

Salmon Scientist Interviews

This text provides a summary of the interviews shown in the Salmon Scientist Interview Videos. The speakers' words have been paraphrased.

Interview with Doug Gore (Dragonfly Stream Enhancement)

ROCKY: Go ahead and introduce yourself. Tell us about some of the work you do here.

DOUG: Well, my name is Doug Gore. My company name is Dragonfly Stream Enhancement. I decided to go with the "stream enhancement" instead of "restoration." That's because I can't restore the creeks back to the way they were. I don't know what they looked like. All I can do is just try to make it a little bit better, try to enhance it.



Doug Gore

ROCKY: How are you helping coho salmon at Dutch Bill Creek?

DOUG: Well, just a quick background on that. I started back in about 1999. I started out by building these structures. I did that because there really wasn't any wood in the creek. And it certainly is a very important part of the whole system. Since then, I've continued to design in-stream structures. I'm trying to enhance spawning conditions, summer and winter rearing conditions¹, and just overall geomorphic integrity². Putting the wood back in creeks can do all these things.

ROCKY: Can you elaborate a little more? Why was the wood removed from this area?



In-Stream Structure

DOUG: I can only assume it was done for flood control. And right here, there used to be a dam, underneath the footbridge there. It would back water all the way up to the other bridge and beyond. I think people just wanted to have this clear, so they could put in kayaks and boats and swim in here. Taking out wood would make it safer for swimming.

¹ rearing conditions – the quality and features of the habitat that young salmon experience as they grow up in streams

² geomorphic integrity – the stability of landscape features like stream banks, stream channels, and the areas uphill from streams. A stream with high geomorphic integrity would erode and change slower than a stream without it.

ROCKY: Why do you think it's important to help the coho salmon?

DOUG: I've not met a person yet that didn't appreciate salmon. People appreciate their life cycle and their commitment to do whatever they have to do to get up to here to spawn. I have nothing but regard and respect for salmon, for their tenacity³. When I talk to people about the work that I do, I always get positive responses. Even though people can't come out and maybe see them spawning, they still enjoy knowing that they're here. People like to know salmon are here because extinction is forever.

There's another part of why salmon are important. It's certainly well documented that about a hundred different species are affected by the salmon, whether it's the orcas out in the ocean, all the way down to the aquatic invertebrates⁴. And there's a lot of species in between. There are otters and sharks and cormorants feeding on the small fish heading out to the ocean.

ROCKY: Can you tell us more about what people are doing to help coho salmon in this area?

DOUG: The last couple of years, Camp Meeker has been releasing water in the summer. Especially this year, it's going to be really critical, because we had very little rainfall in the winter. Also, Westminster Woods used to pump out of the creek. They're not doing that any more. So we've got more water in the creek because of these things.

The habitat work is critical. Up the stream here, two years ago, I built a structure that backed up spawning size gravel. And I personally witnessed eight redds going in. (A redd is just another name for a nest. It's a Scottish word that means to make ready.) So that's pretty incredible. You know, the structures are definitely helping out quite a bit.

ROCKY: How is communication important in your work with the coho salmon?

DOUG: I communicate with biologists at NOAA fisheries, biologists with Fish and Game, and then also the folks that are doing the coho monitoring. They've been very helpful in getting grant money. I've been able to go to them and say, "Hey, where have you documented that redds have gone in?" They've got it all mapped out. So I can take that and put that in the grant proposal. I've talked to landowners, like Chris here at the Woods, about getting access. I'll talk to landowners sometimes to see where they're seeing fish spawning.

ROCKY: Is there anything else you'd like to add?

DOUG: People ask me a lot why I do this. My background is actually that I'm a structural steel welder, a certified welder. So it's kind of a far reach in between the two. But I knew

³ tenacity – determination and perseverance

⁴ aquatic invertebrates – animals without backbones that live in or near water. Some examples are mayfly larvae, caddisfly larvae, snails that live in water, water striders, and crayfish.

when I was seven years old that I was going to be doing this. For me, it's the three "P"s and a "C." It's purpose, passion, pleasure, and lots of curiosity. Like coming out, turning over the rocks, looking for bugs. You know, it's all in wonder, all kind of woven into this. So, yeah, I'm pretty lucky to have this opportunity, absolutely grateful.

Interview with Nick Bauer (Russian River Salmon and Steelhead Monitoring Program)

REDWOOD: How are you helping coho salmon?

NICK: My group is the Russian River Salmon and Steelhead Monitoring Program. We monitor and collect data. We trap coho salmon as they're making their way down to the ocean. We do adult surveys. That means we hike the creek and see how many adults are in the creek. We see how many redds, or fish nests, they are digging in the creek. We conduct snorkel surveys, where we actually snorkel up the pools in the creek. This is to see how many salmon are in each of those pools. We're monitoring the populations of fish out there in the creek.



Nick Bauer

We provide this information to managers at the California Department of Fish and Wildlife and other agencies. It helps those agencies understand how well the population is doing. Then they're able to make decisions about how best to help the fish.



Scientists in Creek

We also provide this monitoring information to restoration groups. They can then use it to do a particular type of restoration that they think will have the most impact. We worked with the water releases on Dutch Bill Creek, as well. Our fisheries monitoring information helped guide those efforts. It guided things like when to release water and how much water to release. It showed how big of an impact those releases are having.

REDWOOD: Why do you think it's important to help coho salmon?

NICK: Coho salmon are an integral part of the whole ecosystem. More than 137 species of animals rely on them as a food source. That number is about salmon in general throughout the Pacific Northwest. They go out to the ocean for part of their life cycle. They feed in the

ocean. As they're feeding, they're collecting all these marine nutrients⁵. Later the adult salmon come upstream. They bring these nutrients in their bodies with them. After they spawn, the adult salmon die. Their bodies decompose⁶ and release those marine nutrients. All these nutrients are basically like a fertilizer in these streams. Studies have shown that streams that have healthy populations of salmon are healthier. There is a much wider array of wildlife in those forests. This is compared to forests and streams that don't have salmon.

Salmon are also important for other reasons. They're a healthy and nutritious food source for many people. Culturally, they are very important to Native Americans. Many Native Americans have relied on salmon populations for thousands of years.

REDWOOD: Many people are trying to help coho salmon. What's your view on how successful that is being overall?

NICK: I think there's been a lot of successes, especially in the Russian River. And we have data to show that. In the early 2000s, there were less than 10 coho salmon returning to all the streams throughout the Russian River. Historically, we think there were tens of thousands. Those fish would have gone extinct if people had not helped them.

So agency personnel started the Russian River Coho Salmon Captive Broodstock Program. It is up at Warm Springs Dam, at the fish hatchery there. In the early 2000s they collected a few of the young fish that were in creeks. They brought them up to the hatchery. They raised these little fish into adult fish. They spawn them out with other fish that are not closely related to them. This is to have high-quality genetics⁷ in their offspring. The populations have increased. There's a general trend that the populations are going up. That being said, there's still a long way to go.

REDWOOD: What is leading to that success?

NICK: I think that there's been a big effort by resource agencies and habitat restoration groups in the area. They've worked together. They used information from our program and others. This information helped them to improve salmon habitat. Landowners and other organizations are more informed. They know more about what's going on in their streams. And groups have worked together to put habitat in the streams. The habitat makes streams better for salmon and other fish. The groups working together were resource conservation district groups, restoration companies, and organizations, such as Westminster Woods. Groups have also worked together to collect rainwater and store water. Then, during the summer, people don't have to take as much water from creeks or from wells near the creeks.

⁵ marine nutrients – nourishing substances (like proteins, vitamins, and minerals) from the ocean. “Marine” means from the ocean. “Nutrients” are things that organism need to have energy, grow, and stay alive.

⁶ decompose – rot or decay; break down into smaller and simpler forms of matter

⁷ genetics – the characteristics and features children inherit from their parents

REDWOOD: Tell us more about communication. How is it important in your work? How is it important for helping coho salmon?

NICK: Sure. We communicate our monitoring results to resource agencies, like the Department of Fish and Game. That's very important because they need to know what's going on out there. We have to communicate to these groups. We tell them what's going on in the watershed⁸. Then these groups use that information to make decisions. They say things like, "Oh, let's try a different approach to see if that works to help the fish even more."

Another aspect of communication is connecting with landowners. Landowners are people who own property stream-side. We let them know what's going on in the creek. We answer any questions they have. They give us access to areas of stream that we haven't been before. I like to help educate the landowners. I teach them about the different efforts that are being made to help recover these salmon populations.

REDWOOD: Is there anything else you would like to say?

NICK: I think it's really great that there's a group of young people that are interested. I think it is great that they are interested in what's going on with salmon in these streams and what they can do to help.

REDWOOD: Well, thanks so much for your time and for doing this.

NICK: Thanks for having me.

⁸ watershed – the area of land that water flows over or under on its way to a river, lake, or other body of water