



07-13-2016

Curtis, Rita ~ Oral History Interview

Ruth Sando

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Recommended Citation

Curtis, Rita. Interview by Ruth Sando. *Voices from the Science Centers*. Voices from the Fisheries, NMFS, NOAA. 13 July 2016.

This oral history was produced in 2016 as part of the *Voices from the Science Centers Oral History Initiative* conducted by *Voices from the Fisheries* with funding by the NMFS Office of Science and Technology.

Voices from the Fisheries
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Woods Hole, MA 02543

Interview with Rita Curtis by Ruth Sando

Summary Sheet and Transcript

Interviewee

Curtis, Rita

Interviewer

Sando, Ruth

Date

July 13, 2016

Place

Silver Spring, Maryland

ID Number

VFF_SP_RC_001

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Biographical Note

Dr. Rita Curtis is the Chief of NOAA Fisheries Service Office of Science and Technology, Economic and Social Analysis Division. Dr. Curtis first began working with NOAA in 1999 as an economist for the Office of Science and Technology. In 1999, she completed her Ph.D. in Agriculture and Resource Economics from the University of Maryland. Beforehand, Dr. Curtis worked at the Pacific Islands Fishery Science Center in Hawaii studying the longline fleet.

Scope and Content Note

Interview contains discussions of: NOAA Office of Science and Technology, social scientists, economists, FishSET, BLAST, climate change, catch share programs, Hawaii, longline fleet, Sea Grant

Dr. Rita Curtis discusses her position and duties as an economist and Chief of the Economic and Social Analysis Division of the NOAA Fisheries Service Office of Science and Technology. She discusses projects within the department as well as visualization and decision support tools her department is developing, including FishSET and BLAST.

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Ruth Sando: Alright, so we're recording. Ah, this interview is being conducted as part of the Voices from the Science Center's Project funded by the Northeast Fisheries Science Center. It's also part of the Voices of the Fisheries project that's supported by NMFS Office of Science and Technology. I'm Ruth Sando, and today I'm speaking with Dr. Rita Curtis at NOAA headquarters in Silver Spring, Maryland. We're meeting on July 13, 2016 at 9:30 in her office. Dr. Curtis is Chief of NOAA Fisheries Service Office of Science and Technology, Economic, and Social Analysis Division. She has a Ph.D. in agriculture and resource economics from the University of Maryland. So, let me start out this interview by asking you to describe your current role at NOAA.

Rita Curtis: My current role at NOAA...well, um, our division is actually grown, um, in recent...I'll start small and build outwards. Um, originally it was the Economics and Social Analysis Division, and we were the headquarters' program for the economics and social scientists out in the field, um, responsible for growing the science side of this enterprise, um, and, and then there was a management side as well responsible for, um, for the management offices, the regional offices. Um, in the last couple years, the—we've had a bit of a reorganization and now my division also includes, uh, the communications, outreach and communications and education component in it, um, as well as the scientific publications office.

RS: Now is the outreach and communications, uh, is it, did it move from somewhere else?

RC: It's, that's just a growing component within the agency. We realize that instead of having kind of an ad-hoc approach to communication, um, we needed to be much more, uh, rigorous and...and larger in scale...

RS: Mmhm.

RC: To meet that growing demand...

RS: Mmhm.

RC: So we actually have, um, a fairly good sized team of people that, um, help with amplifying and communicating our scientific research, as well as, well through...through, rich in words as well as the visuals, the infographics, the...uh PowerPoint presentations for scientific conferences, trying to make the information more accessible, and as well as for, um, um, the website and so forth. So it's kind of an end to end process.

RS: And you have all types of audiences, or is it mainly professional?

RC: Um, all types of audience, I would say. Um, because the agency has, you know, such a wide range of stakeholders --

RS: Yeah.

RC: --from Capitol Hill to, um, you know fish, fishing, fisherman, and um, the general public. So, it's quite a wide audience. Um, and of course since they're within my division, then I can also be a bit more aware in terms of the economic and social science research occurring within the agency, um, either trying to amplify what's being done from ST, from my office, with my team, or suggesting to folks out in the field, hey, that's a really interesting result, you guys should work with your communications staff.

RS: Mmhm.

RC: So it's, um, I think it's been really useful for me, but it gives me another perspective on the agency.

RS: Mmhm.

RC: Um, and...and also helps to kind of, uh, just raise the profile of our program within the agency. I do think a, a lot of the information that we produce, um, helps tell the story of the impact of NOAA fisheries' research enterprise, our science enterprise, our management enterprise on, on fisheries, on stocks, on fisherman, fishing communities. So, um, I think we're kind of uniquely positioned to help the agency tell that story.

RS: Mmhm.

RC: Um, so it's, it's—initially seemed like an odd combination, but um, I think it's been a good thing. It's a lot of work. [laughter] They work at a very different time scale than, um, than researchers do. Researchers, you know, if you're doing a survey, you're designing it, then you're fielding it, then analyzing it, you know, most of these activities take several months to do easily, um, and then you're writing up the paper. Um, on the other side, the communications side, it's, you know, they're, they're doing things in hourly increments sometimes, so it's—that makes it kind of challenging.

RS: Mmhm.

RC: But at the time that that group was added to my division, Doug Lipton, our chief economist for the agency, was coming on board. So, in that sense, it kind of all balanced, um, and it was useful...again to, um, have him as our spokesperson at the national level attending—he's a, uh, he's part of the Senior Executive Service, and many of our leadership meetings within the agency are limited to those positions, and so he's actually at those meetings. As a division chief, I'm not at that level, so I wouldn't be attending, and actually none of the other economists or social scientists would be attending those leadership meetings. Um, so having him there is great --

RS: Mmhm.

RC: --cause he can always, he always adds that perspective that can be lacking. Um, we used to have, um, Sam Pooley, who was at the Pacific Islands Fishery Science Center, was an economist by training, um, so he was the science director there. So he would be, he was often that voice. Um, Mark Holliday, Rebecca Lent, um. Rebecca Lent was, of course, an economist so she could be another advocate and Mark, um, and Mark as well. So, you know, you just, it's really great to have that seat at the table.

RS: Mmhm. So, it's like your work is represented?

RC: Yes.

RS: Mmhm.

RC: Yes, that voice that, um, that can a—often add to the discussion that, um, not that things were being done against us, but you have that voice that, as well as that pipeline of oh, you know, knowing that there's an economist or social scientist that is working on an area relevant to the discussion, just bringing it forward --

RC: Mmhm.

RS: --and, just keeping that agency awareness of what's going on. So I, um, I really supported the creation of that position, um, I thought it was going to be great for the program, and it has been great for the program. They hired somebody who, you know, is a natural at, at doing that outreach across the agency, across the science community, and he's also a very nice person. So that's been um, you know, he's just very easy to work with, and um, yeah, so it's, I, I think the field has enjoyed interacting with him. He was, he's actually from the University of Maryland and he was there when I was getting my degree, many years ago. So I've actually known him for...almost thirty years.

RS: Wow.

RC: Yes. No, no, no, no, is that right? 2000, no, no. Twenty-five years. Twenty-five. [Laughter] Let's not age ourselves here.

RS: [Laughter] Yeah, yeah, you don't want to be older than you have to. Um...

RC: It'll come soon enough.

RS: When did you start working in this role?

RC: Um, well I came to NOAA in 1999, um, as an economist within the Office of Science and Technology, at a desk like ten feet from here. Um...

RS: You didn't come in on the Sea Grant Fellowship?

RC: No, no...

RS: You were just a federal hire?

RC: I was a federal hire. Actually, um, I had worked out of the Pacific Islands Center through a contract with the University of Hawaii, um, doing a cost earning study of the longline fleet, uh, working for Sam Pooley. And, um, so that was like my first introduction to economics in the agency, and seeing what was going on. And at that time I had a masters, um, and...uh so I worked there for a year, and then I asked Sam Pooley if uh, you know, I wanted to go back to school and get my Ph.D. 'cause I could see all of the potential, but I felt like I didn't know enough. Um, so he funding me part time, he allowed me to work part time as a contractor, from College Park, and I did their data work, um, their data analysis, um, and did qual—you know, did school, did qualifiers, passed the qualifiers. So I went back and forth with, with Hawaii. That was the, I used that fishery for my dissertation. And it was great. Um, I always appreciated that Sam gave me that opportunity.

RS: Mmhm.

RC: Any time he called, um, I was always happy to help out --

RS: Mmhm.

RC: -- cause he, you know, that, that was life changing for me. Um, so that was in '94 I think, and then, you know, did graduate school, going back and forth. Um, '94 through '96 I was at the center in Hawaii, wasn't a center then, it was just a lab, part of the Southwest Center. And then '99 I started here, I got my Ph.D. in '99, and started here as an economist. Um, and then they had a reorganization in 2004. I be—um, and there were some changes in, within the division, um, and some people moved up. Mark Holliday, who was our boss and really, um, helped found this program. Not helped found, he was, he was the visionary person who founded this program, the science component to it. And, um, he um, he...ended up in the Office of Policy, um, and there are other people within the office that also went with him. So, um, anyways I became the team lead, and then subsequently the division chief for the program, and um, continued to work on the budget initiatives for the program, and so, the money that comes, that we receive from Congress, which we're very appreciative of, comes through this office, and we, um, have been, we were able to grow the science center programs out in the field, um, really from, in some cases, nothing, no economist at the center to good size programs. Um, the smallest one is still the

Pacific Islands program, which splintered off from the Southwest Center. Um, so, that's, that's one area that we hope to continue to grow. And um, we also help coordinate, um, work groups on, you know, things of more national interest, um, so kind of get that economies of scale, have everybody working on a similar topic that seems to be, um, important to everyone, um, and um, fund a lot of the data collection efforts. It's been great. It's um, it's been a great experience for me. I think the program, most people are highly motivated, um, they're very interested in their research, they're excit—they're not interested, they are excited about their research, um, they're publishing, they're, they're doing meaningful work, and they can, you know --

RS: Mmhm.

RC: --that's, that makes work a lot better.

RS: So, are you engaged in the part of the budgeting that's the, uh putting together the proposal for the budget, or does the, you said the money comes in through here...

RC: Um, yeah, so um, you know those processes change over time. They've certainly changed, um, since I've, we initially, when I initially got this job. Um, so, yes. I'll, I'll say we have been responsible for developing kind of budget, um, budget initiatives for leadership to consider, you know. If we were, um, here's what we're proposing --

RS: Mmhm.

RC: -- um, and um, and then leadership evaluates.

RS: Well, I'm thinking of uh, you know, in, in the, you described being able to see across all these different boundaries as it were, um, to know what people are working on, and what's going on in, in the different, presumably regional offices in other areas, and the science that's being developed. Um, so does this give you, uh, you know the opportunity to then say we need to have some more money to put into this, we need to expand this --

RC: Yes.

RS: -- is that part of your role?

RC: Yes, yes. So, um, of late, but we've been trying to, um, what we've been funding are, are a lot of decision support tools, um, just with, in the spirit of, um, it helps people to move, we're hoping these will be very smart investments, help people to move more quickly, um, funding a lot of data management tools so people are spending less time, um...putting data together. Um, I think for the economists and social scientists, um, we're often touching all of the data, um, the biologists touch the biological data, but a lot of times, we're touching that data, we're trying to merge that data in with an economic model that's being laid over it. Um, so it's, it's a lot of data manipulation. Um, so, and of course, you know, technology advancing as it has been, you know, those data management tools have been great, um, that's kind of been a bonus for our, our folks in the regional offices, um, that you know, those tools for them helped them with their, um, with their analyses as well, um, that they do for regulatory action. So that, that's been a good

investment, and then for each, um, for the commercial fisheries program, we've been building out, um, a decision support tool called FishSET, which is a spatial modeling toolbox, and Alan Haynie, from the Alaska Fisheries Science Center, has been at the lead for that.

RS: It's called Fish...?

RC: Fish, FishSET.

RS: S-E-T, FishSET.

RC: So it's, basically a spatial econometric toolbox, which, um. Spatial modeling is a little...dif—it's different than a lot of the other types of modeling that we do. So having somebody, um, set up...have the models in a central place that are there for people to use is incredibly useful. He's also trying to build in the data visualization tools, the data management tools, um, because again, that is a special type of modeling, so there's an extra data manipulation to get it in the proper format so that you can model the behavior that you're trying to model.

RS: How would you describe these tools? Would you describe them as we're catching up, or would you describe it as cutting edge, or?

RC: Um, I would say these are very cutting edge, actually. Um, definitely FishSET, it's the latest econometric models. Um, the...I'll say area closures, um, that's a very good use of these because, you know, you're looking at spatial applications, but it can be broader than that. Um, um, but they're, they're the state of the art models that people are actively publishing with. Um, and then the one that we're developing, um, for the recreational fisheries is called BLAST. And, um, that's an integrated bio-economic model, um, that is used specifically in management, and it can look at a lot of the effects of changes in bag limits, changes in fish size, and incorporate that in with the, the biological information, the parameters from the stock assessment models and come out with the welfare facts, the, change in benefits from different management options. Um, and what's great about—the Northeast developed that, um, Scott Steinbeck and Min-Yang Lee developed that. Um, it's ve—actually with support from, um, hm, the initial model was actually a dissertation from Sonia Jarvis, who worked here for me. Um, but then it was handed off to the Northeast, and they have just run with, making it dynamic, making it, um, building in just new aspects of it, or improving new aspects of it, um...compliance. Um, you know, are fisherman complying, you know, looking at that, um, um, I think that's been a big one, improving the welfare estimates, improving just, you know, whatever aspects, they're always working it. Um and...

RS: Sounds like it has, um, implications for lots of different functions in the agency.

RC: Um, I think it definitely does, um. One of the nicest benefits of it, um, that Scott Steinbeck mentioned to me is, that when it comes times to do the, you know, if you're looking at a management action, those are on a very tight timescale. Um you, and you have very, you know, very rigid deadlines. Um, so what's been nice about the decision, about BLAST is, he can look at a lot more options in much less time. And so, of course, by throughout the year, both he and Min-Yang are working on the model all the time. Um, but when it comes down to the

management action, because they've done that work up front, he can, he can really look at a lot more options. Um, we had a recreational fishing constituents meeting, uh, a few years ago, and um, one of the representatives, I think from Massachusetts, you know, said, he, he really appreciated the model. He found it to be very transparent, um, and just, you know, wholly supported NMFS continuing to develop this model, expand this model, expand it to other fisheries.

RS: Mmhm.

RC: Um, and I think it's that kind of transparency and buy in that's really important for the agency.

RS: Mmhm.

RC: Um, if they can see, if they can, if fisherman can see why we're doing things, what's, you know, why this instead of that, um, it just makes it, um, a lot more palatable for people, you know. You may not get the option that you want --

RS: Mmhm.

RC: --but perhaps, um, but there's better understanding for why it, the option that was selected was selected, so.

RS: So would you say that the, the output from these tools has helped in your outreach efforts?

RC: Um, I think so. I think so. Um, so we're, we only have the Northeast example as a, as a live model right now. We have another model being developed in the West Coast. Um, we, um, we should be fielding a survey for that next year, and then that will feed the model. That's, they, the model is a beast, it's a hungry beast, it needs data. Um, so that's, um, we'll be doing that. And then in the Southeast, um, they're, they'll also, they're in the process of developing one as well. And, um, I, I'm hopeful that, that...that will be the case, and in those regions as well, that the fishermen will feel like, ok, now, you know, we get it, um and we see, we see why we're getting the, the outcomes that we're getting.

RS: Uh huh.

RC: We'll see. Um...

RS: Well, you know, you mentioned that, um, I guess it was FishSET was developed here by someone working on his dissertation.

RC: Uh, uh...

RS: BLAST.

RC: BLAST was developed here.

RS: BLAST. Um...

RC: Um, yes. A young a— Sonia Jarvis.

RS: Um, so that you know that raised the question for me, do you find it, uh, difficult to get the skill sets that you need for, um, the technology that you're, you know, working on, or the modeling that you're working on? Or do you feel like, those are adequately rep—those are adequately represented in house?

RC: Um...well, I think we've been, we've been actively, um, growing the program, hiring very talented people, very strong modelers, at the science centers. Um, so Sonia was an FTE. She, she was actually staff here, but also working on her dissertation. Um, Min-Yang, um was also, he came up, I believe, through the NMFS Sea Grant Marine Resource Economics Fellowship. Um, a number of people, Alan Haynie, um, who developed FishSET came up through the NMFS Sea Grant Marine Resource Economics Fellowship, and just a couple years ago won the PECASE award, the President's, um...it's a young scientist award, but it's a presidential award, for I'd have to look up what PECASE actually stands for.

RS: How do you spell it? P...

RC: P-E-C-A-S-E. Um, so anyways, very prestigious, um, and very much deserved.

RS: Well that's great, I mean, that you have this talent feeding in.

RC: I, I think we do, and I think, you know, that energy attracts students, um, at universities who want to work with, um, these individuals, um, we have more data, um, that's, um, you know, for students to mine. Um, you know that can be a limited factor. You might know of an interesting issue, but if you don't have the data model it, you're kind of stuck --

RS: Mmhm.

RC: --and that student will have to move on.

RS: Mmhm.

RC: But, um, we do have better data in our, in our, uh, for our fisheries, and on our fisherman. So that helps. Um, I do recall back, um, many years ago, I actually did a brown bag out at the University of Maryland about opportunities within NOAA Fisheries, and one of the students said to--at AREC, the department I had gone to, and one of the students said to me, "all of the problems have been solved in fisheries." And I thought, oh, well good to know. But it was...

RS: You're not being hired.

RC: Yeah. Um, and, and he was doing, that student, was doing really interesting research. But he just couldn't image that his research, it was actually on, um, it was climate modeling, he couldn't

actually imagine that, how it could possibly feed into fisheries. That the fisheries, the stocks, are being affected by climate change. Our oceans are being affected by climate change. So, um, so...I think that because the research people are doing, that they're publishing on, um, has also, you know, attracted a growing contingency of students who say, hey, I want to work in that area.

RS: Well, that's a question I wanted to ask you, do you feel like, uh, working for the government and specifically NOAA is attractive to young scientists?

RC: Um...I don't know if can speak for young scientists, but certainly we've...

RS: Or social scientists, maybe we should focus on them.

RC: Yeah, um, we, we often have very competitive panels when we put out a vacancy announcement. Um, so I, I would say we actually are attracting some really good talent. Um, some people that may not be, well they, they may not be U.S. citizens, so of course that's always a limiting factor. Um, but every—at the individual, you know, at the individual level, they have to decide for themselves. Do they want to be in academia? Do they want to be in the government? Um, um, and the, of course there's tradeoffs. So, um. And some people have done both. They've been in academia, and come to NMFS.

RS: Mmhm.

RC: Um, so it's, um...and then some people just know even in graduate school this is what they want to do --

RS: Mmhm.

RC: --they, they want to come to work for NMFS.

RS: But you see competitive hiring, uh, opportunities where you feel like you can really attract the kind of person that you want?

RC: I—

RS:...the skill sets?

RC: Yes, yes. I mean there are some people that, um, you know, we would love. There's many academics we would love to have on staff, of course. Um, but it's good that we have them as colleagues. We can't have them all. [Laughter]

RS: Mmhm. Um, so you, you have kind of a range of responsibilities here, but what departments do you work most closely with?

RC: Um, departments...

RS: Uh, within NOAA, what areas do you work most closely with?

RC: Well, um, within headquarters, um, probably most closely with the Office of Sustainable Fisheries. Um, they have, we're doing a, a large scale effort for them on, uh, performance indicators for catch share programs. That's something they've been very interested in. Um, you know, what are the effects of these catch share programs. So...

RS: And let me clarify, that's catch share. Just for the transcriber...

RC: Yes, um, so that started several years ago, maybe 2011? 2011? Um, and we initially started with a series of just basic indicators that all of the fie—all the regions could produce. And, um, over a wide range of topics. So, you know, are landings increasing or decreasing under this catch share programs? Are revenues increasing or decreasing? What about revenue per boats? What about, um, um, well, one, one thing that we do provide is, um, are they adhering to their annual catch limit - the ACL - which isn't necessarily a function of the catch share program, but it was like a management context piece that we wanted to see.

RS: Mmhm.

RC: Um, you know, how that performance was doing. Um, so the initial set of indicators were fairly basic. Um, we've gone on to expand them to the Gini coefficient that looks at the distribution of incomes, is it increasing or decreasing? Um, more recently, um, we did a series of analyses looking at productivity within the, um, you know, are, are fisherman more productive under the catch share program or not? Um, so that that was a more heavy-duty analysis, um, and to have all of the economists engaged, or many of the economists engage, and doing that type of quantitative analysis was a large scale undertaking. Um, we've also expanded it to the non-catch share fisheries, this effort. Um, so you know, kind of trying to focus on fisheries that, um, might be a good counterpart to their catch share program, um, to a catch share program in their region, so you could get a sense of, ok, um, well just a comparison. If the catch share program is going up, how is that are revenues going up? are they also going up in the non-catch share component?
--

RC: Mmhm.

RS: --or not of that fishery, or of a, of a related fishery? So it just provided some additional context.

RS: Mmhm.

RC: Um, again, that's, it was meant to be context. And then the more recently, something in the works, um, and I guess I haven't spoken much about the social scientists, and they also have a decision support tool. Um, they're looking at performance indicators, like for the fishing communities, um, that are, that have fisherman engaged in catch share programs. And so that's something I hope will be coming out within the next three to six months. Um, and this is an effort that the Office of Sustainable Fisheries is very much engaged in. They've, um, supported this work, um, and we've very much have tried to tailor it so we're providing the information they need, um, for their stakeholders, so.

RS: So in that case, are you like the research arm for them?

RC: Um, absolutely.

RS: Ok.

RC: Um, in this particular topic, I kind of think of them a little bit as the client.

RS: Mmhm.

RC: Um, because we really wanted to know what, what would be of interest to them. What information do they need, um. And of course they don't operate in a vacuum, they're also, they're the headquarters office, but they're also talking to the, the regional administrators, or the assistant regional administrators and trying to understand, you know, what would be useful out in their regional offices as well.

RS: Uh huh.

RC: So that kind of, having them operating at that level is very helpful as well. And of course, you know, our, our science center staff, you know, often times our closest colleagues are their colleagues in the regional offices. Um, because they're, they're often all working on the same issues. Um, maybe doing different aspects of it, but um, you know they, they chat often.

RS: Now, for a new tool, like you said, you're working on performance indicators for the catch share programs, when you have the new tool developed, uh how do you roll it out, and is that one of the outreach functions?

RC: Um, so that's kind of a growing effort. When we initially did the report, um, we, we, actually there's something called out a roll out plan.

RS: Oh, ok.

RC: Um, and so you kind of develop here are the, the key results for this, that came out of this report. Um, and it gets, it gets announced. There's press associated with it. Um, you know, you do a press release, and...um, no doubt it went out in Fish News, which is something Eileen Sobeck sends out, um, kind of announcing that this work is underway. So it goes out to a broad range of stakeholders as well as, um, media that is interested in fisheries.

RS: Mmhm.

RC: Um, what we've been more recently working on is kind of more visualization tools, so that, and that'll allow people to go in and touch the data and see the data. Um so that's something that will be coming out within the next couple months as well. Um, just I, I think people, um, they like to touch things, they want to, you know, they might have a specific question that they're interested in that it's hard to pull out from a report that, you know, kind of focuses program by

program.

RS: Mmhm.

RC: Um so, they can jump in there and play with that, and we'll see what happens.

RS: So the end result, you know, in a way is that you sort of allowing people to become their own data miners, or their own scientists to, to work with the data rather than relying on someone else to do a report or to pull something for them?

RC: Yes, so the first product that we're, that we'll have is more like a, um, um, be automated, automatically generating fact sheets on each of the programs that has each of these indicators. Um, so again, they'll have that, that graphic for each one, and a little quick write-up of the results. A lot of people don't have time to read a whole report, you know.

RS: Mmhm

RC: That's, that's a big—but if they can kind of get that quick glimpse of what's going on, then they can then go back, they'll see if they need to go back to the report if they don't understand what's, what's happening, why this trend.

RS: Mmhm, mmhm

RC: Um, so we're, we're doing that more and more, and then Fisheries Economics of the U.S., which is, um, a report that, um, we started back in 2006, 2007. Um, I guess 2007. Um, we're building tools for that as well so that it'll, it'll be interactive. People can go in and do the web queries, and --

RS: So is it meant to be a longitudinal study --

RC: Um...

RS: -- or do you have data that, that then you can, you add to each year but it's the same basic data that you're adding?

RC: Yes, yes. Um, so we're hoping that will come out in September, um. I always find with tools, on the IT side, since I add no value on that side, um, there's always, you know, you always want it to be smooth, so maybe September, we'll see.

RS: Mmhm.

RC: Um, um, I'm optimistic, but um... And it'll just, you know, kind of add another thing that people can look at.

RS: Do you, you know, as a long term trend, do you see, um, the ability to answer questions and, um, use these tools moving out to individuals more and more rather than residing in the, the

office of specialists, you know, who have to be consulted to answer each question, whether it's from management or from the field?

RC: Um, I definitely think, um, uh, there are many people that want to touch the data, play with the data, and, you know, the technology is now there, that we can make it much more accessible. There's a, there's a presidential initiative to make data much more accessible. Um, so that's, you know, that's part of what we're trying to fulfill. Some of our data is confidential, so it has to be, it can only be presented so that it's not in an unconfidential, non confidential format.

RS: Mmhm.

RC: Um, so that's a little bit of a challenge, um, but I think people, people want to play with the data. Um, or they want to see it. Um, I do think that people are a lot more visual, um, than they used to be, um, less inclined to read a lengthy report. Um, and more inclined to want the quick result, which doesn't mean they aren't going to go back to that report, um, or that analyses. But they want that nugget, you know.

RS: Mmhm, mmhm.

RC: Um, and, and then they're screening, you know, they're screening for, for trying to figure out what they need to know more about.

RS: Mmhm.

RC: Um, so I think that's, you know, that's always a good thing. Um, there's data, can be tricky though, um, cause if you're only looking at various trends, there's nothing really being explained there, and that's where there will always be the need for the scientists to try to understand those trends.

RS: Mmhm.

RC: Um, and bring in additional information that to bear that um, you just simply wouldn't see. You know, a lot of our, our commercial fisheries, you know, they might be, um, something that's part of the international market, so if world prices are going up, um, there's going to be more pressure on our fisheries, um, our fishermen are going to say "wow, I can make more money." Um, so just you know, you wouldn't, and, you know, what are exchange rates doing. So, that's, those are all part of the drivers of what's going on in commercial fisheries, so just simply looking at revenues going up, um, what's going on with costs?

RS: Mmhm.

RC: Um, you know certainly fuel prices were soaring a few years ago, and probably had a number of fishermen tied up at the docks, except for when the fishing conditions were quite good. Um, but when prices came back down again, well, then it's, you know, it's more profitable to fish.

RS: Yeah.

RC: So that's um, those are all part of those dynamics --

RS: Mmhm

RC: --and you really need to have, that's where someone who does an in depth analysis can add a lot of value--

RS: Mmhm.

RC: --to understand what's going on.

RS: Mmhm. Well, let me ask you what, what got you interested in, um, marine science specifically, uh, oh maybe I shouldn't say marine science, but the economic end of marine science, uh, for your career?

RC: Well, I guess, um, I did my masters in land use, uh...as an undergraduate I did economics, and I took a couple courses, just somewhat randomly over in the agriculture and resource economics department that seemed super applied. Um, and then when I was thinking about graduate school, I, I looked at both programs. I know I wanted to stay in this area, so I looked at the econ program and the AREC program, and chose the AREC, because again it seemed more applied, I didn't quite know what I was getting into when I think back on it.

RS: AREC is A-R-E-C, uh, A-R-E-C?

RC: Agriculture and Resource Economics,

RS: economics, ec—ok, E-C.

RC: Yeah. Um, so I don't know that I quite realized what I was getting into. Um, but I ended up doing land use, and um, which was a lot of, I, I found it very interesting, and actually now with a lot of the coastal issues, you know, our coastal communities and sea level rise and habitat. Um, I'm hoping, at some point, to be able to marry those a little better, that long lost interest of mine. Um, but, um, a job came along. I was working downtown at a think-tank, and um, a job came along out in Hawaii, and I just thought, wow, that would be so cool to go to Hawaii, and it really was. [Laughter] And that, that was my introduction of fisheries. It was kind of a, a jump, but, um, you know, it was at a point in your, my life that you can make that kind of leap.

RS: Mmhm.

RC: Um, and it was a lot of fun, and I learned a lot. Um, the folks at the Pacific Island Center, the guys there that, um, ran the commercial program were just so generous, so generous with their knowledge. There were three of us, Mike Travis, Marcia Hamilton, and I, and none of us really knew anything about fisheries, and, and didn't know any of these fishermen, so the guys at the lab, um, introduced us, and took us down, and just were so nice. And then the people in

Hawaii are so, um, that Hawaiian way, the fishermen were the kindest fishermen you can imagine. Um, just really took their time, answered our questions, so patient. I'm, um, I, when I think back about how much we didn't know [laughter], um, I have to appreciate how patient they were. Um...

RS: You were fortunate.

RC: Uh, very fortunate. Um, and actually, you know, I always have a soft spot in my heart for Hawaii, 'cause I do think the people there are just genuinely so, so sweet.

RS: Mmhm.

RC: Just very gentle people, so, um...

RS: So how long did you stay there?

RC: Well, that was '94. '94 to '95 I was there, then I went back to school for a semester, and then came back again from '95 through '96.

RS: Back to Hawaii?

RC: Back to Hawaii.

RS: Uh huh.

RC: So, kind of working on my, working full time, but also doing work on my dissertation.

RS: Uh huh.

RC: Um, so...

RS: So you just kind of fell into the marine end of it, in a way.

RC: I did, completely. It was just, you know, I happened to see that job announcement and thought wow, I've never been to Hawaii.

RS: So it was Hawaii that lured you rather than marine issues.

RC: Yes, yes, right. Cause I really did not know that, anything about, you know, just maybe a course here or there that touched on fisheries, you know, as a renewable resource.

RS: Uh huh.

RC: And so, um, read some probably highly stylized models on fisheries. Um, but had not really given much thought to the fishermen and the people, and, um, the markets, and just the whole as—the whole, the whole culture of fishing.

RS: Uh huh. Um, being in Hawaii, um, you mentioned that the field office had split off from the, uh, Southwest?

RC: Originally, they were one science center.

RS: And so then you had the Hawaii office split off, and have they over time, have they grown, or how has that changed?

RC: Um, well, the economics and human dimensions program, has that grown?

RS: Mmhm.

RC: Um, well, they really did not have much of a program when we started getting funding and growing, and growing all of the science centers. So, the first thing that we did was added an economist position there and a social scientist position there. Um, and then we've added other position, one other position, um...Hawaii is very far for many people to go, so oddly enough they've had a hard time attracting people, um, to, to the center. I think, I think Hawaii is kind of a mecca for marine biologists --

RS: Mmhm.

RC: --but um, harder to attract economists, um, and um, and, and actually social scientists as well. Um, that said, um, they had a, a superb social scientist for years, Stuart Allen, who um, really built that program and really had a, a large group working, um, they do a lot of, they're hiring through JIMAR, um, Joint Institute of Marine and Atmospheric Research through the University of Hawaii. Um, so they, they do grants through the University of Hawaii, and bring in people that way. Um, Stuart, um, brought in, really created a really nice research program there, um, looking at all aspects of, um, of life, fishing life in Hawaii, and the people engaged in fishing. Um, he's since retired and um, they have a new hire now that I've only, I have not met yet. Um, so, and he's started very recently, so, um, that will be, um, hopefully I'll get to meet him.

RS: And did he come in through the University?

RC: I am not sure whether he came in through the university or not. I've not met him. I have to find out. Um, so it's a smaller program, um very talented people working there. Um, one of their researchers who is now their team lead for the program, um, go the opportunity to do the advance studies program that NMFS has, um, went back to school. He had a masters in economics, and is, has gone back to do his course work for the Ph.D., and is now working on his dissertation among other things. Um, so they're kind of building it, um, organically --

RS: Mmhm.

RC: --I would say. Um, what's nice about the program is, um, they're very well connected with other economists, um, across the agency. Um, um, I, Justin I believe has on his committee Alan

Haynie. Um, because he's doing spatial modeling, so it's kind of those connections as well. Um, Minling Pan, who has worked, um, who I knew from when we did our cost earning survey, so many years ago, um, um...she's, she's worked with a number of other researchers across NMFS. So, you know, they have that ability to, um, collaborate and certainly with the University of Hawaii researchers, um, they're both, you know, Minling is actively publishing, Justin is, he's working on that dissertation, I'm sure he's publishing as well, but he's got to get that dissertation done.

RS: Yeah. Interesting, and they cover, they cover all of the Pacific, too right?

RC: Yes, so they have the Marianas and American Samoa, you know, it's very broad --

RS: Mmhm.

RC: --the area that they have to focus on, um, which creates a lot of challenges, um.

RS: Well, I'm thinking of, you know, natural disasters, the big typhoon that hit American Samoa, for example, and, um, you know, and they get weather events that are pretty severe periodically.

RC: And so they, they have colleagues, they occasionally travel there. But they also have researchers that might be local to there. So, they've done some of those types of, um, well, they've done analytical work on those fishing communities, or fisheries, um, some of it a little bit more arm's length. Um, because it, it's a very far flung region.

RS: Mmhm.

RC: Those are very remote areas. Although, for somebody, um, in Massachusetts, you know, having part of your, your responsibilities down to Virginia, that's a little bit of a haul too. You can't do it in a day.

RS: Mmhm.

RC: So...

RS: Um, you know thinking about, uh, natural disasters, mentioning those makes me wonder, to what extent the issue of climate change has grown in terms of your work? How has that been, how has your work been affected?

RC: Um...well, um, a number of the researchers, I guess, there's the disaster aspect, as well as just, um, those other changes that are occurring in the environment that are causing fish stocks to move or coral reefs to be less, um, to change, um, to die, um, be less productive. Um, so, that research, um, is going on in the field, um, Alaska has received, um, those researchers have received funding as part of the Bering Sea Integrated Research Program. It's called BSERP, um, I'm not quite sure what the acronym exactly stands for.

RS: B, B-S-...

RC: ...E-R-P?

RS: B-S-E-R-P? Uh huh.

RC: I think so, it might be B-S-I-E-R-P, I'm not quite sure. But, um, and so they did a lot of integrated modeling with the biologists and ecologists, and have, um, sustained funding to, to work together, and so they've looked at a number of climate issues. I do—climate's tough, I think it's, it's a field that, um, requires long term commitment, um, and scientists, um, working together in an interdisciplinary nature to, to capture the changes that are going on in the environment, um, with an economic model, um, or sociocultural model. Um, but to, to, they have to be integrated, and doing integrated modeling is hard work. Even when you go into it thinking we're going to do this, um, it's very difficult to have the models, um, line up so that the, that they're feeding one another in the way that you want them to be doing so.

RS: Mmhm.

RC: It's, it's just much more rigorous work, um, so I think that's—we have to think long term. We have to think long term about our science programs, and how can we do this together. No, no one can do it alone --

RS: Mmhm.

RC: --so how can we do this together. Um, and, and certainly they're not alone, but I think they have the largest portfolio of projects, just because they've had, um, this, um, this funding initiative, this program that funded them to work together, a sustained source of funding, which is pretty neat. Um, on the disaster side, and, and other regions are doing stuff too, but it's, um, that's just something that's emerged, um...on a broader scale --

RS: Mmhm.

RC: --than, than individual research projects. Um, in the Northeast, um, the climate program office, um, over in OAR, um, has, um...a good chunk of funding for the New England ground fish fisheries, and the climate effects on those fisheries. And so that's something that we work with them jointly on, um, to look at those issues. Um, but then there's the disaster, um, the climate re—what we're calling the climate related disasters. These, these, large storms, um, um, these large hurricanes that are almost unprecedented, whether it's Sandy or Katrina or Rita, um, that's something that our economists and social scientists have been very much engaged in. Um, what, what happened, the impacts on those fishing communities, um, how do they recover? What are the factors that affect recovery? Um, so some very nice, uh, work that was done by Lisa Colburn and Trish Clay, um, was what were those factors the aided recover, um, from Superstorm Sandy? And one of the findings that they had was, was the social bonds. That was the thing that people cited the most, was, was their neighbors, it was their family, it was their adaptive capacity was directly related to this, the strength of those social bonds. Um, and there have been a couple other studies that, um, also found that, um --

RS: Mmhm.

RC: --that was the case. And I thi—at least one of them also had that finding for the Sandy affected communities.

RS: Mmhm.

RC: Um, so it's just real interesting that that something no one was expecting. You'd expected it to be wealth, you know, is, is a wealthy community, or wealthy individuals, highly profitable firms? And the fact that it came out the social bonds was a bit of an eye opener 'cause that, that might change, um, how...how you...um—for local people, what types of activities do you want to encourage, and um, you know, how can you help build those social bonds and con—connectivity within your community?

RS: Mmhm.

RC: Um, and I know that's something that Sea Grant has given a lot of thought to as well. Um, we recently had a workshop with Sea Grant on...on the resilience of our fishing communities. Um, that report should also be coming out probably this Fall. Um, the workshop was in May. Um, and, you know, how—NMFS does a lot of the work, um, and NOS, well, I'll speak for NMFS, NOAA Fisheries. Um, of trying to understand the changes, what's going on, you know, kind of assessment and, and understanding and also trying to see where the gaps are. Um, Sea Grant is more that extension side of things. Um, and although they're not limited to that, I think that, that positions are really quite different. Their researchers are also trying to assess and understand...

RS: When you say extension, do you mean like advisory?

RC: Um...

RS: Like an agricultural extension officer works in the community?

RC: Um, so Sea Grant, yes. Sea Grant has kind of that same function as, um, as what you might think of from agriculture as well.

RS: Uh huh, uh huh.

RC: Um, so they, they're working in, in fishing communities to, to help build those, um, types of connections, um, to raise awareness, um, and, you know, they're...how to communicate risk, um, just all different aspects. So they have the research aspect, but they also have that, um, outreach, um, component that outreach and extension component, that's not strictly in our mandate.

RS: Mmhm, mmhm.

RC: Um, so...but it creates a nice end to end process. Like, we should be working together, um, and find ways to most effectively work together. And I think that's, this workshop that we had in

the Spring was a nice step forward in that process, um, brought in a number of external researchers as well, and, um, I think this is an area where we can, um, really make progress together.

RS: Mmhm.

RC: Again, I think it's that together part, those connections.

RS: You know, thinking about, um, these large storm events, for example, uh, somebody listening to this tape five years now, or ten or fifteen years now, uh, you know, will, will have a different vision of where we were. Do you feel that, how do you feel about NOAA's ability to, um, get ahead, or to, you know, sort of maybe change positioning on things, or think about...how, how all of these issues might come together in the years down the road? Or is a lot of the work focused on capturing the here and now?

RC: Um, well, I would say our lead—I, I think. I think our leadership does think down the road. I think, I think everyone is thinking about how will climate change affect, affect our resources, affect our, our communities, um, affect us. Um, so I think, I think they give a lot of thought to that, um...I'm sorry, I lost the thread of your question.

RS: Oh, I'm just wondering about, you know, the ability to kind of get ahead of the impact that, that climate change is going to have, um, when, when really we're, in some sense we're sort of in the early days of documenting holistically what are all the component parts that are being to be affected.

RC: Yeah, well, I think um...I think all parts of the government are thinking about what is our adaptive capacity, um, um, to climate change, how can we enhance that adaptive capacity, um, what will it mean? Um...I think across our coastal areas, that probably every state has moved houses, or has restricted building in areas that have become too vulnerable. Um, I know in Louisiana, um, they, when I was down there some time ago, they were in the process of moving a town.

RS: Mm.

RC: Um, um, I know cities are, are raising their sewer lines, so they don't get inundated. Um, because, you know, the water tables are, are rising. Um, so I think, you know, that's going to put a lot stress on communities, um, so this is kind of the time to be thinking about it now, and being smart about it. Um...but...yeah. I don't know. [laughter]

RS: Well I don't want to—didn't want us to get off on the issue of, of climate change in general, but um...you were talking about, um, these decisions, support tools that you're developing,

RC: And we've gone far afield from that. [laughter]

RS: I know! And the models and all, so, um...you know, you've been at, at, um, NMFS for quite a while, how, how has the science changed? And I'm thinking particularly of, you know, not only

the, the theory side, but also the tools side.

RC: Well, I think the technology has really changed a lot. Um, that our ability to deliver up large data sets, and um, manage large data sets. I, I think on the IT side, they're able to support, um, researchers much better. Um, I think this has been a promise that was, a long time coming, like we all thought this was going to be so easy, but as it turned out, it really, um, now I see that our, our staff here, are, are making it very easy to deliver up data to the public, and making it much easier for us to work with our data, um, so those to me, those are really great strategic investments to make, because it just makes everybody work smarter. Um, um, so...that's, that's been a big change. Um, it allows, um, automated data checks, autom—you know, just automated reports, automated data checks that, um, are consistently done the same way, um, and you get the same answer no matter who pulls that information. That's, that just makes it so much easier for everybody whether it's um, a scientist doing it, or somebody in the regional office who's doing it, maybe for, um, an amendment. It just, um...makes life a lot simpler.

RS: Mmhm.

RC: So, I—and so we can work smarter, and, um, and allow people to really focus on, um, those bigger questions, and those modeling, um, questions. You know, improving models, and improving, um, and having time to think about, um, what is the real issue here. What is, um, how can we do this better?

RS: Mmhm. So the tools actually allow you to ask different questions?

RC: I think so.

RS: Mmhm.

RC: They allow you to ask different questions, and they, um, allow you more time to think about those questions too --

RS: Mmhm, mmhm.

RC: --which is, um...which is important.

RS: You're not spending all your time on the technology.

RC: Yeah.

RS: Yeah.

RC: Just, you know, just crunching programs, which...

RS: Um, do you, do you see, uh, that there is still a lot of limits in data collection?

RC: Um...there, there is. Um, there's still...we're definitely doing a lot better with our data

collection programs, um, but of course, um, we always want more. Um, we don't have, um, economic data, the cost data for all of our commercial fisheries. So we, we definitely would like to have better coverage there. Um, I think that's one of the key gaps. Um, on the social science side, um, I, I think, I was giving some thought to this this morning. When I first started with the, with the agency, the economics program was considered, I don't even know if it was considered nascent. Um, but, but that was definitely the case the first five years I was here, maybe was even valid as the first ten years I was here. Um, and I think on the social scientist side, I think that's an area where we're still discovering what we need.

RS: Mmhm.

RC: Um, I think that's, um...that's definitely the case. Um, although we're fulfilling a lot more of those needs as well. But I think, I think, you know, it just takes time to find, to figure out what's the most relevant information. Um, some of our early efforts, um, survey efforts, cast a broad net, and um, and then they realized oh, we actually didn't need to ask as many questions as we did --

RS: Mmhm.

RC: --um, and then they were able to hone it down. So, it's, it's kind of those, it's a process --

RS: Mmhm.

RC: --you kind of learn, um, that what, what mattered, um, what was the most important information that you needed to be getting --

RS: Mmhm.

RC: --so that's, you know, that was a positive outcome. Um, that doesn't mean that there isn't a lot more information that we need on our fishing participants and, and our fishing communities. Um, we have under the Magnuson Stevens Act, National Standard 8, um, tells us that we need to hav—um, provide for the sustained participation of fishing communities. We need to, um, so...that, you really have to think of these fishing communities and how they are changing. There's, um, a lot of dynamics that go into a fishery, or, um, a fishing community, you know, their local economy, um, their ties to fishing, sociocultural ties to fishing. There's just many aspects, so, um...it just creates another complexity --

RS: Mmhm.

RC: -- for modeling, and trying to see how is this going to play out.

RS: Mmhm. Do you see the need for, um, social science at the agency growing?

RC: Um, I think actually, I think the agency sees the need for both economics and socioculture information. Um, um, increasingly we're seeing, like, this is what we need to understand our ecosystems, we need this component because people are part of the ecosystem.

RS: Right.

RC: So there's, um, increased recognition of that, um, it's...um...and we're doing more integrated work. It's just, it, it takes time.

RS: Yeah.

RC: It takes time to get there.

RS: Yeah.

RC: Um, there's so many, you know for the biologists and ecologists, there's a lot of other questions that they're working on, you know, they're doing fundamental research as well. So, um...it just takes time.

RS: Well, I know that, um, you know, in your work here, in, in the work of your group, there's probably a lot of outside organizations that you rely on, or interact with, or who make demands of you. So what are some of the most important ones? I mean, I know you have a good relationship with the University of Maryland, yourself, um, so that would be an example I would imagine --

RC: Mmhm

RS: - - in terms of the research coming out of there and students and so forth, but I'm sure there's nonprofits and other organizations that are, uh, important.

RC: Um, abs—absolutely. You know I—um, so, I personally, um, you know, I did come out of Maryland, but um...we're, one of the things that we're also trying to do is to grow our science center, and part of that growth is enabling them to build up those connections, um, with academics. Um, and, and sometimes it's their local university, sometimes not. Sometimes, you know, there's somebody at a, um, at a far flung university not even coastal, who has expertise that they need. But it's kind of, um, it's not just building up our, um, our connections here in ST, it's helping them to build their connections, um, and gr—you know, the strength of the science center really depends on the science. Um, and so having, bringing in that external talent, um, particularly if you have a new hire, a newly minted Ph.D., giving them the opportunity to work with, um, academics, or um, academics or...leave it at academics. [laughter] Um, it creates kind of that, uh, mentoring aspect --

RS: Mmhm.

RC: --that, um, can be really productive, and useful for, um, a young researcher. They start to build those ties they learn. They learn so much through that process. Um, I know at the science centers, many of the, the program leads really have that in their mind, that they, you know, that when they bring somebody in, they want to give them that opportunity to, to work with other, work with folks--

RS: Mmhm.

RC: --so that, um, you know, they continue to grow and to mature as a researcher, that, that's tremendous. Um, and then, as well as, um, just having those connections, um, with the regional office, management connections, where you start to understand the issues, um, really understand the issues, and what's being considered, the constraints on the fishery as, well as the management issues, and thinking about what is a useful way to approach that.

RS: Mmhm

RC: So...

RS: Um, so in a way, you're supporting the science and supporting the scientists.

RC: Mmhm.

RS: Um...

RC: I think so.

RS: To help grow the science. Yeah.

RC: Yeah.

RS: Um, let me ask you about, um, the, the...maybe more explicitly about the relationship between the science centers and the field offices and your office. Um...is there a lot of travel, is it mostly just communication, do people do, uh, I guess you could call it rotations or secondments, I mean, how do, how does that relationship work?

RC: Um, well, um, it, I'm hoping it works pretty well. [laughter] Um, what we've done here in headquarters is we, um, we have a recreational fisheries economist who coordinates, oversees the recreational fisheries economics programs that are occurring across the centers. And we do the same for the commercial, um, at, um, at the moment, um, I don't have a social scientist here in headquarters, um, Susan Abbott-Jamieson retired a few years back, um, and I, at that time, we had had a bit of a budget cut, so I didn't want to take, um, additional FTE salary out of project money from the field. Um, but, so the one thing that it did make me do, is just, um, work more closely with the, with the folks in the field. Um, the social scientists in the field, of having annual, biannual, workshops with them, and I go, and I'm there to learn, um, and it's, that's kind of focused me more on their, on an area that I'm probably the weakest in was that side...

RS: Mmhm.

RC: Um, so in a way it was, I think that's been a good learning experience for me. Uh, you mentioned detail. I had two people, two social scientists do kind of a virtual detail with ST, um. Lisa Colburn and Mike Jepson had this idea for a social indicators project, and their bosses

allowed them to dedicate, say six months, I don't quite remember the time frame, but re—focus for six months on developing, um, that research, and bringing it to fruition. And that, we were talking about decision support tools, um, they've developed a, a, the social indicators mapping tool. They've developed the research, the indicators that go into the social indicators mapping tool, and then here in ST, our GIS guy built the, the mapping tool interface for them. Um, and what's been cool about that is, you know, it's available on the, on the web, and um, it allows council staff, NEPA staff, um, to go in and see, um, to look at the communities that may be impacted by a regulation, they can now go in, and, and see their social vulnerability, um, across a wide range of characteristics, and it might be, you know, it could be poverty, um...I think social disruption is another one, you know, is there a lot of gentrification going on in this city. Um, so anyway, there's this suite of indicators that are there. More recently, we've added a sea level, um, rise, sea level inundation indicator. Um, so it, it just allows folks to just go right in and um, look at what's going on in those communities and neighboring communities as well, that may be affected by an amendment. Um, so we actually did, we, meaning they, did a training with the council staff, with the regional office staff, the folks doing NEPA, the National Environmental Protection Act, which requires a social impact assessment...did training with them. Um, so that, again it kind of delivered the information right to people who can use it. It's actionable, it, it fulfills, it helps them answer those questions of what will be the effect of this amendment.

RS: Mmhm.

RC: Um, so that's, you know, again kind of, I think, working smarter. Um...

RS: Well, you called it a virtual...what? What did you call it? The rotation, or rotation—

RC: A virtual rotation.

RS: Rotation. So, it, it really was that then they were more or less reporting to your office during that period. Is that what that was?

RC: Yes.

RS: Uh huh

RC: Yes, and so that, again, that was right after Susan had retired, and, or shortly after she retired, and, and that became, um, I don't think I ever let them go, after that. [laughter] It's the reality, it kind of, um, you know, we built a bond, and they, they've become kind of a sounding board for many things, for me.

RS: Uh huh.

RC: Trish Clay is also in this office, and she's been invaluable over the years. Um, you know, one, the one thing that she has is that she, um, she actually works for the Northeast Center. And the Northeast Center is the one program that actually has management responsibilities. So, she, she has the center perspective, she has the management perspective, and, and from a social scientist standpoint. So over the years, I've often gone down to her cube, and said, "Trish,

[laughter] explain this to me," or "why, why does this matter?"

RS: Yeah.

RC: And, it's just, it's just really useful. Um, I know we all, um, we all end up talking to our colleagues out in the field quite a bit. Um...um...and, there's a number of meetings that we all try to attend. Um, scientific conferences that we usually send a fairly good sized contingent to. Uh, the North American Association of Fisheries Economists, you know, you can imagine North America, if we're not there, at the at meeting, you're missing a lot --

RS: Yes.

RC: -- of the fisheries economists. And, you know, it, it's clearly so germane to our mission. Um, and then there's also, its' counterpart, the, um, the International Institute of Fishery Economics and Trade, which is actually happening this week in Scotland. Um, we'll send a contingent there as well. It's usually not as large of a contingent to that meeting, um, generally 'cause it's further away. Um, so, you know, the travel considerations come in to play. Um...um...anyways.

RS: You know that there's a question, this is, a little, a little bit different, but, um, recently they are talking in the paper how about the, you know, we're running up to the end of our bud—federal budget. And, there's discussion of a continuing resolution, and whether they can get another budget. What, what has—what have you seen, um, in terms of the impact in the agency, when they couldn't get a budget, and there was a shutdown or a near shutdown. What happens to your work? What happens to the agency in general?

RC: Um, well I think, I think continuing resolutions are fairly, they're pretty much the norm. Um, and then it's really a matter of duration. Um, and um, so, you know, if the budget comes quite late, um, the first people that feel it are the folks out in the field because they, their deadlines for contracts and grants, are a little bit earlier than they are in headquarters for some reason, I'm not quite sure how that plays out, but I guess there's different contracting offices that they work with. Um, so that, that can make it really tight for them. Um...so that's, um, that can be the biggest challenge of all. Um, and then you try to work with people, you know...um, sometimes, you know, we've been on a CR for the whole year, um, and, the earlier those decisions are made, just the easier it is to adapt to.

RS: Mmhm.

RC: I, I think I've been here long enough that, um...everybody want—of course everybody wants it October 1st, but, the—we can work with whatever it is.

RS: Mmhm.

RC: Um, you know, the gov—our management and budget office has kind of figured this one out. How, how, how to manage through these processes. Um, and a lot of times it's, you know, if it is a late CR, then you just, um, and there can be very good reasons for that, um, I'm probably

going to be on the phone more to my regional contacts, and, um, rather than sending the money to them, which is called a BOP, um, I may have them directly cite my budget codes rather than wait those few extra days that it may take for that money to get to them. So just, you know, you, there's more work involved, um, and we definitely prefer earlier decisions.

RS: Mmhm.

RC: But you can make it work.

RS: So, you, you haven't seen big disruptions, or...?

RC: Um, I, I've seen...well, I'd say, you know, the, the shutdown, um, was clearly disruptive, um, and I think it's kind of the uncertainty around it as well.

RS: Yeah.

RC: Um, you know, you don't know ex-ante whether you're going to get paid or not. Um, and then the contractors, it created uncertainty for them, um, so it's, that's not an ideal situation. I, I, and I probably, that's...what most people would say, you know.

RS: Yeah, yeah, yeah.

RC: I mean, just calling it what it is. It's not an ideal situation.

RS: Yeah.

RC: Yeah.

RS: Well, I just wondered having seen that issue rise again...

RC: Yeah, it's um...it's...we'll manage. [laughter] I, I guess I've, I've kind of, um, you know, you might have to work a little later and make more calls, but, I, I guess, um...you know, whatever it is to get it done.

RS: Yeah.

RC: It will get done.

RS: Yeah.

RC: Yeah.

RS: Well, um, let me ask you a question about, um, your own projects. Is there a, a project that you, you know, thinking back, you would say, oh this is one I'm really particularly proud of?

RC: Oh...um...that I worked on, or that...? I'm in love a lot of the work that's being done by the

field, I have to say, or, or here in, in headquarters, um, as well. Um...um...one person that works here for me, the protected species valuation study that she and uh Kris—Kristy Wallmo and Dan Lew have been working on. To me, it's been, it's been a big effort, but really, how much, how much does the public value marine protected species? What is their willingness to pay to preserve, um, these threatened and endangered resources? Um, and I really believe like having that information is useful, that it, um, makes people aware that, hey, we are that people that care about these things, um...

RS: Mmhm.

RC: So that, that's been a project that I've been really pleased to have helped enable. Um, I helped enable the FishSET, um the BLAST project, and the Social Indicators Mapping Tool, all of them. I mean, the, and those, that's just a, you know, the tip of the iceberg, this, the, um performance measures, the catch share performance measures, that's, um, we would never have had that capability to do something of that scale fifteen years ago. Um, and, and to have it keep growing and growing. Um, I'm, I think it's very useful work that's being done. Um, one, uh, we have a national report, Fisheries Economics of the U.S., um, I often call it fisheries lite, because it gives you a taste of each of the regions, you know, the management issues in those regions, and then the trends, um, the recreational fishing trends, and, and commercial fishing trends. And um, that's one that I am very much involved in, and it, people have come and gone that have worked on it, and I would have to say everybody who has worked on it has improved it. Um, and it's just, it's just been a really fun one to work on. Um, because everybody that comes to it has that attitude of they want to, they want to improve it. They see something that they can contribute to. So that, it just makes it, kind of fun, you know, always just upwardly thinking --

RS: Mmhm.

RC: --how can we do something better?

RS: Mmhm

RC: Um...I don't know it's kind of hard to think about going back over the years...um, my research that I did back so many years ago, um, uh was actually spatial modeling in the Hawaii longline fishery that then got applied to the sea turtle closures that were being implemented in that fishery. Um, so that was fun too, that was personally quite gratifying, like, to be able to contribute to something like that. Um, it's probably one of the reasons why I really like, liked FishSET, cause it was a sp—one I can appreciate that it's a distinctive type of modeling that if you didn't get it in school, it's hard to pick up. So having somebody help bring that information together for, for you is really useful, and I think it's a useful framework for particular types of questions. It's not for all questions, but for some it's quite useful. So...I don't know...I'm going to feel bad if I leave out anybody, and I've left out many.

RS: No, but I mean, it, it's clearly uh, the case that your work is exciting, and you feel like you really are able to be productive, and --

RC: Absolutely

RS: -- add value --

RC: Add value...

RS: -- to the science.

RC: Add value and, um, and see how many, um, researchers out in the field, you know, may have start—we may have started together and seen where their research went to, and kind of blossomed.

RS: Mmhm.

RC: And, um, it's just nice. It's, it's a long term relationship in the federal government, um, you know, there have been people with the agency even longer than I have, and, you know, I know I'm gonna, I, I've known for years now, and um...it's kind of a ni—you know, it's kind of corny to say family, but it's kind of that way.

RS: It's your community.

RC: Yeah, it's our community. And it, it is a long term relationship. And sometimes, you know, you're not always on the same side, but there's genui—because you have that long term relationship, it's like ok, you're going to be that way, fine. [laughter] You know, you know you're going to work with them, you know, next week on something else--

RS: Mmhm.

RC: --so it, you know, get over it. You, you, that's a—mention this...it's just like, we'll, we'll deal with it.

RS: Yeah.

RC: Um, it's just part of, part and package of working for the federal government.

RS: Well and it gives you, it seems like it gives you the opportunity to really see your discipline broadly, you know, who's in it, who's doing what, how it's developing.

RC: Absolutely, um, it absolutely has. And, um...just, it, it's amazing how much it's grown. How, how, um, how much the program has grown, um, but just also the, the research portfolios that people have, and their, their modeling strains, and um, it's just really impressive. I'm very fortunate. I'm very fortunate to have the job that I do and the colleagues that I have. So that's, that's a bonus.

RS: It's nice to be able to say that, isn't it?

RC: Yes.

RS: Yeah. And to, you know, to feel like there's, there, you can be proud at so many different levels of so much different work.

RC: Yes.

RS: Yeah. Um...it, do you also, you know, how do you feel also about, about NMFS contribution to marine sustainability? How has that played out in your mind?

RC: NMFS...

RS: Mmhm.

RC:...contribution? Or the, my program's contribution, or...?

RS: Well, both.

RC: Both? Um...I think NMFS is the most important agency that there is. [laughter] Um, truly I think, um, that the re—that the work that they're doing on, on fish stocks, and on, um, essential fish habitat, critical habitat for protected species, the protected species work um...um, oceanographic work, I mean, I, I think the agency, um...we know what our mission is. We know who we are and who we're not. We're not trying to be somebody else, um, but we know what our mission is, and we're fully committed to it. Um, and, I think our, our partners, um, recognize that. So we, we have our role and they have theirs and...

RS: Mmhm.

RC: Um, I, I think that provides a lot of clarity. Um, when you know who you are, and the work, this is, this is what we need to be doing, um it's very, it's a very clear message, and it creates clear lines of communication.

RS: Mmhm.

RC: Um, and we're very, we're very committed to it. I, I, when I look across the agency and see how passionate people are about their research or, or, or their work, their management work. Um, you can have the best science in the world, but if you don't have people dedicated to bringing that science to bear in management, um, you know, you're gonna lose the game. So --

RS: Mmhm.

RC: --it's definitely a partnership.

RS: What, uh, since you've really built up this program quite a bit, what have you learned about developing an effective program over time? What are the lessons that you would pass on to someone coming in?

RC: Um...well, let's see, what would those lessons be? As I, as I get older, I, I've got a ways to retirement, but I do kind of think about this. One, one I think it, um, it is to be adaptive. Um, you know, the, the agency changes it, it's, it's an organic beast.

RS: Mmhm.

RC: You know the processes change, um, leadership changes over time, priorities change. Um, um, sometimes from the top down, but sometimes, you know from the White House, um, but also just, um, you know climate change is creating new priorities on its own. Um, so I, I think being adaptive, um, listening to people um, is always a good thing to do. Um...um, it's not just always the program leads, you know, I, I talk with folks all the time. They'll call and they have a really neat research idea, and you know, you can get so excited about it, like how, how can we make this happen. Um, so, you know, I do think, I do think trying to listen to people, and um...knowing who you are, and who you're not. Um, you know, what the program is and what it's not. Not trying to, to, um...take on issues that, that we're not well suited to take on. They're not really our mandate --

RS: Mmhm.

RC: --um, maybe they belong out to other parts, um, that's also, you know—know who you are and who you're not I think is important in institutions.

RS: Mmhm.

RC: Um, I think you can, um, kind of get wrapped around the axel, and...um...I don't know. Making those connections I think is really important. Um, for us, um, investing, investing in our staff is really important. Um, we have a small group here, um, in headquarters. Um, I struggle with this, is it right sized? Um...sometimes maybe no, sometimes it feels right. Um, but making sure that all of the dollars are going to their best use, going out to the field, making sure they have the funds to do their research, a—try to advocate on their behalf, um --

RS: Mmhm.

RC: --making those connections.

RS: Mmhm.

RC: Um...I don't know, be nosey. Find out what people are working on. 'Cause most people love to talk about their work. Um, so that's um...yeah.

RS: Well, and if your role is in a way, is a clearing house, then...

RC: You kind of need to be. Um, so there, and there's lots of different ways to do that. Um, we run a biennial best papers competition, um, one for policy and one for research. And, um, I read all of the papers. Um, just, and it's just, that really grounds me because I see what everybody's working on. Um...

RS: Is that something you started, or has it been around for a long time?

RC: Yes, yes. Um, well, actually I think it was Steve Freese's, he's an economist out at the Northwest Region. He suggested that idea. He's a source of many good ideas. Um and so we implemented it, and um, it's just really fun. It's, um, it's amazing, uh, We have to put a cap on how many papers people can submit because otherwise we'd just be completely inundated, um, with papers, if we got every paper they wrote in the last two years.

RS: So what happens with the best paper?

RC: Um, uh, well, obviously the prestige of winning best paper. So we, we, we have a first, second, and third place, and there's a small nominal award as well. But I think it's mainly the prestige of um, of, of having the recogni—recognized as best paper.

RS: Mmhm.

RC: Um...and yeah. And there's some really super papers. We're, we're in the process of selecting them right now. So that's probably why it's on my mind. Um...

RS: It's a great competition.

RC: Oh, it is. It is. And it really, it just really gets you to...to know what research is being done out in the field. Not just, um...you know we'll cross your desk, um, during the course of the year, it's everything, so...

RS: Yeah.

RC: Um, that's pretty nice.

RS: Yeah. Well congratulations, that's well appreciated I'm sure.

RC: It, it is, it is.

RS: Yeah.

RC: It's a fun one.

RS: Well, I am um, out of questions. Is there anything, um, you know, in terms of your experience here at NMFS, and um, your career that you would like to mention that I didn't think to ask about?

RC: I want to say no, only because my voice is giving out a little bit.

RS: Plumbed you dry. Alright, let me turn this off. [laughter]