Alaska Fisheries Work in the Last Frontier

The Importance of Salmon and Ensuring Fish Passage and Habitat Connectivity - Part 1

Katrina Mueller/USFWS: Warm greetings from the Fisheries Program in Alaska! Where thriving native fish populations are not only the lifeblood of Alaska's ecosystems, but also form the foundation of subsistence lifestyles, support world class commercial and recreational fisheries, and are worth billions of dollars annually to the State's economy.

For example, Bristol Bay produces over 50% of the world's sockeye salmon. Robin Samuelson has been a commercial fisherman since he was a teenager and his family has fished Bristol Bay's waters for 1000s of years. He talked to us about his family's deep connection to—and dependency on—the Bristol Bay salmon fishery during the 2011 Southwest Alaska Salmon Science Symposium, which was sponsored by the U.S Fish and Wildlife Service, The Nature Conservancy, Alaska Sea Grant, and the Alaska Department of Fish and Game.

Robin Samuelson/Commercial Fisherman:

Today I sit back, I have five grand children, three of them in Dillingham, three boys in Dillingham. The oldest grandson I have is 11 years old. He's fished with me. My 10 year old grandson has fished with me. If you ask them what they want to do next summer they say "oh we're fishing with poppa." And that's the same way I grew up in Bristol Bay. And you know, I probably have another five years…maybe six years in the fishery. They're going to end up with my permit. That permit has paid for my daughter's education; it's paid for my son's education. My daughter went to Stanford University, she was a top entering freshmen, beat out 16,000 other freshmen…became the President's Scholar, got awarded the President's Scholar. That's all fish. That's all fish money. Our people out there have relied on the fisheries as I said for 1000s of years and then the commercial fishery happened. We have a lot of young people in the sport fishery out there today. It's very diversified. And I don't think there's any holier water than Bristol Bay. Not just because I'm there, and living there, but because what that thing can return [END].

Mueller/USFWS: Despite Alaska's reputation as a pristine wilderness, and the fact that none of its fish species are currently considered threatened or endangered, Alaska's fish – particularly those that are migratory – are still vulnerable to – and exposed to – habitat fragmentation and degradation.

The Service's Alaska Fisheries Program works with local, state, federal and tribal partners, and in cooperation with other Service programs, to assess and monitor Alaska fish populations and their habitats; inform habitat restoration and landscape planning; provide summer work and education opportunities for the next generation of conservationists.

Mueller/USFWS:] I'm here with our Fisheries Program Coordinator for Alaska: Rod Simmons. Rod, what are a couple of the migratory fish species the Fish and Wildlife Service Fisheries Program focuses on in Alaska and why is it so important for them to have free access between a variety of habitat types?

Rod Simmons/USFWS: Well I think I'll answer the last question first. I think it's important to point out that there's very few species here in Alaska that reside in one location so we need to keep access open for their migration requirements, whether they be anadromous species [that migrate up their home river from the sea to spawn], such as salmon, or resident species that [stay in freshwater but] also have long-distance migration routes because of their complex life history.

Also for me, I think the answer comes from nearly one hundred years of past mistakes we've made relative to fisheries conservation and what's occurred from habitat fragmentation from urban development and agriculture where fisheries conservation was not included in land use practices. In a place where I grew up in the Pacific Northwest, Pacific salmon in that area have certainly experienced a lot of declines and very expensive restoration efforts because of the lack of consideration in relation to hydroelectric development, agricultural practices, and road construction practices. All these things have influenced the outcome of Pacific salmon productivity in that area. In Alaska, I think we have the good fortune of learning from those lessons and hopefully having a different history one hundred years from now…looking at hopefully healthy salmon populations and continuing this legacy of salmon sustainability here in Alaska.

Simmons/USFWS: I think as far as an example of a fish species here in Alaska that epitomizes the need for considerations of their migration is Yukon River Chinook salmon. They have some of the longest migrations of any salmon species in the world, originating in the upper Yukon in its headwaters 1,600-1,800 miles from the Bering Sea. These fish make this incredible long-river migration to spawn, subject to subsistence harvests and commercial harvests along their journey. Once they reach these headwater areas to spawn, juveniles remain in freshwater for several years and don't reside in necessarily the place where they originated from. They make a slow migration downriver and utilize tributaries on their out-migration back to the Bering Sea. So it's important to keep fish passage and migration corridors open basically throughout the entire Yukon drainage. So we have to consider not only major river migrations, but also tributary migration corridors. This is where in the larger rivers where hydroelectric is typically a consideration – we have to be concerned about that in the larger rivers. We have to be concerned about road development practices and other things that can impede migration of juvenile fish typically up in the headwaters, in the tributaries.

Aside from the salmon, another good example of considerations of migratory fish requirements is our white fish species in Alaska. Even though they may be resident species that don't migrate to sea, they also have migration requirements that are oftentimes several hundred miles in length.

Many of our white fish species have complex life histories where they will move from summer feeding areas in one location of a river drainage and then move down in the fall to overwintering areas which are totally isolated from those feeding areas and are sometimes hundreds of miles apart. And then in the spring, they'll move back up into

areas to feed and ultimately to spawn again in the fall. We have to make considerations of these life history patterns for whitefish species and other resident species just as well as we do for the salmon.

Mueller/USFWS: That's it for this week. We hope you join us next week for the second half of the Alaska Fisheries Program podcast. We'll hear from a university professor that's been involved with a long-term salmon habitat study in Southwest Alaska, the Alaska region's fish passage engineer, a fishery biologist studying salmon in the Matanuska-Susitna Valley, and our Alaska National Fish Habitat Partnership Coordinator.