

Gaylen Armstrong
Oral History - Kenow Fire
Interviewer: Edwin Knox
October 15, 2017
Waterton Lakes National Park
Cultural Resource Management



Gaylen Armstrong - WLNP Oral History Project - October 15, 2017

[Start of recorded material 00:00:00]

Edwin: Edwin Knox here with Waterton Lakes National Park Oral History Project, and it's October 15th 2017, and I'm sitting here on the Wind Tunnel Ranch along the Waterton River with Gaylen, and we're parked on the driveway in. We can see the Waterton River and Vimy [Peak] at 11 o'clock and the mountains of Waterton on the horizon in front of us. [In the recording the wind blowing is audible as heard from inside the truck.]

And Gaylen is going to tell us a bit about his experience with the Kenow Mountain Fire that ripped through this country on September 11 just over one month ago. And, Gaylen, just start wherever you like, but perhaps a little bit about the background of the place, the history of your cabin here.

Gaylen: It was Nora Hahn's [born 1905 daughter of Harvey Bruce], and I think you have some of that information about her from the Waterton Natural History Society [1995 Waterton Centennial Oral History Project] I believe. We purchased the property from her in 1969, and it's 30 acres and it goes right up to the northern boundary of the Waterton [Lakes] National Park on the Waterton River. Across from us is the MD of Cardston and the Garner Ranch. We are pretty well surrounded by the Jenkins Ranch which has been a ranch since the late 1890s. They graze it really well, and it was never overgrazed, but it was grazed enough to sort of keep the fire hazard down. But the last two or three years, the productivity of grassland and everything from the relatively wet springs created more and more growth, and we really got alarmed.

I remember talking to some ranchers, and my wife in particular, and saying, you know, we're a fire waiting to happen because the undergrowth and the old aspen, and they're dying off, and the fuel was absolutely a menace, and I really got worried about it. And they hadn't grazed this area, this small area – about a half a section – that's south of the Jenkins Ranch but still part of the Jenkins Ranch, and a little bit of Cassidy's land. They hadn't been grazing it since Bob Jenkins passed away, and it's just a change in what they feel, I think, that they can handle, so I never pushed the point of getting it grazed, but having even that, I don't know if that would make any difference. [Referring to fuel load and fire effects].

[00:03:09]

I remember this year I've seen so much grass productivity south of the national park fence that we're just north of, and it was a seed set year for Parry's oatgrass, and it was just phenomenal. On top of that, along with a good fescue growth. We had a wet spring in 2017 and it was just fine, and then all of a sudden – I think it was somewhere and you'll have to correct me – at around the end of June, we didn't get any more rain and it was dry, but the thing is there was so much rain during the springtime that it was still really wet, particularly in the aspen stands, and, I have to say, in the

grassland as well, with the productivity of grass and the growth within the aspen stands and the forbs and so on was something I haven't seen in some time, and it was dry. And how many days of the two months before the fire ... July, August? Yes, about two, two and a half months before the fire, did we have temperatures that were lower than 28, 29, 30?

Edwin: That's right, Gaylen. It was quite a year, and in June we had about a quarter of the normal precipitation that we usually get. In June we usually get 40 percent of our annual precip. We look for that springtime moisture.

Gaylen: Yeah. How was it for April and May, though? It was pretty good.

Edwin: I think we had a normal winter snowpack. We came into the year about average, and then in June just didn't have the rains we usually get.

Gaylen: You know, and that's what makes it incredible, because I remember when we walked through the aspen stands south of us here, into the national park, which we do almost every day - we'd walk through and take a different off-route trail and so on - without a doubt I had ... In fact, I even made a point of measuring it. There's orchard grass that's gotten into the park - timothy, brome - and it's over six feet high. And I checked the soil at those times, you know just jam your fingers into the soil, and I thought, gosh, it's really doing well for this approaching ...very dry season.

Edwin: So, Gaylen, the build-up, then, to the fire: We had a very dry year, very little precip since early June, and there was fuel for the fire when it did occur. Can you tell us, then, looking at this land here, and your cabin, here on the north bank of the Waterton River, your cabin was spared?

[00:06:17]

Gaylen: Yeah.

Edwin: And we're going to go visit it this afternoon.

Gaylen: Sure.

Edwin: But less fortunate neighbours. So can you perhaps describe from the time when you first heard that there was a fire burning west of the park and what your thoughts were.

Gaylen: Sure. Okay. Well, it was at about 3,500 hectares when we started to pay more and more attention to the Mount Kenow fire, and many, many people didn't know where Mount Kenow was and never even heard of it. You know, Chinook Outdoor Club, and some of them, they said, where is this? Well, we knew that it was [in B.C. west of the northern part of Waterton] and it was coming up to the boundary towards Waterton National Park, and we knew ... I think Sage Pass was mentioned. And then we started to get these reports that it's gotten into the Akamina Valley, which is on the B.C. - well into B.C. but very close to the [western] boundary. It grew, and day by day we'd get reports of it slowly but surely approaching Cameron Lake, towards Wall Lake and towards Forum, but always north of them -

north of them. So during the fire, if somebody was standing up above Wall Lake on ... What is that ridge called?

Edwin: Akamina Ridge.

Gaylen: Yeah, the Akamina Ridge. If they looked south they wouldn't see much of a fire and if they looked north [west] they'd see that fire, and it was really heading towards the private land, and, of course, the Waterton Lakes National Park village, and so on. So we were sitting on our deck and listening to this, and around ... I'd have to look at the dates again, but I'd say about the 6th, 7th of September, I was saying to Marilyn, we're seven kilometres as the crow flies from our deck, we're looking directly south to Waterton Village, and I said to her, it will never get here, it will never make it, because they've got the state of the art fire control people there. I was told by one fireman that they were taking the leaves out of eaves troughs, anything that they could do to make sure that this village would be safe.

Meanwhile we weren't quite sure what was being done with regards to private land, but it doesn't matter. I'm not in a position to criticize as to should we have been more protected or whatever. I'm not in that position. So we listened to the advancements of the fire, and it grew from 3,500 to the ultimate 30 ... I think it was 38,000 hectares by September 15th, probably even before then. So that was tenfold. And when we left Sunday morning – I had a doctor's appointment on Monday – we thought, oh, that's fine, we're coming back Tuesday. We'd taken a photograph of all our stuff inside the old log cabin and in our main, newer cabin built in '95, and we knew where ... we had stations set up as to where we were to go to get documents and all that kind of stuff. Because, after all, it was our main residence. And then we left, we went into Lethbridge. And the next thing we knew we received a phone call from Jen Jenkins saying that if you are at your cabin you have to leave now. And she had just viewed the fire coming up east of Highway 6.

[00:10:13]

Well, it was still burning at a terrific, intense rate on the west side of Highway 6 and it was coming up on the north side of the Waterton River and on the south and east side of the Waterton River all the way up from the park. It crossed, as I understand, from Maskinonge; we had a look at that. It came down Knights Lake, but they were able to save the Waterton Village.

Edwin: What time did Jen call you?

Gaylen: So she called us at 10:40 p.m. And, according to her, she had about 20 minutes to leave her place, to get out. And that's when she was calling people and she was leaving, or had just left the ranch and phoned people that she knew. And saying, gee whizz, you know, are you there, and if you are you have to leave now. We were told in the early days of the burn, around the 6th, 7th. The Municipal District of Pincher Creek, there was a

meeting, and there was a meeting at Twin Butte hall too: Keep your cattle off the hills. This is for some on the ranch people. And I remember Cal Wellman saying that he put sprinklers around his house and so on.

And then we were to phone, and I'm not quite sure who it was but I phoned somebody in charge of the fire from the MD and we were to give him our name, our location, our land location, and how to get there. So that was all set up. But something happened and they just forgot about us at the end of the road here.

Edwin: Do you know what occurred there?

Gaylen: I don't know, I haven't found out yet why that was. Because on Thursday, up until Thursday morning at eight o'clock we were pretty sure that our properties were gone. Because Cassidys, who also texted us and said, you must leave now, that was clear that they had lost their property, and they're above us, north and west of us up on open hill. Their aspen stands are a little smaller and so on. But the wall of flame and the grass and everything burning. I can't see how they could possibly escape it. Well, that's the same way we felt with our place.

So it was Wednesday when [Jim] Garner - across the river and the Municipal District of Cardston and then straight across, straight east of us across the river, and just north of the park - he lost his ranch except for one building. And he was being interviewed, and I can't remember whether it was Global, CTV or CBC - it was one of those. And he said that, well, over there - and he kind of pointed over this way, as I understand it - that he said the Cassidys have lost their property, the shed and the building and so on. And the two other people down below - I can't remember their names - they have lost theirs as well. It would be difficult for him to say that because I don't think he'd be able to see it.

[00:13:35]

Edwin: And he was referring to your place, Gaylen and Marilyn Armstrong?

Gaylen: And he was referring to our place.

Edwin: I understand.

Gaylen: So my son, Wednesday night in Lethbridge, phoned and said, Dad, if you ever thought that your property was saved you can forget it because it's confirmed by the rancher across the river during an interview and it's been on TV. So, all right, our hopes were gone and it's not serious. It's not Myanmar. Nobody lost their life. It's just a local feeling that you have strong attachments to the place and everything that goes with it. So it's the memories. It's the memories! So you're bound to get a bit emotional.

Edwin: When did you hear the news [that your place was untouched]?

Gaylen: Thursday morning. Thursday morning on the way out to meet our son and grandkids at Fort Macleod and then drive with them to see if we can get

through the barriers. Because we didn't know anything about green permits, yellow permits, you're supposed to have, but I showed them that I was a resident, this is our residence. And they gave us a seven-hour time. On Wednesday – that was two days after the fire – you were only given about a two-hour time.

So on Thursday we met them, but just before we met them Marilyn said, okay, I'm going to get a hold of the Twin Butte Chief Mountain Gas and say, okay ... And Marilyn wanted to do that because she wanted to make sure that going near all the smouldering ruins and everything, is it safe, is the gas turned off, you know, that sort of thing. And that's when she broke up, and so the woman realized that we didn't have a clue about our property and we were sure, based on Wednesday's comments, that we'd lost it. And then 15 minutes later the man in charge of Chief Mountain Gas phoned and said, oh yeah, your place is okay, we just went and turned the gas back on. And this was on Wednesday afternoon.

Edwin: It was a terrible two days for you, and what was your feeling ...?

Gaylen: Well, Monday, Tuesday and Wednesday, right up until Thursday morning at eight in the morning.

Edwin: And then what was your feeling when you heard?

Gaylen: Oh, we just went absolutely nuts. Marilyn was on the cell phone and just screamed out and couldn't believe it.

[00:15:51]

Edwin: And then you parked where, and hiked in?

Gaylen: Yeah, we picked up the kids. They went with us. And we parked at the Jenkins Ranch just before the bridge, and of course the bridge was all burned out and the bridge itself there with just the metal frame, which is another thing. We can talk more and more about this when we're walking through the bush, but there's no real trees or anything near the bridge, it's open, and the creek runs underneath it. But every little bit of wood on that humongous bridge, with big timbers and so on, was all gone, all burned, just a skeleton of metal. Amazing.

So then we forded the creek just down from the bridge and came in, and it was, of course, all totally black everywhere, and then when we drove in and ... Well, we told our kids just before we, or just when we got to Fort Macleod to pick them up, okay, to take them down, that our place was saved, and the three grandkids were screaming and shouting, and they were ecstatic, absolutely ecstatic!

Edwin: Amazing!

Gaylen: And our son couldn't believe it. He couldn't believe it, just like us. So we, like Marilyn and I, when we turned around and after looking at the devastation before we went in very briefly, because we didn't want to

interfere with their situation on the Jenkins Ranch, and looking at just burned embers and the concrete foundation of three houses- one trailer, two houses, two big shops, one big double garage, one single garage – all eliminated. Nothing, nothing there but ash! So we drive into our place and we've got this yellow road, yellow grass road.

Edwin: On the road in to the Wind Tunnel Ranch [here].

Gaylen: On the road in, yeah, it's about a half a kilometre long and it's not burned.

Edwin: What do you think saved your place? How did it occur that it didn't burn?

Gaylen: We have no explanation today. I can't- we can't- it's not comprehensible. Even if you're an expert I don't know ... I don't know if there ever could be an expert in the reaction of fire, fire behaviour, the heat, the currents it creates, combined with the wind.

Edwin: So, describe what it looks like just from where we're sitting here ... where your cabin is situated. Was it the aspen trees that surrounded it? Was it the mowed lawn? ...*FireSmarting* efforts?

[00:18:24]

Gaylen: Yeah, some of the lawn was mowed, you know, but that had been about four weeks before. And it came up to the mowed lawn, but there was a variation in it so that there was a height of grass on that lawn. It looked pretty unkempt. And then, instead of having the cinders and that wall of flame burn patches of the lawn till it hit the aspen and the spruce trees that we planted and so on, it didn't do it, it didn't jump it, it didn't go across. It went around to the east of the road, along the road, and continued to burn across the grassland and down to the river, take everything out. All that's left is piecemeal vegetation and soil, that's all there is, and a decadent willow sticking up like small pinnacles. And then it caught fire again because we had a lot of brush pile; it took that brush pile out. It took out an old, old, humongous lumber wagon that had the old wagon wheels and the wood hubs and everything. All that was left were the rings of the wheels and the rings of the hubs, there's no ... it had to be extremely hot! The little wood shed we had over the water system was gone and just nails and staples and stuff hanging there. The fences were all gone, all burned. The odd one was hanging by wire.

And coming in on the road there were three power poles that were just hanging by the wire; they were about six feet long off the ground, they burned from the ground up. And then there was one over on the west side, just up ahead of us here, that was eight feet long and it was smouldering from the bottom, and when we came out two days later there was nothing left but insulators and wire. So you knew it was hot. And the amazing part was that I had a wood lid on our cisterns, about three feet in circumference – it's a double three-quarter inch plywood, which is no big deal in a fire, but it was completely... I clad it in metal until I bent it around the side, so some of the wood would be showing inside the cistern, but there was

nothing left, there was all the wood, and the wood had all burned in pieces in the water down below.

Edwin: And this is only metres from your yard and surrounding fence.

Gaylen: Yeah.

Edwin: And was there any fire evidence on the lawn?

Gaylen: Then it came up on the front of the lawn; about probably a third of the lawn that's running north and south was burnt, but it burnt around the spruce trees! And some of the grass out from the spruce trees as it was approaching the deck of the house. And it stopped within five feet of the cedar deck. We have a big cedar deck. But there's no reason for it to stop there, because the height of the grass is the same, and it was all black and burnt. And then the fire moved over and went through the aspen stands that we have, the park aspen stands. This aspen stand is about 200 yards wide and it runs all the way to Jenkins Ranch, all the way by our house on the west side of the house, 200 yards wide. It's an old aspen stand because a lot of the trees, the obvious ones in height are 30 to 42, 43 feet high.

[00:22:39]

We know that because when we felled them the other day we got a tape measure and measured them, and they're 8 inches to 14 inches in diameter. They're huge, they're heavy, they're weighty, and that fire just went through and they burned up the bark on some of them. They burned the soil around it, they burned through the roots – extremely hot.

And that stand, in some places it was eight feet, but, on an average, it was 12 feet from the house and it burned all this aspen! I mean there's nothing left there except they're standing there, but a lot of them are going to be gone in about, I'd say, in a year or two. The fire was so hot that when it got to six to eight, typical average six to eight foot wall you could see where everything scorched, where the heavy burn on the big ones were about two feet up. And then the younger aspen, where it split all the bark and it shows that yellow cambium layer underneath, going through there, it should have taken the house out. Why it didn't take the house out? We're only talking a maximum of 12 feet. And there was a lot of grass there, and it wasn't green, and it wasn't wet, it was dry grass and there were these spruce trees; they're about ten feet apart, and we've had about eight of them.

Edwin: On your lawn?

Gaylen: Yeah, on the lawn, and they were scorched brown. About one half of them were scorched brown towards the heat and green on the other side. And there's no cinder on top of the metal roof, there's no cinders or any burnt parts of the cedar clad home that we have. And then, when it went past, what was remarkable is it went past another I'd say 30 feet and then it spread out and went east/west again all the way. Well, it had to continue

all the way from the Highway 6 right down to the river and across over to Garner.

Edwin: And where it went around and spread out, was that through aspen?

Gaylen: Yeah, it was through aspen. And what was remarkable was that when it went past the house it had the opportunity to burn the same vegetation, the same aspen, the same undergrowth and everything, but it formed a line, it formed a line and carried on, and I'm saying well, why didn't it just spread out.

Edwin: Do you speculate anything regards how wind had any influence in pushing the fire?

Gaylen: I can't figure it out. I can't figure it out. I just cannot figure it out.

Edwin: And this was all occurring at 11 o'clock, midnight, 1 in the morning?

Gaylen: Yeah, because we figured the rough estimate was by early Tuesday morning, I'm saying like one o'clock in the morning I think the Jenkins Ranch was gone.

[00:26:05]

Edwin: Yes.

Gaylen: Cassidy's was gone in no time. But the behaviour, every hour on the hour Marilyn and I still shake our heads and say, oh man, how could it possibly go around. And then it started to burn behind the log cabin, which is just behind our house, lightly burned, and then after that it continued heavy again. We have one isolated stand of aspen we're looking at right now, and if we ever get an opportunity to walk through it you'll see about a third of it where it didn't burn it - where it didn't burn - and I'm thinking, even with wind currents and everything, why this sliver of aspen wouldn't be touched.

Edwin: I think in this fire we're seeing evidence of what you're describing in various parts of the main Waterton valley, which is presently accessible here for us to look at, and I reckon there will be some interesting insight given to us by experts, people who know about fire and how it moves through aspen forest, aspen which is generally supposed to be more resilient to fire.

Gaylen: I'd like to hear that.

Edwin: But yet, as we described earlier in the interview, you had the great understory of vegetation-

Gaylen: Oh, phenomenal.

Edwin: -dry as it ever could be.

Gaylen: You couldn't walk through it. We used to about three, four years ago, and before that – all the way back to 1969 since we've been here – cattle were always trailing through, not excessively but you could walk through in different parts of the stand. It was getting to the point where you couldn't- you were bending over, you were moving, you were going left and right, then you'd get trapped, you'd have to turn around and go back and go up the hill or down, whatever, there was not that normal freedom of kind of taking your time and ambling through the aspen stands; they were thick.

Edwin: And back to ... you living here on this property in the proximity of the national park, wild land, not far from the Waterton River – what have your thoughts been over the years regards fire threat, Gaylen?

Gaylen: Yeah, good question. It always bothered me after we got settled into the place, and then particularly when we ... It was more a vacation thing, and then 1995 we decided we'd retire here; just most recently, as we are getting on in age a bit, we thought we better get another place in Lethbridge, so we box back and forth now. And from '95 on I thought, whoa, I know that what I should be doing is getting a water pump to protect those aspen stands and the house in front, set up some kind of a system, kind of similar to the way you guys did it; when you did a prescribed burn years ago you got the Honda pump, pumped the [water] all the way up to Highway 6, and you spread the water towards the park, you know on the northern boundary of the park heading south away from us.

[00:29:32]

Edwin: Putting in a wet line prior to a prescribed burn.

Gaylen: Yeah, putting a wet line and also doing the spot ... setting up a back burn, spot fire back burn. And that situation, I thought, boy, that's great, I wish I could have had us incorporated into that sort of thing. I always wanted to do it, but I knew it would be very expensive, and because we're surrounded in ranch land it would be almost impossible to do. To get permission to do it you'd have to have fire trucks here and you'd have to have it supervised like you guys do in Waterton Lakes National Park. The saving grace was, is that we've had the odd fire very rare on the grasslands up here above us, west of us, but they've been small and you could put them out with a sack, you know, whatever, and I ...

Edwin: What caused those fires?

Gaylen: I don't know, I really don't know.

Edwin: Fires on the Jenkins Ranch property?

Gaylen: No. Well, yes, at the time it was on the Jenkins Ranch, and before we got the property you could tell that there was a fire at one time where it scorched some of the trees, and we had a horse barn that you could tell was scorched along the edges, but talking to Nora Hahn, she never talked about an overwhelming fire. So any time I looked over on the grassland, I

thought, you know, that's okay, it's there, the parks have a pretty good program of controlling the fire, and we've watched over the years where, you know, the choppers have gone in with spot fires and found them and got rid of them, and so on.

But the thing that bothered me more than anything was the aspen stands with this terrific growth, and I know you - the parks - tried to do that, but because it's near ranch land you're doing your controlled burning and you'd really love to do it during the summertime, I would think, when it's hotter and hopefully no winds, but it's taken one hell of a risk and it's costly. And so we thought, man, we might just be lucky, and somebody won't flick a butt into the aspen stand, because some of these summers were dry. God, were they ever dry. And so that was our feeling, that, yes, it was a fire waiting to happen, but the last three years we thought, man, if we get lightning strikes we're going to have quite a time, which we didn't, we didn't get the lightning strikes for this fire. B.C. got them, but we never got them. I don't think you guys ... Did you get them?

[00:32:35]

Edwin: No, in 2017, during the fire season here, this year, prior to the lightning storm on August 30th that started the Kenow fire in British Columbia, we were all saying we've been fortunate that we haven't had lightning strikes.

Gaylen: Remarkable. Remarkable.

Edwin: No big hailstorms, no big lightning storms.

Gaylen: No. And in keeping with this hot hot weather, you'd think, oh boy, the storm is going to come up and they'll really rumble in and you'll get hail and then you'll get lightning strikes and so on, and for all intents and purposes we never really saw it, we never got any strikes here.

Edwin: And, Gaylen, what occurred here on September 11th, with the Kenow fire and the massive fire that swept in the night from the mountains and across the grasslands and almost burnt you out, in your study and your work as a range management ecologist, have you an understanding about historical fires on the prairie here on the eastern slopes, and had you ever imagined?

Gaylen: No, not a bit. And as a matter of fact, this business of, you know the college when we were teaching range management and then we'd go out in the field and everything, yes, we paid some attention to, gee, that was a successful burn to get rid of the willow in that area because it's extremely excessive, that will give a guy more grassland productivity and so on. But I have to admit that because of the area of study and what we had to cover, fire was considered a tool that you talk about briefly to maintain diversity, get rid of some undesirable plants, increase grass productivity, reduce fire hazard in some of the more sensitive ecological areas. We'd talk about it, but we wouldn't spend much time about it. And I have to admit that my knowledge of fire and fire control and the specifics, and the behavior of it, I don't have it, I don't have it, I just don't have that experience.

And if I was involved in situations where fire was a little more commonplace, then of course you'd make an effort to do the investigations and the study and make a point of saying, okay, what should we really be doing here? Is it possible to do anything, or do we just leave it the way it is? Hopefully they graze the area that will keep the fire hazard down a bit and go from there.

Edwin: Post-Kenow, will there be changes that you'll make at your place to make it *FireSmart*, or what's the future?

[00:35:34]

Gaylen: It's the old story, because we thought, well, we can get pumps. When I've seen how hot this fire was and the damage that it created, which could be considered maybe normal when we never had ranches, fencing, buildings, and just the days of the First Nations and everything, this probably- would it really be looked upon as a catastrophe? I doubt it, but because of all the relationships of people, their land and their buildings and the structures and how they want to keep that beautiful vegetation in its green natural form, fire was always looked at as a real negative.

So what I would do? Again, it would be a matter of economy and saying, should I set up a system, talk to firefighters and those that have done some practical research and say, is it worth it? And at this particular time, when I've seen everything the way it's been burnt it's going to be quite some time before it's going to have any effect, but you can't say this because the comeback is remarkable. I mean after two weeks of the fire it's all greening up here, you know.

Edwin: Yes, as we sit looking out the truck windows we see green grass.

Gaylen: Yeah, so would I do anything different? Yeah, probably! I should probably keep those aspen stands further away from the cabin. It's like a lot of those people in Kelowna, B.C., and some of these other areas where they lost a tremendous amount of cabins and so on, and they were all within the treed areas. Why? They loved it, God, it's beautiful and hope springs eternal, fire will never occur here, boy! It did, and it can really did the damage! So I suppose I clean out the aspen, but at the same time I'm thinking, well, that's part of the diversity here. We've already created it with this fire and we'd like to continue to, hopefully, have these lines of protective habitat where animals can be moving back and forth.

Edwin: But reduce the encroachment, keep it further away from the buildings.

Gaylen: Yeah, that's about it. Keep it further away.

Edwin: And you and your family will be here for some time. You have grandchildren?

Gaylen: We will. Yeah, and it will be going to them.

Edwin: And what advice from 2017 do you give to them? Just what you're speaking about, but ...

[00:38:18]

Gaylen: Boy, that's something that now ... It should have been before, of course, when we said, oh, it's a fire waiting to happen, you know three years ago we were saying that, gee whizz, if we ever get a lightning strike and it's later on in the evening and nobody is around, who the hell is going to ... who the heck is going to fight it, right? And so seeing this now, yeah, I would sit down with them and say, okay, I've got these reports, I've got this write up on this and a write up on that, I think we should maybe perhaps do some stuff around here, maybe some clearing of the aspen stands, make sure that the grass is cut a lot; if they're not going to graze to do that grass cutting and debris removal and so on in a more serious way, take it seriously, and know what that will do. Okay, well if we do that then the likelihood of it making it to the cabin, or getting rid of it, or endangering us in any way, we'll be able to reduce that effect by a certain percentage, you know.

Edwin: In the Kenow fire we'll see lots of- we're learn from places that didn't burn, places that burnt, and what difference *FireSmarting* made, and/or a bit of luck, but I think there are many examples here on the land, in the park and outside of the park, where *FireSmarting* properties has made a big difference.

Gaylen: Yeah. God, yeah. And, you know ...

Edwin: And in your case it was probably the sparse, sparser aspen, and the mowed lawn.

Gaylen: Oh, boy.

Edwin: You look at the lane coming in and it's dry, compacted grass; there isn't a fuel load for that fire to carry, and the evidence is here in front of us where it's unburned.

Gaylen: But the fact is it's been ungrazed for three years – not grazed – and looking at it in the park I began to notice very little difference, sure, in species composition because the cattle are grazing and so on, but they hadn't for the last three years – three, four years – so some of the areas that we call sacrifice areas, heavily grazed, it's right near water, cows / calves love it, they don't have to venture too far away. They overgraze the grass heavily and those would be called sacrifice areas. Well, they were becoming less and less visible and the vegetation was starting to get very similar, not so much in composition, but in biomass. There was very little difference in this short distance of this area to the creek behind us, okay, this half a section, if you want to call it – a quarter to a half a section. It started to look more and more like an area that doesn't receive the typical moderate to heavy grazing that we have here. And I'm not saying heavy grazing in a negative sense, but grazing it down to an efficient level and

then moving the cattle, but always keeping that grass at a controllable level. And it wasn't that. And then when we went through, when we go through our aspen stands, we found really no change between our stand and the park's, going through here, going through the aspen stands.

Edwin: With that amount of grazing.

Gaylen: Yeah.

[00:41:56]

Edwin: Well, how about elk? We have a thousand head of elk here in the park. How much grazing here?

Gaylen: The elk would do? Yeah, they come here, we see them. Most of the time when we see elk out here on these lands it's on their way to the hayfields, on Jenkins hayfields, the haystacks. Very seldom do we ever ... And when we're out here- we've been out here a lot day after day, month after month, in the years gone by right up until a few years ago, the grazing by elk here is pretty minimal, we watch them, and they have that typical movement.

Edwin: And is it because they have access to haystacks that they're moving through here and heading to those haystacks?

Gaylen: I think they have access, yeah, to that, because you still have your really good growth in the park, you have an excellent composition of fescue and Parry's oatgrass and so on, and we've seen them move back and forth on their rotation, you know, from the Bellevue Hill open area across, and the Stoney Flats and over into the east side of the river, south and east side of the river, and Stoney Flats, yeah. And to catch them out here on a day to day basis, no, we don't see it. They move through, they go to the haystacks and get what they can, and then make their way back. Pretty seldom do we ever get them here. There are herds, of course there's herds on the Shodaree and on Jenkins Ranch, and they're pretty well residential, but they're relatively small and they're not typical of the herd you're talking about, that 800 to 1,000.

Edwin: Yes. And, Gaylen, we'll leave the fire here a little bit and just speak about the land around us, around you here at Wind Tunnel Ranch on the Waterton River. A great name for the place. And you've been here how many years again?

Gaylen: '69, since '69.

Edwin: Since 1969!

Gaylen: That's 52 [sic] years, hey?

Edwin: Yeah.

Gaylen: God!

[00:44:25]

Edwin: More than half a century. What have been some of the significant wildlife sightings you've had right here from the cabin?

Gaylen: Wow, it's fantastic! I mean we have grizzly and cubs, triplets come through and the behaviour of the one-year-olds ...with the grizzlies. Most of them have been very positive in their reaction with us. We've had lots of situations where we've respected the location where the bear is, and we were surprised, and it would be close to us, near the cabin, and they'd usually just move on. And like this year, we went picking, we had some blackcurrant bushes, and we finished picking the saskatoons this year, which was a pretty good crop, a really good crop, and then we went into the garden, which is fenced to keep deer and elk out – it's a small garden – we had some blackcurrants in there. So Marilyn went out to pick them and I said I'll be there in a few minutes to help you out. And I came around the other way and she'd left the ... it's just a regular doorway into the garden. She had her back to me, down on her knees, picking the currants, and there was a Cinnamon Bear six feet away, just kind of looking around.

Edwin: Nice.

Gaylen: And it was terrific. And we figured, based on the size and everything, about a two-year-old. And then he couldn't get out because there was no way to get out, and I said, well, Marilyn, just go to the end of the garden and let him ... which keeps her away from the door, and then when I said that the bear just turned around and walked out. And then we clapped, made a bit of noise, and he moved on towards the Jenkins Ranch and the poplar stands. So we've had a lot of those. They're sticking their head in through on- they'll come up on the deck and stick their head through an open window to smell the pancakes we're cooking – that's an adult, adult Cinnamon. We've had one where we were sanding this table so that we could get it eventually varnished and used again, and so Marilyn came in, we had lunch, and we could hear the sander going, and came out, and the bear had set off the sander. He chewed the back of it, but it was still running really well, and then he took off. And then two weeks before that he came over and bit the tires of our trailer right through, so I had to get two new tires.

[00:47:23]

But, overall, they were really respectful. And there were times when we'd have Black Bear come through, and then they'd shinny up, because you can see, you know, the claw marks, the black, the bark wounds that it creates when they go up the tree, whatever you call them. And they go by, and if they heard us some of them would spook and they'd go up the tree right away, the large aspens, it's all they could handle for the most part. And we tried to get a little bit closer to them but not upset them, and, God, they'd be up there and they'd be doing that chomping threat thing.

Edwin: Stress signs.

Gaylen: And stress signs. Anyway, this is the kind of thing that we'd see. And a wet bobcat one day in the rain, walking up towards our place. The osprey that electrocuted themselves until they - you know, the park put in a pole with a nest near the power line. And the otter that came down the river and were breeding and paired up, and then go under the ice, and we'd time them and they'd go up ... God, they'd be under the water for - I don't know - five, ten minutes or more, and I couldn't believe it. And then they'd come up underneath the ice, where there was an opening on the ice. That sort of stuff.

Edwin: Grizzly Bear - most seasons would you see?

Gaylen: Yeah, Grizzly Bear. When we were walking into the park ... Well, you know that one encounter we had where we had that young one; we figured it was ... yeah, I'm sure was at least a three-year-old, where we were charged. I talked to Charlie Russell about it and he was saying, well, was he wagging his head when he was running at you, when he was charging? No, he wasn't? Was he looking firmly straight when he was charging and so on? We talked about these things because I mean, was he curious, what was he doing? So he charged us just upstream here from our place.

Edwin: What did Charlie figure that behaviour was about different than other, or more of an aggressive charge, was it?

Gaylen: Yeah, he thought, well, if he wasn't wagging his head and running, then ... I don't know. He might have been curious, because anytime we yell they always stop, but then he'd do it again. We'd move away from him quickly, we wouldn't turn our back to him very often, and then he'd run again, and he'd be doing a pretty good pace.

Edwin: It was Marilyn and your son,

Gaylen: Marilyn and my son and myself. We were just going back to get the car because we took the car to Maskinonge and then canoed down the river. So that was a frightening situation there. And I was able to spray him a little bit; I didn't want to overdo it because I just didn't feel right about it - Is this bear, is he curious? And there's three of us, which is a plus. So I gave him a shot just under his chin in the chest area, but it was enough to deter him. I could have given him a full blast, but I just didn't want to do it.

[00:50:48]

Edwin: From what distance were you able to ...?

Gaylen: I was only about 12 feet - 10, 12 feet. He charged us when he- the second charge he walked up the bank, and that was in that bay, you know, upstream here before you get to the bridge. He got up on the bank and then he turned around and he charged me, simply because I was the nearest one, and we were out of the bank and into the river, standing there watching him, and that's when I said, okay, now get along, get along, and then I

thought I'd better give him a shot. So I gave him a shot and that really bothered him, and he shook his head and he got up on the bank and ran upstream till he was not quite opposite Crooked Creek across the way. And then he gave two woofs, shook his head, and then went into the water. And we thought it's over with, and two minutes later he turned around, came back on the shore and ran full out to the three of us. I don't know why that is, why he ...? And then we'd yell and he would stop. And this went on two more charges and then he quit, that was it, done, finished.

Edwin: Do you always carry bear spray when you're hiking?

Gaylen: And we always carry bear spray. And this one bear that came back here and took the ... on the Jenkins Ranch when Chris and Trevor Gilmore were living there – they raised bees and the Grizzly took out this beehive and there was nothing left but pieces of wood, and he got underneath this electric fence, and I think it was on. It didn't seem to have any effect. Then he went over and got into that ... they're assuming, because this all happened within 24 hours, 24 to 40 hours, he got into a Toyota Sequoia. And the door was partially open, and it was one of the acreages [Heaven on Earth estates], and when he got in the door closed.

Edwin: And how did they know it was the same bear?

Gaylen: They just assumed by the timing and their overall range, and the sightings of bear before that and after that, and the size. And I'm sure it could have been the same ... it might not have been the same, but it's an assumption based on the link of where they'd seen bears before, this one before Cassidys, and then they had the honey thing, and then this Toyota, when the door closed. He got out but there was nothing left of the Toyota.

Edwin: And the story is that he may have then punched the open button, and the door somehow came open as he was trashing around in the vehicle.

Gaylen: Is that right? God, I don't know. Well then, the day later – two days later – I was going to go bow hunting and I got my bow out and I was walking out from my cabin, heading towards the park, but not going into the park of course, and this big Grizzly, God, he was really mature – big, beautiful – came out of the bush and turned and looked at me, and I thought, Jesus, I forgot my bear spray! And then he just looked at me, turned around, and trotted on into the park. I'm pretty sure that this was all linked at this particular moment.

[00:54:40]

So there was a lot of bear activity in the last three or four years, but it was interesting. And we had – Was it last spring? Yes, that's right – two little wee Black Bear cubs and the mom. And during the morning we could hear this mewling, and it's the typical noise that bear cubs make when they're frightened; they mew. And I didn't know that, I had to read up on that thing. And we thought, what is that mewling? Would that be young cougar? What is it? And, God, sure enough, it was them, and she brought them

down to the bank across from our water system on the other side of the river from our place, and gave the signal and they went the hell back in the bush, and then she came out and looked around for a while and then took off. Interesting behaviour. You've heard that, hey, about the mewling?

Edwin: I guess I have, yeah.

Gaylen: Yeah, I'm sure you have. I'm sure you have. That's pretty typical.

Edwin: Just a stress in a young animal.

Gaylen: Yeah, I think it is.

Edwin: It's vocalization for its ...?

Gaylen: Yeah, and it was very easy to hear.

Edwin: To get the attention of its mom.

Gaylen: Yeah. And other sightings? Oh, gosh. I mean the sand hill cranes. There are trumpeter swans that come into the bay, and hear that, you know that trumpet, that bark that they make, other than the whistler. It's really neat. And we have sand hill cranes nesting out on our property, but Jenkins has it down here a ways. So having them there and ... Oh, golly, I've got a wildlife book and I made a note of unique wildlife observations, and I've never quit writing in that book.

Edwin: How long have you kept that?

Gaylen: And that's been kept since '69.

Edwin: Good for you, Gaylen.

Gaylen: Yeah. So it's all down there. I think it's from '69 on. I think I'd pretty well gone ... And then some of the birds, you know.

[00:56:45]

Edwin: And you've mentioned that book to me before, and it would be something for us to make a copy of for the national park wildlife observations.

Gaylen: Yeah, it might be neat. Yeah, I mean even simple things that you don't see that often, but I mean it's the commonality of the animal, it's an elk, and they would calve out here in the silverberry, wolf-willow. That happened often out here. One year three of them calving, and when we drove in, they sort of innocently walked away while we made a point of where they were, saw the calves and they were all curled up and doing what mom told them what they were supposed to do. And then we saw one trying to encourage her calf to go across the river from here. And then she'd swim across, and the calf would come across partway, turn around and say, to hell with it, and go back. And then she'd come back. And this went on and on.

Another one: The Black Bear predation on elk calves on the other side of the river, having the elk stash the calf in the poplar stand near the river and then go out and graze. Because, you know, she's wanting that milk production and so on. And then not going back in the bush, and going on for two or three days, back and forth, back and forth, mewing and hitting the ground and really, really upset. So we'd go over and look and, sure enough, it was a kill.

And then the times when these big, huge bull elk, and they're worn out from the rut, bedding down – they'd go across the river and bed down, so I'd get my runners on and wade across the river and try to sneak up and sit down and just watch him. He'd be maybe ten, 15 yards away, these great, big, humongous antlers that they shed every year. And just watch their behaviour and ...

Edwin: Beautiful.

Gaylen: Yeah, fantastic! And how close. They come out of the aspen and you can ... well, on the private land we bugle them, and other times they'd see an elk across the river on the slope and he'd bugle and he'd bugle, and you'd watch him, you know, and sometimes on a frosty morning and it would give off that breath, you know, that they're making.

Edwin: Tell me, Gaylen, about your grandchildren.

Gaylen: Yeah. Well, when we came down here in '69, let's see ... That's right, by '71 we had three children. That was it. And we would come down here in the summer and fall. Very seldom in the wintertime. And we'd use the old wood stove in the cabin that was built I think in 19 ... It was 1935 or '39. I can never remember. That was when Nora Hahn had the ranch. And then they built a log cabin with the spruce logs from around this country in '49 and added to it.

Edwin: Are there any buildings remaining?

[01:00:08]

Gaylen: Yeah, we have that one, the old log cabin that didn't burn down, and we just finished putting on the shingles. Those fresh shingles, you know, from a company that weren't using them anymore, and they were stockpiled so we made a heck of a deal and did that. So that building is '39 – '35 or '39 when it was first completed, and then they added another 300 square feet or more of the log, log cabin. And they had an old wood stove, the one that we bought it from, so we used that, and we just hauled water from the river, and the fishing there, you know, the brown trout coming up and the cutthroat that we used to get a lot of, eastern brookies, regular rainbows. White fish really good, and some record size, and you'd have jackfish.

Edwin: So how old were your children when you first ...?

Gaylen: Yeah, when we first had this one: '66, '69. Three years old.

Edwin: And tell me your children's names.

Gaylen: Yeah, Tim was three years old, born in '69. No, Tim was born in '66. Sorry. Three years before we got this place. That's right. Scott in '68, and Maureen in '71.

Edwin: Wonderful.

Gaylen: Yeah.

Edwin: And do they still visit?

Gaylen: Oh yeah, they really identify with this place, and it's one of these ... Yeah, I don't know why I shouldn't be saying it, but this is- we're so lucky to have this place, and when we got it from Nora Hahn we told her you're not looking at a person that wants to make a lot of money, because we would pass this on from family to family.

Edwin: Wonderful.

Gaylen: There's so much to see and so much to do.

Edwin: Well, we hope your children and grandchildren will be here for generations.

Gaylen: They will. They will, and I think they'll really look after it. They know how we feel about it, and we've talked about this business of ... And this is what bothers me about having to reduce aspen stands. Yes, you can do it for diversity, but we ... and it's nice to get that habitat with that element of diversity, that's why we have what we have here. But, you know, clearing aspen stands to reduce fire and everything, yeah, probably that's a good idea, but at the same time, you know, you're reluctant to do it because there's still a ton of habitat in there, the snags that all the birds use, you know.

[01:02:46]

Edwin: But it's good to do it around your buildings.

Gaylen: Yeah, it is, it's good, yeah, you're right, it has to be done. Yeah.

Edwin: And your grandchildren, how many have you?

Gaylen: Oh, we've got four.

Edwin: Yes.

Gaylen: Yeah, and they're right into sports and everything. And like these days – and a lot of grandparents will tell you – to get together, all together as a family for two or three days, is a miracle, if you can do it, because they're so busy, okay, doing things. And maybe that's the way it was when we were kids too, with our parents and grandparents, but it's becoming more

difficult because they're so busy with the technology and the iPhones and the iPads and the opportunity for sports and all these other things, and the element of travel and seeing other parts of the world and so on. All these factors, it's wonderful when we have them down, and we can get them down about two, three, probably four times a year. And every time we do we inevitably run into something that's of interest wildlife-wise, just by hiking into the park and on the private land, you know.

Edwin: And so, tell us what the national park means to you and your family.

Gaylen: The beauty of the national park – and when I think of the people I want them to initiate it more towards it, and in this world of ours to have a situation where they try to keep it as natural as possible, but at the same time benefit the number of people that want to use it, to have it in concert with the ranch land – and now I'm talking about this area, okay. But I think it's still the same anywhere else. If you get that national park and then gradually transforms into more usage economically, but it's a slow transformation, so that you're not getting this dramatic situation of well, here's this national park that's so much acres in size, and then outside of it it's all been raped and pillaged, and you don't have it.

So, having said that, even just having a park that has that isolation factor, which is occurring more and more because the encroachment of and reduction of habitat because of economic developments of the land and so on, even having that I find it of real extreme value because to actually enter a place where the sound has changed, the view has changed, it's all very positive, it's relatively quiet, and you can see a lot of things of the world that you normally never would be able to see from what exists in a national park.

[01:05:48]

And that's why, you know, this business of curtailing development, I see it here, because there's a lot of ranchers around this part, for example, who want to maintain it as ranch land, there's that real strong desire. And have that gradual transition from the national park to ranch land, and then eventually to farmland, and then rural village development, you know. That's ideal, if you can get it like that.

Edwin: And where we're sitting here, on the Jenkins Ranch adjacent to your property, it's part of the Nature Conservancy of Canada, the "Waterton Park Front".

Gaylen: That's right.

Edwin: A marvelous legacy.

Gaylen: Yeah, it is, and ...

Edwin: That, like you say, adds so much to-

Gaylen: It does.

Edwin: -the ecosystem and health of the national park.

Gaylen: Oh, does it ever, does it ever, they're really in concert with one another. A very unusual situation. I think if I started to look at other national parks and then the development outside of those national parks and everything, this is one of the ... I can't say statistically right now, but I would say it's one where it's really worked well with land use in concert with the national parks. You know, like we don't ... Waterton, the beauty of it is we don't have a through highway, we're not getting the semis going to B.C., so there are all different aspects, like Banff. Holy man, the struggle that Banff has with what they're trying to do to maintain the beauty of that national park and what it has to offer for people that like to hike, for others that just like to go on holiday and look at the mountains and go downtown. It's remarkable.

God, I don't know what we'd do without national parks, I really don't, you know. We've got provincial parks, too, yes, and it's good, and they have a certain legacy, but the national parks have a very profound and a very strict way of trying to maintain that land element that benefits, you know, most people, hey?

[01:08:18]

Edwin: When we think of Waterton Lakes and its adjoining neighbours, the Waterton Park Front, here, wonderful Glacier National Park in Montana.

Gaylen: Oh, lucky hey.

Edwin: And the wild lands of British Columbia where the Kenow fire started-

Gaylen: Oh yeah, that's something. Yes. Yeah, phenomenal.

Edwin: -it's a marvelous, huge, big ecosystem that benefits everything you were speaking about.

Gaylen: Gosh, yes.

Edwin: The wildlife and the beauty of the view scape and the quiet, wild country that we love so much.

Gaylen: Right, yeah. And there's one thing we've got to get used to, that people have to get used to, and I think there's any other way around it. There's Yellowstone National Park and others where you've got to book things and you can only be bussed in in certain places. I was thinking of the Grand Canyon, too, where in order to go up and see parts of the Grand Canyon and everything, you're bussed in, you can't just drive en masse and so on. So what's the point of it? The point is so that you can see the beauty of what it has to offer perpetually, you know.

Edwin: Yes, management of people.

Gaylen: Yeah, absolutely, people management. That's what we always said in the provincial government, that wildlife management is people management, that's it, it's all man, that's it. [sound of truck starting]

Edwin: Good man. Well, that's great [referring to the interview].

Gaylen: Good. Well, I hope it's not too monotonous.

Edwin: Yeah. Well, it's an hour and ten minutes ... Not at all, no.

Gaylen: This rodent business: After that fire went through I said, Marilyn, look at all the anthills. The Columbian ground squirrel was already underground well before the fire got here, okay?

Edwin: Yes.

Gaylen: But look at all the ground squirrels and the pocket gophers, and this whole grassland out here is covered in them. You don't see that when the grass is here. You figure out, yeah, oh there's some pocket gophers here, oh there's some ground squirrels over there, and it gives you this bit of an isolation, you get this isolated feeling, oh they're just over there, and they're just over there. Good God, they cover the whole area.

Edwin: Right. And I'm still recording.

Gaylen: Okay.

[01:10:46]

Edwin: What we're seeing as we're driving now towards the ranch building, Wind Tunnel Ranch, are these mounds on the grassland that came up after the first snow melted post-fire?

Gaylen: No, before that. Right after the fire, when we came down on Thursday there were fresh pocket gopher mounds, easy to pick out.

Edwin: And, Gaylen, your theory is that the pocket gophers are benefitting from the ...

Gaylen: I think so. I think they're down, they're underground. I don't know so much if they're benefitting, but I think they survive. I'm just thinking of the fire, how quickly it goes across on a grassland, how quickly it cools afterwards, and greens up afterwards, so it wasn't surprising to me. And even that fire that you guys had over on Sofa Mountain ... When was that? About 15 years ago?

Edwin: 1998.

Gaylen: Okay, that was really hot. We had a similar situation here. It was a little hotter because I think of a spruce, mainly spruce fire, where the following year we could sink right in, you know. We could sink right in to the soil. Well, we've done it here, too, we've gone through the organic matter and

we're down into the A1 horizon easily. In some areas you can sink right down, and you'll see it when we go into the stand [of burned Aspen forest].

Edwin: Yes. And we're opposite the house now.

Gaylen: Yeah, that's the old cabin.

Edwin: And that is from ...? What year was it built in?

Gaylen: 1939. Yeah, the wood one – you can see where the chinks- and they just used straw and horse manure and stuff like that to fill it up.

Edwin: And as far as the Kenow fire going around it?

Gaylen: It went around it.

Edwin: It may have been that the driveway, which was in a sense a fireguard, slowed the fuel, slowed the flame, and then the fuels are reduced as it went into the aspen.

[01:12:34]

Gaylen: It could be, because it went ... You see, when it hit the road-

Edwin: And the mowed lawn.

Gaylen: -just opposite the garden, it [the fire] then said, well we're going to go over here and we won't come back until we leave this little bit of grass here. Meanwhile we'll go down the – I'm talking about "the fire devil" – river and we're going to take all the vegetation out right down to the soil, but I'm going to leave this little grass patch along the road, and I won't go into the aspen stand that's on the east side of the house and the cabin, but when I get past the road – the grass road which has got a ton of grass on it and never cut, seldom cut, goes in – I'm going to start the fire again on the right side of the road, this little stand here.

You know, we've had leaf drop, but that's all fire there, and where it's all greener, that's fire. And it goes over, but it doesn't go ... it doesn't go close enough to the power pole, our main power pole, so it doesn't burn any of that. But then, as soon as it goes past the power pole, it goes over to our septic system and burns right up to the box that covers the tubing, and back into the stand it carries on really heavy.

Edwin: I have a hunch, Gaylen. It's just reduced fuel-

Gaylen: I think so, hey?

Edwin: -the road-

Gaylen: And then a get up again.

Edwin: -a slower rate of spread because of that fuel load is reduced.

Gaylen: Yeah.

Edwin: And then the winds are pushing it; it was a strong, windy night, so it just didn't have the chance to burn and grow where it was passing through [lighter fuels].

Gaylen: No, that's right. But then, as soon as it got past the septic tank and the power pole, she then starts to click in. At the same time, having said that, it does click in, but there is a narrow run where it doesn't do anything. And then, finally-

Edwin: It widens out.

Gaylen: -it creates that wall and never quits.

Edwin: And it's met the other fire, probably, further north.

Gaylen: Sure, from the ... Yeah, that's what I think could happen, yeah. [sound of truck starting and moving away].

[01:14:57]

Edwin: We're back at the interview, Gaylen Armstrong and myself, Edwin Knox, and we've had a good look on your property, Gaylen, of the fire. We walked the yard, the perimeter of your house, and then into the aspen stand, and then back along the river, and we certainly see the effects of the fire burning very hot in places, and burning less intense in other places, and all of that is most interesting, and with our imagination back on the night of September 11 and into the wee hours of September 12th, and just how fortunate you and Marilyn are to have your property escaped from the burn and standing as good today as it was on September 10th. We walked along the river and saw the beautiful diamond willow. And if you just want to carry it on there, Gaylen, about some of what we observed in the forest.

Gaylen: Sure. Okay. Yeah, I remember when the Waterton Lakes National Park was doing a prescribed burn from the Waterton River Bridge, just before the entrance, and then downstream towards our place, having it well-controlled, and the idea was to get rid of ... not to get rid of it, but to reduce the decadent willow, knowing full well that it would re-sprout again and rejuvenate the area, and better production for wildlife and the health of the stand. And there was willow within the aspen, and there was a lot of willow along the river. And those burns that were controlled – carefully controlled – when they'd release that – it's a potassium nitrate, isn't it? [Potassium permanganate, fire ignition devices called "ping pong balls" in the industry] – from the helicopter and any time it hit a willow, God, it would just flare up.

And then, when we went and saw it afterwards, I thought, yeah, that's what I thought: typically it would remove some of the branches, you know it would start to rejuvenate, regenerate, the young growth, but when it's a

hot fire, like we saw [today post Kenow] along the river, which we thought, and I think you did too, Edwin, the heavy winds and all that fuel along that bank before you got down to the flat of the river bank, which didn't burn because it was moist and close to the water, up the bank, up the slope. The amount of fuel was phenomenal. And the amount of willow, birch to a letter extent, there was a lot of it, I'd say ... what would you say? 60 percent would be willow?

Edwin: At least that.

Gaylen: You know, at least. And they were all decadent, and when you looked at it before the burn you could see that, sure the trunks, oh wow, look, I'm looking a little closer down, it might be three, four, five inches, it goes all the way, when it's burned completely, to the soil, and goes through the organic matter layer and then part of the A1 horizon. Some of the trunks on those decadent willow have to be one, two, three feet wide.

Edwin: One and a half, two, two feet plus.

Gaylen: Yeah.

Edwin: Very big, old willow trees.

[01:18:41]

Gaylen: Old willow, and the orange decadent- I think it's the cambium layer. And then it pinnacles out of that thick bark, and that heavy, heavy, dense wood could withstand the fire, but then as you went up to the thinner part of the willow on the smaller branches and so on, it just pinnacle out to black points, okay, up about three or four feet.

Edwin: Completely burned.

Gaylen: Yeah, completely burned.

Edwin: The diamond willow.

Gaylen: All charcoal, solid charcoal.

Edwin: And you will find it interesting in the future to watch what kind of regeneration comes through those willow stumps, and what life, if any, remains in the willow such that they will regenerate.

Gaylen: Oh for sure. I think they might, because they had tremendous, humongous trunks at the base and well into the soil. I haven't dug down to see how far down they go, but I'm thinking, I wouldn't be surprised if we saw it sprouting in a year or two, you know, a little bit of sprouting out of the base maybe three years down. But anyway that ... and then it took all our fencing out except the odd post. And you're wondering about expense and insurance coverage and so on, and you've got that zinc-coated barbed wire. And so I went in on the internet and Nebraska did some studies on 20-year-old wire using all sorts of different heat levels of grass fire. It had

no effect on the resilience of the wire. So we kind of looked at it and we thought, well, visibly it looks okay, we might be able to use it again. Because we're talking miles of wire here when you're doing, you know, three strands and so on.

Edwin: Another interesting thing we saw was the bank beaver, and the fire having burned the lodge along the bank, revealing the tunnel system.

Gaylen: Yeah. And having that breathing hole up above, and I have to be honest, I'm not ... yeah, I knew a little bit about the life history of beaver and we did some studies with the students in ecology and that sort of thing, but having that breathing hole above – that's what we thought it is – all of their food source and the wood and everything they use for the lodge itself on the banks, I could never understand why they went to so much work knowing that the river level, water levels, would go too low for them and make them open to predation and so on, and less protection, you know to get to the food source - get out to the water - and so on. Nevertheless, they would still build that house for the length of time before you get that reduction in water.

[01:21:28]

So there you've got this huge volume of this wood that forms the lodge that covers probably halfway up the bank, and probably another ... let's say ten, maybe 20 feet wide, and it's all gone [consumed by the fire], there was just a few little sticks left of the poplar, some of which they had been chewing on for the bark, and then you look in and here's this, which is a normal contour of soil on the bank going down to the river. It's got these huge tunnels in there with the different chambers with the partial food sources where the young kits are and so and so forth. To be able to look in underneath [post fire] and see what they've done, their excavation, on top of toppling those poplar down and debarking them ... it's phenomenal.

Edwin: It's been very interesting, yeah, to see that revealed.

Gaylen: Yeah, to see it revealed, absolutely. So the other thing is going through that heavy stand of poplar that you mentioned, some of which was burned a little more lightly. The stuff that was burned heavily was quite extensive. The aspen, you don't realize when you're walking through a forest and you've got an aspen forest and you've got trees that are 30 to 40 feet high ... They're a hard wood, aspen's a hard wood and they're extremely heavy. They grow relatively straight, but as they get older you can see changes in the trunk and there's a deflection and you don't get that straight pole effect. And when everything is intact and all the green vegetation is there and everything, you don't give it- you don't it any thought about, oh, those things have reached their rotation, they're going to fall anytime.

But boy, do you ever see it, when that fire goes through there and it's hot it starts to burn [at] the organic matter level, there's no grass left, it's burned the soil, you're sinking down in it, the fire goes up to what you – when you cast your eye across the heavy burn it's maybe six feet high, and then

there's no change in colour of that nice white, yellow white aspen bark, and then you look out further and the fire has said, hey, there's a dead branch up there, I'm going to take that one out. Oh, there's one over here. And I've seen places where it's 30 feet high and they've taken the branches off but never affected the bark at all [green, living wood still].

Edwin: The rest of the tree below it.

Gaylen: Yeah, the rest of the tree below it.

Edwin: That one's green so it's [more resilient to the fire] ...

Gaylen: It's amazing.

Edwin: It's burning dead [dried] parts of the tree much higher up.

[01:24:15]

Gaylen: Yeah, to lick up [flame behaviour]. So you can get a feeling of the phenomenal amount of height. And then burning them through the trunk at the base [dried dead wood], and they're 30, 35 feet high and the trunk is burned, and you look at it and say, oh, it's just black, and then you go and put your foot on the trunk where it splays out at the base into the soil, and if the wind is blowing at all, and this trunk – the roots – are starting to rise and fall in the soil and you know that that tree, it's days are numbered. But you wouldn't have that clue when everything is all nicely grassed in there and you've growth and what have you. But boy, when the fire goes through you can say, well, these guys aren't going to be here [a lot of decayed, dead wood]. And that's what I mean by an effective burn. If you wanted to get rid of big, heavy, old aspen to restart new growth of your aspen clones and get them nice and young and so on and so forth, that might be the way to do it, hey?

Edwin: Yeah, the fire burned at the driest most vulnerable time of the year.

Gaylen: Right. And you guys don't have that luxury in the national parks. Seldom.

Edwin: No, and prescribed burn conditions, you're looking for much safer burning conditions when things are a little less volatile and you can keep things more under control.

Gaylen: Yeah, for sure.

Edwin: But a fire like we saw on September 11th was off the charts as far as hot and dry and windy.

Gaylen: God, wasn't it? I think so! I think when you guys look back – and you've done some of the research already, Edwin – that this year was ... with all that underbrush and everything, it was so dry, so dry. But what I couldn't get over, as I mentioned before, that growth still continued [with spring – early summer soil moisture] for a good - I would say a good month afterwards, because I noticed that along the horse trails through our place –

not many horses, about eight or nine of Cassidys and a couple of Jenkins- so they didn't have much of an effect on grazing the grasses at all. But you follow those horse trails and then, even on the horse trails where it was compacted, the moisture regime in that soil was high, it was really high, and the grass growth continued.

But then we got that over 30 degrees weather and it went on for what? Another month and a half before the fire, and it was dry, alarmingly dry. And I thought, boy, all we need is a lightning strike anywhere near this ranch, ranch land, and we're going to have a real winner. It was just a thought.

Edwin: Indeed it was.

Gaylen: Yeah, and it was, for sure.

[01:27:11]

Edwin: Well, we've been at it for close to an hour and a half. Gaylen, I really appreciate your time.

Gaylen: Thank you. Thanks for the opportunity.

Edwin: You're very, very welcome. We'll add this to another great chapter in Waterton's history.

Gaylen: Sure, that's great.

[End of recorded material at 01:27:28]