

Centennial Roundtable Discussion

100th Anniversary Meeting

Providence, Rhode Island

April 9, 2008

Foreword

The Planning Committee for the 100th Anniversary meeting of the National Shellfisheries Association, Sandy Shumway and Karolyn Hansen, proposed a roundtable discussion with some of the Association's earliest living Presidents and Honored Life Members. As Historian, I had the pleasure of organizing the "Centennial Roundtable". Eight NSA members with memories of the organization dating back to the 1950s and 1960s came to Providence, Rhode Island to participate in the discussion.

The discussion was video recorded and the document that follows was transcribed from the recording by Tamara and Eric Heupel at the University of Connecticut. Photographs of the event were made by Peter Kingsley-Smith of VIMS, who also made the video recording.

Due to some technical difficulties, we were unable to record the very beginning of the discussion, and the subsequent video and audio portions of the event had to be recorded separately. Eric Heupel was responsible for concatenating the separate video and audio tracks into a single DVD recording*.

Note: In certain places I have added, in brackets, explanatory or clarifying information.

Susan Ford
Historian
April 2009

*To receive a copy of the DVD, please send \$6 to

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Transcript of the Centennial Roundtable Discussion Providence, RI April 9, 2008

Due to some technical difficulties, the beginning of the Roundtable was not recorded. Sammy Ray, the oldest panel member (he reached 90 years of age in March 2009), had begun the discussion with his recollection of working on the project that identified *Perkinsus marinus* as the cause of oyster mortalities in Louisiana in the 1940s. He recounted that he was a medic in the Pacific during WWII - an experience that led him to decide that he wanted to go to medical school when the war ended. The transcript begins as he tells how he started his career in oyster disease research.

Sammy Ray: And it was Albert Collier. And it's Albert... I said, "I'm not looking for a job. I'm going to medical school." And Harry Bennett, a parasitology professor at LSU, said, "Go talk to the man." And I didn't want the job. I wanted to go into medical school. And it turned out that I couldn't do anything that Albert Collier wanted. You know, there's just lots of things you don't get if you're going to be a vertebrate zoologist and you're gonna stuff birds that you don't get what you need. So finally he said, "Well, let's...the job pays well." It was the beginning of the big oyster lawsuits in Louisiana. "He said it pays \$250.00 a month and all living expenses." And I'm on... it was just a six month job. I multiplied 250 by 6, and I said, my God, I'll just have to borrow \$1000.00 less. Well, today \$1000.00 isn't anything, but, then, in that day, \$1000.00 was just a monstrous hurdle. So I took the job. And Albert Collier, I'm happy to say, at 97 is still alive. And last year I celebrated my 88th birthday with Albert Collier, and he's 96, and I told my doctor about it. And he says, "You know, that doesn't happen very often." And that's true. So then I worked there for three and a half years. The six-month job turned into a three and a half-year job. And since we have some Louisiana people present I want to tell a little story.

(Laughter)

Dr. Sammy Ray became an Honored Life Member of NSA in 1992. He has been on the faculty of Texas A and M University, Galveston Marine Laboratory, for most of his career. As a graduate student, Sammy worked with the team that discovered *Perkinsus marinus*



("Dermo") and he developed the FTM method that remains the predominant diagnostic method for the parasite. He continues to work on oyster disease problems in the Gulf of Mexico.

Well, I was in Buras and we'd been out on a survey and we came back. And some fella walked up to me and wanted to know what we found out. And I said "Well, we didn't find out much, a few [oyster] drills and this and that", and he said, "Well, I'll tell you what, I'm going to hire chemical engineers, and we're going to find out what's killing those oysters and you people are going to pay." And he walked away. And somebody said to me, "Do you know who that was?" And I said, "I have no idea." And I was standing by a boat in Buras, Louisiana. He

said “That’s Leander Perez [the Democratic boss of Plaquemines and St. Bernard parishes, Louisiana during the first half of the 20th century] and you’re going to hear a lot more from him!” And I did. But I had no idea who Leander was. So that’s how I got into it. And after the lawsuits were settled, Gulf [Oil Co.] gave me a fellowship and dermo had been discovered. They gave me a fellowship to either go to Rice or Tulane to work on the life cycle of dermo. And I chose Rice, because I had taken parasitology using Asa Chandler’s textbook and he was going to be my major professor, so that’s were I stopped. And it turned out, and I’ll tell you about it later, but it turned out that I initially made a mistake by going to Rice, ‘cause I wasn’t ready. And I had a big fight to stay in. And I’ll tell you about it later.

Bob Malouf: First of all I have no idea what I’m doing up here with all these old guys, (Laughter) but I also realize that if I continue this cycle of handing the microphone, I won’t have to worry about what to say, and same with Rich. We’ll be fine though. But, uh, I need to correct whoever said that Neil is the only foreigner here, I want to point out that I’m from Montana originally so... (Laughter) so, he is not. And because I’m from Montana, naturally I went into marine biology. It’s natural for most people. I..I was going... you know it seems like a lot of people that go into shellfish biology or shellfisheries end up in, or start out in, something else. I decided I wanted to work on salmon, and I’d never seen an oyster before. I got my bachelors degree and I applied to Oregon State University, I wanted to go to Oregon State University so I applied to Oregon State University. Only Oregon State University. Why would I, you know that’s where I wanted to go. It’s amazing how dumb I was. And I want to emphasize was. Ya know?

Dr. Robert Malouf served as NSA president in 1986-87. Bob began his career on the faculty of the



State University of New York at Stony Brook. He later became Director of the New York Sea Grant Institute and subsequently the Oregon Sea Grant Program. Bob’s research has encompassed shellfish biology and eco-physiology, as well

as the ecology, aquaculture and management of shellfish populations.

And so they called me and said, “We’ve got good news and bad news.” And the bad news from that perspective was you’re going to work on oysters. And, um, you know I’m really happy about how that turned out, because they’re up to their eyeballs in salmon biologists, and they have no salmon left back there, so it’s kind of sad. I spent two years getting a masters degree at Oregon State, working with Willie Breeze. A name you probably don’t know, but a man who built a pilot hatchery at Oregon State University in 1967 that did a lot of the original stuff. But, uh, and then I went up to Washington, and saw this guy Ken Chew, who was really old even at that time. (Laughter) So that was 1970, and I was going to work there, but I got a call from a guy in Delaware who said, “Do you want a job?” I said, “Yes.” And based on that call, I packed up my family. My wife was 12 months pregnant at that time. (Laughter) And we went all the way across country and we got to Delaware and I said, “I’m here.” And they said, “Who the hell are you?”

And so, I began to realize I was pretty naive for going there based on that phone call, but

the person who hired me wasn't there. He was on vacation. Everything works out. I guess when you're really dumb, somebody takes care of you. But I had a good experience in Delaware and met a lot of people and, uh, went back to Oregon State and got a Ph.D. Back to Stonybrook on Long Island when I finally got a Ph.D. and spent 15 years there. Our furniture is worth millions because we keep moving back and forth across country...um. I was at the University, State University of New York, Stonybrook, for 15 years... a lot of really good students including Greg Rivara and Monica Bricelj who are up in front of us.



Left to right: Gregg Rivara, Monica Bricelj and their major professor, Bob Malouf

And, uh, you know I had a chance, I really do like Sea Grant, and I had a chance to apply to the Sea Grant Director position in New York and was fortunate enough to get that position. And I moved on to Oregon Sea Grant. And I've been a Sea Grant director for the last 22 years, which is far longer, I even took a leave of absence for Pete's sake, ya know 22 years later, I'm thinking, I think it's maybe about time that's enough of that. So, I'm going to be stepping down from the Sea Grant position in New York, and heads up...I'm going to be coming to more of these meetings, uh, so be advised. I'll be.....

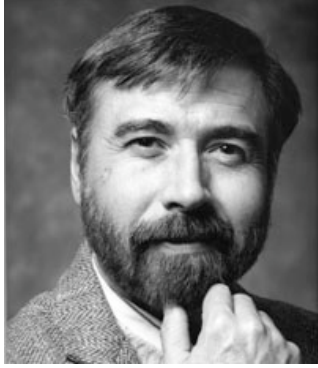
Rich Lutz: Um, I'm Rich Lutz and I have no idea what I'm doing with all these young guys up here. You heard from Herb Hidu about how he's kind of between a rock and a hard place with Victor Loosanoff and Harold Haskin. Let me tell you a bit about this fellow named Herb Hidu. (Laughter) I was a wide-eyed undergraduate in 1969 and had the good fortune of getting one of those NSF undergraduate research participant programs at a place called Solomons [Chesapeake Biological Laboratory], Maryland. Then I, uh, journeyed to Solomons to meet my advisor, a short little guy. The, uh, started talking to him and gentleman that I was from UVA and it was, "Yes, sir", "No, sir", "Yes, sir". Herb looked me right in the eye and said, "You call me 'sir' one more time and you ain't got this job ... anymore."

(Laughter)

Fast forward to when I applied to, to, ultimately to graduate school from UVA. My undergraduate advisor Fred Deal desperately wanted me to go to University of Delaware. Uh, took some steps that ultimately had me offered an assistantship at University of Delaware. And I didn't quite know how to go in and tell Fred that I didn't want to go to Delaware, but I wanted to go to Maine, where this fellow named Herb Hidu had just recently ended up. So I assembled all my letters of acceptance and rejection and, as all of you know, you just have to read the first line and it's either, "We're pleased to inform you that..." or "We regret to inform you that..." So I lined, I lined up all my letters, uh, tried to tell him that I didn't want to go to Delaware, and there was this one hand scribbled note, from, from Herb. And all it said was, "You're in!" (Laughter) "Have imported several exotic lovelies for your review. See you in Septem... Beer parties await you! See you in September. - Herb" I just had to look. Fred where would you go?

And, uh... the rest was history from that point. Thank you, Herb, for all you've done for me to get me on this table. (Laughter)

Dr. Richard Lutz was NSA President in 1983-84. He is a professor at Rutgers University, where he has resided for most of his career and where he serves as the Director of the Center for Deep Sea Ecology and Biotechnology. Rich's research has focused bivalve shell morphology, and the ecology of deep sea vents. He was instrumental in producing the IMAX movie "Volcanoes of the Deep", which was shown at the centennial meeting.



Susan Ford: OK, um, the way we have billed this as a, is as a conversation and we do now have some tape recorders going, so we can continue on. Um, we gave everybody a list of questions to think about, not necessarily to be prepared to answer all of them, but, but one of them was what was your first NSA meeting? What were your memories of it? Did you give a paper? Who did you meet? That kind of thing, and since I think because Sammy is the one who has the longest record of NSA membership, I'm going to ask him to talk about that first.

Sammy Ray: I attended my first NSA meeting in 1951 and as I remember, I think it was in Atlantic City. And it was at the end of one of the most disastrous years in my life. It was the end of my first year in graduate school, and I had been out of school for seven years. I was in an entirely new field. My major professor was a great guy, but he did not like married students. (Laughter)

And what he said to me, he said, "Sammy, you should have waited until you got all of your education." And I said, "Sir,..." He never jumped on me for saying "sir". I said, "Sir, there was a war." And then I said, "I had all the education I needed. I was going to be a museum curator." And that, I dug another hole, because (laughter) the parasitologists of that age, classical, it had to be something that you dreamed all of your life that you were going to get a degree under this person.

But, finally, to go back to my first meeting. And I looked back on that year and it was a year in which I had to fight for survival. I was practically flunking every course I was taking. I worked hard, and at that time it was thought that dermo was a fungus, and I did everything you could do to a fungus and nothing would happen. And I showed up in Atlantic City very depressed. And I talked to people I met and I knew a lot of the ornithologists in my field. The masters at Cornell and Michigan, but there I met for the first time the giants such as Galtsoff, Loo-sanoff, Herbert Prytherch, Jim Engle, and I could go on and on.

And when I talked to these people they said, "Sammy, why did you pick such a difficult problem?" And I remember Victor [Loo-sanoff] saying to me, he said, "You know there are a lot of bivalves that have not had the anatomy worked out. You do a good job. It'll be a lot of work, but there'll be no way not to get your degree." And I said, "Well, Sir, I had no choice. My fellowship was to work out the life cycle of dermo." And finally, I've got, and the thing I remember most about this meeting, I finally managed to get five minutes with Thurlow Nelson.

And I had read about Thurlow's work and I told him what I was doing. And Thurlow, you know, we had about five minutes, and

Thurlow reached over and patted me on the back. First nice thing that was kinda said to me during all that meeting. He said, “Sammy, you’ll get it done. You’re a hard worker. And I came away and when this thing came up, I just thought about how much Thurlow’s kind words had meant to me. And I say to profe... and I’m still working with students, graduate students, and I spend every Wednesday in June or July with 10 to 14-year-old kids. There are times when people need a pat on the back. Most of the time they may need a kick in the butt! But they... (Laughter) but they need to... to have some compassion and sympathy.

So I went back and just with that feeling that I had from Thurlow. I went back and worked as hard as I could. And I would like to say this to, in the presence of the love of my life, that during that time when Chandler was worried about my family taking too much of my time, my wife and two kids got four hours a week. That was Sunday afternoon, we took the kids to a pony rides, and they got no more time. That was all they got. So, I can’t ever say having a family was an impediment to me. They were very supportive and uh, so...

But after about, after I got back, shortly after I got back, I was looking at a fresh preparation. And I said, I looked at that and I said, “You know this looks like dermo, but it’s too big...” But by that time, Chandler and I had decided that the parasite was an obligate parasite, so we were starting to work on tissue culture. And then during this process, I stumbled on the thioglycollate technique. But I had to go back to the big cells that I had seen in a fresh preparation and then found that I made that connection. And Mackin said to me later, “Sammy, you weren’t the first one to see it.” And he gave me Prokoff’s notes, and Prokoff had seen

exactly what I saw, but he said they’re too big and threw it away.

I said they were too big, but I preserved a sample and I was able to go back. And I try to tell students today: take notes, keep a paper trail of where you’ve been, cause you, uh, in rare occasions you need to go back and use it. And I can recall when I thought I had gotten onto something. I called my professor in and it was the first kind word he ever said to me in a year and a half. He turned to me and he said, he said, “I think you’ve got it.” But then he did, he said, “If this is not it, you’ll get it.”



Left to Right: Rich Lutz, Bob Malouf and Sammy Ray

And from then on he and I had a great, a great relationship. Now by the.... during the next year, 1952, when I came back to the next meeting, I had submitted a paper to Science describing a technique. So the difference between ‘81 and ‘82 [sic – obviously was ‘51 and ‘52] was, I was on, I was on cloud nine. And then, I still, the other person that I remember very strongly is Dr. Leslie Stauber. Leslie Stauber was a classical parasitologist. And he said, “Sammy, I just have to see what you’ve done. I heard about this.” And, uh, I didn’t really help him, but I couldn’t miss seeing this. And I’ve often thought: what a difference a year makes. And I still go back and I still think of

how much, just, uh, Thurlow Nelson's kind words meant to me. Thank you.

Susan Ford: Anybody else want to describe their first meeting? Bob?

Bob Hillman: My first meeting was a few years later in 1959 at the then famous and now infamous, Mayflower Hotel in Washington D.C. (Laughter) And boy, that meeting, it was just as infamous at that point. Uh, that was the time when the oyster industry was really at a high point. And we were, uh.... National Shellfisheries Association was basically subsidized or the guests of what was then the Oyster Institute of North America, and it just became the Shellfish Institute of North America. But it was basically a, uh, industry-run meeting and it was really great. It started with the president's reception on Sunday night, and then another reception on Monday night that was some can company, and a reception on Tuesday night with some other big company. And in between the receptions there were some really interesting meetings. The, Oyster Institute had its own group. And the shellfish, the National Shellfisheries Association was a somewhat smaller group with the scientists that, uh, someone mentioned in one of the meetings this morning, basically brought in to help the industry solve its problems.

And that was, it was inculcated into us that right from the start, at least into me at that time, that that's why we were there: to really help the industry to solve its problems. And little did I know then as I said I, my first exercise at Delaware was to go out on a boat and look for this strange parasite that was starting to kill oysters in Delaware Bay, but it was also the start of probably a decline in the industry. And the thing I see now, in the industry did get considerably smaller and the National Shellfisheries Association got considerably greater. That first meeting I went

to, though, I sat there in awe, scientifically. I wasn't giving a paper, I didn't give a paper until, I think, the next year.

Dr. Robert Hillman served as President in 1985-86, after having completed a 9-year term as Editor-in-Chief of JSR & PNSA from 1975 to 1983. Bob has spent most of his career at the



Battelle Memorial Laboratory in Duxbury, Massachusetts. His specialty is histology/ histopathology and his research has included the cytochemistry of mantle cells, shellfish diseases, and the

effects of contaminants and warm-water effluents on marine biota

And I was quaking in my boots, because that first meeting... down in the left front of the aisle of the room the meeting was in, in the front seat was Dr. Galtsoff. On the other side of the aisle was Dr. Loosanoff. If you gotta get up and give a paper in front of those two guys, you'd better know what you're talking about.

The next year when I had to give my paper I almost turned around and went home. I didn't know if I could face it, but, uh, they were great. And I think the meetings, you know what I've seen, the changes that I've seen, basically, I think are obvious to all of these people, the decline in the industry. But now, today, I was kind of encouraged to see industry participation coming back into, into the group. And I hope that we still remember that we are here, regardless of the fantastic diversity of science that I have seen take,

taking place over the years - the development of technology that's enabled us to pursue problems with the industry that we never ever could do before - I just hope that, that the younger people coming up don't forget that we are here for, to help solve the problems of the industry.

Susan Ford: Neil wants it [the microphone].

Neil Bourne: Yeah, uh, Bob, my first meeting was in '63 at the good old Mayflower Hotel. (Laughter) A couple of things impressed me. I was from the boondocks of Canada and I came down to the meeting and was meeting the, uh, some of the people, picture Dr. Galtsoff. And, um, it was the start of the disease work. And half the papers were on disease. And I attended a couple of the sessions. I didn't know anything about disease. I was working with scallops. They would throw a slide and they'd say, "That's 26A." And the next slide would be "15B" and everybody knew what these terms were. (Laughter) Every... and I had no idea what they were. I've always mistrusted the disease people after that. (Laughter)

The other thing I remember was that there was a fair amount of money in the industry at that time. And they would have the banquet. And the banquets were really something, that the ladies were there in very elegant gowns. A lot of the men had tuxedos or dinner jackets. I'd taken my mukluks off and I had shoes on anyway, but I, ah, it was just a great experience to come down and see this. And one other thing, as a Canadian coming down to the meeting, after the banquet there would be a band and there was dancing. And they had a marvelous time. And about halfway through program they played Dixie. (Laughter) I thought they played the national anthem. (Laughter) Everyone stood up. And I've forgotten who was sitting next to me who said, "Stand up and

look respectful!" (Laughter) And ever since I've hear Dixie, I stand up.

(Laughter and applause)

Dr. Neil Bourne served as President in 1981-82 and became an Honored Life Member in 1990. Most of his career was spent at the Pacific Biological Station, Nanaimo, British Columbia. There he undertook research on the basic biology of Pacific coast mollusks, investigated harvesting gear efficiency and, most importantly, developed methods for the culture of a number of species, including the Japanese scallop and the Manila clam.



Susan Ford: Aaron was right in the middle of some of the very early disease work. Sorry about that, Neil. Particularly on MSX when it was first discovered and I've asked him to recollect some of the memories of some of those early and turbulent days when this mortality was going on and nobody knew what was causing it.

Aaron Rosenfield: I don't quite know where to start on this. Uh, I joined NSA in 1961, let me say that my first meeting was in 1961. And just a little background, let me mention an old timer by the name of Victor Loosanoff. It asks in here [in the list of questions given to participants] who are some of the people that impressed you when you first joined. Uh, Dr. Galtsoff and Dr. Loosanoff both impressed me very, very much. The first meeting that I went to, I had just graduated from the University of Texas. A Si...the

book, *Silent Spring*, had just come out and that's all people were talking about in the biology department is DDT and the effect it had on, the effect that DDT had on various egg species and so the book was named *Silent Spring*.

And I learned at that first meeting that Dr. Loosanoff was attempting and did succeed in having a lot of people along the Gulf Coast and East Coast, particularly, dump in a substance that supposedly killed [oyster] drills. And such a substance was called Drillex. And I asked what was in Drillex and do people know what's in Drillex? Well, it has some of the most cancerous compounds. Dioxin is part of Drillex. Well, we deal in science with things that are supposed to conserve species and not kill them. But Drillex is very effective in taking care of drills, as I understand it. And there may be even be people, I don't mean to embarrass them, but there may even be people here who were convinced by Dr. Loosanoff to use Drillex in locations where their laboratories are located. Whether this Drillex is now covered by silt, I don't know, but it is a story that I wanted to tell about my first meeting with NSA.

And there was a man by the name of Phil Butler. Many of you have probably not heard of, but Phil was an excellent scientist. He became the ...OK. Phil... oh, heaven! (Laughter) Phil became the laboratory director at the DEP [EPA] lab in Gulf Breeze and recognized the dangers of using Drillex. And I think after he communicated with a lot of people, I think Drillex was no longer used. But that was an experience of my first meeting that coming out of Texas where they all talked about pollution, I was rather surprised that the, that an eminent biologist was talking about adding pollutants to get rid of a particular species and not worry about what it did to other species.

Well, at that time also I was up in Maine, having been hired out of graduate school by a man named Carl Sindermann, who was supposed to be here. I knew Carl Sindermann for years before going to graduate school. I graduated high school, as I started to say, in 1942. Went into the Navy for about three and a half years and served in the Solomons and Philippines. Came back and taught at Brandeis for a couple of years, mostly as a teaching fellow, going to school at Boston University and teaching laboratory courses and general education, biology, plant physiology, and microbiology. They had me doing everything. They were looking for cheap help and they sure got it.

After Brandeis, uh, I went to graduate school at Texas, and graduated there in 1960. I went up to Maine. They were doing cross infection studies and, Herb may be interested in this, at the time the studies involved cross infection studies with MSX. I had European oysters from Maine. I had whelk species that grew still in Maine and I had oysters from New Jersey, that presumably were infected with MSX. And I was trying to do some cross infection studies, and lo and behold, the oysters were in a warm environment and evidently they became conditioned to spawn and spawn they did. And having been an old botanist, I immediately did some squashes. According to Mrs. Menzel, for those of you who know Winston Menzel's wife, she did these squashes with root tips because... to visualize the chromosomes in root tips. Well, I tried it with eggs. Oyster eggs. And lo and behold one could visualize the oyster chromosomes with relative ease.

And when I asked around, "Does anybody know the chromosome numbers of oysters?" There didn't seem to be any answers available. And when I wrote it up and sent it to the central office, because they wanted to

examine anything that was written, when you're a part of the Fish and Wildlife Service. And they said this is just puttering. And decided that it should not be published in any serious journal. And I forgot about that and had nothing else to do about it. And I started to seriously work on MSX.

Dr. Aaron Rosenfield served as President in 1979-80 and became an Honored Life Member in 1991. He has spent most of his career at NOAA's Oxford Laboratory in Maryland, where he was an early leader in oyster disease studies and later devoted himself to serving as an interface between academia and government, organizing numerous conferences and editing publications dedicated to understanding and solving global issues in marine diseases and their transmission.



And Dr. Carriker had had a distinguished career at North Carolina University - at the University not the State - and was an interim ... was in sort of a sabbatical, I guess, that he took, and was going to take a job at the MBL at Woods Hole. And just about that time, they decided they had to find a replacement for Mel [Carriker]. And they called up to Maine and asked if I would be interested in taking his... place [at the newly established Oxford Laboratory in Maryland]. I was very much awed by this that somebody who was a rather new graduate student should take the place of such an experienced and distinguished scientist as Mel Carriker, but I knew he was leaving, and I knew that I wasn't replacing anybody that

would hurt them in any way. And I said "Well, let me try it." And I did. I came down [to the Oxford Lab] and headed the so-called the Shellfish Mortality Program. And we used to have, Mr. Engle was the director, and evidently they'd have a series of meetings every year called the Shellfish Mortality Workshop. And he put me in charge of organizing these and putting on these workshops.

And we had them for several years, in which we invited the most experienced and knowledgeable people in parasitology and in other phases of marine diseases and asked them to come to these meetings and they did. And the talk was about MSX, MSX, MSX and another organism that looked very, very similar, at least through the spore stages, called *Haplosporidium costale* [SSO]. And this is found in high salinity waters on the coastal shores. And there was a lot of argument about whether or not these two are the same except in different environments. Perhaps they grow a little bit differently... had different sizes of the spore.

But apparently, they were different. The whole life cycle, the whole life cycle of *Haplosporidium costale* could be seen in adult oysters. And it's quite common to see them. But one never saw the complete life cycle of MSX in adult oysters. And people searched and searched and searched, and expanded the searches and looked everywhere. Different countries, different locations. And the leaders in this group, I felt at any rate, were the Virginia Institute of Marine Science, and more particularly Dr. Haskin's laboratory in New Jersey, where Sue Ford is located. Walt Canzonier I know is here and he can talk very knowledgeably about this as well. There's another fellow by the name of Jack Myhre who was here, who was there as well.

But these people were our mentors, and they told us how to look for the so-called MSX. And some of the earlier life history stages of them found... instead of finding the spores, they saw some of the plasmodial stages. Well, the search went on for three or four years. And I expanded the search in the Chesapeake Bay, when I was down there, from three locations to about nine or ten locations in Chesapeake Bay looking for MSX to see how it moves up the Bay. And as the bay gets saltier, which in certain seasons, it did, and it did get saltier during the summer time. It seemed as if MSX was moving up the bay. And I took some samples from the Manokin River [a Chesapeake Bay tributary on the Eastern Shore of Maryland], some call it the Manakin River, and I put them in a recirculation tank, so that nothing would get out to the outside and I went away to a meeting.



Left to right: Ken Chew, Bob Hillman, Neil Bourne, Aaron Rosenfield, Susan Ford (Moderator)

When I came, when I was in that meeting, my boss Carl Sindermann called up and said, "We've found the spores of MSX." I said, "How did you do that?" Actually, it was Austin Farley who was spoken to, not me, Austin came back and told me what the story was. And this is the first time I'm revealing this, quite frankly, to, to this particu-

lar audience. The people at Rutgers and the people at, ah, ah, at Virginia Institute of Marine Science and Solomons and all know about this, because those were the people who worked most heavily on MSX trying to find the spore... not only the spore stage, but the full life cycle stage in adult oysters. And they could never find it. They may have seen some spore stages, but never realized that there was a connection to some of these other stages. The oysters from the Manokin River were small ones, they were spat, essentially. They looked a little larger than spat. And these small oysters have the full life cycle. And one could immediately tell that they had found the full life cycle of MSX in these very young oysters.

And Dr. Sindermann called Austin Farley. We were both at a meeting of the Malacological Union in Staten Island. When he came back to me almost in tears, because he has been the one in the Oxford lab who had been in charge of trying to find the spores and the life cycle of MSX. And he said they wanted to published down at Oxford right away on the finding of MSX. Well there's been a lot of people who were looking for MSX, particularly so they could name it after favorite people or name it after particular characteristics of MSX, as they do in taxonomy. And the people, if I may say so, with Ford here and Walt here, were somewhat incensed over the notion that a laboratory that had only been around for about 5 or 6 years had found the full life cycle of MSX and wanted to name it.

Well, there was a great big controversy about this. Who was going to name MSX? Who was going to describe it? How could you prove it was MSX and not SSO? It so happens that we had somebody at the Oxford laboratory who was an immunologist and he developed monoclonal antibodies. In the years these monoclonal antibodies have

shown that there's a difference between MSX and *Haplosporidium costale*. They are two distinct species based on immunological evidence.

And the three groups that had been studying these and were most interested in what the course of events should next be... that would be the Oxford laboratory, Virginia Institute of Marine Science, there are four really, the Solomons laboratory because Victor Sprague was looking for it as well, the Haskins [sic] laboratory, which was not then the Haskins laboratory, I think it was called Bay Shore Laboratory or I can't remember... but then, anyway, if you want to know the whole story about this MSX, and I hope people are interested enough, the 1965 [1966] issue of Science has three publications. One by Haskin's laboratory naming the organism *Haplosporidium nelsoni* [<http://www.sciencemag.org/content/vol153/issue3742/index.dtl>], the Oxford laboratory describing the full life cycle of MSX, and Dr. Barrows, who was an immunologist, describing his work on the evidence of distinguishing between MSX [SSO] and *Haplosporidium nelsoni* [<http://www.sciencemag.org/content/vol153/issue3743/index.dtl>]. A very, very interesting scientific controversy was finally resolved.

I learned a lot of taxonomy, I'll tell you that much, and learned a lot of lessons about people. But I'll have to tell you and admit, that I was hoping that Dr. Haskin and his group would find it. They seemed to be the most interested. They seemed to be the most deeply involved with this particular story of *Minchinia nelsoni* that was killing oysters and killing the industries of Virginia, killing the industry in Maryland and Delaware Bay. It had an enormous economic impact. And the people who dedicated their lives to studying this particular organism did it in true fashion of good science and factual sci-

ence. And the people who worked on this were extraordinary. I used the word "mentors" before, but they were our mentors. One has to admit this.



The audience.

There is one man also that I have to bring into this, is the man by the name of John Mackin. And there is a man sitting at this table, who worked on another disease that also killed oysters. A very distinguished man who worked with a distinguished man. He's sitting at the other end of the table. His name is Sammy Ray. The organism that he was working with... we called it *Dermocystidium marinum*. The name has been changed to *Perkinsus marinum* (sic), I guess. But at any rate, Sammy is to be congratulated for developing the stain for *Dermocystidium*.

This disease work has been an extraordinary experience. It's given me a life of joy, quite frankly, to realize that there are different kinds of people in this world. There are some very, very kind people, and there are some very....some very aggressive people, who sometimes go beyond their aggression into meanness. But for the most part, what we have here at NSA, and what we have, quite frankly, in these conferences as well, were people who were not afraid to talk about things before they were published.

They were wide open. And as a consequence of this, I might add too, at these conferences that we used to have the mortality conferences no longer exist. There is somebody at Milford, Ct. who is holding conferences, but I hope he's holding it a different way than we did. Because some of the information that people gave out at these conferences were wide open. Nobody worried about being scooped. There is such a thing as being scooped by people who know in advance what somebody else is doing, even uses their data to try to get ahead. You all know about Watson and Crick?

(Laughter)



Aaron Rosenfield

But at any rate, this sort of event happens, rarely I hope, that people scoop others. Now we were scooped as well. Because we found another parasite in surf clams. Absolutely, it's a hyperparasite, *Urosporidium spisuli*, that infects a worm that in turn infects surf clams. And it turns them black. The spores turn the worm black and you can see the

worms, black worms in the muscles and the other tissues of the surf clam, *Spisula solidissima*, unless they've changed the name, which they may have in the last twenty years. Taxonomists are notorious for this, changing the names of different organisms. Uh, MSX was once called for a short while Minchinia. And I published an article working on the microscopy of Minchinia or MSX, using the word *Minchinia nelsoni*. And then they turned it back to *Haplosporidium nelsoni*. And that's what it is today. A very, very fascinating story and I could go on and on for hours, but it's good to... at least you've received the essence of what some scientists have to go through in order to be able to publish their work, in order to be able to be credible, to be able also to be open and honest. And one of the questions that is down here that's very, very important to me: do you have any one piece of advice to folks entering the field other than... "Run!" And the answer is keep up with the literature.

Sandy Shumway: Repeat that, please!

Susan Ford: Oh, repeat that, repeat that.

Aaron Rosenfield: Yeah, one of the most important pieces of advice that I give people, for folks entering the field, rather than "run!" is to read the literature. Keep up with the literature. And if people would get rid of libraries, which we have had at our laboratory. Oh, it's not important to have your own laboratory (sic). Nonsense! You need some of the most serious journals you can get, the best journals you can get. And not just for one individual who puts it in the library, but have it available for the whole staff.

And not be upset when you see somebody coming in on a Saturday afternoon to read in the library. Don't be upset at 'em, that he's trying to show that he's just playing games

and trying to get out of the house. We hope that he's really reading the journals and keeping up with the literature. I thank you all very much. As I said before the beginning that the, the recorder wasn't on, I'm so grateful for this opportunity to come up here and see these young folks, as Rich called them. To see these young folks and also to be with the young folks that are here in front of me. You all have a fantastic organization that you belong to and you'll see how informal it is. You'll see how friendly everybody is. You'll see how much great information, I'm so far behind that I almost didn't miss going to some of the meetings, 'cause I wouldn't have understood them anyway. But, I thank you all very much.

Susan Ford: Thank you, uh, I have to second what Aaron said. I just finished re-reading some of the transcripts and the summaries from some of those early mortality conferences that occurred in 1959, '60, '61, '62, in which people were discussing what was killing all of these oysters. And they didn't know for a year or more. Even when they found this, uh, organism, they still weren't convinced what, that it was really causing the disease. So, what I'm thinking is that I'd like to scan some of these and put them on our website, or put them on the NSA website, because I think they're really interesting examples of sharing information like, like Aaron said. So anyway, let's move on. And I know that one of our questions was: what are some of the most interesting characters that you've met in NSA? And I think that Herb, Herb... Herb has something to say about that.

(Laughter)

Sandy Shumway: You can't nominate yourself!

Panelist: I'll nominate him!

Herb Hidu: Is this thing on? OK. I've got this little two minute thing that I've been thinking about. The, um, the hypothesis, I think, what is there about shellfishery biology that is so strange an occult and lures such a collection of severe, obtuse personalities, except you and me, you know? Here's the thing about these shellfish that I think. First of all, they live in obscure environments, that's a filter-feeding shellfish, in mud, attached to rocks, under water, unless it was, if they were not just so totally delicious, there'd be no point in pursuing them!

Herb Hidu was NSA President in 1980-81 and became an Honored Life Member in 1989. He was given the David Wallace Award in 1991.



Herb spent most of his career on the faculty of the University of Maine where he worked at the Darling Marine Center. His research encompassed larval behavior and recruitment, fouling control, triploid shellfish, and most importantly, shellfish aquaculture techniques.

And with this environment they don't lend themselves to private ownership, well a lot of travail, like up in Maine, there's the concept of free fishing and fowling as far as the tide of ebb and flow of anybody who goes there. They're of great historical significance. I want to nominate the American oyster as one of America's sacred species, right up there with the bald eagle, the wild turkey, the buffalo, the passenger pigeon, because they have a mythical significance in American history. So even though they don't have the personality of a bald eagle, they belong

as a mythical species that is carried through in this association.

Background: Whooo!

Herb Hidu: Mostly filter-feeding shellfish also are obviously estuarine, therefore, they take out pathogens, human pathogens, heavy metals, they are associated with fall line cities so that there's all kinds of conflict with these filter-feeding shellfish right from the word "go".

So there's a huge potential for conflict, in other words, public versus private ownership, mass disease extinction, which you heard about, and this kind of a thing has lent itself to the recruitment of characters. For example, there's a person, I'm going to bring out a couple of them, Victor Loosanoff. He was in Imperial Russia during the Revolution and they chased him across Russia into Alaska, to Washington. And finally he wound up at Milford, Connecticut. He had the personality of an imperial Russian despot. I used to work with that man.

OK, the other thing with this character formation, Sammy Ray here, he was in the Marine Corps in Okinawa in WWII. There's all kinds of veterans of World War... I was in the Korean War, they didn't send me over there, but I was in during that war, Vietnam... These are severe people! So the shellfishery seems to have lured these veterans of these conflicts. Public versus private fisheries, state versus the feds, water rights, landing on beaches at night – this has drawn these people, historic people, into this field. You see some of them in this panel right here.

For example. For example, I was caught right in the middle of Victor Loosanoff. I worked for him from '60 to '63. He was in czarist Russia, again, I told you his story, and he had the most severe, domineering

personality. He did this glorious work on the basic biology of shellfish, but the man was totally glory happy. He'd run up his results before they should be published. One time I was up there opening an oyster. He came up in his bathing suit. And I saw these muscles rippling in his forearm, and this is what he, he grabbed the oyster knife from me and he said, "You know, Mr. Hidu, I have tremendous power in my forearms!" That's what he did. It's true.

His idea of an athletic contest is seeing how much, how many Manhattans you could drink at his house. I polished off eight, but the potted plant got about six of those. So what I'm saying, he did all this tremendous work and Clyde MacKenzie is here, but maybe he went off the deep end a little bit with all his chemical barriers and starfish and what he would do then is antagonize these mid-Atlantic biologists because the oystermen would say, "He's doing it. How come you ain't doing it?" And it would force them into all these experiments that wouldn't work out.

Harold Haskin, he was my advisor in graduate school. The guy was an Irish orphan that was raised by the Haskins in southern Jersey and he knew all the marshes and everything in southern Jersey. And he was boxing champ at Rutgers. And he wanted to get over to Europe in WWII in the worst possible way, but they held him in the coastal defense, because he knew all the ins and outs and the points of entry of the Germans. So that he was an old fashioned guy, you know, boxing champ, and what he did, he resented these federal reports that he used to have to come out with. I was on the defense team that did the reports. He described Herb as one of Victor's boys. And I said, "Harold, you do that one more time and I'm jumping out of this freaking window!" It was the feds versus Haskin and I was caught in the middle. That's just an example of, um, of the

personalities that are in the history of shellfisheries and that's my last page, so thank you.

Susan Ford: Anybody else have any good stories like, Rich, maybe you'd like to chime in on a ...on colorful characters?

Rich Lutz: Yeah, I want, I want to keep mine short, because I may have another shot at this and, uh...

Sandy Shumway: Never!

Another member: I don't think so!

Rich Lutz: See, I won't finish that sentence. We were asked about our first meeting and just to lighten things up here a little, my, um, well, first of all, I was born two years after Sammy attended his first meeting. 1973, I gave my first paper at a National Shellfisheries Association meeting. And it was a very memorable one for me. It was one that ultimately I was fortunate enough to get that Thurlow Nelson Award, which meant a lot to me, because I was ultimately at an institution where he was a god-like figure. When you're a young graduate student and you're at your first meeting, it's critically important as those of you in the audience that are young students know, to, to make that first impression and, um, as many of you may or may not be doing now, during every spare moment of that meeting in New Orleans in 1973, I was off on corridors, I was in bathrooms, I was wherever practicing that, that talk. And I roomed with another one of Harold Haskin's students, Dave Dean, who was ultimately the director of University of Maine's Marine Lab. And I was practicing that talk again day in day out until I had to give it.

And, uh, Dave was in the hotel room and he was correcting the thesis, Paul Lindsay's thesis, one of his own students at the Uni-

versity of Maine, and so I went off to the bathroom and, um, was practicing my talk. And I was almost finished a couple of rounds of the talk and all of a sudden - and the walls in New Orleans are kind of paper thin - and there was this young lady in the next room that was making a tremendous amount of noise...

Rich Lutz: You know, I'm a young graduate student and I'm ignoring this, I said, I said I can't go outside and finally, this kept just going for like another twenty minutes, and I said, you know, I gotta go out straight-faced, and pretending I don't hear anything next door. And so I come outside and here's Dave Dean with a glass up against the wall and he goes, "Shhhhh!" and hands me another glass. (Laughter) On that note, I'm going to, uh, turn over the platform.

Bob Malouf: Thank you. Well, I was asked, well, we were all asked to talk about the most memorable characters, but you've already heard from them, so... um, where was I going, um, you know, I went to my first meeting in 1968. And actually it was in, it was the West Coast group, the meeting was in Harrison Hot Springs. And there was this really scary guy there. And when graduate... I was beginning... a new graduate student, I was trying to figure out what the heck, and I was fresh from Montana. And when grad students, when students made their presentations this really scary guy would say two things. One of them was, "We did this in 1939, why didn't you read our papers on it?" And the other was, "You know, your slides suck!" (Much laughter) And later on somebody slaps Victor Loosanoff and everybody knows it, and, so, I wanted to say something to him, so I went over to him and asked him if he could get me a copy of Paul Galtsoff's book. (Laughter) And his answer was, "What the hell do you want that for?" You know, it's kind of, I think that there's a, those kinds of nasty folks aren't around

anymore, are they? I kind of miss them for some reason. I think it's Ken's turn.

Susan Ford: Try Ken... Would you like to talk?

Ken Chew: Yeah, thank you. Thanks, uh. A lot of things have happened. I can still remember, in fact, uh, it sort of echoes some of what, what some of these guys have said here and Neil... Ya know, when I first attended the meeting in NSA, my first impression, wow, what a formal group. I'm serious you guys, what you guys, it's a sign of the times, because the people, the industry, the scientists, they were all ties and dress and coats and these sorts of things. And man, you know, it was, I mean, it was it. And when they had functions, you know, the industry was all in there. They had clam bakes and oysters and lobsters. And the industry was very well oriented toward the activities involved with the NSA at the time. And some of these people will remember that. I think Sammy can. You know, we used to have oyster bakes and clam bakes out at Dennis, Massachusetts. Remember all that? And clams... you haven't seen anything. We had clam bakes when they'd sock up clams...

Another panelist: Put the mike up to your mouth.

Ken Chew: OK. Put my mouth up to the mike. But I have to say that that was very, very, um, respective to my own thinking. But I think echoing what Herb and Bob here were saying, you young people didn't know what it was like when you had Galtsoff and Loosanoff sitting on the left and right hand side in the audience. And more often than not, when you finished talking, I don't care what you talked about, Victor Loosanoff has his final say.

Dr. Kenneth Chew served as President in 1971-72. He was the first David Wallace Award winner, in 1982, and became an



Honored Life Member in 1989. Ken's career has been spent on the faculty of the School of Fisheries, University of Washington, where his research has focused on shellfish

biology and aquaculture. His close ties with the Pacific coast shellfish industry led to his becoming Director of the Western Regional Aquaculture Center in 1989.

Another panelist: Yup, yup.

Ken Chew: Right?

Another panelist: Yup, absolutely.

Ken Chew: And he stands up and he says, "I need to make a comment." Oh, my God, here we go! You know, and it always related to physiology, right? Yup, and he would always talking about, you know, you haven't talked about physiology to the effect that it affects your information and your data. You remember that?

So, you young people, I really enjoyed the presentations that have been given by you young folks and the science that has been provided. It's fantastic how it's come along, 'cause again, it's a sign of the times. So, in those days, another thing that impressed me the most was that is alluded to when we met here, the thing that really crossed my mind at the time was, Wow! Did people just talk-

ing about disease? I mean because, in the '50s, late '50s and early '60s, you folks didn't know how impacting this issue with MSX was.

It was immense. It really affected the industry and the shellfish growers. I mean, that first two years, you see when you met here, I mean, the whole emphasis was how do we solve this problem of disease? Because let's face it, the Chesapeake Bay, I'd written about it in my - I'm not advertising - in *Aquaculture Magazine*, in my shellfish column, I used to talk about the wonderful things that happened in the Chesapeake Bay, you know. Chesapeake Bay for some of you young people, you've never heard of Chesapeake Bay being such a fine oyster harvesting area. The old historic schooners and all these sorts of things that, it's really historic and beautiful and many poets have written about the fisheries at Chesapeake Bay. Where is it now, folks?

And, uh, it's a tough thing, and of course, I won't go into the details, like introductions and all these sorts of things, but back in those days it was still sort of there. And we had trips into the Chesapeake Bay and ferry boat rides and I mean, everything. The industry was very involved with the resurgence in doing things and, uh, that was the impression that I got.

And just to maybe to reflect upon a little bit past that time, you know, we were, when I went there with Al Sparks in those early days, the West Coast was, what is the West Coast? You know? We had a major oyster fishery up and down the California/Oregon and, uh, Washington. But when we attended, there was nothing about the West Coast. It's all East Coast/Gulf Coast. East Coast/Gulf Coast. And of course, I have to really thank Al Sparks, who was, really was involved with the early, involved with NSA. And when he came over to work at the University

of Washington, and that's where he brought the NSA. Folks, we have to thank him a lot for where NSA is now, because he started it. And got me, because I was a peon student, and he got me involved with NSA. And that's how he kept bringing me to this, and just between the two of us, and I think that at the earliest stage in terms of names, Susan, it was tremendous to meet, not only these people here that were there, but we had so many top notch researchers and top scientists. I have an autographed copy, in fact, I might donate it to you, Sandy...

Sandy Shumway: It'll never see the light of day.

Ken Chew: An autographed copy of Galtsoff's-

Sandy Shumway: It will never make it to the auction.

Ken Chew: I have an autographed copy, I mean, a signed copy from Paul S. Galtsoff of American Oyster.

Sandy Shumway: Oh, I've already got one of those.

Ken Chew: Oh, you've got one too. Too bad. So you're not looking for one? But anyhow, but so many of these different people have come along the ways. And Loosanoff, I have to say that Loosanoff, after he retired, he came to Tiburon [California] and retired, and I picked him up, because I tried to use him for part of the shellfish program that I was trying to develop at the University of Washington. And he came up and lectured every year for about ten years. And, um, as many of you know, because of this involvement, we have the Victor and Tamara Loosanoff Fellowship that goes open for shellfish research for three students at the University of Washington.

And so, that really put the University of Washington's School of Fisheries in perspective in terms of the emphasis in modeling and doing research with the shellfish. And as far as we're, I'm concerned, you know, the West Coast, the state of Washington, now is the biggest shellfish grower in terms of value in the United States. But as far as NSA membership, I think it was indicated at the luncheon we have a huge group now and a lot of it was due to Neil Bourne on the West Coast and some, uh, Bob Malouf, when he was there and all of these, the West Coast is really a part of now what I used to call the East Coast NSA. And so, that's all I have to say for now and who else gets...

(Applause)



Sammy Ray

Susan Ford: Sammy, do you have something you want to say?

Sammy Ray: I have three little stories, I have three little stories that I want to tell.

And two of them involve at the time when MSX outbreaks occurred and somehow or other we thought that I could bring something that would help them find out what the problem was. In one, I rode the train to Rutgers and on the way from Rutgers to the shellfish lab I was riding with Harold Haskins [sic]. And I noticed the gardens and I'm an avid gardener, but I noticed something else. Some little sheds outside that had a slant to them. And there were schools in between New Brunswick and the lab. And I said, "Harold, what are those?" He said, "Well, I was hoping you wouldn't notice them." Because he was telling me how backwards Texas was, he said to me. And I said, "We got rid of outhouses long time ago."

And also, on that same trip, I had a visit with, oh, my short term memory, my memory of names, I may need some help.

Someone from audience: Give us a clue.

Sammy Ray: He's at VIMS. Long time, worked on...

Someone from audience: Jay Andrews.

Sammy Ray: No.

Someone from audience: Bill Hargis.

Sammy Ray: No, uh.

Sandy Shumway: Dexter Haven.

Sammy Ray: No, not Dexter Haven.

Herb Hidu: Jay Andrews.

Sammy Ray: Jay Andrews. Thank you.

(Laughter)

Sammy Ray: Jay Andrews. We sat down and had a talk with him during this period, and he said to me, he said, “Sammy, I don’t know whether you realize this or not, but you have set back oyster pathology over 10 years.” (Laughter) And I said, “How, Jay?” He said, “You know when you developed that thioglycollate method, everybody thought that they could solve diseases by just a simple culture.”

And my retort was, I said, “Jay, until I developed that simple method, none of you people even thought about shellfish pathology” because you had to do histology. You had to have a high amount of equipment to do it. And so I said, “You know, I -” and I also told him, I said, “You know -” And I still for a long time, every time, I tested an oyster with thioglycollate, I preserved that oyster, and that took a lot of time and space, because I never knew when something was going to come up, and I’m going to have to go back and I needed a sample.

And I’d like to tell a story about Al Sparks. During the, uh, while I was working on my research at Grand Isle [Louisiana] one summer, I hired Al Sparks. I had a little money. Can you imagine a graduate student being able to hire another graduate student? Al was supposed to help me with histology. So Al was sharpening the microtome blades. And it slipped out of his hand.

Someone in audience: Ouch!

Sammy Ray: And guess what happened? He reached out and caught it and he cut his hand very.... and he started bleeding very profusely. And I had to immediately use my first aid that I had used on shot up Marines in combat. And I had to hustle him off to Golden Meadow to a doctor. And I didn’t get any work out of him for that summer. Thank you.

(Applause)



Bob Malouf

Bob Malouf: Before we run out of time, oh, we are out of time. Look, you know, I was talking about how scary Victor Loosanoff was and he just scared the hell out of me, but there were a couple of people there who were, you know, who were old guys at that time. And there’s... they’re up here. There’s Ken Chew and (Laughter) they, and they, you know, helped me understand that not everybody is Victor Loosanoff. For one of the... and one of the things that, that just really quick, Ed Rhodes is sitting right there. I was secretary treasurer of NSA in, I don’t know what it was, ’83 or something like that, and Ed Cake had been secretary treasurer before that. I don’t know, he melted down, left a bunch of money in a place called Biloxi, Mississippi and we were supposed to go get it, Ed Rhodes and John Manzi and I.

So Ed went out to rent a car and he came back to pick us up. And it was a pink Cadillac with a black interior. So these, these, uh, three Yankees headed off to Biloxi, Mississippi in this car to pick up money from a bank. (Laughter) And I had this vision of somebody coming up and saying, “You be, you be in trouble, boy!” So we’re walking to the bank and said, “We’re from NSA. We want our money.” And they gave it to us.

(Laughter and applause)

Herb Hidu: There’s something that we’re forgetting here today. There’s two people in this audience that I know of that should be up here. And the first one is Walter Canzonier. He, I know he’s here.... Most of the things I know I learned from Walt, not from Rutgers. And there he is right there. And the other one, the other person, very unsung, historical guy, he worked for Victor before we even got there. He’s, he’d done the history from Prince Edward Island down to, that’s Clyde MacKenzie. Is he here?

He’s a very historical man. He was, he was here earlier. Through the years you read what Clyde is writing and totally historical and integrating with everything. And that’s what I had to say right now.

Susan Ford: What we’re going to do now, it seems to be going very well, is Sandy wants to say a few words and she needs to leave. And then what I’d like to do is, anybody who wishes to stay, including any of the panel. And we’d like to open this up to the people in the audience to either tell a story or ask a question. And we can go on as long as we want.

Sandy Shumway: Well, when we planned the centennial meeting this seemed like sort of an obvious happening. And the first and foremost thing that I would like to do is thank Susan for taking this on as our histo-

rian and putting it all together. Very, very nice. Now that being said, I would like to pursue this further and perhaps make some form of this a regular part of our meeting, so that we get this oral history and make sure that all of this is saved for posterity. Most of you know that I have a real penchant for the history of the Society and I’d like to see that preserved. Um, the only thing that I can tell you about Victor Loosanoff, never having met him, are the words of Mike Castagna. And he said, “Sandy, he made grown men cry!” So I was perfectly happy that I’d never met him. But, um, and that being said, we’re all mortal and I can certainly live with all of our forefathers being gone and the contributions that they’ve made. I am very, very sad that two people in particular couldn’t be here for this panel. We only just missed them. And that’s Mel Carriker, who just left us a year ago... and my dear friend, Mike Castagna. So thank you very much and keep up the conversation.



Sandy Shumway

Susan Ford: OK. Anybody else on the panel that...OK, yeah.

Someone from the audience: I would appreciate a few words about Woody Breeze, Anja Robinson, and Abe Hopkins. If somebody had something to say.

Susan Ford: Did you hear?

Bob Malouf: There's no microphone down here. You've got all of them down there for some reason. Most of you don't know Woody Breeze and, uh, he was, uh, um, he didn't publish. He didn't write very well, so, I don't know if any of you know his name, but he's the guy who really developed a lot of the plankton methodologies used on the West Coast, which is different from the Milford process. And, uh, you know, he couldn't write his way out a paper bag or whatever you call it, and so he's not very well known. But, I, he wasn't my major professor because he was non-graduate faculty, but I learned more from him than from most, with the possible exception of Mike Castagna. He could go out on the mud flat and say, you know, this is that species and that's, he one of those naturalists, and he hired... I started with him in 1968.

And the same time he hired a lady from Finland by the name of Anja Robinson, who was, you know, growing larvae's an art. You know, you can read the book and she is a, she was a real artist. And the two of them, I mean, that was back in the days when what you... back in the days, gee, I am an old guy! (Laughter) That, you know, when what you did in a shellfish lab was you tried to raise everything, you know. They'd bring in all these different species and describe the larvae and there wasn't anything that she couldn't raise. And there'd been people who'd been trying to raise this whatever clam, uh, *Siliqua patula* was the top one, which is the razor clam, and she just, just did it. Those people never got known, because they, I believe, because they were on the West Coast. If they had been on the East

Coast, they would have been part of, you know, they went to all of the meetings and made presentations in their important writing, and I think that's kind of unfortunate, but.... anyway, I want to thank you for bringing up those names.

(Applause)



Ken Chew

Ken Chew: I want to say one thing, you know, relative to, uh, Anja Robinson. You know, you people over on here, on the Chesapeake Bay area especially, now she was the one that fought to maintain a culture of *Ariakensis* [the Pacific oyster, *Crassostrea ariakensis*]. And she was the one that maintained that population. I can still remember that, uh, when we had research studies going up and down the coast, down at Oregon Oyster Company, Kumamoto oysters that they were growing, all of a sudden in the middle of the tray, there was this humungous oyster that was growing and it was *Ariakensis*. And I used to collect those, because they were such good eating. They were like a pie... they were like a dinner plate. They were huge. At any rate, Anja was the one that maintained that stock of *Ariakensis* for the West Coast. And that's where you folks have been picking up some of those for your breeding in the Chesapeake

Bay. So I just want to acknowledge that for what it's worth.

(Applause)

Herb Hidu: We're neglecting one little topic here, and that, what that is is advice to graduate students. There's a bunch of those in here. Here's what, here's one of the most number one things. When you get employed somewhere in a new position, you don't want to fight with your mouth, you fight with your pen. And as a, wherever I've been there, it turns into this bitching society. You know, build yourself up to tear somebody else down. But when you're into a new position, avoid that at all costs and fight with your pen.



Herb Hidu

And OK, there's a, when I was down at Penn State where the graduate students were with a David E. Davis. He was a distinguished population biologist. And he said, "I'm going to give you graduate students some advice. And this is what it is." And I never forgot it. He said, "Wherever you go

there's a temptation for somebody out for your job doesn't like you, there's a temptation for you to fight with that person, have an all-out fight." He said, "Avoid that at all costs. Because once you have that fight with that person, you can never patch it up. And the real rationale for that is that you can go the rest of your life using the bastard. And there's a lot more satisfaction in that than in creating an enemy."

Sammy Ray: Much has been said tonight about Victor Loosanoff. My first, one of my first job offers when I graduated was to go to work in Milford. And I was interested in many of the things that were going on there. And I said, that's the place where I'm going. They got equipment, they got this and that. And I forget now, I forget now who talked to me when they called me and said, "Sammy, I hear you're considering going to Milford." And what they said, "Don't do it!" "Cause he said. And why they said, don't do it, "You won't survive there. You're too independent."

Someone from the audience: How about John Mackin?

Bob Malouf: Let me say something to the students. Uh, first and foremost, do not believe anything that we have said. (Laughter) But know what we have said. And I think that's, uh, seriously, that's, we have all this literature, and, uh, you know, you should know what that literature is, not because it's valid or smarter than you are, but because you need to build on it. Don't believe it, but know what it is. And the second thing I'd say is, remember the difference between being educated and being smart. Just because people here have Ph.D.s or whatever, doesn't make any of us, we're not any smarter than you are. And unfortunately, some of us forget that too. There really is a difference between being educated and being smart. We're educated, but, I mean,

well, maybe a couple of them are smart, but most of them are not.

(Extreme laughter)

Rich Lutz: Just to, for the benefit the students again and to echo Herb's comment about personalities in the field, especially in science, one of the things I always remember that Mel Carriker said was, "The madder someone gets, the calmer you need to get." And that was very sound words of wisdom from a very wise man. And those of you who knew Mel knew he had that calm personality. And so the madder someone gets, the calmer you need to get.

Sammy Ray: I heard someone as I finished talking about Victor. I heard someone say Mackin. Who said that?

(Jumble from the audience)

Sammy Ray: OK. And, and Mackin was very positive about everything and existing with Mackin took a great art. You had to have no... you had to be completely dependent and believe everything he said. At least when you were dealing with him. But, I still main... and Mackin always considered me his protégé, while Albert Collier was my mentor. And I would say this, and I have resisted saying this, in this country we believe that no one knows anything until they get a Ph.D. And once they get that Ph.D., they become anointed and they know everything. And everything they say is correct. Well, Albert Collier had a Ma... a Bachelor's degree from Rice in 1933. Albert Collier built the lab in Galveston for the Bureau of Commercial Fisheries. But soon as he got it going and everything, "Oh, he doesn't have a Ph.D.?" And then he moved to A&M, he got that started on a shoestring, and then, "Oh, he doesn't have a Ph.D."

Albert could take a little and do a lot with it. Then he went to Florida State and developed the Department of Oceanography there. And, but I knew, and I was supposed to go with him, but I knew he wasn't going to last very long, because he didn't have a Ph.D. So I would like to end what I have to say, I am so happy that I have a Ph.D. And so for that reason, and I don't want to insult all of these Ph.D.s, but I'm so happy...

Bob Malouf: Why not? (chuckling)

Sammy Ray: I am so happy that I have a Ph.D. so I don't, for that reason, have to apologize to a bunch of SOBs that have Ph.D.s.

(Laughter)

Ken Chew: I'd like to counter Sammy. (Laughter) Because after having that Ph.D. and doing what I had to do and moving up, I find that really in life itself, it's what you really want to do is what counts. And whether you get a Ph.D. or not, it's not the fact that you tried to get that degree, but how you get along with people and accomplish what the dear, good Lord has given you to do the best you can. Isn't that true?

Because what happens is that we are all equal in the sense of activities and activity. I think that some of you people have taken my class. My first lecture is philosophical. And I say, and I think Kay, you remember that, even as I was a professor I said, "I am no better than you as a student. We are all equal. We are all in the same plane. We just operate in a different level. But one of the things that we have to remember: we have to treat each other as if we are equal or not as good as they are. We are all equal." And so, this is what life is all about, folks. If you get along, we talk about how these things interact and how we deal with people. We don't want to be, "I'm a supervisor."

I still remember, as an example, one of the guys, that maintenance guy, that come and clean my office, and I treat him as if he was my same level and equal. And he, I still remember that same day that, when I sent him a Christmas card. He said, “You know, Doc, you know, you’re the only faculty that sent me a Christmas card.” And I said, “I am no different from you, because I am equal to you.” So not to say anything bad of this kind, Sammy, we have to operate as individuals. We have to respect each other, and operate in a level that we are no better than they are. We are equals. We just move together and coordinate our effort to try and solve problems in life, ‘cause that’s the way the good Lord has given it to us. So don’t battle it, folks, this is reality and life. But if we say I am better than you are, you’ve got problems. That’s all I have to say.

Bob Hillman: I just want to take this opportunity, since Rich Lutz is sitting at the other end of the dias here. I’d wake up in the middle of the night often thinking Rich Lutz hates me. (Laughter) I’ll tell you why, I haven’t talked to him in a while. But when I was editing the Journal [of Shellfish Research], I would get manuscripts from Rich, that were really, every one, I can’t remember one that I got from him that wasn’t well written. And I would do what the editor was supposed to do when I was editing the Journal, I’d send it out to the reviewers, but it was a perfunctory thing, because I knew the manuscript would be accepted. In fact, he even one time he sent me a manuscript, he knew all the people that I had on the list as reviewers so he included them all as authors.

(Laughter)



Bob Hillman

I didn’t even send it out, I just accepted it off, right off hand. But one day I get this manuscript, it wasn’t long, and it was about a technique that he worked on. And to tell you the truth, I don’t even remember what it was for, but it was an elegant, elegant paper and an elegant technique. And I read this thing and I said, “What the hell is he saying?” So I said, you know, maybe I better send this one out. And I sent it out, and I talked to people, and we really couldn’t figure out, I mean it was, we could figure out what he was saying, but it was this elegant technique, that didn’t work. So I sent him the paper back, and I said, “Rich, this is a little too esoteric for NSA.” He has never let me forget that. The only paper he ever had rejected. But I still don’t know what it was all about.

(Laughter)

Rich Lutz: It was, uh, it was subsequently published in Science, by the way!

Susan Ford: Walt, Walt has a comment to make. Or more than a comment.

Walt Canzonier: This is dangerous, ask the people that know me, because, I’m up here, okay. But, uh, now that were talking about people, I think this is really a component of research that’s often overlooked. In the old

days, people, their personalities, were obvious in the writings that they did. Today if you write something for, as Rich would tell you, a refereed journal, they, the personality does not show. It's hidden because of the protocol in writing and the abbreviated writing method. But the personality of the researcher is very important in interpretation of what that person has done and how they have interpreted it, what they came up with. I can think of many, I think Sammy can, more than anyone else, can understand this, talking about Mackin. A person that really appreciated this, now I've known a lot of people over the years and I'm very, very glad that I've had the opportunity over the last 610 months plus or so that I've been associated with the oyster research industry, um, that's over 50 years, if someone wants a translation.

(Laughter)

But that has been very, very pleasing and satisfying to me, to know these people, to be able to discuss things with them, hear their opinions on things, and some had some very strong opinions, including John Mackin. And that's okay! That's okay, that's what it should be like. And I recall a comment that Thurlow Nelson made to John Mackin when Mackin was grumbling about some whip-persnapper that was calling him an "opinionated person." And Thurlow, in his dour way, said, "Well John, the fellow that doesn't have any opinions is not using his mind."

But that aspect is, I think, very important that the personality, to be able to interpret the approach of that person to a problem and the prob- the methods that they use. Their biases. We all have biases, whether we want to admit it or not. And I think it's very important that we examine our biases when we get into research. And a person that really appreciated this, and I'm always very, very

glad that I knew him, was Sewell Hopkins. Not Eddie Hopkins, the old signal... Sewell Hopkins was very personal, person-oriented, and he wrote up three volumes of memoirs. And one of those covered Project Nine. Sammy probably has a copy of that? Do you not?

Sammy Ray: Yes.



Left to right: Ken Chew, Bob Hillman, Niel Bourne, Aaron Rosenfield, Susan Ford

Walt Canzonier: And he has, it's not so much the research in that memoir, but the people that were involved in it. And I think that'd really help if you read that. It helps you understand how things progressed in Project Nine. A project, you probably don't know what Project Nine is, I'm sure, except for a few of the older people. But these are the kinds of things that are very, for me, they're important. Perhaps I'm a little antiquated in my thinking on this, and I'm sure people would not necessarily agree, but that aspect, and not just the older people. One of the things that's very, very satisfying to me is to see younger people, even at the a high school level. I've had students come in from high schools and work with me. Seeing them work their way up, seeing them develop their intellectual capacity and become valid members of not necessarily the research

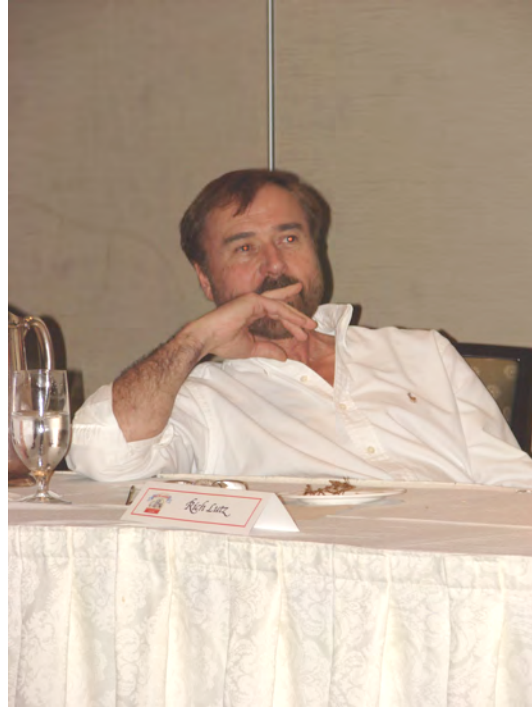
community, but whatever they chose to involve themselves with.

And to look back at those people, now some of them ready for retirement or who are already retired, and think, gee whiz, maybe I had just a little bit to do with influencing those people and their approach to a problem, their approach to interpreting things. And I think we really, I, I get the, the feeling sometimes that the people approach, the personality approach is getting thinner and thinner and thinner. And it's becoming too mechanical and I worry about that, but that's probably considered progress. It's been very enjoyable meeting again people who I haven't seen for a long time and maybe we can meet again. I've been a member for years without attending the NSA meetings for various reasons, but I'm certainly glad that I attended this one.

(Applause)

Rich Lutz: Just real quickly, uh, to follow up Bob's comment there. The, I still have the letter that I got from Bob that that manuscript with a number of authors in it and it started off and it said, "Dear Rich, I received the paper by you and the 92nd Air Borne Division." (Laughter) "I will send it out for review, if I can find anybody that's not already an author." When I got the galley proofs of that paper back, the, uh, and I'm not sure if it was Bob or Ed Cake or who. I'm carefully going over the galley proofs, and there's about 30 authors on this thing, and I'm reading, you know, M. Castagna, H. Hidu, it went along with just about everybody on the thing, and then I came to the last one and it said "A. Partridge". And I go, "A. Partridge? Who the hell is that?" And then there's a little superscript and you look at the address and it's "in a pear tree". (Laughter) And I, I said to Bob, "If you've got the guts to put it in the galley proofs,

I've got the guts to leave it in the final version of this thing, so it's there!"



Rich Lutz

Bob Malouf: Let me say something about what Walt just said about our personalities here. Let me assure you that particularly the young people here, you're every bit as weird as we are.

(Laughter)

Susan Ford: Please introduce yourself.

Andy DePaola: Hello. For those who have not met me, this is my first NSA meeting. I'm Andy DePaola. I'm from the Food and Drug Administration. And the only reason I'm here is because the Northeast Shellfish Sanitation Association is holding their meeting in conjunction with the NSA. Let me tell ya, ya'll have done a very impressive job. I don't see Sandy around, but everything's been great. I'm looking around the round table here and I'm seeing about 500 years of wisdom. And I'm seeing some very strong characters. (Laughter) And I'm a pretty

strong character. I was glad during resolutions today that I wasn't banned from the meeting (Laughter) because I'm one of you, but besides this 500 years of wisdom, I'm looking at some very great Americans.

I'm looking at Sammy Ray over here and he was on this little conflict in Okinawa and my dad was over there. I mean, he went up Sugar Loaf Hill and came down, was one of five Americans that came down. I wonder if you treated my dad and everything, but, certainly some great Americans. You have, I don't know that you conquer, but you address some very serious issues with mortality of shellfish. FDA doesn't give a damn about mortality of shellfish. We give a damn about public health. And seven years ago the Interstate Shellfish Sanitation Conference embarked a 60% illness reduction plan. And the strategy was to educate people, because most Americans are not susceptible to this terrible disease, which has the highest case fatality of any disease. And they've done a marvelous job of educating people, but they have not reduced the illness rate. Or they've not reduced it by 60%, let's say. It's become a statistical certainty - last week in the Interstate Shellfish Sanitation Conference - that this illness reduction plan will not be met and this has grave consequences for the Gulf Coast shellfish industry, because if they cannot meet that and all they have to do is have more than one case of [*Vibrio vulnificus*]. They had nineteen last year in the core states and thirty-three nationally. If they cannot ----- to stop this 60% illness reduction in 2010, a plan goes into affect and it will, it's a transcendental challenge for the industry. Because if they don't reduce this, they have to cook, post-harvest process, or close.

And those options will be disastrous to the industry. You have this wisdom, you are able, and this is very serious, you are able to, and I see great improvements in the North-

east with restoration with oysters and everything. But the Gulf industry is very important, there is a cultural, social fabric there that is challenged and if they cannot sell raw product, their industry is in jeopardy. And I know this is not the focus of this group, but, I think there is the wisdom, the, the people here can actually make a difference in this and you've got 2007, we've got a half a year, and we will know by the end of this year what the illness reduction plan will be. And I just want to let people know, they may not be aware of this, because this has not been a subject, but the entire Gulf coast industry, Texas, Louisiana, Mississippi, Alabama, Florida, are not going to be able to produce raw oysters in 2010 unless they can reduce the illness by 60%. This, you've solved hard problems with Dermo and MSX, and I encourage you to start putting some resources and energy into this public health situation.

Susan Ford: Thank you, Andy. Anybody have any comments on that? Well, it's possible. Kay.

Kay McGraw: My name is Kay McGraw and I want to express my extreme gratitude to Dr. Chew, my advisor at UW, for everything he's done for me over the years. It was a long... Pardon?

Peter Kingsley-Smith [photographer]: Can you step back so you're on camera?

Kay McGraw: What?

Susan Ford: Step back so you're on camera.

Kay McGraw: I'm on camera? OK. Good. It was a long journey from Alabama up to Seattle, Washington. And I was thinking today I've been so lucky to have been in a mentorship of Gordon Gunter, Dr. Chew, Mike Castagna. And my first meeting was in

1971 at NSA in Seattle. And I think Dr. Chew was president then. And I've met all these wonderful people and I don't know how many other women were at that meeting. Um, Susan, when was your first NSA meeting? I don't know, but...

Susan Ford: 1970, I think.

Kay McGraw: 1970. There were only a handful of us at the meeting I went to. I think there were only two or three women who were actually presenting papers. And they kept telling me to go off on the tour buses and shop. So, anyway, I met all these wonderful people and I was so interested in shellfish. And I was at the Gulf Coast Research Lab and Dr. Gunter sent me off to give a paper on what was then *Thais haemastoma haemastoma*, the Gulf oyster drill, and he said, "I feel like I'm feeding you to the wolves." And I said, "What?" He said, "I can't go up there to give the paper. You're going to have to give it by yourself." And I said, "OK." And he said, "They won't like what we have to say." And I said, "Who won't like it, Dr. Gunter?" And he said, well, and he told me... and these people, as soon as I gave the presentation they got up and they had their questions and their hands up. And, uh, one was Mel Carriker. Another was Winston Menzel. And I forget who the third one was, but as they raised their hands and asked they had their questions, I thought, that's him and that's him and that's him. But, um, anyway, I answered them and I said, "You know, we did the work and you weren't there. And I saw what I saw." So, anyway, it actually was a wonderful experience and eventually I got to the University of Washington.

And I was Dr. Chew's graduate student. And I got up there in January and I've never seen anything so dreary in my life as Seattle in January. I got sick. I got the Hong Kong flu and I thought I was going to die and get

shipped home to Alabama in a pine box. And then I got something else. And Dr. Chew says, "If you just make it to spring, it'll be OK. You'll be amazed." He said, "It's all so beautiful." And he was right. The tree blossoms came out. Everything was wonderful. It was beautiful. Seattle is beautiful and so I stayed, I don't know, bunches more years. I just want to thank you, Ken, for everything you've done. And I'm working for NOAA now and I'm hoping to contribute a lot more in the coming years. I haven't necessarily contributed a lot in papers, but, um, anyway, it's been a good journey and I'm still there doing things for shellfish. And I'm keeping shellfish in the National Fish Habitat Action Plan that I'm working on now. So, thank you very much for everything.

(Applause)

Susan Ford: Thanks, Kay. I think Kay and I probably are some of the oldest female members and maybe we ought to have a panel of just female members of the Association. (Applause) Talk about our memories. OK, we've got another comment.

Ray RaLonde: Well, I will likely be the only, I don't know if it's the only one, I hope it's not the only one, but I feel like the only extension person here that's going to comment on the wonderful work these people have done for me and my profession. I mean, because, well, it ultimately has to come down to real people, ya know. We take, uh, the information from research and the universities and we make that available. I've work mostly with Neil and Ken through the years, 'cause I'm a West Coast guy. And, uh, the idea is what we do is we take what they do and we provide it to real people trying to make livings for their families. As extension people, we know the names of their kids and their dogs and you name it, you know, as we work with people in

coastal America. And also, and I've seen, I've heard a lot of comments about Victor Loosanoff here tonight, you know. And I've wondered, you know, I said, you don't know people by person very often in my field, you know, in extension, because I do research and I do education and teaching, but I don't know people. I just know what they do. And so when I look at the papers that have come around, and I did some research on bivalves, larva drift, and identification and trying to deal with collection of various invertebrate species and their larval stages. So I can still remember the paper that was done on morphology of bivalve larvae and how that affected my ability to say, you know, I can tell the difference between these things. And so when people come to me and say, well, I don't know what to do about my own larvae, I say to them, well, have you read Loosanoff's paper? It's an old one, but it'll give you a foundation and then you work up from there. But the issue is, for me, that I feel the real impact of what's done in research, from what you folks have done, and what I've read and how I've learned over the years to help people in coastal America try and make a living and raise a family.

(Applause)

Susan Ford: We have one more.

Madeleine Goncalves: Hi. My name is Madeleine Goncalves. I'm a French student. And, uh, you don't know me, but I know each one of you. And it's just a great pleasure to listen to you and all your stories. You're a really great inspiration and thank you so much for all of your work. And thank you.

(Applause)

Susan Ford: Well, I think we're going to end this now, unless anybody has any burning thing to say or any question. Whoops!

Monica, you want to come up and speak into the camera, please? ----- No.

Monica Bricelj: You know, one of the things that strikes, I'm sure it struck other people in the audience, is that the only woman in this group is Susan Ford. And I would just like to as a colleague and a good friend, and maybe she doesn't want to be put on the spot, but I think I'd like to at least invite her to comment on her experience or anything she has to say.

(Applause)



Susan Ford

Susan Ford: Monica, thank you. And I appreciate that opportunity, but I think what I would like to do, since it's so late, is to defer that to what I'm thinking now might be a panel of women (applause) and so, you know, I do have some memories and interesting stories, but let's stick to these guys. OK? And I just want to say that it has been a privilege to know all of these guys and to work with many of them. And, um, I appreciate their coming and talking about their experiences and their memories. And I hope that if you, uh, if you have any other questions and comments, that you'll just approach them independently.

And I would like to mention that there were three or four people that were invited that

were not able to come because of health problems. That's I guess what you get, you know, when you talk about inviting past presidents, that they're not going to be youngsters and this is what we get. Sorry about that guys! (Laughter) But I just want to mention - (interruption) Al Sparks, who was going to come and then developed some high blood pressure problems. His doctor said don't come. Carl Sindermann also and, uh, let's see, um, Vic Burrell from South Carolina, who is not particularly well,

wished he could come. I talked to him just before I came and he said, please send his regards to all his friends. He really wishes he could be here. Dexter Haven also. All of these guys have been extremely wonderful contributors to the industry and to the National Shellfisheries Association. And despite the fact that they couldn't be here, I just wanted to acknowledge them. So, thank you all for attending and (to panel) thank you for coming as well.

(Applause)



Left to right: Neil Bourne, Susan Ford, Rich Lutz, Bob Malouf, Sammy Ray, Walt Canzonier, Aaron Rosenfield, Bob Hillman, Herb Hidu, Ken Chew, Dave Bushek (NSA President, 2007-2009)