

COLUMN: MEET A YOUNG PROFESSIONAL

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Fisheries: Why did you choose a career in fisheries?

Gedamke: My life has been a natural progression from an excited 10-year-old exploring the marshes of the Long Island Sound and diving in the Caribbean to a career in fisheries. I started my formal training at Colgate University, where I not only gained a solid background in biology, but was also able to spend a semester at sea with the Sea Education Association program in Woods Hole. It was there, and probably whilst onboard the *R/V Westward*, that it became clear that marine science was where I belonged. Following my undergraduate degree, I gained priceless hands-on experience working as an educator and assistant aquarium curator for the University of Georgia, as a fisheries observer for the National Marine Fisheries Service (NMFS) in the Bering Sea, as the director of a loggerhead sea turtle research project in Georgia, and also researching hawksbill sea turtles in Antigua.

Sometime, while I was knee-deep in pollock on the deck of a commercial factory trawler in the Bering Sea, I became fascinated by the sheer magnitude of the fishery and the research and management that was involved in the process. It was then that I decided to pursue a graduate degree in fisheries. My desire to work in this area stemmed not from a radical crusade to save the Earth but rather from a practical standpoint. It became obvious to me that as our society grows and technology allows for more efficient harvesting of marine resources, that knowledge would be the key. The issues are complex and only through an understanding of the dynamics of these marine systems can management measures be developed that take into consideration the concerns of both the

environmentalists and fishing communities. With this in mind, and my love of seafood, I matriculated into the fisheries program at the Virginia Institute of Marine Science (VIMS) and began my career in fisheries.



Fisheries: Did you have a mentor and if so, how did they help you get where you are?

Gedamke: My early development can be solely attributed to my father's passion for life and inherent desire to always question, seek out answers, and solve problems. Without this influence I wouldn't be where I am today.

In the world of marine science, my first role model was Jack Musick from VIMS. I met him at a Sea Turtle Symposium soon after I completed my undergraduate degree and was impressed by the balance he maintained between the different aspects of his personality and the thirst for both practical and theoretical experiences. I was sure he could write a manuscript while tending a longline and I saw a little of myself in him.

Although Jack put graduate school and VIMS on my radar, Bill DuPaul accepted me into the program and immediately got me involved in research on the sea scallop fishery. Bill's ability to work directly with the industry and focus his research efforts on management needs was impressive. I learned not only about fisheries research but also about the surrounding politics and management process.

And finally there is John Hoening. I sought out his quantitative expertise while working on my master's degree and we've been working together ever since. John continually impresses me with his ability to break down complex problems into their fundamental components. He exposed me to the quantitative aspects of fisheries science, ignored my calculus phobias, taught me to write, and generally opened my eyes to areas that I had left unexplored. John took me under his wing, offered me a fellowship through the NMFS Southeast Fisheries Science Center and, in the end, gave me the skills and confidence to succeed in the world of quantitative fisheries science.

I feel lucky to have known and worked with them all and they have shaped me into what I am today.

Fisheries: What issues are you currently working on and what are your greatest challenges/accomplishments?

Gedamke: Recently, my focus has been on stock assessment and the development of stock assessment methodologies. My current research began following an article published in *Science* which claimed that the barndoor skate (*Dipturus laevis*) might be on the brink of extinction.

The challenge was to recognize the potential of the limited data and develop new approaches for use in data-limited situations. I began working with the Beverton-Holt mortality estimator based on mean lengths. This method has minimal data requirements but has the underlying assumptions of constant mortality and constant recruitment. I, with John Hoenig, developed a variant of this method which does not require the restrictive assumption of equilibrium conditions (i.e., constant mortality). We then took this one step farther by incorporating a time series of recruitment into the analysis. We also generalized an approach which uses catch rates from multiple years to estimate survival rates.

With these new tools, we have been able to conclude that the current mortality rate on the U.S. barndoor skate population is low and, at least in the area we studied, there is no current threat to the species. But far more exciting has been the experience of seeing the new methods applied to goosefish, sea scallops, and groupers. The lesson has been to start simple and think general.

Fisheries: What would you credit for jump-starting your career?

Gedamke: The short answer is my graduate work at VIMS and the guidance of my mentors. VIMS prides itself on advisory work as well as education and research. Faculty and students interact continually with government scientists and fisheries management agencies like NMFS, the Atlantic States Fisheries Management Committee, and the Virginia Marine Resources Commission. This provides VIMS

students with invaluable practical experience. In my case, NMFS scientists took a personal interest in me and in my work and offered advice, data, collaborative research opportunities, advice, and more advice.

Fisheries: How do you see fisheries science changing during your career?

Gedamke: The main thing I see changing is in the amount and quality of information that is available. Technological advancements and long-term research programs will continue to add to our knowledge base and our overall understanding of marine ecosystems.

This will not only allow existing methodologies to be fine-tuned but also foster the development of more complex and realistic analytical techniques (i.e., ecosystem-based models, multispecies models, and a greater incorporation of spatial and environmental variability).

Fisheries: What would you like to change if you could?

Gedamke: If I could change one aspect of fisheries science, it would be the working relationship between the fishing industry and scientists. Onboard commercial vessels, I learned to speak the language of the fishing community and heard a pervasive distrust of fishery managers. This is unfortunate. Those who have spent their lives at sea have a wealth of experiences and an understanding of the fishery that cannot be gained any other way. I think that the cooperation between the fishing community, researchers, and managers and the exchange of both practical and theoretical knowledge will greatly benefit all of those involved.

Fisheries: Please describe your AFS involvement.

Gedamke: I became a member of AFS in 2001 and have presented my research at a couple of Annual Meetings. I have had four manuscripts accepted by AFS journals and a fifth is in revision. Just over a year ago I was asked to be an associate editor of the *North American Journal of Fisheries Management*. Working with Carolyn Griswold and the rest of the AFS editorial staff has been extremely rewarding and enjoyable.

