

Episode 1 Transcript and Show Notes: Listening to Fire Knowledges in and around the Okanagan Valley

Title: “Pick your poison, or pick your medicine”

Website Summary: *This episode features my interviews with Fire Keeper and former wildland firefighter Joe Gilchrist; ethnobotanist Nancy Turner; grassland ecologist and writer Don Gayton; UBCO professor and Living with Wildfire project lead Mathieu Bourbonnais; and a clip from the Good Fire podcast of Penticton Indian Band Fire Keeper Pierre Kruger. We discuss histories and legacies of cultural burning, fire suppression, and fire ecology in and around the Okanagan Valley in the southern interior of British Columbia.*

[00:00:00]

Narration, Judee Burr:

Hi. My name is Judee. You're about to hear the first episode of my thesis podcast, “Listening to Fire Knowledges.” I just wanted to say at the beginning that this episode includes some difficult and emotional discussions, including conversations about the impact of colonization and residential schools on First Nations families. It also includes a conversation about the dangers of fighting wildfires. So, make sure to take care of yourself and listen when you're ready. Thanks for being here.

[Music begins¹ along with the crackling sounds of fire²]

[00:00:44]

Joe Gilchrist, Interview Recording from 12 February 2022:

The good fire part is in the springtime and the falltime and the wintertime and getting rid of the fuel and being ready for that summertime. And in our dry climate, things just don't rot, they just stay there on the ground. It's made to burn, over thousands and thousands of years it was burned. You could burn it in a good way, or it's going to burn in a bad way. You know, you pick your poison, or pick your medicine.

[00:01:16]

Judee Burr, Recording of Cultural Burn on Coldwater Indian Reserve, 4 May 2022:

[Sound of footsteps in dry leaves]

[Music ends]

So, it's May 4. We are burning. Joe is way over there in the orange. We burned around some saskatoon bushes earlier, and talked about how those are ones that are definitely happy to regenerate with fire. It's pretty special, like, seeing what the fire's doing.

[00:02:04]

Joe Gilchrist, Interview Recording from 12 February 2022:

My name is Joe Gilchrist. My father was Michael Kenny Simon. His nickname was Kenny, from Skeetchestn. My mother is from Ashcroft, and her name is Linda Berra. I have a lot of family from Nlaka'pamux territory and, of course, the Secwépemc.

[Music begins³]

[00:02:35]

Judee Burr, Interview Recording from 12 February 2022:

When did you feel like you became a Fire Keeper?

[00:02:43]

Joe Gilchrist, Interview Recording from 12 February 2022:

I think, once I connected that ... Because when I was younger, I wasn't a good communicator. I was just like go, go, go. Do, do, do kind of a thing. Then once you slow down and once you start to look around, you're more of a communicator. You see the value, that everybody else has this knowledge, and you're able to listen to what they're saying. And my background is fire, because that's how I grew up.

[Music ends]

If somebody tells me, I remember, you know; however, long ago, we used to burn that that hill there, because in the springtime, then this would happen. We would get our medicine. I said, "Oh, well, I can help you with that. I can do that."

[00:03:38]

Judee Burr, Interview Recording from 12 February 2022:

Yeah.

[00:03:38]

Joe Gilchrist, Interview Recording from 12 February 2022:

Especially if it's on Indian reserve right now, you know, I can go there, and I can burn it in the springtime. Not only would their medicine come up, but the grass would be greener, and the wood ticks would be killed, and the deer would go there, they would have their babies because the wood ticks are down, the brush is down, they can see the coyotes and the cougars coming.

[Music begins⁴]

I think that's when I became a Fire Keeper is just being able to say, "Yeah, I can do this. I can listen to your stories. And I can make fire happen in a safe way."

[00:04:22]

Narration, Judee Burr:

I got in touch with Fire Keeper and former wildland firefighter Joe Gilchrist through a group called the Salish Fire Keepers Society.⁵ This is one group in the southern interior

of what most of us now know as British Columbia that is bringing together First Nations people who have inherited knowledge and memories about using fire on this landscape.

Joe grew up seeing fire, using fire, and fighting fire in the southern interior of BC.

[00:04:49]

Joe Gilchrist, Interview Recording from 12 February 2022:

I started firefighting when I was fifteen years old.

[00:04:54]

Judee Burr, Interview Recording from 12 February 2022:

Wow.

[00:04:55]

Joe Gilchrist, Interview Recording from 12 February 2022:

We actually used fire when I was young, about six, seven years old. We were burning fields and burning hunting grounds –

[Music ends]

under the direction of Elders. For me, back then, I was mostly getting water and getting stuff together. But I can still remember, like, running through flames, when the wind would change. We were burning fields.

[Music begins⁶]

[00:05:33]

Joe Gilchrist, Interview Recording from 12 February 2022:

We did an interview not too long ago with an Elder, and she talked about when she was young, before she went to residential school. She talked about their family using fire for the medicine and food that they were getting, and that it hasn't been burned for sixty years or so. Because after they went to residential school, everything was kind of lost and connections were broken and stuff like that. I asked her, where these places were? I told her that I would go, and I would burn it for her, you know, and bring it back. But she was young, and she said that she would fall asleep on the way there, because they were riding on a wagon, a horse-drawn wagon, and she would fall asleep, so she said she didn't know where it was. We have to work with her to bring that back, and these medicines, we hope, and food. We hope that the seeds that are still in the ground waiting for a fire are still good when we do the burn, and we could bring it back.

[Music ends]

[00:06:57]

Narration, Judee Burr:

Good cultural burns are not something that just anyone can do. Fire Keeping is a form of expertise that comes from detailed and deep inherited and practical knowledge.⁷ Joe

and I talked about how the healthy time to burn in the spring varies with elevation and type of ecosystem.

[00:07:14]

Joe Gilchrist, Interview Recording from 12 February 2022:

Say, if you're talking about Okanagan Lake in the low area, when the time the snow leaves and the grass dries out. If you bend down and you pick up the grass, the brown grass and it crunches in your hand, then it's ready to burn. Up until the buds coming out on the trees. That's your window of burning.

[00:07:41]

Joe Gilchrist, Interview Recording from 12 February 2022:

The other thing that just came to my mind was the burn ban. So, you know, sometime a burn ban comes on and you're not allowed to burn anymore. But it's set at all elevations. So, most of the time you burn start burning when the snow leaves. And at different elevations, you burn at different times of the year, which goes into the summertime. Because, during the summer, these places dry out higher up – it also depends on the slope and aspect and stuff like that also. In the summertime, you would do high elevation burns. But the burn ban comes on something, I can't remember – April, May, something like that – and then you're not allowed to burn at the elevations. But the traditional burning happened up in the higher elevations for medicine and animal stuff too, and foraging.

[Music begins⁸]

[00:08:35]

Narration, Judee Burr:

You'll hear more from Joe throughout this podcast. The research I did and the interviews I conducted took me outside of the Okanagan Valley, like my trip to the Nicola Valley to record that cultural burn with Joe and the Salish Fire Keepers Society. But the seeds of this research were planted here in this valley. It has felt important to me to investigate what fire means and has meant in this specific place, to try to locate and share stories that are most relevant to those of us living on this land. As many of us who have lived and visited here know – the Okanagan Valley is full of beautiful, biodiverse life.

[Music ends]

It extends from the US border to just north of Armstrong along the Okanagan River and its network of vast, welcoming lakes. Grasslands at the valley bottom turn into dry ponderosa pine and Douglas fir forests as we move up in elevation and go northward in the valley.⁹ These ecosystems have been home to all kinds of beings that have shaped and been shaped by the fire ecology of this place. Including people.

[00:09:42]

Recording of Pierre Kruger, from the *Good Fire* podcast:

[Speaking nsyilxcen]

My English name or my given name is Pierre Kruger. My family on my mother's side comes from [unknown name]. My family on my father's side comes from [unknown name]. Our family is Fire Keepers, going back ten, twenty, thirty thousand years. Now, our family burnt all over the country, right up to 1978. My dad was still alive. We burnt all over the place.

[00:10:45]

Narration, Judee Burr:

This is a 2019 recording of Penticton Indian Band Fire Keeper and former firefighter Pierre Kruger speaking about his fire knowledge and experience from an episode of the *Good Fire* podcast.¹⁰ I did not have the opportunity to speak with him or other Syilx Fire Keepers, but listening to the knowledges they have shared in published recordings and writings has been central to my learning about fire here on the unceded territory of Syilx Okanagan people. This included reading about the teachings of Pierre's mother, the late Annie Kruger, Fire Keeper for the Penticton Indian Band before him.¹¹ As I learned about cultural burning in the Okanagan Valley, the Penticton Indian Band came up again and again as being leaders in sustaining and practising Syilx fire stewardship knowledge today.¹² Like Joe Gilchrist, Pierre Kruger has both Fire Keeping knowledge and firefighting experience, and they both describe cultural burning as a way of taking care of the land, like tending a big garden. You can hear more about Pierre's knowledge and experience in the full interview on the *Good Fire* podcast.

[00:11:51]

Recording of Pierre Kruger, from the *Good Fire* podcast:

There's lots of things to learn to be a Fire Keeper. Because Fire Keepers are also responsible for our garden. All those mountains and the valleys, they're our garden. We're also responsible for the water runoff. So, we've been taught a lot of things. How to re-divert water, how to make sure fire can only go so far.

[Music begins¹³]

[00:12:37]

Nancy Turner, Interview Recording from 25 January 2022:

The fires were undertaken with tremendous knowledge and attention to detail in terms of the weather. The moisture in the air, the wind down the coast here, even the tides had something to do with it, and the actual seasons. So, they wouldn't burn just any time, but there's very specialized knowledge that went with these fires.

[00:13:06]

Nancy Turner, Interview Recording from 25 January 2022:

I'm Nancy Turner. I'm an ethnobotanist and ethnoecologist. I've been working here in British Columbia for over fifty years now, with traditional knowledge holders from Indigenous Nations around British Columbia, mostly, learning from them and studying their relationships with plants and the environment.

[00:13:30]

Narration, Judee Burr:

I reached out to Dr. Turner after reading her paper “Time to Burn.”¹⁴ Over decades, she has carefully built relationships with Indigenous Elders in BC to protect and share Indigenous knowledges of the environment, including in and around the Okanagan Valley.¹⁵ Fire came up again and again as part of Elders’ stories about caring for and cultivating their homelands.

[00:12:37]

Nancy Turner, Interview Recording from 25 January 2022:

Everywhere I went in British Columbia, Elders would talk about how, long ago, they used to burn over areas, and that made everything so much more productive. It kept the brush down, and it was done from the sea-level areas of prairies right up to the subalpine zone. One of the most influential pieces that I learned about was a story that was told by Lil’wat Elder Baptist Ritchie,

[Music ends]

called “Burning Mountainsides for Better Crops” in English. This was a story that he originally told to linguist Leon Swoboda. And he himself translated his story into English

–

[Music begins¹⁶]

from the Stl’atl’imx or Lillooet language. In this story, he talks about how people would burn the mountainsides. After they did that, a few years later, the berries were really productive and the root vegetables too. The sk’émets, the yellow glacier lily, and the tiger lily, and the mountain potato or spring beauty corms were enormous compared to what they were before the burn. Then, he went on to say how they’re not allowed to burn anymore and how people are arrested if they try to start a fire. How everything has disappeared. He said, “There were places we called the berry places, and now you’ll not find one single berry there.”

[00:15:30]

Nancy Turner, Interview Recording from 25 January 2022:

I should also mention something that I was told by one Okanagan Elder.

[Music ends]

They would sometimes find a place to burn that was at the confluence of two creeks, coming off the mountain. So, a kind of a triangle area with those two creeks. And they would burn that over. Then they would follow that area for the next ten years or more, because first, there would just be grass coming up and then that was really good grazing area for deer, browse for deer, and so the hunters would go to that burned over area to get deer. Then, after a while, the berry bushes would start to come up, and the

wild strawberries and the other food plants, the root vegetables would grow. That's when people would go and get those foods. Then it was a cycle that repeated itself. It's like creating different patches at different successional stages all over the territory of people, so that at any one time –

[Music begins¹⁷]

there would be such a diversity of different stages from the very initial succession with just grassland and prairie, right up to dense tree cover and everything in between. And at different elevations as well, to support the different plant growth.

[Music changes¹⁸]

[00:17:16]

Joe Gilchrist, Interview Recording from 12 February 2022:

One person I didn't talk about yet is my great-aunt, who did go to residential school, but only for maybe a few months or maybe one year. Because she ended up getting sick in residential school, and it was so bad that they thought that she was going to die. You know, she went deaf and blind and was on her deathbed when she was only like six years old. So, the residential school thought that she was going to die, so she went home and they sent her up to a healing place between Kamloops and Merritt. She stayed there for, she said, three months. She was underneath – she had to be in the dark, and there was First Nations healers there. And then she didn't go back to residential school. She stayed with the Elders and learned the stories.

When I was twelve, I started to go back to my culture and start to talk to my aunts. I was asking too many questions, and they said, "Well, you should go and see your great-aunt and talk to her."

[Music ends]

"She did all this, like I just told you. She has all this knowledge that you want to hear." So, I did, and I spent around ten years going back and forth to see her. I would go there and listen to their stories. She'd have other Elders there from the area. I would be leaving and it would be daylight the next day! So, I was there for eight or nine hours,

[Laughs]

and it felt like I was only there for one or two hours, it was pretty crazy. Kind of like how I'm talking, you know.

So, they would tell stories about burns, and some of the medicines. Sage is a medicine, wild rose bushes, there's wild mint, there's wild potatoes. All these medicines that are enhanced by fire, and if you can't burn it, then it just sits and it waits for fire. Or it moves into areas where it can grow, but it's not as healthy without fire.

[Music begins¹⁹]

[00:20:08]

Joe Gilchrist, Interview Recording from 12 February 2022:

In the past, entire mountains were burned in rotation. One year, one mountain would burn, the next year another mountain would burn, and another mountain, and another mountain, all around the area. Different medicines grew at different elevations and at different times of the season.

[Music changes²⁰]

That's where I was saying that the matriarchs kept that knowledge and where things were and if fire needed to be added or when things needed to burn and how hot –

[Recording of fire sounds begin]

and all that kind of stuff, right?

[00:20:55]

Judee Burr, Recording of Cultural Burn on Coldwater Indian Reserve, 4 May 2022:

Yeah, now I see what you mean about – like, we didn't just light from the road and have it come up here, we're doing it in layers.

[00:21:04]

Joe Gilchrist, Recording of Cultural Burn on Coldwater Indian Reserve, 4 May 2022:

So the next layer I'll go in there and come out again over here.

[00:21:13]

Judee Burr, Recording of Cultural Burn on Coldwater Indian Reserve, 4 May 2022:

What reserve are we on right now?

[00:21:15]

Joe Gilchrist, Recording of Cultural Burn on Coldwater Indian Reserve, 4 May 2022:

Coldwater Indian Reserve.

[00:21:16]

Judee Burr, Recording of Cultural Burn on Coldwater Indian Reserve, 4 May 2022:

Coldwater.

[00:21:17]

Joe Gilchrist, Recording of Cultural Burn on Coldwater Indian Reserve, 4 May 2022:

Nlaka'pamux Nation.

[00:21:19]

Judee Burr, Recording of Cultural Burn on Coldwater Indian Reserve, 4 May 2022:

[Mispronounces]

Nlaka'pamux.

[00:21:20]

Joe Gilchrist, Recording of Cultural Burn on Coldwater Indian Reserve, 4 May 2022:

[Corrects pronunciation]

Nlaka'pamux.

[00:21:21]

Judee Burr, Recording of Cultural Burn on Coldwater Indian Reserve, 4 May 2022:

[Tries pronunciation again]

Nlaka'pamux.

[00:21:22]

Joe Gilchrist, Recording of Cultural Burn on Coldwater Indian Reserve, 4 May 2022:

[Emphasizing last syllable]

"-mux"

[00:21:23]

Judee Burr, Recording of Cultural Burn on Coldwater Indian Reserve, 4 May 2022:
"-mux". Nlaka'pamux Nation.

[00:21:27]

Narration, Judee Burr:

I have been using English place names when I talk about the Okanagan, but of course, these places have names and stories and fire cultures that long precede the dominance of English.

[Fire sounds end]

English and other European languages came with fur traders winding north up the Columbia to the Okanagan River in the early 1800s. Gold brought more settler traffic in the late 1850s and 1860s, and with these settlers, new ways of understanding fire.²¹

[Music ends]

So much changed for life and fire in the Okanagan Valley in the last half of the nineteenth century. Syilx homelands were cut in half in 1846 by the political boundary line dividing Canada and the United States. There was a horrible epidemic. In the 1860s, smallpox killed many Syilx people at the same time that more settlers were converging in and staying in on Syilx homelands – lands that were never given or sold to the settler-colonial government that was taking control of the valley. Syilx communities were confined to designated reserve lands to live on as the wider valley was declared to be the property of settlers and the Crown.²²

[00:21:41]

Narration, Judee Burr:

Cultural burning practices and the power of fire to sustain a diversity of native plant and animal life were not understood or prioritized by settler society intent on farming, ranching, timber, and other economies of the land. There were new sources of summer ignitions, like sparks from railway lines, which caused large fires.²³ Fire was still used purposefully by some settlers: fire was used to clear land for cultivation, and some ranchers made the connection between light burning and sustaining grasslands for livestock.²⁴ But the culture of extensive spring and fall burns conducted with close attention to the health of plants, animals, and spiritual and cultural resources for people became more and more limited as Syilx peoples were confined to reserves and settlers paid different kinds of attention to the land.

[00:23:35]

Audio Clip from “BC Burning,” an episode of the television series *Westland*, 2004²⁵:

About a hundred years ago, people decided that recurring forest fires were a bad thing. We did everything we could to stop them. One would think that ending forest fires would create a safe haven for our friend the pine tree – but in fact, the opposite is true. Without the seven- to ten-year cycle of fires, natural parklands and grasslands grew thick with trees. All the dead and dying trees, along with the needles and duff that accumulate on the ground, are fuel that is ready to burn.

[00:24:06]

Narration, Judee Burr:

That was a clip from the television series *Westland* from the BC Ministry of Forests, an episode that aired in 2004. What is now the BC Wildfire Service was formed in 1912 as part of the BC Forest Branch to take on the task of controlling fire in the province. Their work included putting out fires, managing fire hazards, and deciding who could light fires.²⁶ As described in a 1945 report, the BC Wildfire Service strove to be:

[Music begins²⁷]

“An organization so equipped and manned that every fire is spotted immediately [when] it starts and is extinguished ... Every holocaustic conflagration is, in its incipiency, small enough to be crushed beneath a man’s heel.”²⁸

[00:24:55]

Narration, Judee Burr:

A recent paper on the history of BC fire governance from scholars in the UBC Faculty of Forestry drew my attention to this quote. Their research also drew my attention to a casual term some management officials have used to describe the agency’s fire suppression strategies: “the boys and the toys”.²⁹ This term struck me as both funny and true: a compact acknowledgement of the male-dominated firefighting workforce and the increasingly refined firefighting equipment they employed to keep fires from spreading. From airplanes to advancing technologies of weather prediction and communication, the boys and the toys of fire suppression have been a defining culture of fire in the Okanagan and across the province in the twentieth century.

[00:25:43]

Narration, Judee Burr:

The Tree Ring Lab that produced this fire governance study also contributed an important study of Okanagan Valley fire history a few years ago. Using tree cores and forest structure analysis in the area around Vaseux Lake, UBC master’s student Alexandra Pogue found that Syilx Okanagan burning practices shaped the patterns of burning in the study area and that settler-colonial fire cultures created a significant departure from those historical fire patterns after 1860. She found that these results aligned with Syilx oral histories and Fire Keeping knowledge.³⁰ Scientific and historical approaches to studying fire in and around the Okanagan continue to align with the stories First Nations Knowledge Keepers have shared. My conversations with people who know fire have helped me continue to ask: how have patterns of fire shifted over the last two centuries in this valley, and what consequences do those shifts have for fires today? How have these changes in patterns of burning and fire suppression affected what we think of as a normal Okanagan landscape?

[Music changes³¹]

[00:27:05]

Don Gayton, Interview Recording from 1 February 2022:

The dry valleys of the southern interior – if you look at the Okanagan, the Similkameen, the Kettle River Valley, the Columbia River Valley over in the east Kootenays, and the Nicola Valley, and the upper Fraser, and the Thompson River Valley – all of those valley bottoms are what we call Natural Disturbance Type 4. Which means that, historically, they experienced frequent low-intensity fire. And that notion is really not very old. It’s only we’re coming to realize that maybe twenty years ago? We have abundant evidence now, scientifically verified, peer-reviewed evidence, of this historical fire return that really stopped quite abruptly somewhere between 1860 and 1880.

[00:27:58]

Don Gayton, Interview Recording from 1 February 2022:

I'm Don Gayton, and it's probably more appropriate to call me a grassland ecologist rather than a forest ecologist, but that's the area that I've studied: the grasslands and the dry forests of the southern interior.

[00:28:13]

Don Gayton, Interview Recording from 1 February 2022:

You had the Bushfire Act in 1874, which made it illegal to start a fire. The Indian Reserves were created, settlers moved in, cattle came and consumed some of the fine fuels, created trails that made unintentional fire breaks. Then, we went from a period of very little fire to the twenties and thirties, during the drought years. We had a couple of real barnburners in various parts of the southern interior. Then, like I say, beginning by 1945, really no fires at all.

[00:28:59]

Don Gayton, Interview Recording from 1 February 2022:

One of the ways that Western scientists have documented fire history is through the use of fire scar trees.

[Music ends]

[00:29:07]

Judee Burr, Interview Recording from 1 February 2022:

Could you describe the cookies that we have in front of us here?

[00:29:11]

Don Gayton, Interview Recording from 1 February 2022:

Sure. Yeah. So, I'm looking at one large cookie from a stump, actually from the UBCO forest just a kilometre to the north of us. The trick is to find a tree that has been scarred by a fire, but it wasn't killed by the fire. It leaves an opening, what we call a catface. The first fire leaves that catface, subsequent fires than will scar it, and the tree carries on. It is a way of documenting what we call the fire return interval. This cookie from UBCO shows me that pre-European contact – say, from prior to 1870 – there was a fire somewhere in that forest about every seventeen years. Post 1870, there was about a forty-year return interval. That's somewhat similar to what we find throughout the southern interior and down into Washington State and similar areas where pre-European contact there was a fire – if you took a thousand hectares on some hillside – there would be a fire there every five to thirty-five years, somewhere. It might be just a little tiny fire, it might be a full-scale conflagration.

[Music begins³²]

[00:30:37]

Judee Burr, Interview Recording from 1 February 2022:

Your writing, especially in *Okanagan Odyssey*, speaks of a love of the Okanagan. I'm new here, and when I was conceiving of this project, I just was trying to understand a lot

about what the Okanagan meant to people and, you know, how fire played a role. Could you talk about what the Okanagan Valley is – like, I'm thinking of your first chapter of even trying to define it – and what it's meant to study it?

[00:31:11]

Don Gayton, Interview Recording from 1 February 2022:

It's a fascinating valley. Having driven up on Highway 97 this morning, it's such a cosmopolitan center. Yet, as soon as you go out into the backcountry, you feel like you're sort of in a different universe. So that keeps drawing me in and drawing me in. Then I've got an interested in First Nations history in the Okanagan, settler history, and then the fire history, which is profoundly significant for us in this valley. The scientific community has kind of opted into it, but the larger society is still completely unaware of this: the fact that these ecosystems burned, historically, very frequently. We now have about eighty years of Smokey the Bear saying that all fire is bad, put it out by ten o'clock. We, as a society, left this to the firefighters, you know, in their very capable hands, and said we have our lives to lead and we don't want to deal with fire, you deal with it. And now we are experiencing the consequences of eight decades of fire suppression.

[Music changes³³]

[00:32:33]

Joe Gilchrist, Interview Recording from 12 February 2022:

The other part of your other question was the western part. I started firefighting when I was fifteen, and we didn't have a lot of money. My stepdad was a carpenter. He said all I got to do is get on the bus, and I can go and fight fire. That was in the eighties. Then, after that, I started to fight fire when I was sixteen and that was legal then. Our bosses – Tom Lacey and Harry Spahan. Tom Lacey was a non-Native person, but he really believed in the science of First Nations people using fire over thousands of years, and he gave me that as part of my job when I turned full time, was to study how fire was used, and why, and when. So around '94, around then, he started to change his thinking that fire wasn't bad. And there was good fire. So, that thinking moved to us, because he trained us, and he told us. Eventually, you know, we started to make our fires in the springtime bigger, because he would say that, in the springtime the First Nations people burned, and this is why. When I remembered back to when I was young, I said, "Yeah, you know, we did, we did do these burns ..."

[00:34:09]

Joe Gilchrist, Interview Recording from 12 February 2022:

Then they started initial attack crews, which was three-person crews and I got onto one of those and worked my way up to be a boss. In 1991, the unit crews started, the Type 1 Merritt Fire Devils crew. I was voted the unit crew leader by the other guys. It used to be that the Merritt Fire Devils crew was 100 percent First Nations. And now it's 75 percent non-Native.

[00:34:47]

Judee Burr, Interview Recording from 12 February 2022:

Yeah, how did that change the crews, to have it be all First Nations?

[Music begins³⁴]

[00:34:53]

Joe Gilchrist, Interview Recording from 12 February 2022:

Our crew, I'll talk about the Merritt Fire Devils unit crew, took pride in our work and the area that we fought fire in, that it didn't re-light, and cold trail everything. It just was a lot of pride for the Merritt Fire Devils crew to be Nlaka'pamux and to travel all over Canada and represent that.

[Music ends]

[00:35:22]

Judee Burr, Interview Recording from 12 February 2022:

I was wondering if you could talk about some of the fires that you remember from the Okanagan.

[00:35:29]

Joe Gilchrist, Interview Recording from 12 February 2022:

Yeah, so when I was on the unit crew first, the main fire that, of course, is in my memory is the fire in Penticton.

[Music begins³⁵]

Judee Burr: [00:35:38]

The Garnet Fire, '94?

[00:35:39]

Joe Gilchrist, Interview Recording from 12 February 2022:

Yeah the Garnet Fire in 1994. Yeah. We were the first unit crew on site. We went up the Carmi Valley and started digging guard down to the creek. A frontal pass is a weather system from a cold front coming by. So, there would be a possibility of thunder, lightning – but mostly it was high winds and wind direction changes. So that was supposed to come through that day. They had a timing on it. I can't remember, it was ten or eleven o'clock or something like that.

[Music changes³⁶]

So we were waiting for our equipment to show up. We were really anxious, and we were actually watching the fire gain intensity as we didn't have the equipment to go into that area to attack it.

You could see that the column of smoke was leaning away from us to the south, but you could see the smoke starting to stand up. And, of course, fire burns uphill, so once the fire is standing up, then it was reversing, and it was coming towards us now, up the hill.

We kept telling him that it was time to go. You know, this is like fifteen to twenty minutes before – we just left finally, we just said, “You stay here and we’re going.”

[Laughs]

To the boss. I said, “Okay, get everybody to put the saws and put the equipment on this tree here. We’re not going to carry any equipment, we’re just going to carry our packs and our fire shelters.” There was some people that went to check to see if a helipad was still open, and we were going to wait for a helicopter to pick us up. And when we found them, they said “No, that that helipad’s already on fire.” So, the fire already wrapped around us and was kind of ahead of us, down below, and we were still up the hill from it. And we were running uphill. So we were kind of getting closed in. We got to the next helipad, and it was already on fire. There was probably about two-foot-by-three-foot chunks of four- to six-inch thick mats of ponderosa pine, on fire, landing all around us. These big huge mats of burning ponderosa pine needles would just land and they’d just go “whomph” – then fires would just immediately start. We thought about putting our first shelters up. We were on a helipad, but there was fuel all around us and it was burned orange already. So, it would have been a hot reburn. We decided that we can’t, we wouldn’t survive if we put our fire shelters up. We took off for the trucks. We got finally to the last area where it drops down to the trucks, and we got to where the trucks are. Yeah, that was our third or second evacuation route. Our first one was burned over right away, because the fire went around us.

[Music changes³⁷]

[00:39:23]

Joe Gilchrist, Interview Recording from 12 February 2022:

Well, if we had our equipment, I’m quite sure that that fire wouldn’t have that explosion of fire at that time. I’m pretty sure we could have held it.

[00:39:35]

Judee Burr, Interview Recording from 12 February 2022:

It’s so interesting to hear you talk about it from just the like sheer logistics of we’re on this fire. Just what it takes to put it out. Because part of me, I think in doing fire research in general, I keep grappling with the fact that whenever the fire crews are really successful at your jobs – like “Cool – we suppressed this fire right away” – that creates this bigger problem maybe, where – well, isn’t all that density just a tinderbox waiting to burn in some future, drier summer. Can we ever have enough equipment to keep up with this suppress, suppress, suppress work ... and there must be some kind of middle ground of we just have to do something a little bit different. But what do you – does that feel like a tension to you – of like every time we’re good at our job, we’re making a future problem worse or something?

[00:40:35]

Joe Gilchrist, Interview Recording from 12 February 2022:

Oh. And now when I look back at all – because we had a really high success rate, initial attack in the Merritt Fire Zone. And all the fires that we kept small have now burned over. I've been in initial attack fires in all those areas and kept them point sized. You know, point one of a hectare or less than four hectares, initial attack success rate and all this stuff. Now the whole thing has burned, you know?

[00:41:16]

Joe Gilchrist, Interview Recording from 12 February 2022:

The First Nations use of fire and burning the fuel, and if we would have burned thousands and thousands and hundreds of thousands of hectares, I remember my boss saying that a fire zone should burn a hundred thousand hectares a year. Which would mean, over the seven- to fifteen-year period, that the whole zone would be burned in a rotation. Which is like an impossibility, you know, like you think about burning a hundred thousand hectares a year. But that's how it was done, over thousands of years hundreds of thousands of hectares were burned around communities.

[00:42:02]

Judee Burr, Interview Recording from 12 February 2022:

Yeah.

[Music changes³⁸]

[00:42:11]

Narration, Judee Burr:

The Garnet Fire in 1994 was a wake-up call for the Okanagan and the Province. The post-fire report called it "BC's worst interface fire ever."³⁹ It destroyed eighteen homes and caused four thousand people to be evacuated. It was evidence that a policy of total fire suppression was leading to more dangerous and difficult to control fires.⁴⁰ It would not be the last wake-up call for the Province, or the Okanagan.

In the Okanagan Valley, as in other parts of western North America, many people are calling for more good fire on the land at safe times of year, but we're working within a provincial system that was built to control the use of fire and put almost all fires out. If you've lived in the Okanagan Valley for the past thirty years, chances are you've experienced more bad fires than good fires.

[Music changes⁴¹]

[00:43:08]

Judee Burr, Interview Recording from 14 January 2022:

Can you introduce yourself the way you'd like to be introduced on the podcast?

[00:43:13]

Mathieu Bourbonnais, Interview Recording from 14 January 2022:

I'm assistant professor in the Department of Earth, Environmental, and Geographic Sciences, he/him pronouns. I do research in ecology, a lot of that has to do with wildfire and habitat and wildlife and kind of interactions amongst those things. And then, I mean in the context of what we're talking about, I used to work as a wildland firefighter, so a fair bit of experience there. And just doing lots of research in the valley.

[00:43:41]

Narration, Judee Burr:

This is Mathieu Bourbonnais, who leads the Living with Wildfire project at UBC-Okanagan that I have been a part of for the last year. A number of the students in Mathieu's Earth Observation and Spatial Ecology lab are working on projects related to wildfire and fire management in the Okanagan.

[Music ends]

We spoke about fire across the many different perspectives that he brings to fire research.

[00:44:03]

Mathieu Bourbonnais, Interview Recording from 14 January 2022:

As a you know, early twenties kind of guy, it was kind of like – this looks awesome. It's looks like super fun, I'm going to jump out of a helicopter, get on the ground, there's going to be flames everywhere. And the job is not like that, for the most part. I mean, we, you know, most fires in Canada are tiny – or we managed to keep them tiny. So, you know, our – sometimes the terminology is like, you just get out and step on it. Little zero, point zero one hectare fires that you just kind of scrape it out. Going into it though, I had no training in fire ecology. I didn't have any real recognition of its role in an ecosystem. We didn't learn any of that either. You were a crew in an organization that was mandated to suppress fire. That was your job and we're pretty good at it.

[Music begins⁴²]

But we also, you know, over time as you spend more time in the programs, you get involved in more prescribed fire. When I went to Parks Canada, for example, that was the focus a lot of times, putting fire back on the landscape. So, you learn a lot more of that as you go. If you stick around.

[00:45:14]

Mathieu Bourbonnais, Interview Recording from 14 January 2022:

Yeah. When I went into grad school, it's kind of interesting. My master's and my PhD research were really focused on grizzly bears in Alberta. It was kind of an eye-opener for me – because you get deep into the literature, you're trying to understand their behaviour and all this kind of stuff. And grizzlies in Alberta, they rely a lot on forest disturbance as habitat. It creates new seral kind of habitat that oftentimes supports

berries and herbaceous growth, and ungulates will select for it. And as I kind of got into literature I started realizing that all those years of putting fires out, I was actually –

[Laughs]

limiting grizzly bear habitat through this whole area. But it really opened my eyes to like – as a new researcher at least – fire as like an ecological process that is an important part of a landscape for at least, wildlife, at the time.

[00:46:09]

Mathieu Bourbonnais, Interview Recording from 14 January 2022:

Now being a prof, with students that are studying this kind of stuff and coming up with research questions ourselves and things that we're interested in, it's definitely been a shift, in that what we're really interested in is kind of understanding how fire can exist within this landscape or within our society that is really focused – at least from a western perspective – really focused on it being like not a part of the landscape, you know, for a hundred-plus years now.

[00:46:44]

Mathieu Bourbonnais, Interview Recording from 14 January 2022:

I'd say the other thing, too, in this area, is we have fire-conducive ecosystems. Fire has evolved in this landscape. We have a lot of species, tree species, grasslands that – for lack of a better term – they want to burn. Ponderosa pine and lodgepole pine, they're fire resistant but also fire is part of their life cycle as a species. Bunchgrass ecosystems. We're seeing the same things in the Okanagan that we're seeing in a lot of landscapes, is this "fueling" of the landscape. Really high tree densities in certain areas. A lot more forest compared to probably what this landscape would have looked like over a hundred years ago, with more grasslands probably, and just a lot more like horizontal and vertical contiguity or connectivity of those fuels. Largely as a result of fire suppression and the removal of cultural burning that Syilx people practised for millennia and was a big part of how our landscapes were structured here. The thing with fuels is that it's always kind of tempered with weather and climate. You can have all the fuel in the world, but if it's super wet, it's not really going to burn, or it doesn't have a lot of opportunity to burn or pick up steam if a fire starts.

The challenge we have in the Okanagan is that it's really hot and dry. So, you know, historically, a lot of fire in this landscape – even recently a lot of fire in this landscape – and so, you know, with climate change predictions and projections, we should expect based on what we're seeing with fuels, to expect these kind of fires that we're seeing.

[Music changes⁴³]

[00:48:34]

Narration, Judee Burr:

For more than a century now, the culture of the BC Wildfire Service has driven decision-making about fire on the land. There have been organizational shifts since the 1970s

towards recognizing the ecological importance of fire.⁴⁴ But, in practice, moving away from a culture of waging technological war on fire has been difficult. I think listening to multiple, interdisciplinary fire knowledges is important for un-normalizing a culture of trying to erase fire from the land.

[00:49:06]

Narration, Judee Burr:

In this episode, we heard from Joe Gilchrist; Nancy Turner; Don Gayton; Mathieu Bourbonnais; and a recording of Pierre Kruger. We discussed histories and legacies of cultural burning, fire suppression, and fire ecology in and around the Okanagan Valley in the southern interior of British Columbia. In the next episodes, we'll hear from more people reckoning with how to live in and manage these fire-maintained landscapes – today and for the future.

[00:49:38]

Judee Burr, Interview Recording from 17 January 2022:

Nice. Did you ever work on any fires in the Okanagan?

[00:49:31]

Kelsey Winter, Interview Recording from 17 January 2022:

Yes.

[Laughs]

Of course. As a firefighter in British Columbia, that's like a rite of passage. There's fires in the Okanagan season, right? It's just an eventuality, right?

[00:49:51]

Sharon Thesen, Interview Recording from 25 January 2022:

There was a period of time when they thought the whole town was going to go up in flames. The whole town.

[00:49:57]

Daryl Spencer, Interview Recording from 6 January 2022:

I think that fire, it was like a launching point or a staging point for more awareness with municipalities, the parks, and the government.

[00:50:05]

Jeff Eustache, Interview Recording from 16 February 2022:

So, you can see the need for a landscape-level treatment. Once it starts rolling like it did, it takes a lot more than a fifty-, hundred-metre treatment to stop that.

[00:50:17]

Gord Pratt, Interview Recording from 31 January 2022:

I am so excited and happy to see that the power of wildfire risk reduction is getting out in the public eye.

[00:50:30]

Narration, Judee Burr:

There are a lot of ways to keep learning and get connected to the work of living better with fire in the Okanagan Valley and British Columbia. I wanted to mention first-off that you can take some really simple actions today to make you and your home a lot safer during a wildfire event, and there is great information on the FireSmart Canada website about how to do this. That's FireSmartCanada.ca. You can take the FireSmart 101 course online, you can listen to their podcast, called the *Get FireSmart* podcast, and you can read their booklet about Indigenous fire stewardship, called *Blazing the Trail*.⁴⁵

There are also ways to get more involved in sustaining and caring for the fire-adapted ecosystems that you live in. Some examples outside of Canada that I look to are the Nature Conservancy's TREX Prescribed Fire Training Exchange in the US; the Karuk Tribe's work in the Western Klamath in northern California; the work of prescribed burning associations and cooperatives in the southern US; and the Firesticks Alliance in Australia.⁴⁶ I am still figuring out who is doing public-facing work in and around the Okanagan Valley, and I hope releasing this podcast will help bring interested and active people together. Keep an eye out for ways to support or even start organizations that care about good fire and fire ecology in your community.

I – unsurprisingly – love learning about fire through podcasts. A few I recommend are the *Good Fire* podcast hosted by Amy Cardinal Christianson and Matthew Kristoff, Amanda Monthei's *Life with Fire* podcast, and the three episodes about fire ecology from the Vancouver-based *Future Ecologies* podcast.⁴⁷

You can listen to many of my full interviews on my thesis project website, listeningtofirepodcast.ca. You can also find the transcripts of those interviews there, and transcripts of each of these episodes that include citations for my research. This research was supported in part by the Government of Canada's New Frontiers in Research Fund through UBC Okanagan's Living with Wildfire Project. A big thank-you to Blue Dot Sessions for providing podcasters with a wonderful repository of free music to create with. The music in this episode is all from Blue Dot Sessions. I'm Judee Burr, and thanks for listening.

[Music ends]

Show Notes

¹ “Vulcan Street” by Blue Dot Sessions, <https://app.sessions.blue/browse/track/102065>.

² From recording of cultural burn on Coldwater Indian Reserve led by Joe Gilchrist and the Salish Fire Keepers Society on 4 May 2022.

³ “Orchard Lime” by Blue Dot Sessions, <https://app.sessions.blue/browse/track/102061>.

⁴ “Orchard Lime” by Blue Dot Sessions, <https://app.sessions.blue/browse/track/102061>.

⁵ Joe Gilchrist has represented the Salish Fire Keepers Society in interviews, such as this one with CBC News: Ethan Sawyer, “B.C. Policy-Makers Urged to Embrace Controlled Burns to Reduce Wildfire Risk,” CBC News, 12 July 2021, <https://www.cbc.ca/news/canada/british-columbia/b-c-policy-makers-urged-to-embrace-controlled-burns-to-reduce-wildfire-risk-1.6096930>. He has also shared Indigenous fire stewardship knowledge in other projects, including Shackan Indian Band et al., “Shackan Indian Band Report Executive Summary,” *Revitalizing traditional Burning: Integrating Indigenous Cultural Values into Wildfire Management and Climate Change Adaptation Planning* (Department of Indigenous Services Canada (DISC) First Nations Adapt Program, 2019); *Blazing the Trail: Celebrating Indigenous Fire Stewardship* (FireSmart Canada, 2020), <https://firesmartcanada.ca/product/blazing-the-trail-celebrating-indigenous-fire-stewardship/>.

⁶ “Vulcan Street” by Blue Dot Sessions, <https://app.sessions.blue/browse/track/102065>.

⁷ *Blazing the Trail: Celebrating Indigenous Fire Stewardship* (FireSmart Canada, 2020), <https://firesmartcanada.ca/product/blazing-the-trail-celebrating-indigenous-fire-stewardship/>.

⁸ “Our Only Lark” by Blue Dot Sessions, <https://app.sessions.blue/browse/track/110679>.

⁹ Biogeoclimatic Ecosystem Classification Program, <https://www.for.gov.bc.ca/hre/becweb/resources/maps/Background.html>.

¹⁰ Amy Cardinal Christianson and Matthew Kristoff (hosts), “Indigenous Fire Keepers Workshop in Merritt, BC, Canada, with Pierre Kruger,” *Good Fire* podcast, accessed 5 November 2021, <https://yourforestpodcast.com/good-fire-podcast/2019/9/2/interior-fire-keepers-workshop-in-merritt-bc-canada-with-pierre-krueger>.

¹¹ Tammy Allison and Henry Michel summarized the cultural burning knowledge she shared at a 2003 workshop, writing: “*Okanagan People, according to Elders, exist in a reciprocal relationship with the land. The land provides all foods, medicines, shelter and material goods needed for survival; in return, Okanagans are responsible to be caretakers of the land ... Fire has been a major component of this responsibility for Okanagans ... Traditional Okanagan burning practices were regularly maintained until about thirty or forty years ago. Elders speak of forest conditions then that are far different from what we have become accustomed to today ... Fire Keepers visited an area on a regular basis to determine the frequency and prescription for burning. Today, only certain families maintain the practice in small confined areas such as on Indian Reserves and, in many cases, even this level of burning has been discouraged. Being a Fire Keeper is a responsibility of life long learning passed down from generation to generation.*” Tammy Allison and Henry Michel, “Helping Our Land Heal: A Cultural Perspective on Fire and Forest Restoration,” *BC Grasslands: Magazine of the Grasslands Conservation Council of British Columbia*, October 2004; Syilx Okanagan fire stewardship teachings are also mentioned in Ellen Simmons, “British Columbia’s Indigenous People: The Burning Issue,” *Journal of Ecosystems and Management*, FORREX Forum for Research and Extension in Natural Resources 13, no. 2 (2012): 1–2.

¹² I have learned about the work of the Penticton Indian Band (one of eight member communities that make up the Okanagan Nation Alliance) to revitalize cultural burning practices on their territory in the Okanagan Valley through the Okanagan Nation Alliance website and some news reports of planned burns: Athena Bonneau, “Penticton Indian Band is using syilx traditional methods to reduce wildfire risk,” *IndigiNews*, 10 November 2021; Kelsie Kilawna, “B.C. Wildfires a ‘Wake-Up Call’ to Return to Indigenous-Led Fire Management,” *Penticton Western News*, 1 September 2021; “Our Projects: Prescribed Burns,” (website) Okanagan Nation Alliance, accessed 4 March 2022 at <https://www.Syilx.org/projects/prescribed-burns>. Publicly available notices with BC Parks the Ministry of Forests, Lands, Natural Resource Operations Management, and Rural Development also show that Syilx Knowledge Keepers are contributing to fire management decisions on a government-to-government basis. This published report is one great example of collaborative management after the Christie Mountain wildfire: Wendy Hawkes,

“McTaggart-Cowan/ Nsək'łniw't Wildlife Management Area: Post Wildfire Assessment [Redacted]” (Penticton Indian Band Natural Resources, 17 March 2021).

¹³ “Orchard Lime” by Blue Dot Sessions, <https://app.sessions.blue/browse/track/102061>.

¹⁴ Nancy J. Turner, “‘Time to Burn’ Traditional Use of Fire to Enhance Resource Production by Aboriginal Peoples in British Columbia.” In *Indians, Fire, and the Land in the Pacific Northwest*, ed. Robert Boyd, 185–218 (Corvallis: Oregon State University Press, 1999). There’s also a fantastic interview with Dr. Turner on the *Future Ecologies* podcast, as part of their episodes about fire in British Columbia. They focus more on the BC coast, but I learned a lot from listening to their work. Dr. Turner appears on the first of their three episodes about fire: Adam Huggins and Mendel Skulski, “On Fire: Camas, Cores, and Spores (Part 1),” *Future Ecologies*, 29 August 2018, <https://www.futureecologies.net/listen/fe1-5-on-fire-pt-1>.

¹⁵ Nancy Turner, Randy Bouchard, and Dorothy Kennedy, *Ethnobotany of the Okanagan-Colville Indians of British Columbia and Washington State*, British Columbia Provincial Museum No. 21, Occasional Papers Series, 1980.

¹⁶ “Algea Tender” by Blue Dot Sessions, <https://app.sessions.blue/browse/track/110710>.

¹⁷ “Algea Tender” by Blue Dot Sessions, <https://app.sessions.blue/browse/track/110710>.

¹⁸ “Vulcan Street” by Blue Dot Sessions, <https://app.sessions.blue/browse/track/102065>.

¹⁹ “Vulcan Street” by Blue Dot Sessions, <https://app.sessions.blue/browse/track/102065>.

²⁰ “Bauxite” by Blue Dot Sessions, <https://app.sessions.blue/browse/track/109616>.

²¹ John Parminter, “Burning Alternatives Panel: A Review of Fire Ecology, Fire History and Prescribed Burning in Southern British Columbia,” presented to the Sixth Annual Fire Management Symposium Southern Interior Fire Management Committee (Kelowna, BC, 29 May 1991); Ken Favrholt, “Fire History in BC’s Interior,” *BC Grasslands: Magazine of the Grasslands Conservation Council of British Columbia*, October 2004.

²² John Parminter, “First Nations Prescribed Burning: Then and Now,” in *Fire Season* (First Choice Books, 2020), 122–38; Stephen J. Pyne, *Awful Splendour: A Fire History of Canada*, Nature History Society Series (Vancouver: UBC Press, 2007); John Thistle, *Resettling the Range: Animals, Ecologies, and Human Communities in British Columbia* (Vancouver: UBC Press, 2015); Alexandra Pogue, “Humans, Climate and an Ignitions-Limited Fire Regime at Vaseux Lake” (master’s thesis, Department of Forestry, University of British Columbia, 2017); Shirley Louis, *Q’sapi: A History of Okanagan People as Told by Okanagan Families* (Penticton, BC: Theytus Books, 2008).

²³ John V. Parminter, “A Historical Review of Forest Fire Management in British Columbia” (master’s thesis, Department of Forestry, University of British Columbia, 1978); Stephen J. Pyne, *Awful Splendour: A Fire History of Canada*, Nature History Society Series (Vancouver: UBC Press, 2007).

²⁴ John Parminter, “Burning Alternatives Panel: A Review of Fire Ecology, Fire History, and Prescribed Burning in Southern British Columbia,” presented to the Sixth Annual Fire Management Symposium Southern Interior Fire Management Committee (Kelowna, BC, 29 May 1991).

²⁵ Used with permission from UBC Open Collections. Terry Halleran, “Westland: ‘BC Burning,’” *Westland*, 22 March 2004, UBC Open Collections, <https://open.library.ubc.ca/collections/westland/items/1.0048477>.

²⁶ John V. Parminter, “A Historical Review of Forest Fire Management in British Columbia” (master’s thesis, Department of Forestry, University of British Columbia, 1978).

²⁷ “Bauxite” by Blue Dot Sessions, <https://app.sessions.blue/browse/track/109616>.

²⁸ Quoted in Kelsey Copes-Gerbitz, Shannon M. Hagerman, and Lori D. Daniels, “Transforming Fire Governance in British Columbia, Canada: An Emerging Vision for Coexisting with Fire,” *Regional Environmental Change* 22, no. 2 (22 March 2022): 48.

²⁹ Kelsey Copes-Gerbitz, Shannon M. Hagerman, and Lori D. Daniels, “Transforming Fire Governance in British Columbia, Canada: An Emerging Vision for Coexisting with Fire,” *Regional Environmental Change* 22, no. 2 (22 March 2022): 48.

³⁰ Alexandra Pogue, “Humans, Climate and an Ignitions-Limited Fire Regime at Vaseux Lake” (master’s thesis, Department of Forestry, University of British Columbia, 2017). The Tree Ring Lab has continued to refine their research methodologies to centre the leadership of Indigenous knowledge systems: Sarah Dickson-Hoyle et al., “Walking on Two Legs: A Pathway of Indigenous Restoration and Reconciliation in Fire-Adapted Landscapes,” *Restoration Ecology* (24 September 2021).

³¹ “Ranch Hand” by Blue Dot Sessions, <https://app.sessions.blue/browse/track/102064>.

³² “Pencil Marks” by Blue Dot Sessions, <https://app.sessions.blue/browse/track/102138>.

³³ “Roundpine” by Blue Dot Sessions, <https://app.sessions.blue/browse/track/102062>.

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- ³⁴ “Voyager” by Blue Dot Sessions, <https://app.sessions.blue/browse/track/102060>.
- ³⁵ “Alum Drum Solo” by Blue Dot Sessions, <https://app.sessions.blue/browse/track/102134>.
- ³⁶ “Tolls Folly” by Blue Dot Sessions, <https://app.sessions.blue/browse/track/102135>.
- ³⁷ “Voyager” by Blue Dot Sessions, <https://app.sessions.blue/browse/track/102060>.
- ³⁸ “Kallaloe” by Blue Dot Sessions, <https://app.sessions.blue/browse/track/109617>.
- ³⁹ As quoted in Kelsey Copes-Gerbitz, Shannon M. Hagerman, and Lori D. Daniels, “Transforming Fire Governance in British Columbia, Canada: An Emerging Vision for Coexisting with Fire,” *Regional Environmental Change* 22, no. 2 (22 March 2022): 48.
- ⁴⁰ Ministry of Forests, *Garnet Fire Review*, March 1995, 3.
- ⁴¹ “St. Augustine Red” by Blue Dot Sessions, <https://app.sessions.blue/browse/track/109583>.
- ⁴² “St. Augustine Red” by Blue Dot Sessions, <https://app.sessions.blue/browse/track/109583>.
- ⁴³ “Bauxite” by Blue Dot Sessions, <https://app.sessions.blue/browse/track/109616>.
- ⁴⁴ Kelsey Copes-Gerbitz, Shannon M. Hagerman, and Lori D. Daniels, “Transforming Fire Governance in British Columbia, Canada: An Emerging Vision for Coexisting with Fire,” *Regional Environmental Change* 22, no. 2 (22 March 2022): 6-7.
- ⁴⁵ FireSmart Canada, <https://firesmartcanada.ca/>; Blazing the Trail, <https://firesmartcanada.ca/product/blazing-the-trail-celebrating-indigenous-fire-stewardship>.
- ⁴⁶ Nature Conservancy, TREX, <http://www.conservationgateway.org/ConservationPractices/FireLandscapes/HabitatProtectionandRestoration/Training/TrainingExchanges/Pages/fire-training-exchanges.aspx>; Karuk Climate Change Projects, “Fire Works!,” <https://karuktribeclimatechangeprojects.com/fire-works>; NC State University, “Prescribed Burn Associations,” <https://sites.cnr.ncsu.edu/southeast-fire-update/prescribed-burn-associations>; Firesticks Alliance, <https://www.firesticks.org.au>.
- ⁴⁷ Amy Cardinal Christianson and Matthew Kristoff (hosts), *Good Fire* podcast, <https://yourforestpodcast.com/good-fire-podcast>; Amanda Monthei (host), *Life with Fire* podcast, <https://lifewithfirepodcast.com>; Adam Huggins and Mendel Skulski (hosts), “On Fire: Camas, Cores, and Spores (Part 1),” *Future Ecologies* podcast, 29 August 2018, <https://www.futureecologies.net/listen/fe1-5-on-fire-pt-1>.