



Priorities for our Shared Conservation Agenda

February 2017

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Meeting Summary

In the days leading up to a new Presidential administration and Congress, a group of leaders from state and federal agencies, academia, non-profits, and foundations gathered to discuss potential solutions to some of the most complex conservation challenges facing the western US. The title of this meeting refers to a “shared conservation agenda,” meaning an alignment of actions to improve the condition of forests and waterways. This summary report outlines major themes emerging from discussions at that meeting.

First Session. [The Growing West](#). What are the most effective ways to reduce the negative consequences of population growth for natural resources?

Key insights:

- Continued expansion of the built environment will further pressure natural resources and land management agencies.
- Homeowner education and technical assistance through programs like Firewise are critical, but revisiting and influencing local land-use policy is warranted. Land-use policies that constrain or enable development are local, yet they are of national significance since an increasing amount of state and federal fire suppression resources are being spent to protect private property in areas prone to fire.
- Fuel reduction actions in the wildland urban interface in much of the West are inadequate given the scale of the problem. Escalated cross-boundary implementation and “all lands management” were highlighted as the best way forward.
- Sprawling energy infrastructure could have the largest footprint across western forests and rangelands. Mitigation and smart landscape-level planning are necessary for avoiding and minimizing conflicts with other resource values.
- Collection and expenditure of revenues from energy development should help mitigate the long-term cost of natural resource management and conservation.

Second Session. [Investing in Natural Infrastructure](#). Can “water funds” help protect and restore landscapes that are crucial to water supply?

Key insights:

- Watershed degradation is threatening drinking water sources for population centers throughout the West.
- Provision of water flows was foundational to the establishment of western public lands, and while at times forgotten, more people are recognizing this critical service today than ever before.
- Water funds are developing in cities large and small throughout the West to support the maintenance and restoration of watershed function.
- The opportunity to scale-up this approach is limited to specific locations where the science of source water protection and restoration justify these programs.
- Innovative financing mechanisms (e.g. climate resiliency bonds, accessing lottery funds) and policy innovation such as California’s recent AB-2480 may accelerate the development of water funds throughout the West.

Third Session. [Principles for Addressing Large-scale Forest Change](#). What is needed to move towards consensus on land management within the context of mega-disturbances in Western forests?

Key insights from the discussion:

- Many ecosystems in the West are experiencing disturbances on a mega-scale.
- Driven by climate change, “mega-disturbances” are becoming increasingly common, forcing a perpetual disaster-response mode among natural resource management agencies. Budgetary and structural implications are significant.
- Operating in a disaster response mode distracts from actions necessary for reducing threats in places not yet negatively affected by mega-disturbances.
- Working collaboratively across ownerships and at scales matching the scale of disturbance mechanisms is the only viable way forward.
- Forest Planning processes need to adapt to the complexity and multi-ownership scale nature of mega-disturbances.
- Widespread and controlled reintroduction of fire is of paramount importance. Smoke management concerns must be addressed.
- A restoration labor force, while conceptually available for deployment, is lacking the equipment and/or expertise needed at scale.
- There is a need for clear vision and action in the development of strategy for investment in wood processing infrastructure and market development.
- This strategy needs to evaluate the right-sizing of utilization infrastructure.

Fourth Session. [The All Hands, All Lands concept](#). What is the status and direction of collaborative conservation in multi-ownership landscapes?

Key insights from the discussion:

- Over the last decade a number of policies and management authorities have been introduced to facilitate All Lands Management (ALM), leveraging resources and expertise of multiple jurisdictions across ownerships within a given landscape.
- State and federal agencies play a critical role in ALM, whether as land managers or by providing technical and financial assistance to private landowners.
- A culture of experimentation with ALM could spur the development of new governance models that share management and fiduciary responsibilities in places with a clear common concern.
- Many participants believe that the authorities needed to make a transition to greater experimentation with ALM are already in place and that it is often political will or social license that is, or is perceived to be, lacking.
- Reauthorization and expansion of the Collaborative Forest Landscape Restoration (CFLR) program and the Joint Chiefs Landscape Restoration Partnership should consider how to better serve ALM projects.
- Greater quantification and communication of ALM project outcomes is needed.
- Sustained investment in places having demonstrated impact could help, but likely disadvantages places where ALM efforts are needed but yet to develop.
- An ALM innovation network could help cross-pollinate ideas and strategies. A network could be similar to the Conservation Finance Network that USDA NRCS recently supported through the Conservation Innovation Grants program.

The Growing West



Rapid population growth has occurred in the West in recent years, increasing on average by 20% since 2000. By 2050 the U.S. population could yet grow by more than 100 million (Headwaters Economics, 2016; Alig, Stewart, Wear, Stein, & Nowak, 2010). Western counties will continue to be destinations that need to absorb this growth. Going forward, climate-related stressors such as water scarcity are likely to affect economic growth and the movement of people in the West.

One consequence of these growth trends will be continued fragmentation and loss of natural areas, which are disappearing at a rate equivalent to a football field every 2.5 minutes (Center for American Progress, 2016). The discussion at this meeting grappled with two of the most significant impacts of the growing West: continued *expansion of the built environment in the wildland urban interface (WUI)* and *sprawling energy development*.

Meeting participants focused on three processes influencing trends in land-use and development: population growth, land-use policies, and markets. An [overview presentation](#) examined trends in development in the WUI of the Pacific Coast since 1980—citing a 65% increase in California, a 76% increase in Washington, and a 54% increase in Oregon. Loss and fragmentation of open lands—forests, agricultural areas, and range, is the primary outcome.

Secondary effects relate to how fragmented lands can be managed (e.g. with decreased economic operability). Further complicating matters, many working lands in fragmented landscapes will change ownership in the next two decades, introducing new values and objectives, and uncertainties on whether active forest management and other activities will continue. As populations grow and development increases, perceptions of land scarcity can also change to favor conservation. Public knowledge of wildfire and associated risks also tends to increase. With changes and increases in population, values change along with the working landscape.

While 84% of the WUI in the West is undeveloped, amenity values provided by public lands will be increasingly at risk with adjacent development. Each new structure brings additional fire management complications—another place to defend and fewer places to manage with fire.

Land-use policies made at the local level determine the path and scope of WUI development, yet such decisions are increasingly of national significance. The majority of federal fire suppression funds are spent protecting structures in the WUI. In recent years more than half of the USDA Forest Service budget has been reallocated to fire suppression, diverting resources away from other priorities. States are also seeing increased fire suppression expenses. Oregon’s suppression expenses increased from an annual average of \$7 million to \$28 million over past few years. Fixing how fire suppression is budgeted is a major priority, but addressing the underlying drivers of escalating suppression costs needs urgent attention as well.

Attendees discussed a variety of approaches for mitigating the negative consequences of WUI development—from technical assistance and education, to incentives and regulation. [Many of these approaches](#) are applicable across the West. Education programs like Firewise and assistance tools like the Fire Adapted Communities Network are considered successful. However, the effectiveness of these programs is undermined by their reliance on federal funding, which leaves them vulnerable to political trends and budget constraints.

Beyond education and planning, actions that reduce fire risk on the ground face challenges. First, smoke management concerns have limited the use of prescribed fire. Funding from the Forest Service and NRCS to thin overly dense fire-prone forests has been crucial, but progress is slow at current funding levels. For instance in Oregon, WUI fuel treatments annually achieve about 8,000 acres on private land with about \$5 million. On adjacent Federal public land about 250,000 acres are treated annually. This is a small amount in context of the 23 million acres of WUI in Oregon.

Participants felt that cross-boundary implementation and “all lands management” are the best ways to accelerate the pace and scale of implementation. Federal funding encourages this approach (see [all hands, all lands section](#)), which is widely viewed as successful. Participants noted that cross-boundary work and shared responsibility is also embedded within the thinking that produced the “Cohesive Strategy” for fire management.

While participants appreciated the need to increase implementation actions, many also argued for more land-use restrictions. Costs to taxpayers of the growing bill for fire suppression is drawing more attention to how these expenses are linked and potentially reduced by good land-use policy and planning. However, whether there is political will to tackle land use planning and restricting growth on this basis is still highly localized, and competes with deeply held views on property rights. Further thinking and communication on how to advance the planning discussion in priority areas is needed.

Participants compared the effects of Oregon’s land-use policies with those of Washington state. For example, the area permitted for urban development in southwest Washington, is considerably larger than in the Oregon portion of the Portland metropolitan area. Oregon has benefited from the implementation of land use regulations prior to the increase in land values. Most participants agreed that neither state has effectively dealt with the continued growth of low density development in the WUI (Lettman, 2011), something that is a challenge shared by most Western states.

Another major change in the western landscape is energy development. A recent study found that by 2040 new energy development in the U.S. will directly impact a land area the size of Utah, while indirectly impacting an area as large as California, giving energy development the largest footprint of any sector of the economy (Tainor, McDonald, & Fargione, 2016).

The western U.S. already accounts for 13% of the nation's electricity production including 54% of the coal-fired generation, 31% of the wind generation, 75% of the solar power, and 94% of the geothermal energy production. [Future expansion](#) is expected.

Expansion of renewable and fossil energy leasing and production on western public lands occurred over the last eight years. Overall, participants felt that the Obama Administration has been permissive, but has also introduced frameworks for “avoiding, minimizing, and offsetting” the negative impacts energy development has on conservation values. The US Fish and Wildlife Service and USDA Forest Service have produced mitigation frameworks, while the Bureau of Land Management's (BLM) is still pending, though the agency has been proactive in identifying low conflict energy development zones.

Royalty payments associated with energy development and leasing on public lands is one of the largest non-tax revenue sources for the federal government. However, lease rates and royalties that companies pay to federal agencies are significantly lower than those that companies pay to access minerals on state land. Congress is now considering legislation that would recalculate how the receipts from energy development are distributed between the federal treasury, states, counties, and agencies, perhaps impacting funding available for resource management and conservation.

Created in 1965 and capitalized through offshore oil and gas royalties, the Land and Water Conservation Fund (LWCF) is used both to conserve private land via programs like the USDA Forest Service's Forest Legacy program and for federal land acquisition. The LWCF has become politically controversial and has even been used in budget hearings to undercut the funding requests of federal natural resource agencies. One concept put forth was the idea of altering the LWCF to authorize the use of funds for land restoration activities in addition to land conservation.

Investing in Natural Infrastructure



Water is the defining resource in the West. Its scarcity shapes ecosystems and human infrastructure more than any other factor. While provision of clean and abundant water was actually foundational to the establishment of western public lands, particularly National Forests, more people are recognizing this critical service today than ever before.

Increased recognition has come as a result of observing the effects wildfire and other disturbances can have on the condition of water supply watersheds, and the cost of providing clean water. Presentations and discussions focused on the science necessary to quantify this vital ecosystem service and to make the case for investment in natural infrastructure alongside pipes and reservoirs.

However, relatively few watershed investment programs currently exist, despite widespread risks due to climate change, legacy management issues, and related effects. Many of these programs are just a few years old but some common lessons learned have emerged that were examined in an [overview presentation](#).

Major factors limiting expansion include the lack of: awareness about the potential of developing watershed funds, capacity building watershed funds, a coherent benefit-cost analysis to make the case, access to investment, implementation support, and a supportive policy framework. The researchers and practitioners in attendance reflected on their experience with each of these limiting factors.

In particular, three presentations on water fund-type projects in [Arizona](#), [California](#), and [Oregon](#) discussed the factors that convinced three public and private water providers to invest in their supply watersheds.

The motivating factors are different, but each case required empirical evidence that conservation and restoration interventions are cost-effective relative to engineered solutions, and/or that interventions are vital to reducing the probability of irreparable damage.

While some encouraging examples were shared, no clear strategic path emerged for stimulating an expansion of watershed investment programs in the West. It is likely that expansion of this approach is constrained to certain watersheds and will require clear-eyed analyses of the return on investment. Ideas to push to the limits of this constraint focused on innovative financing mechanisms (e.g. climate resiliency bonds and accessing lottery funds) and policy innovation.

Recently signed into law, California AB-2480 is one such example innovation. The underlying concept of this policy is that investment in the natural infrastructure components of California's water system are just as important to make as investments made in grey infrastructure. While not authorizing specific programs or financing tools, the declaration made in AB-2480—that forests are as vital as technology—could open up new conduits to infrastructure finance.

Addressing Large-scale Forest Change



All corners of the West are already experiencing disturbance events on a large scale—mega-fires, insect infestations, and drought-driven tree mortality. Driven by climate change, such “mega-disturbances” may well become increasingly common, forcing natural resource agencies into a perpetual disaster response mode. Budgetary and structural implications for agencies are significant, as evidenced by the current crisis with wildfire suppression funding.

Meeting participants acknowledged the need for proactively responding to the negative consequences of mega-disturbances, and expressed concern about their budgetary implications— specifically, that a perpetual disaster response distracts from a focus on reducing threats in places not yet affected. Participants felt that continuing to work together [across ownerships](#) and at scales equal to disturbance mechanisms is the only viable way forward. Many felt that the widespread and controlled reintroduction of fire is of paramount importance. Smoke management concerns need to be addressed and capacity for burn programs increased. In addition to implementing programs of work, the trend toward mega-disturbances is influencing Forest Planning processes too.

Meeting participants discussed all of these issues within the context of the recent mega-scale [tree mortality event in California](#). [Scientists](#) and [land managers](#) articulated the scope and scale of the challenges, uncertainties, and ecological impacts.

Like other recent mega-disturbances in the West, insect- and drought-related tree mortality in California has rapidly expanded. From 2010 to 2014, 11 million trees died and by 2015, the number grew to 40 million, increasing to 66 million a few months later. Now, the Forest Service estimates there are 102 million dead conifers in the central and southern Sierra Nevada Mountains across all ownership categories.

Dead trees create habitat for some species (e.g. black-backed woodpeckers), but for many others and especially late-successional forest obligates, this change is not beneficial. Significant aquatic and hydrologic impacts are expected, especially due to increased fire activity followed by winter precipitation. Participants also expressed concern about forest regeneration in pine-dominant areas that have lost their seed sources.

Social and economic impacts are significant too. On affected National Forests, up to 58% of roads, trails, power lines, and recreation sites have been directly impacted, posing safety risks to agency employees, fire crews, and operators. Secondary impacts well into the future are likely to be extensive and chronic, with future damages requiring sustained budgetary commitments.

Officials are being strategic. On public lands, the Forest Service has incorporated science and public input in the design of a [three phase management response, including](#): 1. triage in the most critical areas of impact; 2. addressing existing forest structure to reduce risk of further impacts; and 3. designing management prescriptions to encourage the landscape of the future to develop. Additionally, several of the affected National Forests that were in the midst of forest plan revisions are now undergoing re-analysis, since the forests have changed in composition.

Even with these strategies in place, the scale of planning and implementation is out of sync with the impact. Still in the first phase of its strategy, the Forest Service reallocated \$43 million for addressing tree mortality in California in 2016. The agency has felled 230,000 trees (0.2% of the total estimated mortality) across more than 20,000 acres, 1,375 acres of which are strategic fuel-breaks protecting 16 communities. Another 52,000 acres are pending for treatment. The Forest Service is taking advantage of Good Neighbor Authority and NEPA insect and disease categorical exclusions (CEs) that were included in the last Farm Bill. Many participants felt that the requisite authorities are in place, but funding and capacity are constraining progress.

A restoration labor force would need more equipment and greater expertise to work at a larger scale. Meeting participants identified a need for clear vision and action in the development of strategy for investment in wood processing infrastructure and market development. At present, harvested hazard trees cannot be sold due to lack of markets. Removed dead trees are being burned in air curtain burners or, where possible, in bioenergy facilities. While policy makers have recently tried to spur the state's bioenergy sector, it continues to struggle in a competitive energy market.

An important consideration is to “right-size” incentives so that new business can be sustained and provide for rural economic development through landscape restoration. A [presentation](#) about British Columbia's salvage response to their own mega-scale insect disturbance event urged careful planning to avoid a boom and bust cycle and negative ecological consequences. Other lessons from Canada were that salvage harvests worked best when focused on the hardest hit areas. Based on lessons learned, the province is encouraging tree species diversity, as such areas proved to be more resilient to large-scale pine beetle infestation. They have also had to accept that there will be waste—that the right-sized restoration infrastructure will not be able to treat all acres.

The All Hands, All Lands Concept



Over the last decade the “all hands, all lands” ethos has grown into the preferred approach for creating the resilient forest and grasslands of the future. Put simply, the concept is to leverage the resources and expertise of multiple jurisdictions across multiple ownerships. Over the last eight years, forest policy has better defined this concept with the introduction of the National Cohesive Wildland Fire Management Strategy, the Collaborative Forest Landscape Restoration (CFLR) program, the Joint Chiefs’ Landscape Restoration Partnership, the Community Capacity Grants program of Region 6, and several provisions from the last Farm Bill, e.g. permanent authorization of stewardship contracting and Good Neighbor Authority. Inquiry into the concepts bedrock to these policies focused on the current state of all lands management (ALM) and visioning for the next phase of applying these ideas.

A [recent classification and analysis](#) of ALM projects finds the concept takes many forms and the on-the-ground conservation strategy varies from project to project. Application of funding programs and authorities thus requires flexibility. It is not a new concept, but today’s challenges elevate collaborative conservation working across all lands as the best way forward. Government agencies play a critical role in ALM, whether as land managers themselves, or in the provision of technical and financial assistance to private landowners. Much of the success of ALM hinges on the relationships needed to build conservation together.

Meeting participants discussed their experience with ALM and the changes they would like to see. An agency administrator reflected that this work takes time, energy, and effort and that all of the agencies involved are poorly funded relative to the magnitude of the problems they are trying to solve. One

proposed solution was to create a culture of experimentation with ALM that cultivates an environment for new governance models (e.g. co-management) that share management and fiduciary responsibilities in places with a clear common concern. The Good Neighbor Authority is one permutation of this.

Many in attendance felt that the legal authorities needed for increased experimentation with ALM are already in place, and rather it is the political will and social license that are lacking, or at least perceived to be. One policy opportunity identified was the reauthorization and possible expansion of the Collaborative Forest Landscape Restoration (CFLR) program and the Joint Chiefs' Landscape Restoration Partnership to better serve collaborative conservation efforts working across all lands.

Perspectives on collaboration were varied. Some felt there has been too much emphasis on it, to the point where the rhetoric rings hollow when collaboration ends up not being a tool to get something done but an end in itself. Meeting participants recognized that ALM collaborations often fall short in quantifying and communicating success. While participants identified a need for greater quantification of outcomes, resources and strategies to facilitate the measurement of outcomes were not identified. Several participants suggested that there needs to be sustained investment in work that is already successful. Still others cautioned that continual reinvestment in the same areas leaves behind important places where ALM efforts are yet to develop. The discussion on this theme—investing in success vs. initiation elsewhere—perhaps suggests that more attention to metrics of success could help clarify when and where ALM approaches should be advanced and supported.

Another issue with collaboration is that not everyone participates. For example, institutional forestland investment firms are less involved in ALM projects than their stake in the landscape would imply. In one ALM project discussed, a timberland investment management organization (TIMO) adjacent to a National Forest has elected to not engage, perhaps in part because they have not directly benefited from Joint Chiefs' Landscape Restoration Partnership funding. Given the turnover in sales in investor-owned forestland, meeting participants suggested that a space for a deliberate dialogue on land succession within ALM efforts needs to be created. Likewise, conservation finance mechanisms are needed to widen the range of potential purchasers as lands come up for sale.

Presenters emphasized that local implementers and visionary leaders are vital to the success of ALM projects. In many places [community-based organizations \(CBOs\)](#) are playing this role. These groups are usually non-profits growing within struggling rural communities. CBOs perform many of the activities traditionally performed by government—landowner outreach, project planning, implementation, monitoring, collaborative facilitation, etc.

Many CBOs have a vision and strategy that includes economic development. These groups often seek an enhanced role for the community in natural resource management and decision making—whether that be through collaborative group processes or otherwise. Their economic development aspirations usually center on creating market opportunities to use byproducts of restoring public land and through private lands stewardship.

While many CBOs have strong, well-respected leaders, their capacity is limited. Many of these groups have benefited from rural stimulus efforts in the past, such as the Economic Action Program in the Pacific Northwest. In the absence of requisite funding, these groups struggle to build their capacity for impact, leaving many in a perpetual start-up mode. Because of this, CBOs are an inconsistent feature of the governance system, but one that can be vital and uniquely qualified to developing economies based on sustaining working landscapes across all lands.

CBO leadership needs cultivation, successes need to be celebrated, and strategies need transference. The concept of an ALM innovation network was introduced as a way to cross-pollinate ideas between groups. Some of this is already occurring organically through entities like the Rural Voices for Conservation Coalition. In form and function, an all lands innovation network could be similar to the Conservation Finance Network that USDA NRCS recently supported through the Conservation Innovation Grants program.

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Page 3: *Low-density development in the wildland urban interface near on the Front Range in Colorado*. Credit: Brian Kittler.

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Page 8: *Landscapes across the West have been transformed by large scale mortality events*. Credit: Don Graham CC BY-SA 2.0.

Page 10: *Monitoring of the Front Range Stewardship Contract, Colorado*. Credit: Brian Kittler.

Priorities for Our Shared Conservation Agenda Participant List

Jennifer Allen
Associate Professor
Portland State University
jhallen@pdx.edu

Greg Block
President
Sustainable Northwest
gblock@sustainablenorthwest.org

Brett Brownscombe
Sr. Project Manager
National Policy Consensus Center
brownscombe@pdx.edu

Ann Forest Burns
Vice President
American Forest Resource Council
aforestburns@amforest.org

Chris Chambers
Forest Division Chief
City of Ashland
chamberc@ashland.or.us

Susan Charnley
Social Scientist
USDA Forest Service, PNW Research Station
scharnley@fs.fed.us

Kent Connaughton
Board of Directors
Pinchot Institute for Conservation
kpconnaughton@earthlink.net

Pete Dalke
Sr. Project Manager
Oregon Solutions
dalke@pdx.edu

Chad Davis
Senior Policy Analyst
Oregon Department of Forestry

Emily Jane Davis
Assistant Professor and Extension Specialist
Oregon State University
emilyjane.davis@oregonstate.edu

Christine Dawe
Director, Renewable Resources, Northern
Region
US Forest Service
cdawe@fs.fed.us

David Diaz
Forestry Program Director
Ecotrust/University of Washington
ddiaz@ecotrust.org

Shadia Duery
International Fellowship Program Manager
World Forestry Center
sduery@worldforestry.org

Angus Duncan
President
Bonneville Environmental Foundation
aduncan@b-e-f.org

Aaron Everett
Policy Director and State Forester
WA Dept. of Natural Resources
crystal.ith@dnr.wa.gov

Chris Fischer
Deputy Director State and Private Forestry
Region 5
USDA Forest Service
cfischer@fs.fed.us

Jerry F. Franklin
Professor
University of Washington
jff@uw.edu

Todd Gartner
Senior Associate, Manager - Natural
Infrastructure for Water
World Resources Institute
tgartner@wri.org

Priorities for Our Shared Conservation Agenda Participant List

Nick Goulette
Executive Director
Watershed Research and Training Center
nickg@hayfork.net

Karen Hardigg
RVCC Director
Rural Voices for Conservation Coalition
karen@wallowaresources.org

Ben Hayes
Working Lands Project Director
Pinchot Institute for Conservation
bhayes@pinchot.org

Debbie Hollen
Director State & Private Forestry - AK & PNW
Regions
USDA Forest Service
dahollen@fs.fed.us

Heidi Huber-Stearns
Research Associate, Ecosystem Workforce
Program
University of Oregon
hhuber@uoregon.edu

Nels Johnson
Director, North America--Energy
The Nature Conservancy
njohnson@tnc.org

Brian Kittler
Director, Western Regional Office
Pinchot Institute for Conservation
bkittler@pinchot.org

Jeff Kline
Research Forester
USDA Forest Service, PNW Research Station
jkline@fs.fed.us

Cindy Kolomechuk
State Forest Division
Oregon Department of Forestry
cindy.kolomechuk@oregon.gov

Dylan Kruse
Policy Director
Sustainable Northwest
dkruse@sustainablenorthwest.org

Catherine Mater
President / Senior Fellow
Mater Engineering Ltd / Pinchot Institute
mater@mater.com

Jay McLaughlin
Executive Director
Mt. Adams Resource Stewards
jay-mars@gorge.net

Wade Mosby
Board of Directors
Pinchot Institute for Conservation
wademosby@msn.com

Tim Murphy
Farm and Forest Lands Specialist
Oregon Department of Land Conservation and
Development
timothy.murphy@state.or.us

Albert Nussbaum
Director, Forest Analysis and Inventory Branch
Government of British Columbia, Forests, Lands
and Natural Resource Operations
Albert.Nussbaum@gov.bc.ca

Kristen Podolak
Ecologist
The Nature Conservancy
kpodolak@tnc.org

Will Price
Acting President
Pinchot Institute for Conservation
willprice@pinchot.org

Christina Restaino
Postdoctoral Scholar
UC Davis
cmrestaino@ucdavis.edu

Priorities for Our Shared Conservation Agenda Participant List

Ashley Rood
RVCC Program Coordinator
Wallowa Resources/RVCC
ashley@wallowaresources.org

Hugh Safford
Region 5 Ecologist
USDA Forest Service
hughsafford@fs.fed.us

Marcus Selig
Vice President, Field Programs
National Forest Foundation
mselig@nationalforests.org

Patrick Shannon
Pacific Northwest Director
National Forest Foundation
pshannon@nationalforests.org

Ed Shepard
President
Public Lands Foundation
ssstr1@comcast.net

Nikola Smith
Ecologist
USDA Forest Service
nmsmith@fs.fed.us

Jonathan Trutt
Executive Director
West Coast Infrastructure Exchange
jonathan.trutt@westcoastx.org

Eric Vines
Executive Director
World Forestry Center
evines@worldforestry.org

Nick Wobbrock
Partner
Blue Forest Conservation
nick@blueforestconservation.com

Rick Zenn
Senior Fellow
World Forestry Center
rzenn@worldforestry.org