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## Guida, Vincent ~ Oral History Interview

Bonnie McCay

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# **Interview with Vincent Guida by Bonnie McCay**

## *Summary Sheet and Transcript*

### **Interviewee**

Guida, Vincent

### **Interviewer**

McCay, Bonnie

### **Date**

June 9, 2016

### **Place**

J.J. Howard Laboratory at Sandy Hook

### **ID Number:**

VFF\_SH\_VG\_001

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### **Biographical Note**

Vincent Guida received his Bachelor's of Science degree in Biology from Rensselaer Polytechnic Institute in 1970. He earned his Ph.D. in Marine Science and Zoology in 1977 from North Carolina State University. As a post-doc Fellow at Lehigh University's Institute for Pathobiology he studied mollusks. He then was a research scientist at the Center for Marine & Environmental Studies and became Director of the Wetlands Institute at Lehigh University. In the mid-1990s, he joined the staff of the Northeast Fisheries Science Center, J.J. Howard Lab. At the time of this interview, he was the Acting Chief of Habitat Ecology.

### **Scope and Content Note**

Interview contains discussions of: estuaries, habitat ecology, impacts of budgets and legislative mandates on science, changes in modeling, shifts from research to fisheries management, Hudson Canyon, deep sea coral, Bureau of Ocean Energy Management, wind farms and benthic habitat.

Vincent Guida discusses his career and his work with the National Marine Fisheries Service. He provides an overview of the research shift at the Sandy Hook Lab from estuaries and near shore to off shore. These changes are due to budget decreases, legislative mandates related to the Magnuson-Stevens Act and the future of energy sources such as wind farms.

## **Indexed Names**

Arlen, Linda  
Dockum, Bruce  
Draxler, Andrew  
Fahey, Michael  
Finneran, Thomas  
Langton, Richard  
Macelloni, Leonardo  
Manderson, John  
McHenry, Jen  
Reed, Robert  
Rona, Peter  
Valentine, Paige  
Vitaliano, Joseph  
Welsh, Heather

## **Transcript**

**Bonnie McCay (BM):** Alright, this is Bonnie McCay speaking with Vincent Guida at Sandy Hook Lab, the J.J. Howard Lab of the Northeast Fisheries Science Center of NOAA Fisheries. So this is an interview for Voices from the Fisheries Science Centers and so I'll start off with some of the background stuff, which is really important. How did you get involved in this work? What kind of training did you get? Who did you work with?

**Vincent Guida (VG):** Well I guess you want me to start with how I got started with NOAA.

**BM:** Well, with NOAA, but I think it's as interesting and relevant to find out how you got started doing this kind of work.

**VG:** If I had planned it, it never would have happened this way. It was one of those things that, there's a lot of good fortune involved, should we say. I guess I started with NOAA in 1995. But before that, I was with Lehigh University. I had started with them as a post-doc. I was working with mollusks, and I got my degree in zoology and marine science at North Carolina State. I started the post-doc at Lehigh, and then advanced into the Environmental Studies Center there. And I worked at the Wetlands Institute, where I believe I met you those years ago. And I was actually the Director, at least, the Research Director for the Institute. But the money was drying up, I was becoming entirely dependent on soft money and I just couldn't pull it all together.

And so I started looking for a job, another job. I came across an ad for a job for this Center, for the Northeast Fisheries Science Center, JJ Howard Lab, but it was a technician's job. So, you know, I had the Ph.D., and I'd been running my own lab. This was a foot in the door sort of move, to try to get me into this place. That was back around 1995. So I applied for it, and I got it, and my supervisor by the way, the questions here about the supervisor was Andy Draxler, and that was in the Marine Chemistry Branch, not this Coastal Ecology Branch. So I switched branches along the road.

I was living in Bethlehem, Pennsylvania still, where I had worked at Lehigh, and commuting here to Sandy Hook. Yeah, it's a long way, it's a long way. But we finally did move up here, so I started working, and I was doing a lot of work in the marine chemistry, doing bio-geo chemistry, which is something that I had done back at Lehigh, looking at salt marsh, bio-geo chemistry, that is the sorts of things going on in the water and in the soil as a result of plant growth and that sort of thing. At that time, we were working a lot with local projects. In other words, projects that were really based on things that were going on locally, and there had been a big oil spill over at, on Staten Island, or in the Arthur Kill between Staten Island and New Jersey, and we were looking at the recovery of those salt marshes, those being important nursery grounds for various kinds of fishes, and we were looking at the recovery of those areas that had been oiled. One of the aspects that we were looking at, actually, the whole staff was involved in that, looking at various aspects, and we were looking at how the chemical functioning in the marsh is proceeding. That was some very interesting work, and we wrote some stuff, I wrote, in spite of being just a technician, I did write a chapter in that large report.

That was back then, and that was, I guess, we were already under the Magnuson-Stevens at that point, but we were still doing this local stuff, we weren't being really pushed to work on, specifically on, the mandates of the Magnuson-Stevens. So we weren't paying a lot of attention to it, to be honest with you. We were getting funding from various places to do this kind of work that we were doing. Let's see.

I was looking for some advancement, so obviously, I had the credentials to do that, even with the work that I did in this place, but NOAA has this thing that they do not like to have technicians go up to a scientific grade, and they avoid at all costs, apparently. I was unable to do that, so I had to leave here, I got a job at the U.S. Army Corps of Engineers. Yeah, doing at a scientific grade. And in fact, one of things, that I was working on with them was to look at the same salt marshes that we had done work with here, because there was a plan to widening Arthur Kill, that they were going to impinge on those salt marshes. It's sort of tied together. So I worked with them for really only 8 months, and the scientific position opened up here, back with marine chemistry, and I was able to get that position and come back a scientist, so that was the strange story of how I got where I am.

But I was very interested in doing some ecological work because that's really what my training was in. I had done quite a bit of chemistry before, but I really wanted to get back to the ecological area. I was able to get in a couple of cruises which sort of wetted my appetite for going out there and looking at what's out and beyond the salt marshes. So, I went from mollusk physiology to salt marsh function using marshes for waste treatment, which is something I did in Lehigh, and on to some ecology, particularly habitat ecology, I was very interested in.

We went out to a place where I had never been before, and that's Hudson Canyon, and that was my... I had an idea that that was an important area for fisheries. I knew a lot of people went out there to go fishing, but I just had an idea that was important, I started reading up on it, and finding out that there was really not all that much known about it scientifically, what the Canyon was really about, and so I started directing my cruise work towards that. Well, because I started doing that, I got moved over from chemistry to coastal ecology, and at that time Bob Reed was

the Branch chief here. He was very enthusiastic, very helpful, but we sort of moved on, we did a lot of work there. We did create some very good habitat maps and got a really good sense of physically what's out there, and how it is supporting the ecology of those things that are out there.

We then started getting into the whole issue of, well, let's see..We did a little work on fishing effects and sort of changes. One of the things that we were looking at, actually, I also did some cruising along Georges Bank, and where the invasive tunicate was found, by Page Valentine, got to working with Page Valentine. That was very productive, in that, we really got some good data on that. But also, we were able to get his camera equipment to Hudson Canyon, as well. So that worked out very nicely.

I also hooked up with, a little later on, with Peter Rona Rutgers, late Peter Rona. It was wonderful working with him, terrific man, full of ideas, and enthusiasm. He was very enthusiastic, and he got us together with some other folks from the National Institute of Undersea Science and Technology, NIUST, folks down in Mississippi, who had this wonderful bottom mapping ROV. So we were able to get that on board, and go out there with the *Bigelow*, and do the bottom mapping that we needed to do for those habitat definitions. Unfortunately, he passed away before we wrote the first paper. He had written a draft and we had put it together in a symposium in his honor at Rutgers.

**BM:** Oh, is that right?

**VC:** We actually had two papers, which worked out very nicely.

**BM:** So, this is following or coinciding with the whole habitat, shift towards habitat?

**VC:** Yeah, it was starting to get into that. We did work out there on and off from 2001 to 2011. Whenever we could get the ship to get out there. And it was during, later in that period, that the whole habitat issue began to come up. At the same time, well, really since then, we've had a situation in NOAA where we have declining budgets and more and more honing what we do toward Magnuson-Stevens and toward fisheries management, which we hadn't really dealt with all that much before.

It turns out that the deep sea coral stuff was also coming in at that point. We had found some deep sea corals there and we were able to contribute to that really outside of the deep sea corals funding, because we had done it before that whole thing got started. We did find some deep sea coral habitats in Hudson Canyon, and I know that it was used as part of the justification for recent HAPC [habitat areas of particular concern] designations, or decisions on those designations.

So, what we've been very much concerned with anthropogenic effects on fisheries recently. And part of that is because of BOEM [Bureau of Ocean Energy Management] and their interest in particular fixed areas where they want to establish windfarms, or lease for the establishment of windfarms. Of course, they lease bottom areas. They do that in the Gulf of Mexico for the oil exploration and drilling, but they're doing the same sort of thing for the wind energy up this way. And we did get a very nice grant thanks to Rich Langton, really, who was my boss succeeding

Bob Reed when he left. We got a very nice grant to do that. And so we're looking at all the wind energy areas now.

**BM:** You are doing that now?

**VG:** We're doing that now. We have brought in a couple of very good contractors, excellent young people, who are doing some excellent work with that, with doing species modeling, doing modeling of habitats, and just...they bring in the kind of new sort of capabilities that we hadn't had before, because we were dealing with an aging staff here, really.

**BM:** So the newer capabilities of modeling are now accessible through the younger people?

**VC:** They have the training in it...- I've driven my capabilities to do field sampling, and I'm not just reading from my own notes here - Yeah, a lot of what we've been able to do has really because of our capabilities to do field sampling.

**BM:** Which you have because of what?

**VC:** Because of the ships. We've got the ship time, and that's been a big boon to the kinds of things that we wanted to do. We've been able to sort of direct our research in those directions because of that. We're really pushing against, and we've worked with NOS [National Ocean Service] and some of the other folks in NOAA to try to get not only ship time, but the capabilities to do mapping, bottom mapping, using these more sophisticated multibeam sonars. So we're working with that. Really, the whole lab is driven by the ability both to do field work and to do lab work here. I have done some limited lab work myself, especially when I was in marine chemistry. But that's been a tremendous boon to what we've been able to do. Behavioral ecology does a lot more than laboratory kind of work, and it's in support of really understanding the fish physiology and behavior.

**BM:** But complimented by the field work which is exciting.

**VC:** Complimented by the field work, exactly. Now, our field work has really shifted over the years. We've been very much, at least in the early years when I first got here, working very much in the estuaries, and then the very near shore ocean right out here. The dump site area was one big project. I was not directly involved in that, but I was certainly well aware of it, and it had generated a lot of interests and a lot of knowledge of the area, just to find out what was out there.

**BM:** Seemed like something called the New York Bite emerged as an entity.

**VC:** Absolutely. Yeah, and certainly some of the colleagues that I worked with, Andy Draxler, and Tom Finneran, and Linda Arlen, [unintelligible name] and Bruce Dockum, Joe Vitaliano, Mike Fahey, Steimle, and Bob Reed were all very much involved in that work, and I worked closely with them later on.

**BM:** So the shift from early estuary to...

**VG:** That's what we were doing earlier, and if you are aware that this was a recreational fisheries laboratory years ago, in the beginning. So there was a lot of interest and a lot of knowledge there. In recent years, we've pushed hard to move our operations more off shore, into the shelf ocean,

basically. And there's been a, also a, a push to... we were working fairly independently. We were generating a lot of interesting information, but it wasn't directly tying into the management in terms of single species management and the stock assessment. And so this has come up in the last several years, that we need to be moving in that direction much more. So, that's been a big change, and that's been as a result of Magnuson-Stevens, because that's what we're mandated to do, what this agency is mandated to do. As the funding has become more directed, less in terms of looking at ecology and more in terms of looking at single species like that, we've had to sort of change our perspective.

**BM:** I hope you have something to say then about how this ties with ecological based management?

**VC:** It does, because now, we also have ecosystem management, and that's I think where our strongest point is now these days. Part of it is looking at areas that are, rather than looking at whole stocks just as an entity that's somewhere off the northeast coast, to begin to look at where they actually are, what kind of habitats are they in, because the people who want to do things out in the ocean now, like BOEM wanting to have windfarms, are looking at specific areas and saying, "I want to put my windfarm here." Well, what effect is that going to have on stock. That doesn't fit in to normal stock assessment models, which are looking at population, range, and looking at natural mortality and fishing mortality. So, this is the thing we're trying to do now. Look at habitats and see how they fit into those stock assessment models.

There's also the issue of climate change which in this branch we're thinking about. Over in behavioral ecology they're actually working with the ocean acidification, you've probably heard about that. But it's certainly something we're thinking about and the sorts of changes that might happen as stocks move, as new stocks come in from the South, because that seems to be happening. And with the new kinds of interactions between stocks which is something that really hasn't been looked at much before.

**BM:** So, here you are. You are pushed to do much more the classic stock assessment, related to stock assessment.

**VC:** Yes, directly.

**BM:** Your broad experience in really marine ecology and so forth. So you have to bring that experience back into the stock assessment. Get more attention. So you're well prepared to do that given the experience that you've had.

**VC:** I hope so. The problem was that I never had any training in stock assessment. It was something I really wasn't aware of even when I was first working here. It's something I have become much more aware of in the last couple of years, to be honest with you.

**BM:** And it is a whole other world exactly, because of models and legislative drivers, and so forth.

**VC:** The whole way of thinking is different. So, it's something we're learning to do now.

**BM:** Well, there's a question about modeling and models in here. I'm not even sure how to phrase it, but here we have these well-tuned models that we have to stick with for stock assessment, because they're accepted and so forth. And one of the challenges is how to make those at all relevant to questions concerning place-based ecosystem management. And the more dynamic process, such as climate change. Do we have to think of whole new kinds of models, or are we tweaking the old models? From your perspective, what does it look like?

**VC:** One of the things that has been brought up, and we had a big pow-wow regarding the CFH, Central Fish Habitat, which is just celebrating its' 20<sup>th</sup> year as a concept. So we brought together a whole lot of people down in Annapolis, Maryland for a meeting about this, and some of the things that came up were, we need to know how a specific area or a specific type of habitat actually contributes to productivity of those kinds of fishes that are there and why. Those are the kinds of models we're thinking about, and those can tie into stock assessment models. It's a matter of trying it and seeing how it works. Now the stock assessment people are probably much too busy to try it out. So we've got to work with them and have us try out models in concert with them, without disturbing their operation too much, because they've got a, they're very driven, year by year to produce estimates.

**BM:** But when you do have spatial difference and mortality and improvement, it can't all be totally averaged out and make any sense.

**VC:** Yeah, and that's exactly the point.

**BM:** I was just, sort of a side thing, I was involved in surf clam and ocean quahog management. I've gone to a lot of technical meetings on that, where there clearly are spatial difference, very relevant to recruitment, and mortality, climate change effects and so forth. But it's really, really difficult and virtually impossible to bring those into actual stock assessment decision making based decision making, even though it's understood to be relevant, it's still not there in term of the kinds of information that can be used. And it all becomes very political too.

**VC:** Well, we've got to figure out how to do it, because as I say, "people who are planning things do things out in the ocean and plan on a specific area, but you got to find out what that area is contributing.

**BM:** And there is this thing called marine spatial planning that's out there.

**VC:** That's behind it all, exactly, one of the things that one of our new people was doing, and this was sort of on the side, we were working specifically in those BOEM wind energy areas, because that what BOEM has paid us to do. They don't want us to look at the whole thing, but in fact, we have to in a way. We were looking at how the different fish stocks move through these areas, and what assemblages they constitute. What groups of species are involved, and looking at the whole movement across the shelf over the seasons, because most of the fish move seasonally, and we've got some very interesting patterns and ideas from that.

**BM:** That's a very critical area, it's an interesting and complicated area ....

**VC:** And we were looking at the whole shelf.



**BM:**The whole shelf, okay.

**VC:** Looking at how these large assemblages, sort of groups of species are moving from one place to another. And where their numbers are most intense, what areas. And we were actually thinking about if we wanted to do protected areas, which is one way of dealing with management. Where should we put them? So that was part of the thing there. But that was sort of a little side project that we did. We had the data.

**BM:**Have you published that yet? Is it still in process?

**VC:** It has actually been given in a couple of meetings. We haven't written a paper yet, but we do have a couple of meetings where we've presented that data.

**BM:**So, are you the leader of that?

**VC:** No, I've let the folks that did the work do the leading.

**BM:**Who's doing that?

**VC:** Jen McHenry and Heather Welsh, our two contractors.

**BM:**I'm on a new committee overseeing BOEM's operations.

**VC:** Oh really? Ok. Again that was a spin off. We created this big GIS system for the whole Northeast area in which we are putting a lot of data, a lot of mapping data, physical data, there's a data from a currents model, bottom sediments, all kinds of other data. In addition, a lot of the survey data, so we know where fishers have been found, of course, and we were able to create some habitat suitability models from that and create this program which shows how the fishers are moving from that sort of thing. And BOEM has been a tremendous help because they've basically financed our putting together this GIS system, we got a whole big service system that's servicing that operation.

**BM:**Oh they did. So you work closely with BOEM. They rely on your ability to do that.

**VC:** We're really looking at benthic habitats for them within those BOEM wind energy areas. Benthic including demersal fishes particularly fish stocks. One of the things that we're particularly focusing on although we're interested in all of the fish stocks that use those areas. But we're particularly focusing on those that use hard bottom, like black sea bass, because those hard bottoms can be permanently damaged. They're more vulnerable to that sort of damage than say a sandy bottom. So, that's some of the stuff that we're involved with, how things have proceeded, they've changed a great deal over the last few years.

**BM:**So the changes you're talking about, moving from the estuaries or near shore areas, to a broader offshore scope. And a change of having to move more generally away from classical marine ecology in the broad sense to much more focus on specific fisheries management on one hand, and also .... for windfarms and so forth. What other changes, well I guess the whole new recent focus, serious focus on ecosystem based management, climate change. Habitats been there for a long time.

**VC:** Yes, all those things. Habitat's been there for a while.

**BM:** And in terms of the science involved in it, in terms of scientific ideas or frameworks and so forth, have we captured that already in this discussion?

**VC:** Some of it yeah, certainly those concepts of ecosystems management, habitat science, those sorts of things. But I know this, and something I wanted to just mention, that modeling and statistics is a two edged sword. You can be led to believe things that are false, because you're looking too much at the computer. So, my feeling is we need to continue with this with our field programs, because that's the way to ground truth those models. Otherwise you can go way off and not know it. Well, I guess what I'm saying is I'm realizing more and more that the modeling and the field sampling go hand in hand, it's not one replacing the other. I think some people may believe that, but I don't.

**BM:** Yeah, you hear it a lot from certain people in the fishing industry will say, just get some of these guys to go out on a boat with me would make a big difference, they feel like the people don't even know the ocean.

**VC:** And John Manderson has proved that point very well with his work.

**BM:** So have we covered it all to your satisfaction?

**VC:** Yeah, I think so. Any other questions?

**BM:** I have no other questions, I admire your work, I was just now looking at a poster you have in the conference room of the Hudson Canyon work.

**VC:** And that was wonderful. We got a graduate student from Italy that did a lot of the processing and the mapping and trying to put things together, she's wonderful. This was a result of first working with Peter Rona who put me on to Leo Macelloni who was down at the University of Mississippi, who also had connections in Rome, because he had come from there. He went back there, found her, was talking with students to find one that would work with this project, he brought her back. She was in Mississippi for a while, she came up here for a while, she spent one of the coldest winters possible right after Mississippi up here at Sandy Hook, but she was wonderful, she did a terrific job. She's earning her Ph.D. now.

**BM:** You had a real gem there. Well, it looked like you had a great team overall. And it's just so great to see Hudson Canyon visually characterized, with the mapping and so forth.

**VC:** Yeah.

**BM:** Good, let me thank you again, and I'd like to take a picture.