

Episode 1: COLLABORATIVES

How forest collaboratives can help management practices keep up with leading science.

[CREAKY TAPE MEASURER. BIRDS CHIRPING]

Zach Williams: That one's 20, and then this ponderosa pine is...

Noah Camuso: On a sunny day in April, I took a trip to the Malheur National Forest with Zach Williams, who runs operations at a timber company based out of John Day called Iron Triangle. Williams and I were marching through a thin layer of snow, measuring trees in a section of the forest called the Ragged Ruby.

Zach Williams: 28 and a half.

Noah Camuso: The Ragged Ruby is about forty minutes northeast of John Day, surrounding a part of the middle fork of the John Day River. [The name comes from the combination of the Ragged and Ruby Creeks](#). We were measuring trees because, if you know what to look for, this mix of Douglas firs, western larch and ponderosa pine trees tell an important story about wildfire, forest management and changing science.

Williams took me to a few different sections of the Ragged Ruby. We stopped along a bumpy logging road to take a look at a section of the forest that was thinned by timber harvesters a few years ago.

I was looking out on a pile of skinny logs blanketed by snow, tree stumps scattered in and amongst the snowfield, and a mix of old western larch and ponderosa pine trees that were spread apart and stretching toward the sun. Timber harvesters left those trees because they're more resilient to wildfire. At some point in the future, the USFS is hoping to conduct a prescribed fire on the ground here.

I learned a lot about timber harvesting from my day with Zach Williams. I already knew that timber practices have changed a lot since the 1980s, but it surprised me to learn that because our understanding of forest management keeps changing, the way that Iron Triangle would have logged a section of the forest ten years ago is significantly different from the way they would log a section of the forest today.

To understand why that matters, we need to talk about Oregon's problem with wildfire.

[MUSIC- "CLEARER VIEWS" BY FROM NOW ON]

There have been fires in Oregon's forests for thousands of years. But recently, Oregon has been experiencing severe wildfires that we can't stop. Wildfires that burn hundreds of thousands of forested acres every year, raging through communities and destroying lives. For a few weeks every summer, Oregonians are getting used to stepping outside to see hazy skies that obscure the sun.

Firefighters will tell you that after a fire reaches a certain level of severity, there isn't much they can do to stop it. What's causing these changes? And what can we do about it?

You may already know that the severe wildfire we see today has to do with 20th-century forest management and fire suppression. When we talk about ways to manage forests so that they're more resilient to wildfire, one problem that comes up is that while our understanding of forest management is always growing more nuanced, actually making changes in the way that we manage forests tends to be slow and complicated.

The story written in the trees of the Ragged Ruby, the one that shows how timber practices have changed in Grant County in the last ten years, it's important because it illustrates how a group of people called the Blue Mountains Forest Partners, or BMFP, are working with the USFS to close the gap between what science tells us we should do, and what we're actually doing.

BMFP is what's called a forest collaborative, or a group of people who have a stake in the health of the forest: environmentalists, landowners, loggers, federal land managers etc. and they all come together to engage in natural resource management.

In this episode of The Fire Story, we'll talk about how BMFP is able to look to science to bring about consensus between stakeholders who have historically been at odds with each other. The most notable of these stakeholders: timber harvesters and environmentalists. We'll talk about how leading science on forest management keeps changing, and finally, how consensus between stakeholders can lead to relatively efficient and experimental changes in management practices.

To understand the science that informs the management practices that BMFP supports, I went to the office of the Malheur National Forest to talk to Vegetation Management Staff Officer Amanda Lindsay.

Amanda Lindsay: So there's a tremendous amount of evidence of fire history on the landscape. As then far as: how do we study that? That's the fun part.

Noah Camuso: Lindsay showed me a cross-section of an old Western Larch that was cut from a snag in the Malheur. The pith of the tree dates back to 1497. The entire left side of the tree has been burned away, and there are charred gashes on some of the tree rings where they meet the edge of the sample. These are scars that non-lethal surface fires left on the tree over the centuries. You can find photos of the samples Lindsay showed me on The Fire Story website.

Scientists like James Johnston, an ecologist who works with the Blue Mountains Forest Partners, can use samples like these to recreate the fire history of forests.

James Johnston: These are long-lived conifer trees. They lived to be four or five hundred years old or so. They lay down tree rings every year. And we can cross date those tree rings, that is, assign every tree ring a calendar year, and in many of these tree rings are embedded fire scars from when a non-lethal surface fire scarred the cambium of the tree.

Noah Camuso: If you're curious, the cambium is the growing part of the trunk just under the inner bark of the tree.

Amanda Lindsay: Once you get a large database of samples categorized and measured, and then you can start correlating, and finding specific years, and there are things that will show up that are fairly, you know, like frequently, like say you had a really major frost in one year. And so there's a frost crack on that ring. And so then you can start, like, piecing all of these samples together and be like, Okay, I know this happened on this date.

Noah Camuso: The picture these trees paint of the landscape and the frequency of fire before Euro-American influence is completely different from the way the Ragged Ruby looks today.

[MUSIC- "OBSERVATIONS," BY FROM NOW ON]

Historically, frequent low-severity fires used to burn through the Malheur all the time. Those fires cleared out less resilient tree species like young Douglas fir trees, while leaving the more resilient tree species like ponderosa pine and western larch. Fire also burned brush and debris on the forest floor. The resulting forest was made up of old, resilient trees with reduced competition and a thin layer of duff on the forest floor.

Euro-American colonizers removed these fires from the landscape, both with aggressive fire suppression, and by bringing cattle and sheep to graze in these areas in the 1800s. Overgrazing removed grass from the landscape, which took away fuel for these low-intensity fires. All that on top of extensive logging changed the landscape drastically. Research conducted by James

Johnston shows that between 1860-2010 in the southern Blue Mountains, there was an increase in fire intolerant tree species, an increase in overall forest density and a decrease in large and old trees.

So how would the current landscape respond to a wildfire?

To find out, I visited an unmanaged stand of the Ragged Ruby with Zach Williams.

[SOUNDS OF A CREEK, BIRDS CHIRPING]

The first that stands out is the presence of Douglas fir trees that are crowded up next to ponderosa pine and larch trees. While ponderosa and larch branches tend to start much higher up in the trees, a lot of the Douglas fir branches go all the way to the ground.

Zach Williams: If a forest fire were to come through here, that would provide the opportunity for the fire to get into the canopy of the older bigger trees. And that's what we don't want to have happen. We want the fire to stay on the ground. And, you know, creep along and move and take out the underbrush and take out the younger trees, but not, not get into the crown of these big old trees.

Noah Camuso: Young fir trees also have thinner bark.

Amanda Lindsay: Not only is it really thin, but it's not as, like, spongy as ponderosa pine. And so it doesn't provide as good of a barrier between fire and the live cells in the trees.

Noah Camuso: As I mentioned before, low-severity fires also used to burn debris on the forest floor before so it didn't build up. But now...

Zach Williams: You can see at the base of this old pine tree, the duff is like a foot thick. So a fire gets in here, it's going to cook the roots and kill the tree anyway.

There are a number of other factors in the way forests have changed that contribute to severe fire, but the point is that these forests are badly in need of restoration, and identifying that is only half the battle. Actually allocating the support and resources to do the work comes with its own set of challenges. So let's look at how the Blue Mountains Forest Partners use science to bring stakeholders with different opinions together.

First, we need to appreciate the level of animosity between loggers and environmentalists at the end of the 20th century.

Throughout the 70s, 80s, and '90s there were protests, extremely contentious court cases, and generally a cultural divide between loggers and environmentalists. The two parties simply didn't trust each other, and without trust, active decision-making focused on restoring the landscape was next to impossible. To understand that divide, I talked to environmental lawyer Susan Jane Brown.

Susan Jane Brown: Forest management is really controversial and contentious. And that's because people on all sides of the debate care a whole heck of a lot. The Forest Service is a multiple-use agency, their federal statutes require them to manage these lands for multiple uses, which means you promised to be all things to all people all of the time. I expect to get what I want, even though that may be diametrically opposed to what you want. Well, the Forest Service has to do both. And it can't do both, cause you can't do both

Noah Camuso: Out of a tumultuous era of mistrust, protests, and court battles came groundbreaking policies like the Northwest Forest Plan and the Eastside Screens in the mid-1990s, which fundamentally changed the way the USFS managed forests. We still had a lot to learn about effective forest management- and we'll come back to that, but essentially...

Amanda Lindsay: The Forest Service really had to take a step back, and reassess where we were at socially and politically. How would we manage basically, more like, for ecological reasons, instead of just like socio and economic reasons? And so it really threw that factor in and it made it much like a much larger player, that ecological factor.

Noah Camuso: Right after she graduated from law school in 2000, Brown started challenging timber sales in the Malheur. Her clients were conservation organizations who were concerned about things like the impact of salvage logging on woodpecker habitats.

Susan Jane Brown: There were a number of legal violations that we were focused on. Many of those violations were procedural in nature, and those challenges were brought under the National Environmental Policy Act. We argued that the Forest Service wasn't considering the direct, indirect and cumulative effects of post-fire logging, ongoing grazing that was occurring in the same areas, and past and future timber harvest. We were really successful in our NEPA claims, because the agency simply was not analyzing the effects in the way that the law required.

Environmental lawsuits were so successful in Grant County that by 2003, two out of three timber mills in the county shut down. People were losing well-paying jobs and there was almost no logging happening.

That's when, at a forest plan revision meeting in Portland, the Grant County Commissioner at the time, Boyd Britton, approached Brown.

Susan Jane Brown: Grant County bussed in a bunch of loggers and elected officials from Grant County for that meeting. And as you know, there's the public comment part of the meeting. And so they were standing up, and they were very upset about how there was no logging happening, and all this kind of stuff. And it was, it was pretty tense for sure of a meeting. And at one of the breaks, Boyd approached me. And he brought some of his friends with him.

But he has a handlebar mustache. Which is amazing. But he approached me and he was flanked by these very large burly men with their belt buckles, and their, you know, belts and hats and boots, and all that kind of good stuff. And he's like, "Hey, you know, I understand you're the one that's kicking our butt in court. And it's not working for me or my community. And I want to invite you out to the forest and take you out. And we'll bring you back in, we'd like to talk about, you know, what, what you see."

Noah Camuso: They ended up spending three days in the forest in Grant County.

Susan Jane Brown: It was definitely a very difficult conversation, a lot of disagreement, a lot of anger, a lot of emotion, a lot of blame, from everybody involved, myself included.

Noah Camuso: Even though it was slow going and it took a lot of time to build trust, timber harvesters and environmentalists did find an overlap between their goals.

Here's Brown's colleague, Pam Hardy, who also works with BMFP.

Pam Hardy: The common ground was that we can benefit native wildlife species by removing some of these trees and particularly the small, non-fire-adapted trees. Some of these young trees that have grown up and are really only there as a result of that western European settler influence, they would have been taken out by a smaller medium, lower medium intensity fire had it not, you know, had that been allowed to play its normal, natural role. And that in the removal of some of these trees, some of these trees have at this point after 100 years from big enough that if you take them to a mill, you could turn them into two-by-fours. That was the overlap.

Noah Camuso: After years of conversations, the Blue Mountains Forest Partners were formalized in 2006.

Here's the executive director of BMFP, Mark Webb.

Mark Webb: When we first got together, it was hard for us to even talk to one another. It really was, we had to bring in a third-party neutral facilitator, in order to go between industry and community members on the one hand, and the environmental and conservation community on the other, to even talk because there was so much distrust and animosity.”

Noah Camuso: Even though conversations were difficult, and are still difficult, these disparate stakeholders were able to build trust with one another. That trust is an essential ingredient for keeping management practices up to date with leading science.

At the beginning of the episode, I mentioned that the way Iron Triangle manages forests to make them more resilient to wildfire has changed significantly in the last ten years because our understanding of forest management keeps developing. While marching through an unmanaged stand of the Ragged Ruby, Zach Williams and I stumbled into a pair of trees that symbolize that.

Zach Williams: There's a, about a 12-inch diameter western larch tree that is directly north of this probably 23-inch diameter Doug fir tree, I would guess they're either similar in age or that the western larch is actually older.

Noah Camuso: Ten years ago, timber harvesters would have been instructed to...

Zach Williams: Cut the larch, leave the Doug fir. The Doug fir would be off-limits because it's over 21 inches.

Noah Camuso: That's because of a rule that was put into place in 1995 called the 21-inch rule. The rule essentially said that timber harvesters couldn't cut trees that are larger than 21 inches at chest height. It applied specifically to forests within a defined boundary, mostly east of the cascade mountain range. The goal of the rule was to protect some of the remaining old-growth forests and riparian areas.

It sounds like a good way to protect big and old trees, but decades of research, including studies done by ecologists working with BMFP, have shown that the 21-inch rule can actually get in the way of management objectives. Let's tie it back to concepts that we've talked about earlier in the episode.

Many of the Douglas fir trees that are over 21 inches wouldn't be here at all if it weren't for Euro-American influence. They contribute to a decline in fire resilience for this landscape

because of their thin bark and branches that go all the way to the ground, and because forests are overcrowded with young trees that are larger than 21 inches. In a 2021 study conducted by James Johnston, researchers found that almost a quarter of all mixed-conifer stands they studied in the Ochoco and Malheur National Forest could not be restored to within the historical range of density with the 21-inch rule in place.

In 2021, the USFS changed the policy so that timber harvesters could log some fir species up to 30 inches in diameter.

Today, Iron Triangle would take a totally different view of this pair of trees.

Zach Williams: We would definitely take that Doug fir tree, the bigger tree, and leave the western larch.

Noah Camuso: So the Larch is more resilient?

Zach Williams: Definitely more resilient to fire than that Doug fir tree.

Noah Camuso: The change to the 21-inch rule received a significant backlash, mostly from environmentalists who were concerned that the agency was loosening old-growth protections.

The USFS has a tough job. They're making decisions about active management that affect the timber industry, environmentalists, and other stakeholders who really care about the forest, but who also have very different opinions about how the forest should be managed. One thing that means is that it can be risky for the Forest Service to depart from traditional management practices even when that departure is supported by science. When there's a scientific case for implementing newer practices, like prescribed fire, mechanical thinning, or for example, changing the 21-inch rule, it's especially important for the Forest Service to receive public input.

At those points, when the Blue Mountains Forest Partners can come forward and say: "Hey, we've done a bunch of research and we've brought all these disparate stakeholders up to speed on the leading science. Here's our informed opinion about what you should do."

That can give the Forest Service the confidence it needs to manage public lands in ecologically appropriate ways, even if they're not traditional. Without trust between these diverse stakeholders, those untraditional management practices are far more risky.

It's important to be clear that there are still plenty of timber harvesters who disagree fundamentally about how some of these forests are being treated. Without getting too deep into

silviculture- managing these forests so that they yield a high volume of timber requires completely different strategies from managing forests so that they're resilient to wildfire.

Here's Pam Hardy.

Pam Hardy: There's a lot of people who'd like to log more. And it causes, you know, driving big yellow machines around in the woods sort of gives a lot of people heartache. [LAUGHS] Like it or not, these big yellow machines actually do, do help us harvest trees.

And if done right, you can actually create a situation where when these big fires, when they come through and hit these treatments– if the treatments are done correctly– the fire drops in intensity, and becomes a lot more manageable, and at the end of the day, there's actually still a forest there instead of just black sticks for long, long distances.

Noah Camuso: In light of the overwhelming scale and urgency of wildfire as a problem, the work that BMFP is doing to build trust between disparate stakeholders who are concerned about forest management, it offers a glimmer of hope. Tune in to the next episode to hear about a multi-stakeholder approach to developing housing communities in wildfire-prone areas.

I'm Noah Camuso, and this is The Fire Story.