huge victory for a community that would have really been lights out on mills in Eastern Oregon without your intervention there—tripling the harvest on the Malheur. The stewardship program works very closely, although it is separate, with the Collaborative Forest Landscape Restoration (CFLR) Program. Despite the success we have had with that Collaborative Forest Restoration Program, it is being zeroed out in the President's budget, in my view, this is exactly what we ought to be expanding. I do not want to get you into politics and the like. You and I have talked about that over the years.

What is your response to the proposition of whether the Collaborative Forest Landscape Restoration Program is helpful, cost-effective and a positive force for rural Oregon and rural America?

Mr. TIDWELL. So the CFLR projects have proven to be very effective. This concept of dedicating funds over time to large landscapes at a minimum of 50,000 acres and to do it in a collaborative way has not only increased the amount of work that's getting done, it's also resulted in a lot of financial contributions from outside the agency. The model has been proven to be tremendously successful and, with our CFLR Program over the last few years, we've been producing about 400 million board feet a year off of those projects.

Now, the budget zeros that out, but it doesn't stop us from using this model across the board to be able to make this long-term, dedication of funds to large landscapes and doing it in a collaborative way. I think it is a proven model. It took a few years for us to get started. But if you look at the results of this, I think it shows this is the right way for us to work, and there's nothing in our budget request that prevents us to be able to do that.

Those 23 projects that are currently ongoing? They now will just have to compete with all the other work. We will not have dedicated funding for those projects.

Senator WYDEN. Thank you.

The CHAIRMAN. Senator Daines.

Senator DAINES. Thank you, Chair Murkowski, Ranking Member Cantwell.

We have had a string of very unfortunate events recently happening in Montana. Most are linked to Federal Court decisions that I know, Chief Tidwell, you are aware of.

We have seen good, responsible, common sense, collaborative, forest management projects shut down because of the Cottonwood decision.

Then just two weeks ago, we saw the halt of a thoroughly researched and vetted Forest Service project, the Montanore Mine. The Forest Service estimates this project will provide full employ-

ment of 450 people at full production with an annual payroll of $12 million during the production phase of operations and the indirect economic benefits are even greater.

This is in an area of Montana that has some of the highest unemployment in our state. In fact, this is Lincoln County. I remember a conversation a few years ago with a couple in Lincoln County and they said, "Steve, what we basically have up here in Northwest Montana is poverty with a view."

We have these elitists that will sometimes fly in on their private jets and seek to shut down what is going on in Montana in terms of common sense, responsible, natural resource operations. Likewise, this mine will provide important minerals, such as silver and copper, that the United States uses in everything from our phones to wind turbines.

Chief Tidwell, can you give an update on what the next steps are for the Montanore project? And do you share my commitment to see this important project move forward?

Mr. TIDWELL. We're currently just reviewing the decision that we received on that project and at this point haven't determined the next steps. But we're just currently reviewing that decision.

Senator DAINES. Yes, I cannot think of a strong enough term, but outrageous would come to mind for starters, of what happened there and we need to get that resolved.

Chief Tidwell, I strongly support the Administration's emphasis on increasing management in our national forests, but I think we can and must improve management on federal lands while continuing efforts to also improve forest health on family-owned and cross-boundary lands.

As we all know, wildfire is not a respecter of the boundaries that we draw on maps and neither is forest management. I recently joined Senator Amy Klobuchar of Minnesota in sponsoring legislation to encourage partnerships between the state forests and the Forest Service to carry out such landscape restoration efforts.

My question, Chief Tidwell, is can you speak to the value of empowering state foresters to do more cross-boundary work, including on national forests, using this Good Neighbor Authority?

Mr. TIDWELL. Well Senator, the Good Neighbor Authority is also proving to be very, very successful. It took a couple years for us to, kind of, put the process together where we work very closely with the state foresters so that we had a process that not only worked for us, but more importantly, worked for them. And because of that we are moving forward to be able to increase the work that's getting done on the national forests.

And your point that we need to be looking at this more as an all-lands approach is exactly what needs to occur. We need to be reducing the fuels, thinning out our forests on both sides of the fence. Doing it on just one side doesn't accomplish the success that we're after.

So Good Neighbor Authority, we currently, I think, we're doing 74 projects across the country. We have eight master agreements with states and we're planning to increase that. Most every month we're bringing on another state that wants to work with us. We've had some great examples in your state where we're working closely together. Your state has also provided additional resources to be

able to increase the amount of work because they recognize the difference that this can make.

And yes, the jobs are essential. Being able to maintain the industry is absolutely essential. But it's also the difference that we're making on the ground to reduce that threat to be able to prevent that blacked landscape to have more green——

Senator DAINES. At a discussion just two weeks ago in Montana, we had members of the Rocky Mountain Elk Foundation there with us. When we talk about wildfire and reducing wildfire risk, we talk about jobs. But wildlife habitat is something—we are seeing the elk population declining, not because of wolves, not because of hunting pressure, but because the forests have gotten so thick the elk are not able to get to the grass because the canopies then prevent the sunlight from getting down to the ground and having, basically, habitat for elk.

Lastly, a follow-up. Would you agree that landscape-scale, wildfire mitigation across all forest ownerships is both necessary and crucially important?

Mr. TIDWELL. Without any question. And we have the studies that show that if we take this all-lands approach, we can be highly, highly, successful and have a very different consequence when we do get fire. And we'll continue to have fire, but there's a big difference from a fire that has a lightly burn to moderate burn that was easy to suppress, reduces the risk to our firefighters versus some of the severe fires that you've seen in your state.

Senator DAINES. Alright. Thank you, Chief Tidwell.

The CHAIRMAN. Thank you, Senator Daines.

Senator Cantwell.

Senator CANTWELL. Thank you, Madam Chair.

Chief Tidwell, the budget proposal would also be reducing funding for volunteer fire departments by 23 percent. Now this is a very big concern to us. If there is one thing I have heard loud and clear from communities all across my state it is that they are playing a key role because of the number of fire starts that are there, and oftentimes they are the first responders to these fires and helping us do whatever we can to help contain them as other people come onboard. So isn't this just going to make the whole fire-suppressing budget more expensive overall, if we cut the funding here to these volunteer community organizations that are helping us?

Mr. TIDWELL. Well Senator, this is just one of the very difficult choices we had to make with this budget request. And yes, our volunteers are essential. They're often the first responders that this country relies on. With this budget request there is less funding that will be available, but we will continue to do what we can to provide the equipment, the surplus federal equipment, that's so essential to these volunteers. But it's just another example of some tough choices that we have.

I want to come back to the need to fix the fire funding problem that we have, and this idea that each year we have to continue to increase the amount of money we put into fire suppression. That takes away the discretion to be able to provide for other programs. It's just another one, another example, of the things that could change if we can find a fix for dealing with fire suppression.

Senator CANTWELL. Well, I will guarantee you my colleagues here in the United States Senate are well on their way to having that fixed—we have a kind of determination. We have to get some of our colleagues in the House on board, who did not think taking up legislation at the end of the year was a necessary item.

But I still do not think that that means in a budget that you, in an environment where we are seeing drier, hotter conditions and this year—I do not know if we have the map of where things are going to be—but we already know where this year's fire season is going to dominate. It's going to dominate in Northern California and Northern Nevada. They are going to take it on the chin, just as the Okanogan did, just as the Carlton Complex devastated over 100,000 acres in, basically, an afternoon.

[The information referred to follows:]


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August & September 2017
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Puerto Rico
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Above Normal
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PREDICTIVE SERVICES
NATIONAL INTERAGENCY FIRE CENTER
Boise, Idaho
Above normal significant wildland fire potential indicates a greater than usual likelihood that significant wildland fires will occur.
Significant wildland fires should be expected at typical times and intervals during normal significant wildland fire potential conditions.
Significant wildland fires are still possible but less likely than usual during forecasted below normal periods.
Map produced by
Predictive Services,
National Interagency Fire Center
Boise, Idaho
Issued June 1, 2017
Next issuance July 1, 2017

Senator CANTWELL. So we need to make sure—because I think the public probably gets it if they slow down and think about it—these forests are in rural communities, and the problem is large-scale. Oftentimes these volunteers are the only people there for first response. I hope that as my colleague and I continue to work on this, we certainly will not be shortchanging the volunteer fire departments because they are our best resource, in my opinion, right now to help us have a hasty response to wildfires.

The collaboratives—my colleague just mentioned this—I also do not understand zeroing out collaboratives. These are things that have given us our best effort to date on working collaboratively. We can talk, as I have, on the pine pilot where we can get collaboratives to be even more successfully implemented, but why zero out collaboratives?

Mr. TIDWELL. Well Senator, the request zeros out just dedicated funding to that one program but it doesn't prevent us from working that way and continuing our work with collaboratives. We can still accomplish that same kind of work, we just don't have that dedicated funding that, I feel, it proved to be successful. And often when you're starting a new program it takes that dedicated funding to be able to get things started, to be able to provide the message, the incentive, for folks to make those long-term investments. And so, that's why it's proven to be very effective.

Once again——

Senator CANTWELL. Are you saying that you will use money then for collaboratives?

Mr. TIDWELL. We'll continue to work in a collaborative way and those 23 projects will now compete with other projects across on the national forests. If they're chosen to be still the highest priority work, we can still continue that work. The difference is that we just don't have that dedicated funding for those projects.

Senator CANTWELL. And so, do you think you are taking away a message from people, don't do collaboratives? I am trying to understand where you are fitting this in as a priority.

Mr. TIDWELL. Well, that's definitely not the intent. I think the collaborative work that's gone on across this country has proven to be highly successful. It has proven to be able to bring people together to get work done.

These projects have a really good track record of very little litigation and often very few, even, objections because of the way that these projects have been put together and with this long-term focus of dedicated funding on large landscapes. But it's one of the things that I'd like to see us working across the board. I think it is the model for how we do our work and that those 23 projects have been very successful. But we still could be able to continue that. We just don't have that dedicated funding.

Senator CANTWELL. Well, we will look forward to following up on that with you.

Thank you, Madam Chair.

The CHAIRMAN. Thank you.

Senator Lee.

Senator LEE. Thank you, Madam Chair, and thank you both for being here.

Chief Tidwell, I want to talk to you about a couple of issues facing my state.

In 2009, the Forest Service finalized a motorized travel plan for the Dixie National Forest which, as you know, is in Southern Utah. The plan closed more than half of the roads in the forest which substantially restricted recreational access, but also blocked a number of practical, economic opportunities in surrounding communities. Understandably, local officials and residents had a reaction to this, a reaction that was not favorable, and they strongly opposed the travel plan and had implored the Forest Service, again quite reasonably I think, to reopen those closed roads. One of the justifications given at the time of the announcement for these road closures was that the Forest Service did not have enough money to maintain the roads in question.

As a potential solution, officials in Garfield County, Utah, where most of the roads in question are located, have offered to assume both the responsibility of maintaining the roads and all of the accompanying costs associated with that and to do so in exchange for easements that will allow for public access. This is a reasonably concocted and mutually beneficial exchange that would benefit both the county and the Forest Service.

So, Chief Tidwell, is this a solution you could support?

Mr. TIDWELL. Senator, when it comes to travel management it continues to be one of the most controversial issues that we deal with. And as we try to rightsize our transportation system to one that is what is needed and what we can afford, often there are roads that either were constructed or just user-created roads that through that process—and it's usually a process where we're talking to everyone in the counties—that we identify roads that need to be closed.

Now if there are roads that are needed on the transportation plan that we're struggling to be able to provide the funding, we have a long-running program, Scholars, our Schedule A agreements with counties, that when I was a district ranger and forest supervisor, I worked with our counties to be able to, for them to accept the maintenance on these roads and then they do get a little bit of additional gas tax money. But to be fair, especially in your state and these counties that have small populations, that additional gas tax that they receive doesn't fully cover their cost. However, many counties are willing to accept that just because they recognize the need.

So that is the program that we've been using and want to be able to use it with Garfield County and other counties in your state. It's proven to be very successful. They can take over the maintenance on these roads that are on our transportation plan and they then do get some additional gas tax dollars.

Senator LEE. But they would have to do it in this way. Does this differ substantially from what they have offered you?

Mr. TIDWELL. Well, I think, I'm not quite sure just what they're offering. I mean, that's the program that I've used and I know that it's available now. But I'm not quite exactly sure what they're offering.

Senator LEE. Okay. But you are willing to commit to continue working with the Garfield County officials to try to find a workable solution that is mutually agreeable?

Mr. TIDWELL. Yes.

Senator LEE. Thank you.

Another prominent issue in Utah involves timber harvesting. According to your agency's own numbers, the volume of timber harvested on Forest Service lands has decreased by about 80 percent just over the last 30 years. This decline has been crippling to a lot of rural communities in my state and in many other states, especially in the West, and especially in communities in Southern Utah whose economies relied so heavily on timber harvesting. These communities are deeply frustrated because timber harvest not only boosts their economies, but they also improve forest health and they help protect them from the risks associated with forest fires which are then enhanced when you do not have adequate management and adequate, responsible, environmentally sensitive harvesting.

Can you tell me, Chief, why is it that we are not allowing more timber harvesting when doing so would produce not only economic opportunities and aid a lot of these rural communities who have suffered so much in recent decades but would also have favorable impacts on the health of the forest?

Mr. TIDWELL. Well Senator, we've been working, really, as hard as we can over the last few years to be able to increase the amount of work that's being done. I've been very clear that there's 65 to 83 million acres of our national forests that need some form of restoration. And of that, there's 15 million acres that we have no other choice but to do some form of timber harvest on that. So we've been very clear about the need and we've been using programs like the CFLR Program.

I'd like to share a great success story on the Manti-La Sal. I just was watching a video clip where it talks about how the mill is now using the dead spruce logs for log homes, but then also for saw timber and then using the other products for everything from bedding for dairies, to firewood. It's just, it shows the success that's out there.

Our challenge is to be able to get more of that work rolling. And where we've made great efficiencies over the years, our problem is that we keep losing the staff, keep losing resources to be able to get at this work. And it's driven by this constant pressure to increase our funding in wildfire funding. And so, that has been one of the biggest challenges. So today, from back in '98 when I left your state, there are 50 percent fewer foresters today than we had in '98, 39 percent fewer Forest Service employees outside of our fire programs.

Now at the same time, we've reduced our unit cost by 33 percent. So we've been able to, kind of, stay status quo. But to be able to get at the work that you're talking about, we have got to be able to stop this erosion of our other programs and really rightsize the agency so that we can be responsive.

We have the support, the social advocacy, for doing this work and I'm going to share that success story with you on the Manti-La Sal because it's the perfect example of what needs to be done

when we can come together and provide a little bit of our side of the work that needs to occur so that these folks can go to work in the woods. We're committed to be able to expand this.

We also need to be able to expand our markets. There's just no question. And that's why this example, I was just so impressed with it because they show how they're using every single piece of that log that comes off the forest and even whether it's in the sawdust or chips or firewood or logs or saw timber, that is the model. And these folks are just doing an excellent example.

Our challenge is we've got to accelerate. I've been talking about accelerating the pace and scale of our restoration work, but we've got to get aggressive about this, otherwise we're going to be having the same discussion 10 years from now.

Senator LEE. Thank you, Chief.

Thank you, Madam Chair.

The CHAIRMAN. Thank you.

Senator Franken.

Senator FRANKEN. Thank you, Madam Chair, and thank you, Chief Tidwell, for appearing before us again. It is always good to see you.

The President has talked a lot about infrastructure, but his budget actually cuts investment in our nation's infrastructure. For example, the capital improvement and maintenance spending at the Forest Service—the President's budget cuts it by 73 percent, the facilities budget would decline by 84 percent and the roads budget by 57 percent. Chief Tidwell, what would be the impacts of the proposed infrastructure cuts spelled out in the President's budget?

Mr. TIDWELL. Well Senator, we're going to focus our budget request on maintaining the staff and expertise to be able to do the facilities work and the road work and the trails work with the anticipation of an infrastructure plan that will provide the additional resources.

So, yes, it's going to take both and your point that with, just with this budget request, if there isn't an infrastructure plan it would be very impactful on our programs, whether providing recreational access or access for our timber management for our forest management. So it's going to take a combination of this budget request plus the infrastructure plan for us to carry out our work.

Senator FRANKEN. I understand. We are six months into the new Congress and we have very little clarity about an infrastructure bill from the Administration. All we do know is that it is going to include tax cuts and encourage public/private partnerships, but that is not going to help the Forest Service build and maintain facilities and roads unless we get more details and find that it does. But the bottom line is that these proposed cuts are real and they have been spelled out. I hope we get a lot more clarity on this infrastructure bill.

Chief Tidwell, you and I have discussed the devastating impacts of climate change on wildfires previously. You have been discussing that fighting wildfires is costing us a lot of money, more than half of your total proposed budget, and all that spending means that preventive measures such as hazardous fuels treatment are receiv-

ing less funding, not to mention the fact that the overall funding for these programs, again, is getting cut in the President's budget.

So I am very interested in exploring how we can find new markets for forest waste—you were just discussing that with Senator Lee—and do that in order to help pay for removal of hazardous fuels and simultaneously bring economic benefit that can use waste. Things in Minnesota, unfortunately, are working or moving in the opposite direction as wood waste, biomass energy, is struggling mightily to compete with cheaper natural gas and wind.

My question is, can you tell us how you see hazardous fuel management and what opportunities exist in this space? For example, it seems to me that district energy projects and combined heat and power plants are an ideal market for these hazardous fuels, particularly ones that are located near our forests, the wildland-urban interface. I am wondering what you see as the future of that kind of market, of that kind of way of removing hazardous waste and getting something for it, getting a value for it, to make it either cheaper or make, or not a net payment at all for removing hazardous waste?

Mr. TIDWELL. Well Senator, there is and it's another key part of us to be able to accomplish the overall forest management job that we have. We have to find ways to have strong, economic markets for all the material that's coming off. The saw timber is the easy part. But it's more the small diameter.

And so, to be able to find ways to be able to use biomass for energy, to be able to also find ways for—to use the small diameter into building materials, like what's called the CLT product, excuse me, that can take small diameter material and use it into structural timber, into mass timbers. They've been doing this in Europe for years where they're building tall rise buildings out of wood using mass timber. We are actually building two of those buildings in this country today, to be able to demonstrate the use of this, and we have two plants that are producing the product today and I know of two more that are coming online. This is just one of the things that need to occur.

Now, the key to this is a couple things. One, we've got to provide certainty so that investors know there's going to be X amount of material that's going to be available and not just for a year or two. It's got to be for multiple years. So we need to invest more in our stewardship contracts that are multiyear, ideally 10 years at a minimum, to be able to provide that certainty. And then to be able to find ways to incentivize the startup of these programs. We do it through our wood innovation grants that are helping folks to be able to see how to do it, and then to recognize it takes a certain volume to make these efforts successful. And so, it's got to be at the right scale to be able to move forward. And then, our biggest challenge still is the transportation costs.

Senator FRANKEN. Sure.

Mr. TIDWELL. That is the biggest problem we have with moving to small diameter material. If we have a facility that's close, it pencils out really well. But the other part of it is that we need to recognize the outcome that we're after. And so, if there's additional cost to remove this small diameter material, we need to think about the overall benefit and to be looking at, really, the change

we're making on the landscape to really carry that investment. And does it make more sense for us to pay for somebody to pile up that material, come in there and burn it, just put up more smoke in the air, or does it make more sense to be able to move that material where we can put it to beneficial use, even when it doesn't quite pencil out, but it helps to contribute to that outcome that we're after? It's just one of our challenges that I'm asking our scientists to be able to put the economic information together in a way that makes this a more compelling argument about the need for this overall investment.

If you really look at the end outcome, from my view, it more than satisfies, it more than carries, the need for the upfront investment. The work that we've seen, at a minimum, our investment in fuels work and thinning out our forests, it's a three-to-one return on every dollar. That's the most conservative study. Some studies show it's a nine-to-one return. So this is a good investment. Our challenge is to be able to make a more compelling economic argument to be able to justify that investment.

Senator FRANKEN. Boy, that answer is just music to my ears. I really believe that we can leverage the value of the hazardous waste and, even when it does not pencil out exactly, that it makes so much sense and maybe this is one way we can address and we can prevent fires. We cannot do as much fire borrowing as we have been doing.

I would love for everyone to pay attention to the answer that the Chief just gave.

Thank you.

The CHAIRMAN. Thank you, Senator.

I do want to correct for the record that we are talking about hazardous fuels and not hazardous waste.

Senator FRANKEN. Yes, yes.

The CHAIRMAN. This Committee is a little bit different, particularly to Senator Cortez Masto.

Senator FRANKEN. No, no, we should not burn hazardous waste.

[Laughter.]

The CHAIRMAN. Just clarifying.

Senator FRANKEN. I am sorry. Hazardous fuel.

The CHAIRMAN. We all understood, but——

Senator FRANKEN. Yes, but sometimes I am not precise with my language which is ironic.

The CHAIRMAN. We will let Senator Cortez Masto take up the hazardous waste part of it.

Senator FRANKEN. Ironic wasn't the right word.

[Laughter.]

Go ahead.

The CHAIRMAN. Thank you, Senator Franken.

Let's move to Senator Cortez Masto.

Senator CORTEZ MASTO. Thank you, Madam Chair.

Chief, I appreciate the conversation today, thank you for this.

Just recently the Forest Service and the Department of the Interior, I found out, are projecting a very strong probability for Northern Nevada to see wild and forest fires this summer, particularly in July and August.

[The information referred to follows:]


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Boise, Idaho
Issued June 1, 2017
Next issuance July 1, 2017

Senator CORTEZ MASTO. With the 53 percent cut of the Forest Service's budget spent, or actually it's 53 percent of your budget spent, on fire suppression, and the cuts that I am seeing and particularly, under President Trump's budget, the cuts to the Forest Service would impact state and private forestry budgets. In fact, the Nevada Division of Forestry would experience a 40 percent funding loss. Obviously, that would be devastating to us in Nevada—in Northern Nevada and particularly the Western states.

How will the Forest Service address these concerns if the Administration's budget is implemented by Congress? I am curious.

Mr. TIDWELL. Well Senator, we will make the most of the funds that we receive to be able to continue to work with the states and with the counties to be able to do the work and to provide as much assistance as we can to the counties and the states, especially for the volunteer fire departments. But there's no question that there's going to be impacts from our proposed reductions. They're not easy, they're difficult, and there's none of them that I really like. But it's just the reality of having X amount of money and really where we want to focus our funds, and that's what this budget does.

One of the things I need to point out, it's the second time the map has been put up. And yes, in your state later this summer we expect to have an above active fire season. The thing I need to point out is all that white, that's a normal fire season.

People need to remember that normal fire seasons are much more active than what they used to be. If you look at the top ten fires that we had last year, yes, California was the red area on the map last year and we had, I think, probably four or five of those large fires. But we had another five very large fires that were all in those white areas, so I just wanted to make sure that no one is ever misled by our map. But yes, you are in the spot, along there with that part of California that we expect to have a very active fire season this year.

Senator CORTEZ MASTO. Which is why I am concerned with the recommendations of the budget cuts. There are many things I am concerned with in the budget cuts, but obviously for this very reason. Let me follow up because I am curious about this.

As you well know, our Nevada National Guard, our 152nd Airlift Wing, is actually outfitted with a C-130 aircraft which has the Forest Service's MAFFs equipment. Under Trump's recommended budget, how would MAFFs be impacted, and particularly, our Nevada National Guard Airlift Wing?

Mr. TIDWELL. This budget request would still provide for the same level of large air tankers that we've had and will need.

In addition, we'll continue to always rely on our long-term agreement with the MAFFs operation. They provide that surge capacity that when we get to those parts of the year, like potentially there in August in your state when we have a lot of resources out, that we can call up those units, those pilots who are trained. We make sure that we do some training exercises with them early before the main part of the fire season so that they're ready. They are quick to respond, and it's amazing how quick they can slip those tanks into their aircraft and be able to respond to our fires.

So they're just a key part of it and under any scenario——

Senator CORTEZ MASTO. But they won't be impacted——

Mr. TIDWELL. ——there will be no impact on our MAFFs.

Senator CORTEZ MASTO. The fire suppression retardant, MAFFs, will not be impacted at all by anything in the Trump budget?

Mr. TIDWELL. Right. No impact.

Senator CORTEZ MASTO. Okay. Thank you, I appreciate that.

Thank you very much.

The CHAIRMAN. Senator Cassidy.

Senator CASSIDY. I will pass and go after Senator Hirono.

The CHAIRMAN. Senator Hirono.

Senator HIRONO. Thank you very much.

Chief Tidwell, we know you are very committed to the mission of the Forest Service and you just said that you need to get a lot more aggressive about advocating for your needs, but clearly President Trump is not on your page because his budget cuts the Forest Service by $900 million, one-third of which has to do with the firefighting account.

So as we sit here, I do not know how many times we have focused on the need for more funds for firefighting and we all agree on that, but the President's budget goes the other way. Aren't you frustrated?

Mr. TIDWELL. Well Senator, it's always frustrating to not be in a position to be able to ask for the ideal funding level, but what I'm up here to actually ask you for is this level for funding and be able to concentrate on what we're able to get done with this.

But yes, ideally it'd be great to be up here to be able to ask about it. I think back to when we first started the discussion on trying to fix a solution to the fire borrowing and the impact on other programs.

Senator HIRONO. So——

Mr. TIDWELL. And I think about the potential of funding. It could have been redirected for active management over these years.

Senator HIRONO. Well at this point we are not even talking about holding the line, we are actually cutting the Forest Service by a lot.

Let me go on with another question that I have. As you know, Hawaii does not have a national forest—and there are about ten states that do not have national forests—but instead relies on programs administered by the Forest Service that cooperate with our state and local partners. One such program is important to us and that is the Forest Legacy Program. Other states we know and local municipalities, I suppose, or others, count on this Forest Legacy Program.

This program helps conserve and protect Hawaii's forests from invasive species, something that we really struggle with in Hawaii and provide critical habitat, recharge our watersheds, et cetera. And just last year Hawaii received $4 million, which for Hawaii is very important, for a land acquisition project and a conservation easement project.

Of course, the President's 2018 budget proposes the elimination of the Forest Legacy Program noting that in Fiscal Year 2018, the Forest Service's focus will be on the maintenance of the existing National Forest System lands. I believe that there is value in having the U.S. Forest Service invest in protecting Hawaii's forests. Do you agree?

Mr. TIDWELL. Well Senator, I agree with the focus of this budget request to be able to focus on, you know, maintaining and restoring the lands that we currently are responsible for.

There's no question that the Forest Legacy Program has been very successful to be able to keep working landscapes working and to provide those conservation easements so that the forests, the ranches, continue to be working landscapes. There's no question about that.

But when we're in these difficult budget times, we have determined that this year we need to focus on the lands that we have.

Senator HIRONO. But that means that there are some ten states that will not be able to access the Forest Legacy Program because you do not own lands. We have no national forests in ten states, so states like Hawaii will be basically out of luck. I think that is very unfair to states such as Hawaii.

I had a question about the huge cuts to the Forest Service program and what the impact will be on your firefighting account but I think we have talked about that enough.

I mentioned that one of the strategic programs/activities in the Forest Service budget is invasive species. The President's budget proposes reducing that account by 16 percent, or $5.3 million.

In Hawaii we face—and I know you know this—continuous onslaught of invasive species that threaten our environment. An example is the Rapid 'Ohi'a Death, an invasive fungus that has been ravaging our native 'Ohi'a trees and continues to spread across Hawaii Island. Frankly, the death of these trees will affect the health of our watersheds on that island.

Have the number of invasive species threats to our nation's forests substantially decreased over the past year and, if not, is it responsible to be reducing our investment in invasive species detection, research, technology development and control?

Mr. TIDWELL. Well Senator, there's no question with this budget request that we'll be able to do less work when dealing with invasives; however, I'm hopeful that with the level of funding that we do have and you then look at the work that's been ongoing that support, the awareness of dealing with invasives, especially in your state, that we'll be able to continue to be able to address this. And so much of it is, a lot of it is awareness. There's also the biological controls that we need to continue to do the research on to be able to find the solutions to that.

But it's just one of those areas where, once again, we will have a significant amount of funding. It's not at the same level to be able to continue that work. And yes, we'll be doing less, but when I look at what we have ongoing with our partners working so closely with the state and with the universities, I want to remain optimistic that we'll be able to continue to address that problem.

Senator HIRONO. I will certainly be working with you all to make sure that we are, in fact, maintaining a level of activity in this area and research because $5.3 million is a relatively small amount and I think that it should be restored.

Thank you.

The CHAIRMAN. Thank you, Senator.

Senator Cassidy.

Senator CASSIDY. Chief Tidwell, welcome back.

Last year you and I discussed the Environmental Protection Agency's (EPA) interim recommendations for environmental standards as well as ecolabels for use in federal procurement. EPA was recommending lumber only, and that recommendation for lumber only included the Forest Stewardship Council (FSC)-certified lumber, excluding other sources.

In my state, nearly four million acres, or 85 percent, of all certified lumber is from two other certification processes, the Standard Forestry Initiative and the American Tree Farm System. I think last year you mentioned that timber from the national forest land is not subject to a certification standard. So I am kind of bringing this to a head.

Your testimony today suggests that expanding markets for wood is one of the foci, if you will, for this budget. Could the EPA's recommendation to only use FSC-certified lumber impact the Forest Service's ability to meet the Fiscal Year '18 target volume of 3.2 billion board feet of timber sold?

Mr. TIDWELL. Well Senator, Forest Service, we recognize all three of the certification programs that have proven to be very helpful, especially with our private forested land to be able to have access so those additional markets that are driven by certification programs, and we continue to work with EPA to be able to get that across.

Senator CASSIDY. Now maybe your understanding of this is greater than mine, so I do not know the answer to this question, except my understanding is that if this EPA reg goes forward that for federal procurement the FSC must be the one that is used, not the other two. So when you say you recognize all three, but if some of the land is not certified with FSC clearly that—according to that EPA regulation—that board cannot be sold for federal procurement. Is that a correct understanding?

Mr. TIDWELL. That's my understanding and I just need to clarify, the U.S. Forest Service recognizes all three of those certification programs and I've been disappointed that we have not been able to convey that in a way to EPA. We're continuing to work with them.

Senator CASSIDY. I get that. If that EPA standard becomes final, to what degree will that impact your ability in your budget to meet your target volume of the 3.2 billion board feet timber sold?

Mr. TIDWELL. It—I don't think it will have an impact on our ability except when you look at if there's a reduction, you know, in markets across the board, there could have a corresponding impact on our ability. I mean, last year we had 500 million board feet that we put up and had no bids on that sale, on those sales, which is highly unusual to have that level. But it just shows how tight the markets are. So I think anything that limits the markets could have a corresponding impact.

Senator CASSIDY. So if there is a lot of board being purchased for federal procurement and forest land services are not able to participate in that sale, you are saying that might flood the market for the non-federal procurement, making the federal timber less attractive for purchases?

Mr. TIDWELL. You know, Senator, I'd have to ask our folks to run some analysis on that.

My point is that I think all three certifications should be recognized. From our view they, all three, provide the assurances that people are looking for.

The wood that comes off the national forests, we don't follow a certification program because if you look at all the regulations and laws that we follow to be able to, for the wood that comes off the national forests, it actually exceeds any certification program. And——

Senator CASSIDY. Well I am almost out of time, so let me ask—you have mentioned you have been discussing with EPA to reconcile, if you will, your standards and theirs. I think it is intuitive that it is going to impact the marketability of Forest Service land, if their standard is something which is not complied with. Just intuitively it is going to happen.

So can I ask what is the status of those discussions and what is the holdup of the resolution of those discussions?

Mr. TIDWELL. Well, it's—we're going to continue to have discussions with them, and I don't know what the true holdup is. I'll take the responsibility that we just have not, I have not made the compelling argument. And if we need to provide more information, more data, we are committed to be able to do that.

But this is just one of those areas where, I just think, from my viewpoint that all three programs should be recognized and that there's no need to recognize just one over the other two.

Senator CASSIDY. Can you just, for the record and to our office, let us know the details of that communication? And if there is a holdup, perhaps we can facilitate the resolution.

Mr. TIDWELL. We can do that, Senator. And I appreciate your help on this issue.

Senator CASSIDY. Thank you, sir.

The CHAIRMAN. Thank you, Senator.

Chief, we have votes that have begun and there are a series of three. I have quite a few more questions that I would like to ask and I know that Senator Cantwell has some as well. I am hoping that you can stay for about a half an hour, maybe you can take a quick walk around the building——

Mr. TIDWELL. Yes.

The CHAIRMAN. ——or return some phone calls, but we will stand in recess until the conclusion of this series of three votes. My hope is that it will be no more than a half an hour.

Mr. TIDWELL. Okay.

The CHAIRMAN. Okay, we stand in recess.

[RECESS.]

The CHAIRMAN. The Committee is back.

I will note that we still have one more vote, but I figure with the timing, we have about 20 minutes before we have to go back for that third vote. Many of my colleagues have indicated that they will be submitting questions for the record, so we will see what we can do in this time period, see if we can't kick it out, but we appreciate you giving the Committee the indulgence here.

Chief, I want to talk about things going on in the Chugach National Forest right now. Last week we discussed the recreation funding. The budget is looking at about a four percent decrease, roughly $10 million. It appears that, not only in the Tongass which

we discussed last week the problems with the outfitter guide permitting, we are seeing the same problems in the Chugach. Instead of creating more opportunities to grow recreation by permitting outfitters and guides, it looks like those activities are being curtailed. We have a number of tourism operators that would like to offer new tours on the Kenai Peninsula, but the Forest Service has not solicited new applications for user days of permit operations in nearly three years now—three years is a long time. They say it is due to a lack of staff, but they also say there is no need for new recreation operations.

I have heard from numerous guiding operations who have applied and were basically told "check back." These guides range from heli-ski operators to fishing and mountain guides to small boat tours in Prince William Sound. One guide was even told come back in seven years—come back and check with us in seven years. The website, Chugach's website, says, "the Chugach National Forest is currently not accepting proposals for outfitters guides at this time."

I just do not understand it. It does not make sense to me because last June, a year ago, you issued a memo suggesting that we have this streamlined permitting of special recreation use permits. It specifically encouraged any forest which may have a moratorium on special use permits to reevaluate that decision and consider lifting that which, again, would be appropriate.

The question to you this morning is why do we have this moratorium on issuing new guide and outfitter permits in the Chugach and are you looking to lift that? What are you doing to help facilitate opportunities for recreation within this very important national forest?

Mr. TIDWELL. Well Madam Chair, I'm not aware of any moratoriums and I will personally look into the issue there on the forest to be able to address that.

The CHAIRMAN. Let me just ask though, because again, on the Chugach National Forest website it says, "the Chugach National Forest is currently not accepting proposals for outfitter guide activities at this time." I do not know whether that translates, whether you call that a moratorium. I look at that and say, okay, at this time they are not taking it. But then when people are inquiring they are told to check back in seven years. To me, that sounds like a moratorium.

Mr. TIDWELL. So Madam Chair, there's no question that on some of our forests it takes a lot of time, years, to be able to respond. And that's one of the things we're working on to change. And it's—we're focusing on reframing our approach so that the folks that work on our special use permits can use their time on the more significant requests and not be spending a lot of time on activities that really don't contribute to any more impact than what's already occurring from the public.

The CHAIRMAN. Well——

Mr. TIDWELL. And by doing that we can free up our time to be able to address the requests that you just indicated—things like the heli-skiing operations—that do take a little bit more work than some of our other activities.

The CHAIRMAN. Well, I guess I am even more confused because I look at some of these requests—okay, maybe heli-skiing is in a

different category—but you have a small boat tour in Prince William Sound. You already have existing small boat tours there. Fishing and mountain guides, to me, these are not big considerations. They are not something brand new, carving new territory here, but they can be considerable economic drivers in terms of building out these tourism opportunities.

Again, we have had so many conversations where we push so hard to try to get the timber cut up so that you can have jobs there. We are told by the Forest Service, nope, do not pursue that activity. We want you to pursue the recreation opportunities. Then when these individuals, these operators, try to put themselves forward to do just that, they are told, well, come back, check back in seven years.

You just cannot shut down the forests, you just cannot. Some way or another there has to be an effort to revisit this. Again, I liked your memorandum from last year that says, hey, if there has been a moratorium, revisit this, look at it.

So the question to you is whether you will revisit, relook at what is going on on the Chugach right now?

Mr. TIDWELL. We definitely will revisit and look into that, and then also see what we need to do to be able to expedite addressing those applications.

I know that having less staff is not anything that anyone wants to hear about, but it is the reality. And each year we receive over 6,000 special use applications that we have to process. Over the years we've been able to actually reduce that backlog by about 33 percent, but that's still a lot of folks out there that we are not able to respond to in a timely way.

The CHAIRMAN. I understand that, and I am asking you here this morning if you will commit to looking specifically at what is going on in the Chugach.

Mr. TIDWELL. I will.

The CHAIRMAN. Thank you.

Let me ask about another Chugach issue, and this is one that you are also aware of. This is the Cooper Landing and Resurrection Pass Trail.

For about 40 years now we have been trying to clear a route to move the Sterling Highway near Cooper Landing on the Kenai Peninsula. This highway runs within feet of both the Kenai and the Russian Rivers. This is an area where we have about half of Alaska's population that flows through every year.

One potential bypass route at Cooper Landing is the Juneau Creek alternative. It has the support of conservation, fishing, community groups, the Department of the Interior and the Department of Transportation. A land exchange to adjust the boundary of Mystery Creek Wilderness is in the works. The one issue holding it up is an objection by the Forest Service because they say the route would cross the Resurrection Pass Historic Trail, but the Trail is not actually impacted because a bridge would be built over Juneau Creek Canyon so the Trail can then pass under the bridge.

So I am asking this morning if you will commit to having the Forest Service reexamine the agency's comments during the Environmental Impact Statement (EIS) process concerning the Juneau

Creek alternative and then commit to considering supporting that alternative in revised comments before Federal Highway.

Mr. TIDWELL. Well Senator, it's my understanding that we have provided comments on all the alternatives, but we do not have a position on any one of them which is preferred, but we will look into this to make sure that there's a clear understanding of the comments that we've presented and that, but we do not have a position on any of them as a preferred.

The CHAIRMAN. Well, I appreciate you saying that you will reexamine or relook at this. Again, this is a unique situation where virtually everybody else has come to a consensus position and it is the Forest Service that is the only hold out here. So I just ask you to, again, reexamine.

Let me shift down south to the Tongass. The Forest Service five-year timber sale schedule indicates that there will be no timber sales within any proximity of the Viking Sawmill. You know well about Viking. But it is my understanding that until about 2020, that is going to be the situation.

It is also my understanding that the agency has three National Environmental Policy Act (NEPA) teams that are working in the region, but only one is working on a project that can help supply the mill. Even if that project is successful, it does not do much to restore a three-year supply of timber.

Viking's situation, we always talk about Viking kind of hanging on by their fingernails. Once again they are looking at a situation where they expect their timber supplies to be pretty much depleted by 2020.

I am asking this morning whether the Forest Service would commit to adding additional timber sale teams to supplement the current five-year schedule and then really, what else is possible? What else can be done to ensure that we do not lose Viking?

Obviously, we have worked very aggressively here on Mental Health Trust to help facilitate that and we have been successful with that but, again, so much of this hinges on the viability, the continued viability, of the only medium-sized mill left in Southeast Alaska.

What is the survival plan here for Viking? And can you get an additional timber sale team to look at this five-year schedule?

Mr. TIDWELL. Well Madam Chair, I would really like to be able to add an additional team there and an additional team on maybe every forest and we'll do what we can within the resources that we receive.

It's my understanding that folks are working together with the state and Sealaska to have a program of work that will provide a volume of timber to ensure, not only Viking, but the other operators. And that over time, you know, our commitment is to continue to increase that to ensure that those businesses stay open. They're key to sustaining those communities. And so, it goes way beyond just what we talk about here.

This, you know, the timber production on the Tongass, for me, is really essential to sustain communities. That's what it's about. And yes, it makes use of renewable resources. It provides, you know, some wood locally. It provides a lot of jobs but it sustains those communities.

So, if our budgets, as we move forward, if they provide for that flexibility for us to be able to add, to get additional work with everything else that we're doing, that's ongoing, I'd be glad to look at that to be able to get more done.

As you and I have talked, I think I'm committed to be able to show that we can have a sustainable flow of timber off the Tongass, and that as we move forward, to be able to show that the things that we're working on will make a difference.

The work that we're doing with the state right now, they're currently working through a Good Neighbor Authority to be able to do the sell at layout and also even the appraisal on a sell this year so that we can learn from the state about their processes, so we can find, you know, additional efficiencies, not only in how we do our work, but then also, with their appraisal system.

It's one of the things that we need to also make some adjustments to our appraisal system so that when we do put a sale up, we can ensure that it's something that's going to be viable, even if, like on projects like the Big Thorne, that are over multiple years, we got to have the flexibility to be able to adjust the rate on those sales to ensure that they stay viable.

So it's a combination of all of those things, that's what it's going to take to be able to ensure that we're doing everything we can to sustain those communities.

The CHAIRMAN. Well, and recognizing your offer here to show us how we are going to make this all happen, I would ask that you help me with the rationale for the young growth transition and this assertion that somehow they are going to be revenue positive.

I would ask you to provide me with the financial analysis for the young growth transition and whatever background supporting materials are out there that led to this position that you believe it will be revenue positive.

Mr. TIDWELL. Madam Chair, we'll be glad to provide that information.

The CHAIRMAN. Good. Thank you.

Senator Gardner.

Senator GARDNER. Thank you, Madam Chair.

And thank you, Chief Tidwell, welcome to the Committee today. I apologize for being late. We had an amendment on the Floor and several other Committee hearings today, so I thank you for sticking through this hearing with us.

I had a meeting right before this hearing with the Mayor of Nederland, Colorado, which is right by the Arapaho Roosevelt National Forest in Boulder County. One of the biggest concerns Mayor Larson expressed to me was his concern about what happens in the urban interface now with what seems to be an increasing number of campers who are coming in, but these are not just ordinary sort of campers who are there for the weekend. They are almost a permanent camp, encampment, that is creating fire risks—according to the Mayor—and creating litter and law enforcement challenges.

According to the Mayor, the Arapaho Roosevelt National Forest basically has one officer for the entire region and was talking about ways that we could, maybe, help out, he mentioned drug paraphernalia that is being found in these sites.

Is there a law enforcement initiative or effort that we could help with that might address some of these concerns so people who want to go—law-abiding citizens who want to go—and enjoy the forests are not either deterred from that experience or have less enjoyment because of these kinds of activities?

Mr. TIDWELL. Well Senator, there's a couple things that we could do.

First, since you brought this to my attention, I'll talk with our law enforcement officers to see if we can't shift some additional resources there. Often we can bring some additional folks in for a short period of time to address the problem. Also, to see what else we can do with the counties, through our co-op law fund to be able to apply——

Senator GARDNER. And I want to make sure that I am not criticizing you—I think you are doing work with it—and that there are some additional efforts they are doing. I want to thank you for that too.

So——

Mr. TIDWELL. But I think also through our co-op of law agreements which we have with the sheriff there where we work in conjunction to be able—because when we get these situations that sometimes occurs and we can get in there and inform people that here's the, you know, the limits on camping, et cetera and they're not, you know, sometimes we do get folks that are living on the national forests for a variety of reasons. And we just need to help them to be able to move on before this gets really established. Once it gets established it's much more difficult. So I appreciate you bringing it to my attention, and we'll look into see what additional resources we can provide.

Senator GARDNER. Thanks, Chief.

Of course, if there is a way that we can work with the Forest Service on the solution, long-term too, we are happy to help look at that and I know there are resource issues involved as well. We are happy to help address some of those questions.

You and I have talked about this before, the fact that Colorado's economy is so reliant on the outdoor economy, the recreation, and the incredible partnerships that are necessary to enjoy our great outdoors. If you look at the vast number of ski resorts, ski areas, in the state many of them are entirely located, if not at least partially, on the national forests. For the fourth season in a row, the state ski resorts have sent record-setting revenue back to the U.S. Treasury Department. During the 2015–16 ski season, I believe Colorado ski resorts sent back about $25+ million to the Treasury.

I have talked to you, your staff, about this and the Forest Service is challenged in keeping up with the growing recreation industry as we see more uses of the forests, both in the summer as well as the winter, and now new summer activities.

The White River National Forest staff and budget steadily eroded over the past several years. We have talked about this before. We are working on legislation with Senator Wyden. What is the Forest Service's plan to help address this erosion of local capacity to serve recreation that is critical to so many of our communities?

Mr. TIDWELL. Well Senator, the thing that I think is key to address this problem is simply, we have to find a solution to the cost of wildfire suppression funding. It continues to erode our capability.

As I pointed out to the Senators earlier today, just between FY'16 and '18, the 10-year average goes up $156 million. And that's not a one-year cost. That's there, and so if you look at that over the next 10 years, you know, it's $1.5 billion.

Senator GARDNER. Yes.

Mr. TIDWELL. So you think about if we can find a solution to that, how we could reinvest that type of funding and to be able to address this.

The point you make with ski areas and especially as we move to now four-season ski areas, which we're really encouraging these operators to expand their operations beyond just the winter. They have the infrastructure, they have the facilities and it's a safe environment for folks. But we need to be responsive to their request for adding additional facilities, and it is frustrating at times that we cannot respond to another great set of partners.

And we're doing what we can to be able to find more and more efficiencies, but I'll tell you, the reality of it is with our recreation funding, like all of our programs, just continue to have this pressure of having to deal with the cost of dealing with wildfire suppression.

Senator GARDNER. I think that is something that we have to address, this issue of wildfire borrowing, putting it into that, absolutely.

Just a quick question on the Executive Order that was signed in April by the President. It was titled, "Promoting Agriculture and Rural Prosperity in America." There was this phrase, "The task force shall identify legislative, regulatory and policy changes to promote rural America . . . including changes that," paragraph 9, "ensure that water users' private property rights are not encumbered when they attempt to secure permits to operate on public lands."

This Executive Order was issued in April, but the Forest Service has yet to remove its guidance on acquiring water rights and has also offered testimony that seems critical of the Water Rights Protection Act in the House just a couple of weeks ago. And that was a bill that was designed to protect against the Federal Government trying to put in place a permit condition of the cost of private water rights.

I want to make sure that I understand that—and I hope the answer is—that water rights owners are going to continue to enjoy their private water rights without facing federal overreach. If you could respond to that.

Mr. TIDWELL. You know, Senator, we rely on the state laws when it comes to, you know, dealing with water. Our sole effort on this is really one thing—by keeping the water with the land, we can maintain multiple use.

And so, we were able to work out agreements with the ski areas so that they took on that burden to ensure that the water would stay, would be there available for the permits so that we can ensure that people can continue to ski into the future, no matter how tight water supplies get.

It's the same thing with our grazing permits. You take that water off the land, we eliminate livestock grazing. And so, we want to work with the states and work with our permitees to be able to maintain that multiple use.

But water rights are controlled by state law, and we respect that, but our sole focus is simply being able to keep water on the land so we can continue multiple use. So we work with the states to be able to address that.

Senator GARDNER. I appreciate that.

Can I get your commitment that there will not be any kind of a condition in a permit or permit approval to require a bypass flow as a condition of the permit grant?

Mr. TIDWELL. Well, I think we need to look at, you know, the issues there. And I know this is at times, controversial with, you know, our current authority to be able to provide for bypass flows. But if we eliminate that water—so you eliminate potentially grazing, you eliminate fisheries, you eliminate water for wildlife. That's why we need to find, I think, a balance.

And just——

Senator GARDNER. But balance has to be achieved under state water law?

Mr. TIDWELL. Well, it's my understanding, I think, even in Colorado with us when it comes to like the state lands, that they require that water to be able to be retained onto the land, to be able to provide that mix. So——

Senator GARDNER. Unless the water is judiciously decreed a water right?

Mr. TIDWELL. Yeah, yeah, yes.

And so, I mean, we recognize, you know, the state water, but I think there's some benefit to the public for us to be able to maintain our ability to condition diversion points and to condition access to ensure that folks can use their water, but be able to do it in a way that we can also provide for multiple use.

Senator GARDNER. So you are telling me that you are willing to condition a permit by requiring someone to keep their water?

Mr. TIDWELL. I think that the—if you look at our practices that—and I've had to deal with many of these issues throughout my career——

Senator GARDNER. That would be——

Mr. TIDWELL.——where we've been able to sit down and work with the water owners, people that have the water rights and be able to work with them to provide, be it bypass flows or sometimes just to provide water for wildlife at a spring development. And we've been able to do it in a way that they can access their water but at the same time, we can continue to provide for multiple use.

So I think it's——

Senator GARDNER. Well, understand if it is, I mean, look a water right is a water right. It is not the Federal Government's.

Mr. TIDWELL. Right.

Senator GARDNER. It is an individual's private water right.

Mr. TIDWELL. It's a water right.

Senator GARDNER. And so, if an individual who is reliant on a grazing permit is then subjected to a process where you will only

grant the grazing permit if they give up their private water right, that is kind of an unfair bargaining position.

Mr. TIDWELL. I agree with you, and that's not what we want to do. We want to keep the water there for the livestock operator.

What I'm talking about is when we have someone that wants to divert that water off of the national forest so there's no longer water left for livestock grazing. That's when we feel that we need to use our authority to be able to continue to provide water for livestock or for wildlife, and at the same time provide the owner of the water right, you know, access to their water. But it's about just being able to maintain multiple use.

And so, you know, throughout my career we've always been able to work out these issues by working with the owner of the water to provide whether it's some instream flow or for, provide some water for wildlife or for livestock, but at the same time to be able to provide—and sometimes they have to change the appointed diversion. Sometimes, you know, and then once the water leaves the national forest it's, you know, they can, of course, do anything they want with it.

But I recognize the need to be able to have the diversion points high up in the watersheds. But we just need to be able to work together on this to be able to define, you know, that agreement, with following, you know, the state water law. So we're not requiring people to transfer their water rights but we do want to work with them to be able to provide water on the national forest for multiple use.

Senator GARDNER. Well, I hope that we can continue this conversation because I do think that it is a matter of protection of private water rights. We have to be very, very clear on this point.

Thank you for allowing me to go significantly over my time.

The CHAIRMAN. I appreciate that, and I am glad you had the opportunity.

Chief, I had raised last week the issue of the effort to acquire lands at Cube Cove on Admiralty from the Shee Atika Native Corporation. We have a split estate issue. You know the issue. The Forest Service is only acquiring the surface rights. We have pretty good reason to believe that there are opportunities for minerals in the subsurface. Your staff in Alaska has been working, trying to find a solution to gain the subsurface to these lands. I am going to ask you to get back to us in terms of any progress that has been made on agreement with Sealaska to acquire the subsurface to the 22,000 acres that you have signed an agreement to purchase.

I would ask you to respond to that one in writing.

The last question that I want to ask—and the time is up on this vote so I am going to have to scoot here—but Secure Rural Schools. You have so many members of this Committee that are struggling to find the answers. Our Committee had a hearing not too many weeks ago on this topic, and legislation to reauthorize the program has been introduced. Does this Administration support the Secure Rural Schools program?

Mr. TIDWELL. So Madam Chair, we do not have a recommendation in our budget request for this year.

The CHAIRMAN. I understand that it is not in there.

Mr. TIDWELL. No.

The CHAIRMAN. And that sends some signal, but I guess a more direct and pointed question is whether or not you support the reauthorization of SRS funding?

Mr. TIDWELL. I have not had those discussions with the Secretary yet. I can speak at length about the benefit of the program and the need to provide some certainty and a safety net to our counties and our boroughs. I think the Secure Rural Schools program has proven to be an essential program for those reasons and at the same time, you know, we're committed to being able to, you know, increase the amount of work that's occurring to increase more revenues.

But the reality of it with markets, especially, there's always going to be tremendous fluctuation in those payments to the counties and the boroughs. I think it just really justifies a need for a program to provide that level of certainty and a safety net that they can rely on year after year. I can only begin to appreciate what the counties and the boroughs have to do when they are not sure how much they're going to receive next year.

The CHAIRMAN. Right.

Mr. TIDWELL. Or have such a significant reduction. It's a very difficult situation for them. And I just, I believe strongly we need a solution.

The CHAIRMAN. It is a roller coaster. It is a roller coaster that causes stress. People that do not have the money put together, flyins to come out here, literally begging us.

Senator Wyden and I have this conversation, as I do with my Ranking Member, Senator Cantwell, about where this puts these communities because they do not have that certainty. While it may not look like a large amount of money, in some communities you are talking $350,000, it may be one-third of their budget for that small community.

And so, recognizing the importance of it, it is something if you have not had that conversation with the Secretary, know that I have, know that others have, and trying to find that solution that offers to some greater certainty to our communities is a place that we need to get because right now there is panic in a lot of small towns in rural America and many in Alaska.

Chief, I am sorry that we do not have more time, but I am going to go vote. I know that others will have questions that they will submit to you.

I appreciate that all the budgets that we are dealing with right now, in many areas, are not adequate to meet the need as we deal with budget realities. But know that this Committee is eager to work with you to define how we get good value out of those federal dollars, how we work to make management work within our forests. We have some work ahead of us but communication is going to go a long way, and I appreciate you being here today and working with, not only myself, but other members of the Committee to help effectuate that.

With that, we stand adjourned.

[Whereupon, at 12:13 p.m. the hearing was adjourned.]

APPENDIX MATERIAL SUBMITTED

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Questions from Chairman Lisa Murkowski

Question 1: Please provide, as you committed to do at the hearing, the financial analysis for the young growth transition, and any other supporting materials in the administrative record that led to the assertion made in the 2016 Tongass Land and Resource Management Plan Amendment that the young-growth transition will be revenue positive.

Answer: The conclusion that the net present value of the overall timber program is positive and that young growth alone will be profitable after 25 years is supported by the financial analysis contained in the Final Environmental Impact Statement (FEIS) prepared for the Tongass Land and Resource Management Plan Amendment. The agency used the Woodstock model for its programmatic analysis, which is a strategic planning tool designed to explore differences relative to decision-making. The FEIS included the financial analysis generated from the model to offer a relative comparison of timber sale revenue among alternatives. Certain cost and value data were used in the Woodstock model, which was disclosed in Appendix B to the FEIS. The assumptions and values used to develop the estimates were updated following comments received on the Draft Environmental Impact Statement, and represented the best available information at the time [FEIS, Appendix I, p. I-140].

The Woodstock model provided results that, when viewed over 15- and 100-year planning horizons, resulted in positive net revenues for all five alternatives analyzed [FEIS, p. 3-516]. Alternative 5, the Selected Alterative, also resulted in modeled positive net revenues over the 25-year planning period [Id.]. Positive values for the five-year increments that comprise years 1 to 25 are due to the old-growth component of the projected harvest. In contrast, in most cases the net revenues generated by the young-growth component alone were negative [Id.]. The FEIS concluded that this modeled, programmatic analysis suggests that individual timber sales offered under any of the alternatives in the first 25 years of the planning period will likely need to include a mix of old growth and young growth to appraise positive as required by Public Law 112-74, House Report 2055-257, Section 414 [FEIS, p. 3-517].

The FEIS Woodstock modeling results by alternative, and by summary charts and tables, are included in the administrative record at document numbers 769 01315 – 769 01322.

Question 2: In your oral testimony, you stated that the return on investment for hazardous reduction was 3 to 1 or 9 to 1. You said that this was based on certain studies. Please provide copies of the studies you were referring to.

Answer: In 2014, the Forest Service, with The Nature Conservancy and the Sierra Nevada Conservancy, issued a report entitled, 'Why Sierra Fuel Treatments Make Economic Sense,' which included the following conclusions:

- The economic benefits of landscape-scale fuel-reduction treatments far outweigh the costs of wildfire.
- The economic benefits of fuel treatments may be three or more times the costs.

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- The avoided losses, in terms of both costs and lost income opportunities, include the value of structures saved from wildfire and the costs of fire suppression and post-fire restoration, as well as potential revenue from carbon sequestration, merchantable timber, and biomass that could be used for energy.
- The study showed that the modeled fuel-treatments scenario reduced the size of each of the five fires by 30 to 76 percent, or a total reduction in size of approximately 41 percent.
- The study estimated a range of benefit-cost ratio values from low to high, with the benefit-cost ratios for the fuel treatments ranging from **1.9**:1 to **3.3**:1.
- Although achieving such benefits requires a significant increase in funding to achieve the appropriate pace and scale of fuel treatments, the long-term cost savings far exceed the costs of the initial investment.

There have been a number of other site-specific studies about the cost and benefits of hazardous fuels treatments. The benefits of hazardous fuels treatments fall into four broad categories: 1) Economic value of forest products that are removed such as saw logs, wood chips, and biomass; 2) Wildfire suppression costs avoided because of the reduced hazardous fuel; 3) The value of other market and non-market benefits of the hazardous fuel treatment, such as improved wildlife habitat, improved recreation opportunities, and improved watershed functions; and 4) Other avoided costs related to the impact of wildfire include homes that did not burn, administrative sites and infrastructure not damaged, forest products not consumed or devalued, municipal water sources not silted, recreation opportunities not devalued, etc. Of course, the lives of citizens and firefighters are priceless.

Other studies that demonstrate the economic value of fuel reduction treatments include:

- Mokelumne Watershed Avoided Cost Analysis, http://www.sierranevada.ca.gov/our-work/mokelumne-watershed-analysis
- Analysis of Costs and Benefits of Restoration-Based Hazardous Fuel Reduction Treatments vs. No Treatment, http://cdm17192.contentdm.oclc.org/digital/collection/p17192coll1/id/265/rec/1
- Economic Impacts of Wildfire, https://fireadaptednetwork.org/wp-content/uploads/2014/03/economic_costs_of_wildfires.pdf
- Fuels Treatments Reduce Wildfire Suppression Cost Merritt Island National Wildlife Refuge, May 2012, https://www.fws.gov/southeastfire/documents/FMIR_Fuels_Treatments_Reduce_Wildfire_Report.pdf
- Review of Economic Benefits from Fuel Reduction Treatments in the Fire Prone Forests of the Southwestern United States, http://swfireconsortium.org/wp-content/uploads/2016/11/Econ_Final_Web.pdf

Question 3: At the hearing I asked you about a "moratorium" on permitting new outfitter/guide activities on the Chugach National Forest. Since the hearing, I noticed that the Chugach removed from its website the following statement: "The Chugach is currently not accepting

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proposals for outfitter/guide activities at this time." Will the Chugach now accept proposals for new outfitter/guide activities?

Answer. Yes, we are accepting new recreation special use proposals. There is no moratorium on outfitter and guide permits in the Chugach National Forest.

Questions from Ranking Member Maria Cantwell

Question 1: Methow Withdrawal

On December 30, 2016, the Bureau of Land Management (BLM) published a notice of application for withdrawal and opportunity for public meeting in the Federal Register. The publication of this notice segregated 340,079 acres of National Forest System land in the Methow Valley in Washington, subject to valid existing rights, for up to 2 years from settlement, sale, location, and entry under the public land laws, location and entry under the mining laws, and operation of the mineral and geothermal leasing laws.

Sections 2310.3-1(b)(2)(v) and 2310.3-2(c)(2) of title 43 of the Code of Federal Regulations specify that the BLM must schedule one or more public meetings on applications for withdrawals involving 5,000 or more acres of land. A meeting must be "held at a time and place convenient to the interested public, the applicant and the authorized [BLM] officer."

The BLM gave notice at that time "that a minimum of at least one public meeting will be held in conjunction with the withdrawal application." The BLM also opened a 90-day public comment period through March 30, 2017.

I understand that the Forest Service, the applicant for a twenty-year withdrawal of these lands, has been in discussions with the BLM to schedule a public meeting. It has been nearly six months since publication of the Federal Register notice and nearly three months since the close of the comment period. I am concerned that this meeting is being inappropriately delayed.

A public meeting will provide the BLM and the Forest Service essential local community feedback on the withdrawal proposal. The views of the community are a primary reason I have sponsored S. 566, legislation that would permanently withdraw this same federal land, subject to valid existing rights.

When should the public expect this required public meeting to take place?

Answer: The Federal Register Notice package announcing the public meeting to discuss the application for withdrawal in the Methow Valley is at the Department of the Interior for approval.

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Question 2: Urban and Community Forestry

The Urban and Community Forestry program provides money for the planting and long-term care of trees in our communities. This funding makes communities in Washington and in the rest of the Country more livable, healthier, more energy efficient, and more vibrant. I have heard that this administration wants to invest in infrastructure. Community and urban trees are just that – critical infrastructure for both rural communities and inner cities. This program would be one great way to focus due attention in both of these areas.

Why is the administration proposing to eliminate that funding?

Answer: The FY 2018 President's budget reduces funding in order to focus resources on maintaining existing national forests and grasslands. This budget will require greater shared stewardship of the land between the Forest Service and State and local communities to achieve our work.

Question 3: Fire transfers

In 2015, you transferred significant amounts of money from non-fire programs to pay for the firefighting costs of one of the worse fire seasons in recent history. Your transfers affected numerous projects and programs in Washington, including the Legacy Roads and Trails program.

Of the funding transferred from the Legacy Roads and Trails program in FY 2015 to pay for firefighting, how much was transferred from the National Forests in Washington state?

Answer: At the end of FY 2015, Region 6 (which includes Oregon and Washington) provided $1.3 million of unobligated Legacy Roads and Trails balances for fire transfer.

Later in FY 2015, a supplemental appropriations bill was enacted, providing the Forest Service sufficient funding to repay all of the non-fire accounts from which funding was borrowed to pay for firefighting. Yet, I have been told by several groups in Washington that the funding appropriated never returned to the National Forests in Washington to pay back the money that was taken from their programs, specifically the Legacy Roads and Trails program. This funding was particularly important to these groups because they were waiting with matching funds to initiate Legacy Roads and Trails projects on the National Forests in Washington.

How much funding was transferred nationally from the Legacy Roads and Trails budget line item in 2015 for fire-borrowing? How much of the funding was returned to the Legacy Roads and Trails budget line item nationally after the supplemental funding appropriated to the Forest Service?

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Answer: Approximately $1.9 million of unobligated Legacy Roads and Trails balances was used for fire transfer, and 100 percent was returned.

Question 4: Soberanes Fire

I am worried about the lack of transparency and the lack of accountability around how the Forest Service spends funding on firefighting operations. Sometimes, it seems like there is a blank-check mentality, kept by the Forest Service, even when responding to a lower number of wildfires or wildfires that pose lower risks to communities.

I understand last year's Soberanes Fire on the Los Padres National Forest in California was the most expensive fire suppression operation in history. I also understand that because of the expense, a major internal audit of the management of the wildfire and the expenses incurred on the wildfire has been undertaken.

A member of the fire community has contacted my office about the audit. That person wanted to bring to my attention a situation that if true, I would find deeply troubling. The person claims that the Forest Service is considering not releasing the results of the audit because the waste uncovered during the review was so blatant.

Because one of the roles of Congress is oversight of the actions of Executive agencies, I am requesting that you provide me and the members of this Committee the results of this audit. Specifically, I am requesting

1) an explanation of why so much money was expended on the Soberanes Fire,
2) the percent of the land burned in the Soberanes Fire that "attained resource benefits" or improved forest conditions,
3) the expenditures that the internal audit committee deemed unnecessary or wasteful,
4) an account of how you are addressing those expenditures and the employees or contractors that incurred them, or the employees that made a decision that resulted in that spending,
5) the recommendations provided by the committee conducting the internal audit as to what should be done to prevent unnecessary or wasteful spending from occurring on future wildfire incidents, and
6) what actions the Forest Service will undertake to implement any recommendations made by the committee conducting the internal audit.

Answer: The Soberanes Fire was under unified command with the State of California (Cal Fire). We are still working to finalize the large fire cost review, but we will be happy to brief the Committee when it is complete. Our final review will help provided answers to your specific questions above.

Question #5: Airtanker Retardant

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I am concerned about the overuse of aerial firefighting retardant. I have seen numerous peer-reviewed studies (many from Forest Service scientists) that show that it can be relatively ineffective and expensive. I understand that while fire retardant has advantages over water in certain circumstances, water oftentimes can be just as effective and significantly cheaper and faster to deploy.

I understand the Forest Service has undertaken a study on Aerial Firefighting Use and Effectiveness, beginning in 2012. Though the Forest Service has stated that findings of the study will start to be released in 2017, none have been released to date. When can we expect to see the Forest Service's annual detailed fire suppression aircraft use summaries—for FY 2015 for example?

Answer: Summaries for 2015 and 2016 are planned for release by the end of the 2017 fire season. The summaries will provide context and statistical validation for the effectiveness sampling that the Aerial Firefighting Use and Effectiveness study continues to collect.

Questions from Senator Ron Wyden

Question 1: Chief Tidwell, at the budget hearing in the Energy Committee, I asked you about my wildfire fix, and the costs of inaction over the last four years. You mentioned the millions of acres that could have been treated, and the effects this would have on reducing the severity of wildfires.

Can you please elaborate on the costs of Congressional inaction associated with failing to fix fire borrowing?

Answer: Suppression funding has historically been based on the 10-year rolling average of suppression costs, which continues to increase each year, while the overall Forest Service budget has been relatively flat. This has resulted in increased fire suppression appropriations and an equal reduction in non-fire programs. Additionally, the increasing role of wildland fire suppression and preparedness in the agency has caused a downward shift in the number of National Forest System personnel, down 39 percent from 1998 to 2016.

Reductions to non-fire programs as a result of the shift of financial and human resources to the Wildland Fire Management accounts have been significant. These programs not only support the Forest Service's restoration work that would help prevent catastrophic fires, but also the protection of watersheds and cultural resources, upkeep of programs and infrastructure that support thousands of recreation jobs and billions of dollars of economic growth in rural communities, and the range of multiple uses, benefits, and ecosystem services, as well as research, technical assistance, and other programs that deliver value to the American public. Between 2001 and 2015, funding decreases to the following programs occurred:

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- Vegetation and Watershed Management funding decreased by 24 percent
- Facilities funding decreased by 68 percent
- Roads funding decreased by 46 percent
- Deferred Maintenance funding decreased by 95 percent
- Recreation, Heritage and Wilderness funding decreased by 15 percent
- Landownership Management funding decreased by 33 percent
- Wildlife and Fisheries Habitat Management funding decreased by 18 percent
- Land Management Planning funding decreased by 64 percent
- Inventory and Monitoring funding decreased by 35 percent

Left unchecked, the share of the budget devoted to fire in 2025 could exceed 67 percent, equating to reductions of nearly $700 million from non-fire programs compared to current funding levels. That would mean that two out of every three dollars the Forest Service gets from Congress as part of its appropriated budget will be spent on fire programs.

Question 2: Chief Tidwell, I see the beginnings of a concerning movement in this country to sell off our public lands to the highest bidder. The president's budget either cuts, guts, or eliminates funding for programs that benefit rural economies, improve forest health, restore roads and trails, manage habitats, and increase access to our public lands.

When people can't harvest trees and manage forests, travel down a forest service road, or hike on a public trail through a national forest, it only serves to fuel the fire for the minority of voices that want to sell off public lands. It seems pretty clear to me that this budget is an attempt to hamstring the Forest Service and other federal land management agencies to the point where they can no longer manage their lands effectively.

Can you outline your views about the responsibility that the Forest Service and the new administration have to ensure the public has access to our nation's treasures -- our public lands?

Answer: The Forest Service is committed to serving the public and providing access to public lands. The agency provides a vast array of recreational opportunities to millions of Americans, including activities such as hunting, fishing, camping, and hiking. These outdoor opportunities provide experiences that build connections between the public and their Federal lands that translate into additional opportunities for access, including volunteer contribution, involvement in collaborative conservation, and community engagement in land management.

The FY 2018 budget request proposes $252,880,000 to focus on priority recreation projects and activities, including simplifying the permit process to make it easier for the public to access Forest Service lands, and providing volunteer and work opportunities for youth and veterans.

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Question 3: The Forest Legacy program is designed to keep private and state forestlands intact, maintaining a working landscape that supplies forest products, supports wildlife habitat, soil and watershed protection, aesthetics and recreation. If these working forests are carved up and sold off, rural communities lose significant assets. The administration's FY18 budget proposal completely defunds the Forest Legacy Program, the primary vehicle for keeping forest lands intact. In Oregon, Forest Legacy Funds will protect the East Moraine of Wallowa Lake, a geologic and natural resource treasure highly valued by the people of the community and visitors.

I'm sure you're aware the country's national forests provide much-needed revenue for rural communities through timber products and outdoor recreation activities. In fact, nationally outdoor recreation generates $887 billion in consumer spending every year, providing a huge boost to our economy. **How does defunding this program help ensure healthy, well-managed, forests and rural economies?**

Answer: The FY 2018 President's budget reduces funding to focus resources on maintaining existing national forests and grasslands. The Forest Service will maintain its responsibility to execute and monitor Forest Legacy projects funded to date, including 20 projects enacted through FY 2017 funding. The FY 2018 budget will require greater shared stewardship of the land between the Forest Service and State and local communities to achieve our work.

Question 4: Despite such a successful track record, the administration's FY18 budget also totally defunds the Legacy Roads and Trails program, which is celebrating its 10-year anniversary this year. The program tackles deferred maintenance projects across the country through collaboration and successfully leveraging non-federal funds. In its 10 years, the program has created or maintained 800-1,200 jobs per year, fixed 5,020 miles of trails, decommissioned 7,053 miles of unneeded roads, and reduced annual road maintenance costs by $3.5 million per year.

How does completely eliminating a program with such clear and measured benefits for rural America and for the nation's forests and infrastructure mesh with the administration's stated desire to "put people back to work"?

Answer: The Forest Service remains committed to supporting rural infrastructure needs and job creation. The Legacy Roads and Trails program has provided benefits to rural America. The Forest Service can do the same type of work within the existing Trails and Roads programs. The Capital Improvement and Maintenance program will focus on managing existing infrastructure and maintaining public safety.

Questions from Senator Debbie Stabenow

Question 1: At hearings in this Committee, and in the Agriculture, Nutrition, and Forestry Committee, where I serve as Ranking Member, we are constantly talking about the need for the

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Forest Service to increase the pace and scale of national forest restoration. If you had to name the biggest impediment to accomplishing more restoration, would that impediment be a lack of resources? Yes or no?

Answer: Yes. The shift in resources to firefighting activities, from about 16 percent of the budget in 1995 to over half our budget today, has had an outsized effect on our capacity and ability to get more restoration work done on the ground. To mitigate this effect, the agency has increased the pace and scale of restoration by 23 percent since 2011 (as measured by acres treated) by taking a number of actions, including expanding collaborative partnerships, implementing key Farm Bill authorities such as Good Neighbor authority, expanding stewardship contracting, and working to improve program integration in planning and budgeting.

Question 2: The President's budget for Fiscal Year 2018 calls for a zeroing out of the Collaborative Forest Landscape Restoration Program. In contrast, the previous President's budget for Fiscal Year 2017 called for doubling the size of the program, from a $40 million authorization, to an $80 million authorization, so the Forest Service could fund up to 10 additional projects. What change in circumstances warrants this abrupt about face? Particularly for a program the agency called "successful" and wanted to expand some 15 months ago?

Answer: Through its community-driven approach to restoration and shared stewardship for multiple benefits, CFLRP has taught us important lessons about how to work collaboratively at the landscape-scale to achieve forest restoration goals and build sustainable, thriving rural communities. Across the country, the 23 CFLRP collaboratives are turning their restoration vision into action on the ground -- growing rural economies, supporting healthy forests and watersheds, and reducing the risk of catastrophic wildfires.

The President's budget supports this type of collaborative, landscape-scale restoration on National Forest System lands, but would aim to achieve that work more efficiently by eliminating the separate CFLRP budget line item and funding. Support for collaborative forest management and landscape-scale restoration strategies would continue through our other programs, and we will continue to engage diverse communities and partners outside of the agency. Funding levels will be assessed by reviewing criteria associated with project need, capacity, past performance, and other factors.

Question 3: While there is not a formal line item in the budget for the program, the Forest Service's Good Neighbor Forestry program is mentioned in the budget for Fiscal Year 2018 as a tool to help the Service meet its goal of selling 3.2 billion board feet of timber. As you know, we authorized this program in the 2014 Farm Bill. Can you please give us an update on Good Neighbor? How is the program progressing and how is the federal relationship with your state and private partners?

Answer: The Good Neighbor authority allows the Forest Service to enter into cooperative agreements or contracts with States and Puerto Rico to allow them to perform watershed

restoration and forest management services on Federal and non-Federal lands. Good Neighbor agreements have resulted in improved performance within the forest restoration portfolio of work, which directly affects the health of our Nation's forests and grasslands. They also allow us to leverage capacity with State and private partners to meet timber targets and Forest Plan goals. As of June 26, 2017, a total of 95 agreements in 29 States have been executed with the Forest Service to perform a variety of restoration services.

Master Agreements establish a framework for the State-FS collaborative relationship with future projects identified in Supplemental Project Agreements. Master Agreements have been executed in 24 States: Alabama, Alaska, Arizona, California, Colorado, Florida, Idaho, Indiana, Kentucky, Louisiana, Michigan, Minnesota, Montana, New Hampshire, North Carolina, Ohio, Oregon, South Dakota, Tennessee, Texas, Vermont, Washington, Wisconsin, and Wyoming. Master agreements in Idaho, South Dakota, and Wyoming are each entered into with two Forest Service Regions.

Supplemental Project Agreements have been executed in Alaska, Alabama (3), Arizona, California (2), Colorado (8), Idaho (4), Indiana (2), Kentucky (3), Louisiana, Michigan (3), Minnesota (2), New Hampshire (2), North Carolina, Oregon (11), Tennessee, Vermont, Washington, Wisconsin, and Wyoming (2). These projects achieve a variety of objectives, including hazardous fuels reduction, timber harvest, forest restoration, and wildlife habitat improvement.

Stand-alone project agreements have been executed in Arizona, Georgia, Louisiana, Maine, Montana (2), Nevada (2), Pennsylvania, and Utah (11). These projects also achieve diverse objectives, including hazardous fuels reduction, removal of insect-killed trees, watershed restoration, and wildlife habitat monitoring and improvement.

Questions from Senator Jeff Flake

Question 1: The USFS budget called for zeroing out the funding for the Collaborative Forest Landscape Restoration Program (CFLRP). As you know, one of the premier CFLRP projects is the Four Forest Restoration Initiative (4FRI). This effort to treat and reduce the fire hazard on 2.4 million acres of forest in Arizona is critical to protect important watersheds, rural communities, recreation, and wildlife resources. While the pace of restoration in 4FRI has not sufficient to meet the needed goals, the success of the project remains a top priority for the state and for me. Can you confirm that despite the proposal to zero out CFLRP funding, the success of 4FRI remains a top USFS priority?

Answer: Yes, the Forest Service will continue to promote collaborative forest management and landscape scale restoration strategies within our other programs. The agency can work collaboratively on projects without a separate CFLR program through allocating resources from other budget line items. Funding levels will be assessed by reviewing criteria associated with

project need, capacity, past performance, and other factors. We will continue to engage diverse communities and partners outside of the agency.

Question 2: There has been a focus on restoring forests in Arizona at many levels of USFS leadership, however the Forest Manual and supplements are not optimized to deal with removing low-value timber products from USFS lands. Would you support a program to review the applicability of current USFS contracting policies to restoration in low-value timber areas?

Answer: Yes, the agency supports pursuing actions that will give us additional flexibility to accomplish needed restoration work.

Question 3: In your answer to Senator Franken's questions, you highlighted that investments in hazardous fuels reduction produces a three to nine-fold return in reduced wildfire cost reduction. Can you please provide the studies you cited and describe how those rates of return may be realized in forest such as Arizona with very high density of low-value timber and potentially high wildfire costs?

Answer: In 2014, the Forest Service, alongside The Nature Conservancy and the Sierra Nevada Conservancy, issued a report entitled, 'Why Sierra Fuel Treatments Make Economic Sense,' which included the following conclusions:

- The economic benefits of landscape-scale fuel-reduction treatments far outweigh the costs of wildfire.
- The economic benefits of fuel treatments may be three or more times the costs.
- The avoided losses, in terms of both costs and lost income opportunities, include the value of structures saved from wildfire and the costs of fire suppression and post-fire restoration, as well as potential revenue from carbon sequestration, merchantable timber and biomass that could be used for energy.
- The study showed that the modeled fuel-treatments scenario reduced the size of each of the five fires by 30 to 76 percent, or a total reduction in size of approximately 41 percent.
- The study estimated a range of benefit-cost ratio values from low to high, with the benefit-cost ratios for the fuel treatments ranging from 1.9:1 to 3.3:1.
- Although achieving such benefits requires a significant increase in funding to achieve the appropriate pace and scale of fuel treatments, the long-term cost savings far exceed the costs of the initial investment.

There have been a number of other site-specific studies about the cost and benefits of hazardous fuels treatments. The benefits of hazardous fuels treatments fall into four broad categories: 1) Economic value of forest products that are removed such as saw logs, wood chips, and biomass; 2) Wildfire suppression costs avoided because of the reduced hazardous fuel; 3) The value of other market and non-market benefits of the hazardous fuel treatment, such as improved wildlife habitat, improved recreation opportunities, and improved watershed functions; and 4) Other avoided costs related to the impact of wildfire include homes that did not burn, administrative sites and infrastructure not damaged, forest products not consumed or devalued, municipal water

sources not silted, recreation opportunities not devalued, etc. Of course, the lives of citizens and firefighters are priceless.

Other studies that demonstrate the economic value of fuel reduction treatments include:

- Mokelumne Watershed Avoided Cost Analysis, http://www.sierranevada.ca.gov/our-work/mokelumne-watershed-analysis
- Analysis of Costs and Benefits of Restoration-Based Hazardous Fuel Reduction Treatments vs. No Treatment, http://cdm17192.contentdm.oclc.org/digital/collection/p17192coll1/id/265/rec/1
- Economic Impacts of Wildfire, https://fireadaptednetwork.org/wp-content/uploads/2014/03/economic_costs_of_wildfires.pdf
- Fuels Treatments Reduce Wildfire Suppression Cost Merritt Island National Wildlife Refuge, May 2012, https://www.fws.gov/southeastfire/documents/FMIR_Fuels_Treatments_Reduce_Wildfire_Report.pdf
- Review of Economic Benefits from Fuel Reduction Treatments in the Fire Prone Forests of the Southwestern United States, http://swfireconsortium.org/wp-content/uploads/2016/11/Econ_Final_Web.pdf

Question 4: Senator McCain and I sent you a letter on August 10th, 2016 requesting you to respond the Town of Tusayan's request to re-engage on their premature rejection for a road easement in the Kaibab National Forest. I understand that the town has not received a response and would like you to provide me a timeline for the USFS to respond to the Town's request.

Answer: The Kaibab National Forest is committed to working with the Town of Tusayan and would certainly be open to a new proposal for a road easement that addresses concerns discussed in the letter. The Forest Service did not respond in writing to the Town Manager, but instead had a meeting with the Town Manager on October 28, 2016. The Forest has not yet received a new proposal.

Question 5: I am concerned about the pace of completing the NEPA process for grazing allotment renewals. In one allotment on the Apache-Sitgreaves National Forest, the NEPA process has been dragging on for years. What can the USFS do to speed up the process of completing the NEPA compliance for grazing permits?

Answer: The Apache-Sitgreaves, like most other forests and grasslands, has focused their efforts on grazing administration to ensure the range documentation and monitoring meets Forest Plan standards. Meeting standards is an important component of our ability to withstand legal challenges and keep grazing permittees on the range into the future.

Our current range NEPA efforts are concentrating on allotments that have never been through the NEPA process. Once these areas are completed, we will work on NEPA projects where permittees are requesting updates to their current Allotment Management Plans.

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One effort under way to speed up the process on the Apache-Sitgreaves National Forest is grouping similar allotments under one NEPA analysis.

Question 6: I understand that there is a Very Large Air Tanker operating out of Marana, Arizona by Global Super Tanker (GST) on an interim approval from the Interagency Airtanker Board (IAB). The interim approval was to allow for the collection of data needed to process their certification application.

a) Will you please provide me with the data that the IAB is still awaiting from GST?

Answer: GST provided the requested data during the week of June 19th.

b) Will you please provide me with the rationale for the payload capacity range in the most recent aerial tanker Request for Proposal?

Answer: A protest has been filed with the GAO regarding the Call When Needed Large Airtanker Basic Ordering Agreement solicitation. Procurement integrity requirements limit the information we are able to provide at this time.

Questions from Senator Al Franken

Question 1: Forests across my state— urban and rural, public and private—are threatened by new diseases and invasive species. One particularly pressing example is the emerald ash borer. I am concerned that the proposed 48% cut to State and Private forestry programs and the elimination of the Urban and Community forest program would seriously hamper our response to threats like the ash borer.

How will the US Forest Service meet challenges like the emerald ash borer given the constraints proposed in the President's budget?

Answer: The FY 2018 budget allows the Forest Service to focus on the maintenance of National Forest System lands. Through the Forest Health Management line item, the agency will continue to survey, monitor, and work with landowners to develop appropriate invasive species treatments.

Question 2: As we've discussed in the past, there are the 86,000 acres of Minnesota School Trust lands inside the Superior National Forest's Boundary Waters Canoe Area Wilderness. That means those lands are not generating income for the School Land Trust. Numerous stakeholders came together a few years ago to work out a compromise that would solve this problem, involving a land exchange and purchase. There is now a "Plan B" proposal to use Land

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and Water Conservation (LWCF) funds to facilitate the purchase of 50,000 acres of valuable forestland from a willing private seller that can be exchanged for Minnesota School Trust Lands.

If Congress includes sufficient funding for LWCF in Fiscal Year 2018, will you commit to working with me and stakeholders in Minnesota to get this done? Also will you provide the Committee with a list of land acquisition projects that the USFS would recommend receiving funding in Fiscal Year 2018?

Answer: The Forest Service is committed to working with you and the Minnesota delegation to implement a solution that allows the State to exchange and/or sell its school trust lands within the Boundary Waters Canoe Area Wilderness, and in turn acquire replacement lands outside of the national forest. Any solution to this problem involving purchase of the school trust lands with LWCF will be a multi-year effort.

The Senate Appropriations Interior Subcommittee Clerk is working with the Office of Management and Budget, the Department of the Interior, and the Forest Service to transmit the FY 2018 project lists. Your office will be notified when transmittal occurs.

Questions from Senator Joe Manchin III

Question 1: Regarding timber harvest in national forests, the forest products budget line item is flat, meaning that the FY2018 target of timber is the same as the FY 2017. The budget proposal states that 50% of our Nation's forests are privately owned and over 90% of the timber harvested comes from private lands. So about 3% of that national timber forest ends up being from our national forests. But that 3% supports about 43,000 jobs. In West Virginia, like our coal communities, our timber industry could certainly use some help. An overall reduction in timber production in recent years has led to lower activity in this industry and economic uncertainty for our forested communities. The fact that the Secure Rural Schools program has not been reauthorized is certainly compounding that uncertainty. Our division of forestry is interested in finding ways to improve our by economy by maintaining and attracting new primary and secondary forest product manufacturers, but also doing so in a sustainable way that recognizes the importance that our forests can play in carbon dioxide reduction.

What do you see as the forest service's role in supporting our timber industry and do you believe this budget supports that kind of policy goal?

Answer: The President's FY 2018 budget request will support a robust Forest Products program. This is a key part of the agency's integrated restoration efforts to create healthy, resilient landscapes and communities while also supporting rural economies though associated jobs and economic benefits. We recognize the importance of timber sales to both local economies and restoration, and believe supporting local economies goes hand-in-hand with

restoration. We are taking many actions to support jobs and to accelerate our restoration efforts, including expanding collaborative partnerships, fully utilizing the authorities in the 2014 Farm Bill, and making greater use of stewardship contracting. These actions, and others, helped us increase restoration by 23 percent since 2011 while also increasing timber outputs. In West Virginia, the Monongahela National Forest is on track to produce 11.1 million board feet of timber in FY 2017, increasing their output from 7.3 million board feet in FY 2016.

Question 2: The Secure Rural Schools program is currently expired. The last payments were made in April of 2016 for FY2015. I have received numerous letters from school superintendents, teachers, and business managers from counties that traditionally receive SRS funds. Earlier this year, I received a letter from the Finance Director of the Pocahontas County Board of Education, who is grappling with difficult decisions needing to be made from the reduction in SRS funds. This year Pocahontas County received $72,000 in SRS, a sharp reduction from prior year amounts $750,000. Right now, Pocahontas County is in a budget shortfall of $300,000. Already, through attrition or forced reductions these schools have lost 14 staff.

I recently received another letter notifying me that Hardy County Schools received the counties payment for FY2017 in the amount of $7,265.65. They were appreciative, however they fairly pointed out that Hardy County has previously received approximately $65,000 per year of SRS funds. That's a decrease of $57,735 or 88 percent.

This is in an area of our state that has also experience a steep decline in coal production and the resulting decline in jobs and economic activity. I, along with several of my colleagues in this committee introduced S. 1027 a bill to extend the Secure Rural Schools and Community Self-Determination Act of 2000.

Do you have any policy recommendations for Congress regarding SRS?

Chief Tidwell, will you commit to working with me and my colleagues to address this important issue?

Answer: The Forest Service is committed to working with Congress to address this issue.

Question 3: Chief Tidwell, you and I have corresponded about the unique challenges facing West Virginia's forests. West Virginia is the third most heavily forested state in the nation, with most of the forests being private landholdings. The 2014 Farm Bill directed the State Foresters to take a comprehensive look at forests in all ownership categories across their states and develop State Forest Action plans. These State Forest Action Plans identify priorities in order to direct limited resources to where they are most needed. The 2015 West Virginia State Action Plan identified the following priorities: (a) conserve and manage working forest landscapes for multiple uses; (b) protect forests from threats; and (c) enhance public benefits from forests. The Forest Service previously worked with West Virginia's Division of Forestry to help achieve state

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goals for enhanced forest health and habitat conservation. Specifically, the Gypsy Moth Working Group, the Hemlock Conservation Group and the Invasive Species Working Groups are working in the Monongahela National Forest (MNF) as well as other programs addressing weed and pest management, the fire learning network and high elevation restoration. I also understand you have worked with our WV State Foresters to designate the Monongahela National Forest as an "Insect and Disease Epidemic Area" under the 2014 Farm Bill. It's my understanding that the Forest Service worked collaboratively with West Virginia stakeholders to take aggressive action to address threats such as the gypsy moth, beech bark disease and other challenges. These efforts are vital to the health of our forests which provide my state of West Virginia with a wide number of opportunities ranging from extensive recreational use to timber harvesting; from grazing of livestock to mineral extraction. At least 75 tree species, more than 225 species of bird, and 60 species of fish inhabit the Monongahela. As you may know, my state has some serious budget challenges that our Governor and state legislature are working to address. But because of budget shortfalls, nearly a third of the West Virginia Division of Forestry was laid off in 2016. While some of those layoffs have been recalled as of March 2017, the prospect of new funding anytime soon is non-existent. West Virginia has benefited from successful federal-state efforts such as the Forest Stewardship program and the Forest Health management programs which aim to protect forest health in states and on private forested areas—which we have a lot of in West Virginia. I am concerned that this budget may reverse some of the progress our forests have made.

Chief Tidwell, do you believe that under the FY2018 proposed budget, will the Forest Service have the bandwidth to be able to continue these "good neighbor" practices that currently benefit states like West Virginia?

Answer: Yes, under the FY 2018 budget request, the Forest Service will continue to exercise its authorities under the Farm Bill, including the Good Neighbor authority and the Insect and Disease provision. The FY 2018 President's budget focuses resources on maintaining existing national forests and grasslands. This budget will require greater shared stewardship of the land between the Forest Service and State and local communities to achieve our work. Through the Forest Health Management line item, the agency will continue to survey, monitor, and work with landowners to develop appropriate invasive species treatments.

Have you considered the disproportionate impacts that the budget could have on rural America?

Answer: Decreased funding to State & Private Forestry programs will decrease the number and/or scale of Forest Service partnerships with Federal, State, Tribal, local, and non-profit entities focused on stewardship of State and private forest lands. This budget will require greater shared stewardship by States, communities, and private land owners to accomplish forest management goals.

Question 4: Chief Tidwell, I appreciate the work you have done over time through the Land and Water Conservation Fund to maintain the remarkable natural resources of our national forests, to enhance access for hunters and anglers and hikers, and to prevent forest conversion and related

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losses of jobs in the woods and outdoor recreation opportunity. The FY2018 budget proposes no new land acquisition projects using LWCF Funds. In West Virginia, LWCF has been absolutely essential to protecting a host of iconic places, from Spruce Rocks/Seneca Knobs to the Cranberry Wilderness to the Cheat River and Shavers Fork, and these are not just beautiful places for us to shoot or fish or climb or paddle with our families-- they are lifeblood for our state's economy. I am particularly concerned, and honestly baffled, that your budget slashes LWCF for national forests to the bone, and completely eliminates the Forest Legacy Program within LWCF. As well as to working with all my colleagues to pass Ranking Member Cantwell's bill S. 569, the Land and Water Conservation Authorization and Funding Act, of which I am an original cosponsor.

Chief, can you tell us whether and how the budget considered the true cost of these cuts and the true price of conservation inaction, in terms of losses to our communities and problems for your own management?

Answer: The FY 2018 President's budget focuses resources on maintaining existing national forests and grasslands, rather than acquiring new Federal lands or interests in lands. By focusing our limited resources on maintaining existing Federal lands, we anticipate greater shared stewardship between Federal, State, and local governments to accomplish shared land management objectives in lands outside the National Forest System.

Question 5: In June 2016, West Virginia experienced a devastating, once-in-a-thousand year flood. I visited these communities immediately after the event took place and saw devastation, including entire homes that were washed away, and bridges and roads damaged to the point that they are not reparable. These communities are still continuing their recovery efforts and will be doing so for some time. Several important federal assets and properties were damaged during this event, including at the Monongahela National Forest in West Virginia which experienced sustained damage to roads leading to access points and several popular access points. In West Virginia, we tend to look out for our neighbor and help them when we can. We also have plenty of hardworking men and women who are looking for work. As flood recovery efforts begin, I have been very pleased to see that local workers and contractors are being prioritized for these restoration efforts. They know the land and they are committed to West Virginia. That is the West Virginia way.

Chief Tidwell when possible, do you agree that a local workforce should be prioritized for use in infrastructure repair projects, such as flood recovery efforts or deferred maintenance backlogs at Forest Service land?

Answer: Yes, where possible, the agency strives to utilize small businesses and a local workforce to provide an economic benefit to local communities.

Question 6: In West Virginia, we are blessed to have the Monongahela National Forest. Established in 1920, the Monongahela National Forest occupies more than 919,000 acres in 10 counties in the highlands of the State. In addition to offering breathtaking views, the

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Monongahela National Forest is truly a working forest as it is utilized in its multi-use platform and provides timber, water, grazing, minerals as well as numerous recreational opportunities. Fire borrowing is an issue that needs to be addressed. This is important for my state, because when catastrophic fires occur in the West the Forest Service pays for the cost by drawing from the discretionary appropriations, which means less money to go to places like the Monongahela National Forest. In West Virginia we are not immune to wildfire; in 2014 West Virginia experienced 953 fires, burning 13,060 acres. However, fires in the Eastern part of the United States pale in comparison to Western states, which have increasingly grown in size, intensity and expense. Wildland Fire Management accounts for 52.7% of Forest Service's total discretionary budget. The Administration has proposed significantly lower overall funds for fighting wildfire (Wildland Fire Management Account and the Federal Land Assistance, Management and Enhancement Act account). The Administration has proposed fairly significant cuts for the Forest Service. Furthermore the Administration proposes funds for fighting wildfire that are significantly lower than amounts Congress Appropriated. The practice of "fire borrowing" refers to instances where the Forest Service will "borrow" funds from non-fire accounts to fight wildfires when wildfire accounts are diminished.

Under the proposed budget, where will the funds come from if the Forest Service is forced to borrow funds from non-fire accounts?

Answer: The Administration has not proposed to significantly reduce fire funding. The FY 2018 President's Budget fully funds the 10-year average for fire suppression and funds all base 8 costs (the first eight hours per day worked by a firefighter) from Preparedness, a shift from Suppression where a portion of base 8 costs have been charged since 2004. The Forest Service and the Department of the Interior are now using the same business rules.

If appropriated funds to cover the cost of wildfire suppression are expended and the agency must borrow funds from non-fire programs, those funds will first come from lower priority projects.

What kind of impact will this have to land management operations that are suffering from continually decreasing funding?

Answer: Transferring funds to cover the costs of wildfire suppression can be disruptive to other programs and services. These transfers sometimes stop critical work in progress, cause uncertainty in planning, and impact the timing of future projects. However, these transfers do not occur every year and Congress has generally repaid fire transfers so that borrowed funds are returned to the non-fire programs. The more impactful issue is that the 10-year rolling average continues to increase each year, and the overall Forest Service budget has been relatively flat, resulting in increased fire suppression appropriations and a commensurate reduction in non-fire programs. This does happen every year and the long-term consequence is that a majority of our human and financial resources are now allocated to wildland fire suppression and preparedness, with the number of National Forest System personnel down 39 percent from 1998 to 2016.

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Questions from Senator Angus S. King, Jr.

Question 1: The President's budget proposes a nearly 50 percent cut to State and Private Forestry programs, and completely eliminates a few important forest conservation programs like the Forest Legacy Program and the Community Forest Program, both of which are proving to be very successful in Maine. Our many private forest landowners are good conservation stewards, and the state and private forestry programs provide much needed support.

The justification your budget provides for these cuts is that the Administration will use those funds instead to focus solely on maintenance of the *national forests* – the majority of which are in the West. So you are essentially proposing a substantial funding shift away from private forests – with most of them (80 percent) in the east. Private forests support jobs in our rural communities, as well as important public benefits like water protection, public access to recreation, fish and wildlife habitat protection.

Why are these successful conservation programs that benefit Maine being cut?

Answer: The FY 2018 President's budget reduces funding to focus resources on maintaining existing national forests and grasslands, including the elimination of the Community Forest and Forest Legacy Programs. This budget will require greater shared stewardship of the land between the Forest Service and State and local communities to achieve our work.

Question 2: Have you analyzed the impact on our private forests from these budget cuts and program eliminations?

Answer: The Forest Service has not done an analysis of impacts on communities of the proposed elimination of funding. Decreased funding to State & Private Forestry programs will decrease the number and/or scale of Forest Service partnerships with Federal, State, Tribal, local, and non-profit entities focused on stewardship of State and private forest lands. This budget will require greater shared stewardship by States, communities, and private landowners to accomplish valuable forest management goals.

Question 3: Where do you see investment in marketing and research on forest products like Cross Laminated Timber headed in the future for the Forest Service?

Answer: There remains quite a bit of work to do both in production development and end-use market stimulation. Focusing on these dual dimensions has helped the Forest Service trigger the now very active growth of the cross laminated wood sector. Continuing these efforts will enable movement into the mainstream of the construction industry. Ongoing research investments are being made to support the development and understanding of material property values for U.S. species, structural design requirements, seismic and fire performance, durability and protection,

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life cycle assessment, and adhesive performance. These research efforts will further support the increasing market for mass timber products, including cross laminated timber.

Question 4: What is your view of how Forest Service research and University forest research programs can best interact to address regional and national issues of importance to rural forest communities and economies, and specifically the Northeastern communities dependent upon privately owned forestland?

Answer: The Research Stations and university forestry programs within a Region often have similar forest health concerns and routinely collaborate on data collection, data analysis, and joint publications. This results is a leveraging of expertise and/or funding, and avoidance of duplicating efforts. This type of collaborative research and mutual support was a significant factor in the establishment of Forest Service research units near land-grant universities.

Product research has both national and regional needs and university scientists often extend product research developed nationally to the local level. The Forest Service plays a vital role in organizing and directing much of this research by providing financial and technical support to university projects.

Question 5: What is the role of Forest Service research with respect to stimulating national markets for mass timber construction and more specifically the northeastern regional market, noting that the closest large producers of structural softwood lumber are located in Maine?

Answer: The agency has been successful in promoting mass timber using a wide range of tools, such as the Wood Innovations grant program and providing training opportunities to thousands of architects and engineers. The Forest Products Laboratory (FPL) is a significant contributor to efforts to stimulate national markets for mass timber.

The agency recognizes that national markets for new and innovative wood products cannot be developed without recognition of the materials and building systems in U.S building codes and standards. In order to integrate materials such as cross-laminated timber into U.S. markets, research is needed to establish U.S. building code requirements and/or demonstrate compliance with existing standards. FPL works with industry and universities to complete code-required research in material property values for U.S. species, fundamental structural design requirements, seismic and fire performance, durability and protection, and adhesive performance.

Questions from Senator Catherine Cortez Masto

Question 1: In total, the Forest Service's FY2017 discretionary appropriations were 12% lower than the FY2016 appropriations. For FY2018, the Administration has requested $4.732 billion, which is 15% less than FY2017 enacted level. How will these declining budgets affect the Forest

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Service's ability to address and improve forest management, wildfire, cutting-edge research, state collaboration, and educating and training youth?

Answer: As the costs for fire suppression continue to grow, the Forest Service must shift resources from non-fire to fire activities. This affects the agency's ability to carry out other core mission goals and leads to the need to forego opportunities to complete vital restoration work and meet public expectations for services. Those non-fire activities are often those that improve the health and resilience of forests and mitigate the potential for wildland fire in future years.

Question 3: Under President Trump's budget, cuts to the Forest Service would impact state and private forestry budgets. In fact, the Nevada Division of Forestry (NDF) could experience a 40% funding loss, which would have a huge impact on wildland fire suppression and fire prevention. Can you elaborate on those potential impacts and concerns?

Answer: Decreased funding to State & Private Forestry programs will decrease the number and/or scale of Forest Service partnerships with Federal, State, Tribal, local, and non-profit entities focused on stewardship of State and private forest lands. This budget will require greater shared stewardship by States, communities, and private landowners to accomplish forest management goals.

Question 4: The Forest Service and Department of the Interior are projecting a very strong probability for Northern Nevada to see wild and forest fires this summer, particularly in July and August. In what ways is the Forest Service coordinating with state firefighters?

Answer: Through the State Fire Assistance (SFA) program, the Forest Service provides financial assistance to State and local response agencies for the prevention, mitigation, control, and suppression of wildfires on non-Federal lands. The program emphasizes pre-fire planning and hazardous fuels mitigation near communities at risk. In addition, training funded by SFA provides effective and safer initial response to wildfire.

Question 5: What are ways in which the Forest Service can improve coordination between other agencies and state partners?

Answer: The National Wildland Fire Cohesive Management Strategy emphasizes collaboration and coordination across jurisdictional boundaries. There are dozens of examples around the country where the Forest Service is working closely with our State and local partners to reduce wildfire risk. These include the Blue Mountains in Oregon, the Greater Okefenokee area in Georgia and Florida, the Flagstaff Watershed Protection Project in Arizona and the Mashpee Collaborative in Massachusetts, to name a few. We also use the provisions in the Good Neighbor authority on a regular basis to work across boundaries with partners.

Question 6: With the proposed cuts in the budget, there will be less money for staff to address more extreme wildfire seasons and develop better interagency coordination. Less seasonal

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firefighters would be hired to combat fires on the ground. How will the Forest Service address those concerns if the Administration's budget is implemented by Congress?

Answer: The budget has proposed funding suppression at the full 10-year average amount in FY 2018. The Forest Service has worked to appropriately allocate firefighting resources and improve risk management strategies to use those resources safely and efficiently. Over the last few decades, wildland fire suppression costs have increased as fire seasons have grown longer and the frequency, size, and severity of wildland fires has increased; therefore, an increasing proportion of the agency's resources are spent to provide the firefighters, aircraft, and other assets necessary to protect lives, property, and natural resources from catastrophic wildfires.

Question 7: The President's budget does not include an interagency budget proposal to change the budgeting framework for funding wildfire suppression proposed in past budgets by the Obama Administration. What will the Forest Service do to develop a responsible approach that addresses risk management, cost containment, and state and local government partners to ensure adequate funds are available for wildfire suppression?

Answer: The Administration is reviewing potential administrative actions and legislative options to address longstanding wildland fire funding concerns. Principals at USDA and DOI will work with the Office of Management and Budget to develop a responsible approach that addresses risk management, performance accountability, cost containment, and the role of State and local government partners in ensuring adequate funds are available for wildfire suppression without undue disruption to land management operations.

Question 8: Under current funding, does the Forest Service have enough resources and staff to adequately keep our trails and roads safe for visitors that are an integral part of Nevada's and other states' local tourism economies?

Answer: This level of funding is sufficient to maintain a workforce to implement the most critical work on National Forest System lands. The Forest Service will prioritize road and trail work to manage existing infrastructure and maintain public safety and needed access, and defer lower priority projects as needed.

Question 9: Currently, 80% of trail maintenance in Nevada is accomplished by volunteers through organizations such as Friends of Nevada Wilderness and Great Basin Institute. While these partnerships are crucial for maintenance and we appreciate their incredible work, there is widespread concerns that with further cuts, the responsibility of all maintenance will fall on the shoulders on these organizations. Can you address some of those concerns?

Answer: This level of funding is sufficient to maintain a workforce to implement the most critical work on National Forest System lands. The Forest Service will prioritize road and trail work to manage existing infrastructure and maintain public safety and needed access, and defer lower priority projects as needed.

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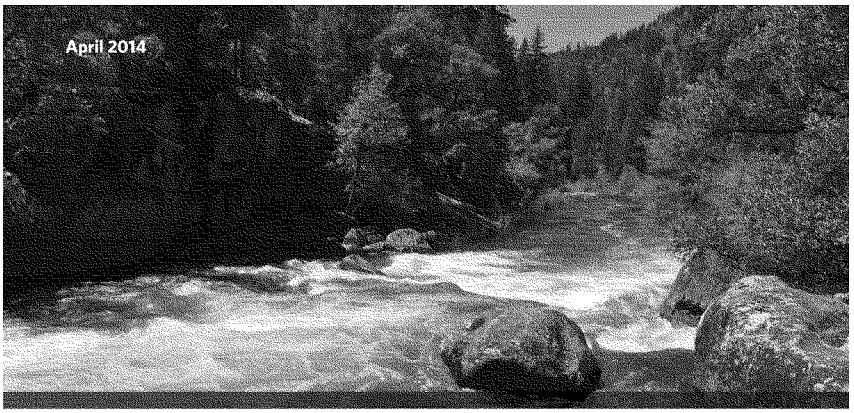
Question 10: In Nevada, we utilize the Forest Legacy Program and it is unfunded in the President's budget. This program is critical for protecting working forest lands from being sold off for development purposes. It provides funding for conservation easements that pays the landowner for the development rights, while saving the productive capacity of the land. Why was this program not funded?

Answer: The FY 2018 President's budget reduces funding to focus resources on maintaining existing national forests and grasslands, including not funding the Forest Legacy Program. The Forest Service will maintain its responsibility to execute and monitor Forest Legacy projects funded to date, including 20 projects enacted through FY 2017 funding. The FY 2018 budget will require greater shared stewardship of the land between the Forest Service and State and local communities to achieve our work.



Mokelumne Watershed Avoided Cost Analysis:

Why Sierra Fuel Treatments Make Economic Sense

High-severity wildfires in forests of California's Sierra Nevada pose a serious threat to people and nature. Although proactive forest management can reduce the risk of high-severity wildfire, the pace and scale of fuel treatments is insufficient, given the growing scope of the problem. Using the upper Mokelumne River watershed as a representative case, we sought to answer the following question: Does it make economic sense to increase investment in fuel treatments to reduce the risk of large, damaging wildfires? Our analysis suggests that the economic benefits of landscape-scale fuel-reduction treatments far outweigh the costs of wildfire.

Recent wildfires in California and the West have destroyed lives and property, degraded water quality, put water supply at risk, damaged wildlife habitat and cost hundreds of millions of dollars. For example:

- The 2013 Rim Fire—located just south of the Mokelumne River in the central Sierra Nevada—burned nearly 257,000 acres, much of it at high severity, at a cost of more than $127 million, not including the costs to the economy and tourism.
- The 2013 Yarnell Fire in Arizona killed 19 firefighters, destroyed more than 100 homes and damaged the town's water system.
- The 2002 Hayman Fire in Colorado burned 138,000 acres, destroyed more than 600 structures, and deposited more than 1 million cubic yards of sediment into Strontia Springs Reservoir—a primary drinking water source for the City of Denver—at a growing cost of more than $150 million.

The Sierra Nevada provides more than 60 percent of the developed water supply for California. High-severity wildfire places this water supply at risk. The upper Mokelumne River watershed in the central Sierra Nevada supplies drinking water to 1.3 million residents of the San Francisco Bay Area and provides valuable goods and services, including but not limited to forest and agricultural products, hydropower energy, recreation, wildlife habitat and carbon sequestration. Like other Sierra Nevada and western watersheds, much of the Mokelumne watershed is at very high risk of wildfire (figure ES-1).

Although wildfire and the associated costs are increasing in the western United States, few studies have taken a hard look at the costs and benefits of fuel treatments to determine if an increased investment in treatments makes economic sense. Through a collaborative process with key stakeholders and using state-of-the-art models for fire, vegetation and post-fire erosion, we analyzed the potential impacts of a landscape-scale fuel treatments program in the upper Mokelumne watershed. In addition, we examined who would benefit the most from investing in fuel treatments and reducing the risk of high-intensity wildfires. Our findings can help inform forest management not only in the Mokelumne watershed, but also in similar watersheds throughout the Sierra Nevada and the western United States.

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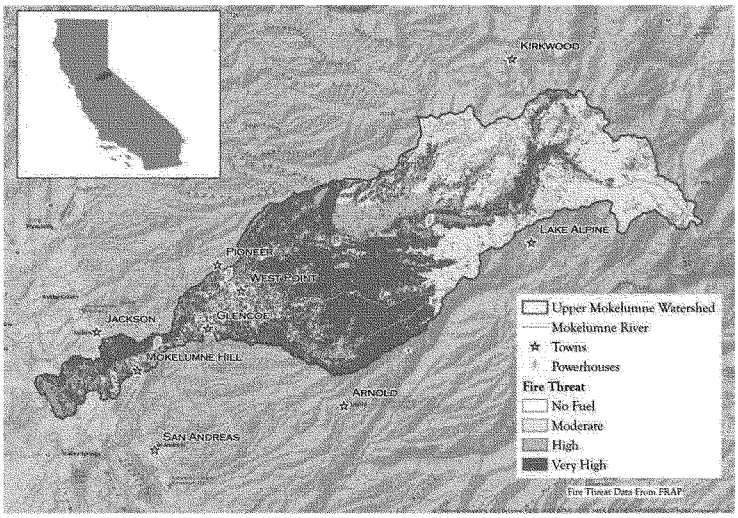


FIGURE ES-1. Fire Hazard in the Upper Mokelumne Watershed

Process

In February 2012, the Sierra Nevada Conservancy, The Nature Conservancy, and the U.S. Forest Service convened a diverse group of stakeholders to consider whether an economic case could be made for increased investment in fuel reduction in the upper Mokelumne watershed. This group included land managers (the Forest Service, Bureau of Land Management, Sierra Pacific Industries); water and electric utilities (East Bay Municipal Utility District, Pacific Gas & Electric); state and local agencies (California Department of Water Resources, California Department of Forestry and Fire Protection and county governments); environmental organizations (Sustainable Conservation, Environmental Defense Fund); and local stakeholders (Foothill Conservancy, Amador-Calaveras Consensus Group, West Point Fire District).

We established an Advisory Committee to help guide the overall process and analysis, a Technical Committee to address issues relating to science and modeling, and a consulting team, led by ECONorthwest, to conduct the economic analyses. Using a collaborative process, we developed a site-specific fuel-treatments scenario, targeting areas of high fire risk to homes, communities and utility infrastructure, as well as post-fire sediment erosion risk to waterways. We commissioned studies to simulate the outcomes of future fires with and without fuel treatments—specifically forest thinning and controlled burning. The Advisory Committee, Technical Committee and consultants subsequently reviewed the analysis, vetted and approved each chapter of the report and endorsed the report's findings and conclusions.

Analysis

Our analysis focused on modeling wildfire in the Mokelumne watershed both with and without implementation of the fuel-treatments scenario. We analyzed the size and intensity of five potential representative fires based on fire history in the region, current forest conditions and state-of-the-art wildfire models. We modeled the fuel-treatments scenario to identify how active forest management would likely modify wildfire behavior and post-fire erosion over a 30-year time period. Using these results, we quantified the financial costs and benefits of the treatments, focusing on those elements to which a dollar value can readily be assigned such as homes, infrastructure, timber, biomass energy, carbon and employment.

The analysis was based on conservative assumptions regarding potential costs and benefits, not a worst-case wildfire scenario. For example, the nearby 2013 Rim Fire was significantly larger than all five modeled fires combined and burned at higher intensity. In addition, we did not consider wildfire impacts with economic values that could not be readily determined, such as the effects of fire on wildlife habitat, recreation, tourism, and public health and cultural sites. Thus, in multiple respects, our conclusions likely underestimate the costs associated with future wildfires and the benefits of active management, suggesting an even stronger case for action.

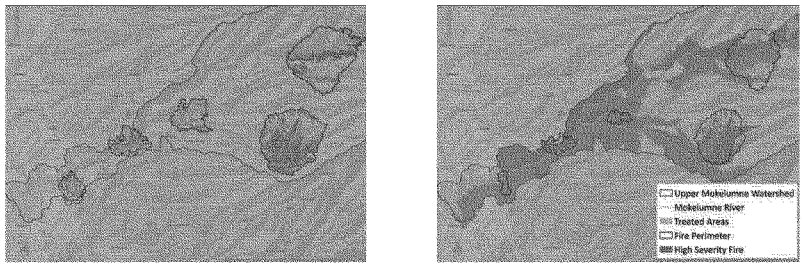


Figure ES-2. High-Intensity Wildfire Pre- and Post-Treatments

Key Findings

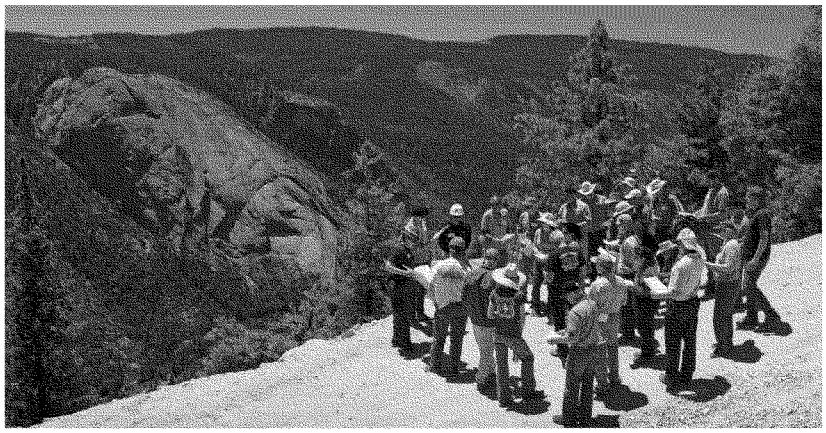
- **Fuel treatments can significantly reduce the size and severity of wildfires.** Proactive forest management can significantly modify fire behavior by reducing fire severity, size and rate of spread. Our results showed that the modeled fuel-treatments scenario reduced the size of each of the five fires by 30 to 76 percent, or a total reduction in size of approximately 41 percent. More importantly, the modeled scenario reduced the acreage of high-intensity wildfire by approximately 75 percent (figure ES-2).

- **The economic benefits of modeled fuel treatments are 2-3 times the costs.** In total, across the categories of benefits quantified in this report, the value of avoided costs significantly exceeds the cost of fuels management (figure ES-3). The avoided losses in terms of both costs and lost income opportunities include the value of structures saved from wildfire and the costs of fire suppression and post-fire restoration, as well as potential revenue from carbon sequestration, merchantable timber and biomass that could be used for energy. For each cost category, we estimated a range of values from low to high. Using the high estimates for benefits ($224 million) results in a benefit-cost ratio for the fuel-treatments scenario of 3.3:1. Even when applying a more conservative approach, using the low estimate for benefits ($126 million), the benefits of investing in fuel treatments are nearly twice the costs, with a benefit-cost ratio of approximately 1.9:1.

- **There are many beneficiaries from increased fuel treatments, especially taxpayers.** The economic benefits of fuel treatments accrue to a wide range of landowners, public and private entities, taxpayers and utility ratepayers. As shown in figure ES-4, the primary beneficiaries are the State of California, federal government, residential private property owners (and their insurers), timber owners, and water and electric utilities. By comparison, the costs of fuel treatments are largely borne by public land managers (and, by implication, taxpayers). An accelerated fuel-treatments program would also result in an estimated 35-45 jobs relating to fuel treatments and 7-10 biomass-to-energy jobs over a 10-year period. These figures represent a significant addition to the current number of such jobs in these rural areas.

Costs		
Fuel Treatment	$68,000,000	$68,000,000
Benefits	**Low**	**High**
Structures Saved	$32,000,000	$45,600,000
Avoided Fire Cleanup	$22,500,000	$22,500,000
Carbon Sequestered	$19,000,000	$71,000,000
Merchantable Timber from Treatment	$14,000,000	$27,000,000
Avoided Suppression	$12,500,000	$20,800,000
Biomass from Treatment	$12,000,000	$21,000,000
Avoided Road Repairs and Reconstruction	$10,630,000	$10,630,000
Transmission Lines Saved	$1,600,000	$1,600,000
Timber Saved	$1,200,000	$3,130,250
Avoided Sediment for Utilities (water supply)	$1,000,000	$1,000,000
Total Benefits	**$126,430,000**	**$224,260,250**

Figure ES-3. Total Costs and Benefits for Fuel-Treatments Scenario



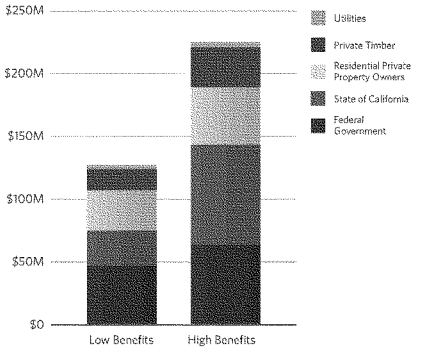


Figure ES-4. Fuel Treatments Beneficiaries

Summary

In sum, our analysis shows that it makes economic sense to invest in forest management to reduce the risk of destructive, high-severity wildfires in the upper Mokelumne watershed. Although achieving such benefits requires a significant increase in the pace and scale of fuel treatments, the long-term cost savings far exceed the costs of the initial investment. To the extent that the Mokelumne is representative of other fire-adapted forested watersheds of the Sierra Nevada and the western United States, this report makes the economic case for significantly increasing investment in fuel treatments in western forests.

FOR A COPY OF THE FULL REPORT:
SierraNevada.ca.gov/Mokelumne

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Analysis of Costs and Benefits of Restoration-Based Hazardous Fuel Reduction

Treatments vs. No Treatment

Progress Report #1

June 13, 2003

G. B. Snider
D. B. Wood
P. J. Daugherty

Fact Sheet: Analysis of Costs and Benefits of Restoration-Based Hazardous Fuel Reduction Treatments vs. No Treatment

By: G.B. Snider, D.B. Wood, and P.J. Daugherty
Northern Arizona University/School of Forestry

- This study compares the cost of restoring forests to no taking action in ponderosa pine and dry mixed conifer forests in Arizona and New Mexico.
- The preliminary analysis shows that it is cost effective to spend up to $505/acre to restore forests to prevent catastrophic fire and avoid associated fire suppression costs. This value is a conservative estimate based on a comparison of the cost of restoration versus the cost of suppression, emergency rehabilitation and lost timber production.
- The analysis represents only a partial measure of the economic damage caused by catastrophic, unnatural fires. The above value ($505/acre) does not include the cost of: damage to water supplies, lost recreation revenue, lost wages, destroyed property, reduced property values and associated decreased tax revenues; loss of scenic value and wildlife habitat. If all the associated costs of damage caused by unnatural wildfire are considered it is rational to spend even more to restore forests.
- The analysis also assumes no return from the wood produced by the restoration treatment. In places where restoration by-products produce a return, the total amount that could be spent on restoration increase commensurately.
- Adding insured property loss, long-term rehabilitation and reforestation costs to direct suppression costs, conservatively places the cost of the Rodeo-Chedeski fire at approximately $300 million. Adding the additional costs of this one fire to the analysis raises the amount that could economically spent on restoration to $582/acre.
- Each year that no action is taken to restore acres that are at highest risk for unnatural fire (Condition Class 3) the problem becomes worse. Fuels resulting from beetle outbreaks are contributing to the hazardous fuels build up. In the nine western states with significant acres of ponderosa pine and dry mixed conifer forests there are 12,047,672 acres of Condition Class 3 lands. Based on this analysis we can invest $6 billion dollars to restore these acres or we could watch an equivalent amount go up in smoke as we attempt to suppress fires.

Analysis of Costs and Benefits Of Restoration-Based Hazardous Fuel Reduction Treatments vs. No Treatment -- Progress Report #1

G.B. Snider, D.B. Wood, and P.J. Daugherty – 06-13-03

Introduction

This progress report presents preliminary results of an economic analysis comparing restoration-based fuel treatments to no treatments for areas identified at high risk for fire. The with and without treatment comparison focuses on ponderosa pine and dry mixed conifer forest ecosystems in New Mexico and Arizona. The analysis provides a conservative estimate of the potential economic losses due to no action.

The results for New Mexico and Arizona indicate that restoration-based fuel treatments represent a rational economic choice even if one only considers direct avoided cost of current fires suppression activities. Society could pay up to $505 dollars per acre to treat the areas of high risk, and still break even in terms of investment. This investment cost is net of any value recovered from the restoration treatment; for example if the thinning part of a restoration treatment generated $200 per acre, the total break-even investment value rises to $700/acre. This investment break-even value does not include consideration of property damage and associated losses or lost ecosystem values, such as endangered species habitat and recreation amenity values.

Background

Historical practices starting with European settlers (e.g., overgrazing in the late 1800s, selective timber harvests, and fire suppression) have created vast areas of unhealthy forest ecosystems in the western United States. These practices have caused significant structural and functional changes in western ponderosa pine and dry mixed-conifer forests which are now at risk of ecosystem collapse (Cooper 1960, Covington and Moore 1994a, 1994b, Covington et al. 1997, Dahms and Geils 1997). Today, society faces the jeopardy of losing these forests to insect outbreaks, disease, and catastrophic crown fires. The overly dense stand conditions, exacerbated by drought, the increased bark beetle mortality, and larger and more frequent stand-replacing crown fire are interconnected symptoms of the forest health crisis caused by past practices and perpetuated by current inaction. Bark beetle outbreaks are associated with overly dense forests, and the bark beetle mortality increases the risk of crown fire in these dense forests. The ever-increasing severity and magnitude of wildfires, and the devastating outbreak of bark beetles in the southwest bear harsh witness to the hazardous conditions that exist over most of the forests in the Southwest.

Local, state and federal agencies, as well as industry and many environmental groups agree that restoration activities would begin healing degraded forests and reduce the threat of unnatural wildfire. However, the current pace and scale of implementation remains inadequate to significantly reduce the risk of collapse (e.g., as evidenced by the Rodeo-Chedeski, Biscuit, Cerro Grande, and Hayman fires). Inadequate federal funding

for forest restoration and the reprogramming of treatment dollars to suppression activities perpetuates the problem. While society demands suppression of fires, it is extremely expensive and fails to solve the underlying problem leading to fires. When dollars are taken from restoration treatments and given to suppression activities, the diversion insures the continued need of suppression by undermining the logical approach to solving the wildfire problem.

Trends and Current Conditions

Figure 1 illustrates the trend that has occurred throughout ponderosa pine ecosystems. The top picture shows how the area appeared around the turn of the century and in terms of density, how it should look today. The middle picture shows the same location following the regeneration pulse of 1919 which resulted in the survival of many young trees in the absence of natural fire regime. The bottom picture shows the same area in 1985. The trees in the dog-hair thickets (dense areas of small diameter trees) are 65 years old, and have grown sufficient height to constitute ladder fuels which move ground fires into the canopy of older trees. Analogous trends have occurred in the dry mixed conifer areas.

Figures 2 and 3 present a graphical representation of the same historical trend. Figure 2 illustrates the dramatic increase in the number of small diameter trees in Arizona and New Mexico forests. Figure 3 shows the percentage distribution of Arizona's ponderosa pine forests by density class. The average condition in 1910 was around 30 square feet per acre. The average today is in the 100-150 square feet per acre range and indicates a dramatic increase in the density of ponderosa pine forest.

As described earlier, the disruption of the natural frequent fire regime and resulting increase in tree density has created unhealthy forest conditions. These forest systems are poised for collapse. Figure 4 illustrates the magnitude of this risk in terms of devastating crown fires in New Mexico. Approximately 60 percent of the ponderosa pine and dry mixed conifer forest types in New Mexico rate as high risk for crown fire hazard (Fiedler et al. 2002). As time passes these conditions are continuing to worsen. In addition to increasing acres burned and fire suppression costs, forests are experiencing unnatural irruptions of bark beetles. Figure 5 illustrates the irruption of bark beetle mortality in 2002, and the increase in acres burned for Arizona and New Mexico. These conditions are not without consequence. The sharp increase in 2002 could indicate that current conditions have passed an ecological threshold, and acres lost to bark beetles and fire will remain at a new higher level without treatment.

Figure 5 also illustrates that economic costs are on the rise. In 2002, Region 3 (Arizona and New Mexico) of the USDA Forest Service spent over $120 million for suppression and rehabilitation, and given the trend in forest conditions and a continuation of a policy of inaction, one would not expect any reduction in these expenditures in the future.

Figure 1 Example progression of ponderosa pine stand from pre-European tree density (1911), through influx of regeneration (1928), to unhealthy density (1985). Note that herbaceous understory had already been lost by 1911 due to excessive grazing. Photos are courtesy of H.B. "Doc" Smith, Ecological Restoration Institute, Northern Arizona University.

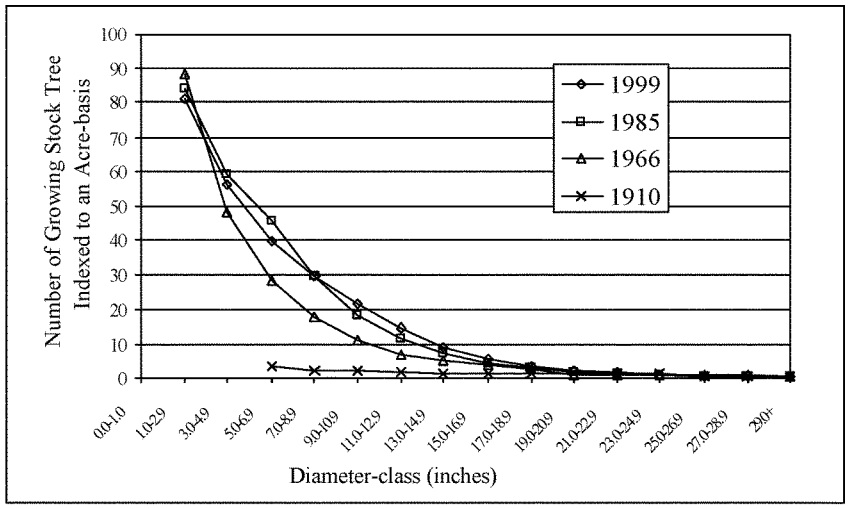

Figure 2. Number of trees per acre by diameter class for non-reserved forestland in Arizona and New Mexico for inventory years 1910, 1966, 1985, and 1999. Adapted from Cassidy 2003.

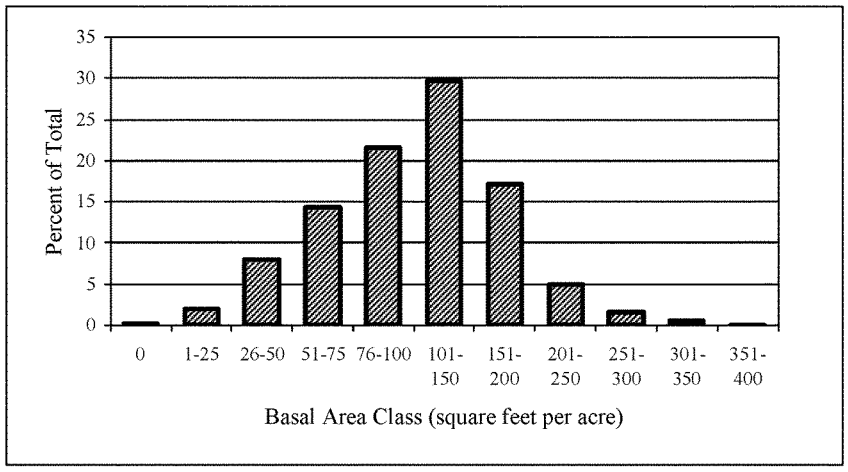

Figure 3. The percent of ponderosa pine forest in each basal area class (square feet per acre) based on 1999 Forest Inventory and Analysis (FIA) stand data for Arizona.1999. Data are from all inventory stands with a major ponderosa component. Adapted from Cassidy 2003.

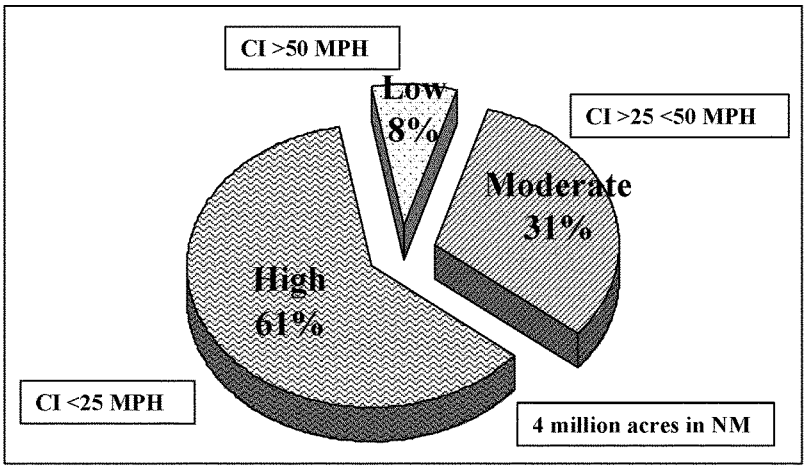

Figure 4. Percent of area by crown fire hazard for short-interval, fire-adapted forest types of New Mexico. Types are primarily transition ponderosa pine, ponderosa pine, and dry mixed conifer, and comprise approximately 4 million acres. CI refers to the crown index, a measure of crown fire hazard. The measure estimates the wind speed required to sustain a crown fire once it has reached the canopy. Adapted from Fiedler et al., 2002.

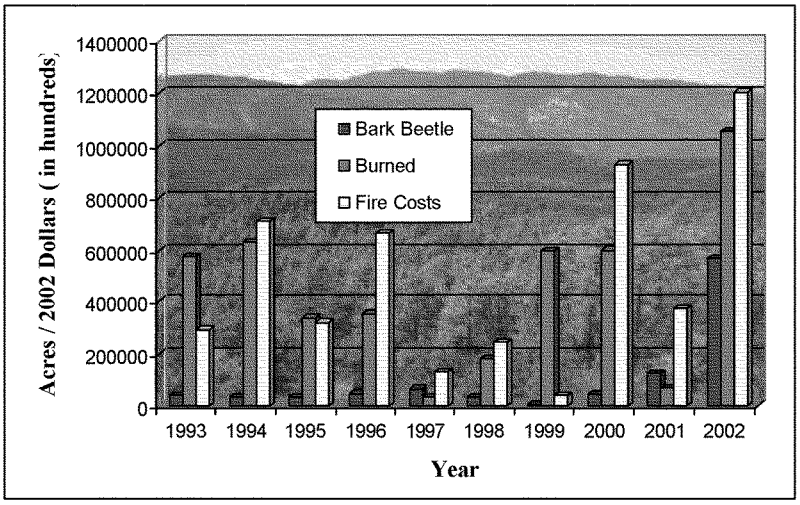

Figure 5. Trend in acres with bark beetle mortality, acres burned, and fire suppression and rehabilitation costs (in 100's of 2002 dollars) for Arizona and New Mexico. Graph based on USDA forest service data. Adapted from USDA Forest Service, 2002a.

Remedy for the Forest Health Crisis

The remedy for these unhealthy conditions requires large-scale (greater ecosystem) implementation of restoration-based hazardous fuel treatments that will simultaneously reduce the risk of crown fire and insect outbreaks, restore watershed function and condition, increase biological diversity, and improve socioeconomic well-being by promoting sustainable economic development within local communities.

A number of studies are asking the question, how much are these treatments going to cost and can society afford to pay for restoration. These recent studies examine the economics of implementing these types of treatments (Barbour et al. 2001, Fiedler et al. 2002, Lynch et al. 2000). In general, these studies found it difficult to justify treatment expenditures based on the value of the wood fiber removed by the treatments. This conclusion suggests that restoration must be considered an investment, and would need to be justified by the marginal benefits/value provided by a healthy ecosystem. However, it is possible we have been asking the wrong question. Perhaps the question we should be asking is: *Can we afford to not implement restoration-based hazardous fuel reduction/thinning treatment*?

Economic Analysis

Many question society's willingness or ability to pay for restoration-based fuel treatments on a scale sufficient to generate the ecosystem changes necessary for effective fuel reduction and hazard abatement. We argue that there is increasing evidence to suggest that the ever increasing ecological and economic costs resulting from high-intensity, ecosystem-scale fires in the ponderosa pine and dry mixed conifer forests of the West far exceed the cost to society of proactive restoration thinning treatments.

This economic analysis of ecological restoration answers the above question by comparing the costs of restoration to the costs and damages expected without restoration. The avoided cost analysis assumes that restoration of all high hazard areas in ponderosa pine and dry mixed-conifer forest, which comprise about 42 percent of these forest types in Arizona and New Mexico, would result in essentially eliminating large high intensity crown fires and the associated large expenditures and damages incurred in the recent past. The difference between projected fire costs and damages and the costs of restoration therefore represent a partial measure of the economic value of ecological restoration. Not considered in this analysis are: losses and damages to structures, private land value, and other infrastructure associated with the wildland–urban interface, and non-market values associated with improved ecological health. These non-market values include better wildlife habitat, improved water quality, increased forage production, and enhanced recreational quality. These are widely considered positive aspects of restoration and therefore the values estimated in this study underestimate the total economic value of restoration.

The Arizona and New Mexico situation

During the 10-year period from 1993-2002, an average of 443,307 acres burned each year in Arizona and New Mexico. Given that the number of acres in high fire hazard rating/fire Condition Class 3 is increasing every year, a conservative approach would assume that the average acres burned would continue in the future without treatment. During this same period, Region 3 (Arizona and New Mexico) of the USDA Forest Service spent an average of $377 per acre per year on fire suppression and an additional $22 per acre per year on emergency rehabilitation, which only covers emergency measures to control erosion/sedimentation and only occurs on a limited number of acres. Rehabilitation does not include reforestation activities.

Procedures for estimating and projecting future wildfire costs and damages

1. Expected-acres-burned per year was computed as the average annual fire acreage for fires greater than 100 aces on Arizona and New Mexico public lands during the period 1993-2002. Average annual fire acreage equals 443,307 acres (NIFC 2003).

   Assumptions:

   a. Future fire occurrence will be similar to that experienced in the last decade;
   b. The spike in fire acreage experienced in 2002 will be repeated periodically in future decades; and
   c. As a result of worsening hazard, including bark beetle mortality, estimates based on the last decade are likely conservative.

2. Average costs for suppression and rehabilitation were computed using costs and acreage provided by the Rocky Mountain Research Station for fires on public lands in which the Forest Service provided suppression. Totals were converted to cost per acre burned. Suppression cost equals $377 per acre; rehabilitation cost equals $22 per acre, in 2002 dollars (Gebert 2003).

   Assumptions:

   a. Average Forest Service costs are adequate estimators of costs on all public ownerships;
   b. Average costs include the wildlife urban interface (WUI) which comprise about 16% of Class 3 (high hazard) areas in the Region. Because suppression costs for fires occurring in the WUI would ordinarily be higher than for those more distant from civilization, region-wide averages may overstate costs for fires not threatening urban areas (USDA 2002b); and
   c. Given Assumption b, costs should be interpreted as applicable to the average fire situation – 16% of the acreage encompassed by an average fire would involve WUI acreage.

3. Timber losses were calculated by cumulatively reducing annual regional harvest values 5% each year. Average regional harvest values were provided by the USDA Pacific Northwest Research Station. Average annual harvest value = $11.5 million.

Assumptions:

a. Regional harvest value will decrease in proportion to decreases in the available timber base. This is consistent with forestry principles that equate allowable annual harvest with incremental growth and that reductions in growth caused by fire will therefore reduce harvest;
b. The above assumption is more conservative than basing timber-damage estimates on the volume and potential value of the timber actually destroyed by the fire. Destroyed trees may never have been utilized as timber or such utilization may have occurred in the future, reducing their value through discounting; and
c. The 5% annual decline in timber harvest value, while not empirically derived, was considered a reasonable and conservative assumption.

4. Structural and property losses and damages were not included in the economic analysis. Except for timber, expected changes in ecosystem values were also not included in the analysis.

Procedures for estimating and projecting future restoration costs

1. Restoration needs were estimated by determining the acreage of highly hazardous fuels (condition class 3 acreage) occurring within ponderosa and dry mixed conifer stands in Arizona and New Mexico (Schmidt et al. 2002). Class 3 acreage equals 4.4 million acres.

2. A range of restoration costs were estimated primarily through discussion with experienced Ecological Restoration Institute scientists because published data are scarce for the southwest. Net restoration costs may vary widely because they are dependent on the value of timber removed during the treatment. Such values are very site-specific and difficult to generalize. The analysis was therefore run for costs ranging from $200 per acre to $800 per acre in $200 increments.

3. The analysis was conducted as if all Class 3 acreage would be treated immediately. The per-acre results, however, may be applied to smaller units depending on budgets and capabilities presently existent. Delays, however, will result in losses as untreated areas continue to burn.

Economic analysis procedures

The economic analysis was conducted over a 20 year period and employed a 4% discount rate. Annual suppression and rehabilitation costs, and timber losses were discounted to present value for each year and summed to yield the present value without restoration. With restoration the present value was calculated as the initial net treatment cost plus the discounted value of maintenance treatments conducted in years 10 and 20. The analysis was repeated four times, once for each net treatment cost.

The present net value (PNV) was determined using a with minus without procedure. With this method the present value without restoration was subtracted from the present

value with restoration. This difference in the with and without PNV's represents the net savings in costs and damages resulting from the with restoration scenario.

Results

The present value without restoration totaled -$2.5 billion for the 20-year analysis period (a loss or cost of -$2.5 billion). Restoration present value ranged from -$1.1 billion with net restoration costs of $200 per acre to -$3.8 billion for the $800 per acre cost. The break-even point occurred when net restoration treatment cost equal $505 per acre. With greater treatment costs PNV became negative; below $505 per acre the savings in fire costs and damages more than offset restoration costs. Table 1 shows these restoration treatment PNV's by differing treatment cost, converted to per acre basis.

Table 1. Present net value of with minus without treatment scenarios for four levels of treatment cost.

Treatment cost ($/acre)	Restoration PNV ($/acre)
200	306
400	106
600	-94
800	-294

Discussion

These results, which are based upon conservative assumptions, support the feasibility of spending up to $505 per acre for the ecological restoration of Class 3 forest lands in Arizona and New Mexico, given our assumption that crown fires over 100 acres would essentially be eliminated. The smaller fires (less than 100 acres) require no additional suppression and rehabilitation costs beyond those budgeted for pre-suppression and were assumed to be the same whether or not the forest was restored.

We believe these results to be very conservative for several reasons:

1. Per acre fire suppression cost did not include all charges for national contracts, such as many aviation or catering services. These costs averaged $96 per acre for the period of 1993-2002 (Gebert 2003);

2. Changes in ecological and social values associated with restoration, while not market-valued, are generally considered to be positive;

3. Losses and damages associated with structures, private land value, and other infrastructure associated with the wildland – urban interface were not included in the analysis; and

4. Pre-suppression costs are likely to decline as the risk of large fires declines or is eliminated.

Impacts Associated With Elimination Of Fire In The Wildland-Urban Interface

In 2002, the Rodeo-Chedeski fire caused about $250 million in damages over and above the suppression, emergency rehabilitation, and timber costs used in the previous analysis. If such a fire were to occur every decade, damages would average $25 million per year for a present value of $340 million over 20 years. This would add about $77 dollars per acre to the break-even cost for restoration, raising it from $505 to $582 per acre.

Rodeo-Chedeski: a manifestation of action delayed and a presage of tomorrow

During the period of June 18, 2002 until July 7, 2002 the Rodeo-Chedeski complex involved 467,066 acres in east central Arizona. Of those acres, 289,184 were on the White Mountain Apache reservation, 167,215 were on the Sitgreaves National Forest, and 10,667 acres are lands administered by the Tonto National Forest. The majority of Forest Service acres involved in this fire were categorized as being in Condition Class 3. Condition Class 3 lands are those where fire regimes have been significantly altered from their historical range and the risk of losing key ecosystem components is high. These areas require high levels of restoration treatments such as mechanical thinning before fire can be used to restore the historical fire regime.

Post-fire assessments clearly indicate that past management activities influenced the fire's rate of spread and intensity. Had it not been for past fuel treatments along the eastern flank of the fire, it could easily have continued out of control and we might not have the communities of Pinetop-Lakeside today.

Costs

- Suppression Costs: $43 - $50 million.
- BAER (Emergency Rehab Activities or lipstick on a corpse): As of 2 months ago the Apache-Sitgreaves National Forest had already spent $9 million.
- Long-term rehabilitation: the Apache-Sitgreaves will spend another $20 million over the next 3 years. The White Mountain Apache Tribe will also spend $20 million dollars over the next 3 years.
- Reforestation Costs: the White Mountain Apache Tribe expects to spend $90 million. The Apache-Sitgreaves only plans to replant about 500 "most critical" acres. The cost of this reforestation is included in the $20 million of long-term rehabilitation.
- Insured losses of homes and property $120 million.
- Emergency federal and state public assistance $2.5 million.
- Local levels of government are heavily dependent on sales tax collections. Sales tax revenue accounts for at least 20% and in some cases as much as 80% of a town's general fund revenue. The fire occurred at the height of tourist season. Local businesses were shut down for almost 30 days during June and July. These two months account for approximately 20% of total annual sales tax collections for this region. Loss in sales tax revenue during this period is estimated to be over $2million.

- Short-term job losses (Jul-Dec '02) estimated at 272 in Navajo Co. and 80 in Apache Co. Lost wages associated with the short-term unemployment in Navajo and Apache Counties are estimated to be $4.5 and $1.6 million, respectively (Thomas, Warren and Associates 2002).
- We have not even begun to calculate value of infrastructure (power lines, roads, bridges, etc.) losses nor have we yet calculated the costs associated with erosion, soil loss, wildlife habitat destroyed, sedimentation into reservoirs, and other changes in ecosystem services.
- 7,000 Mexican Spotted Owl PAC acres on Forest Service land alone suffered moderate to high severity burn. Half of this habitat area completely lost.
- Burned at least 5,000 acres of riparian habitat

When all is said and done, we could have simultaneously restored the ecosystem to a healthy condition and improved socioeconomic well-being by providing long-term employment and income. Instead we spent hundreds of millions of dollars in the creation of a landscape-scale ashen shroud. Some simple calculations indicate that we could have completed restoration-based fuel treatments on every acre for less than this fire will cost society.

Implications for the western United States

The current trends, conditions, and ecological and economic consequences previously described are certainly not unique to Arizona and New Mexico. The entire western United States has similar ecological conditions in ponderosa pine and dry mixed conifer forests, which are also at risk of collapse from insect outbreak and catastrophic crown fire. The analysis for the rest of the western states is ongoing but preliminary data suggest results will be similar to Arizona and New Mexico. Table 2 shows data on acres of ponderosa pine and dry mixed conifer in high and moderate risk classes by intermountain states. The majority of western states have significant forest at high or moderate risk of losing key ecosystem components.

Table 2. Acres of ponderosa pine (PIPO) and dry mixed-conifer (DMC) in Condition class 3 and 2 by intermountain states. Acres are based on USDA Forest Service data (Schmidt et al. 2002).

State	PIPO Class 3	PIPO Class 2	DMC Class 3	DMC Class 2
Idaho	1,570,943	3,799,634	655,943	740,622
Montana	115,920	4,273,502	161,591	41,078
Wyoming	120,553	769,022	59,016	73,388
Colorado	70,978	3,244,235	101,672	66,799
Arizona	1,646,143	2,663,137	117,441	1,027
New Mexico	2,086,119	2,973,421	453,441	6,867
Utah	4,081	334,737	4,681	25,021
Oregon	5,068,005	5,941,164	184,166	470,986
Washington	1,364,930	4,207,364	1,165,797	784,107

Condition Class 3 lands are those where fire regimes have been significantly altered from their historical range and the risk of losing key ecosystem components is high. Condition Class 2 lands are those where

fire regimes have been moderately altered from their historical range and have moderate risk of losing key ecosystem components.

The fire suppression costs that could be avoided by restoration are also high for other western regions. Table 3 illustrates the fire cost for USDA Forest Service Regions in the western United States. The per acre cost for regions 1 and 3 are similar to the cost for Arizona and New Mexico. Southern Idaho, Utah, western Wyoming costs are significantly lower, and California, Oregon, and Washington have significantly higher costs. Note that these costs do not include all charges for national contracts, such as many aviation or catering services. These cost averaged $96 per acre for the period of 1993-2002. (Gebert 2003)

Table 3. Average per acre suppression and rehabilitation based on expenditures by USDA Forest Service Regions in the western United States

USDA-FS Region	States in Region	Avg. Cost/Acre (2002 $)
1	Northern Idaho, Montana	386
2	Eastern Wyoming, Colorado	384
3	Arizona, New Mexico	399
4	Southern Idaho, Utah, western Wyoming	202
5	California	561
6	Oregon, Washington	485

Conclusions

> *"Ironically, exclusion of low-intensity fires virtually assures eventual occurrence of large high-intensity fires that kill most trees. Roughly half of the more than 3 million acres that burned in wildfires in 1994 in the Western United States was in these ponderosa pine forests. In an active wildfire year, the expense of attempting to exclude fire from these forests can reach one billion dollars. Paradoxically, these costly attempts at suppression are often unsuccessful. In comparison, costs of restoration treatments are modest."* (Arno 1996)

We no longer face the question of whether society will spend the money or not. We are going to pay, one way or another, unless we make the unlikely choice to no longer spend money trying to fight and contain unnatural crown fires. We now face the choice of how we are going to spend the money, and what are we likely to obtain from that expenditure. If we invest in restoration-based hazardous fuel treatments, we invest in the future; we invest in healthy, sustainable ecosystems for our children and grandchildren. If we continue our current approach of suppression, we continue the depreciation of our forests, increasing the risk of radical shifts in their structure and function due to crown fire. Given these choices, it makes a great deal of economic sense to conduct forest restoration on a large scale today in order to retain future ecological and economic values. Our analysis demonstrates that the fire suppression costs that can be avoided in the future are sufficiently large by themselves to justify restoration expenditures today.

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