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## Hastie, James ~ Oral History Interview

Maggie Allen

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Voices from the Fisheries  
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Woods Hole, MA 02543

# **Interview with James Hastie by Maggie Allen**

## *Summary Sheet and Transcript*

### **Interviewee**

Hastie, James

### **Interviewer**

Allen, Maggie

### **Date**

July 26, 2016

### **Place**

Northwest Fisheries Science Center  
Seattle, Washington

### **ID Number**

VFF\_ST\_JH\_001

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### **Biographical Note**

James Hastie received a Ph.D. in Resource Economics in 1987 from Oregon State University and immediately began working for the Alaska Fisheries Science Center. Jim has been on the Pacific Council's groundfish management team since 1993 and has served as co-chair from 2000 to 2003. He is currently the Program Manager for the Population Ecology Program and the Fishery Resource Analysis and Monitoring Division at the Northwest Fisheries Science Center.

### **Scope and Content Note**

Interview contains discussions of: fishery management, fishery economics, stock assessments, Pacific ground fish management plans, economic analyses and models, data collection and review management, fishery surveys, catch share program management, Pacific Fisheries Council, Individual Transferable Quota [ITQ] programs, sable fish stock management, by-catch management, trip limits, trawl fisheries, fixed gear fisheries

James Hastie provides a detailed account of the management of groundfish in the Northwest. He discusses the impacts of regulations on market shares; how stock assessments are conducted; the importance of recognizing and supporting staff; and the

decreasing funds to do stock assessments. He ends his interview discussing the future of his field and with advice for someone interested in pursuing his career.

### **Indexed Names**

Methot, Rick

Punt, Andre

Restrepo, Victor

### **Transcript- JH\_001**

**Maggie Allan:** 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 part of the Voices from the Fisheries Project that is supported by the NMFS [National Marine Fisheries Service] Office of Science and Technology.

I am Maggie Allan and today I am speaking with Jim Hastie at the Northwest Fisheries Science Center in Seattle, Washington. It's July 26, 2016 at 1pm. Jim Hastie is the Program Manager for the Population Ecology Program and the Fishery Resources Analysis and Monitoring Division at the Northwest Fisheries Science Center. He received his Ph.D. in Resource Economics from Oregon State University in 1987. In that same year, he began working for NOAA at the Alaska Fisheries Science Center. He has served on the Gulf of Alaska plan team and has assisted in numerous analyses of the West Coast ground fish program. He's been on the Pacific Council's groundfish management team since 1993 and was co-chair from 2000 to 2003. Welcome. Could you maybe just start by telling me about your career and how you got here?

**James Hastie:** Yeah, I have a fairly unusual niche in the organization. I've gotten to the point where, I guess, from about 2007 on, I've only been managing people primarily who do stock assessments but I started off as a resource economist. After I graduated, I had an offer to go to Woods Hole and work or at the Alaska Center here in Seattle and I took this one for family reasons. I worked on Alaska issues more kind of in the early years that I was there. I started serving on the Gulf plan team in the late '80s and that body is one that reviewed stock assessments and also some economic analysis and looked at proposals for plan amendment changes and that carried through until I left the Alaska Center.

The set up of scientific coverage for West Coast groundfish was a complicated one in that when the Alaska Center was split off from the Northwest Center in 1983, or something like that, all of the people who were working on groundfish went to the Alaska Center in either RACE [Resource Assessment and Conservation Engineering] or REFM [Resource Ecology and Fisheries Management] Division. They continued to do surveys for the West Coast and conduct assessments for that. As part of this deal to pay back services to the West Coast, I got assigned in the late '80s to help with analysis of the Pacific Council's License Limitation Program. That analysis went on for, I guess, about two to three years the Council making a final decision late in 1991.

I was accessing fisheries data through the PacFIN [Pacific Fisheries Information Network] which was located at the Alaska Center at that time working with a horribly old Burrows Banking computer that the agency had gotten for very little money but nobody had a decent editing monitor for it except for the two people that worked for PacFIN. One either had to upload programs or one had to use a line editor with change commands to go in and change parts of the programming. So that was very cumbersome having to have fishery data tapes mounted so you could run the analysis on them. At that point the computer room over at the Alaska Center was about as big as our auditorium here at the Northwest Center. It is much smaller now.

I continued some involvement then with the Pacific Council and not long after the Council had adopted and were getting ready to implement the License Limitation Program in '94 around in that time I was appointed to the GMT [Groundfish Management Team] and I continued to serve on that until about 2004. As part of that responsibility, I served as pretty much the Chief Analyst on that group for most of the time that I was on there, at least as regards with analysis of fishery data or sometimes survey data. At that time, the GMT was, in addition to providing management guidance to the Council whose management system was very different than about any place else in the country and they had an elaborate system of what we refer to as trip limits although they evolved from per-trip limits into cumulative time period limits. Initially the cumulative ones were for a month and then two months but it required a lot of in season analysis to make sure that those limits were set at the right levels so that we didn't exceed what were called at that time harvest guidelines.

Part of what the management team did was recommending those limits to start the season and then change them during the year, other management changes might be called for or sometimes suggested by industry or from the state agencies. The other thing that they did was review stock assessments. Initially, for most of that period, there were about three people on the GMT who were actually stock assessors and had some experience in doing stock assessments and the rest of us, I probably had more experience in review than the others because I had been reviewing or helping to review assessments at the Alaska Center.

So that responsibility went on until the Council started a star panel process which I'm a little foggy about the dates there but sometime around 2002 or 2003. It's kind of right before the Council initiated its biennial management cycle. Another thing I was involved with in addition to the normal routine management analyses, there would be analyses of other larger management changes.

One of the things the Council staff and I worked on starting in about later 2004, I think, or early 2005 was a catch share program for fixed gear sable fish. The Alaska management area had implemented a program like that for sable fish and halibut somewhat earlier, we were kind of a bit behind them. That went along fairly smoothly. There were obviously difference of opinion about, I guess the main differences were with regard to qualifying criteria and what since they weren't going to auction rights or sell rights, they were going to be given away and what would the basis be for issuing shares in that fishery.

Obviously the people who had been major players in that fishery wanted historical catch to be the predominant if not sole means of allocating them. There were other people who viewed sable fish as a safety net that wanted to see more equal sharing as a basis and a lot, I would say a large proportion of the people in the latter camp, were salmon fishermen primarily a lot from northern California. In fact, when we would have meetings say in the San Francisco area, it was not uncommon for them to bus maybe two to three busses of fishermen down to provide public comment for the Council. There were at least two occasions, I think, where the Council was on the brink of making a positive decision and we had meetings in that location and by the end of the meeting, their agreement had disintegrated. Basically, I think, in hind sight, a lot of the people who remain in that fishery now feel like they would have been better served by accepting more equal sharing because they would've had the flexibility in all likelihood, depending on what accumulation caps were, of acquiring more fish than they are able to fish now with the tiered system, which I'll get to in a moment.

So at any rate, we got to about 2006 or late 2005 and Congress was actively considering a moratorium on now ITQ programs as part of the Magnuson reauthorization that I think was finalized in 2007 or at least signed in 2007. The Council got a letter from a member of the committee that was developing the reauthorization recommendations and kindly said "we're considering a moratorium and you should really cease and desist any further development of new programs". We did. The Gulf did not. As a result, their red snapper ITQ program was invalidated by Congress after the reauthorization and they were put on more stringent plebiscite requirements for reinitiating even the discussion of ITQ. So that didn't work out very well for them but it didn't work out very well for us either because we had been very close, probably the difference between accepting 75 to 50 percent equal sharing, sort of in that range, so we had to set all of that aside.

We had substantial management problems in that fishery going back to around '86. I think it had been a year round fishery. Around '87, I think, the Council established an allocation for sable fish between the fixed gear fleet and the trawl fleet as effort was increasing. From that point on the catch rate in the fixed gear fishery kept increasing and by, I'd say, around '93 or '94, we were down to about a two week season. So the same type of factors that motivated Alaska and the North Pacific Council to implement an ITQ program up there, we were feeling those same symptoms. Their halibut industry obviously had gotten worse because it was down to about three half-day openings and sable fish was a week maybe, I think. We had to find some way to deal with that race for fish because you had to set the opening well in advance and if it turned out to be a bad weather period, people were either going to make the choice to go fish in unsafe conditions or they were going to lose out.

Of course, it took us a while to get to the point where we can really get around that situation. We decided we would start down that path with a program of cumulative period limits, the catch being that individuals could not have an expectation across the fleet of catching their entire limit. There had to be some, what we ended up calling "headroom", where if everybody caught their limit, you'd be, say, 25% over the allocation. It was going to take a plan amendment to implement an allocation of tier status on the basis of historical catch. We weren't able to do that out of the gate. What we did initially was equal sharing

and then anything that wasn't caught during this primary opening would be carried over into a mop up fishery later in the fall after we'd had a chance to assess all of the fish ticket data and much of that was slower coming in that it is today.

In some cases, we did have a system set up to get us more of what we called rapid soft data through the quota species monitoring program that had been around to help the GMT within season management because often it would take California four or five months to get their electronic fish ticket data to 90% complete. That wasn't an effective basis for management and a lot of the recreational landings were not well known and there wasn't a QSM [quota management system] system there so you really were guessing at where the recreational fishery was in a lot of cases.

It was my job, I got the short straw, to develop a way of estimating how long the fishery could be set so that this overhead would be achieved. So I went back and did a similar analysis to what I'd done in the license limitation development process. There's a provision in there that each permit has a length endorsement and everybody realized that an 80 foot boat has a lot more catching capacity than twice a 40 foot boat. Through looking at kind of the frontier of catch per vessel size, I proposed an exponential increase to about the two and half power of length and that was the reason why when the factory trawlers who were conveniently excluded from the qualifying period, the window, when they bought into the fishery most of them --well, they were 200 to 230 feet in length -- they ended up buying nine or ten permits on average to be able to get the length endorsement that they needed.

Similarly, I went back and looked at three or four years of catch data for that and made my estimates based on the assumption that the same vessel would be doing the fishing and it worked in the first year to many people's surprise. I felt pretty good about it. We had to do that for another at least one, maybe two years before we got the other allocation in place. Maybe only one more year but we still had the overhead problem because Congress had not lifted the moratorium on ITQ programs. That sort of broke the estimation process up into three parts and you were comparing- we did have fixed ratios at least- between the limits of the different tiers. It was just a little more elaborate estimation to make sure that we didn't go over in the four or five years or so that we had that in place. We never did go over the allocation. Again, in the tiered system back then, whatever was leftover was distributed equally in a mop up fishery.

Then eventually we got special dispensation from Congress to establish a seven month window from the beginning of April/May through the end of October in which people could land their fish. Because even with the set limits and meeting to get this overhead, the seasons were still pretty short, I think less than three weeks. So that really didn't address all of the weather related problems. After we got that then we were able to assign these historically based tier amounts of catch and those would be recalculated whenever the ABC [acceptable biological catch] or the harvest amount that was specified changed for the fishery.

As we move forward, after the reauthorization in '97, there were new provisions for rebuilding overfished stocks and eliminating overfishing. We were in a position, as was

everybody else, that we didn't have established standards for determining what an overfished stock meant. We didn't have a target. We didn't have a basis for calculating that. So it took the Council a while to get around to the system that was initially imposed where 40% of the un-fished biomass was adopted as a biomass target and 25% which was a little higher than the minimum allowed by Congress or at least the National Standard Guidelines would be set as the threshold. That's called the minimum stock size threshold that if you're below that then you're considered to be overfished.

Once we started being able to calculate those things, it was apparent that several of our stocks were not in very good shape. While we didn't get formal rebuilding plans in place until after 2000, we were in a process of reducing the overall catch limits for those species well before that, probably around '97 or '98. The approach that we took as we had taken with other target species and coincident catch species was to look at log book data and a limited amount of special project observation data and try and determine what the ratios of catch would be. One of our members of the GMT at the time would raise the issue so long that we made a little sign for him that we could hold up during our meetings to emphasize the ratios aspect.

But they were challenging issues because, say for instance, with the sable fish fishery, the deep water fishery we have long spine and short spine, thorny head along with sable fish and short spine was less abundant but found closer to shore so economically it was cheaper for the fleet to go less far off shore to fish for sable fish and dover sole but they would catch more short spine and not very much long spine. If you gave them different ratios of things, you might end up taking a lot more of one thing than you wanted. Up until we established an observer program in late 2001 and then started getting more comprehensive data in 2002, all of these landing limits, or the cumulative limits, the trip limits, were specified in terms of pounds landed. If a vessel reached a limit for a coincidentally caught species that was of less interest to them than the target species, they were free to go ahead and keep on fishing for the target species and simply discard whatever other species they caught that their limits were filled for and that in the longer term became one of the motivations for the catch share programs in the trawl fishery.

Moving a bit forward from that, it was becoming more apparent that parts of the management system had to change. If you go back to the late 80's there were only trip limits for a handful of species, maybe six. Part of that was because there weren't assessments for that many species. You had specific limits for sable fish and Pacific ocean perch and widow rockfish and a few other. Well, all of the other rock fish species that at that time didn't have individual limits were simply put in an unspecified management system. Trawl boats had limits of like 50,000 pounds of unspecified per month or two months and they could catch and land whichever species that were in that group and discard anything that wasn't as marketable.

Beginning in the late '90s, we started considering changing that and that was the motivation for developing near shore shelf and slope assemblages with north and south components. Going into that process, the dividing lines, there were some dividing lines but they were north of where the current line is at 40 degrees ten minutes north latitude which

is near Cape Mendocino but a lot of them were up at the north end of the Rica Management Area which was closer to Cape Blanco, I think, in southern Oregon. So at the same time, I undertook with considerable trepidation not only shifting... I should state before I get to that the contributions to the other sebastes were generally based on prior catch so we had taken part of the guidance that came out of NMFS after the first reauthorization was a document on the precautionary principle that was authored by Victor Restrepo and a cast of thousands, as part of that there were suggestions to take where you didn't have assessments or any other useful information to take 75% of some recent average catch period as the allowable catch. We were moving in that direction but in many cases the sorting or identification of these individual species was not very good. I went through the joint effort of moving amounts of fish from the south to the north area and dividing up the historical catch plus assessed species that might be in these minor categories for the near shore shelf and slope. So if people don't like the way that was done, I am entirely responsible, with review, of course, by the GMT. Then that went through the normal Council process of being presented but with not a lot of real digging review probably.

By the time then we got to having this observer program start up, we had the minor rock fish assemblages in place. Unfortunately, we had started up our observer program in about August or September of 2001. There was a requirement in the Magnuson Act about having observer coverage and unfortunately when the Council set up the requirements to carry observers in their preamble or whatever and they said vessels may be required to carry observers. Well, we got sued on that language. In fact, not all boats were required to carry observers until the catch share program went into effect. We were in semantics won out there and ironically by the time that we were actually into our second calendar year of observer coverage and well into it by August I think when the judge made his decision, we had a program that was comprehensive with random sampling in place but we were declared to be deficient because of the language.

As a result of that, we ended up having to make semiannual reports to the court on our progress for about three or four more years which was not a valuable use of our time, in my opinion. The upshot of that, though, was that we had to have a system in place by which when we set trip limits at the beginning of the year, we were accounting for all of the expected by-catch of rebuilding species and other species so that we would not exceed the limits that had been set for them. The catch limits not the landing limits. The Council at that point was on a much more expedited schedule for adopting annual, well what was, annual specifications at that time, where they would consider new assessments that had been done in September and begin revising all of the limits for the year and management measures and then the final version of that would be adopted in October for implementation by January 1.

We met those time tables but in the fall of that year, I was told to develop a catch/by-catch model essentially of the trawl fishery so that we could project how much of the target species would be caught given a series of trip limits and using what we were taking as the coincident catch rates of other species that were less targeted then estimating what the total catch of those species would be with a landed and discarded component. That model was created in about a month and we didn't have any observer data or not much to go on



the coverage in the fall or winter from the year before was pretty limited. We were on a cycle at that point where when we completed a year of observer data, we didn't get around to publishing the results of that until about October of the following year. It was very challenging to stay current with that and it became more so once we got into biennial management.

That really upped the ante for in-season management because at that point then you not only had to be tracking what the landings were but you had to be plugging those into a model that was based on using landings history for every trawl boat in the fleet, figuring out would they or would they not be constrained by a particular limit. You were trying to on the one hand manage the amounts of catch of the target species given a discard estimate that would go along with the landed catch and then a total catch estimate for the non target and especially the rebuilding species so that you stayed within rebuilding limits. The initial model for that was based entirely on analysis of survey and log book coincident catch rates.

At the same time, it became apparent that if the Council couldn't come up with a way to cordon off certain higher by-catch areas, there was no way to maintain a year-long fishery which is really important for a lot of the processing that goes on and certainly important for a lot of the fishermen as well. If processors, particularly with domestically consumed products here on the West Coast, if they can't provide fish for three or four or five months, they lose space on market shelves and restaurants are looking for other more reliable sources of fish like tilapia. That gave rise to the initial proposals for the rockfish conservation areas initially for trawl and then for fixed gear as well. The model then had to try and take into account differential by-catch rates by depth so in addition to the target species landing limits, the boundaries of the RCA's [rockfish conservation areas] became another decision variable in management. You could reduce by-catch of canary rockfish by either reducing target species limits, changing the seasonality of the landing opportunities for those target species, or by changing the boundaries of the RCA. For canary, you might move the boundary into 60 fathoms instead of 75 fathoms or 100 fathoms. The minimum RCA boundaries were 100,000 to 150,000 for trawl and there was a fair amount of learning curve involved with figuring out how to do that.

There was a lot of time at the Council meetings spent working with the advisors referred to as the GAP which is the Groundfish Advisory sub-Panel, they didn't want to call them GAS or GASP I guess, so GAP stuck. I tried to make it clear and probably more so than a non-economist would have been inclined to, that I viewed my job in that as to work with them to try and provide the most opportunity and the most return to them, the most income that they could get, and stay within all of the limits for target and non-target species. With this elaborate set of management possibilities, then we had to work through those and say ok would it better to have 60,000 pound limit for dover sole in the winter when by-catch is less and the fish are farther offshore or to have more of an equal limit opportunity instead of going 60 in the winter and 20 in the summer. Would 30 or 40 around be better and of course different types of fishing operations had different views on that but we worked through those kind of things together and I have to say that the fishing industry and the people who serve the Council on this coast for groundfish were tremendous to work with.

In my days at the Alaska Center, my boss had numerous instances of going to present to the Council and telling them things that they didn't want to hear and getting yelled at not only by industry people but by Council members. On this coast, there was a recognition and acceptance that whether they liked it or not, these rebuilding mandates were law. If you don't like it, go talk to Congress. There wasn't much likelihood that those were going to change so I think they did accept my challenge to work with me to try and make it the least painful that we could. As much as, well, it wasn't ever really enjoyable but it was a lot less painful than it could've been.

One of my favorite memories that is part of the Council lore is we were meeting in Sacramento at about the time...well, I had to make some recommendations about trip limits and they weren't going to be in the positive direction and people were generally aware that that was going to be the case but the meeting spanned Halloween so we went over to the food court at the Arden Way Mall for lunch and we're wandering around afterwards and there was a toy shop that had on sale a little black and silver plastic scythe for the Grim Reaper so I bought that and I was scheduled to meet with the GAP right after lunch. So they were talking about another issue at the time so I went in and just very casually and quietly sat down on the outside of the room and held my little scythe standing up on the floor and one by one people around the room would sort of glance over and then double take and some of them started laughing. Andre Punt who was one of our stalwart stock assessment advisors and member of SSC [Scientific and Statistical Committee] and mentor and teacher to a lot of the people that we have on our staff here and the Alaska Center, when he heard about that he said that if I had tried something like that in Australia where he spent a lot of time, I would have been tarred and feathered.

I think, though, that that speaks to the kind of industry that we had. It certainly wasn't the big business industry that is prominent in Alaskan Council meetings. These guys were owner operators maybe some of them had gotten old enough that they weren't going out to captain the boat regularly but they were fishermen who, in addition to looking to make money, most all of them had a strong commitment to maintaining fishing opportunities and a healthy fishery into the future and understood that at least some movement in the direction that we were going to rebuild stock was necessary.

Then we started getting observer data available for that model which helped quite a bit but still it had its' warts. Eventually one of the strategies that we adopted to lower by-catch rates of some these sensitive shelf rockfish species was to provide differential limits offshore and onshore on either side of the RCA. That added another element of complexity to the modeling process because you had to try and figure out if somebody has a larger sweep of limits but sometimes for very different species offshore, a lower set of limits in the near shore or shelf area, what are they going to do? You look back at historical catch and where people had fished and try to make assumptions about that. That whole process became very challenging and it took a lot of time not only at meetings but between meetings because you really wanted to come into meetings being as prepared as possible to begin conversations but you also wanted to have the most recent landings data in the model.

There was a lot of work in those days and certainly one of the factors that I saw ITQs as being a huge benefit to be able to get away from that kind of inevitably ham-fisted management control because you had to deal with by-catch rates that were for the north or the south huge tracks of oceans where conditions were very different within each of those segments. You would be denying people in one area fishing opportunity that they could have undertaken relatively cleanly in order to constrain over all catch coming from that area.

Going back for just a minute, in the late 1990s, I began serving as the chair of the Council's GMT which for about three years I had one person to serve as vice chair that fortunately I could pawn off all of the topics I was less interested in so that he could work with the rest of the GMT on those and present those to the Council and I could focus more on some of these things like implementing harvest regulations to achieve limits. It was a pretty challenging period to be in that role because our harvest opportunities were reduced dramatically. I think some of the work that I'd done previously for rock fish trip limits and, well, landings of rockfish went down I think 60% over the course of two or three years. Rockfish, if you back into the late '80s and early '90s, was a really important component of trawl vessel revenue during that time. In addition to the other members of the GAP, the chair of the GAP was somebody who had worked as a staffer on the Hill and knew how to write and knew what was at stake and knew that trying to cut the best deal possible here was in everybody's interest so he worked really closely with me and he did a great job trying to help the GAP see where they had to go which was just invaluable.

In terms of my location then, in the mid '90s, Rick Methot who is now the Senior Scientist for Stock Assessment for the agency, in the early '90s had moved from San Diego up to the Alaska Center to lead the Stock Assessment Group there but didn't stay there too many years before moving here to the Northwest Center as the Center had decided that it no longer wanted to be fully dependent on the Alaska Center. There was some amount of assessment action that started probably around '96, I think, and some survey work not too long after that began in an effort to prepare to take over some of those responsibilities. With that build up of people within FRAM [Fishery Resource Analysis and Monitoring] Division, where I am now, and all of the work that I had done over a decade for the Pacific Council, the Northwest Center Director had finally decided they should have an economist on staff and I applied for that position in '99 and started here at the beginning of 2000. At that time there was no other economist with any focus of the Center. Shortly after they hired another person to focus more on salmon. Over the next few years, we acquired a couple more economists to work on a variety of things and by 2003 we created the analysis program from the Fishery Resource Analysis and Monitoring theme. At that time, I was supervising all of the stock assessment people as well as the economists and we were doing a lot of the analysis of observer data and survey data and other data that were collected by our Center as well as from fisheries along the coast.

Moving forward from that, in 1997, we were looking to build up the economics group a little bit more, I can't remember for sure what size it was then but our division director at that time decided to move the economics group out from under me and establish the first hire that I made as the supervisor of that group. That left me in the unusual posit...It was

easy enough to explain why I was the manager of that combined program because it had economists in it. After '97, of after '97 on, I was just managing the stock assessment folks which is a little more unusual. There are some precedents around the agency for managing both types of staff but not all that many I suppose.

Since then we haven't been able to increase our staff quite as much as I would like in part because a lot of the funding for the agency has been flat for quite a long time, probably eight to ten years. And even though there have been over that time period Dr. Methot put a lot of effort into lobbying Congress to get additional monies to support enhancing manual stock assessment. So we get some of our funding from that but that funding also supports the Center as a whole since Headquarters stopped providing money to each of the regional offices for general support and maintenance then we've had provide portions of monies coming in, at least permanent funds to support the center so there is a good bit of that money that goes to that and the money supports some other activities around the center as well.

We moved to this biennial assessment on 2005 so we would do assessments in every odd year and conduct these very intensive star panel stock assessment review panels where we made a point of bringing in independent experts using access provided by Headquarters along with a member from our Scientific and Statistical Committee and usually another individual from the West Coast who was familiar with assessments and with the fishery and would conduct week long review meetings. In the first year, we made a huge mistake. We tried to assess five panels, twenty-one species. Doing the assessments was ridiculous and we had one of the people on my staff now who was still a graduate student participated in four assessments and was the sole author of two that year. I don't know how we did that. And the review meetings had four or five species each and so you just didn't have time to have an in-depth review. After each, all but one of our assessment seasons, we've had a post mortem meeting with members of the scientific community that are involved in that process to discuss what went right, what went wrong, how do we need to change things for next time and the universal recommendation that was top on everybody's list was we can never do that many species again.

Since that time we've usually not had more than four panels each with no more than two full benchmark assessments. Those have become more and more technical and complex over the years, most of those assessments probably have, including text, tables, and figures, 300 or so pages so it's a major undertaking to develop all of that information even though over the years, we've had a couple of different staff here in the assessment group that have taken the lead in developing, using our programming language. Programming to take the results from Dr. Methot's stock synthesis program and be able to easily develop diagnostic and document figures and tables so it's not quite as onerous to develop them even though integrating them consistently into documents and having to revise things is still pretty time consuming.

I think we've had some turnover over the years but we have a core of people that have been around for quite a while. I'm very proud that we've played a leading role in developing and enhancing data core, assessment methodologies. We've got people that have been invited

to go all over the world to speak about how to do something with very little data, something that's going to be a lot better than nothing. We had a couple of my staff that shared in a gold medal for that. There was some of that development work that I'm very proud of. We had another of my staff who is a publishing maniac who last year was awarded the Presidential Early Career Award for Science and Engineering. Only three people in NOAA received the award that year and not more than, I think, about thirty for the government as a whole. It was a very wonderful recognition.

I think as a supervisor two of the things that are the most important is to put in a requisite amount of time on performance evaluations and reviews and trying to make sure that people who are doing a good job are rewarded for that. The other thing is awards where people have really done something outstanding and sometimes you're working late or on your own time to write up the nominations for those things but I think it's really key to maintaining morale because there is so many things that you do forgo, such as, people who may be capped in salary or at a lower salary than they might get if they were in some other work environment. We've had two people leave to go to the International Pacific Halibut Commission who were two of our best assessors and it's not because they were making more salary there but they also have the opportunity to consult for about a month a year and they can make a lot more money doing that. We have our limitations here in terms of what we can offer and the amount of things that we can offer. Our financial ability to award people for outstanding work has gone down. I think the amount that is set aside for awards for financial paths is about half now of what it used to be. So in my mind, that's another function of the fact that we've been flat funded.

At that same time, where our current caps program with pay banding and the evaluation system we have was being considered, that program was sold to the rank and file as being something that would be impact neutral. That we wouldn't see the aggregate salary rate of increase go up and that was fraudulently misconstruing what would happen. In fact, that rate is directly controlled by the amount of money that somebody in Headquarters decides will be in the pool of money to be distributed and for years that rate of increase was dramatically more than we would have had under the old GS system.

On the good side, that has allowed us to provide much quicker salary advancement for people who are really contributing. The bad side is, especially in a group where everybody is really contributing, your salary becomes more and more of your total budget of what you can afford to do. That and travel cap has cut into our ability to send people to professional meetings. We have far more limited opportunities and one of the challenges we've faced in our group is that we do a lot of required things for our travel and we can't cut them back as much so we have Council support. Two of my people are on the Council's Scientific and Statistical Committee. One from my group and one from the economics group are on the Council's GMT. They meet five times a year and occasionally there are other meetings that they have to go to and the GMT people are there for the whole week of the Council meeting normally so there is a fair amount of expense involved in that. We have surveys that have to get done. We have travel that's involved with training observers or debriefing them so if you're going to have a program that's effective then that travel needs to occur. Over time then with salaries growing and that travel not being reducible very much that means that

we're a lot more dependent on trying to get some outside help through grants either from Headquarters or... we don't do as much with grants from outside like some of the other divisions here do. Even with that, a lot of that money typically has to be used for something like a post doc position.

Well, we've got a space problem here at the center. There are at least fifty percent of the people at the Center and probably more that do not have office space that comports with the Center's guidelines. A Ph.D. permanent researcher is supposed to have 100 square feet. Nearly all of my folks and other folks in the division are in offices where you have two people and 160 square feet so they have 80 a piece. It's not like sharing an office is a bad thing if they had two people in 200 square feet it would be fine. But on top of that, we just don't have very many places to put new people. As a division as a whole, we have to be more aware than we would've in the past of people applying to get money to get post docs and do we have a place to put them. With travel cap, we've had people apply for post docs where the money stays within NMFS to do travel for those people or try and orchestrate travel across different line offices. A lot of times we can't, we don't have the travel cap to allow the full slate of travel to be done. It has created a lot more management headaches trying to stay on top of that. Unfortunately we don't have a counting system set up either for expenditures for purchases or for these travel cap kinds of things that really would make it easier for managers to deal with. That's challenging. We are trying to do some things within our own division to improve that. I think that is probably about it.

**MA:** I do have a question about your personal career and what inspired you to pursue a career in Resource Economics?

**JH:** At one point, I had considered forestry and I didn't get into the forestry graduate program that I wanted to get into. Thank God because forestry industry hasn't been a growth industry for a long time. The program that I was in at Oregon State had both an agricultural focus and a resource focus and I found the resource focus appealing. I spent a lot of time outdoors and appreciated the natural values. Also, something like fisheries, I think, even though we face a lot of challenges here in government work at the end of the day most all of us, and this is reflected in some of those employee surveys, take a lot of satisfaction from doing something that we know is contributing to not just the continued flourishing of these species but also deriving benefits from them. We're not creating preservation parks where no harvest is allowed. We're trying to seek a balance between those fishery and other use benefits and conservation of the species and that's a lot harder than just saying we're not going to any fishing.

I think you see that in the employee surveys where people may have lots of problems and issues that they would like to see fixed or addressed at least improved but the scores routinely for "are you deriving satisfaction from your job" are a lot higher than scores for anything else. My recollection is that it is true across the agency as well. I did get some funding from the agency for a project that I worked on for my dissertation so I had a little bit of an in on the fisheries side but I hadn't taken any fisheries classes per say when I was in school and no biology. [laughter] There's been a fair amount of learning through gradual exposure to a lot of concepts over the years. I never imagined when I was going through

that program that at some point an extensive part of my career would involve managing people who were doing something completely different and not really doing any economics at all myself though I've always thought of myself as kind of a jack-of-all-trades rather than being the best specialist in economics.

I think the other thing that's given me a lot of satisfaction over the years especially when I was involved with the GMT, you're really at the nexus of science and management. If you're lucky, you're able to do some science and do some analysis with data to help inform. I always felt like I had an ability to prepare things in a way that would be useful for managers to try and anticipate what are the questions that they're going to bring to the data and can I organize the data in a way that will help them make that decision. That's something that the agency from the science side probably doesn't pay enough attention to and one of the concerns that we've had for a number of years and, I hope that we can make some more incremental progress over the remainder of my career, is coming up with better ways to enlighten decision makers about uncertainty. We provide things in our assessments like decision tables that show like if you remove catch at a rate that's based on our base model for this stock but we're wrong in an assumption we've made, we look for a key access of uncertainty in the assessment. It might be how productive the stock is or what the natural mortality rate of the fish are which are typically things that are very hard to estimate without certain things like tagging studies which we've had very little of here on the West Coast.

You can do some of that, but basically what I think most of the decision makers end up taking away is that this is their best scientific estimate right here. There are occasions where I've seen our Council make more precautionary decisions based on a downward trend in a stock but not so much based on kind of the range of uncertainty. I don't know if that's...There could be a lot of causes for that but I think finding better ways to portray that, to depict that uncertainty is a challenge from our side that really speaks to our role. Our role isn't to take sides on the management. The Council defines what harvest policies, we can provide to that process but after things are set our job goes back to creating the best scientific evaluations of a stock's biomass and trends and then trying to, with the SSC, help inform the Council of what the issues and concerns might be. We're not telling them to do something but we can bring their attention to a situation that might go south and create a lot more challenges from the management perspective.

And I wanted to do something that I could stay in the Northwest. I grew up in Oregon. I like the climate here more than many other places in the country that are now topping 100 degrees with high humidity. At that time, I had close family still living here so that was an incentive to be here as well but I think it was the combination of those types of factors that led me into the field. You talk to biologists, even people who do stock assessment who are more maybe math or statistics oriented than they are biology oriented and a lot of them got into fisheries because they liked to fish. I did some fishing when I was younger but that wasn't really my motivation.

**MA:** How did you then kind of secure this position after you got your Ph.D. and then you seemed to go back into it?

**JH:** Well, I found out that there were going to be job openings for kind of entry level fisheries economists or as we're called within the agency "industry economists" because we're in the Department of Commerce. I thought that would be a nice extension of things that I'd started working on in grad school. Unfortunately, for most of my career when I was actually trying to do some economics, we were very limited in the data that we had. We had revenue data on the commercial side. We didn't have any cost data for harvesting. We didn't have any data except at a very aggregate level about processing. We had very little information about the economic value of recreational fishing. Now that we have a lot more information about that, I am spending time in meetings and on the phone and trying to be more of a coordinator.

**MA:** It said that you also had a philosophy major in your bachelor's. I was just wondering if that's been useful in your career?

**JH:** Oh I think so, yeah. Well first of all, one of the things that my advisor in philosophy, I had quite an a number of classes from him and he was a very demanding reviewer for writing - he wouldn't let you get away with setting up straw men to knock them down - he insisted in trying to improve the clarity with which you write. I think that has been very valuable to me over my career. The other thing is just being able to step back and think about where do you want to go as an agency or a division or contributing to more national level things. I'm on quite a few different national committees of one form or another. I think it helps even just in the process of structuring your thoughts and trying to look at situations in a logical way and trying to break them down into components. I would encourage anybody to at least consider philosophy as a side major or as a minor in college along with some area of interest that was a focal point. I was originally going to be a poli-sci econ major and go to law school and I didn't because I didn't want to spend the rest of my life sitting behind a desk which is, of course, precisely where I've spent the rest of my career except for getting out to go to meetings where you get to sit around a table in usually a windowless room.

**MA:** At least you're not looking at a computer all the time when you're doing that anyway, right?

**JH:** Yes that's true and as far as views go, this isn't the worst view from my office. Though it does tend to get rather hot in here when the sun starts beating in.

**MA:** It's pretty nice.

**JH:** I'm lucky to have windows that open.

**MA:** Or windows at all.

**JH:** Yes.



**MA:** I guess my last thing is what changes do you foresee in your field and in the department five or ten years from now?

**JH:** Well, I'm hoping that we're going to be able to continue to collect the economic data that we've been getting. I know that it is a constant struggle to make sure that people who are submitting required business data are actually doing so in an honest or useful way. That information, I think, is potentially very valuable and we've had pretty good luck collecting data voluntarily from other sectors of the fishery, but, for instance, the voluntary data that we collected from the trawl fishery back before ITQ's was used as the basis for some research that one of our people co-authored with somebody from elsewhere and that information about the potential gains from ITQ's was a significant part of the justification for embarking on this whole new form of management along with other things such as reducing discards and fuller utilization of catch.

I'd like to think that we could make some progress in using the information that the fishermen provide and the processors provide to be able over time to say more about the economic health of the fishery. We really need to collect more information to be able to do more analysis of recreational fishing opportunities because those are an important part of the fishery and increasingly an important part the farther south you go on the coast.

I guess one of the things I'd like to see most is to the agency's budget back on some level of increase because I think that's really where we're constrained right now. It's not that we don't know how to do more things, it's that we can only do so much. Our economics group in FRAM right now and, of course, the socioeconomic group in CB [Conservation Biology] will get pulled into this programmatic review of socioeconomics that's being conducted on a national level next year. I know from having participated in two of those, the first two, that those are a lot work to prepare for. In addition, the FRAM economic group is on the hook for a five year review of the catch share program that has deliverables right in the early middle of next year. These other reviews have to be done by the end of the fiscal year in September. Plus you've got to keep up with all of your normal work. Getting the voluntary surveys out, getting them collected, getting the mandatory surveys out, working to get those data in. Next year is going to be worse than the normal years. It can difficult to find....

You need to have people dedicated or at least an amount of time dedicated to getting the data, getting the resources that you need to do the analysis but then you also need time to do the analysis. I think that is in that realm. Maybe we fall a little short there. I think that information that the CB group has collected too on communities and starting to build that kind of information will be very valuable in terms of looking at the impacts of catch shares and hopefully we'll see a continued ability into the future to be able to do at least as many things as we're doing right now in terms of collecting and developing analysis with that information that will be useful to decision makers.

On the assessment side of things, again, we've developed a lot of methods for using lesser amounts of data but when it comes to the prioritization decisions for what species are going to get done at what level, the stocks that have traditionally been assessed with more

elaborate benchmark assessments are ones that are generally of greater importance to commercial and recreational fisheries. While we are trying to get to a point where we can update those less intensively, sometimes things change enough where you need to go back to square one. There is always a greater interest from the industry's point of view in doing those species that are more important to them rather than some others that may not play any bigger role in the ecosystem but have an ecosystem role, an ecosystem importance. The agency as a whole is mandated to make sure that we're not overfishing and the only you know that is to do assessments. At least this Council for groundfish really went beyond other Councils in adopting at least contributions to an assemblage limit that were based on these data limited approaches to assessment. As soon as those approaches were available basically, there was a clear recognition that they were better and the SSC was, of course, on board with that as well, better than the methods that we'd been using previously which were just based on some arbitrary prior period's average catch. I think there are more things that we can do if we had more people.

The other thing that I'm worried about over the next decade is the data streams that are available for assessments to work with. All three of the state agencies along the coast are challenged for funding. California was the first there when Proposition 13 reduced local revenues and forced the state to begin diverting a lot of tax revenue to communities and that meant that state wide agencies were placed in a much worse position in terms of their funding. The California Department of Fish and Wildlife went through several years of laying people off either permanently or temporarily and you can't get as much done without people. There at least have been similar sorts of funding issues with the northern two states as well.

The other thing that we've seen say in California is a drop off in the data collection. NMFS is funding data collection through Pacific states. We pay for a lot of the port sampling, think all of the California port sampling, and a fair chunk of the recreational data collection. California apparently has a law in the books that makes the provision of biological samples in the commercial fishery voluntary which is crazy. Particularly when you have fish, like in the live fish market, where handling them is potentially going to reduce the value of those fish to the fishermen. They, in a lot of cases, won't even allow lengths to be taken. We faced a lot of challenges. We have species that get very old. Some of our rockfish can reach well over 100 years in age and they reach kind of their maximum length not very far into their overall lifespan. So with a fish that could get to 100 years old, maybe we don't see a lot of them that are over 50 or 60 normally but they may reach their maximum size at 20 or 25. Length becomes a very uncertain metric with which to characterize population status. In order to do something better, you have to be collecting age structures like otoliths and you have to have resource to age those. They put on rings every year of calcium carbonate like a tree would put on rings and the approach to reading them is similar though more complicated.

Having the funding resources and the commitment to do the collection of those types of data or structures that can lead to data and then having through the agency enough money to support the reading of those structures to develop ages is really fundamental to the integrity of our assessment process. I think we've been in a decline over the last five years.

There are signs in Oregon and Washington that they're interested in trying to develop some near shore surveys which would be highly valuable. There is a commitment at least for major species to be collecting the data that we need but we've got a lot of species. We've got 90 species in our FMP and even if you just narrow that down to ones that might be of somewhat greater interest to assess its probably 40 or 50. We've only assessed using a benchmark approach over 30 right now and because there are so many and our staffs are limited and the review process is pretty extensive, they're on a review cycle that in some cases probably is longer than it should be for the particular stock. We only get back to doing them every 8 years or in some cases every 10 years or maybe they happen to be done every 6 or they ought to have a lesser assessment every 4 to 6 years.

I think the maintenance for the support for staffing and data collection is really a huge concern for me. We had seven age readers in the lab down in Newport that we support through Pacific States. We had one leave earlier this year and the folks in Headquarters are trying to get our funding converted from temp funds to permanent funds which sounds great. Guaranteed you're going to get it, the money is available earlier. Trouble is as soon as you convert those to permanent funds then they get taxed. So if we're using everything that we're getting to support this enterprise and we'd lose 10 to 15 percent of that, that's a huge chunk of that money. We made the decision this year not to refill that position so now we're looking at being at six readers which not only hurts in terms of, say, the absolute level of production but there are different techniques and different judgments that need to be made across species, different skill sets. Sometimes not all fish are aged with otoliths sometimes they're done with fin rays as with lingcods some other species are done with spines like dogfish. There's training and experience that needs to be acquired in order to jump in and be able to age those species. Additionally, people get sick, people have to take vacations, or a person leaves. Well, if that's the only person in your shop that had ever aged a particular species before then, you're back at square one whereas if you have a couple of people that have done some of that then it makes not only the training of someone new but the continuation of that aging less problematic. Unfortunately if I get taxed at the higher end on that, we might be down to five readers in a couple of years. Those kinds of things out on the horizon and as long as the agency is flat funded and we continue to have the salary burden creeping up faster than it would've been, it just leaves less and less money for actually doing science. I don't know how we get around that.

Our division got a sizable grant from the MORE Foundation to kind of modernize some of our databases and to develop systems to make the data available to the public. Now we have a data warehouse and we have a portal in which people can go in and get a heck of a lot of survey information where previously they had to submit requests and we had the one person who's the database manager and has to deal with the whole range of issues that are involved with bringing in new data and doing quality checks and all that sort of thing. Having this backlog of data requests and people having to wait far too long to get access to data. Now they can go and they download data, they can see a visualization of it. Some of our other data sets are confidential so it takes more preparation but we're in the process of getting those to the point where people can access non-confidential summaries of say economic data or observer data and that'll be fabulous. We would've headed in that direction without this outside money but we'd barely be where we are for one of the

avenues that we've been developing much less all of them. It would've taken a far longer time period to get them there because there just wasn't the money within the program to be able to put that amount of money into this enterprise, it would really take away from some other science. I don't know whether there are options in the future for trying to find those kinds of partnerships to do things but we may need to be trying to be more creative in those ways if we're going to be able to maintain the quality of science that we have now. They don't call economics the dismal science for nothing.

**MA:** So that's the biggest challenge that you see. Do you have any closing remarks or anything you'd like to say to anyone who's listening to this to know?

**JH:** I don't think so. Maybe if I think of something later, I can add a coda.

**MA:** Maybe if someone is listening to this who wants to have your job, have your career, what would be like a one, best advice you could give them?

**JH:** There are people who are cut out to follow this management trail and other people that aren't. I've got a number of people that just want to do the science and so I think it's important to understand what you want to do. There is a series of books from the '70s, I think I have on my shelf somewhere maybe they're at home, called the *Peter Principle* which the central tenant is that within an organization people tend to rise to their level of incompetence. In a lot of cases, you see people who think getting a promotion is a good idea and they've been outstanding scientists and quite often in organizations like this outstanding science can mean you spend a lot of time alone working on your research and not as much time working and communicating with colleagues as you might otherwise, or management and people skills, and the willingness to deal with say, personnel conflicts and that sort of thing. If you're not the sort of person who is able to do that easily or is willing to take training to learn and improve skills for dealing with conflicts where they're not necessarily yelling and screaming conflicts, it's conflicts for money, conflicts for office space, this and that. Developing those skills to the extent that you don't start off with a lot of them, I think, is really important.

I think it is admirable that the agency does provide opportunities before people become supervisors to take some training to see in that's the sort of thing that they really want to do or to build skills before they actually get in a supervisory position. We do tend promote a lot of people from within for supervisory positions because a lot of times people that we would get from outside don't have nearly as good an understanding of what's going on in the group so there's that trade off of the knowledge of the content versus the skills that serve a person well in management. There probably aren't many people within the agency, I only know of one for sure who has a management degree. That person is a deputy science director. There are very few people, especially coming out of a science background, that would've had a lot of training in those types of skills that you might get with some other majors. I had a lot of speech and forensics background in high school so talking wasn't as much of a problem for me as it is for some people. I think within my group, too, a lot of folks have a lot of responsibilities that involve presenting either in front of a review panel, the SSC, the GAP, different audiences and so I think when you're a manager, you have to deal

with a wide variety of different personality types. Being able to see that and adjust your style a bit across the range of folks, I think, is something that's really important. And communicating, being transparent. If we look at the responses to the staff surveys one of the things that really irks people is lack of transparency and lack of feeling like people are a part of the process. When my group developed research priorities, I may have some ideas about how to organize things but we do that as a group and to the extent that we can we're focusing on topics that are of interest to people. Sometimes some of those are outside of the immediate research need of our science and management but most of the time they're things that people are pursuing to improve the way we do business.

I think the other thing that you have to be prepared for is doing stuff that you weren't trained for. I spend a heck of a lot of my time on the phone in meetings doing planning and monitoring especially right now, for the last seven weeks or so I've been filling in for my Division Director who is on extended leave and that's probably going to go on for another 3 to 5 weeks, hopefully shorter. It's very difficult to try and maintain a research focus and do the other things that you need to do as a leader well. Unless you want to work 60 hour weeks and I don't want to do that, so I'm happy to leave analytical things more so than I have in the past to other people though I still like looking at data and getting my hands a little dirty and trying to understand some things first person rather than putting all of that in the hands of somebody else.

I think the earlier that you can take some training in sort of conflict management and resolution and dealing with your own insecurities about not wanting to deal with that and also taking some time to think about what is your role? What is it that people are counting on from you? I've had some periods in my career where one of my principle responsibilities that I felt was to run interference for my people to make sure that they weren't being distracted by some other stuff so they could focus on doing the science and I don't advertise that fortunately most them recognized it. The ones who were here during that were thankful for that. It kind if goes back to the pay for performance and the awards. At least I, as a manager, am trying to do everything I can to make my group more productive. I try and hire the very best people that I can. We work closely with students over in the School of Aquatic and Fisheries Sciences at UW [University of Washington] to help build quality people. I've done my share of hiring people before they finish their degrees because I didn't want to lose them.

The hiring situation hopefully in this agency will improve. There seems to be some prospects on the horizon with the contractual arrangement they're trying to get in place to get some outside help with getting announcements out. It's really challenging to be a manager when you know if somebody leaves or you get a new opening to fill, it's going to take you 8 or 9 months to complete that operation. It's ridiculous. By the time you get one position filled then you've got to fill another. You have to be willing in this agency or probably any government agency to put up with a lot of things that don't make sense either because it's just the law or it's an administrative policy that somebody above you came up with. I think partly a challenge of a manager is to make that those things don't drag your people down. They have to do certain things but if you can take away some of the other things that would be distractions then maybe they don't feel quite as bad about having to

take a four hour drive or safety training that's exactly like the one they've taken the last five years.

**MA:** Okay great, thank you.

**JH:** If you think of anymore questions that you want to ask let me know. If there is something that occurs to me that is really important that I've forgotten....

**MA:** Let me know and I'll come back with the recorder. Great, thank you.