

Northwest Woodlands

A Publication of the Oregon Small Woodlands, Washington Farm Forestry, Idaho Forest Owners & Montana Forest Owners Associations

FOREST OWNERS' WILDFIRE STORIES

Unnatural Wildfire

Tips on Home Hardening

Advice from Victims of Wildfire

The Road to Restoration

An Extension Perspective



NEXT ISSUE . . . Forest Health and Pests

This magazine is a benefit of membership in your family forestry association. Contact the officers listed on page 5 for membership details.

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Wildfire can change a landscape in a matter of hours. The road to recovery is often emotionally and physically draining. Andrea Grenager surveys damage to the Grenager tree farm. Photos courtesy: Kim Grenager and Norm Michaels

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PRESIDENT'S MESSAGE



KEN NYGREN



The Benefits of Sharing Your Story

This past summer I enjoyed a well-prepared tour for small woodland owners from the coast of Northwest Oregon. The highlight of the tour was eating lunch “on top of the world” at a viewpoint with sights into three counties, from the Pacific Ocean in the west to the Willamette Valley in the east and a large portion of the Oregon Coast Range. As we traveled from stop to stop, the landowner described the big events that impacted the people and landscape of the forest. We heard stories of old railroads and the way logging was once done, geologic formations and impacts of weather, landslides, earthquakes and volcanoes. Of course, we also heard about the variety of vegetation types and the role fires had on setting the stage for the modern forests.

Stories are the oral history of our property and contribute to the family lore which binds us to our land. Tales of fire impacts or firefighting are a common topic for landowner families, especially in the Western U.S. The longer a family owns its property, the more likely they are to have a story to tell. However, in all cases, if a family suffers significant loss from a fire, the story becomes an emotional event for the landowner.

In my experience of working with fellow small landowners and walking the ground with them following a fire, it is very apparent that losing a portion or all your forest represents more than just economic loss to landowners. That value may represent the retirement account for the landowner or a college

fund. It also changes the way we view the long-term use of our properties. Some families become frustrated or feel vulnerable to the challenges of working with forces beyond our control and decide to sell. Other families embrace the challenge of restorative forestry and find satisfaction in watching nature work its magic and delight in the prospect of rebuilding the family asset.

One thing is obvious: all landowners appreciate the opportunity to share their experience with other landowners who share a similar story. Storytelling leads to sharing techniques for recovery and often leads to cooperative efforts to seek outside assistance. The state family forestland owner association provides the ideal vehicle to synchronize a collective landowner voice to seek assistance and to educate its members. Not only do local chapter meetings facilitate telling our own story and listening to our neighbor's

experience, but a landowner association can also coordinate educational opportunities and provide a common voice for legislative assistance to meet landowner needs.

Following the horrific fire season of 2020, the Oregon Small Woodlands Association recognized its unique role in helping landowners recover from fires. It rapidly joined forces with its partners in the Oregon State University Extension Service, the Oregon Department of Forestry and the Oregon Forest Resources Institute to provide feedback to them on the educational and assistance needs of landowners. The result was a successful campaign to convince the legislature to invest in providing reliable sources of seedlings for small landowners and a focused educational campaign on recovery planning and actions. ■

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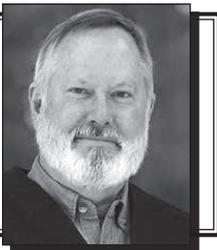
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ALLEN CHRISMAN



Wildfire and Private Forest Owners

Wildfire is a reality in the West. Your forestland has burned at some time in the past, and it will burn again in the future. There is no magic bullet to prevent wildfire from entering your property, nor should there be. Our forests evolved in the presence of wildfire and, when managed, can be restored by fire. That doesn't mean that the current stand-replacing fires in our hotter, drier and longer fire seasons are welcome or wanted.

My career in wildland fire spanned the period 1973 to present. I can tell you for a fact that fire seasons in the 1970s were a lot milder than what we see today. That doesn't mean we can't prepare for the fire that will visit our forestland at some time.

First, make sure your home ignition zone is resistant to wildfire. Firewise USA® has some excellent materials for how to make your home more fire-resistant and manage vegetation around your structures (nfpa.org/Public-Education/Fire-causes-and-risks/Wildfire/Preparing-homes-for-wildfire). Local groups are often available to help. The Montana Department of Natural Resources and Conservation service foresters can provide home assessments for fire risk.

In addition, treating the forest stands that are upwind of your structures, in the direction that wildfires are most likely to approach, is important. Spacing crowns 10 feet apart is a good start. Pruning branches, removing ladder fuels and reducing surface fuels is good

practice. In my advice to forest owners, I point out that it is always best if the fire approaching the structures is on the ground, and not coming at you in the treetops.

It is important that you have good access to your structures from the nearest public road for emergency vehicles to respond. That same spacing and fuels treatment work well for ingress and egress; the road needs to be drivable by large wildland fire engines. The clearing and fuel modifications around the structures are important to provide a safety zone for firefighters. Firefighters are well within their authority to refuse to stay at structures that cannot be safely defended.

Oftentimes, the active forest management that private forest owners implement provides a good opportunity for fire fighters to build line and burn out to stop oncoming wildfires. In Montana, this has been an issue on large fires where burnout operations on private forestland have destroyed standing timber and regenerated stands. There is no restitution for private landowners for their loss and if there is not a commercial product lost (i.e., sawlogs) then there is no basis for a capital loss. MFOA has been engaged with the wildland fire community to raise awareness of the significant effects on private forest owners through large-scale burnout operations. There are no easy solutions, but ongoing discussions have raised awareness.

For each of us, it is critical that we know that we in the West live in an environment that burns. And we need to prepare as best we can for the time when our forestland burns again. ■



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PRESIDENT'S MESSAGE



DICK ALESCIO



Wildfire Stories

The theme “wildfire stories” reminds me of the WFFA annual meeting in Winthrop, Washington in 2018. The theme was “Building Community and Forest Resilience.” While I have not personally experienced wildfire, landowners in the greater Winthrop area did. During the Firewise USA® tour we saw where the wildfire generated enough south winds to carry burning fire brands of conifer tree limbs three to four inches in diameter and six feet or more long, horizontally. Fire crew members who were directly involved were leading that tour. They pointed out which houses they could save and which ones they had to abandon, that subsequently burned to the ground in the conflagration. The folks who had no brush or combustibles close to their homes (no trees with low dead limbs and washed pit run rock 6 to 8 feet out from the foundation wall, per Firewise USA® recommendations) were deemed defensible.

The Washington State Department of Natural Resources (DNR) and the federal Natural Resources Conservation Service (NRCS) each have wildfire reduction assistance programs to mitigate the possibility of wildfires. These programs include (1) various rates of financial assistance for thinning down to 300 trees per acre or less for mature stands depending on which side of the Cascade Mountains your forest is located; and (2) pruning of dead limbs to remove ladder fuels.

The western United States and the Northwest have been plagued by wildfires, both man-made and from lightning strikes. The NRCS, DNR, county conservation districts, Department of Fish and Game and the state land grant

universities (Washington State University) are all addressing this very real threat.

Their collective assistance comes in the form of dedicated respective agency foresters and land use specialists who:

- teach practical classes on what to do and how to do it.
- evaluate the site and make recommendations on what needs to be accomplished and what can be funded.
- explain funding or co-funding.
- develop action plans to mitigate wildfire threat.
- assist with filling out the applications for funding.
- estimate how long it will take before funding approval.
- obtain a qualified contractor to do the work.
- explain the option for you to do the work yourself and get paid for wildfire mitigation on your property.

The following gives an overview of the programs that the principal funding agencies offer to mitigate wildfire:

NRCS (www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/)

- Forest Stand Improvement (666)
- Tree Pruning (660)
- Woody Residue Treatment (384)
- Fuel Break (383)
- Tree/Shrub Establishment (612)
- Tree/Shrub Site Preparation (490)
- Structures for Wildlife (649)

DNR (www.dnr.wa.gov/cost-share)

- Brush control
 - Non-commercial thinning
 - Pruning
 - Slash disposal
 - Prescribed broadcast burn
 - Tree planting (Western WA only)
 - Forest stewardship plans
- Enjoy everyone and be safe! ■

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PRESIDENT'S MESSAGE



J. FRANK MORADO



Wildfires: The Ever-Looming Menace

Forest fires are a topic of great and distant interest; great in their destructive power and associated control efforts; distant in that both small and large forest fires are typically tens if not hundreds of miles from large population centers.

For many, including myself, the first incident that transformed firefighting views was the 1988 Yellowstone National Park fire. Everyone loves Yellowstone and, in 1988, we were con-

flicted with the policy to “let naturally (lightning) started fires burn,” except when presented with an immediate risk to life or property. Although the policy had been in place several years prior, the 1988 Yellowstone fire captured the nation’s attention and generated considerable public debate over the pros and cons of the policy with respect to Yellowstone and forest fires in general.

Shortly after arriving in North Idaho, my wife and I were visited by a repre-

sentative from the Selkirk Fire District. Our shop apartment was surrounded by an overstocked grand fir forest, and it was clear that a directed and more comprehensive management plan was required. This notion was prompted by the 2015 Cape Horn fire which was about 15 miles distant, as the crow flies. Years later, the 2020 Hunter 2, the 2020 Bernard and 2021 Pioneer fires were all less than 15 miles away, with the Pioneer fire being closest at about 7 miles. To be fair, our lives and property were not at risk, although several friends and acquaintances were more directly affected by the mentioned fires. What the fires did arouse was a sense of uneasiness and urgency to reduce our fire hazard, particularly when lightning was often observed striking the small mountain abutting our property.

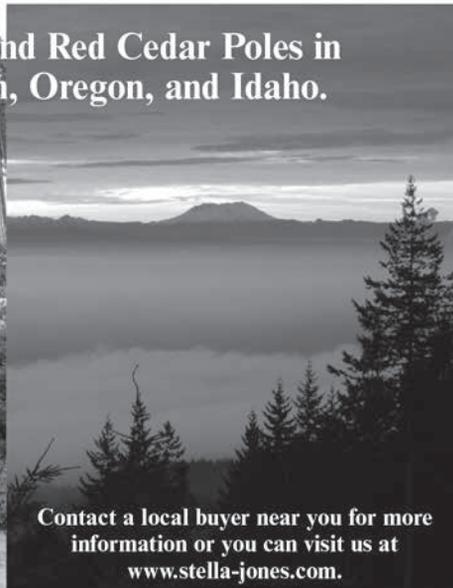
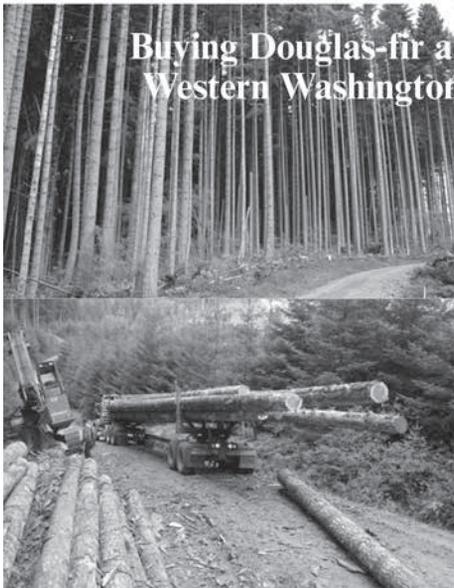
We are fortunate to have responsive private, state and federal foresters at our disposal, willing to perform site visits to assist in developing management plans, while also offering wildfire preventative advice. In addition to our local foresters, counties offer emergency management services that include wildfire protection plans; but it is not just talk; there are considerable federal and state dollars at work here. State, federal and private landowners are working together to reduce the threat of catastrophic wildfire by harvesting overgrown forests and removing dead and diseased trees. These efforts are the result of the Shared Stewardship Initiative; in Idaho, these objectives fall under the No Boundaries Forestry Program which include, 1) the identification and prioritization of projects, 2) outreach and education of targeted landowners, and 3) recruitment of project-related forestry consultants.

Reach out to your local forest professional to receive thoughtful and encouraging advice on how to minimize your fire threat and best protect your single largest financial investment. ■

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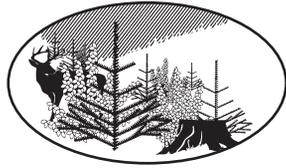
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Down on the Tree Farm

NOVEMBER

✓ Winterize and complete maintenance on your equipment: clean off mud that can “freeze” moving parts; drain fire hoses and pumps; sharpen your hand tools and store them in a dry place; and check your antifreeze levels. Good tool maintenance pays off!

✓ Pruning can reduce fuels, repair storm damage and improve aesthetics, visibility and log quality. Be sure to leave enough live crown to support the tree’s photosynthesis and cut just outside the branch collar to encourage healing of the cut.

✓ Consult with your accountant to plan your year-end tax strategies.

✓ Assess wildfire damage on your forestland and make plans for restoration if necessary.

✓ Seed bare ground with native grasses to control erosion and invasive species.

✓ Burn your slash piles when conditions allow a clean burn and no unintended spreading or smoke intrusion.

✓ Check your culverts and evaluate your road drainage. Good ditches, waterbars and culverts can prevent washouts, costly repairs and degradation of water quality. Better water quality and habitat mean better fishing!

DECEMBER

✓ Donate or sell your holiday greens, boughs, mistletoe, cones and trees.

✓ Hold a family meeting to review accomplishments and reaffirm your tree farm goals and objectives. Inspect your forest with family and friends. Take a family photo on the property. Watch for evidence of wildlife and encourage your heirs to continue the tradition of good forest management.

✓ Refresh your property boundaries and signage.

✓ Renew your association membership and plan to attend or organize meetings, tours and classes.

✓ Check into membership and certification in the American Tree Farm System.

✓ Complete your record-keeping for 2022 and your financial planning for the future.

JANUARY

✓ Plan your 2023 projects: contact consultants, hire contractors and file for necessary permits.

✓ If the ground freezes, it could be good

timing for your logging operation to reduce soil compaction and risk of fire.

✓ Your management plan is a dynamic document. Spend some time updating and refining it with input from your family’s future forest managers.

✓ Tree planting can begin in January if snow or frozen soil aren’t present. Pay attention to soil moisture and temperature, seedling source (zone and elevation), quality and species, and proper handling and planting techniques. You’ll be glad you did it right the first time!

✓ If your forest is accessible, this is a good time for cruising, road layout, marking property boundaries and establishing continuous inventory plots and photo points so you can see the effect of your hard work over time. Check out the links on this page for excellent publications on doing your own inventory and making your own inventory tools.

✓ Monitor nesting activity so you can protect or improve the habitat and avoid disturbing wildlife while they are sensitive.

FOR MORE INFORMATION...

check out these favorite websites and publications:

- forestsandfish.com/environmental-protection/road-improvements/
- pubs.extension.wsu.edu/conifer-pruning-basics-for-family-forest-landowners-2
- surviving-wildfire.extension.org/how-to-determine-burn-severity-after-a-wildfire/
- oregon.gov/ODF/Fire/Pages/AfterAFire.aspx
- catalog.extension.oregonstate.edu/pnw628 (grass seeding)
- oregonwoodlandcooperative.com
- extension.oregonstate.edu/forests/non-timber-products
- woodlandfishandwildlife.com/category/publications
- treefarmssystem.org (American Tree Farm System)
- catalog.extension.oregonstate.edu/ec1187 (record-keeping)
- knowyourforest.org/learning-library/forest-management-planning
- catalog.extension.oregonstate.edu/topic/forestry-and-wood-processing/reforestation
- catalog.extension.oregonstate.edu/pnw630 (inventory techniques)
- pubs.extension.wsu.edu/simple-homemade-forestry-tools-for-resource-inventories



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Not Mother Nature

By **KIM GRENAGER**

It hurts more than that it wasn't Mother Nature. It hurts because the violation was malicious



and deceitful. It hurts because even if it had to be done for the good of others, it could have been managed with care. Then they just left, even while the fire was still ablaze, and they haven't been back. After 60 years on a ranch in Montana, we always knew fire would come one day; we just didn't know the United States Forest Service (USFS) would be the ones who set it.

As I look back at the summer of 2017, it was hot and dry—very hot and dry. I headed off mid-July to my annual few days of volunteering at a fire lookout in the Clearwater National Forest. That July weekend there were several lightning storms with lots of fire starts. Lookouts and all forest personnel were

terribly busy. I heard continuous chatter on the radio from both Idaho and Montana. The Clearwater team was all over their lightning-started fires using equipment, personnel, rappellers and jumpers. They were prioritizing the fires with the biggest risk to private and recreational properties; they had remarkable success in a few days.

What happened in the Lolo National Forest was entirely and proportionately a different approach, at least from what I saw on the Lolo Peak Fire. It's appalling to me they decided to “watch and wait” on a small smoke within 1



A view of a backburn on the 2017 Lolo Peak fire.

PHOTO COURTESY: KIM GRENAGER

mile of the wilderness boundary with north-to-northeast wind tendency, on an early season fire with so many private and recreational risks at play. I posit the USFS intentionally let this lightning strike be used as a prescribed burn in an unmanaged area, regardless of consequences. No suppression, just acceleration; the damage done by the Lolo Peak Fire of 2017 was not simply an act of God or Mother Nature gone wrong. People made decisions that greatly affected my property, my neighbors and, ultimately, my trust that



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the USFS has everyone's best interests in mind. This fire changed me and changed the course of my life. The damage is irreversible.

The Lolo Peak Fire took our 140-acre ranch on two separate days of uncontrolled backburns. The John Creek Drainage along Highway 12 West on the way from Lolo, Montana to Lolo Pass is now blackened at every turn. Three generations of the Grenager family have been raised on the ranch, making its significance much more than the structures that it holds. The forest of this property served as a place of spirituality holding our family cemetery, and has long been a place of refuge from the world for our family. It is difficult to convey our deep love of this land to those who view property as transactional.

We had been preparing for fire all along; we were not naive to Mother Nature. The Grenager property, prior to the Lolo Peak Fire, had been diligently maintained for fire readiness through thinning efforts, installation of gravity-fed irrigation systems and rooftop sprinklers. Many professionals in the field have inspected the site since the fire and are simply shocked at the devastation. Nothing was left unburned in the upper John Creek drainage, and the little bit on lower John Creek is only partially saved because I refused to



PHOTO COURTESY: KIM GRENAGER

The Lolo Peak fire caused increased sediment in John Creek and Lolo Creek.

evacuate and did what little I could do to lessen the impact. These professionals have been aghast at the 100 percent total stand replacement fire, and not one to date has said this was inevitable.

I worked extremely hard all summer long to use the water resources to keep the property well irrigated, successfully creating a total green zone. When I learned about the Lolo Peak Fire, I added sprinklers to buildings and dou-

bled my efforts to irrigate non-stop. I was informed early on: the fire would be directed towards my property for a backburn. The incident commander repeatedly said, "This property will need to be used as the catcher's mitt only in a dire emergency because of its fire readiness and topography." I vigorously tried to convince the incident commander to look for another choice, with no success. As crews arrived to install hoses and do further preparatory measures, I worked alongside them, and stayed aggressively informed about the movement of the

fire, taking nearly an entire month off work. There were hundreds of fire personnel in a staging area on my property for weeks, with no notice or compensation for the use. I treated them like guests handing out snacks, water and other comforts. Officials assured me the backburn approach would only be enacted in an extreme emergency—if it had to happen it would be

—Continued on next page—

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contained and strategic. It was difficult to reconcile the unfairness of this decision due to my extensive efforts of creating a green zone; I felt like I was being punished for all the arduous work. All my interactions with the fire personnel over the month leading up to the backburn made me trust them, which made their discord for me in the end that much more surprising and painful.

On the first day of lighting, the morning temperature was in the 50s with calm winds and 50 percent humidity. Why not light the backburn that morning under the best possible conditions? Instead, the USFS lit the first backburn at 5:20 p.m., with a temperature of 92 degrees, 10 percent humidity and winds 15-20 WSW, according to NOAA on a day with a red flag warning. It's obvious under those conditions the result would be a total black zone. It engulfed thousands of acres in a truly brief time; the fire was hot, angry and roaring.

The incident commander was notably from Oklahoma, visited twice at 9 a.m. and 1p.m. on August 18 and did not mention the planned backburn for that day, which I later learned, through the Freedom of Information Act, had been decided two days prior. On the afternoon of August 18, I was up the canyon cleaning up the fireline vulnerable to ladder fuels that were not removed or chipped by the USFS. The incident commander, even when I was amid great danger, did not inform me the backburn was scheduled for that day. Regardless of the fact that I had resisted the mandatory evacuation notice, the USFS is always preaching that they work to protect lives and structures. The USFS should have informed me.

I was uniquely positioned to see the fire coming and originally had no idea this was a backburn (because it was so expansive and wild), until 10 days later when a neighbor informed me. They had watched the USFS light it on

a ridge to the west with ping pong fire balls. The crew left within minutes of lighting the first August 18 backburn, leaving structures at the whim of the fire and leaving all previously installed hoses and fire suppression resources unused and thus destroyed. My brother, a friend and I scrambled all alone with extremely limited resources to put out embers and do anything we could to save a few trees next to our home for weeks thereafter. On the second day, fire fighters came at 11 a.m. to plan a second backburn next to my house—looking for their planned black zone even though the upper fire was basically gone. They again waited until 1 p.m. when the humidity was low, temperature high and the media present to sensationalize their “great work” saving the nearby newly built residential community to the east. It was infuriating that the media was present without permission to enter my property, during a mandatory evacuation, and paying no respect to the gravity of the assault taking place.

The death of the forest has been a great loss to our family emotionally, causing family quarrels, stress and anxiety. Since the fire, the property value has depreciated, and environmental problems have been created, such as weeds, erosion and loss of water quality.

The initial aftermath of the fire has meant an investment of \$200,000 towards catastrophic damage control and approximately 25 hours a week of added labor for the last 5 years to rehabilitate the ranch with no end in sight.

—Continued on page 23—

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When Green Turns to Black

By **KIRSTEN COOK**

I said, “It’s not if, it’s when,” countless times during my 9 years managing the wildfire resilience program at the Okanogan Conservation District in north-central Washington. As a forestland owner, I enjoyed bringing my own experience to classes and consultations about Firewise®, defensible space and home hardening. But as much as I said and believed those words, it still couldn’t prepare me fully for the moment that our “when” arrived on September 7, 2020.



The Cold Springs Fire was a human-caused fire that started during extreme conditions. From a firefighting perspective, the energy release component and burning index (see textbox) were at or near record high levels, meaning that pretty much every shrub, tree and log on the landscape was primed to burn, and to burn hot. The final ingredient to this disaster was a strong cold front that blew down the Okanogan Valley with 50-70 mph winds. The winds were forecast, so we went into the Labor Day weekend with a heightened concern about fire potential.

Sunday night, as we sat outside stargazing, a friend said “Wow, those are some weird looking clouds.” As I turned to look, I immediately realized that she was seeing a smoke column not more than a couple of miles from our location. Given the wind forecast, we decided to evacuate to town (about 8 miles away). After a night of minimal sleep at the county fairgrounds, we learned that the initial fire front had blown due south, missing our property. We returned to our place, loaded up some more items and returned to town to watch and wait during the wind-

storm. As we did so, a second fire front erupted from a long-smoldering chip pile at a defunct wood mill; this is the fire that consumed our neighborhood.

We found our property in 2007. We loved the ponderosa pines, the bunchgrasses, the flowering shrubs, the pothole ponds and all the wildlife that inhabited this landscape. We also recognized that the property had many stands of small trees and clumps of huge, highly flammable bitterbrush. We used the property recreationally for 4 years and started thinning the small trees and the old-growth bitterbrush on the weekends. When we moved to Okanogan full time, we began working with the Department of Natural Resources’ forest stewardship staff: getting a forest management plan and then implementing several cost-share thinning projects. Our biggest project was 13 acres total, 50 feet on both sides of our mile-long driveway. We hired a contractor to thin and prune pines and remove brush from under the canopies of the remaining trees. The work was completed to the standard specifications, keeping about 10-15 feet between crowns. As the shrubs started to regrow, we bought a brush cutter and worked hard to keep the ladder fuels under control. We knew we couldn’t tackle the whole 85 acres of our place, so we prioritized our ingress/egress and the area around our structures.

As fate would have it, I was handed

Energy Release Component (ERC):

The computed total heat released per unit area (British thermal units per square foot) within the fire front at the head of a moving fire.

Burning Index (BI):

An estimate of the potential difficulty of fire containment as it relates to the flame length at the most rapidly spreading portion of a fire’s perimeter.

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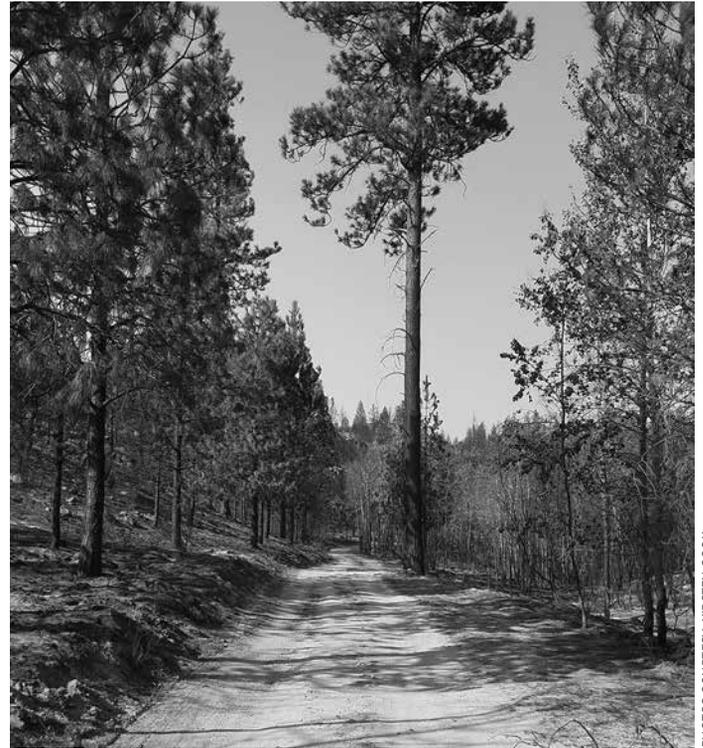
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PHOTOS COURTESY: KIRSTEN COOK

Thinning and fuel reduction projects along the driveway and around the house were completed before the fire and provided access for fire engines and equipment.

responsibility for the wildfire resilience program right as we were gearing up to build our house. During the design phase, I was learning how to evaluate home ignition risks and consult with homeowners about defensible space and home hardening. We had already been planning to build with wildfire in mind, but the technical resources that became available to me through my job were invaluable. We were partway through construction when I attended the first meeting of what would become the Washington Fire-Adapted Communities Learning Network. I had been talking to our contractor about the soffit vents: I was concerned they could let embers in. He assured me they were fine. Well, when I showed the vent pictures to a few of the attendees, sure enough, the holes were too large and would need to be screened with one-eighth inch metal mesh. This became a lesson I shared with homeowners during risk assessments: you must educate and advocate for yourself; you can't rely on a contractor or architect to know the details of fire-resistant construction. Thankfully, there are many resources available to landowners in Oregon and Washington to help build your wildfire preparedness knowledge.

One of the biggest risks to homeowners trying to evacuate, and fire

fighters trying to respond, is a long, narrow, steep or twisty road. Our driveway is all those things, so our intention was always to evacuate early. Given that it would be too risky for fire

fighters to actively protect our home, we designed it to stand alone. This included fire-resistant building mate-

—Continued on next page—



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Independent research and fire-resistant construction methods contributed to the survival of the house.

rials, a 6-foot gravel firebreak around the perimeter, and annual maintenance to keep a 100- to 150-foot defensible space zone around the house. Add our evacuation checklist and “go” bags at the ready, and we felt as prepared as we could be for fire to hit our place. When we saw the smoke, the adrenaline spiked and the checklist proved its worth: we didn’t have to think too hard about what to grab, we just went through the list.

After watching massive flames tearing over the ridge toward our property, we decided to leave the area to stay with friends. It was two days before we received news from a neighbor: our home had survived! The outbuildings? Not so much. Amazingly, our well pump still worked (the electrician later told me we were about one-quarter inch of insulation away from that being toast as well). We bought some replacement

tools, hoses, coveralls and gloves, and headed back home.

After the megafires of 2014 and 2015, I was heavily involved with fire recovery, along with the rest of the team at the conservation district. I had seen the blackened earth, the smoldering stump holes and the piles of twisted metal that had been structures. I had listened to people’s stories of evacuation and return; of what had been lost. But as with many things in life, it’s impossible to know how it will feel until it happens to you. As we turned into our driveway and headed up the hill to the house, it was like a punch in the gut. All the beautiful habitats we stewarded—the aspen groves, the pothole ponds, the pine forests—everything was either black or orange. The heat had been so intense that many of our trees didn’t burn, they scorched to death. Most still had their needles,

bent in the direction that the wind had blown. Huge logs that had been on the forest floor were simply gone. We saw a doe with an obviously broken leg tripping her way up to the spring—even that oasis of green had been turned black by the intensity of this fire. Our little cabins, which we had lived in while we built the house, and all their contents were gone. Even with the relief that our home survived, this was painful.

We were disappointed that the thinning work didn’t make much of a difference for tree survival. It seems that the current standards might be appropriate for a less intense fire, but not for a wind- and drought-driven conflagration like we experienced. Certainly, our defensible space zone, where we had mowed everything down to a couple of inches tall, did its job to reduce fire intensity around the house.

As an ecologist, I knew that fire was a crucial component of the landscape we chose to live in, and that it would recover eventually. What I didn’t know was what it’s like to live in that recovering landscape and how hard that can be. First, there are the immediate hazards of a recent burn: deep stump holes, some still smoking; fire-sharpened remains of shrubs, like torture devices; trees that burned out at the base, leaving a ready-to-topple hazard.

Then there’s the ash, which gets everywhere, including through multiple layers of clothing. When we first got



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home, we realized we had forgotten to lock our windows when we evacuated, so we had a fine layer of ash on the windowsills and furniture. Even the next year the ash was dominant. One evening the wind had barely picked up—we didn't even notice until we started feeling the grit of ash on a countertop and rushed to close the windows. With the ash, and then the smoke that inundated our area the following summer, our windows stayed closed for most of the year. We have never been happier for snow to cover the ground. As a fellow fire survivor said to me, "It's like a balm."

Besides the ecological impacts, we noticed that a lot of people assumed that because our house survived, everything was fine. While our recovery has been immensely easier with a house to return to, that doesn't mean it was easy. Cleaning up the rubble of our outbuildings was hard physically and mentally. Things like your late relatives' hand-tied flies and bamboo fly rod aren't something that the insurance can replace. At the same time, we felt survivor's guilt as we watched our next-door neighbor struggle to return after losing his house and nearly all his belongings. Even now, almost two years later, we still have moments of, "Where is the ____?" only to remember that it was in one of the outbuildings. Thankfully, we were fully insured and able to replace the crucial items we lost, like the generator that recharges our solar system in the winter.

Many of the landowners that I worked with on fire recovery wanted to do something to help the landscape recover. While I understand the sentiment, we took the "wait and see" approach that I typically recommended to others. The most active role we took was to have large trees along our driveway and near the house removed, knowing that as burned trees decay, they can fall or snap off. We planted several deciduous trees to eventually replace the shade from those trees that were closest to the house. On one slope close to the house, we spread needles from the felled trees to reduce erosion potential. Beyond

that, we have only monitored weeds and removed them as feasible.

Within a week or two of the first rain after the fire, shrubs began resprouting, along with several grass species. Because 2021 was also abnormally dry, things took a little longer to come back but, by the end of that summer, the aspen sprouts were close to 5 feet tall, and we started to see the black spaces filling in. One silver lining was the epic arrival of thousands of morel mushrooms! This year, the increased moisture is very apparent: nearly everything has filled in and we are happily free of ash and dust problems for the most part. Now we are back to thinning: aspen this time, as they love disturbance and are encroaching on the driveway with exuberant growth.

Sometimes it still hurts to look out on a landscape of dead, black trees, remembering how green they used to be. They continue to impact how and when we use our property; on windy days we are extremely careful, sometimes choosing to stay in the safe zone around the house rather than out under the hazards of decaying trees. On the other hand, these burned trees are still providing habitat for many different creatures. Now that our "when" has happened, we get to witness the truly fire-adapted nature of this landscape.

The wildlife has returned along with the grasses and shrubs, and the wildflowers have been loving the increase in nutrients and the decrease in competition. The landscape may have changed dramatically, but it remains a special place that we are honored to steward for a while longer. ■

KIRSTEN COOK has over 30 years' experience developing and leading conservation and natural resource education programs in the Northwest, most recently as the Community Outreach Director for the Okanogan Conservation District in Washington State. Trained as an ecologist amidst the hardwoods of New England, she first fell in love with the ponderosa pine ecosystem during a stint with the Student Conservation Association at Crater Lake National Park during college. After many years learning and teaching about the Douglas-fir/bigleaf maple ecosystem for organizations in the Seattle area, she and her husband moved to a forested property on the edge of the shrub-steppe in Okanogan County. They enjoy stewarding their acreage, watching wildlife and traveling to different ecosystems around the world whenever possible. Kirsten can be reached at ecologistkcook@gmail.com or on LinkedIn.



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Beachie Creek Fire's Impacts on Two Marion County Tree Farms

By **MIKE BARSOTTI**

Oregon's 193,000-acre Beachie Creek Fire was first spotted August 16, 2020, in the Opal Creek Wilderness north of Detroit Lake at about 10 acres in size. On September 1, it had grown to approximately 200 acres, but on September 7, with strong east winds and low humidity, it exploded, destroying 1,288 structures and killing five people. Following is the story of two families with forestland, Jerry and Karen Lackner and the Welter family, whose tree farms are near the southwest corner of the Beachie Creek fire and who lost significant forested acres.



The Lackners own 245 acres just northeast of the towns of Mehama and Lyons, 200 acres of which is forested. The fire burned through 185 acres, destroying 150 acres.

They heard from a friend that strong east winds were forecasted and there may be trouble, so they had their travel trailer connected to their truck when



PHOTO COURTESY: JERRY LACKNER

Wildfire burns more than trees and brush. Equipment and structures account for a significant portion of the loss.

they got the word that they needed to evacuate. "We headed for Salem, and it took some driving around to find a place to park. "We found a vacant lot for the night but were told we needed to move the next day," Lackner said. "We ended up in Albany at a RV park."

They were in the middle of a thinning project when the fire hit. It

destroyed their logger's processor and fire truck as well as a long list of their equipment and buildings. The Lackners lost a tractor, fire tank, track-mounted man-lift, firewood processor and bundling equipment, and three trailers—dump, flatbed and utility. The fire also leveled their barn, shop and storage buildings. A dozer, skidder and a pickup truck had their wiring and hoses melted but were repairable.

The fire burned on all four sides of their house, but somehow the house survived. "We couldn't believe our house was still there when we were able to return," Lackner recalled. Just days before the fire they cut a row of Douglas-fir on the east side of the house. "We had them removed to expand our view, but we believe having them gone saved the house. The logs were yarded, and I pushed the slash down into the draw just the day before the fire," Lackner said.

The power was out when they returned home, but they were able to put out smoldering spotfires around the house with water from their spring-fed cistern. "To our surprise, the following

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day the cistern was dry,” Lackner said. “The fire had damaged the water line that ran from the spring to the cistern.”

“I was just totally overwhelmed at first. I didn’t do much of anything the first few months,” Lackner remarked.

They lost trees across all age classes. “It was hard to find a mill to take the burned logs,” Lackner said. “Mills had so much of their own fire damaged trees to salvage.” Weyerhaeuser started taking burned logs in late November of 2020 so, with the help of a local logger, the Lackners were able to begin salvage logging.

In the spring of 2021, they connected with Heron Timber from Sheridan. “We were able to keep them busy until mid-July salvaging about 250 MBF of burned timber,” Lackner recounted. “The local pulp mill started taking burned logs this last fall. We aren’t making anything on the pulp, but we are getting rid of it. I just don’t want to look at any more decks of burned wood.”

They applied for and received financial assistance from USDA-Farm Service Agency’s Emergency Forest



PHOTO COURTESY: KAREN LACKNER

A large wildfire will often overwhelm local mills with burned logs and markets can be difficult to find.

Restoration Program to rebuild fences and replant 150 acres. “Since we have to remove the dead trees and clean up the debris before we can rebuild

the fences and plant trees, it’s been a long process,” Lackner said. “We have

—Continued on next page—

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planted 10,000 trees and have 6,000 ordered for this winter. We should have all the burned areas replanted by the spring of 2024.”

The Welter property is about three miles northwest of the Lackners and on the southwest edge of the Beachie Creek fire. While much of the Lackner’s forest was hit with crown fire, the Welter tree farm experienced mostly ground fire. “Where there was grass the trees were killed,” Tom Welter stated. Tom, who lives in Portland, is a



PHOTO COURTESY: TOM WELTER

The Welters lost primarily reproduction 20 years and younger when the Beachie Creek fire burned through on the ground.



PHOTO COURTESY: TOM WELTER

Remnants of young trees that burned on the Welter tree farm.



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third-generation Welter and the current farm manager.

The Welters own a 220-acre Century farm purchased in 1919. “We have about 155 acres in forest and 60 acres in Christmas trees. The house sits on 5 acres. “The fire killed about 50 acres of reproduction, ages 20 and younger,” Welter said. “The Christmas trees survived the fire because of the total grass control.”

In addition to the reproduction, another 10 acres of older timber along the east edge, and adjacent to burned mature timber owned by Franks Lumber, was heavily damaged. Franks assisted with the logging, planting and

grass control on those 10 acres. “Their forester called and asked if we wanted help restoring those 10 acres,” Welter said. “I told him ‘That would be great, just send me the bill.’”

“I came down to the tree farm the day after the fire to see what was left and what I could do,” Welter said. “Neighbors were already there ready to lend a hand. One brought in a large water tank on a flat bed. State foresters stopped by to assess the fire situation and see what fire control was needed. They explained what needed to be worked on first and what could be left for later,” Welter said.

Another neighbor, a grass seed

farmer who helped stop the spread of the fire by burning some fields on the day the Beachie Creek fire exploded, had his crew ready to burn more grass fields but was told that would not be necessary,” Welter said. “When he learned that we were working on hot spots, he sent his entire crew to help mopup.” Welter added, “There were so many pickups my wife had to stand in the driveway and direct traffic. The fire did a lot of damage, but it could have been much worse. My strongest memory will always be the generous support from our neighbors. One neighbor was even stopping by weeks later just to make sure everything was okay.”

Like the Lackners, the Welters were logging at the time. “We were almost done; had just about 10 loads decked ready to haul,” Welter said. “They were burned enough that the mill they were supposed to go to didn’t want them. We did find a mill that would take them, but we had to first cut 10 feet or more off the butt ends to get the diameters small enough to go through their head rig. We got half of what we were going to get, but at least we got something for them. A local pulp mill took most of the butt ends.”

“We have owned this farm for over 100 years and there has been only one other fire in all that time. There was a lightning strike that hit a tree up on the ridge,” Welter recalled. “We could see sparks fall, but it didn’t spread beyond that single tree.” The family sees no reason to do anything different moving forward in managing the tree farm. “Just reforest the burned areas and continue managing as my dad did years ago,” Welter said.

“It has been hard finding seedlings to replant the burned areas. I couldn’t find anything for the 2021 planting season but do have 1-1 seedlings ordered from IFA Canby for this winter. Another neighbor, who has his own forest management crew, is set to site prep the burned plantations this fall and plant this winter,” Welter said.

The Beachie Creek fire was the largest of Oregon’s 2020 Labor Day fires which burned more acres in a few

days than were burned in the previous 36 years combined. Large fires do not occur in Western Oregon very often and, because of this, both the Lackners and Welters have decided to continue their forest management as they have been doing for a generation or more. ■

MIKE BARSOTTI is a retired forester who lives with his wife on their certified Tree Farm just south of Lyons, Oregon. He

spent 32 years working for the Oregon Department of Forestry, with many of those years assisting family forestland owners at the field and headquarters levels. In retirement, he has continued to work with other forestland owners, serving as president of Oregon Small Woodlands Association and chair of the Oregon Tree Farm System. Mike can be reached at 503-510-6069 or barsotti@wvi.com.

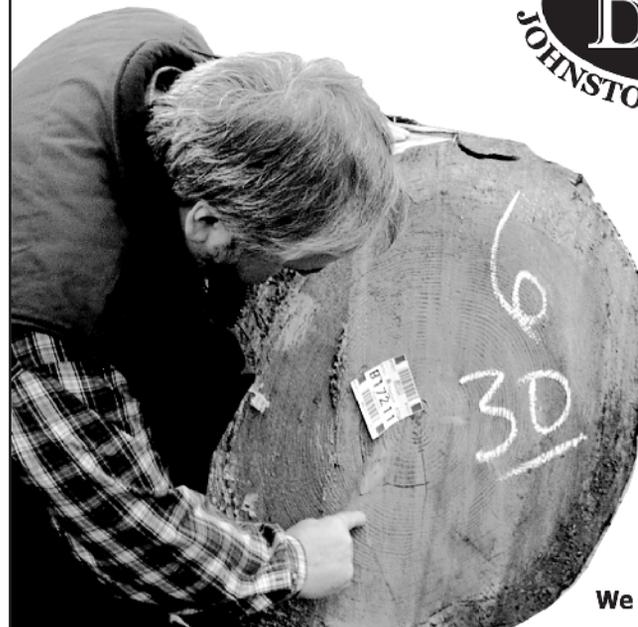
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A Snowstorm, Then the Holiday Farm Fire

By **NORM MICHAELS** and
DAWN POZZANI



As a forester, I have wanted to own and manage forestland for most of my career. My wife and I realized that dream in 2018, purchasing 137 acres just west of Blue River, Oregon. Our house is in McKenzie Bridge, so it is a short easy drive to arrive at the forest property. About half the stands were 8 years and younger, and the other half about 32 years old, with about 5 acres that were 65 years old. Most of the area is low site II so it grows trees very well. When we purchased the property, we knew that



PHOTO COURTESY: NORM MICHAELS

Before the Holiday Farm fire in 2020, the Michaels-Pozzani tree farm consisted of a variety of age classes on good site II ground.

it needed some fill-in planting and it had Scotch broom that needed to be treated. The first winter we were able to procure some Douglas-fir, western redcedar, incense cedar and a few Port Orford cedar and planted them ourselves in places that had low stocking.

In the winter of 2019, we had a snowstorm that uprooted about half of the trees in the 65-year-old stand and a couple acres in the 32-year-old stand. This was enough that we decided to clearcut. A salvage harvest would have been difficult as it is cable ground, and it would not have left sufficient stocking. We were fortunate to find a cable logger who was able to harvest those trees in the summer of 2019. Since most of the trees still had roots in the ground, the bugs did not attack in large numbers, and we received the going price for green timber at the mill.

We were able to obtain good quality Douglas-fir plugs from improved seed to plant in January of 2020, following the harvest. That spring had good rainfall and the seedlings were looking good going into the summer based on a walk-through without taking any plots. I was planning to conduct a formal stocking survey in October to objectively assess the survival. Unfortunately, mother nature had a different plan.

I occasionally work logistics on wildfires and had been asked to deploy



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PHOTO COURTESY: NORM MICHAELS

The Michaels-Pozzani tree farm suffered nearly 100 percent tree mortality from the Holiday Farm fire.

to the Dolan fire in the Big Sur country in California. I traveled down there on September 6, 2020, and was on that fire when the strong east winds hit Western Oregon on September 7, Labor Day. Our neighbors to the east of us in McKenzie Bridge had several large cottonwood trees. That wind on the large sail of leaves caused a couple of them to come down on our detached garage and pickup truck. Luckily, they did not block our driveway out to the highway. About 8:30 that evening, the Holiday Farm fire started about 3 miles west of our house and, since I am a volunteer Deputy Chief with the fire department, my wife was able to listen in on the emergency traffic. The fire quickly grew to a size that overwhelmed the local department and the Chief called for evacuations and help from other departments. It quickly became a state conflagration as did several other fires that day.

My wife was in a level three evacuation that evening without going through levels one and two. Our neighbors with the cottonwoods could not get out of their driveway due to the down trees, so they went with my wife to Sisters for the evacuation. When Dawn was able to reach me the next day, she said that there was no reason

for me to come home as there was not much I could do. We agreed that I would stay on the Dolan fire until I was released under the normal 2-week deployment time. The Upper McKenzie Fire Chief had different ideas and asked me to come home as she had been working straight for 48 hours and was looking at more 24-hour days.

I was released from the Dolan fire so that I could volunteer with our own fire

department and returned on September 9. Our Fire Chief was relieved that I was able to fill in to allow her some much-needed rest.

Our home was still in level three evacuation, so I had to do some convincing of the Oregon State Police trooper to let us back in since I was on official business of fighting that fire.

For the first 8 or 10 days, we were under the direction of the State Fire Marshall and the incident management team assigned to manage the fire. The local fire department was tasked with structure protection on the east end of the fire, mostly within our district. I worked 16-hour days for the first week and a half, then reduced to 12-hour days for the next month and a half, then to a gentle 8-hour day for another month.

The fire had destroyed all communications and electric power in the McKenzie Valley—no landline phone service, no cell phone service, no emergency radio service and no electricity. Two temporary cell towers were set up, but a person had to be within 1000 feet to have cell service. The incident management team set up some repeaters for their use, which the fire department was also able to use. The communications challenges were immense. The

—Continued on next page—

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fire department had a generator which ran 24 hours a day for over two weeks, until the electric company set up a semi-trailer-sized generator to provide power to people east of the fire.

Our forest property most likely burned in the early morning hours of September 8 and was in the middle of the largest high severity burn patch on the entire fire. The riparian areas had some green conifers remaining; the hardwoods were top-killed. In addition, we had a couple quarter-acre patches of green and a few 8-year-old trees that had somehow managed to survive. How those young trees survived when they were surrounded by fire is a mystery. Otherwise, we had 100 percent mortality on our property; a big loss for anyone but particularly for a small woodland owner. I was first able to look at our property on about September 12, while I was patrolling our assigned area. The damage had been done by then, with smoldering stumps throughout the property. Visibility was

limited to about 100 feet due to the smoke, an issue that we contended with for about a month.

With the fall rains, I was released from full-time fire department duties and could start thinking about what we needed to do on our forest property. I was able to find a cable logger who was available, and salvage harvest started in January of 2021. The logger had committed to harvesting about 60 acres of the 32-year-old trees but decided to go to greener pastures after harvesting about 30 acres. We were receiving decent prices for the small wood but were only harvesting about 6 MBF per acre of merchantable material. By that time there was not a cable logger in the area who did not have more than they could do, and I was not able to find another cable logger to finish the job.

I was able to obtain seedlings to plant the 60 acres that had been in young plantations. Again, I used plugs from improved seed. These acres were planted in January/February of 2021,

taking advantage of the site preparation accomplished with the fire. I do not recommend a wildfire as your primary site preparation tool. We were not able to obtain any other species to plant; they had been spoken for when the fires were still raging. The heat dome in May/June of 2021 reduced survival of the seedlings, with an estimated 65 percent survival overall. We did have harsher areas that only had about 5 percent survival.

We had the harvested unit and the unharvested area planted with Douglas-fir in January 2022, using a planting crew. We were able to obtain a couple hundred each of western red-cedar, incense cedar and western white pine to interplant in the 2021 planting in those areas where survival was poor.

We experienced a large financial loss with the fire, so we were able to show a casualty loss when we filed our taxes. We are working with Pure Water Partners, who are offering to do some riparian planting and invasive weed control at their expense. They formed a group that has combined resources to help people on the McKenzie River with the goal of improving water quality. We are hoping to take advantage of cost-share opportunities for planting offered by the Farm Service Agency of the USDA.

We lost the trees on our forestland and a truck along with the garage. Seedlings are being planted to replace the trees. We have a new truck, and the replacement garage is close to completion. Friends lost their homes. Some are rebuilding while others have moved away. Painful as it is to lose our trees, we still feel fortunate. We are glad we have a small piece of forestland to manage into the future. ■

NORM MICHAELS is a consulting forester who focuses on helping small woodland owners. He worked for the USDA Forest Service for over 38 years before retiring from that organization. DAWN POZZANI also worked for the Forest Service and managed to stay retired. They own and manage the Clapper Creek tree farm together. Norm can be reached at 541-822-3528 or nmichaels2@yahoo.com.



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Not Mother Nature

continued from page 10

I have had to either invest my own money or apply for grants, which is extremely labor intensive and is usually a 50 percent cost share, which makes them inaccessible to the middle class.

I hustled to salvage some of the old growth area, stabilize erosion with contour log felling, clearcut dead timber, plant grass seed, install new culverts, plant 14,000 new trees, remove debris, deal with bug infestation and spray weeds. One estimate provided by a forest appraiser put the damages at \$4 million, not including the larger impacts on the watershed beyond my property. No support or compensation has been received from the USFS to date. No official has visited to assess the damage. No formal apology has been issued, except for one incident commander who showed up on my doorstep one day with tears in his eyes. He had worked 17 years in this business and regretfully cried, "This should never have happened."

And so, I must mention a few other truly painful details that make it hard for me to find closure and leave me with a deep distrust of the USFS.

According to legal documents from 2:38 p.m. July 15, 2017, the Lolo Peak Fire was described as "15 miles southwest of Missoula. This is a priority fire, lower 1/3 of slope, .01-acre right now. A lot of potential but catchable right now.



PHOTO COURTESY: KIM GREINAGER

Tree planting is one of many restoration projects completed on the Grenager family forest since the Lolo Peak fire.

Jump sites nearby with dips sites close."

The fire could have been stopped from the very beginning. I personally know a seasoned smoke jumper who was on duty ready to jump, and other sources informed me that retardant planes were sent back to base; it was a simple lightning strike that started in the wilderness, but notably on the edge of the wilderness. The Lolo National Forest let the Lolo Peak Fire burn, leading me to only one conclusion: they intended this to be a prescribed burn.

It is also frustrating to reconcile how tax dollars were spent. Over the years, I

had received many federal grants to invest in thinning of the property. The USFS installed extensive hoses and other equipment for the planned backburn in the weeks leading up to it; there was a massive crew earning tax dollars too. In the end, they just abandoned their equipment and didn't use it for its intended purpose at all. Then they had the audacity to later accuse me of stealing their pumps. Additionally, I have used some government grants to rehabilitate the forest that are paid for with tax dollars. All these tax dollars were essentially wasted for no reason.

So, what will it take to minimize this impact for others in the future and for me now? For me, a formal apology and funds to rehabilitate the forest would be a step in the right direction. For others, I think there should be laws and policies created that protect a landowner's right to know when prescribed burns are taking place and compensation if those burns impact private property. They contract and pay for fire camps and vehicle washes on private property. Why not for backburn damage? There should be more communication about why certain areas are protected more stringently than others and generally the reasoning behind decision-making. There should also be incentives for

—Continued on page 29—

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Even Relatively Small Wildfires Can Have Large Impacts

By ANNE MALONEY

Around the world, from Argentina and France to South Korea and California, forestland owners have been increasingly impacted by wildfires. The threat is no less significant in Montana.



The 2021 Idler fire started on a hot August afternoon near Moscow, Idaho. On August 30 the weather was windy—16 to 23 miles per hour with gusts to 30—and the humidity was near 15 percent, prompting a red flag warning from the National Weather Service for the area.

A **red flag warning** means warm temperatures, very low humidity and stronger winds are expected to combine to produce an increased risk of fire danger.

Wind direction is determined by the direction from which it originates. For example, a northerly wind blows from the north to the south.

John Bolles and Mary McGregor reported a fire burning in a barn downhill from their property at about 2:30 p.m. John said the response was quick from local and state firefighting resources. A west-southwest wind was moving the smoldering fire to the east-southeast through the field south of their property. Grasses and weeds in the field west of the house were dry but there had been some fuel mitigation work in the forestland above the field and surrounding the house. This land consisted of well-spaced, mature ponderosa pine

that had been selectively logged 30 years before. Brush had been controlled in this area.

The wind shifted and, in the fine fuels, the fire rapidly headed for the house, prompting an evacuation order. Despite a wall of flame, there was minimal damage to the house. John had installed sprinklers at the corners of the house that were instrumental in preventing extensive damage, while steel and concrete in the construction resisted the heat. Two windows cracked from the heat and the heat pump was destroyed. Some of the smaller trees and shrubs survived.

Heavy Fuels: Fuels of large diameter such as snags, logs and large limb wood, that ignite and are consumed more slowly than fine fuels, and generally burn hotter.



PHOTO COURTESY: JOHN BOLLES

“Mopup” is extinguishing or removing burning material near control lines, felling snags and trenching logs to prevent rolling after an area has burned, to make a fire safe or to reduce residual smoke.

Light (Fine) Fuels: Fast-drying fuels, generally with a comparatively high surface area-to-volume ratio, which are less than 1/4-inch in diameter and have a time lag of one hour or less. These fuels readily ignite and are rapidly consumed by fire when dry.

Grasses resprouted well in the wet 2022 spring.

The areas north of the house had more shade and moisture so produced more brush, cedar, Douglas-fir and white fir. Because of the heavier fuel load, the burn in this area was more severe and there are few surviving trees.



PHOTO COURTESY: TED WARREN

Besides salvaging logs, there are many restoration projects that could be necessary after a wildfire, including seeding, planting and waterbarring disturbed areas to prevent sediment from entering streams.

Fuel Loading: The amount of fuel present expressed quantitatively in terms of weight of fuel per unit area.

John is working with Idaho Department of Lands (IDL) and the Natural Resources Conservation Service (NRCS) to replant in 2023. The steep slopes and low timber volume didn't allow opportunity for salvage. Restoration efforts have prioritized wildlife habitat and recovery of firewood.

An existing game camera photographed a bear and cub on the day before the fire, followed by photos of firefighters the next day. IDL is helping John to design a plan for patch-cover of trees, snags and shrubs for wildlife.

John recommends:

- Forestland owners who plan to build need to consider the surrounding topography and use fire-resistant building materials.
- Keep any fuels downhill from the house under control.
- Remember that light fuels burn more quickly and produce less heat and therefore less damage.
- John and Mary have underground powerlines, so the pumps feeding the sprinklers continued to run to protect the house.

Typically, each large, modern wildfire impacts more than one landowner and that held true for the Idler fire. Beyond the Bolles-McGregor property, the fire was burning to the east-southeast with a 200-yard front when it reached an overstocked stand of 30-year-old ponderosa pine, and it burned hot. A neighbor's house was lost before the fire was stopped at the next ridge.

On another ownership, Ted Warren lost about 90 percent of the trees on 11 acres of primarily ponderosa pine. The forest is surrounded by grassland, but the wind created embers that ignited spot fires at long distances. This stand had not burned before the Idler fire and also had no previous treatments.

A forest stewardship plan for the Warren property has been in place for many years and Ted encourages other

forestland owners to take this step. Brush is growing back on the 11 acres and Ted is applying for Environmental Quality Incentives Program funding from the NRCS to clear and plant the area. At the time of this writing, a large log deck is ready to pick up and deliver. He has been working with IDL and a local consultant, but no buyer has been located yet. Planting is planned for 2023 using 1600 seedlings of pon-

derosa pine and other species.

As a result of his experience with the Idler fire, Ted recommends:

- pruning ladder fuels, thinning and providing defensible space around structures.
- viewing the property with a forester and with wildfire in mind.
- having a plan and getting the work done because once the fire starts it's too late. ■



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An Extension Forester's Perspective on Wildfire Suppression

By **PETER KOLB**

Wildfires evoke many emotions. Having fought wildfires as a younger man, I can attest to the excitement of hiking up a mountainside for the purpose of putting out a fire. Then comes the gagging smoke, the adrenaline when trees torch out next to you, the roar of the fire that reminds you of a freight train barreling down the tracks toward you and the hard work of building a fireline or boneyard during the final stages of suppression. There is comradery that comes from sweating, eating and sleeping next to others in the same fight.

As a result, wildfire professionals tend to be a cohesive, loyal community. Most do not share the details of what happens on a fire with those outside the wildfire community, especially the bad stuff that happens. With that in mind, wildfire suppression tactics have a long and evolving history.



The recognition that fires have historically played a major role across Western landscapes, and the desire to “manage” landscapes closer to historical processes, has created a vastly different approach to wildfires today than in the past, especially within federal agencies. Wildfires are at least partly seen as processes that should be allowed to occur under certain circumstances, such as during cooler weather and where human infrastructure is not threatened. As a result, wildfires in wilderness areas have mostly been allowed to burn, and the impacts, at least across Montana, are significant and landscape-altering.

Wildfires on National Forests are a bit more difficult to manage, in part because, across the Interior Northwest, National Forests are often surrounded by private forests. Private adjacent landholdings are a concern to federal managers for multiple reasons. Forests are a landscape phenomenon, whereas human boundaries are not the same as ecological boundaries. Thus, what happens on one forest ownership can

easily spill across human boundaries onto another ownership. Landscape mapping of private forests for fire hazard and fuel conditions, including fire hazard reduction areas, mostly does not exist with any degree of accuracy and thus this kind of multiagency database information is not available to fire suppression teams working on large landscape fires.

Suffice it to say that private landowner management methods are often quite different than federal or state methods, even when their objectives might seem similar. The federal approach to the private landowner “problem” has been to push for certified management plans (stewardship plans) that today might be linked to third-party certification, such as Tree Farm. The private landowner approach has been to eagerly (mostly) enroll in programs for the educational opportunity, as well as to apply for cost-share money when appropriate. However, many private landowners are cautious about giving up their rights to make decisions about their lands without outside interference. For this reason, educational programs across states such as Montana are exceptionally well-received—certification schemes not so much.

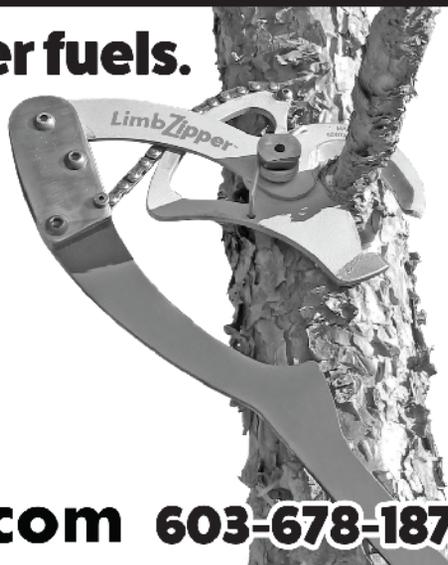
Both the need to suppress wildfires and the ecological role that fires played in forests in the past, are concepts that landowners understand and that guide their management efforts. Thinning and fuels reduction programs across Montana are very active and very successful across private lands due to work by landowners, the Montana Department of Natural Resources and Conservation and local rural fire departments. The results have been impressive across the state.

Kim Grenager’s property had been thinned and fuels were treated by her and her family over many decades in accordance with recommendations and assessment of the forest type and loca-

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tion on the landscape of her family's property. The expectation was that, if a fire started on her land, reduced fuels would allow for quick and effective suppression and control. If fires started higher on the mountain on adjoining federal or private lands, a fire backing down the mountainside would be containable when it reached the family's land.

Never in anyone's wildest dreams did the suppression plan consider the impacts of a fire being set on her property during extreme weather and the hottest part of the day. Heat, drought and extremely dry fuels, combined with a steep slope, would immediately result in an intense fireball roaring up the mountainside. Kim and her neighbors watched in horror as this is what happened when a burnout was conducted without their prior knowledge or input. The landowners could only stand outside and snap some pictures of the event as teams lit the forest behind their house on fire one afternoon. Kim tells the story in real time better than most can (see page 8). In the months and years after the Lolo Peak fire, a lot of reviewing and soul-searching has taken place.

Kim and her neighbors' stories are not unique and altogether too common for dozens of private landowners affected by multiple fires over the last 20 years. I know this because forestland owners who participated in educational and cost-share programs designed to help them prepare their forests for wildfire events have called me in heightened states of despair and distress. Their forests were used to contain wildfires, many starting and mainly burning on federal lands, though some mostly on private lands. I have personally visited their lands and verified their stories. For me, this has been very distressing as well. Landowners, who did everything right according to the science, had their lands become ideal "anchor points" for suppression activities—quite often burnouts.

Wildland firefighting is inherently dangerous. Prior to the events that burned out Kim's family forest, a fire



PHOTO COURTESY: PATTI ENOCKSON

A burnout being conducted on private lands on the Lolo Peak fire during extreme conditions in the afternoon.

fighter lost his life from a falling snag up on the mountain as he and his team approached their designated fireline. A weather front that promised to bring with it squirrely and dangerous winds was expected later that week. New housing developments across the street from Kim's property as well as the town of Lolo were in the path of modeled fire movement.

Burnouts to create a wide black zone between the existing fire and human infrastructure seemed the only reasonable tactic and, as was quoted to me when reviewing the events, "The needs of the many outweigh the needs of the

few." I disagree, strongly. The needs and rights of every person are guaranteed by our Constitution. Individuals matter. How these burnouts are lit is often left to division commanders, many of whom are contract fire suppression teams from elsewhere. These are professional fire fighters who understand fire the way most people understand navigating rush-hour traffic. They are fire experts, and it is critically important that we give them the tools to do their jobs safely.

They are, however, not resource managers who work with forests for multiple goals and objectives. They do

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TreeSmarts: Research You Can Use

TreeSmarts: Forest Research You Can Use *appears in every other issue of Northwest Woodlands. Column editor Ed Styskel reviews research from a host of sources, sorts through the items of interest to family forest owners, and provides a short summary of the pertinent results in understandable language. If you have a suggestion to share with Ed, please contact him directly at edstyskel@gmail.com.*

Effectiveness of Fuel Treatments at the Landscape Scale: State of Understanding and Key Research Gaps. Authored by Jain, Abrahamson, Anderson, Hood, Hanberry, Kilkenney, McKinney, Ott, Urza, Chambers, Battaglia, Varner, and O’Brien. 2021. Joint Fire Services Program Project ID: 19-S-01-2. Boise, ID. 65 pp. Online at <https://www.fs.usda.gov/rmrs/publications/effectiveness-fuel-treatments-landscape-scale-state-understanding-and-key-research-gaps>. (1.37 Mb)

Forest and woodland managers have long wondered if fuel treatments are effective in (1) mitigating wildfire impacts, (2) creating conditions for future wildfire benefits or suppression, (3) long-term risk reduction, (4) altering fuel stratification, and (5) considering past and future wildfires.

The authors synthesized existing

scientific literature on landscape-scale, fuel treatment effectiveness in North American ecosystems through a systematic literature review. They found 127 studies that addressed this topic using one of three synthesis categories: empirical analysis, simulation modeling or case studies. Of those, most focused on forested landscapes in the western United States.

“Fuel treatment” was defined as any alteration of live or dead vegetation that has the potential to influence fire behavior, including wildland fire use as well as prescribed fire, mechanical or chemical treatments.

“Landscape scale” was defined as either an area larger than the treated area that has the potential to be influenced by the fuel treatment, or an area of at least 9,884 acres (40 square kilometers). Wildfire sizes ranged from 237 to 461,776 acres (96 to 186,874 ha), and the total treated areas were 20 to 132,011 acres (8 to 53,423 ha).

As broadly summarized in the table below, the studies generally provided evidence that fuel treatments reduced negative outcomes of wildfire and in some cases promoted beneficial wildfire outcomes, although these effects diminished within 1-20 years following treatment and were influenced by factors like weather conditions at the

time of fire.

Across the three synthesis types, the importance of treating multiple strata to reduce fuels contributing to fire spread and severity was emphasized. Fuel treatments contributed to fire suppression efforts by reducing costs and facilitating suppression activities, such as fireline construction.

For all synthesis types, fire behavior characteristics within fuel treatments were effective at creating more desirable conditions by slowing the rate of spread, lowering crown fire down to the ground surface and decreasing fire severity.

Topography and weather were critical in determining fuel treatment effectiveness, and only simulation studies evaluated how fuel treatments influenced long-term risk within and outside the treatment footprint.

Empirical Synthesis

Empirical studies analyzed fuel treatment effectiveness using data from actual wildfires on treated landscapes, sometimes accompanied by simulated wildfire for comparison. Ecoregions that were studied within Pacific Northwest (PNW) states included Blue Mountains (OR, ID), Cascades (WA, OR, CA), Idaho Batholith (ID), Klamath Mountains/California High North Coast Range (OR, CA), Middle

EFFECTIVENESS OF FUEL TREATMENTS ON WILDFIRE CHARACTERISTICS AND OTHER WILDFIRE-RELATED ATTRIBUTES. 1/						
Wildfire character or attribute	Type of Synthesis					
	Empirical Studies		Simulation Studies		Case Studies	
	Inside Treatment	Outside Treatment	Inside Treatment	Outside Treatment	Inside Treatment	Outside Treatment
Rate of fire spread/progression	Yes	Yes	Yes	Yes	Yes	--
Fire behavior	-- 2/	-- 2/	Yes	Yes	Yes	--
Fire extent	--	Yes	--	Yes	--	--
Fire severity	Yes	Yes	Yes	Yes	Yes	--
Beneficial wildfire	Yes	Yes	--	--	No	No
Fire suppression	Yes	Yes	--	--	Yes	--
Long-term risk	--	--	Yes	Yes	--	--

1/ “Yes” indicates some evidence in a portion of studies that showed fuel treatment effectiveness for at least one wildfire characteristic (i.e., fire spread/progression, extent and severity), beneficial uses or suppression. A dash indicates that information was not provided.
2/ Studies were dissimilar in design, analysis and site versus landscape definition, thus constraining a generalization.

SOURCE: COMPILED FROM RESEARCH DOCUMENT BY ED STYSKEL

Rockies (MT), North Cascades (OR), North Rockies (WA, ID, MT) and North Basin & Range (OR, ID).

The proportion of high severity outcomes decreased when more of the landscape was treated or was within strategically placed fuel treatments in the landscape, or was adjacent to large, prescribed fires. One study reported increased fire severity after about 650 feet (200 meters) from the treatment edge.

Simulation Synthesis

Simulation studies were the only synthesis type that reported wildfire suppression costs relative to landscape fuel treatment costs. Average wildfire control costs, as compared to average fuel treatment costs, for two fires in central Oregon were \$5.093M/\$4.432M and \$2.848M/\$2.195M, a savings of about 13 percent and 23 percent, respectively. For one fire in western Montana, the difference was only 3 percent (\$2.445M control/\$2.379M treatment).

Case Synthesis

Case studies were reported on actual wildfires using a narrative approach

by a forest manager (or requested by a forest manager) without statistical analysis and were primarily from “gray literature” published by land management agencies rather than peer-reviewed scientific journals. PNW states with case studies include Oregon (Monument, GW, and Egley Complex fires), Washington (Tripod Complex and Octopus/Spar Mtn. fires), Idaho (Cascade Complex fire) and Montana (North Fork and Monumental fires).

There is some evidence that fire within the previous year or so did appear to stop the fire locally. Treated areas generally experienced lower flame lengths, slower rate of spread and less spotting beyond the treatment. Fire severity was generally lower in treated areas except when extreme weather increased fire intensity and burning conditions. Tree survival and canopy base height were affected by previous treatments.

Factors Affecting Wildfire Conditions and Post-Wildfire Outcome

Prior to a fire event, vegetation

dynamics, previous disturbances (including past wildfires) and fuel management objectives all contribute to whether a particular fuel treatment will be effective at altering fire behavior, effects and risks to human safety. In addition, factors such as physical setting, the condition of the fuels and proximity to communities or infrastructure that need protection can influence fire suppression tactics. Wildfire ignition is also influenced by the physical setting, climate and weather, all leading to some uncertainty in predicting where the next wildfire will occur.

Planning for Future Landscape Fuel Treatments

Total size of treatment areas can affect wildfire size. Geographical placement and recency of treatments provide greater effectiveness than other schemes. Prioritizing treatments in stands with greater wildfire risk generally led to a reduction in damaging wildfire. More extreme fire weather led to greater wildfire extent, but not necessarily less treatment effectiveness. ■

Not Mother Nature

continued from page 23

landowners who invest in proper land management.

Transparency with the public is the most important action the USFS can take in the future to ensure trust and decency. I would advocate for primary decisions about what is sacrificed, how tax dollars are spent, and communication practices to be managed by the local office—those who we can entrust to have an emotional connection, the most knowledgeable of the area and the most invested in the outcome; local people making local decisions. Of course, for big fires outside resources will sometimes be necessary, but let's prioritize local personnel.

My experience felt nothing like trust and decency; it felt like an assault. Fire damage is painful to cope with when it's Mother Nature or an accident, even worse when it's arson.

This damage was not natural and will not be solved by nature in the next 50 years without a significant reforestation plan. Maybe if the USFS would have done absolutely nothing with this lightning strike, there would have been a better outcome.

I am immensely proud of the forest my brother and I saved on our own that day and the rehabilitation efforts thus far. I am so glad that I did not evacuate. I am thankful I have decided to pursue the route of rehabilitation through grant applications and demanding work as opposed to filing lawsuits that are so costly, lengthy and difficult to win against the U.S. government.

Many thanks to all my friends, volunteers, The United Way, local entities that helped me find grants, Miller Creek Reforestation and especially Patti and Ariana! I could not have survived this without you!

People make mistakes; this was

not a mistake, there were intentional decisions made. It makes me question whether I would ever want any wildland fire personnel on this property again, even though I know there are so many great USFS people. I might take my chances with Mother Nature in the future. ■

KIM GRENAGER grew up on the family ranch in Lolo Creek from the age of 10 and is a fourth-generation Missoulian. She has always had a deep connection to the land and has dedicated her life to caring for this precious property. She is the daughter of Lyle Grenager who spent his early days as a smokejumper in Montana. By day, Kim is a dental hygienist, but her true calling is to care for the family property and the animals that reside there. In her free time she can be found hiking, volunteering at fire lookouts, horseback riding, and kayaking. Kim can be reached at 406-531-3128 or kimgrenager@gmail.com.



Twig Tales

PPPPP: Proper Preparedness Program Pays Plenty

By **KEN BEVIS**

Peter and Polly Polesaw, and their playful boys, Percy and Petey, live along lower Pearpit Creek in the Polygon basin, just under the pointy pinnacles of Porcupine Peak, North Central Cascadia.



They recently moved out from Emerald City and purchased an old cabin in the fire prone, ponderosa pine forest that, to say the least, was bedraggled, "rustic" and well-worn. The sides were covered in old, dry cedar shakes, rattling in the wind. The pitched roof matched, piled with peat moss and pine needles. Prodigious prairie grass propagated under the porch and around the eaves. Firewood was precariously piled all along the sides of the place. Lofty pines projected well over the roof. I was visiting to help them develop a positive forest stewardship plan, but my eyes popped over the fire hazards all around. Proud Peter and Polly pretended not to notice.

I was with Pop Piffle, our wise fire safety pontiff for the FDCNRAFDCFSFPP (Forestry Department of the Coordinated Natural Resource Agency Forestry Division Forestry Service Fire Preparedness Programs).

Pop walked with the Polesaws and tried not professing profanity at what he saw. He pondered. "What you need here is a pertinent P P P P P," said Pop. I chimed in, "Precisely! A Pyrotechnic Property Protection Program Plan, our new 5P program!" (Pronounced P P P P P P P P P P!). "I'll help you Peter and Polly Polesaw!" So, I did.

I prepared the personalized plan promptly (I am fast, and thorough). Peter and Polly proceeded to properly prepare their property. In just a few months, with plenty of work, the old cabin was transformed from derelict tinderbox into a prodigiously prepared 22nd-century palace. Cedar shakes were gone. The roof was metal. The deck was replaced by poured concrete. Trees were pruned, limbed or removed. Gone was the tall grass and brush within 200 feet of the new house. They did everything perfectly, particularly the pyrotechnic prophylactics, and then some. Pop did a post P P P P P inspection and rated it "P P P P P Perfect!"

Things were positive. The family had settled in, working at home, enjoying Polygon's peaceful perfection, when lightning struck Porcupine Peak, precipitating the Pearpit Fire. High winds pushed it past the firelines and over the precarious Patterson Precipice directly towards the Polesaw place. Peter and Polly were determined not to panic, so when the evacuation call came, they set a phalynx of sprinklers, and wisely left. A crack team of Pulaski-packing Hawaiians (in tropical Nomex) were assigned to the Polesaw perimeter. The flames poured through the nearby unthinned forest, taking out crowns, brush, sticks, logs and chipmunks. Then the fire reached the Polesaw's place. Down to the ground it plummeted, and slowly crept in the short grass and needles, just like it was supposed to. The crew joyfully danced the Polynesian Power as the flames simply died out when they pierced the perimeter. It worked! Phew!

The fire fighters loved it so much, they named the Polesaw place "the fortress."

"Polesaw's Pyrotechnic Property Protection Program Plan produces perfectly," proclaimed the front page in the *Polygon Publicist*, the local paper. This was parroted in a plethora of publications.

Incredible! A proud parade for the fire fighters included the FDCNRAFDFSP staff prominently perched on the float with the Polesaws! Pom Pom people provided plentiful pomp to the parade. What fun! We needed a song, so I wrote one and we sang it in the parade.

Pulsing fire on the hills
Pushing towards our homes
Pile that brush and grass and sticks
Place so it won't burn
Pyrotechnic Property Protection Plan
Yes, to the "P-P-P-P!"
Penultimate power at your home
Placed for you and me!

My jingle was a hit! Penelope P. Poobah, my primary boss at FDCNRAFDFSP heard about it, plied me with praise and offered to record it for populous perusal. PPP is a talented western singer. She's also a tough no-nonsense Montana cowgirl, who once roped and rode a grizzly near Pablo Pinnacles. She has a pet porcupine, Pickles, that rides in her pickup. She once won a contest in Polson, performing "Pretty Places" on piccolo and placed in poetry too. She was picked for the national show, "Passion People," where we performed our song. Incredibly, we won plentiful plaudits for positive programming for public preparedness, and some cash.

Phew. What a ride. Its plenty tough being this smart. ■

KEN BEVIS is the statewide stewardship wildlife biologist for the Washington Department of Natural Resources. He is fascinated with all things offbeat and loves to see odd pieces of yard art or beautiful cavity snags on properties he is privileged to visit. Beware, however: anyone he meets who is interesting, eccentric, highly skilled or all of these, could become a model for a *Twig Tales* character! Send me your nominations at ken.bevis@dnr.wa.gov.



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An Extension Forester's Perspective on Wildfire Suppression

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not usually work with private landowners. Under most state laws, including Montana, wildfire suppression teams have the legal right to enter and cross any lands to do their jobs. They don't need permission to do their work because it is an emergency. This makes perfect sense in an ideal world.

Using burnouts is a relatively recent practice (last 30 years), with an increasingly important goal of not letting fire fighters die in the line of duty. This absolutely makes sense, especially to anyone who has a loved one working on such fires. No house or forest is worth a person's life. However, how burnouts are conducted is important.

Documentation of their use remains a mystery for every fire. This is

because burnouts are not mapped or documented differently than natural fire progression. Every ignition point and area burned is mapped and documented as natural wildfire progression. I have been told this is because otherwise this tool could not be used for fear of litigation. It makes sense to avoid court battles. Yet our legal system is how we improve how we do things; messy as legal cases can be. Plus, mapping and documenting burnouts and how and who did them is an important learning tool. If a mistake is made, the only way to avoid it in the future is to document it and use it as a teaching tool. We often learn more from our mistakes than our successes. This is especially important as old "fire-dogs" retire and new ambitious fire chiefs come on board.

Finally, if private lands are sacrificed for the greater good, landowners need to be compensated for their losses. Wildfires are very different than tornadoes and hurricanes because we

can have a great influence on how and where fires burn. Comparing wildfires to other natural disasters is an avoidance tactic and misleading. Wildfires are a growing phenomenon, and we need to continue to learn and improve how we interact with such events. As the old saying goes, "Doing the same thing over and over and expecting different outcomes every time is the definition of insanity." Over the past 20 years across Montana, I have been hearing the same story over and over. It's high time to improve things. We love our fire fighters; they need to love us and our forests as well. ■

PETER KOLB has been the Montana State University Extension forestry specialist since 1997. He conducts research on a variety of forest restoration practices including post wildfire recovery and the role of salvage and sanitation logging. Peter can be reached at peter.kolb@mso.umt.edu.

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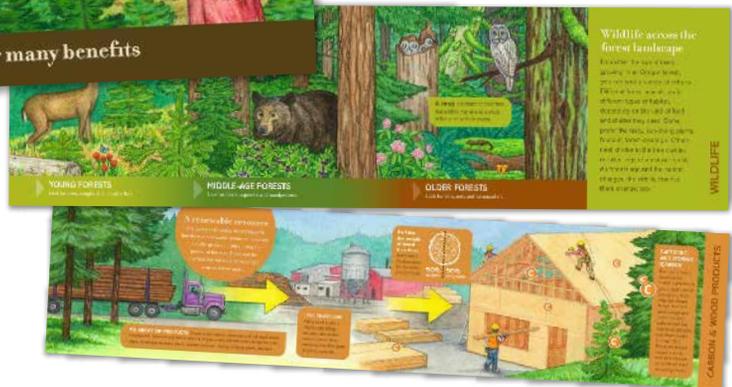
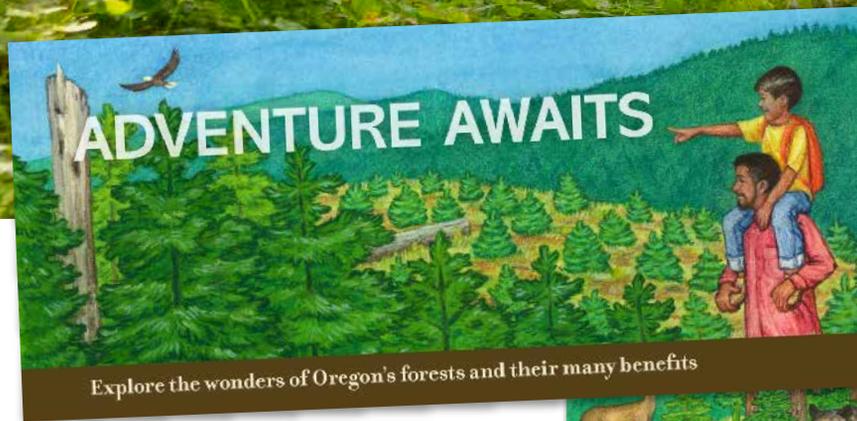
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