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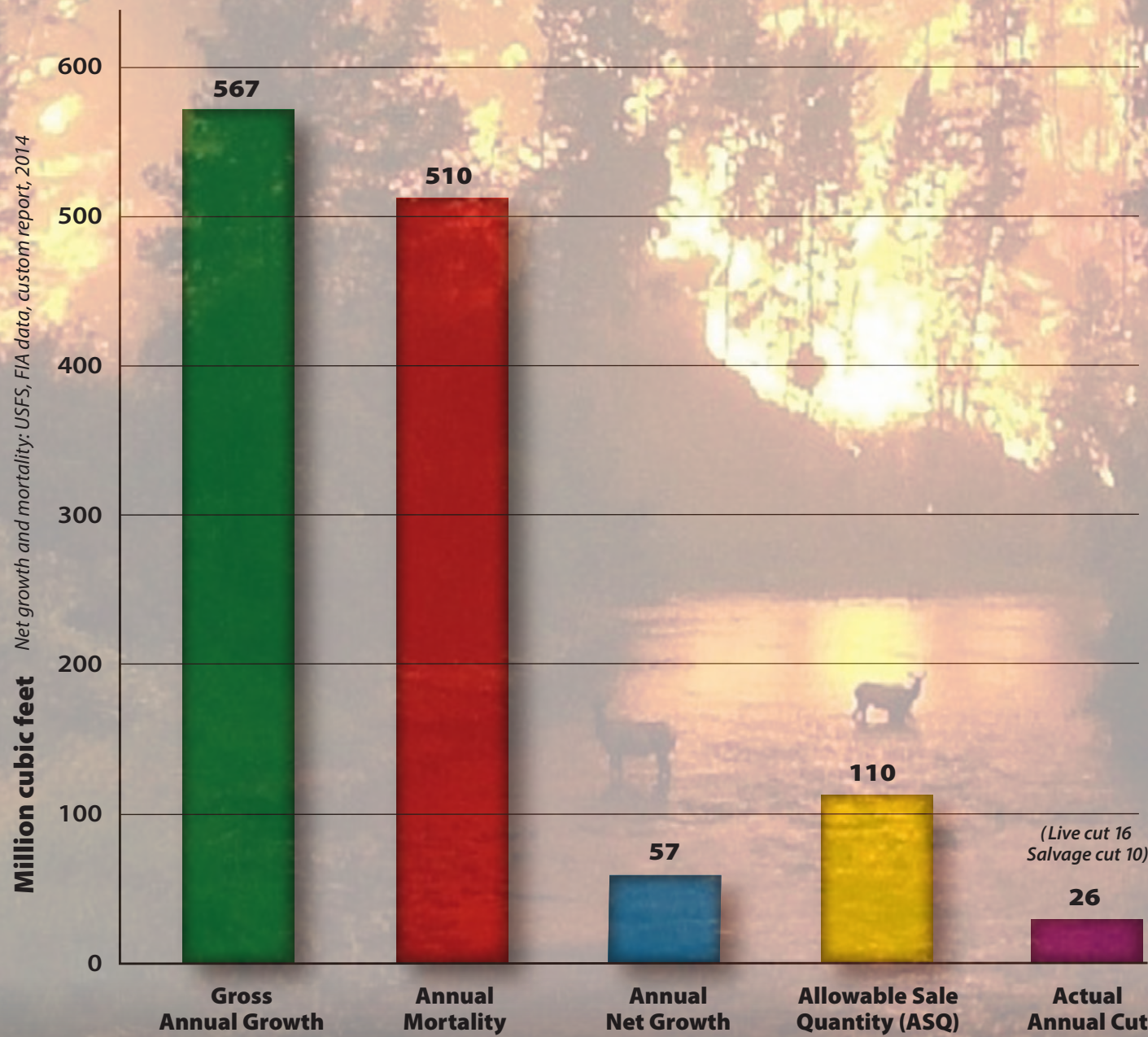


Montana's National Forests

BURNING AN EMPIRE

BURNING A

In this special *Evergreen* report, we profile the sorry state of affairs in Montana, a state that relishes its reputation as "the last best place," a phrase coined by William Kittredge that became the title of his anthology of Montana writers, published in 1988 by the Montana Historical Society. At the time, Kittredge was teaching creative writing at the University of Montana in Missoula.

"Montana's National Forests: Burning an Empire" draws its name from the late Stewart Holbrook's "Burning an Empire," which chronicled America's greatest forests fires – events that had much to do with the creation of the congressionally designated Forest Reserves that became part of the National Forest System when the U.S. Forest Service was created in 1905. Back then, conservation meant management, not preservation.

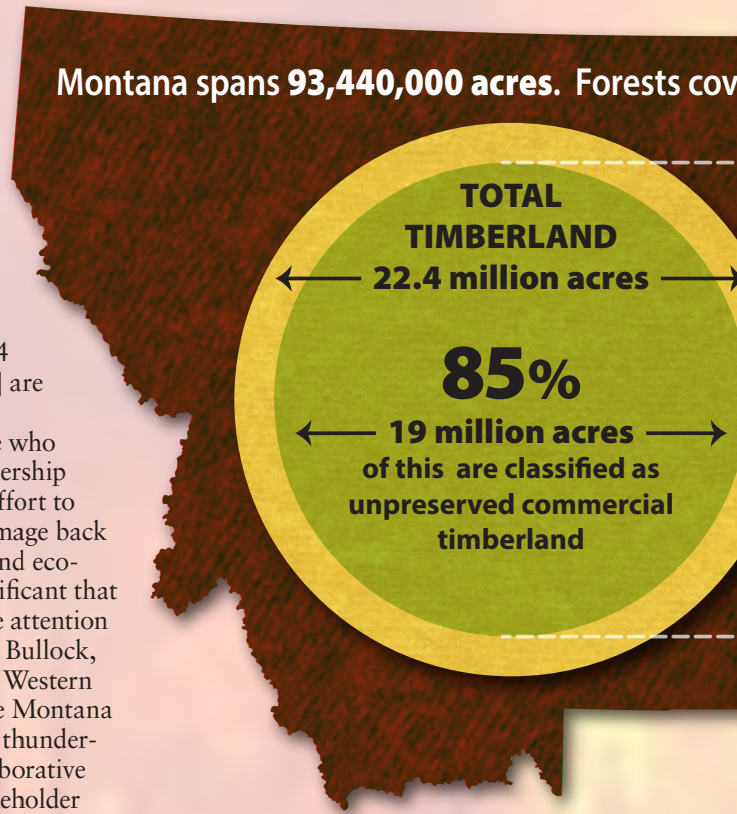
Our "Burning and Empire," report is actually a hope-filled story about Montanans who have come together to address the host of problems that swirl about the management of national forests, in this case national forests within Montana's borders – the proverbial "last best place."

The bar graph on the cover quantifies Montana's dire situation in frightening detail. Of the 567 million cubic feet of wood fiber that nature annually adds to Montana's national forests, 510 million cubic feet – an astonishing 89.9 percent – dies annually, a direct result of insect and disease infestations, and subsequent and inevitable wildfire.

Net annual growth – gross growth minus mortality – totals 57 million cubic feet, 10.1 percent of gross growth. Removals – the harvest of live, green trees and the salvage of dead and dying trees – totals 26 million cubic feet, 4.5 percent of gross growth and five percent of what dies annually. See our complete explanation of the bar graph on Page 24.

When we interviewed him for this report, Montana State Forester, Bob Harrington, shocked us with the news that, since 2000, "Nearly 50 percent of Montana's forest lands have been significantly affected by insects, diseases and wildfire. This has serious implications for future forest productivity, wildfire risk, watershed health, recreation, wildlife and the future of Montana's forest industry sector."

There are 22.5 million acres of forestland in Montana, of which 22.4 million acre are classified as timberland, meaning it is capable of annually growing at least 20 cubic feet per acre. 85 percent of Montana's timberland base – about 19 million acres - is in unreserved land classifications, meaning it is available for active management and harvest. Of these roughly 19 million acres, 60 percent – about 11.4 million acres – is owned by the American people and managed by the U.S. Forest Service. These 11.4 million acres [see nearby map] are the focal point of this report.



Herein, we interview those who have voluntarily assumed leadership roles in a growing statewide effort to pull Montana and its fabled image back from the brink of ecological and economic collapse. It is truly significant that their efforts have attracted the attention of Montana's Governor, Steve Bullock, the incoming chairman of the Western Governors Association, whose Montana Forests in Focus Initiative is a thundering endorsement of both collaborative forest restoration and the stakeholder collaboratives that are leading the way on every national forest in the state.

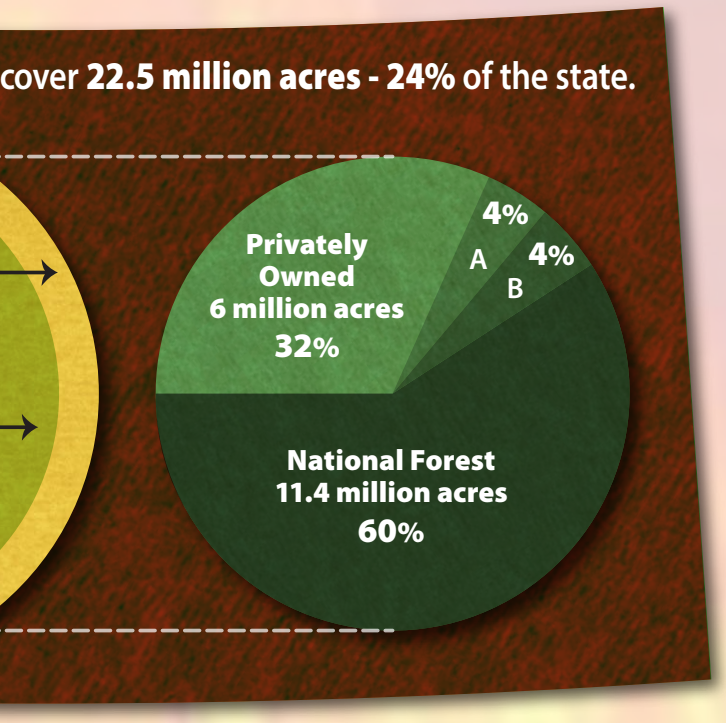
Also interviewed: Peter Kolb, a PhD Forest Ecologist and Adjunct Forest Ecology and Management Professor at the University of Montana, and a recognized authority on the complex cause and effect relationship between our currently warming climate and ecological collapse amid mixed confer, dry site forests in the Intermountain West. We have known Peter for many years and admire his single-minded dedication to his science. He has most recently produced four very informative videos that explain the reasons for collapse in Intermountain forests and what Montanans can do on the active management front to improve forest conditions.

Others interviewed: former Forest Service Chief, Dale Bosworth, who was Northern Region Forester before he was named Chief in 2001; Chris Savage, current Forest Supervisor on northwest Montana's Kootenai National Forest; Christine Dawe, Director of Renewable Resource Management in the Forest Service's Northern Region, which includes all of Montana and northern Idaho; David Allen, President and CEO of the Rocky Mountain Elk Foundation; Gary Burnett, Executive Director of the Blackfoot Challenge, Montana's most successful conservation partnership; and Joel Webster, Center of Western Lands Director for the Theodore Roosevelt Conservation Partnership.

Still others interviewed: Todd Morgan, Director of Forest Industry Research for the University of Montana Bureau of Business and Economic Research; Ken Swanstrom, Swanstrom Logging Company, Kalispell, Montana; Roger Johnson, owner of the Pyramid Lumber Company at Seeley Lake who, with his Resource Manager, Gordy Sanders, pioneered both forest collaboration and stewardship contracting in Montana's spectacular Swan Valley; and Bruce Vincent, an Evergreen Foundation Director and former logger who, with his son, Chas, a Montana State Senator, have done much to advance the cause of stakeholder forest collaboration on the Kootenai National Forest.

Most of these interviews do not appear in their entirety in this report, but the complete interviews are available at www.evergreenmagazine.com and

AN EMPIRE



A. State of Montana: 760,000 acres
B. Tribes & other Federal Agencies: 760,000 acres

www.montanaforests.com, a website maintained by the Montana Wood Products Association.

Now to our main messages and recommendations based on our eight month investigation of forest stakeholder collaboratives at work in Idaho, Montana and northeast Washington:

Although the situation is Montana's national forests is dire, the 2014 Farm Bill and the subsequent development of Governor Bullock's Montana Forests in Focus Initiative, lend hope and inspiration, especially to a myriad of citizens who are members of forest stakeholder collaboratives. These volunteers are assisting federal and state agencies, including the Forest Service, the Bureau of Land Management and Montana's Department of Natural Resources, in the development of on-the-ground solutions to many contentious management problems that have for years defied solutions or productive outcomes.

The 2014 Farm Bill has been a driving force behind increased on-the-ground activity because it provided numerous new tools the Forest Service and the Montana Department of Natural Resources can use to get more restoration work done faster on the ground. Most significantly, the Bill gave western state governors the opportunity to identify priority federally-owned landscapes in urgent need of help. In consultation with conservationists, forest industry organizations and collaboratives, Governor Bullock nominated five million acres of national forest land for designation as priority landscapes.

Although much has been written about forests that are "lost" to insect or disease infestations and the stand-replacing wildfires that follow, nothing is nature is ever lost forever. But it can take centuries for forests to recover from the impacts of wildfires that burn so hot that the very makeup of mineral soils is altered for decades. This is certainly the case in the Intermaountain West, where nutrients are stored in mineral soil. Big wildfires can "cook" this soil, delaying forest regeneration for decades, undermining year-round recreation opportunities that have become touchstones in the New West.

The overstocked forests that we [among many others] have written so much about are the end products of many ecological and economic influences. Among them: early-day logging practices, which favored the best quality trees and left behind less than ideal trees to recolonize logged off lands; publicly popular fire suppression politics rooted in our nation's "waste not, want not" biblical ethic; and an uncharacteristically cool, wet period beginning in the 1930s, that favored stunning growth in shade tolerant fir and spruce species that are poorly adapted to the climate trends we are now experiencing.

The climate factor is well explained in our wide ranging interview with Peter Kolb, which appears in its entirety in this report. Be sure to read it carefully. Kolb explains what needs to be done now, why it needs to be done, and how to do it. Remarkably, several Montana loggers, including Ken Swanstrom, who we interview, have, for years, been doing precisely what Kolb recommends.

All of the collaborative stakeholders we've interviewed since April, 2015, share common frustrations, none more plainly described than their belief that we need to be working on much larger landscapes. Most members of the western congressional delegation understand stakeholder frustration and are working to alleviate it by expanding the authorities granted within Categorical Exclusions and the Good Neighbor Authority. Both give state forestry agencies the leeway to work with the under-staffed Forest Service to speed forest restoration work.

It is very good news that a driving force in Montana is a shared concern for the fate of fish and wildlife species that are totally dependent on a sea change in the way Montana's federal forests are managed. The key issues all revolve around habitat quality – forage for deer, elk and bears and cool, clear waters for trout. As numerous interviewees pointed out to us, these are not habitat qualities that happen in a vacuum. Thus, leaving Montana's national forests "to nature," isn't a good idea. Paraphrasing an old biologist friend, "We get whatever nature serves up, but with forestry we have options, and a degree of predictability not found in nature." We agree, as do interviewees David Allen of the Rocky Mountain Elk Foundation, Joel Webster of the Theodore Roosevelt Conservation Partnership, and probably most who hunt and fish in Montana. Hunting and fishing are major economic engines in "the last best place."

Amid all of the good news in this report, the bad news is that serial litigators are still a very costly drag on Montana's otherwise impressive collaborative effort to prepare the state's national forests for a changing climate, and to improve their resilience to insect and disease infestations and stand-replacing wildfires. Congress needs to find a way to deal more effectively with this tragedy of the commons – the commons being the 11.4 million acres of federal forestland in Montana that, while owned by all Americans, are managed primarily by nature.

Onward we go,

Jim Petersen
Founder and President
The non-profit Evergreen Foundation
Publishers of Evergreen Magazine

"Our Montana Forests in Focus program is the culmination of a New Year's promise I made to myself two years ago. We needed to increase the amount of forest restoration on the national forests in our state, and I wanted to make that happen. Our forests and our rural timber communities were suffering, and although Montanans were working together to address these issues, it wasn't resulting in enough action on the ground.

When the 2014 Farm Bill came along a few months later, I saw a clear path forward to give those Montanans working so hard together a chance to see their efforts succeed. Later that year, I convened a diverse group of conservationists, forest industry representatives, anglers, county officials, and others and asked for advice. Approximately 60 stakeholders from all over the state participated, and their message was almost identical. They all wanted to put logs on trucks, improve forest health such as fisheries and wildlife habitat, reduce fire danger, and keep intact those places that should be left alone.

The result is the Montana Forests in Focus program that we have today. And it's working!"

Steve Bullock
Governor of Montana
Helena Montana

STEVE BULLOCK

Montana's 24th Governor, Steve Bullock

Forty-nine-year-old Steve Bullock is Montana's 24th Governor. Elected in November of 2012, he is in the third year of his first four-year term. Bullock, a Democrat, was born in Missoula, but grew up in Helena, just a few blocks from the capitol. Before winning the governorship, he served one term as Montana's Attorney General. A lawyer by training, he did his undergraduate work at Claremont McKenna College in California, and then graduated with honors from Columbia Law School in New York City.

In this interview, Governor Bullock responds to questions concerning his widely praised Montana Forests in Focus program and his upcoming term as chairman of the Western Governors' Association. WGA has been very active in encouraging Congress to take additional steps to protect western federal forests from insects, diseases and wildfires that now pose a serious and additional risk to state, tribal and private forestlands across all 11 western states.

Evergreen: Governor, let's cut to the chase. From what you know, how bad is the forest health problem in Montana's national forests?

Bullock: It's bad enough that you can see acres and acres of dead trees from Helena. Our fire seasons are longer, more intense, and more expensive. And as our forests decline, so do the wildlife and fish that depend on those forests for healthy habitat and clean, abundant water.

Evergreen: That's pretty bad, but not much different from Idaho national forests.

Bullock: I've heard that from Governor Otter. But on a more hopeful note, I can also tell you that forest restoration projects undertaken under the auspices of the 2014 Farm Bill and our Forests in Focus program are helping to retain 1,000 logging and sawmilling jobs in our state, and helping those Montana families makes ends meet.

Evergreen: When you speak of the 2014 Farm Bill, you are speaking of areas of national forests affected by insects and disease that Congress allowed western governors to prioritize and designate in collaboration with forest stakeholder groups, including conservationists and forest industry representatives.

Bullock: That's correct. The Farm Bill provided the Forest Service with new tools to accelerate forest restoration and accelerate projects that are developed through collaboration. Congress allowed governors to nominate national forest lands as priority landscapes, where those new tools could be put to work. A diverse group

of Montanans made recommendations, and I nominated almost 5 million acres. The Secretary of Agriculture approved almost every acre.

Evergreen: You have, what, 17 million acres of national forest land in Montana?

Bullock: That's about right. The federal government is by far our largest forest landowner, which is why we're so concerned about the declining health of our federal lands. It is threatening our communities, natural resources, and way of life in Montana.

Evergreen: So things are not so good in what Montanans like to call "the last, best place."

Bullock: Well don't get me wrong, Montana is still the last best place! But things could certainly be better as we look to our national forests, which is why I've placed such a high priority on our Forests in Focus program. We see it as a proactive solution to forest and community health issues that are tied together.

Evergreen: It's our recollection that collaboration is a requirement of key Farm Bill provisions?

Bullock: That's true, and we're trying to use those Farm Bill provisions to boost the success of our collaborative partners on the ground, to improve habitat, reduce fire danger, and put Montanans to work.

Evergreen: Collaboration seems to play to mixed reviews. How's it working in Montana?

Bullock: Pretty well, we think. You'd always like to have more participation from the skeptics who seem to content to sit back and throw stones, but that will hopefully change in time.

Evergreen: We are aware of collaborative groups in Idaho that spent years developing the necessary trust relationships that allow them to work together on forest restoration projects.

Bullock: That's the same here in Montana. We believe we're sending the right signal with our Forests in Focus program, since one of the criteria we use for investment is the strength of the collaborative relationships among key stakeholders.

Evergreen: We've read through your program and find much to admire in it. What do you think separates it from other notable gubernatorial efforts around the western United States?

Bullock: Possibly the fact that the State of Montana stepped up with money. So far we've invested $1 million in state money in 14 Forest Service forest management projects, most of which are using Farm Bill authorities. These projects will help restore about 200,000 acres, improve recreation opportunities, and generate roughly 50 million board feet of commercial timber for our state's sawmills. And last fall, I committed another $1 million to invest in federal forest restoration projects, under the condition that it leverages new money from the agency. We're currently identifying to which projects that funding will be directed.

Evergreen: I want to read a direct quote from a press release dated July 8, 2014, announcing your Forests in Focus initiative. You said, "We are at a crossroads with forest health, our mills and the future condition of our forests. The aftermath of a years-long mountain pine beetle epidemic, stalled projects on thousands of acres of national forests, and continued threats from wildfires provide a strong basis for increased focus on how we manage forests and how we ensure we have a vibrant wood products industry providing good-paying jobs for Montanans." That's strong stuff coming from a politician, wouldn't you agree?

Bullock: Montana is a populist state. We aren't always good at parsing their words but we are usually good at finding solutions most of us can support. Time is not on our side. We need to be engaged in an honest and very transparent dialogue about the condition of our national forests and what it will take to make things better and reduce the risks we face.

Evergreen: And so you seem to be on a more pragmatic road that has you measuring outcomes and investing in Forest Service projects that are economically viable and can produce results in terms of jobs in the woods and mills for Montanans, as well as other benefits such as improved water quality, and wildlife and fisheries habitats.

Bullock: We're also investing in projects on state, private and tribal forest lands, but yes, this is mostly about helping the Forest Service get more work done faster, and on more acres.

Evergreen: And you find nothing politically incorrect in saying out loud that Montana's forest products industry needs some help.

Bullock: I certainly don't. I think we benefit from a strong forest products industry. A lot of our wood processing infrastructure is family-owned by Montanans who pay taxes and employ their fellow Montanans. Our mill capacity is shrinking, which is challenging for our rural timber communities. We're also in danger of losing our mill infrastructure and more mill capacity. Yet this is the very capacity we need to improve forest health on our public lands, reduce wildfire risk, and restore wildlife and fisheries habitats.

Evergreen: We could not help but notice that your administration has also committed to hiring two liaisons, to help coordinate activity between

the Forest Service, local government, Montana residents, and your Department of Natural Resources and Conservation.

Bullock: We've hired a liaison to work directly with the USFS on this effort, and recently hired a local government forest advisor to help city and county officials effectively engage on federal forest management issues. And we are investing state tax dollars in several collaborative projects. Coordination is key to making sure that all of the players are on the same page, so we funded these positions to help insure that the state gets a return on its investment.

Evergreen: How on earth did all of this get started at a time when there is so much national level disagreement over how or if western national forests should even be managed, much less produce measurable outcomes?

Bullock: Our Montana Forests in Focus program is the culmination of a New Year's promise I made to myself two years ago. We needed to increase the amount of forest restoration on the national forests in our state, and I wanted to make that happen. Our forests and our rural timber communities were suffering, and although Montanans were working together to address these issues, it wasn't resulting in enough action on the ground.

When the 2014 Farm Bill came along a few months later, I saw a clear path forward to give those Montanans working so hard together a chance to see their efforts succeed. Later that year, I convened a diverse group of conservationists, forest industry representatives, anglers, county officials, and others and asked for advice. Approximately 60 stakeholders from all over the state participated, and their message was almost identical. They all wanted to put logs on trucks, improve forest health such as fisheries and wildlife habitat, reduce fire danger, and keep intact those places that should be left alone.

The result is the Montana Forests in Focus program that we have today. And it's working!

Evergreen: Yet the serial litigators remain the 5,000 pound elephants in the room that no one wants to talk about. Many forest restoration projects in Montana are currently tied up in federal court cases filed by groups who don't support the kind of forest restoration work you advocate, and refuse to participate in collaboratives. What's the solution?

Bullock: I'm a lawyer by training. While I know the limits of going to court, I also respect the rights of citizens to do so, especially when they're challenging their government. I believe the new Farm Bill authorities that Congress enacted will resolve some of the issues that exist from too much litigation. Sound science and transparency are the keys. People need to know there is no back room dealing. This mess wasn't created overnight, and I would be reluctant to expect that the fix is simple. Perhaps it's time to look at alternative methods of dispute resolution, such as arbitration.

Evergreen: That's the word we get from all of the collaboratives we've interviewed over the last eight months. And there is a strong sense that the hundreds of volunteer hours stakeholders are devoting to their collaborative projects deserve some measure of protection from Congress.

Bullock: I've heard the same story from our Montana collaboratives. Drawing the line between public access to the courts and giving folks the signal that working together is encouraged and rewarded is a delicate balance.

Evergreen: You assume the chairmanship of the Western Governors' Association in July. We had a peek at WGA's 2016 national forest and rangeland policy statement, in which we assume you played a significant role. Are we correct?

Bullock: Working with Governor Otter I put the first draft of that resolution forward, and through the WGA process many other Governors offered a lot of very good input. So as much as I like the resolution it's really not Steve's grand plan for saving the West. WGA has an increasing amount of political horsepower, in part because we are a bi-partisan group but also because Congress has seen fit to give Governors a role via the Farm Bill. State governments have trust responsibilities of their own involving wildlife, water, forest resources and public health and safety. Our seat at the table is secure.

Evergreen: What do you see as the key issues during your year as WGA chairman?

Bullock: At WGA there have also been serious discussions regarding forest management and the need for reform, and the need to find out where we, as westerners, can stand together on this issue. As Governors, we have our own forestry programs and we are acutely aware of the challenges on the ground. I want to take up the issues of federal forest management reform and hold discussions around the West. I believe we should start with the Farm Bill authorities to see how those substantial changes in agency authority are playing out, with an eye toward bringing a bipartisan set of reforms forward.

Evergreen: Let's start with fire borrowing. How do we fix it?

Bullock: The purpose of forest restoration is to restore sustainability in ailing ecosystems *before they burn*, so why is the Forest Service forced to borrow money and redirect their land management budget to pay its firefighting costs? It makes no sense. We don't do this in Montana and I can't fathom a reason why Congress allows it. We are hurting our national forests and people who depend on them for their way of life.

Evergreen: And how do we replace the county share of harvest receipts lost as the federal timber sale program has all but disappeared?

Bullock: We can't have our counties and schools begging the federal government for money every year. The federal government does not pay property taxes on the acres it owns in the West, and in some counties federal landownership comprises over 80 percent of the entire county. WGA has been clear that like any landowner, the federal government needs to pay its fair share to states and counties for public goods and services.

Evergreen: Which brings us back to state efforts to help the Forest Service get more work done on the ground in at risk national forests.

Bullock: We intend to do our part in Montana, and we are willing to do more once we see success on the ground. As WGA Chair, I intend to highlight our work in Montana and learn from my western colleagues. I believe we can build a strong bipartisan foundation among the western Governors to support change.

PETER KOLB

Peter Kolb amid beetle-killed lodgepole pine toppled by high winds on Garnet Mountain northeast of Missoula. Once stands like this one start to fall apart, remaining trees are quickly leveled by future winds. Downed trees this size add enormous heat to wildfires, often cooking mineral soils in which new vegetation has already taken root. Natural regeneration can take decades. There are still barren areas on the Idaho-Montana divide that have yet to recover from the Great 1910 Fire.

If we use insect and disease attacks as indicators of genetic simplicity, and resilience to these pests as indicators of genetic robustness, we can use harvesting to assist natural selection to build a more resilient forest ecosystem with a greater ability to survive climate fluctuations and associated perturbations. This may mean changing certain silvicultural paradigms and not selecting for the fastest growing or tallest trees that in species studied also indicated a lack of genetic diversity, often brought on by inbreeding, but intermediate sized trees that use their energy reserves for defense and water conservation as well as growth. It also means removing afflicted trees that create a fuel bed that promotes stand replacing fires that destroy the trees with greater genetic resilience and seed source that insects and diseases just selected for. Rather than "restoration" forestry, we need to practice "assisted adaptation" forestry where we use harvesting to assist nature in selecting for the most ecologically robust and resilient trees for every species across our forested landscapes.

Peter Kolb, PhD Forest Ecologist
Adjunct Professor, Forest Ecology and Management
University of Montana College of Forestry and Conservation
Missoula, Montana

Peter Kolb is an Associate Professor of Forest Ecology and Management in the University of Montana's College of Forestry and Conservation in Missoula and an Extension Forestry Specialist for Montana State University Extension in Bozeman. He holds a PhD in Forest and Range Ecophysiology from the University of Idaho [1996] and a Master's degree in Silviculture and Forest Protection, also from the University of Idaho [1987] He completed his undergraduate studies at Michigan State University in 1983. In 2008, he was elected to be a Fulbright Scholar at the Bavarian Institute of Applied

Forestry, where he lectured on forest ecosystem processes. While at the Institute, he also joined with geneticists and silviculturists in a review of the latest science for advancing forest resilience to climate change. Dr. Kolb will soon release a series of videos [https://goo.gl/BTZUEO] explaining the role of climate change in Intermountain mixed conifer dry site forests. In this interview, he answers questions concerning climate change and forest management in the Intermountain West.

Evergreen: Dr. Kolb, you have waded into the climate change debate with both feet. Lots of controversy here. Many people simply don't believe the climate is changing. What say you?

Kolb: It is definitely changing, and that's not news. We've been going through long periods of warming and cooling, punctuated by mini-cycles that move in the opposite direction, since the last Ice Age ended some 10,000 years ago.

Evergreen: Are we warming or cooling at the moment?

Kolb: We are warming and have been for at least a century, but we experienced a mini-cooling cycle from about 1940 to 1980. Above average amounts of rain and snow that really had a lot to do with the dominance of shade tolerant tree species we have today in western Montana and northern Idaho – the lush Douglas-fir and grand fir forests with which most of us are familiar. The mini-cooling cycle ended in the mid-1980s, perhaps best indicated by the 1988 Yellowstone mega-fire. Over the last 30 years, our climate has warmed again and, as a result, we are in the midst of a major transformation in forest types.

Evergreen: How so?

Kolb: Just the natural order of things. The cooler, wetter period gave most trees species but especially Douglas-fir and grand fir a chance to successfully reproduce and create much denser forests than existed in the previous century, or speculatively even any time since the last ice age. Now we are warming again and we are seeing a major die-off in trees as water is suddenly very limiting due to drought and overly dense forests. Thus, the big buildups in fuel – woody debris – in our forests. Consider that over the past 16 years more than half of the 25 million acres of forest in Montana has been dramatically impacted and potentially altered by wildfires and insects.

Evergreen: Add in our publicly popular policy of purposefully excluding wildfire from forests, and we have a perfect storm in which ever larger amounts of woody debris fuel larger and larger wildfires in forests dominated by shade tolerant, drought stressed tree species that won't survive our warming climate anyway.

Kolb: You've got it.

Evergreen: As a society, we don't have much use for wildfire, do we?

Kolb: No, we don't. The past decade people in the NW have gotten tired (and sick) of choking on smoke all summer long. Historically the public horror following the 1910 Fire and earlier fires in Wisconsin and Minnesota turned the whole nation against wildfire. I understand why, but the very useful ecological role fire can play in historically fire influenced ecosystems got lost in our more utilitarian view of forests brought on by the national need for construction wood and paper from these forests as the United States grew from a global backwater to a world leader.

Evergreen: And the result?

Kolb: We have forests in which the historic mosaic that fires created has been lost to more homogenous stocked landscapes that feature significant and uncharacteristic fuel buildups. Such simplified forest ecosystems provide a lesser habitat for the diverse mix of plant and wildlife species that could be there. When these forests burn they are further simplified by wildfires that are uncharacteristically severe and expansive.

Evergreen: And so what we are seeing here in the northern region is – as you say – simply the natural order of things associated with a new warming climate cycle.

Kolb: In a simplistic sense, yes, but to fully understand what's happening and what it means you must first understand that this region's forests have a 13,000 year history of boom and bust cycles – periods of flourishing growth and periods punctuated by great upheaval: massive snow packs and floods in some years, huge wildfires in others, cyclone force winds called micro-bursts, bitter cold, searing heat and periods of drought. Add to that a century of wildfire suppression during a cold wet period that promoted great tree regeneration and growth, and the desire for forest managers to create "regulated" forests with faster tree growth and volume production in order to meet national demands for wood.

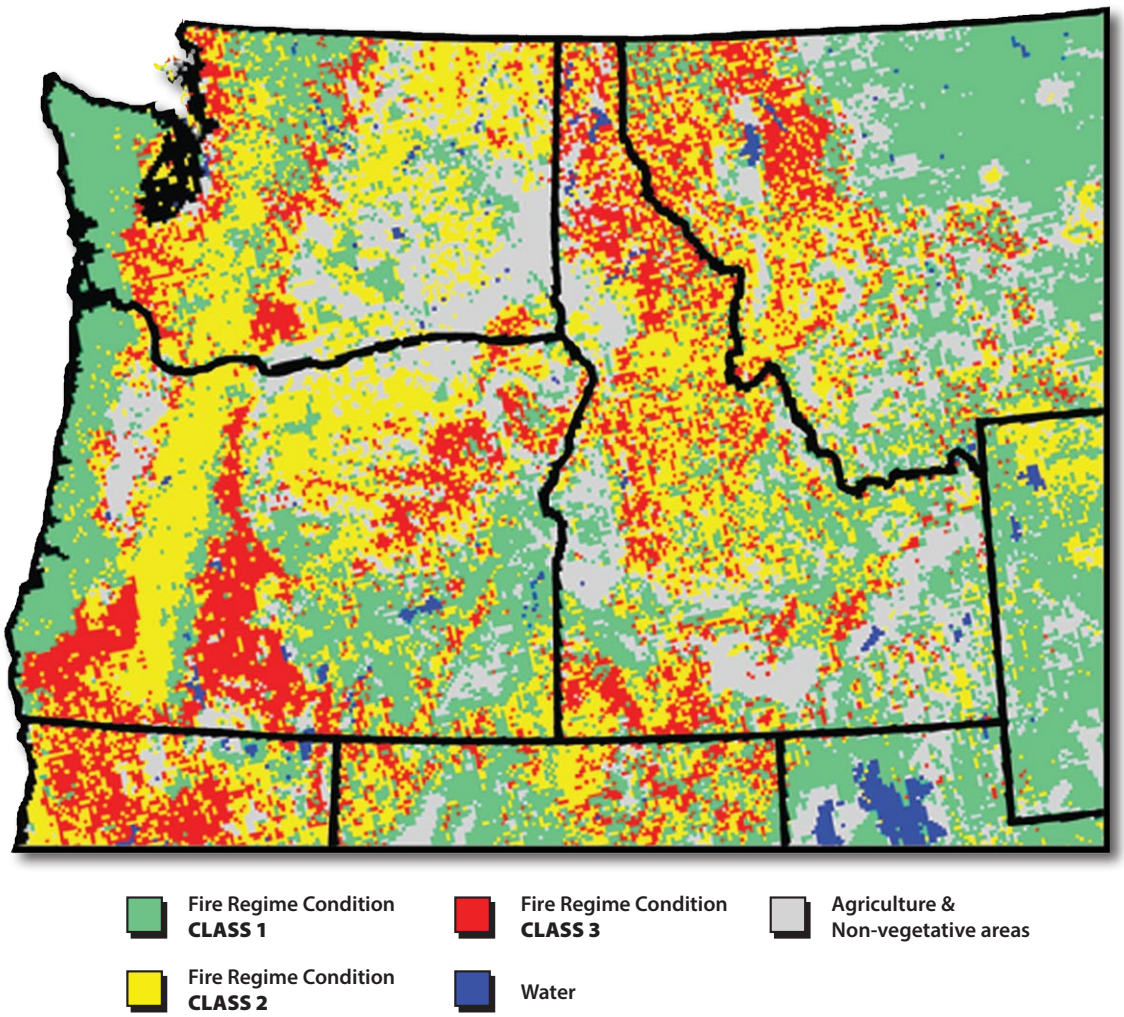
Evergreen: So the changes we are observing aren't simply the negative result of European settlement and the developments it brought?

Kolb: They are not. One of the more interesting recent studies examined pollen and charcoal samples taken from the bed of Foy Lake near Kalispell, Montana. These samples are the scientific record of long warming and cooling periods and associated changes in vegetation. Similar studies focused on tree ring and charcoal samples collected across the Northwest that give us pretty good indications that fires along with climatic fluctuations played an important and diverse role, including frequent fire occurrence across the past several centuries in low elevation forests and a variety of mixed severity and stand replacing fires mid and high elevation forests. There is also ample evidence that the northern Rockies original inhabitants played a very active management role by promoting fires to thin forests and provide for better habitat for important food and medicinal sources such as forbs, huckleberries, deer, elk and bighorn sheep.

Evergreen: We're familiar with numerous of these studies, including Dr. Steve Arno's Lick Creek studies in the Bitterroot Valley. Is the Foy Lake study you reference the one that traces 13,000 years of warming and cooling climate cycles?

Kolb: : It is among many others– and the Foy Lake study that Kathy Whitlock of MSU conducted shows that during millennia of the past 10,000 years of the Holocene the Flathead Valley was a drier and more open ecosystem of scattered groves of ponderosa pine and sagebrush flats. Douglas-fir either existed as scattered individuals or was restricted to microsites along rivers and north aspect slopes and did not become a dominant species until approximately 2000 years ago. Even then, the much warmer and drier medieval optimum that started about 1100 years ago once again

MAPPING THE WEST'S ALMOST UNIMAGINABLE WILDFIRE CRISIS



This U.S. Forest Service map illustrates and pinpoints current ecological conditions in national forests in the western United States. Ecologists use "condition classes" to describe the likelihood that a forest will burn and to what severity. Forests in Condition Class 1 are considered healthy and capable of recovering naturally from most wildfires or other disturbances, including root diseases or insect outbreaks.

Forests in Condition Class 2 are not as healthy and are likely to suffer greater damage in the event of wildfire or an outbreak of insects or diseases – precursors to wildfire. Condition Class 3 forests are in poor condition, and are likely to suffer catastrophic damage when hit by fire, insects or diseases.

Virtually all of the West's national forests are in Class 2 or 3 – some 90 million acres according to a recent Forest Service estimate. This includes most national forest acres in western Montana and northern Idaho, scene of the Great 1910 Fire, which, at three million acres, remains the largest in American history.

To understand the jaw-dropping losses that are occurring in Montana's national forests – which we illustrate on the cover of this report - compare the Forest Service's Condition Class Map with the other Montana maps in this report depicting watersheds, river basins, and critical habitat for bull trout, grizzly bears and Canada lynx, three prominent species on the federal government's list of threatened species.

Since 2000, almost 50 percent of Montana's forest land base has been significantly impacted by insects, diseases or wildfire. State Forester, Bob Harrington, sees serious repercussions for wildfire risk, future forest productivity, fish, wildlife, watershed health, recreation and Montana's forest industry sector and its dependent communities.

caused significant changes in wildfire occurrence and vegetation. Our modern forests across the northern Rockies truly have only really existed for the past 800 years, developing when the "mini-ice age" started, and depending on which report you read ended somewhere between 1900 and 1980. Thus back to the climate warming phenomenon we have been experiencing.

Evergreen: What's the take home message here?

Kolb: The baseline data that scientists have gathered suggest the disturbance patterns hold several take home messages. First that leaving forests to nature does not guarantee their perpetuity. Second, that there are limits to what forest "restoration" can do to assure perpetuity as the term "restoration" means to "bring back to a previous state", even if the conditions of those times no longer exist. Third, that active forest management can be used to accelerate forest adaptation to new climatic paradigms and moderate the many boom and bust cycles that typically are required before vegetation adjusts to the new circumstances.

Evergreen: Why won't leaving nature to its own devices guarantee forests in perpetuity?

Kolb: If we look at the research that allows us to construct past vegetation patterns across landscapes as well as the ecology of individual species it is obvious that vegetation changes in response to climate trends. Historically forests have disappeared or been diminished over relatively short periods of time because more often than not whole populations get stressed beyond the point of return and fail, not just selected individuals. Think about bark beetles killing 80% of the most maladapted individual trees, only to have the survivors killed by a severe fire that the fuel loading promotes. Forest reestablishment typically takes longer because trees need decades to mature and produce seeds, and the relatively large seeds of conifers do not move great distances quickly.

Evergreen: Which takes us back to forest restoration. What can we do to moderate the transition this warming cycle has forced upon us?

Kolb: Forest restoration should include removing dying and lesser adapted tree species from overstocked forests by a variety of harvesting practices that emulate frequent, mixed severity or even stand replacing wildfires, as well as promote natural regeneration and selection for new generations of trees and genetic diversity. Furthermore implementing continued management practices within "restored forests" including fire to maintain species and structural diversity across landscapes is needed.

Evergreen: We assume the retention of larger and older living trees. Is there more to know?

Kolb: Older and larger trees are an important part of any forest across the northern Rockies which is why it is important to give them the best chances for survival. They are historically and depending on the site also not always prevalent on the landscape as is the case in coastal ecosystems of Washington, Oregon and California. They may be repositories of the past genetic diversity, but they may also have the genetics that were optimal during the time they developed: the mini ace age which makes them maladapted for the environment of today. Luckily most of our native tree species have an enormous stored genetic toolbox hidden within them. This is why it is critical that they are allowed to reproduce which not only preserves their genetic heritage, it allows for a new selection process that furthers new trees that are slightly tweaked to grow best in our new climatic norms. Most trees regenerate best on disturbed soils and in forest openings, which is why a mosaic of disturbances is so essential for northern Rockies forests to build resilience and thereby perpetuate themselves - which includes harvesting units and burned areas.

Evergreen: When you say best chance for survival we assume you mean remove the diseased and dying trees that surround them.

Kolb: As best we can, yes. We need some level of diseased and dying trees as they are important food and denning sources for the myriad of other species that inhabit our forests, but we don't want big fires to kill trees that display a superior natural immunity to insects and diseases that are so pervasive in northern region forests. This is our future forest.

Evergreen: What role does thinning in overstocked and diseased forests play here?

Kolb: If we use insect and disease attacks as indicators of genetic simplicity, and resilience to these pests as indicators of genetic robustness, we can use harvesting to assist natural selection to build a more resilient forest ecosystem with a greater ability to survive climate fluctuations and associated perturbations. This may mean changing certain silvicultural paradigms and not selecting for the fastest growing or tallest trees that in species studied also indicated a lack of genetic diversity, often brought on by inbreeding, but intermediate sized trees that use their energy reserves for defense and water conservation as well as growth. It also means removing afflicted trees that create a fuel bed that promotes stand replacing fires that destroy the trees with greater genetic resilience and seed source that insects and diseases just selected for. Rather than "restoration" forestry, we need to practice "assisted adaptation" forestry where we use harvesting to assist nature in selecting for the most ecologically robust and resilient trees for every species across our forested landscapes.

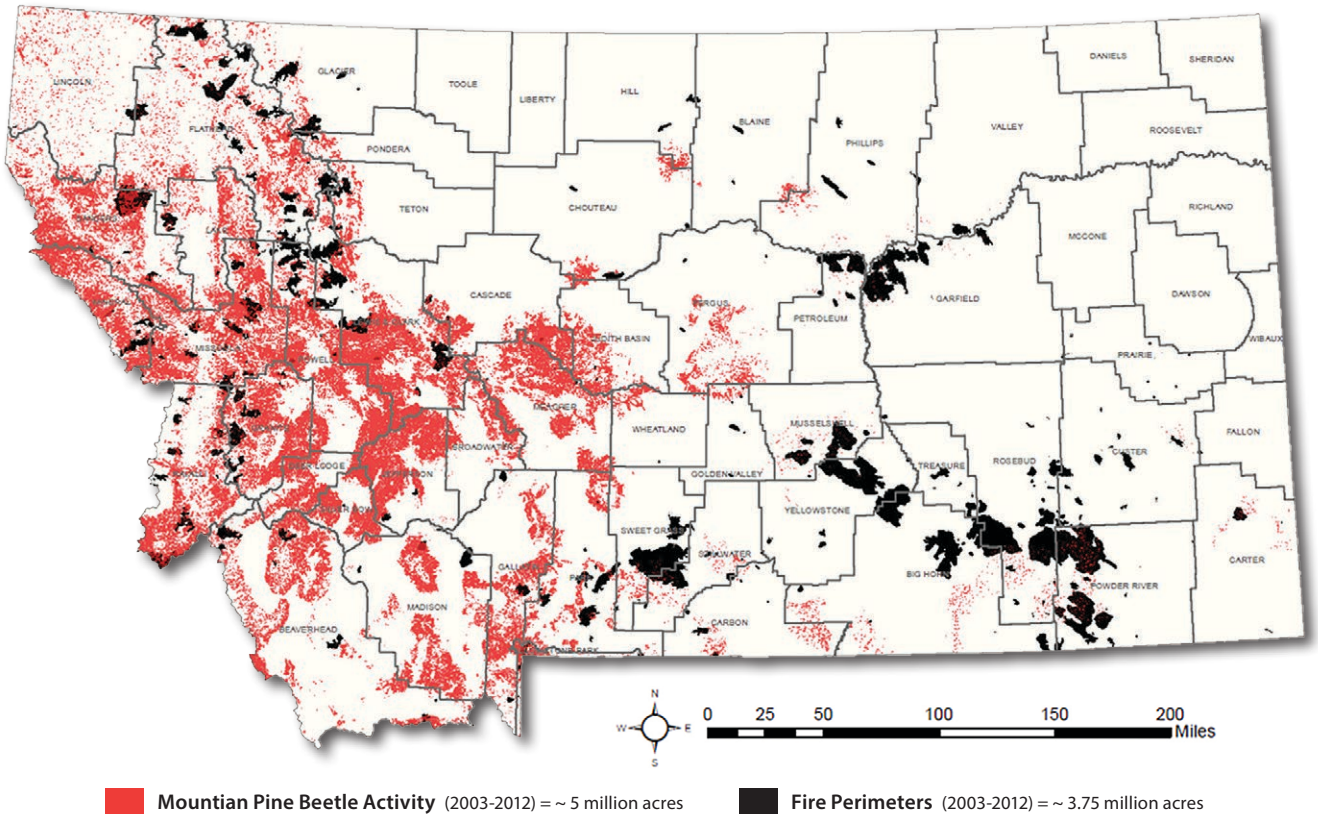
Evergreen: So if a tree met your criteria, you would harvest it no matter its size?

Kolb: All trees eventually die. Removing trees solely on the basis of their size or age is the wrong way to go about restoring forests. We first need to identify the tree species mixture that is best suited to the particular site with regard to drought and fire tolerance. Then we need to identify the individuals to leave based on their resilience to insects and diseases that a can be nature's response to stress brought on by our warming cycle. Based on research on the historical development of Northern Rockies forests, many areas of expansive and dense forests originally developed from small pockets of trees that invaded after the last ice age, which could indicate that our forests consist of a high percentage of inbred trees with limited genetic diversity, and poor adaptability to stress. If a particular stand has an overabundance of big old trees and removing some will help others survive or reproduce, then it would serve the ecosystem well to do so.

Evergreen: Can you cite any examples where the kind of harvesting you describe has protected trees that are more resilient to insects and diseases?

FOREST HEALTH TRENDS IN MONTANA

Mountian Pine Beetle & Wildfire Effects from 2003-2012



Mountian Pine Beetle Activity (2003-2012) = ~ 5 million acres

Fire Perimeters (2003-2012) = ~ 3.75 million acres

BULL TROUT HABITAT IN MONTANA

These two maps make clear the fact that virtually all bull trout habitat in western Montana is at great risk from encroaching and increasingly frequent and destructive stand replacing wildfire.

Kolb: One of the best examples is the management on the Confederated Salish Kootenai lands in the Flathead of Montana. Their forest plan incorporates forest science and silviculture as well as historical recollections of forest patterns and densities and thus where appropriate old trees are protected or harvested as well as the diseased and dying. The tribes earn a good income, employ many tribal members and help ensure the survival of the forests and the ecosystem services they provide. I live surrounded by these managed tribal lands and we have moose, bears, bobcats, grouse, wolves and a wide variety of native birds on our 20 acres of forest all the time. In another context such as the most massive mountain pine beetle outbreak on lodgepole pine in recorded history one can look to the Yaak River drainable on the Kootenai National Forest in northwest Montana. It is an impressive mosaic of young and old trees that was left to grow following the mountain pine beetle outbreak and extensive salvage harvesting in the 1970s. Because of the mosaic of young and old, it has not shown the massive impacts of the recent mountain pine beetle outbreak. Unfortunately the harvest units were prepared as squares so the only real negative is the forest appears as a checkerboard, whereas creating irregular clearcuts would have resulted in a more natural looking and functioning forest.

Evergreen: And you believe this same approach is workable elsewhere in Montana today?

Kolb: I know it will for the simple reason that it relies on emulating the same natural disturbance processes at a benign level that created the forests that we have so valued this past century. Humans and our values that include our political system as well as the scientific process do have the great potential of doing great good as well as great harm. Figuring out which is the good versus harm is a messy process but we must remember that protecting landscapes is not exclusive of using them.

Evergreen: And you've produced a video series that offers society some alternatives to simply letting nature take its course in our dying forests.

Kolb: Yes, I have spent 30 years studying and trying to figure out the complexities that make the northern Rockies forests unique and functional. Too often NW coastal forest ecology and management are used as the model for the northern Rockies, and they really are not comparable except at very coarse scales. To have an intelligent conversation about what our options are requires that we first understand what our realities are, which hopefully the videos convey. Thus the purpose of the videos is to explain what we know, or should know using terminology and concepts that everybody understands and relates to. The science world tends to revel in their sense of superiority and the use of specialized technical terminology when in reality neither is productive or needed most of the time.

Evergreen: We hear about using management to enhance forest function and resilience discussed frequently among the collaborative groups we've interviewed over the last eight months.

Kolb: The collaboratives with which I am familiar have done their homework.

Evergreen: Are you an optimist or a pessimist where collaboration is concerned?

Kolb: When we consider the fact that Europeans and Native Americans have been managing forest landscapes since the last Ice Age ended, I think the answer to your question is that forest collaboration can work if collaboratives are allowed to make decisions based on good information as well as local knowledge, local needs and a commitment to do what is best for both the forest and the community.

Evergreen: How do you think the Forest Service is handling the impacts our warming climate is bringing

Kolb: Where the Forest Service has allowed its District and Supervisor staff to stay in place long enough to acquire local knowledge, it is doing reasonably well. But you can't bring someone new into the mix and expect them to make decisions until they are well acquainted with local culture, forest conditions and opportunities to initiate forest restoration projects.

Evergreen: For example.

Kolb: I think a lot of young people in the Forest Service in Montana today would like to be as successful as Tim Love, who was the District Ranger at Seeley Lake for 20 years, more or less, before he retired. As you probably know, Tim pioneered the Forest Service's stewardship contracting program. He was quite knowledgeable with every ecological and practical detail in his district and well respected by nearly everyone in the Swan Valley.

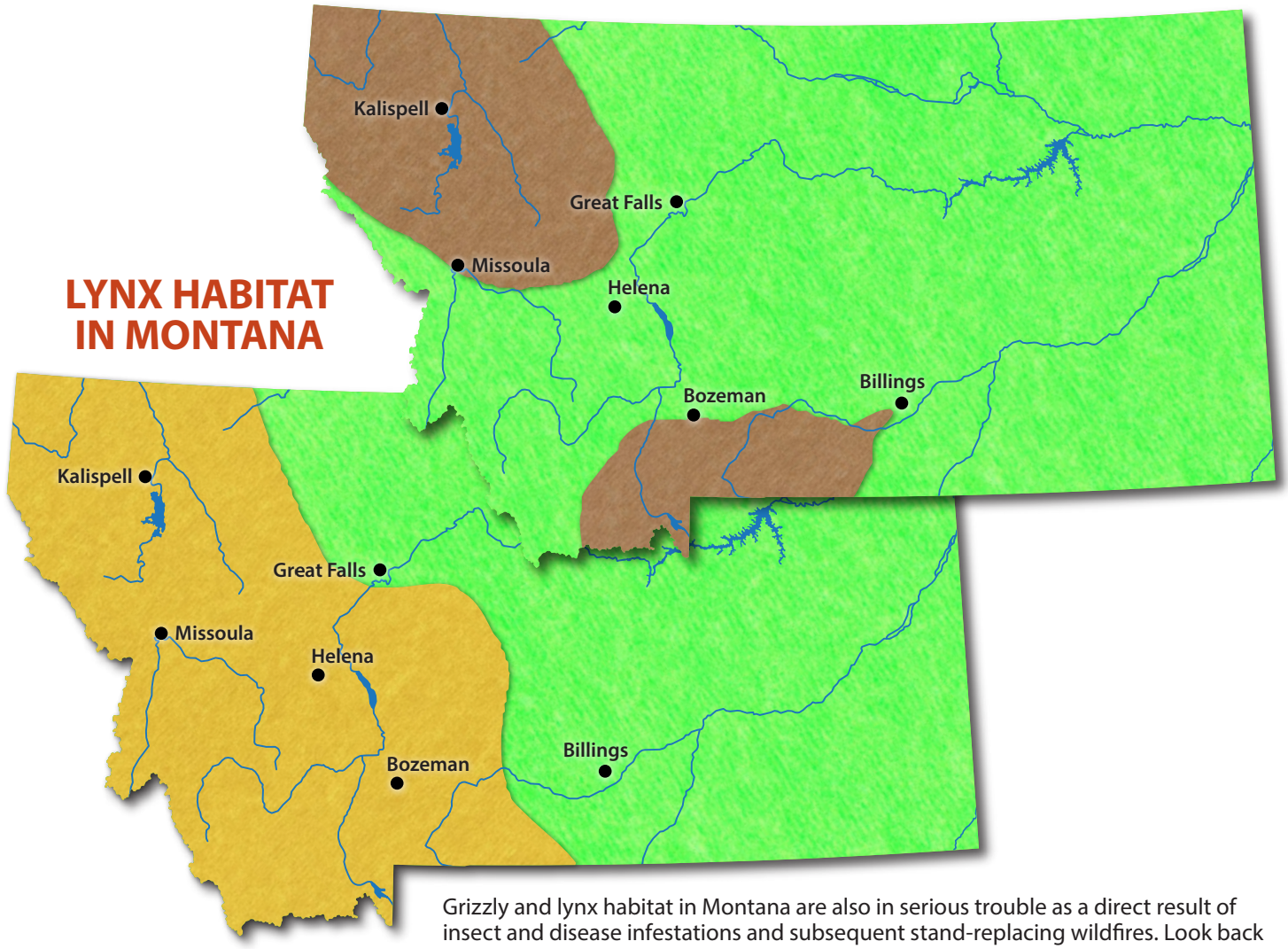
Evergreen: We interviewed Mr. Love twice and found him to be eminently qualified and, frankly, a real pleasure to be around. And he certainly took good advantage of the presence of the Pyramid Lumber Company. Without the log market they provided, his Clearwater Stewardship Project would never have gotten off the ground. But he did it, and he did it very well.

Kolb: Unfortunately, there aren't enough Tim Love's to go around, but what he brought to the table in a forestry sense is the same thing that Montana ranchers who own timberland bring to the table. Most of them grew up on the ranches they own. They have a lot of knowledge that you can't acquire in textbooks. They get their hands dirty every day. You can't put a price on that.

Evergreen: This reminds us of a man we knew who went to work as the Assistant District Ranger at Prospect, Oregon after he got out of the Army in 1945. We once asked him what his first job was and he said, 'My first job was to dig a trench from the highway to the office, so we could bury the telephone line.' I don't imagine many modern-day District Rangers are given the opportunity to experience a similar story.

Kolb: The application of local knowledge is the key to collaborative success. A PhD with no knowledge of local forest conditions will do a terrible job until he or she acquires sufficient knowledge of local forests and local culture to make good decisions. This is why Montana's private landowners and tribes are among our best forest managers. Forest management across the northern Rockies must be site specific, because our landscape is so variable and geology, soils, microclimate, hydrology and species mixtures create unique scenarios for every location. Only someone who intimately knows the land they are managing can make quality decisions where timing and cumulative effects are critical.

GRIZZLY HABITAT IN MONTANA



Grizzly and lynx habitat in Montana are also in serious trouble as a direct result of insect and disease infestations and subsequent stand-replacing wildfires. Look back at the fire maps on Page 9 and 11.

Montana's iconic grizzly, it's habitat threatened by the ecoloical collapse of Montana's National Forests.

Canada lynx, whose Montana habitat is theatened by increasingly frequent and ferocious wildfire.

MONTANA LEADERS SPEAK

In the course of researching "Burning an Empire," Evergreen Magazine's writing and editing team interviewed 14 Montanans who are engaged in an unprecedented and historic effort to pull Montana's national forests back from the brink of ecological collapse. Our interviews with Governor Steve Bullock and Peter Kolb, a PhD Forest Ecologist and Adjunct Professor of Forest Ecology and Management at the University of Montana, appear in their entirety on this report. These pages – 14 through 23 – contain excerpts from other interviews. The complete interviews are available on line at www.evergreenmagazine.com and www.montanaforests.com.

Dale Bosworth
Forest Service Chief, Retired
Missoula, Montana

Evergreen: When you were appointed chief in 2001, the Forest Service had 30,000 employees and an annual budget of $4.6 billion. Now the agency has 35,000 employees, including some 500 scientists, and an annual budget of $5.4 billion, of which 52 percent is now spent putting out forest fires. Until we get a handle on the underlying forest-related problems, the firefighting portion of the Forest Service's annual budget will continue to erode the forest management allocation, meaning less money for restoration work. Meantime, some 90 million acres of the people's land has been overrun by insects, diseases and wildfire – fires that, by the way, are larger, more frequent and more destructive than at any time in modern history... Not a pretty picture, is it.

Bosworth: No, it isn't, but I see some reasons to be hopeful.

Evergreen: For example.

Bosworth: The transition from the timber era to the restoration and recreation era gained a lot of momentum during my years as Region 1 regional forester, and even more momentum during my years as Forest Service chief. As you know, that transition wasn't smooth or easy. The old timber sale program was replaced by a new and more holistic view of forests, many communities lost their saw mills and the west's rural timber counties lost their largest source of revenue.

Evergreen: The proverbial bottom of the barrel.

Bosworth: That's for sure, but the 90 million acres you referenced a moment ago – those that have serious insect and disease problems – have fostered a sense of urgency that I regard as a very good sign. It seems to be bringing forest stakeholder groups to a middle ground that has taken a long time to find. The collaborative groups that have formed over the last few years are a real blessing for Forest Service folks who do the on-the-ground work. It's exciting.

Evergreen: It is exciting, but the pace and scale of the collaborative projects we've visited is very small when compared to the enormity of the problem we're facing. Moreover, it can take years to put a single project together, and then it might have to run the appeal gauntlet before anything happens.

Bosworth: All true, but the mere fact that so many diverse groups are now sitting around the same tables, volunteering their time and talking about solutions to problems is a sea change, and from what I can see, it has really energized the Forest Service.

Evergreen: We've yet to interview a single individual who does not believe these all volunteer collaborative groups deserve some protection from groups that choose to litigate rather than collaborate. What's your take on this?

Bosworth: Collaboration is the only direction we can take. And it can take a long time to build trust among groups that spent years fighting, but once trust is in place, it is a very powerful force for good. People sometimes mistake collaboration for a process. It is in some sense, but I think it is more evolutionary in the sense that it brings people together who share common goals.

Evergreen: That's a nice way of putting it, but how do we keep this evolutionary process going? Most of the collaborators we've met are in their 50s or 60s and some in their 70s. How to we attract new blood?

Bosworth: Good question. I think Congress and the Forest Service need to provide some incentives.

Evergreen: Like what?

Bosworth: We hear these volunteer groups talking all the time about wanting to do bigger projects. Let 'em. 10,000 acres, 15,000 acres, whatever makes sense on the land. And let them use Categorical Exclusions, and declare that the work they do in concert with the Forest Service is legally sufficient.

Evergreen: That would be a powerful incentive for sure. Why spend time collaborating on a 2,000 acre project when a group could probably do a 15,000 acres project in about the same time?

Bosworth: There is no practical reason not to allow for larger projects. Collaboration is the embodiment of the transition from the time when there was great emphasis on timber production to this new era, with its greater emphasis on restoration and recreation. New incentives would speed the transition and make the Forest Service's job much easier than it has been.

Evergreen: Many share your opinion. Tell us more about how you see it on the recreation and restoration fronts.

Bosworth: Let's start with the recreation side. There are dozens of groups that recreate in our national forests: hikers, downhill skiers, cross country skiers, hunters, snowshoer's, fishers, bicyclists, off road vehicle enthusiasts, river rafters photographers, birders, weekend campers, flower lovers, berry pickers. All of these groups share a common interest in the beauty and tranquility of their forest surroundings. Consider the enormous social political power that collectively resides in these groups.

David Allen
President, Chief Executive Officer
Rocky Mountain Elk Foundation
Missoula, Montana

Evergreen: The Elk Foundation has been surprisingly outspoken about the impact wolf packs are having on herds.

Allen: Elk are on the wolf menu. As their populations have increased, elk populations have decreased. In some areas. There is some evident that there aren't nearly as many elk in the high country as there were 20 years ago. They've moved to lower elevations and on to ranches where they have some protection from wolves.

Evergreen: Yet there remains a lot of romance around the government sponsored reintroduction of wolves, sort of the charismatic mega-fauna idea.

Allen: That's true, but we don't live in the 1600s. We live in the here and now. Frankly, I would not have taken this job had the Elk Foundation's board of directors had been unwilling to stand up for elk in the wolf controversy. Saying things like "we neither support nor oppose the reintroduction" meant that we didn't stand for anything. Our rural culture is shrinking. We can't afford to fight among ourselves. All of our kids are losing in the long run, and it's our fault.

Evergreen: We frequently hear expressions of your latter point. But tell us more about the forage question you raised?

Allen: Research demonstrates the critical importance of a high quality summer-fall diet for elk. Elk don't find much of what they need in their diets in overstocked dead and dying forests.

Evergreen: Where are you directing your efforts in elk conservation?

Allen: The defining issue for the foundation today is better management of federal lands in the West. Doing nothing, as some advocate, dooms elk populations on public land. Elk population numbers are solid, well over one million, but much of this is on private land because it is well managed. This isn't the case in our national forests, where nutrition is poor and wildfires are destroying the landscape.

Evergreen: Is the elk foundation involved in any of the stakeholder collaboratives that are involved in forest restoration projects on national forests?

Allen: We don't have the staff to do it everywhere, but we certainly endorse efforts to get more active management on the ground. We have had a lot of involvement in Idaho's Clearwater Collaborative.

Evergreen: Where is your overall focus today?

Allen: We annually award more than $1 million to state and federal land management agencies engaged in habitat restoration work. We fund noxious weed treatments, prescribed burns where they can be safely applied and thinnings designed to improve forage conditions.

photo: Rocky Mountain Elk Foundation

Bull Elk, a once familiar scene in Montana, now threatned by wolves declinig forage quality.

Evergreen: What's the main concern for elk in overstocked forests?

Allen: The loss of early seral habitat – the open spaces, meadows, aspen groves and sage brush flats where the elk diet flourishes in the presence of adequate sunlight and moisture.

Evergreen: Meaning that you favor more timber harvesting than has been occurring over the last decade or so.

Allen: That's true, though I would couch our concern more in terms of removing the true firs that were not present before we started fighting big wildfires in the west. What's needed is a mix of successional stages that include significant supplies of early seral forage for elk, plus the hiding cover present in the older forests we are losing to insects, diseases and big wildfires.

Evergreen: In a phrase, active management that favors intermountain mixed conifer dry site forests that hold all age classes over large landscapes.

Allen: That's what our elk biologists believe, and it's what most avid hunters would tell you, too.

Roger Johnson, Owner
Gordy Sanders, Resource Manager
Pyramid Lumber Company
Seeley Lake, Montana

Evergreen: Trust seems to be the defining ingredient in all of the collaboratives we've interviewed over the last eight months. It is easily the most remarkable turn of events that we've encountered in the 30 years that we've been writing about forests and forestry in the west.

Sanders: There has definitely been a shift. We still have our hick-ups now and then that slow forward momentum, but we are moving in the right direction in terms of getting forest restoration work done on the ground.

Evergreen: We think the shift has come partly out of the realization that if Montana loses its wood processing infrastructure and its markets for wood products, there is no way for forest restoration to proceed. Would you agree?

Johnson: We were ready to fold up our tent a few years ago, and we probably would have done it if Montana's economic development folks had not arranged a low interest loan we needed to further modernize our mill so we could more profitably process smaller diameter trees. That tells me that there is support for the economic and environmental roles Pyramid is playing in our state.

Sanders: More broadly, I'd say that as collaboration's pioneers age – and none of us are getting any younger – collaboration and forest restoration are attracting some very bright young people who are up to the challenge, and who see our family-owned mills as keys to moving forward in the development of technologies and products that will allow us to get more work done on the ground. If Montana's wood processing infrastructure loses its ability to sustain itself, the conservationist-led effort to restore our state's national forests is over.

Evergreen: Who would have ever thought it would come to this?

Johnson: I haven't seen anything like it in my 57 years in the business. It's very rewarding to see so many people working together toward the same goal.

Sanders: It's pretty clear that Congress has an appetite to do something.

Evergreen: "Do something" covers a lot of ground. What's needed?

Sanders: The fire borrowing mess has to get fixed. Money that should be going into forest restoration work is being borrowed to put out fires. I'd like to see the federal government do what Montana does. We set aside money for fires every biennium. I think there's currently something like $60 million in the fund, and that's after paying the 2015 fire bills.

Johnson: People who know a lot more about the inner workings of collaboration tell me it needs a more formal structure than it has here in Montana. Some fear it will become so watered down that it loses its credibility. I don't know for sure, but I do know we nearly lost momentum, and might have lost it had it not been for the successes we were seeing in northern Idaho.

Evergreen: Success begets success.

Sanders: It absolutely does, especially in the Forest Service. Hard core environmentalists who oppose collaboration and forest restoration beat up on them publicly most every week. Our collaboratives need to be more vocal in their support for the Forest Service.

Evergreen: Governor Steve Bullock becomes chairman of the Western Governors' Association this summer. A big deal?

Sanders: A very big deal, not just for Montana but for the entire west. I see him as the standard bearer for the collaboratives and the forest restoration work for which they advocating. His approach has been both inclusive and very creative. It is incumbent on all of us who have worked so hard to make this transition do everything in our power to help Governor Bullock be successful in his year as chairman of the Western Governors' Association.

Gary Burnett
Executive Director
Blackfoot Challenge
Ovando, Montana

Evergreen: There is some public misunderstanding about how collaboratives function. Some see compromises in which one set of values is sacrificed for another. Others who have been watching our collaborative series have accused us of sleeping with the enemy. Do you hear this skepticism, too?

A huge western larch looms at water's edge along the Yaak River in western Montana. The Yaak River Valley, within the Kootenai National Forest that lays north of Libby, holds the most productive timberlands in Montana.

Burnett: We did initially, but rarely anymore. The Blackfoot Challenge – and it has been a challenge to bring private and public values together – grew out of a shared desire to build consensus. That's a very different process than compromise. It's finding the sweet spot in difficult issues. It's focusing on what we leave behind, not what we take, thus insuring that all participating stakeholder values are represented in the outcomes.

Evergreen: Not everyone wants to participate in collaborative partnerships. Some seem quite content to sit on the sidelines and throw stones at those doing the work.

Burnett: Consensus building is hard work. It demands that you bring a collaborative spirit to the table. It is not about fighting. It is about honoring all values. You cannot have ulterior motives. You must be transparent and you must do your work out in the open for everyone to see.

Evergreen: How do you handle stakeholders who show up at the last minute, most likely in hopes of throwing a monkey wrench into years of collaborative work?

Burnett: Consensus building is like a marathon. You have to run the whole race, not step onto the track at the 24-mile marker in a 25-mile race.

Evergreen: That's a nice way of saying it, and emphasizing the fact that it probably took years to build the trust relationships that make the Blackfoot Challenge what it is today.

Burnett: When you bring a group together as diverse as ours – and here I speak of loggers, cattle ranchers, outfitters, sawmill owners, hunters, anglers, public land managers, conservation groups, doctors, lawyers and other interested parties – it takes time for everyone to find the overlap in values and consensus opportunities. This isn't Kumbaya stuff. It's plain old hard work and civil democracy.

Evergreen: What was your beginning point?

Burnett: Successful collaboration – consensus building – accepts and honors all values, all people and all points of view. The discourse is civil and respectful. It's community development. Its town hall stuff. Visits over coffee and a beer stuff. It's a simple idea, but it can be hard to stay on track and

not make assumptions about other's values in this fast paced world.

Evergreen: Which is why focus and honorable conduct are so important.

Burnett: Exactly. As much as we've accomplished in partnership with private and public values, it is the approach that is most important. Civil discourse is a process that can lead to big solutions to difficult problems. It feeds on the right stuff, not the wrong stuff.

Evergreen: As working journalists for more than 50 years, we're often dismayed by the fact that stories like this on aren't pursued by more of our colleagues.

Burnett: Deception and uncivil behavior will always make for sensational headlines. We have a great story to tell here, and we're always leased when someone wants to tell it.

Evergreen: How can we measure your success?

Burnett: To date, we have facilitated protection of more than 400,000 acres, responded to drought conditions in 10 or the last 16 years, conserving tens of millions of gallons of water in those years, and reduced conflicts between grizzly bears and livestock by 93 percent since 2003.

Chris Savage
Forest Supervisor
Kootenai National Forest
Libby, Montana

Evergreen: When we interviewed Governor Bullock, he went to great lengths to say that keeping Montana's family owned wood manufacturing businesses in business is a key element of his Montana Forests in Focus initiative.

Savage: The Forest Service shares Governor Bullock's concern and his goal. Minus the presence of local, competitive and sustainable larger timber manufacturing infrastructure, the kind of collaborative forest restoration work we all envision is not possible. We are basing this forest's five-year planning revision on the Governor's Priority Landscape project on this forest, which ought to tell you that we are serious about moving forward with it.

Evergreen: We've been fly-fishing the Kootenai River for 30 years, so we have a good grounding in the social, cultural, environmental and economic connections between the Kootenai National Forest and its numerous stakeholders and stakeholder communities. With so many diverse interest groups, you have a very full plate and a great opportunity to address some very diverse stakeholder goals.

Savage: We do for sure. Our all-volunteer collaborative has repeatedly impressed me with its work ethic and its willingness to think creatively. They recently completed a very solid set of silvicultural guidelines for us. Really good stuff that we're syncing with our own regulatory guidance. We're 85 percent there. This is where the real work gets done on the ground.

Evergreen: Those who continue to toil in the collaborative trenches in northwest Montana spent years getting to where they are today. You are the benefactor of many less than successful attempts to make headway. We'd speculate that they would be much further ahead today had Congress taken notice of their tireless work.

Savage: I know some of the history you reference. My staff and I are very grateful for their diligence and patience. From my own experience, I know that collaboration isn't always easy. There are setbacks, but I think we are on the right path here.

Evergreen: Adequate staff and funding are perennial reality checks where collaboration and on the ground success are concerned. How are you doing staff and funding-wise?

Savage: Fire borrowing is a big problem for us, as it is for every national forest in the west. Taking money out of our administrative and forest restoration budgets in order to pay the fire bills cost this forest $600,000 in 2015.

Evergreen: Meaning that $600,000 in restoration-related contracts had to be terminated because the money was transferred to the fire budget?

Savage: That's correct. These were contracts that most likely would have gone to local or regional contractors. One was a $250,000 watershed restoration thinning contract that had been let locally. But the larger picture is that fire borrowing has forced us to reduce our non-fire staff by 30 percent over the last 10 years. It's counterproductive given our preventive forest restoration goals.

Evergreen: Fire borrowing would explain the disparity between your 80 million board foot annual sale quantity in your new forest plan and the 40-45 million board feet that you are actually able to produce from a forest that grows, what, 250 million board feet annually? You simply don't have the time, staff or budget to handle your normal workload.

Savage: It would explain the difference.

Bruce and Chas Vincent
Common Ground Committee
Kootenai Forest Stakeholders Coalition
Libby, Montana

Evergreen: What sort of annual timber harvest can you sustain here on

Aftermath of the 71,000 acre stand-replacing Moose Fire, which burned in the drainage of the North Fork of the Flathead River in 2001. Mostly lodgepole, a fire-dependent tree species with cones that are opened by the heat of wildfire, assuring abundant natural regeneration.

the Kootenai National Forest under the guidelines and principles your collaborative group has laid out?

Chas Vincent: Depending on the Forest Service's annual budget, somewhere between 70 and 90 million board feet annually. That would bring us a nice-size family mill. Counting loggers, truck drivers, mill workers and retail employees, probably 300-400 jobs a year that we don't have now.

Evergreen: Jobs restoring a forest that is in big trouble.

Chas Vincent: It is what keeps our collaborative together.

Evergreen: Gentlemen, what is the take home message here?

Bruce Vincent: The Forest Service's sole management objective on the Kootenai National Forest over the last 25 years has been to avoid losing court battles to serial litigators who oppose management in any form. We are losing our forest as a direct result of management inaction.

'Stop doing that' has been the litigants' mantra for 30 years. It is not a management strategy. It is a prescription for environmental disaster, which is what we are courting in every national forest in the western United States, including the Kootenai.

If the Forest Service's management goals and our collaborative conclusions are paralyzed by litigants and the courts, the concerned public has a right to ask the question we have posed in this interview; and the question is: 'Who is empowered to care for our forests?' From where we sit on the Kootenai, the unfortunate answer is, 'No one.'

This leads to a second unanswered question, which is 'How do we empower our local resolution process? We've been collaborating locally – and pretty successfully - on the Kootenai National Forest for 25 years with very little to show for thousands of hours of hard work.

I'm afraid that until we get injunctive relief from serial litigators, and political relief from the Washington D.C. groups that oppose local and regional collaboratives - for fear of losing their own power - we who live in these forests are nowhere, the Forest Service is nowhere and our forests will continue to die and burn in larger and more destructive forest fires.

Chas Vincent: Dad is right. Without injunctive relief, there can be no certainty in our active management plans, no logs as byproducts of those plans, and no investments in new wood processing facilities. And if there no capital investments in wood processing, the years of hard work our collaborative's have invested in forest restoration planning will also be lost.

Joel Webster, Director
Center for Western Lands
Theodore Roosevelt Conservation Partnership
Missoula, Montana

Evergreen: We'll hazard a guess that the declining quality of fish and wildlife habitat in the West's diseased and dying national forests is a matter of some concern for your organization and its partners.

Webster: We are very concerned about habitat quality issues and, among other things, the decline in active management on our national forests is having an impact on wildlife populations and hunter opportunities.

Evergreen: How do you wrap your arms around such a big issue, especially given the decade's old conflict between those who favor active forest management and those who favor a leave-it-to-nature approach?

Webster: At the risk of oversimplification, we are looking for a new balance point between the excesses of the 1970s and 1980s and the lack of active management we see today that is having such a negative impact on the quality of fish and wildfire habitat.

Evergreen: When you say "excesses" we presume you mean the Forest Service's timber harvesting program that Congress favored during the decades following World War II.

Webster: I think most people can agree that we overcut in the 1970s and 80s. Most people are also seeing that there is currently not enough active management on our public lands. Because of fire suppression combined with little active management, many forests are unnaturally dense and stressed, and important habitats are seeing a reduced carrying capacity to support wildlife. We need to find a balance and that means we need more active management than we are seeing today.

Evergreen: Removing dead, dying and off-site tree species and using prescribed fire to remove excess woody debris accumulations that are fueling big wildfires – the stuff many others have called to our attention.

Webster: If we want an abundance of high quality fish and wildlife habitat, we have to do the things that are necessary to provide for it, so yes, you're assessment is correct.

Evergreen: Does your outreach have any contact with the groups that seem to favor litigation to collaboration?

Webster: We focus on working with organizations who want to solve problems, not create them. Our interest is in moving forward collaboratively at the policy level.

Evergreen: Are you familiar with Governor Bullock's Montana Forests in Focus initiative?

Webster: We are very supportive of the Governor's push for collaborative forest restoration, but we haven't been involved with the on-the-ground aspect of this work. My work is more at the regional level here in the west.

Evergreen: So you will have more involvement with him when he becomes chairman of the Western Governors Association this summer.

Webster: We will.

Evergreen: Governor Bullock has been pretty outspoken in his support for strengthening Montana's family-owned wood processors. Would you agree as to their importance to the success of the effort to restore Montana's national forests?

Webster: Absolutely. The federal government can't afford to pay for all the restoration work that needs to be done. Montana's wood processing facilities have the technology and know-how to responsibly manage our national forests to benefit fish and wildlife habitat. They also create viable and sustainable products that support the economic well-being of our communities.

Ken Swanstrom
Swanstrom Logging
Kalispell, Montana

Swanstrom: We haven't worked on any of Governor Bullock's Priority Landscape projects, but if Stoltze buys one – and I hope they do - we will be pleased to do it. I like our governor. He's stepped up to say that creating family-wage jobs for woods and mill workers is important for our state's economy.

Evergreen: You say you can treat a about two acres a day, That's about

The business end of Swantrom Logging, processing trees by length and diameter, on private land west of Kalispell, Montana. Machines like this are essential tools in forest thinning and restoration work.

10 acres per week, 40 acres per month and maybe 480-500 acres per year. Is that about right?

Swanstrom: It depends on terrain. Less slope is better because you can cover more ground faster. In a great year, we might do 500 acres.

Evergreen: We have a Forest Service estimate indicating that there are about one million roaded acres in the Northern Region that have been logged before and could be thinned mechanically to promote growth and forest health.

Swanstrom: I haven't done a Forest Service sale by myself since sometime in the 1980s. But if I'm following you, my back of the envelope estimate says it would take about 2,500 contractors my size to thin all those acres in one year. But if you spread the work over 100 years, which is about how long it takes to grow a forest here, you could do it with 25-30 loggers. That might make some sense.

Evergreen: The kind of thinning work you are doing for the Stoltze and O'Neil families looks very similar to the forest restoration work the Forest Service says it wants to do. Would you agree?

Swanstrom: From what I've seen, yes. It's tedious work, even for a good machine operator, but the visual result is very pleasing, and it definitely improves the quality of the forest. We protect a lot of habitat for the animals. Makes you feel good knowing you are making a real and measurable contribution to forest stewardship and conservation.

Evergreen: We know you're involved in many different logging associations. What's the biggest challenge facing loggers today?

Swanstrom: Recruiting young men and women who want to make a career of logging. We have an aging work force. Lots and lots of experience, but none of us is getting any younger. You can't get into this business for much less than a million dollars. Banks don't loan that kind of money to young people, so those that take the plunge usually work first for an experienced operator.

Evergreen: And not many want to do that?

Swanstrom: Not many. I know many loggers my age who don't want their kids following them into the business. It's too uncertain and, maybe even more important, the return on investment is too small. There are other places where you can make a good living with big machines.

Sophie Petersen and her first 24-inch rainbow, with Kootenai Anglers guide and owner, Dave Blackburn. Some 49 million Americans fish, many in Montana's fabled trout waters.

Evergreen: But you're still here.

Swanstrom: I'm fortunate to be able to work for great families that want to do the right thing in the woods: forest first and money second. So I get up every day with a smile on my face, and I finish most days with a real sense of accomplishment. Life is good.

Todd Morgan, Director
Forest Industry Research
University of Montana
Bureau of Business and Economic Research
Missoula, Montana

Morgan: In recent years, litigation has encumbered 40 to 50 percent of the Region's planned timber harvest volume and treatment acres. Between 2008 and 2013, Region 1 had more than 70 projects litigated, more than any other region in the nation. And only 10 of those cases involved a payment of plaintiff's attorney fees.

Evergreen: Were you able to total up Region 1's litigation costs for those years?

Morgan: Not completely. The financial impact of litigation-encumbered timber volume to the Region's Congressionally appropriated timber program budget was about $9.8 million for fiscal year 2013 and about $6.8 million for fiscal 2014, but that doesn't count lost community activity, which in the case of the Spotted Bear project, could have totaled approximately $10 million had none of the timber been harvested.

Evergreen: How many projects, like the Spotted Bear Project, which had both a timber harvesting component and a restoration component, have been litigated in Region 1 over the last decade?

Morgan: Region-wide, there were 133 cases from 2003 to 2013 involving projects with only a timber harvesting component. The impact is substantial when you consider the fact that 60 percent of the timberland in Montana and 73 percent of the timberland in Idaho are part of the 24 million acre National Forest System that lies within the two states.

Evergreen: Who are the big litigators?

Morgan: Over the 11 year period we examined, 75 of the 133 cases in Region One were filed by repeat litigators; the top two being the Alliance for the Wild Rockies (with 30 cases) and the Native Ecosystems Council (with 19). Between the two of them, about $276,000 in legal fees were paid, spread over 10 cases.

Evergreen: And did we understand you to say these publicly paid costs are just the tip of the iceberg?

Morgan: That's right. These data show the plaintiff attorney fees were only paid on about a quarter of the cases. The Forest Service still had to bear the costs of defending itself on all these cases. It is much more difficult to quantify costs associated with impacted timber communities, the general economy and the Forest Service itself.

Evergreen: Why is this?

Morgan: Many of these cases drag on for years, with parts of projects being delayed or canceled. Cases can span several budget periods and Forest Service planning cycles. Most difficult to measure are costs associated with altered resource management plans and impacts on the private sector.

Evergreen: By the private sector we assume you mean logging companies and lumber manufacturers.

Morgan: That's correct. In our study, we point out that those Main Street and Forest Service impacts are hard to quantify because some planned activities – like timber harvest or road maintenance – may be delayed, partially reduced, or completely eliminated; but those outcomes may not be known for years - until the cases have gone through the courts and subsequent appeals. Also there is all the work that the Forest Service does to prepare a project – before it can be litigated.

Christine Dawe, Director
Renewable Resource Management
Region 1, U.S. Forest Service
Missoula, Montana

Dawe: Governor Bullock is a quick study. He's very transparent, very supportive of the collaboratives and really passionate about what he believes.

Evergreen: And come July he will be the new chairman of the Western Governors Association.

Dawe: My staff is ecstatic – especially knowing that federal forest management will be the focus of his tenure in that role. We plan to be very engaged.

Evergreen: Individual initiative still seems to drive a lot of this. Here we think not only of Governor Bullock, but of lumbermen like Roger Johnson at Pyramid Lumber here in Montana, Marc Brinkmeyer at the Idaho Forest Group in Coeur d'Alene and Duane Vaagen, at Vaagen Brothers in Colville, Washington. And conservationists like Gary Burnett with the Blackfoot Challenge at Ovando, Montana, Joel Webster at the Theodore Roosevelt Conservation Partnership here in Missoula and Mike Petersen at the Lands Council in Spokane, Washington.

Dawe: I worked in the private sector before coming to the Forest Service, so I'm well acquainted with the magnetism that strong personalities bring to the table, and those you mention have certainly added a lot of strength to the collaboratives and, more broadly, the Forest Service's transition to a more integrated approach to resource management.

Evergreen: We can't see how this transition can succeed without them.

Dawe: It can't.

Evergreen: What would you want the public to know about the story that is unfolding in Montana?

Dawe: I would want the public to know that Governor Bullock's forest initiative is huge for us, why publicly-owned forests are so important to every American, how hard we are all working to conserve the national forests for the economic and environmental benefit of the nation, and that humans are part of the environment, not separate from it. Even a decision to manage an area as Wilderness is a human decision. We humans must take responsibility for our environment and make conscious choices about how we manage and protect the things we cherish – clean air, clean water, wood products, fish and wildlife and world class recreation. That's what the Forest Service wants the public to know.

THE TRAGEDY OF THE COMMONS

If we have learned nothing else in the 30 years that we have been publishing *Evergreen*, we have learned that there are no magic wands we can wave that will erase public misperceptions about forestry or the motives of those who embrace it. Many Americans - and certainly most who live in our nation's urban centers – continue to believe that leaving forests "to nature" is the best solution to the ecological collapse we are witnessing in our national forests.

There is no scientific basis for this misperception, which has been fed daily by environmental fear mongers for more than 40 years. No wonder so many Americans suspect that the tsunami of proposals for "restoring" western national forests are driven solely by greed.

Fortunately, a sea change in thinking is underway. We began to chip away at this story last April in a series of interviews with conservationists, lumbermen, forest stakeholder groups, and county commissioners who are participating in collaborative groups that have sprung up in Montana, Idaho, northeast Washington and elsewhere around the west.

For this report, we interviewed 14 leaders, including Governor Steve Bullock. They readily agreed as to the major components of any science-based plan for pulling Montana's once splendid national forests back from the brink of ecological collapse.

First, a more focused approach is needed in the removal of dead, dying and off-site tree species that are choking the life out of Montana's national forests. Peter Kolb, a PhD forest ecologist we interviewed for this report, explained exactly how and why this work is necessary.

Second, restoration – the removal of dead, dying and off-site tree species from Montana's national forests – can't possibly meet its goals if Montana continues to lose its logging and sawmilling infrastructure. Minus loggers, mill workers and foresters, and the know-how they bring to their jobs, there is no one to do the actual work. Nor would there be any means of sustaining viable markets for the wide variety wood products that become byproducts of the actual restoration work. And minus profitable and sustainable product markets, there is no way to justify the millions of dollars in private capital that need to be invested in advanced wood processing technologies.

Restoration addresses environmental and economic necessities that can only be met within the scope and framework of collaborative processes that bring all national forest stakeholders to the table. *Everyone* we interviewed for this report makes this point in their own words.

Most we interviewed were unqualified or reluctant to openly discuss the 5,000-pound elephant standing in the same room – those who make their living litigating Forest Service management and restoration plans. They have no interest in participating in collaborative groups, despite having been asked repeatedly to join their colleagues at the table.

The one person who did openly discuss the elephant was Bruce Vincent. Mr. Vincent, an Evergreen Foundation board member, has been working on the collaboration front lines in northwest Montana for nearly 30 years, long enough for his oldest son, Chas, to grow up, become a Montana State Senator, and join with his father in a Kootenai forest stakeholder group that seems to have finally hit its stride. It has helped enormously that the entire Kootenai National Forest was designated as a Priority Landscape Project within Governor Bullock's Forests in Focus initiative, which was approved by U.S. Agriculture Secretary, Tom Vilsack.

When asked the inevitable "how" question concerning the obvious need to find a way to circumvent the disruptive and dangerous influence of national forest litigants, Vincent said, "If the Forest Service management goals and collaborative conclusions are paralyzed by litigants and the courts, the concerned public has a right to ask the question we have posed in this interview, and the question is who is empowered to care for our forests?"

At this writing, the answer to this question is still "No one is empowered to care for our forests."

This is the tragedy of the commons writ large – an awful state of affairs in which everyone acts in their own self-interests and no one speaks for the common good –the common good in this case being the shared natural resources held within our national forest system.

The situation is improving – inch by inch - thanks to the sheer willpower of countless thousands of forest stakeholders whose organizations represent millions of Americans for whom our iconic 190 million acre federal forest estate is a playground worth defending against those whose economic and environmental self-interests are out of step with society's felt necessities: clean air, clean water, abundant fish and wildlife habitat, wood and paper products, and a wealth of year-round recreation opportunity.

Some 90 million national forest acres in the west are in harm's way. Since 2000, half of Montana's national forests have been adversely impacted by insect and disease infestations and stand-replacing wildfires. At the current pace, the remaining half will be have been similarly damaged by 2032. What then? What of fish and wildlife habitat? What of the playground millions come to see and enjoy? What of water quality and stable economy? What of the last best place?

Congress can fix the litigation mess in a heartbeat. There are two schools of thought as to how. One suggests that Congress revisit the "balance of harms" language in the 2003 Healthy Forest Restoration Act. As a legal construct, it requires that courts examine the harm to both parties before granting or denying injunctive relief. Actual harm trumps illusory harm.

Balance also requires courts to examine the threat to each party's rights, as well as the economic harm to each party, and to third parties. Also considered: whether the defendant has voluntarily taken remedial action and whether there is a likelihood of additional harm.

A second school of thought advocates for replacing litigation with binding arbitration. Under this construct, both parties would be required to submit their best restoration ideas to an arbitration committee composed of appropriately qualified forest ecologists that would then weigh them against legal and regulatory mandates Congress has imposed on the Forest Service. Last time we looked, none of these mandates blessed the tragedy of the commons we are all witnessing in the west's national forests. May the best collaborative plans win.

Editorial Board
The Evergreen Foundation

BURNING AN EMPIRE

In 1989, we published a special *Evergreen* report titled "Gray Ghosts in the Blue Mountains," the Blue Mountains being the torturous range that covered wagons traveling west on the Oregon Trail had to cross after following Idaho's Snake River for 330 relatively flat miles.

The "Blues" take their name from wagon train diaries that reference the "blue mountains ahead." They were blue for months on end because of smoke from low intensity wildfires that frequented scattered stands of ponderosa, linked to one another by tall grass prairies.

Suffice it to say, Oregon's "Blues" today look nothing like they looked in the 1840s. Likewise, forests in Montana, Idaho and eastern Washington. In the absence of frequent, low intensity fires, forest density has increased dramatically and species composition has been compromised. Dominant ponderosa and western larch forests gave way to shade tolerant fir and spruce species that thrived in the cool, wet period that ended around 1980. Drought conditions signal a new warming period in evidence in the massive die-off of fir and spruce that are less resistant to insects, diseases and wildfire than are ponderosa and larch. Oceans of trees are drowning in yet another "perfect storm."

The bar graph on our cover quantifies what is happening in Montana's national forests. By volume, annual tree mortality is equal to a jaw-dropping 89.9 percent of annual growth: 510 of 567 million cubic feet. This according to Forest Inventory Analysis [FIA} survey plot data collected and monitored by the U.S. Forest Service. There are thousands of such plots in Region 1 national forests, which are measured over a repeating 10-year cycle.

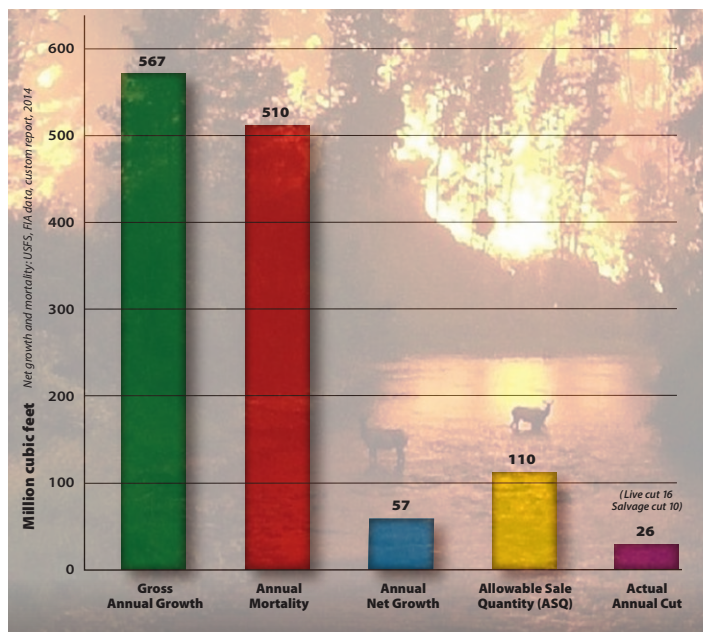
Lumber is measured board feet – a board foot being a board one foot long, one foot wide and one inch thick. Likewise, a cubic foot is a cube one foot by one foot by one foot. Thus, the 510 million cubic feet of wood that die annually in Montana national forests is equal to 510 million wood blocks that measure one foot by one foot by one foot.

But how to visualize such a loss in one place? Try this. End zone to end zone, Washington Grizzly Stadium in Missoula spans 57,600 square feet. So it would take 57,600 wooden blocks – one foot by one foot by one foot – to blanket the field. And if you were going to stack all 510 million wood blocks on the field, you would have to stack 8,854 rows on top of one another, meaning your pile of wooden blocks would stretch 8,854 feet into the sky. That's 1.67 miles this year, and another 1.67 miles next year. On and on it goes until a wildfire incinerates some of the pile, adding god only knows how many million tons of carbon to the atmosphere.

The 510 million cubic feet that die each year in Montana national forests are equal to about five times the total annual timber harvest from all ownerships in Montana, and represent sufficient timber to construct about 100,000 three-bedroom homes. According to Todd Morgan, Director of Forest Industry Research at the University of Montana's Bureau of Business and Economic Research, a harvest of those 510 million cubic feet would conservatively support about 15,300 forest industry jobs for Montanans.

Morgan adds this cryptic note to our board foot-cubic foot discussion. "The acreage numbers are just as bad, if not worse. The Forest Service reports harvesting activities of all types on 14,675 acres per year on average across Region 1 from 2005 through 2014. That is only 0.05 percent of all forestland acres with some type of harvest annually. Meanwhile, wildfire in the two-state region averages 468,400 acres or 30 times more acres per year."

Clearly, nature – and not the U.S. Forest Service – is "managing" Montana's national forests. The question is, "Are society's forest-related wants and needs being met: clean air, clean water, timber for wood products, abundant fish and wildlife habitat and a wealth of year-round recreation opportunity?



- **Green Bar:** 567 million cubic feet, annual gross growth
- **Red Bar:** 510 million cf, annual mortality
- **Blue Bar:** 51 million cf, net annual growth after subtracting mortality
- **Yellow Bar:** 110 million cf, by regulation, what could have been harvested
- **Purple Bar:** 21 million cf, what was harvested, including salvage

No, society's forest-related wants and needs are not being met. And there is no way to sugarcoat the numbers displayed on our bar graph. Clearly, something has gone terribly wrong in Montana's national forests. For our money, there is no better illustration of this awful truth than the iconic John McColgan photo that serves as background for our bar chart: Fleeing elk, surrounded by an 800 degree flame front, standing in the cool waters of the East Fork of the Bitterroot River, Sunday, August 6, 2000. A firestorm by any measure, the conflagration burned 261,000 acres in the Bitterroot Valley south of Missoula, and was the nation's largest wildfire that year.

Jim Petersen
Founder and President
The non-profit Evergreen Foundation
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About The Evergreen Foundation

The Evergreen Foundation is a 501(c)(3) corporation formed in 1986 to advance public understanding and support for science-based forestry and forest policy. Learn more at www.evergreenmagazine.com or contact our founder, Jim Petersen, jim@evergreenmagazine.com or our marketing and social media director, Julia Petersen, julia@evergreenmagazine.com.