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Kope, Robert ~ Oral History Interview

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Voices from the Fisheries
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Interview with Robert Kopeby Maggie Allen

Summary Sheet and Transcript

Interviewee

Kope, Robert

Interviewer

Allen, Maggie

Date

August 15, 2016

Place

Northwest Fisheries Science Center
Seattle, Washington

ID Number

VFF_ST_RK_001

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Biographical Note

Robert Kope was born in Reedley, California in 1953. He received his Ph.D. in Population Ecology from the University of California Davis and began working for NOAA Fisheries at the Southwest Fisheries Science Center in 1989. His work has focused on stock assessments, harvest management, and conservation biology of salmon in northern California. In 1994, Robert moved to the Northwest Fisheries Science Center to participate in the coast-wide status review of all Pacific salmon species under the Endangered Species Act. He currently serves on the Pacific Fishery Management Council Salmon Technical Team and the Pacific Salmon Commission's Chinook Technical Committee.

Scope and Content Note

Interview contains discussions of: NOAA, NMFS, Southwest Fisheries Science Center, Northwest Fisheries Science Center, population ecology, stock assessment, conservation biology, salmon, Chinook salmon, Endangered Species Act, Pacific Fishery Management Council and Pacific Salmon Commission.

In this interview, Robert Kope discusses his career as a biologist with the NMFS. He originally began working in timber management with the Forest Service, but chose to switch careers after developing arthritis in his 20s. He originally worked in the Southwest Tiburon Lab as the only salmon fisheries biologist, but moved to a conservation biology position at the Northwest Lab after becoming involved in coast-wide status reviews of salmon.

After finishing the coast-wide status reviews of Chinook, coho, pink, and chum salmon, he began providing technical advice to the Pacific Fishery Management Council and the Pacific Salmon Commission.

Kope also discusses technological advancements in computing as having the greatest impact on his field, particularly for data analysis and modeling. Genetics and genome sequencing have allowed him to gain a better understanding of stock distribution. Kope plans on retiring within the next five years after helping to renegotiate the Chinook Chapter of the Pacific Salmon Treaty.

Indexed Names

Wainwright, Tom

Transcript

MA: This interview is being conducted as part of the Voices from the Science Centers project funded by the Northeast Fisheries Science Center. It is also a part of the Voices from the Fisheries project that is supported by the NMFS Office of Science and Technology. I am Maggie Allen and today I'm speaking with Robert Kope at the Northwest Fisheries Science Center in Seattle, Washington. It is August 15th, 2016 at 1:00 pm.

Robert Kope, born in Reedley, California in 1953, received his Ph.D. in Population Ecology from the University of California Davis. In 1989, he began working for NOAA Fisheries at the Southwest Fisheries Science Center and he focused on stock assessment, harvest management, and conservation biology of the Klamath River Chinook salmon in northern California. In 1994, Robert moved to the Northwest Fisheries Science Center to participate in the coast-wide status review of all Pacific salmon species under the Endangered Species Act, and he currently serves on the Pacific Fishery Management Council Salmon Technical Team and the Pacific Salmon Commission's Chinook Technical Committee. So Robert, why don't you begin by telling me what inspired you to pursue a career in science and how you got where you are today?

RK: Well, I was always interested in science and in research management from the time I was a kid. I wound up in fisheries because—actually, I started out working for the federal government in timber management for the Forest Service, and then in my early 20s, I developed arthritis and could barely walk for a number of years and figured timber management just [laughter] wasn't in the picture. So, I went back to college, got a Ph.D. and got into fisheries.

MA: And why were you initially interested in science, in that? Did it start in childhood?

RK: Yeah. From the time I was a kid and even my mother used to—she took down little anecdotes about me as a child. At three years old I was really into biology and animals and stuff.

MA: Nice. And then how did you end up at NOAA after your Ph.D.?

RK: I really liked the agency. I really liked the...your other choices were the Fish and Wildlife Service or the state agencies, but the fisheries programs in NOAA National Marine Fisheries

Service, they had great people, they were well-respected and highly thought of. I always kind of felt like that real scientists should go into academia, but when I was working at Tiburon, we had a graduate student come over and spend a couple of days learning to read otoliths. At the end of this I asked her, "what do you want to do when you finish your degree?", and she said "I want to work for a government agency [laughter]." I thought, really, and she said "yeah, you get to focus on science and you don't have to put up with the politics as much as people do in a university setting" and I thought, you know, she's right. This is really a great place to work.

MA: And that's proven true during your time here?

RK: Yeah, yeah.

MA: So you started out at the Southwest Fisheries Science Center and it said that you moved more towards conservation biology after a while. Can you talk about that?

RK: Yeah, I got into fisheries initially and then we started getting petitions to list salmon stocks. The winter Chinook in Sacramento River were listed and I was on the recovery team for that, but then we got a petition to do these comprehensive coast-wide status reviews. This looked like the elephant in the room for salmon fisheries, so I wanted to get involved with that and wound up talking a position up here and moving up to Seattle.

MA: So, it was basically because of the Endangered Species Act?

RK: It was because of the listing and these coast-wide status reviews.

MA: Okay. And so how did you experience compare with those two centers?

RK: That's...that's kind of hard to say. At the Southwest Science Center, when I was working down there I was the *only* biologist who was working on salmon. There were no programs to put me in, I answered directly to—I was at the Tiburon Laboratory, I was supervised directly by the laboratory director. When I came up here, there was much more focus on science or on salmon and a bigger program, though it was oriented at conservation biology rather than fisheries.

MA: Okay, yeah. And then so what were your biggest differences you've seen between the salmon species you've studied in Northern California and the ones you've looked at up at here?

RK: That's [laughter] hard not to give a flippant answer.

MA: Well, yeah. I don't know. Maybe just as a population ecologist.

RK: I don't know...there's just—it is very different. In California, there are two main stocks of salmon. They're all fall Chinook, the ones that people really monitor. There are some—there are coho and some chum salmon in California, but the stocks of interest, the fisheries focus exclusively on Chinook salmon. It's mainly the Sacramento River and the Klamath Rivers and when you get up here into the Pacific Northwest, there's dozens of streams, hundreds of streams

and every one of them has populations of salmon in it and you've got all five species up here as well.

MA: Okay, so it's just a whole different [laughter]...

RK: It is. It's very different.

MA: And then, what was your first project when you came up here?

RK: It was doing the abundance and trend analysis for the coast-wide status reviews. It was basically Tom Wainwright and I were the two people that worked on that and I worked on the Chinook, coho, pink, and chum salmon status reviews.

MA: What's a project you've worked on that you're most proud of or you've most enjoyed?

RK: I don't know. I did enjoy doing those coast-wide status reviews because it was a task that had a timeline, a beginning and an end, and it resulted in listings of a bunch of populations but it was a...it was a very defined task where the kind of work that I do now is much more open-ended. I provide technical advice to the Pacific Fishery Management Council and the Pacific Salmon Commission and it's an ongoing need.

MA: And what's that like, collaborating with the councils as an advisor?

RK: It's interesting. It is very interesting. Something that I didn't realize when I got into this is that the management of fisheries is done through a political process, really. Science is one of the factors it considers. It also considers the sociological impacts and economic impacts and all kinds of things—they have to weight a lot of things other than just the biology of the fish.

MA: Sure. And do you think they've taken your counsel into consideration?

RK: Yeah. The Pacific Fishery Management Council does a really good job, I think, of following the advice, the scientific advice. They have a fishery management plan that basically tells them what they need to do depending on the status of stocks and they've had the resolve to stick with that plan even when it entails closing down fisheries coast-wide, nearly.

MA: Yeah. And what's that been like? Have you collaborated at all with the stakeholders who fish salmon?

RK: We interact with them. For the Pacific Fishery Management Council, there's a salmon technical team that I am the chair of right now, but they also have a salmon advisory sub-panel which is stakeholders made up of fishermen, processors, and even environmental groups as well as the tribes. They provide input to the council as well.

MA: But do you personally work with them, or...?

RK: We do. We have joint meetings.

MA: What are some of the challenges you've had working in the scientific field or for the government in your career?

RK: That's a tough question [laughter].

MA: Yeah, some people say, you know, funding.

RK: You know, I have been very fortunate in that because working for the National Marine Fisheries Service, providing technical advice for management of fisheries is a core function of the agency, and so I've always been funded from...I've always been funded, I've never had to go out and write research proposals to try to secure external funding to fund my work.

MA: So, not many challenges overall?

RK: Well, no. The challenges are really interacting with the council, with the managers. People that don't always understand the science and you have to be able to communicate with them. At times, that can be really frustrating because they have a different set of interests and a different set of aptitudes, and you have to...it can be challenging.

MA: So how have you found is a good way to communicate that?

RK: I don't know. I try to explain things clearly and speak in simple terms.

MA: You think that is effective in getting the point across?

RK: I think it is. I think it is. Usually they seem to get the message.

MA: And what about technology? How has technology changed since you've been working in this field and how had it affected your research?

RK: The biggest change—and it's not just my work, but in science in general, I think—is the development and the advancement of computer sciences and technology. It's just...when I started this, I was kind of an anomaly at UC Davis because we had one of the first mini-computers before they came out with personal computers. We were doing all this data analysis and simulation and modeling, and other scientists, other biologists, did fieldwork and that was primarily what they did. It went from the point where people worked primarily in the field to where you go through a lab and everybody's sitting in front of a computer now.

MA: So did you start out doing mostly fieldwork in your early career stages?

RK: I didn't. My job was like 99% out in the field when I worked for the Forest Service. When I became disabled because of the arthritis, I just couldn't do fieldwork and that was why I got into quantitative population ecology. Deal with electronic fish instead of real fish. But then I got

better—my arthritis went into remission.

MA: Wow. That's good.

RK: Yeah [laughter].

MA: And so, how do you think that technology will continue—what do you foresee for your field in terms of how technology will continue to affect it?

RK: I don't know. There have been a number of other things that have been just remarkable technology, advancements in technology. The advent of genetic stock identification and going from protein electrophoresis to DNA. We're gaining a much better understanding of the distribution of stocks and the interaction between stocks through this. I'm sure that's going to continue to evolve over time.

MA: What other predictions do you have for the future of your field? Where do you see it heading?

RK: I don't know. We...it's kind of a problem that we have that the demands that are being made of data that we can collect on fisheries keep growing and we want more information on a greater number of stocks, a greater number of fisheries, finer time resolution in our management models. Agency budgets are static or shrinking, and you just can't feed more complex models—you just can't collect the data to feed into those models it seems like.

MA: Do you have any predictions how that could be made possible, or it just something that's not...?

RK: No. I mean it's...I don't see any resolution to it.

MA: Okay.

RK: The only thing I can think of—the only thing that really seems to be that maybe we should be focusing on using simpler models just because it's all we're going to be able to use, I think.

MA: Right. What about the future of the salmon that you're studying, or what trends do you see in the resource and where do you see that?

RK: Salmon are pretty unique—Pacific salmon are pretty unique among fisheries because their life history of a dependence on freshwater habitat. As the human population grows, we keep having more and more impact on that freshwater habitat. I'm surprised at how resilient they are. When I started into this, I thought "we're doomed, salmon are doomed" and it was very interesting. I got into old literature from the California State Department of Fish and Game—they were publishing things in the early 20th century, publishing a journal and if you went back and you read stuff that people were writing in the '20s and '30s, they felt the same way. Oh my god, salmon are doomed, trout are doomed. They haven't gone away yet, and I think we're going to keep them around and continue to manage them.

MA: Do you see any particular challenges though, that will come ahead with the growing population and how to change the management?

RK: I don't know. I mean, for a while people thought the solution was hatcheries. That was the big panacea. They build the hydropower system in the Columbia, they did the same thing in the Sacramento River in California. They cut off a lot of habitat with dams and we build a lot of hatchery capacity to replace it. And then we found out in subsequent decades that that may not work. At that point, you don't have the option to go back and remove the dams, though I guess we are doing that in a few places.

MA: Yeah, but the bigger ones it's hard to deal with.

RK: The bigger ones are...yeah. Really can't do it.

MA: Did you study the Elwha Dam and that salmon?

RK: I'm familiar with it. I haven't really studied it. I love watching the footage of it coming down bit by bit [laughter].

MA: Yeah, that was cool [laughter]. So do you do anything with Columbia River salmon and deal with those dams?

RK: I don't really deal with the dams. We have a lot of people that deal with fish passage in the Columbia River and survival studies and things like that. I primarily focus on the numbers of fish that come out of it. In some ways it seems like the Columbia River, it's a whole universe into itself and I just don't want to get sucked into that [laughter].

MA: Because it makes it so complex, with the dams and all the uses of it?

RK: It is. This is the other thing about salmon—because of the life history being dependent on freshwater and migration corridors to get to the ocean and then back, you have people that are interested in fishing them at every life stage and you have people that monitor or manage the habitat. There are just so many players involved in managing the salmon. It's a very complex issue. You have agencies from local county, city, county, state governments, tribal governments as well as different agencies within the federal government.

MA: Yeah. So, it's just very complex. And so what other research projects are you working on at the moment? Anything else we haven't talked about in terms of what you're working on?

RK: Not that much, really.

MA: You said you were doing more open-ended projects than what you started with, the ESA.

RK: Yeah. It's more just a continuing need, responding to the data needs of both the Fishery Management Council and the Salmon Commission. Right now, the Chinook chapter of the

Pacific Salmon Treaty will expire in 2018, and so both the U.S. and Canada, the southern U.S. and Alaska as well as Canada, are all looking at options for modifying how the treaty works, the whole management regime of the treaty, how stocks are managed and how the catch is allocated between nations. So, the commissioners as they're scoping out options, they have a lot of additional data and analysis requests.

MA: So, you're working on that now, okay. What about the—since you've been here, how has the office itself changed in terms of the people working here or just general observations?

RK: Well, people have gotten a lot younger that are working here [laughter].

MA: More young graduates coming—oh, because you're, yeah [laughter].

RK: Used to be that everyone was older than me. One thing that has happened that is really interesting is the number of women that work here. I don't know what the proportion is, but when I started in this, there were very few women working for the National Marine Fisheries Service or for any resource agencies, in a lot of the sciences, even. But it's changed and that's one of the biggest changes.

MA: Anything else that you've noticed?

RK: Well, we've got a great new bike rack [laughter].

MA: [Laughter] Yeah, I noticed that, the fish, yeah, and the bike racks on the wall. So, do you bike to work?

RK: I do sometimes. Actually, I bike home. This is one of the great things about the Seattle area, is that we do have—it's pretty bike-friendly. I live about 23 miles from the lab and up until about two years ago, I could catch a bus less than a mile from my house that dropped me off right here at the lab and I could ride home on the Burke-Gilman Trail.

MA: Oh, uh huh. And that's not—the bus changed or something?

RK: Well, they yeah...the Metro was having funding issues and now I have to—I live east of Woodinville. Now I have to ride all the way to Woodinville, it's about 3 miles into Woodinville to catch the bus.

MA: That's a long way, 23 miles both ways, anyways, a long way. And then what are your plans for the next five to ten years, personally? Do you plan on sticking around, retiring?

RK: I'm planning on retiring in a couple of years. I was going to stick around until the treaty gets renegotiated. Until they finish that, and then I'm retiring. My wife just retired this year. We have a 15 month old granddaughter [laughter].

MA: Do they live close by?

RK: They do. I've very fortunate. We have two daughters and they both live close by.

MA: That's good. So you're spending time with family, doing some traveling maybe?

RK: Yeah.

MA: And what advice would you give to anyone who is wanting to be in your career, a young scientist?

RK: Man...I don't know. A few years ago I was kind of skeptical in thinking that it would be a mistake to go into fisheries management. I'm more optimistic about it now, I guess. I certainly think we're better off than some other fields—my wife was a teacher, and they have just in the past decade, they've had so much more red tape to deal with that she finally just got fed up with it and retired this year. Working in fisheries though, working for the National Marine Fisheries Service, I think it's a good environment, the people are great, it's challenging work. It's not a bad thing to do. The one thing I would stress that I think people need is quantitative skills though, getting into it.

MA: For the stock assessments.

RK: Yeah.

MA: Why were you more pessimistic about it a few years ago?

RK: Oh, I don't know. It was, I suppose it was partly all the ESA listings. But, of course, that doesn't affect other species so much. I have one friend who just, he took a couple of years off and worked for the United Nations FAO [Food and Agriculture Organization]. Got into managing tuna and billfish in the tropics and it was very interesting work.

MA: Yeah. That's very complicated.

RK: It is, but it's...yeah. They're an even more complex political picture than salmon.

MA: I was going to ask about...you just said something about why you were pessimistic about it and now you're more optimistic.

RK: Yeah. Well, I think it was largely that you just have an ever-growing human population and more and more demands and we were looking at stocks that were worldwide. Stocks seemed to be getting overfished, the future didn't look real bright. But then we've actually had a lot of success at rebuilding fisheries here in the U.S., and some success globally, and it turns out that looking at data, things might not be as pessimistic as people thought they were. A lot of these big pelagic stocks, they're not as depleted as people thought they were.

MA: Was that just proved with better data and realizing that, or has there been movements to improve the stock?

RK: It's mostly better data I think. There has been some work to rebuild stocks, but a lot of it, people became alarmed. Despite everything that you hear about science, science is supposed to be objective, that's really not the case. People are swayed by arguments more than data.

MA: Sure. And do you think that the salmon in the Puget Sound, they're ESA listings, do you see any of them getting off of the endangered list?

RK: I'm not real optimistic about that. I have not seen...people are just really reluctant to de-list salmon. I was kind of shocked when one of the status reviews, Oregon coast Coho, when they were first listed, there were—the stocks were in really bad shape. There were probably no more than about 30,000 spawners on the coast of Oregon. There were three or four different major population groups that each one had a half a dozen stocks or more in it. There were very few healthy stocks, very few stocks that were over 1,000 or 2,000 fish. They got...virtually all of the things that we identified as risk factors were mitigated or ameliorated, they got, I think, better habitat, there were habitat protections in place. The impact of fisheries was greatly reduced in ocean fisheries. Their populations came back to where the spawning population was typically a couple of hundred thousand. All of the major population groups had healthy populations with thousands, tens of thousands of spawners in them, and yet when we reviewed the status again, the last time that we were required to review the status of all these stocks every five years, the people on the review committee felt that it was still at risk of—it still warranted listing. It surprised me because when you look at this, the numbers of fish were healthy numbers of fish. They were not what I would consider that they were in a demographic risk of extinction. All the risk factors that we'd identified had improved since they were listed. One of the risk factors for a lot of the other stocks was hatcheries and I think the Oregon coast Coho probably have less hatchery than any other ESU [evolutionarily significant units] Chinook or Coho anyway. And yet, the review team did not recommend delisting them.

MA: Do you think that's just because they're very cautious about it?

RK: I think there is some of that. I also worry that people come into this with just a conservation background, conservation biology background and they look at all the risk factors. They haven't been around long enough to see how things—to put it in perspective, how things may have been worse in the past even. But yeah, there's just a real reluctance to delist things. You see this in all listed species. It's very hard to get species off the endangered species list.

MA: So, what would that mean for the species if it was delisted? For the salmon, particularly.

RK: I don't know. We currently do fish, we have fisheries on all the species of salmon. They are, the fisheries target the healthy stocks, the ones that are not listed or hatchery stocks, and then the impacts on listed stocks are considered incidental impacts. But in some cases with the Pacific Fishery Management Council, there have been some cases where the fishery management plan has actually resulted in greater restrictions on fisheries than the ESA did. So, I don't know that delisting would have that much of an impact on fisheries.

MA: What else would it mean beyond fisheries then, to be delisted? Would it be more of a

statement?

RK: It would remove a lot of red tape for—I mean, currently any activities that's taken by an agency that is a federal agency or permitted by a federal agency, we have to have a biological consultation on that. If that consultation determines that this action threatens the continued existence of the species, then we can't permit it—they have to come up with an alternative. That's a tremendous amount of red tape.

MA: Yeah, so it'd just make your job easier.

RK: Well, I'm not personally involved in that except occasionally reviewing the science behind these consultations but those are undertaken by our regional office.

MA: So, it would make their, those—

RK: It would make their jobs easier, but it would also make the jobs of people—I mean, when I worked in the Southwest Science Center, our regional office that was doing the consultations was in Santa Rosa and it was a small branch regional office, but because I was the only person at the Science Center working on salmon, once a month they would forward me the folder of all of the consultations that they were doing. It would be for things like somebody has a house on the Sacramento River with a dock and they want to rebuild their dock. They would have to do a consultation with the National Marine Fisheries Service to make sure that them rebuilding their dock didn't endanger or increase the risk to winter Chinook. It was just...

MA: Yeah, so some unhappy stakeholders.

RK: Yeah. They would have to—it does create a lot of work for consultants and things like that. It just increases the overhead for a lot of people doing a lot of things.

MA: Sure, okay. Any other trends that you've noticed or anything else you want to wrap up on? We're pretty much through most of the questions, so if you want to add anything else about your career or trends you've noticed in your field, anything like that.

RK: Nothing comes to mind.

MA: Okay. How about one last question—so you weren't specifically located in San Diego for the Southwest Fisheries Science Center? You were in another office, correct?

RK: Oh yeah, yeah. I was at the Tiburon Laboratory. That was—it was really a fascinating site. It was originally a coaling station for the Navy. It's one of the few places that had...it was in Marin County on the Tiburon Peninsula facing the town of Richmond inside San Francisco Bay. We had water nearly 200 feet deep right in front of the lab, which most people don't realize this, but at low tide most of San Francisco Bay is less than 10 feet deep. It's very shallow. It was, well, after they decommissioned the coaling station, there was a Merchant Marine school there for a while. For a while they had a couple of big flat areas, they spooled the cables for the Golden Gate Bridge on that site. We had these, the buildings were ancient. They finally did close

it down and they moved that laboratory to Santa Cruz now. The laboratory in Santa Cruz used to be located at Tiburon.

MA: And how was moving from there to Seattle for you? You'd spent most of your career in California, correct?

RK: Yeah, I spent my whole life living in California, nearly.

MA: So how have you found Seattle in the past 20 or so years?

RK: I grew up in a little town of about 8,000 people and I didn't think I'd ever want to live in a city, but Seattle is a pretty livable city. I liked it. My wife didn't, she also grew up in central California and typical summer days were over 100 degrees. She never wanted to move any place cold and wet, but we came up here one summer and hit a nice warm sunny spell and she was going yeah, Seattle would be okay, we can move there.

MA: But then the winter hit [laughter].

RK: No, it's funny. I like to fish and people told me that the weather in Seattle is terrible, in this area is terrible, but the fishing makes up for it. And for trout fishing, I found that the trout fishing most places around here is terrible compared to what I grew up with, but I think the weather makes up for it. I really like cooler, overcast weather.

MA: Nothing too extreme, yeah.

RK: Yeah, it's very mild. This summer I'm griping about wearing flannel in July [laughter]. You look at the rest of the country and no, we're pretty lucky.

MA: We are yeah. It's true [laughter]. Rather be like this than dying of heat stroke.

RK: Exactly.

MA: Okay, well, unless you have anything else, that pretty much wraps up our narrative interview. Thank you.