

Episode 2- Building for fire

How developers and environmentalists set a new precedent for wildfire-resilient housing in Deschutes County

Noah Camuso: A home is being constructed in a relatively new community called the Tree Farm Housing Development. The neighborhood is just west of Bend, a city in central Oregon, on the eastern edge of the cascade mountain range. From the top of a hill in the development, I could see a few mountain peaks and sprawling acres of ponderosa pine forests that transition to high desert plains.

The Tree Farm Housing Development is right on the wildland-urban interface, the transition zone between human development and wildlands. The WUI, as fire professionals call it, is a term homeowners and developers are growing increasingly familiar with. This nearness to nature is what a lot of people are looking for when they move to central Oregon. It's part of the reason Bend's population has grown tremendously over the last three decades, from just over [23,000 in 1990](#) to over [100,000 people today](#). But that natural beauty comes with a price.

The wildland-urban interface is exceptionally prone to wildfire.

[MUSIC- "VENUS DESCENDING," - BONNIE GRACE]

Not only is there often vegetation growing next to homes in these areas, vegetation which can fuel potential wildfires, but studies show that [WUI population growth results in more wildfire ignitions](#), because many fires are caused by people.

Even though wildfires are increasing in size and severity every year, people in the US keep moving to the WUI. Between 1990 and 2010, they were the fastest-growing land use areas in America, growing from 30.8 million homes in WUI areas in 1990, to 43.3 million homes in 2010. As of 2010, approximately one in three homes are in the WUI.

It's hard to pinpoint why people are moving to these areas in such high numbers, but if people are going to develop more in these areas: what options are there to mitigate the development's risk of wildfire, and who's working on that?

In this episode, I'm going to tell the story of how the Tree Farm Housing Development came to be, how it resulted in a type of zone that's new to Deschutes county, and how they both represent a change in how we approach development in wildfire-prone areas.

Paul Dewey: Sometimes issues get resolved by looking at a larger context, to find possible agreements and solutions.

That's Paul Dewey, an environmental lawyer who created a watchdog organization based out of Sisters, Oregon, called "Central Oregon LandWatch." Dewey created the organization 35 years ago to try and save some of the remaining old-growth forests in Oregon. The story goes like this. In the mid-1980s:

Paul Dewey: ..there was a planned hydroelectric project to put all of Whychus Creek into a pipe.

Noah Camuso: Dewey went to a hearing at the Oregon legislature about the project. The developer said to all the conservationists there:

Paul Dewey: Why should you guys be interested? The Forest Service is going to clear-cut this area anyway.

Noah Camuso: So Dewey went to the forest and saw...

Paul Dewey: Just gorgeous old-growth ponderosa pine and Douglas fir. And they were going to, they were going to clear cut right into the creek. And it just touched a nerve that that really was not appropriate.

Noah Camuso: Dewey appealed the timber sale, and out of that effort he created the organization that would become Central Oregon LandWatch, and their role in protecting wildlands in central Oregon has been evolving ever since.

In the late 1990s, new developments in forested areas on private lands became one of their chief concerns.

Paul Dewey: It's just a constant struggle trying to keep the developments at bay.

Noah Camuso: In 2014, the owners of a tree farm just west of Bend's city limits partnered with a real estate corporation called Brooks Resources, and applied to build a housing development on their property.

Central Oregon LandWatch was worried about any westward development into the forest. They were concerned that the development would disturb animal habitat and increase the risk of wildfire.

After Central Oregon LandWatch wrote letters in opposition to the development, the application to develop The Tree Farm was denied.

Paul Dewey: The reaction of the development initially was fairly defensive as might be expected, in the sense that their Portland attorneys weighed in.

Noah Camuso: This was the beginning of a land-use appeal process that went on for two years. Brooks Resources appealed the hearings officer's decision to the Board of County Commissioners, who ruled in their favor, and Central Oregon LandWatch appealed the county's decision to the land use Board of Appeals. Every time the case was appealed, the outcome became less certain, and they were dealing with higher stakes.

Paul Dewey: These issues had really not been litigated quite in the way we were looking at it. So it was very hard to see how the land use Board of Appeals might rule. I remember in particular being concerned about a domino effect, if this goes through, if the westside urban growth boundary gets expanded, then it will go out to The Skyline forest, and we won't be able to stop it.

Noah Camuso: Between 2014 and 2016, while Central Oregon LandWatch and the developers of the Tree Farm Housing Development were going back and forth in the land use appeals process, the City of Bend was working on a proposal to expand its urban growth boundary or its UGB. Central Oregon LandWatch fought a similar proposal made in the early 2000s.

Paul Dewey: The discussion about whether or not there would be dense development moving into the forest began in the mid 2000s, when the city have been proposed and urban growth boundary expansion far into the West. There was going to be thousands of homes. And we fought that. And the state ruled against the city saying, "No, you really need to develop more inside your city. Don't sprawl."

[The UGB expansion ended up introducing nine areas where the city will expand vertically, and ten areas where the city will expand outward. One of the proposed areas for outward expansion was a section of land on the west side of Bend, right next to the Tree Farm Housing Development.](#) Comprehensive plan designations could've allowed for thousands of homes in that section, even though the area was prone to wildfire, and in fact, [a large portion of that land had burned before, in the 1990 Awbrey Hall Fire.](#)

One thing that separates the UGB proposal in 2016 from other proposals in the past, is that the city worked hard to get public input. That gave environmentalists, developers and landowners space to have a conversation. So in the middle of the appeal process regarding the Tree Farm

Housing Development, Paul Dewey and the developers for the Tree Farm were both advisors for the UGB.

Paul Dewey: The meetings of the urban growth boundary process were very contentious. Yeah, it was a period of high stress. But really, we had no choice. We either took a stance on this or step aside.

Noah Camuso: According to Dewey, he and another conservationist constantly had to renegotiate ideas that other members of the advisory committee came up with.

Paul Dewey: The developers claimed that there wasn't a fire risk. We said there was and we had a map of the 100-year fire history of fires into Deschutes County, and it was just covered. We need to stop the westward expansion of development into the forest.

Noah Camuso: It was actually a partner with one of the developers of The Tree Farm who came up with a way they could come to an agreement. His name is Kirk Schueler.

Kirk Schueler: I sat in that meeting listening to him thinking, like, you know, I think we're not that far apart. I've known Paul for a long time. So I called him. I said, "Paul, can I meet you for coffee?" I mean, we literally just met at a coffee shop. And we sort of started, started this discussion of like, "What do you guys really need? And here's what we think we can live with."

Noah Camuso: During their discussion, Schueler brought up a concept called a transect zone.

Paul Dewey: The transect concept is that as development moves toward a hard boundary, like a forest or the forest service land, or to a dangerous area, that the progression should be to lesser and lesser density, as you approach that danger.

Noah Camuso: So instead of dense development like apartment buildings right next to wildlands, there would be a natural transition from city to forest. In their case, the hard boundary was the Tree Farm Housing development and a public park that was full of native plants and couldn't be developed.

Craig Letz, a co-owner and principal consultant with Tamarack Wildfire Consulting, explained to me why wildfire risk tends to go down with density.

Craig Letz: We know most of the fires, the structure fires in a wildland event occur from embers starting one structure on fire. And that can lead to structure to structure ignition, because of you know, of course, the direct flame, heat, radiant heat, all those things add

up. So when you have higher density, it just increases the likelihood that you could have structure to structure ignition.

Together, Schueler and Dewey wrote a letter to the UGB committee arguing for a transect zone. Developers and environmentalists went back and forth on the specifics of the density of the zone.

Kirk Schueler: We had 245 acres, so the Comprehensive Plan designations would have allowed probably, oh gosh, well over 1000 housing units. For Central LandWatch, that felt like too much. Would we have loved to build 1000 homes? Maybe. I mean, we probably had internal conversations that were like: that seems like a lot. But 1000 units really wouldn't have fit the transect idea which was being floated.

Though it was more development than Central Oregon LandWatch wanted, they were satisfied with the low density they were able to negotiate. Schueler and Dewey eventually got to talking about the Tree Farm Housing Development.

Kirk Schuler: In that conversation is: “Hey, Paul, if we agreed to this density, would you drop your appeal? You know we're doing the fire stuff.”

Central Oregon LandWatch and the developer of the Tree Farm reached a settlement. The Tree Farm Developers ended up taking on extensive measures to build a wildfire-resilient neighborhood. The process of actually implementing the plan for the transect zone took years, but in 2019, the City of Bend adopted the Westside Transect Zone.

Paul Dewey: It's quite remarkable, what was originally extremely contentious, years of litigation, there was a consensus about, you know, fire really is a problem here.

Now that we've heard about all of the negotiations that had to take place to make the transect zone and The Tree Farm Housing Development happen, the question is, what was the end result?

Paul Dewey: One of the primary risks in all of the negotiations is whether or not the other side will do what they promised to do. We were concerned whether or not Brooks resources and tenant developments would follow through. But they doubled down and hired this retired Forest Service wildland fire guy who is by the book. he he knows and has seen what can happen.

I can't give enough credit, you know, frankly, to the developers here of Brooks resources that put their weight behind this as well. I mean, they could have developed more and other adjoining landowners could have developed more, but there was really a consensus that there is a danger here. And we need to stop moving west.

Noah Camuso: In order to find out what The Tree Farm looks like in terms of fire resilience, I visited the development with Romy Mortensen, the project manager for the Tree Farm, and Craig Letz, the wildland fire consultant for the project.

Craig Letz: The biggest danger to houses is in that first five feet and it's actually from embers rather than from flames moving through the landscape and, and coming right up to the house. Fire embers travel well ahead of the fire, you know, a mile and a half, two miles even more in some extreme conditions in anywhere there's receptive fuel, they'll start the fire. And if that's within five feet of the house, and that bark mulch, that'll start smoldering and before you know it the house is on fire.

Romy Mortensen: Within the first five feet of the house, from the foundation out, we make sure that there's no combustible materials. So you can see on this house how there's a rock, ground cover that is within that five-foot area. Outside of that we go to another 30 feet, and we've got plants that are allowable within that zone, as well as grasses. And then beyond that, 30 feet to 100 feet it mostly is native grasses and the pine trees. I think this gives you a good idea of how you can still manage the landscaping and have it feel healthy and vibrant and not barren.

Noah Camuso: The developers could have made large homesites scattered throughout the 533-acres on this property, but instead, The Tree Farm is planning to have 50 2-acre lots in a cluster-style development, with 400 acres of dedicated open space.

If you look at the forest adjacent to the neighborhood, you'll see a thin layer of brush, and burn marks on the bases of the trees. That's because in 2016, before development started, the owners agreed to have a prescribed fire on their property.

Romy Mortensen: We burned about 80 acres. And so that helped eliminate fire fuels on open space vacant land that was adjacent to home sites.

Noah Camuso: The surrounding forest is regularly thinned and mowed. On top of strict landscaping requirements, there are rules for owners about keeping roofs and gutters free of combustible materials, there are grates over vents that keep embers from getting into attic spaces, and there are internal sprinklers within each home.

In order to understand how the Tree Farm Housing Development and the Transect Zone fit into the bigger picture of making housing resilient to wildfire, I talked to Molly Mowery, the executive director of the Community Wildfire Planning Center, which is a national nonprofit that helps communities prepare for, adapt to, and recover from wildfire. Mowery says that it's

relatively uncommon to see new housing developments commit to wildfire resilience like the Tree Farm, at least in states where it isn't required by law.

Molly Mowery: Historically, I think it's there have not been that many communities that have seen the need for it, you know, the landscape, the fire landscape has changed rapidly in the past decade, where now we're seeing communities that really never thought about or paid attention to what the term WUI was, or didn't identify or associate themselves as having wildfire risk, are now experiencing devastating wildfires.

Noah Camuso: She said that it's almost always more cost-effective to construct new houses with resilience in mind than it is to try and retrofit a house later. One of the things that kept coming up is that there isn't a one-size-fits-all approach to making communities more resilient to wildfire, there are just tradeoffs to consider. Low-density housing like we see in the transect zone might not be the perfect fit for every community.

Molly Mowery: High density, if done the right way does allow for us to meet many other carbon reduction objectives, you know, it's hard to have a walkable community if you're if you have to drive everywhere, and it doesn't only focus around cars, but certainly that's a big piece of the larger puzzle that we need to be solving at this point.

Noah Camuso: It's also important to consider that lots in The Tree Farm Development were selling from anywhere between \$345,000- \$900,000 in 2016. On top of that, one consequence of lower density is larger lot sizes, which are often more expensive. Deschutes County requires a 10 acre minimum lot size for new rural residential lots, which raises the price of rural housing. I asked Mowery how wildfire resilience might become more accessible for lower and middle income housing.

Molly Mowery: Yeah, this is a great question. We're starting to see, I think, some promising initiatives in certain areas. I can think more of California right now. But just some specific investments in retrofit-type programs that are geared for economically disadvantaged communities. Another way, which sounds fairly simplistic, but often goes overlooked is just including different groups in the planning process.

Noah Camuso: Many older, established neighborhoods in Central Oregon are deciding to become FireWise, like Awbrey Glen Golf Club in Bend, Eagle Crest Resorts in Redmond among others. You check to see if a community participates in the FireWise program by clicking the link to NFPA.org on the Fire Story website.

Romy Mortensen: Now, just in the last couple of years, a rural development north of The Tree Farm actually used our documents as a model for their documents in development. And so it's extremely similar to what we've done.

Noah Camuso: These first two episodes of The Fire Story Season 2 are meant to highlight multi-stakeholder approaches to complex problems Oregon has with wildfire. The way that the city, developers, environmentalists and landowners were able to negotiate through this whole process seems to represent a promising shift toward a more holistic approach to the way we develop in fire-prone areas.

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

