

**Transcription: Interview with Dr. Barrie Gilbert, with the Grizzly Beat, a project of Grizzly Times, March 2016**

Louisa Willcox, The Grizzly Beat, Project of Grizzly Times: This is Louisa Willcox with Grizzly Times and I'm delighted to be talking today with an old friend and colleague Dr. Barrie Gilbert. Barrie is a grizzly bear expert and a retired professor of animal behavior at Utah State University, and Barrie has studied grizzly bears from Yellowstone to Alaska for 40 years. And he's also studied how they're being managed by the government. Barrie, maybe you could start by sharing how you got interested in grizzly bears and how your career with bears got started.

Dr. Barrie Gilbert: Yeah, sure. I worked in Yellowstone on a project as a post doc on animal behavior there, the pronghorn I should say, and of course I was right in the post-dump John Craighead era and the biologists that I got to know, Glenn Cole and the people in biologists' offices were all talking about grizzly bears. And I got an interest, and when I came back to Utah State I proposed a study to the Park, and they funded one student to look at the response of grizzly bears to people on trails. They were concerned about the increased visitation, especially backcountry use and particularly horsepacking and things like that, going deep into areas where grizzly bears hadn't been exposed to people that much.

So I started a study and unfortunately on the upper Gallatin, I walked into a bear and it sent me to the hospital and further study of grizzly bears. But after that we went to Yosemite and studied black bears. But I kept an eye though on grizzly management in Yellowstone because I was nearby and I was visiting it. And then I got a chance to go back to grizzly bears in Alaska. Katmai National Park had increased visitation and they wanted somebody with behavioral experience to see what bears and people were doing on Brooks River. There were increasing numbers of fisherman and photography was getting big there, so I had a chance to get in right in the middle of 30 or 40 bears and 600 or 700 people all within about a kilometer. So that gave me a perspective on how bears and people can get along. It got rid of the idea that every grizzly bear is something chomping through the woods that will see you and then kill you shortly thereafter.

I knew there was a possibility that we'd get along with bears a lot better, especially the mountain bears. And the mountain bears are more food stressed but I think everybody would agree with that. And they tend to not be as tolerant of people, maybe a surprise -- but I think after the closure of the dumps and some 220 to 250 grizzlies that were shot over 3 years, shot or moved or otherwise disposed of by the rangers in the park when they came in the camp grounds after the dumps were closed. I am great believer that bears carry that experience away from them. Being shot at. I'm sure some are wounded and went away.

I think the grizzly bears in Yellowstone, they're fairly sensitized and with declining foods they're moving out of the park and out of protection.

One of the reasons I'm adamantly against the delisting at this time is that I think we can expect a precipitous increase in the mortality. The mortality currently is unhealthy enough.

But I think when states get the management of the bears it's quite clear they'll open hunting season, and without enforcement of killing, I think we can expect vandal killing and illegal killing -- and just people that are afraid of bears and will claim defense of life and property when they shoot a bear, when the bear may have no ill intent in its mind when they just walked into an armed person. So the scenario of losing the protection of the Endangered Species Act, I think, at this time is unwarranted.

GT: Thank you. Barrie, many people don't have a context within which to put the current Yellowstone grizzly bear population size, which is estimated somewhere around 700-750 bears. And as a scientist, maybe you can talk about this and what it might mean to hunt bears or increase grizzly bear mortality and killing as you were just discussing.

BG: Yeah, that's a good point. We see in the press the federal managers crowing about how we've had such a comeback with bears from a low of maybe 130 to 140 bears. You might counter argue that to say what other direction could they go unless being extinguished? So even if we have 600 or 700 hundred bears, I think you could make the argument -- probably Lance Craighead would do better at this -- but the question of genetic isolation is important.

Bears are fairly adaptable, so the evolution of them is a long term prospect. But inbreeding can occur rather rapidly, and I think if we continue killing bears that tend to be, if you like, the innovators, the ones that do somewhat, if you like, exploratory things, whether it's with their own food natural food-based or human food-based, we will be doing directional selecting. We'll be shooting and genetically changing the bears that are daytime bears and possibly turning them into nocturnal bears over a relatively short period of time. They learn to avoid people because of the mistreatment of all kinds, any kind of negative interaction, we can expect that they'll become smaller and rarer -- and this has happened in Europe over centuries.

The European brown bears tend to be nocturnal, they're small and they avoid people at all costs. Probably that's the only way they've lasted as long as they have. The north of Spain, between Spain and France, and in Scandinavia, they're more of them there. But this is a realistic possibility and, would in the extreme case, drive bears to very low numbers, if not extinguish them.

If people think this is some kind of academic pie in the sky, they can read Hank McCutcheon's work with black bears that he studied in Rocky Mountain Park. And there were bears there that were shot outside of this small park and they were not tolerated near people inside the park. They had no garbage problems. These bears went in the high elevation areas and did exactly what I just said. They became small and were cryptic or shy in all cases, and there were less than 100 of them left, mainly because they didn't reproduce very well, they had a very poor food base, and basically they were driven by

their shy behavior -- which put them in areas where there weren't people but also put them in a bad food base.

So coming back to the Yellowstone ecosystem grizzly bears, we know that they've lost at least two of their major food sources, and are dispersing. Now that federal managers have taken the position that this is because they're up to carrying capacity and high numbers of them, but the alternative which I think is equally plausible scientifically, is that food base has declined and they're spreading out and becoming less dense. They're obviously showing up down in the Wind Rivers and Teton Park, where we're seeing more and more grizzly bears, especially some that are readily seen from the side of the road.

So all of those bears that go outside of Yellowstone Park and Teton Park will be exposed to killing, hunting, illegal poaching, all kinds of things like that. And considering again the biology there, they're wide ranging, looking for food, they will no doubt be much more exposed than a population that stays within the Park, if they were feeding for example on whitebark pine or larvae of moths or trout along the 52 streams it used to have, used to have Yellowstone cutthroat trout. So, all the constant concentrated food bases in secure areas are depressed or gone. The trout are essentially gone for the bears, being replaced by Lake trout. And so we have the situation where the behavior or the bears takes them outside the park. Does that make sense?

GT: Yes. One of the other issues that have come up that maybe you can talk about a little more is the genetic health of the population, being that Yellowstone grizzly bears have been isolated for well over 100 years now. The U.S. Fish and Wildlife Service has proposed as part of its delisting plan to truck from other ecosystems maybe every 10 years to deal with the genetic isolation. How would you deal with the issue and do you think the isolation is a problem?

BG: I certainly think it's a potential problem. You have a population that's isolated and it may be maintained by a relatively few number of females and males. So that's a recipe for genetic homogeneity. One of the better ways of course -- and I believe you've argued this as forcefully as anybody -- is that we need connections between populations in other places. So I would like to see the capturing and collaring reduced or phased out, and replace it with captured hair DNA studies, trail cameras and direct observations of the bears. I think we could get adequate information about numbers and what the bears are doing out there with those techniques, and spend some of the effort to try and reconnect with other populations to the north and especially to the west. I think that kind of connectivity is clearly more important than bringing bears in from other areas.

The more we ship bears out off to zoos and shoot certain kinds of bears, immediately we're restricting the genetic heterogeneity, whatever variation is represented by those kinds of bears is being lost. And as I mentioned earlier, it's fairly easy to have directional selection and rapid evolution occurring when you get a combination of behavioral change that's successful for a bear but it may be social trap for a bear. A bear may innovate some technique, but it could end up in their death. Then that clearly restricts the genetic

underpinnings, the predisposition of genes that relate to certain kinds of behaviors. This is how evolution works.

The bears innovate in some ways, say it's a new way of catching food and then those bears that have the genetic predisposition to do that kind of innovating increase in population and they out-breed the other animals that aren't as successful.

I think we see this probably in Yosemite with bear problems. We got garbage feeding and backpack food feeding bears that were so successful they grow large the males that are dominate breeders and females pass these traits on. They get what I call a behavioral epidemic. Basically problem bears take over and the non-problem bears get restricted and become a smaller part of the population, so basically the park management and the bad behavior by people leaving their food unprotected creates essentially a new species of bear. *Ursus Garbagensis* I suppose.

GT: A population of raving adolescent behavior..

BG: That's right, and successful in terms of the gene pool. But it ends up being catastrophic to the population. And I'm really concerned that we don't spend enough time thinking about these mechanisms and the grizzly bears.

GT: One of the principles of wildlife management seems to be control and management of wildlife. It's not a neutral, observationally-based field. It's often capturing, following, intrusively-based practices.

BG: You're right. I taught in a wildlife department that hands on stuff tends to be dominated by men who often think it is a substitute for hunting. You just get yourself a collaring license. But you're right, the range of kinds of science is pretty limited, and I think we've had 40 or 50 years of radio collaring, and I think it's time to do something else.

GT: You mentioned Yellowstone Park's research about people and their effect on bears. I've been really interested in your work on human-bear interactions in Alaska, and some of the takeaway lessons perhaps for places like Yellowstone and the northern Rockies. Maybe you could talk a little bit about that.

BG: One of the contrasts that occurs to me, and anybody that's been to Brooks River, or McNeil Falls, is that when bears are protected from hunting for long periods of time, and Brooks River is in the middle of a very large park, and they have not been exposed to hunting or any kinds of shooting, legal or illegal for decades, if not hundreds of years. And the result of this is that bears are basically tolerant of people, even when they haven't had much experience with them, and when they have had a lot of experience, they become extremely tolerant which means they essentially ignore people. Many of the mountain bears are pretty much exactly the opposite, especially Yellowstone bears and we need to understand why.

Now in the salmon stream situation like McNeil and Brooks River, you have a huge supply of food so that there's tremendous pressure on the bears behaviorally to come to that food. And they have to put up with whatever they tend to dislike. If they are really don't like people that much, they have to either overcome that, or wait until night to come in, or we've dealt with bears after the camps have closed and we stayed there as researchers. And it's a bit of a dangerous time, because bears that don't like people are the ones that will charge you on Sunday morning where you've walked all summer long - - and every bear has just ignored you, and then this new bear starts bluff-charging you because it doesn't like people. Well, there's the contrast.

The bears in Yellowstone aren't the way they are totally because they are food-stressed and they're competitive there may be a certain amount of that. Bears don't like other bears near them when there's a small berry bush or a carcass that will only feed one bear. But if you have a super abundance of salmon, then bears tend not to compete with each other. What they do is wolf down as much of the salmon as there are. And the Alaskan bears on salmon streams are good at that. I think it made them a more tolerant bear ready to accept people sooner.

But we could increase the food supply for bears inside the Park or secure areas ... and until the bears get used to people, we should restrict the access of visitors in the park. We need to let the bears in the Park get better access to higher quality food. And I proposed in the past that the forests around the Park ought to be closing roads and in fact doing some planting of berry shrubs and this sort of thing, that could concentrate bears away from areas that people have access to.

I think it's pretty clear to me, and Dr. David Mattson has made the case, that Yellowstone is really depauperate when it comes to berry shrubs. And in North America there are something like 130 species of shrubs that produce berries that bears could eat. And Yellowstone has very few of these, and I suspect that's due to the phase of the decades in which elk ate everything up about 5 feet or 6 feet high. And so I don't think I'll ever convince Yellowstone to plant berry shrubs, but if bears got in high enough numbers they might be moving seeds around, and we could see a change in the habitat.

Now speaking of bear numbers, this brings me to another point and that is that we shouldn't be satisfied with densities of bears such that they're just representative of bear species. They should be there in densities where they're ecosystem function is at what it would've been, let's say, 500 years ago. In that way you have the ecosystem function by the various animals, including carnivores and omnivores, at a natural level and that seems to be a more reasonable goal. I think Joel Berger has made this point as have a couple of others, that wolves, grizzlies, any carnivore ought to be present in numbers where they perform the role in the ecosystem.

Having worked in Katmai for so many years, I saw this in spades there with the bears transporting fish into the forest, which is being studied in many, many places. Bears, being large, can carry nutrients and seeds long distances. And the bears in Brooks River are really unique in that they spend about four months feeding on the same salmon at

different stages in the run. So they are clearly there in high densities and having a natural and large, you might say, an optimum effect within the ecosystem. And this is another reason of course to maintain places like Yellowstone as wild as we can, so that we still have the opportunity to understand some of the processes.

GT: Barrie, you've been translating your science and other research of other scientists and applying it in a policy context regarding management for many, many years around grizzly bears. But other scientists seem to be reluctant to speak out on controversial matters particularly issues like grizzly bear delisting. Why do you think that is? Even if the science is pretty straightforward?

BG: I think there's a feeling especially in American universities and Canadian ones that your job is basically to bring the science forward and let others translate it into policy and management -- and I like to think of it as values. But I have a problem with some of my colleagues who wear a number of hats, but they often won't take the conservation citizen's hat very often. I think they feel like you're either a popularizer or it will reduce, if you like, the purity of your research. Again this parody makes me laugh because scientists aren't -- there's no such thing as being a totally objective person. We all have our values. If only our value is to do research.

But I'm not a sociologist. I can't explain why my colleagues in university don't do this, but it's certainly a problem. I think a lot of them know what should be done, and I'm of course retired from the university, and feel like I can bring my science to bear on policy issues. And I don't mind making suggestions for changes in policy. If you have the experience and broad knowledge of bears like I have had the opportunity to gain, I think it's immoral to sit on your hands and watch as a bad situation get worse.

You're quite familiar with this with your colleagues, if we had more scientists looking at the data that the government has collected at the taxpayers' expense, I think we would have good debates about the interpretation of the data. Unfortunately now it's a closed shop. They have the data, they draw the conclusions and they make the implications for management all in the totally political atmosphere and I think this a very unhealthy. We just exchanged prime ministers. Our last one had a problem with any kind of science and was closing laboratories and libraries about as fast as he could. And that's a move that goes against democracy. I think the more transparent the information that's collected and science, if we claim to do science-based management, then we have to look at the science.

GT: Barrie, one of the concerns that you hear from people just in the public about grizzly bears is fear. Fear about bear attacks and certainly you've had your own personal experience with that. How concerned do you think people should be about bear attacks and what can they do to minimize that risk?

BG: The obvious thing is to learn a little more about them and get some exposure. I think if you spent some time in Yellowstone even if it's beside the road, you would realize

there are lots and lots of instances where you can come in contact with them. I've done that myself in backcountry.

But I think going in parties of three or four is always a good idea. We have bear spray now, which changes the equation quite a bit, and in fact changes the behavior of the person carrying it. If you feel like you're safe, you're much more likely to stand and face a bear that's trying to bluff you off the trail. It gives you time to back off carefully. I think our friend and colleague Doug Peacock has explained this quite well in his book. But I think going out with nature guides and this sort of thing probably helps people decrease their fear level or anxiety.

Most fear and anxiety comes from an ignorance of what to do, and a few bromides don't help. You can't teach someone how to be a good sea captain in a half hour lecture. You have to build up experience over time, but I think that the fear of bears is much overdone. It is wilderness country and you have to accept the risks but it shouldn't stop you from going out for an afternoon walk in a meadow.

I wouldn't like to see 20,000 people go into the backcountry in a hurry because we all lost our anxieties about bears. I think a certain amount of the country should leave the bears by themselves.

GT: Given their track record, collective track record in some of these gigantic mistakes that you just discussed, how optimistic are you that grizzly bears can be recovered in places like Yellowstone?

BG: I'm optimistic that they can be recovered because we do see some management policies changes like tolerating bears at the sides of the roads, habituation idea that I think Kerrie Gunther, the bear biologist, has promoted quite successfully. And I think it convinced managers and superintendents.

But if we go the direction of delisting, I'm not at all optimistic, because I think the bears will spread out and they're wide ranging enough that a large portion of them will be exposed to killing on the outside. I'll never forget last summer I listened to from Al Loveless in Alaska when he was the regional chief scientist for the Alaska region and he told me that every wolf pack in Denali Park was exposed to trapping at the periphery. They are no more managing a protected population of wolves and then I am the King of Siam.

We all have these ideas that the grizzlies are protected in Yellowstone, but they're not protected, if they're captured continuously and they're going outside and being killed legally and illegally outside the park. So I think we need protected zones and a big boundary around park and even beyond where they're currently seen. The bears maintain their protected status. Opening a hunting season is absolutely the wrong direction. I don't think grizzly bears are a huntable species. They're hunted as though they're vermin and I think it's a question of values -- that we value grizzlies too much to treat them as just another huntable population.

I think we should have species that are never hunted. It doesn't matter what the numbers are and you might pick some kinds of swans or something like that, that are protected just because they're beautiful birds. And I think we could do the same for grizzly bears. But I'm hardly biased.

GT: you have been listening today to Louisa Willcox with Grizzly Times, speaking with grizzly bear expert and animal behaviorist, Dr. Barrie Gilbert. Thank you Barrie!