

**The Grizzly Beat**  
**Transcript**  
**Dr. Paul Paquet and Dr. Chris Darimont**  
**Episode 9**  
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Grizzly Times: This is Louisa Willcox and the Grizzly Beat, and we're here today with Dr. Paul Paquet and Chris Darimont. Paul and Chris are both world renowned experts on predators and their wild ecosystems. And they both have publications, a huge number of publications as long as your arm. And they may look conventional on paper, but in reality they're kind of rebels, and they represent a serious challenge in some ways to conventional wildlife management, because in addition to researching the animals and their ecosystems, they have expressed concern about the welfare of wildlife.

For example, if you shoot an alpha wolf female, you not only inflict terrible impacts on the pups, but also terrible, tragic impacts on the pack and impacts far, far beyond. And they have been raising concerns about wildlife impacts from our management, and our shooting and our hunting practices for a long, long time. And they're making headway, and we're here to talk about that.

But first, let's have them introduce themselves. So Paul, you're now a father figure in the field of large carnivore conservation in North America and around the world, with degrees in philosophy and wildlife behavior and conservation, and a PhD in zoology from the U of Alberta. And you have a long lasting focus on wolves, starting with your research in Riding Park in Manitoba.

Paul Paquet: That's correct.

GT: What did you discover about wolves there and what fuels your interest.

PP: Well, let me back up there a bit. And it's interesting to be called "a father figure," given that sort of the inspirations for me were other father figures, and then of course colleagues. These are people that I was certainly inspired by, like Michael Soule and Aldo Leopold and others of course.

But my interest in wolves and my first work on wolves really began much earlier with captive wolves and with captive behavior, and with coyotes and work that I did in Arizona early on. And then eventually coming back to Canada into Riding Mountain and with Buffalo National Park and those areas. But my early, early on I have to say, I had this affinity for wolves -- and I would say all dog-like animals -- that has stayed with me since I was a small child. And surprisingly my first encounter with a wolf was in the Apennines in Italy when I was about six years old and traveling with my father, and it's continued from there.

I don't think that much has changed in the way I view the world since I was a little small child -- and that's a bit of a surprise to me now that I'm 68 years old and look back and think: "Boy, the world is much the same as I thought it was," and the way I viewed it.

But that's really where I am now, is working with people like Chris in particular, and that would just of course been an absolute blessing for me, is being able to and having the opportunity to have people to associate with like Chris, and who continue to inspire and inform all of what I do, and how I view the world.

GT: So turning to you Chris, You're a scholar with a PhD in evolutionary ecology, but you're also a serious surfer and advocate devoting to protecting among other wild places, British Columbia's Raincoast. And your work has broadened to include protecting the interests of indigenous people as well. And you've described the Raincoast as the salmon-grizzly bear-human ecosystem. Can you flesh out what you mean by that?

Chris Darimont: Sure, Louisa. Yeah. A lot of that thinking was inspired by Paul and others at the Raincoast Conservation Foundation for which we both work -- and have been with Raincoast for going on 20 years now. We kind of consider grizzlies, salmon and human beings as forming kind of this whole among these really important parts to the coastal landscape up in British Columbia, Canada.

I mean there's some obvious connections, grizzlies make most of their living from Salmon in these forests. Salmon evolved under predation from grizzly bears, but some other connections are really important. And often wildlife scientists don't think of them or think of them very deeply, but we like to and in part that's shaped by spending time with indigenous people. So for example, the people of this coast in large part refer and think of and conceive of grizzly bears as, not just animals to protect, but they consider them ancestors or relatives, and what goes with that is a fundamentally different way of interacting with them and managing the bears. In essence, they manage themselves around bears.

Indigenous people also have a very strong relationship with Salmon. I mean it's this very nutritious, formerly predictable, formerly very abundant food supply that, pardon the pun, spawned these large large societies that survived on our coast before Europeans showed up.

So working with indigenous peoples who are interested in not only safe guarding grizzly bears and salmon from the threats that threaten them, but also working with them towards a renewed sense of sovereignty. That is to say, managing what they consider, and I consider, their lands and resources in much much healthier ways after European settlers essentially dismantled these systems through western management and pretty severe overexploitation.

So it's really exciting work that Paul and I and Raincoast are involved in. And we're making headway. And we're seeing real change, and it's a pretty inspiring project to be involved in.

GT: So just curious Chris, did your surfer habit pre-date your interest in conservation?

CD: It's hard to unpack all of the inspirations. I've always been a coastal kid and all these sort of narratives run through my mind, from the first time my mom actually took me surfing as a child on these cold cold waters, to hanging out with my dog and sniffing around tide pools when I was a little boy, to meeting Paul for the first time actually.

This was on Paul's 50<sup>th</sup> birthday. In the Rocky Mountains, and I had taken a year off undergraduate studies to volunteer for a project that Paul led in the Canadian Mountain Parks. And I had forever waited to meet Paul, or it seemed like forever, and to my delight here was this really incredible man that listened to me and my ambitions for doing work like that -- work on wolves in a very different place, in these temperate rainforests in Canada -- and kind of from that very moment at that dinner and I think at an Italian restaurant, Paul's showed me nothing but this incredible support and unbridled enthusiasm for our work. And I just feel like the luckiest guy in the world to have had the opportunity and continue to work with Paul.

GT: Wonderful.

PP: So generous of Chris and my recollection of all of that is similar to Chris's. But the difference being that suddenly the teacher becomes the student and the relationship over time and the affinity I would have to equate -- and this might sound odd to people -- but to a love affair that you have, and you can't quite understand why it's such an important attraction.

But it's been ongoing and I think that the benefits have probably been mutual for both of us. And I hope that all of this will continue until it can't for one reason or another continue on, because one of us might not be there. But this has been incredibly inspiring in terms of the kind of creativity that we've been able to bring to the research that we do, and the writing that we do, and the kinds of understandings that we've been able to probably achieve that otherwise wouldn't have been available to us. So it's really been a remarkable journey.

GT: So Paul, you and Chris and your colleague Kyle Artelle recently published a paper finding close ties between the abundance of Salmon on the coastal British Columbia and the rate of grizzly bear-human conflicts. Maybe you can unpack this connection and its implications for the management and conservation of grizzly bears.

PP: I think it probably could best stated that in some ways it wasn't a surprise, that there would be a relationship given the emphasis that grizzly bears place on salmon in the coastal communities. And you can imagine with either the absence or the decline of Salmon available that there might be some changes in how grizzly bears behave, and how

they might interact with people as a consequence of that -- given the motivation that they have to still attain as many calories as they possibly can during the summer months before they head to hibernation.

And of course the findings, which I don't think that you mentioned really were that there were changes that seemed to occur related to the availability and abundance of salmon for grizzly bears seasonally that were increases in conflicts and the potential for conflicts in those periods of low availability and abundance for salmon. And in some ways I think -- and this originally came from Chris I think -- that was not unexpected, it had just never been demonstrated.

But from a conservation perspective, a major implication and finding is that bears on occasion do get into trouble with people, that the management most often applied is lethal -- meaning that the bears are killed. And that's viewed to be the solution to reduce problems or at least minimize them in the future, with those bears being removed -- and removal again by being lethal.

But that's not really what our work showed in this case, and I think that Chris can elaborate on that, again, because conceptually this paper really was a foundation for, it came from Chris's sort of insights into the behavior and ecology of grizzly bears on the coast, and the kinds of expectations that we might have if in fact the foods that they depend on for their sustenance aren't available to them.

GT: Right. Do you want to expand on that Chris?

CD: Sure, I guess the penny dropped, or whatever the expression is: when we were reading some newspaper articles, just two pieces just a week apart, and one said, "it's 2008 here, and it's the lowest salmon runs in recorded history than we've seen in certain areas of the coast," and the next one a week later by the same reporter actually said, "we've never seen grizzly bear attacks this frequent before, " but didn't reference salmon.

And so kind of the idea was born and the bottom line is: if society and managers are interested in reducing the frequency, and probably severity, of human-bear conflict, then we should give bears salmon, not bullets. And what I mean by that -- and Paul's already referred to it is -- when we looked at several decades of data, we find no signal that either trophy hunting or conflict kills, that is to say conservation officers killing grizzly bears -- neither of those two approaches has any effect on grizzly bear conflict, even though by managers and hunting lobbyists, those arguments are put forth, that if we kill bears and reduce their populations, and remove problem individuals we should see less conflict in the future.

We found no support for that whatsoever, but we did find, as Paul mentioned, pretty strong support for relationship between salmon abundance and conflict. And in our best model, our best statistical way to describe that relationship, we find that in years with a 50 percent decline in salmon abundance over the previous year, which happens actually

remarkably commonly in salmon, we can expect, based on 30 years of data that the frequency of conflict occurrences goes up by about 20 percent, a non-trivial amount.

So there's a clear signal, and kind of a reminder, that if we want to manage terrestrial wildlife, we ought to think more broadly than just about terrestrial resources. In this case we have to think about resources that come from the ocean, which in Canada and many jurisdictions are managed by a different agency, a federal agency in Canada, whereas the bears are managed by the province.

PP: Louisa, this obviously can be extended to the work that you've done for so many years in the U.S., and the West particularly around Yellowstone. And considering the historical legacy of grizzly bears, where salmon were one of the major foods available to them for most of history. And that now is not the case of course. And other issues for example around the loss of whitebark pine, which you've written about previously, others as well. In fact what that might mean for grizzly bears and the potential for conflict with people within the region. I think you can extend conceptually, again, from the work we have done here.

GT: So, Chris you have an interesting paper, that dates a little bit, but you and your colleagues argued in a publication, it was pretty stunning, that hunters who you called "super predators" are changing the course of evolution of prey animals such as elk and bighorn sheep. Maybe you can explain how this works and what your concerns are.

CD: Sure, we used the title "super predators" to describe not only hunters but actually fishers. Human beings we argue are predators but are not any old predator. We think they're "super predators" for a number of reasons. They prey commonly and very intensively on other predators alone making them a "super predator." They have the largest predatory niche, or a list of menu items, compared with any other predator. They exploit at far higher rates than any other, at least vertebrate predator, especially in the oceans and especially when hunters prey on carnivores like grizzly bears or wolves or mountain lions, etc.

So, some of our work looked at a comparison of exploitation rates and we found the central result was this asymmetry and what we as humans take from the natural world, the natural populations. For example in the oceans, we take about 14 times the median rate of adult prey from populations than do other predators in the oceans. A pretty stunning result.

Then when it comes to land, human hunters take about the same median rate from herbivore populations than do vertebrate predators like wolves and lions, etc. But uniquely humans turn large predators into prey, killing them at about nine times the median rate at which other predators kill predators. So, pretty stunning differences between hunters, fishers and the rest of the world, the natural consumers that prey on vertebrates.

Another thing that we do very uniquely is target almost exclusively large reproductive aged adults, and that's a very rare pattern in the natural world. Mostly predators as you know take the newly born, especially, the calves on land or juvenile fishes in the ocean, or maybe to a lesser extent, the nearly dead, the older, weaker, injured, etc. animals. And because of both highly exploitative high rates of harvest that humans impose -- and this very different what we call "phenotypic" target of prey -- humans have emerged as a really powerful agent of evolutionary change.

We're shrinking fishes, we're changing their growth rates on land, we're influencing and shrinking the body size of animals, the size of their ornaments, etc., because we take the largest ones out of populations on average, giving a selective advantage to those remaining individuals that have smaller horns or slower growth rates, etc. So in kind of an ecological and evolutionary terms, there is nothing like us out there.

And a reminder that something's different, something's perhaps wrong with how we're engaging with the natural world. And it was some fascinating work, because it really did take this basically fundamental natural history to compare us to other predators and find such stunning results.

Paul and I have thought a lot about these comparisons and why it was useful to do these. And what we keep coming back to is the fact that natural predators, things like grizzly bears or wolves or mountain lions or say predatory fishes, can in fact instruct us as human beings and as managers as to how to best manage populations. After all, these predators, which coevolved with resources like salmon or elk or deer or whatever for hundreds of thousands or millions of years are, in our view, the best and most appropriate models for truly sustainable exploitation. And in contrast, what we see humans doing in the natural world is grossly deviant. And it's no wonder why the world is falling apart before our eyes.

PP: In addition to that with almost without exception is that predators both manage and conserve. And that's something that humans fail to do and that's a really interesting lesson that we should be able to take from them and apply.

GT: Right, Right, if we will.

PP: It's striking that so many of these populations, not only did they co evolve, the predators and the prey, but they've been able to be sustained over millennia, literally, and successfully without seriously depleting populations to the point of where they disappear. And that's where the conservation message comes in, and it's also I think somewhat encouraging, that if we want to turn to management, which I don't know is considered to be directly related to conservation, that populations can be managed and conservation can take place simultaneously.

GT: Right. So Paul, you've made the case that the movement to conserve large carnivores has the focus on the status of population and numbers has long given short shrift to the welfare of individuals and their suffering, whether that sufferings in the form

of destruction of habitat or displacement of animals, or being shot at say by ranchers or handled by researchers. Can you share your thinking on that issue, and whether you think we're making progress?

PP: That's something that I think has been on my mind and again, we've written about this, Chris and I, and published on it. First of all, I think that the claims that we've made that both management and conservation have certainly ignored -- have been focused on numbers of animals and certainly have ignored the welfare of animals, are valid. I think that those are real.

I have to say that we weren't the first to speak to this. In fact someone you know very well spoke to this early on as it related to grizzly bears in Yellowstone and the vicinity, Dave Mattson. And he wrote about these issues I would say in the late 90s, sorry late 80s and early 90s.

We've expanded on that to some degree. But I think it's without question that that's been the case for some time and continues to be, that the welfare of individuals in particular, and extended to populations, has just not been a consideration. And we've made the point I think quite strongly that that's not only from people involved in management of wildlife or ecologists or conservationists, but that also extends to animal welfare-ists whose focus has been primarily on domestic animals and not on animals in the wild.

I think that we've brought a lot of attention to that. We certainly see much of the language that we introduced being repeated now, which is always a good sign. I think that there is progress being made that there's far more consideration being given to animal welfare in particular -- wild animals than occurred before we really broached this. At Raincoast, we made a concerted effort to make this part of what we do. And to associate animal welfare and conservation. And the two, as we note in our publications, that there probably two sides of the same coin, or if they're not, they should be.

But I think the awareness has increased tremendously around this and again, giving credit to the people who early on raised this issue like Mark Beckoff, and of course most of the people who work with primates really were well aware of this, and were proponents of animal welfare and more of a focus on individuals.

Some of the things that we've talked about that become difficult for many people to accept, however, are discussions around quality of life of both individuals and populations of individuals. Why we're concerned about that and those are problems that we think need to be addressed. Certainly we can have in many cases, large numbers of animals but living in horrible, impoverished conditions where their quality of life is less than obviously what it should be -- and we've equated that on many occasions to similar situations that people endure who might live in inner cities, and live in ghettos. And we referred to some of the areas in many cases where wild populations exist in terrible conditions as wildlife ghettos -- and really we believe that that's the case.

But I do think we're making progress in that area, and again, I think that the measure for that is that we see much of what we've written about now and discussed publicly as being repeated by others. And I think that just the initial phase of making progress is increased awareness, and then of course we most are concerned about application, and we think that that is beginning to happen now.

CD: A stunning example of an application that is one of the very best things that Raincoast has ever done was a completely different approach to safe guarding carnivores like grizzly bears and wolves in this Great Bear Rainforest region of Canada. And that is after several years of lobbying for changes to sport and trophy hunting in the area to minor and significant improvements, but nothing enduring.

Raincoast did something that had never been done before -- and that is buy out the exclusive right to guide foreign hunters looking for grizzly and other trophies in an amazingly large area, greater than the Greater Yellowstone Ecosystem area in fact. And since our initial purchase of the guide outfitting territory in 2003, we've acquired two others so that we have extinguished about half of the trophy hunting in an area about 35,000 square kilometers.

So real tangible differences have been made that have improved the quality of life obviously of carnivores in the area. And we paid a lot of money to do this, somewhere in the area of \$1.6 million collectively. But the lives that we've saved and the suffering that we've avoided for those animals to endure is priceless. And our ambition in the next year or so is to buy up the remaining licenses, and it's all we have to do. It's simple, but ambitious. Like we like doing at Raincoast, is raise another about \$2 million to do that -- and then the coast will be locked up and changed forever.

PP: And we will do that. In the bluntest of terms, it's what we bought were the rights initially to kill these animals, and we bought the rights not to kill them. And that's where the protection is extended. Interestingly enough, Louisa -- and I think you'll appreciate that -- when Raincoast and all of us decided that we would make animal welfare a serious issue and always associate it with what we do in conservation, everyone advised us that: "you cannot be talking about ethics, you cannot be talking about morals, you cannot be talking about animal welfare and have any credibility at all." And, that: "this is going to be as a strategy is not going to be workable, and Raincoast is an organization that will suffer as a consequence of that."

We ignored that advice in part because we knew that we had a very solid foundation as a research organization as well. Given that we'd published extensively and widely and we, again, for that reason, felt that we could ignore that and continue working both in science, as we always have, and animal welfare.

GT: It's a stunning success. And you're obviously winning and kudos to that. But I think you've obviously got the backing of public opinion -- and speaking of which, maybe this one's to you. So, the death of Cecil the lion last summer was such an enormous favorite, this lion, in Hwange Park in Zimbabwe was killed by this Minnesota dentist Walter



Palmer, who was devastated in the public media -- an unprecedented protest. And the death of the lion was followed by the killing of a grizzly bear, Cheeky, on the British Columbia coast by an NHL hockey player Clayton Stoner, and another huge public protest in social media. The subsequent conviction last fall of Clayton Stoner. What do you think these events mean and what do they portend?

CD: I think they're a clear signal that society's changing and no longer tolerant that a minority narrow special interest groups of trophy hunters can get away with behaving in a way. I think in general, society permits people to kill animals if they do so for food and to feed their families etc. But to kill an animal just to feed one's ego, and for pleasure, is pretty sick stuff that the world's just not willing to tolerate anymore. So those changing societal norms, coupled with the resurgence of indigenous governments in our area, we are hopeful that within the next year or two that we will see the end of all grizzly bear hunting on the coast of British Columbia.

GT: Wow. I hope you will. It's stunning to see the progress you're making.

PP: And public opposition in B.C. to trophy hunting in particular of grizzly bears, I think as you probably know Louisa, most recent to polling has shown somewhere close to 90 percent opposition.

CD: That's right.

GT: It's incredible. So, either one of you, here in Yellowstone, managers are talking about renewing a grizzly bear hunt after a 40 year hiatus, and delisting grizzly bears and removing their protections. Maybe you can reflect on your thoughts about Yellowstone.

PP: Well, of course my initial reaction to that is the same reaction I would have had 40 years ago in anticipating that that could happen. I find it appalling. Clearly unnecessary, and it's mostly pandering to, of course states and again, special interests, with the understanding in some cases, for many of the people who are involved in making these decisions that that is necessary pandering to appease those special interests and others who really are opposed to even having grizzly bears anywhere or the recovery of them.

This is a whole discussion that's taken place for so many years around social license and that we need to address that by doing the distasteful thing of allowing people to express their dissatisfaction with the grizzly bears and recovery of grizzly bears by allowing them to kill them. That's really what's taking place -- and it has nothing to do with, of course conservation, or a sober understanding of where grizzly bears are in terms of the recovery from where they were historically, and what recovery really means, as opposed to what we would like it to mean for convenient reasons.

I don't think this is a surprising happening. Again, most of us have of course anticipated that this would be the case and that we would at some point have to confront this unfortunately. I think what's been of great importance is the response to aboriginal people in the states, or First Nations as we often refer to them. Their lack of support for

some of the changes that we might see taking place as a consequence of the changes and just allowing the hunting of grizzly bears etc. And the opposition there has been I think really encouraging to see.

And I think that this is kind of the nature of the discussions that take place not only Yellowstone but really globally when it comes to both endangered species and in particular carnivores. There really are no ecological or biological reasons in conservation to be killing these animals.

GT: Chris, maybe this is shifting gears a little bit, but you obviously work a lot with native peoples along the coast in the Raincoast and weaving traditional knowledge and perhaps more conventional science based knowledge, which some might sort of think about as integrating chalk and cheese in some ways. Can you perhaps talk a little more about what your work in that arena's like?

CD: Sure, it's fascinating, rich, complex, unlike anything I've ever done before and incredibly rewarding. And I think the key to it is -- and Paul's being an advocate of this from the very beginning -- is just moving slowly, taking our time to listen more than we speak in these communities. Especially at first because after all, scientists have been in many cases very unkind to indigenous people, and abusive and unkind in recent decades and some continue to be so.

So, developing relationships has been a key part to integrating the world views of indigenous people and western science in our projects that we partner with local communities. And at first glance it may seem like really different approaches, but we share the same physical reality. Indigenous peoples have had the connections to place and animals on our coast for 10,000 years or more. And whereas they may not have had say the molecular tools that we can bring as scientists, they do have historical and contemporary information that we just can't develop here in urban centers at our universities, no matter how good our tools are.

So we find kind of this -- it's an overused word, but it's really fitting -- this "synergy" when we engage with communities. And they bring knowledge of animals and even hypotheses to test that we would never have dreamed up in our most creative of moments here in institutions or working with nonprofits.

It's been really rewarding, and it's especially rewarding working with these same people and their government systems that are reemerging after being kind of beat down by colonial forces for a few hundred years, and watching them make change empowered by increasing legal and societal authority to do so. To be at the helm in resource management decisions that affect everything from bears to salmon, to perhaps one day more significantly climate. So we feel really lucky to be working with indigenous people. It's kind of one of the very most important aspects of our work.

PP: The colonial perspective of indigenous people was very similar to the colonial perspective of predators in North America and the treatment of both large carnivores and predators and the First Nations people were very similar. Or the mistreatment I should say.

GT: Thank you Paul and Chris. It is great to be talking with Drs. Paul Paquet and Chris Darimont, who are working to protect wolves and grizzly bears and indigenous cultures and vast landscapes along British Columbia's Raincoast.