



The Oral History of Bob Blohm

May 26, 2016

Interview conducted by John Cornely
Deer Island on Crab Claw Lake in Ontario



Oral History Cover Sheet

Name: Bob Blohm

Date of Interview: May 26, 2016

Location of Interview: Deer Island on Crab Claw Lake in Ontario

Interviewer: John Cornely

Approximate years worked for Fish and Wildlife Service: 32 years.

Offices and Field Stations Worked, Positions Held: All positions were in the Office of Migratory Bird Management (renamed the Division of Migratory Bird Management in 2000): Waterfowl staff specialist; Assistant Chief, Branch of Surveys; Section Chief, Population Assessment (at the Patuxent Wildlife Research Center in Laurel, MD); Chief, Branch of Operations/Branch of Surveys and Assessment; Deputy Chief; and Chief (in Arlington, VA)

Most Important Projects: Waterfowl population surveys, the Stabilized Regulation Program, the development of a Supplemental Environmental Impact Statement on the issuance of sport hunting regulations, the Reward Banding study, the Adaptive Harvest Management Program, and the Webless Migratory Game Bird program.

Colleagues: Dick Pospahala, Jim Nichols, Ken Williams, John P. Rogers, George Brakhage, Milt Reeves, Mort Smith, John Tautin, Dave Dolton, Ron Reynolds, George Jonkel, Rollie Sparrowe, Warren Blandin, Robert I. Smith, Dave Sharp, Sean Kelly, Bob Trost, John Sauer, Brad Bortner, Phil Koscheka, Tom Dwyer, Mollie Beattie, Fred Johnson, Paul Schmidt, Jon Andrew, Dave Olson, Brian Millsap, Mark Koneff, Alicia King, Samantha Gibbs, Mike Erwin, John Cornely, Jerry Serie, Jim Bartonek, Ken Gamble, Roy Tomlinson, Jim Kelley

Mentors: Dr. Robert A. McCabe. Dr. Rollin Baker

Brief Summary of Interview: Bob talks about growing up in Michigan, going to college to study zoology and switching to a wildlife major, serving in Viet Nam, and conducting his Masters' and PhD research on gadwalls in Canada, before getting a position with the U.S. Fish and Wildlife Service at the Patuxent Wildlife Research Center. He describes the work he did in his 32 years as he worked up the ladder within the Office of Migratory Bird Management and the people, he worked with over those years, as well as research he and his colleagues conducted estimating the number of migratory game birds which led to the refinement of hunting regulations to ensure sustainable waterfowl harvest levels. Bob also provides a history of waterfowl population surveys and how they changed over time to provide more accurate population numbers. He describes the establishment of the Population Assessment section in the Office of Migratory Bird Management, working with the Bird Banding laboratory on the Reward Banding study which updated earlier Reporting Rate studies to ensure that the methodology for estimating harvest rates was accurate. Bob also talks about the transfer of the research division of the Service to the National Biological Service and then to U.S. Geological Survey. He also talks about working with states, flyway councils, and Canadian provincial wildlife offices to coordinate migratory bird management.

THE INTERVIEW

John Cornely: This is John Cornely with the U.S. Fish and Wildlife Service Heritage Committee. It's May 26, 2016. I have the pleasure today to be visiting with Dr. Bob Blohm, retired from the U.S. Fish and Wildlife Service, Migratory Bird Program. We're on Deer Island in Crab Claw Lake in Ontario on the annual Fish and Wildlife Service fishing trip. Without any other introduction, Bob, I'll just have you start off and tell us a little bit about your life and your career.

Bob Blohm: Thanks, John. I'm Bob Blohm. I was born September 9, 1946, in Saginaw, Michigan. My parents were John William Blohm and Eileen Anderson Blohm. My mother was from the thumb of Michigan and my dad was born and raised around Saginaw Bay, Bay City area.

We lived in Saginaw, Michigan for about 6 years when my father and mother decided to move back up into the thumb where my mother was from. We moved to a real small community called Pigeon, Michigan; probably didn't have any more people than two or three thousand [correction: one to two thousand]. One stop light and everybody knew everybody else, but it was a great place to grow up. I essentially spent probably about 6 or 7 years there. We subsequently moved from Pigeon, Michigan back down to Bay City - my younger sister and I and my mother and father. I finished junior high school in Bay City and then graduated from Bay City Central High School in 1964.

While I was living in the thumb and around Bay City, I was introduced to natural resources and hunting and fishing by my father who loved to mostly hunt. He fished every now and then. We spent a lot of time fishing on the bay for perch. It was more hunting pheasants back then when pheasant populations were really high. So, it was a good introduction for me to get used to the land and wildlife species and learn how to hunt, the safety aspects of it and everything else.

My father's family, his brothers and cousins were all hunters and fisherman. So, when we moved back to Bay City, I was a lot closer to those areas and to those people. I spent a lot of time hunting and fishing with my cousins and my uncles, as well as my father.

On the bay, a typical Sunday afternoon pastime if you will in the winter was just simply go to church and after church, we'd change our clothes and head out onto Saginaw Bay and do some ice fishing for perch. I spent many fond afternoons doing that kind of thing.

October 20th in Michigan was almost an off school day because it was often the beginning of pheasant hunting, and it still is. Still opens on October 20th and I'm sure there are still a few kids that do that although pheasant populations in Michigan now are totally unlike what they were back then. It was a lot of fun. We all met out at my grandparents' farm. My dad's family were farmers. That was kind of my link to the land.

We as a family unit - all the cousins and uncles - went pheasant hunting. That really instilled in me a love of the outdoors, a love of nature and a love of doing some really neat things out in the out of doors such as hunting and fishing and camping, as well.

After high school, like a lot of my friends in high school, I decided I wanted to be a zoologist. I applied to a couple of schools and was accepted at Michigan State University. When I entered there in the fall of 1964, I was a zoology major. That lasted about a year when my undergraduate advisor, George Petrides

[correction: James Braddock], realized what my passions were and thought that maybe a straight zoology major was not the best fit. He encouraged me to just simply traipse over to the office next door and apply for a major in fisheries and wildlife at Michigan State University, which I did.

I started out as a fisheries major and took a lot of fisheries-oriented courses. Then after about my junior year, I decided I wanted to go into wildlife and wildlife management. So, I kind of switched over to the wildlife field and began taking the wildlife courses. I don't regret doing that. It seems my career path kind of benefited from both - ultimately being a waterfowl biologist and loving wetlands and all wetland-associated species. A joint major was a benefit.

I graduated from Michigan State University in 1968 with a bachelor's degree in fisheries and wildlife. Some of my classmates at Michigan State were Bill Hutchinson who later worked for the Fish and Wildlife Service, I think mostly up in Region 3 and Dave Ankney who went on to be a professor at the University of Western Ontario. There are some others, I'm sure if I sat here long enough, I could remember their names.

After I graduated from Michigan State, towards the end of my senior year, my grade point [average] was good enough that I'd started to entertain the idea of going to graduate school. I applied to a number of graduate schools. The first ones I applied to were the University of Minnesota, South Dakota State University and the University of Wisconsin. I was accepted at all three.

My first decision was, I think, was to go to South Dakota State University. The appeal of high pheasant populations was pretty good. Unfortunately, besides the fact that I was accepted there, the unfortunate thing was that they didn't have any supporting funds. So, I had to cancel that off my list.

Then I accepted University of Minnesota and their department and was set to go there until I got a phone call from Robert McCabe from the University of Wisconsin right towards the end of my senior year. After a long phone call, I decided to change my mind and go to the University of Wisconsin where I could get a research assistantship instead of a teaching assistantship, which would allow me a little more time to focus on studies and other things.

I called up the University of Minnesota and declined their offer, which did not make them very happy, but anyways, then decided and agreed to go to University of Wisconsin at Madison and work under Dr. Robert McCabe.

I paid a visit to the department in the spring of 1968 and was fortunate enough to be there at a time when [Dr.] Starker Leopold was back. He was on a sabbatical at Madison. Of course, he was the eldest child of Aldo Leopold. It was really interesting and very nice to meet him, Dr. McCabe introduced me. That was kind of a neat start to my graduate career.

When I graduated from Michigan State in June of 1968, I think I went home for about a week. Then I packed my bags and headed over to Madison because Dr. McCabe had told me that I would have the possibility - if I was interested - in maybe working in waterfowl and wetland ecology, that I could do that. He said that "Well, if you're bent on going in that direction," he had some real close association with the Delta Waterfowl Research Station. Of course, H. Albert Hochbaum had been one of Aldo Leopold's students and had attended the University of Wisconsin and at the time was the director of the Delta Station. It was a good connection, and I thought it was a really good fit for me. I agreed and told them I'd be right over.

I should add at this time too that when I graduated from Michigan State University, there were a couple of people that really played a role as an undergraduate in moving me along. One of them in particular was

Dr. Rollin Baker who was a mammologist and at the time, the Curator of the Museum at Michigan State University. He and I had a lot of talks and discussions. In fact, before I left Michigan State University, he had offered me an assistantship to work for him as one of his graduate students for a master's degree. I think at the time, he was working on mammals in Mexico. But I decided that [while] Michigan State had been good to me, it was nice to get a change and move to a little different direction. Off to Wisconsin I went.

When I got to Madison in June, Dr. McCabe informed me that I had a position as an assistant to another one of his graduate students at Wisconsin at the time. His name was Tom Dwyer. Tom had started a year before and was working on a waterfowl project out of Delta in Riding Mountain National Park in southwestern Manitoba. So, I packed everything I had in my 1966 Tempest and made the drive up between Madison to Winnipeg and then west to Delta where I introduced myself to Dr. Hochbaum. Then I went on to Riding Mountain National Park, introduced myself to Tom Dwyer whom I did not know at the time. I stayed there - we worked in the Riding Mountain National Park - for about 3 months. Tom was working on a study and studying waterfowl distribution and numbers in wetlands inside the park and outside the park. It really was kind of a neat time for me to be able to see that part of the world, get used to the research environment, be thinking about a project of my own and also to meet new people and get acquainted with everything else that was going on in the wildlife business, particularly the waterfowl business and research standpoint at Delta.

John: Bob, could you just briefly talk a little bit about what Riding Mountain National Park was like and what the terrain was like?

Bob: Yeah, Riding Mountain National Park is kind of a beautiful park that seems to jut right out of the prairies of southwestern Manitoba. It's a huge acreage of woods mixed in with a lot of different small bodies of water, very crystal-clear lakes. In part, it's a place where a lot of Winnipeg's inhabitants leave for the weekend and go enjoy it. It has its own population of bison. I believe there may be some caribou in northern parts of the park. It juts up, I believe, against the Porcupine Mountains. Porcupine Mountain National Park is to the north. It really is a very unique place in the province and represents a transition between the prairies and prairie parklands and some of the wooded areas or coniferous areas of the north.

It was really kind of an exciting time for me - getting used to research projects [and] seeing what other students were doing at Delta. It was a good way for me to introduce myself and become acquainted with a lot of other students of other universities and begin to understand some of the difficulties that are associated with working on a project of your own and some of the challenges and questions that need to be asked and might be asked with regards to any project that you might entertain.

I spent the summer not only helping Tom but thinking along the lines of what I wanted to do and what aspect of waterfowl ecology that I wanted to focus on for my research project.

Prior to going up to Madison, 1968 was rather a tumultuous time in terms of the Vietnam War. Like a lot of other students, I was caught up in all of it as well. In June of 1968, when I graduated from Michigan State, I think the day after I graduated, my draft status went from 2-S, which meant I was a student to 1-A which meant I was eligible for the draft. Back in those days - it was prior to the lottery - you simply were on a list of eligible people at your county draft board. When your name came up, you went into the service.

Prior to going over to Madison and then up to Canada, I went into the Bay County draft board to check, to make sure, number 1, that I wasn't high on the list and number 2 they weren't going to have an issue with

my going across the border to Canada because at the time, there were some individuals that went up and never came back.

I went up to the draft board and they said, “No, don’t worry about it. You’re fine. You can go.” I went up to Canada. I think about once a month I’d call down to the draft board to find if my name position had changed. It hadn’t changed very much so I was able to spend all 3 months in Canada on Tom Dwyer’s research project. I do have to admit, there were some interesting nighttime discussions when I went back to Delta about the Vietnam War and a lot of other things that were going on, on university campuses.

Well, I got back to Madison in September of 1968 and signed up for a full load of classes. I spent a little bit of time talking with Dr. McCabe about what I had thought about over the summer relative to my own project. The focus in the fall was to get some classes out of the way and then start working on some preparatory work for a project that would come to mind or that I had in mind for the following spring.

Everything was going along pretty well until one day in November when my father called and said that I had interesting letter from Uncle Sam saying that I had been drafted. I was supposed to go on December 4th, 1968. That kind of put everything in a little bit of turmoil, if you will, relative to what my future plans were, whether they were going to come true or not in terms of a waterfowl project and finishing up the school year and doing those kinds of things.

My father was able to get a couple month extension for me so that I was able to finish the semester at Wisconsin which, at the time, was on the old semester system where you had two weeks of classes after Christmas and finals. Essentially about a week after I took my last final, I was in the U.S. Army and away from Madison and thoughts of a waterfowl research project and a lot of other things.

Madison, like a lot of other cities at the time, was kind of an unreal surrealistic juxtaposition of academia and social turmoil on campus and the city where you had lots of demonstrations against the war and teargas and everything else that was going on, on campus. It was really an interesting time in my life. But that environment was all to come to an end as I went into the service. Up to that point, I really had enjoyed graduate school, met a lot of people, a lot of fellow students that I knew I probably wouldn’t see when I came back. They were going in the service themselves; it turned out to be the case.

I went into the US Army on January 31, 1969, and went through basic training, AIT and officer’s candidate school and field artillery. Was assigned - after being commissioned as a second lieutenant - was assigned a year as an artillery officer in Fort Wainwright, Alaska. Then following that, I was sent over to Vietnam where I was artillery officer on a firebase along the Cambodian border. Then just before I came home, I was sent to the rear around Saigon and Long Binh.

After my Army career was over - I came home early because my father had suffered a stroke while I was in Vietnam - I came home on emergency leave in June of 1971. After my father passed away in July of 1971, I was able to get an early out from the service.

For about a month, I wondered what - tried to kind of calm my life down a bit and figure out exactly what I wanted to do and when I wanted to do it. I knew I wanted to go back to graduate school. Got a hold of Dr. McCabe. He was kind enough to say that I could start right away and get back together with him and get going on classes and we’d start thinking about projects for the future.

I went back to Madison in September of 1971. Began taking classes again and still expressed an interest in going up to Delta and working somewhere in Canada on a waterfowl research project.

In Dr. McCabe's correspondence with Al Hochbaum, there were a couple possibilities at the time, the following spring when I would go back to Delta, of working on two species of waterfowl. Both were in the Interlake of Manitoba in a place called Marshy Point just about 60 miles north of Winnipeg along Highway 6 along what would be the east side of Lake Manitoba. One was a redhead project on the marsh and the other one was a gadwall project. I spent a little bit of time going through the literature and trying to think of interesting questions that I might ask for each species. I decided that there was probably a lot more that was unknown about the gadwall than there was of the redhead and decided I would make that the focus of my research.

At the time, I was just simply going on and just get a master's degree. In the spring of 1972, I packed my 1966 Tempest again, brought everything I owned and went up through Winnipeg up to the Delta Waterfowl Research Station at the base of Lake Manitoba just north of Portage La Prairie. Got back together with some people that I knew that had been there 3 years before in 1968. Bruce Batt was one and Pete Ward. Dr. Hochbaum at the time was no longer the Director but he was still the scientist and artist in residence there so I could still talk to him. I think Bob Jones was the Director of the research facility.

I went to Delta to kind of check in and get all my gear that I could there and arrange or settle up some of the administrative questions. Then went on to Marshy Point, which is probably, I don't know, 30 miles, 40 miles perhaps from Delta and up along the lakeshore. Went up to Marshy Point and introduced myself to the manager up there, Lawrence King.

I began to think about exactly what I wanted to do with the gadwall. I had number of questions in mind relative to the breeding ecology of the gadwall and some other things. The key point that I had to get settled was exactly how many birds were on the area and also to figure out exactly what they were doing. That involved a trapping and marking program.

The first year of my graduate work was really focused on developing a good survey method so I could get some pretty accurate counts of species on what I had established was a square mile area. Then also figuring out how to catch the critters which I didn't think was going to be an easy task. I began to work with Pete Ward and others to get some ideas. We settled on using a decoy trap. I was able to get probably a half dozen to a dozen female gadwalls and use them as decoys to capture other birds. We developed a circular trap with some three funnels in it, I guess, which was modeled a little bit on John P. Rogers' decoy trap for scaup that he used probably a decade earlier or more at Delta.

It turns out it worked pretty well. In fact, it worked well enough that I was able to get a publication out of it in terms of the efficacy and design of the trap. First year was marking a lot of birds and also finding some other study areas and counting the gadwall on the square-mile area and looking at the distribution of things as well as looking for nests.

After talking with **Dr. McCabe** after the first year, it soon became apparent that what I was laying out was going to be a little bit more than a master's degree. We decided to begin to plan on some suitable research questions that could be asked, now that I knew I could trap these birds and mark a sizeable number of males and females. What do we focus on in terms of the breeding ecology of the gadwall? I soon settled in on what really became my Ph.D. thesis topic. That was the breeding ecology of the gadwall with particular emphasis on age-related aspects of gadwall ecology.

My master's degree focused on not only trapping techniques, but also determining different age classes of gadwalls on the breeding grounds, which I developed using multi-variate or discriminate analysis of a lot of feather characteristics, which seemed to work pretty well given all the vagaries that go into looking at some of these things.

Between some subjective methods and some rather quantitative methods and feather measurements, I was able to determine yearlings from adults for both males and females of gadwalls. That allowed me then to go on a whole number of study areas in the Interlake in Manitoba from West Shoal Lake and East Shoal Lake to Marshy Point to Saint Ambrose Island, all the way over to Delta, and to look at various aspects of age-related differences in terms of males and females and what the different age classes were doing, whether yearlings or adults, on the breeding grounds - from the male standpoint in terms of whether yearling males were actually participating in the breeding process or were just simply lone males and not doing anything at all compared to adult gadwalls. On the female side, some of the obvious questions in terms of whether yearling females actually participated in the nesting process were, were there any differences between yearlings in adults and nest site selection, clutch size, nest initiation date and things like that.

Of course, looking at homing abilities, philopatry of both males and females back to the same breeding areas. I found males likely go back to the same [area] to where they were seen in years previous - not quite as frequently as females - but it did demonstrate the fact that males did come back, particularly if they weren't paired to another female and found at some other breeding area.

It was a whole lot of interesting things that came out of the project which then became the basis of both my master's and Ph.D. work and graduate degrees. I got my master's degree in wildlife ecology from the University of Wisconsin in 1977 and my Ph.D. in 1979.

I want to thank Bob McCabe and a lot of the other professors at Wisconsin, Joe Hickey and a lot of other folks. In particular, too, my fellow graduate students who really were excellent sounding boards when you really had some questions. I think a lot of progress on each individual graduate school project for all of us was made just simply by talking over the questions and your problems and your issues with your fellow graduate students, and finding out that they had encountered similar issues or problems and had some solutions that might work for you. They were good sounding boards and I owe them a lot too. They really helped shape my career and got me thinking about things that I probably wouldn't have thought of before.

After I graduated in 1979 - actually, I should step back a bit. I met my wife in Madison, Wisconsin. She was going to school there as well. That was in 1974 and we were married in 1976.

In 1979, I think the Pontiac had finally died. I'm not sure what I had at the time; I think it was a Pinto station wagon. The two of us packed everything up that we owned and headed east as I had applied for a job with the US Fish and Wildlife Service in 1979. Went out for an interview, I think it might have been probably the spring of 1979 at the Patuxent Wildlife Research Center.

I think by July of 1979, Dick Pospahala of the Fish and Wildlife Service called up and said that I had been successful in getting the position which was a Waterfowl Staff Specialist in the Office of Migratory Bird Management.

I had applied as well to Iowa. I can't remember what the agency was called back then. I'll just say DNR, but Dick Bishop, the former Waterfowl Biologist had moved into Des Moines, into a higher administrative position. His old Waterfowl Ecology position was open at Clear Lake, Iowa and I'd applied for that. I found out later I was in the running for it and pretty high up, but back then you don't have a lot of money, and the job offer is on the table. We thought it would be advantageous for us to take it, so, we did. We headed out east and settled in the Patuxent area. The first year we lived in Crofton, Maryland; then later lived in Bowie where we've lived ever since.

My first job with the Fish and Wildlife Service was as a Staff Specialist working for Dick Pospahala directly. It was in the old Branch of Surveys in the Office of Migratory Bird Management. John P. Rogers was the Chief of the office at the time. George Brakhage was the Deputy Chief. Milt Reeves was the Chief of the Branch of Operations and Mort Smith was the Chief of Branch of Surveys.

Within the Branch of Surveys at the time, I was the Waterfowl Specialist. John Tautin was the Woodcock Specialist. Dave Dolton was the Mourning Dove Specialist. Ron Reynolds worked in the Banding Lab with George Jonkel who was I think a Waterfowl Specialist in the Banding program.

At the time, there was a section of Harvest Surveys. The Bird Banding Lab was within the Branch. Population Surveys was in the Branch in among all of the Branch Specialists.

It was kind of an exciting time. There was a big learning curve for me, having been in academia for a number of years. Then getting out in the real world where you're faced no longer with interesting research questions that you could spend a little bit of time on. Now you were involved in a lot of different things, as well as management of migratory game birds particularly from a major standpoint of estimating numbers of migratory game birds and then overseeing the policy and regulatory development for hunting regulations and other methods of take that had to do with woodcock, dove, waterfowl and the like. It was a really interesting time. It was pretty fast paced. As I said, I had a lot to learn. I spent a lot of time trying to catch up with others that were already on board.

My particular position was really more oriented towards the waterfowl management side of things. Of course, at the time the Fish and Wildlife Service and the Canadian Wildlife Service were jointly overseeing the management and Mexico as well. We dealt primarily with the Canadians and overseeing the management of migratory game birds from a national/international standpoint particularly with regards to figuring out how many there were and then overseeing the regulations development process to ensure that waterfowl populations were sustainable for recreational use.

I dealt a lot with the survey aspect and working with a lot of the pilot biologists and biometricians relative to survey changes, survey design and a lot of different aspects that had to do with that.

Patuxent was really a lively place to work in terms of intellectual stimulation because of this. You're jointly housed with a lot of research biologists at Patuxent. We were more management-oriented, but there was a lot of mixing together of individuals and lunchtime discussions, open-door policy. If you had a question, you could really go to just about anybody to talk to. It was really, in a way, it was probably as close to an academic environment as you could come, but at the same time, be in the real world in the Fish and Wildlife Service dealing with everyday research and management questions.

A lot of people at Patuxent really helped me out a lot, Jim Nichols, Ken Williams, a lot of folks that were on the research side of things who were available to assist in any questions or problems that I had and help me along in terms of getting up to speed with certain things.

As I said, I was dealing with the Waterfowl Population Survey in particular, which really meant that I had to know the survey inside and out. Not only from an operational sense, but also a design sense because people were looking at it from a statistical standpoint at various times. I had to be up to speed on all different aspects of the survey and be able to answer questions relative to how it was being conducted, how it was designed and how we might improve it.

As I said, it was a pretty good learning curve for me going from answering questions about gadwall age-related productivity to how many gadwall do we have in the continent. How do you do assessments and how can you improve the estimates and the like? It was a pretty exciting time for me.

John: Bob, could you just briefly describe the surveys that you were working with and where they were and how they were conducted?

Bob: A lot of those surveys changed a lot over the years. The core surveys began probably back with Fred Lincoln in the 1930s when he first set up the precursors of what is now the Mid-Winter Inventory. People were beginning to realize even back then that Mid-Winter Inventory was not providing information that was the most useful for managing waterfowl simply because of the fact that we were counting birds when they were all mixed together on the wintering grounds and didn't know anything about how those birds had done in terms of nesting, brood-rearing and contributing to the fall flights on an annual basis on the breeding grounds.

People began to ask questions about how to better design surveys to get at waterfowl numbers on the nesting areas. At the close of the Second World War, a lot of things happened. A lot of progress began to be made relative to survey development for wildlife in general, but for waterfowl in particular for a number of reasons.

The first one was that in terms of counting the birds from the air, after the close of World War II, there were a lot of surplus fix-winged aircraft available, some of which became available to the Fish and Wildlife Service. Not only were the aircraft available, but there were people that not only were interested in wildlife, but they were also able to fly airplanes.

All those things coming together, along with people who were specifically interested in designing surveys of waterfowl on the breeding grounds, focusing on aspects of the annual cycle, measuring parameters on the breeding grounds - everything was coming together.

In the late '40s, following the close of World War II, a number of people got together in various parts of the country and then set out for the northcentral states and southern Canada to begin to lay out a survey of waterfowl, particularly one that could do something in terms of believing the numbers were correct and relative to the precision of the estimates.

So, a lot of old-time biologists, Bob McCabe was among those. Art Hawkins, oh gosh - a long list of people. Al Hochbaum even helped out. Pete Ward. A lot of folks in the Service - Walt Crissey. On the Canadian side - Bernie Gollup. Folks like that were really instrumental in laying out a series of transects across the prairies. Art was in Canada and developing the aerial techniques for the birds.

By 1955, the first Operational Survey was conducted in northcentral United States - which would be Montana, North and South Dakota and the southern prairies like Manitoba, Saskatchewan and Alberta. [We] began to count birds not only from the air, but also the ground truth of birds with crews on the ground that were to account for birds that were missed from the air and adult visibility rates. Things like that went into all the estimates of populations at the end of the survey.

The survey has expanded now to I don't know, probably, well over 2.2 or 2.3 million acres [correction: square miles]. It extends all the way across from eastern Canada to the maritime provinces to Alaska and all the way through the Dakotas and Wyoming. A lot of the states do somewhat similar surveys, but the Operational Survey is the one that has been used since 1955 continuously to provide estimates of waterfowl abundance and distribution. It's been instrumental in guiding harvest regulations and management for well over 50 years successfully.

As I said, I worked for Dick Pospahala at Patuxent. I really went to Patuxent with the idea that because of my research background, I didn't think I wanted to remain in the management side of things for very long. I was very honest with Dick Pospahala at the time and told him that I'd like to work here for 2-3

years in the office. I was being honest in telling him that I wanted to get back and work as a coop unit leader or assistant leader and get back into research. Dick said he was fine with that - just keep him abreast of my plans and so that's what it was all about. As a lot of things happen, those [plans] didn't turn that way. Fast forward, I spent probably 32 years in the same office in Migratory Bird Management. Never did get there to the coop unit, but I don't have any regrets at all.

Shortly after I started, one of the key projects that began in the early '80s that really got my interest and involvement was the Stabilized Regulations Program study. It was a broadscale investigation that began - actually, planning for it started I think in 1980. It began in the field in 1981.

It really was the result of a lot of dissatisfaction with the regulation development process. Hunting regulations were developed relative to our knowledge of populations and habitats and ideas of past success, fall flights and harvest levels, and what role harvest had to play in population dynamics of key species of waterfowl that hunters enjoyed every year.

It set out to answer a lot of different questions particularly what role hunting played in the mortality cycle of waterfowl. A lot of other questions that were [important to waterfowl management] were going to be asked too. So, it was really an interesting project. It was jointly developed between the Canadian Wildlife Service and to some extent the provinces and the Fish and Wildlife Service and the states. I think that project went on from 1981 through the field work in 1985.

It involved to my knowledge, probably the biggest involvement of federal, provincial, state, and private university staff relative to answering some key questions about waterfowl across the United States. It really focused on a lot of different neat questions. The focal study areas were in southern Canada and the northcentral U.S., Minnesota, North and South Dakota, Montana and Alberta, Saskatchewan, Manitoba in principle. It had a lot of people. It was a good study. It involved me very intensely for 4 years, 5 years. I spent a great deal of time, probably 8 weeks for 5 years in the spring banding mallards in southern Alberta and going down in the fall and banding more mallards in Arkansas and Mississippi. We did that for 5 years, especially to look at interval survival rates and look at recovery rates of birds banded during the spring and summer and fall and winter.

It was a neat dataset that probably has not been equaled in terms of the number of birds that were banded and things like that. It was a rather unique study, but it occupied my time and probably was one of the reasons why I never did go get a job with the coop units. There are some other factors too. Timing was off and so I went on with my job at the Fish and Wildlife Service.

During the early '80s too, I spent a great deal of time learning more about the Bird Banding Lab and what my other fellow biologists were doing in the world of mourning dove management, woodcock management and trying to get as much as I could out of the research folks that were working on migratory bird questions.

As I said, interactions were mostly with Jim Nichols, Ken Williams and all the other biologists that were working on the research side of things. It really helped not only myself out, but all the staff in our Office of Migratory Bird Management a lot too. That academic arena I believe still exists to some extent today, but I'd like to say it's probably not as well as it did in the heyday when all of us were there in the '70s and '80s.

In the mid '80s, our office went through a bit of an upheaval in terms of organization. John Rogers had been the Director [correction: Chief] since the office started in 1972. He was transferred up to Alaska where he became the Assistant Director for Migratory Birds in Region 7.

George Brakhage retired from the Fish and Wildlife Service and took a position with Ducks Unlimited. So, there were a lot of vacancies and a lot of uncertainty in terms of where the office was going in 1984 when all this began to happen.

About that time, late 1984, I believe, Rollie Sparrowe became the new Chief of the Office of Migratory Bird Management. Ken Williams, who was the biometrician at Patuxent decided that he wanted to get into some administrative duties for his career and applied. He was successful in getting selected for the Deputy [Chief] of the Office of Migratory Bird Management.

Milt Reeves had retired by this time, as well, I think a year or two before. Mort Smith had transferred over from the Branch of Surveys to become first the Atlantic Flyway representative because Warren Blandin, the incumbent had passed away in 1984. Then from that position, Mort took over Milt Reeves' old position as the Chief of Branch of Operations.

Out at Patuxent, things were beginning to change too. Dick Pospahala and I had talked before. I should point out too that Dick Pospahala also left in June of 1985 to become the Migratory Bird Coordinator for Alaska - Fish and Wildlife Service, Region 7. There was a big void in the workings of the Office of Migratory Bird Management out at Laurel.

With that change, there were some changes that were going on with those of us who remained at Patuxent. Dick Pospahala, before he left, and I had talked about beginning to build a cadre of biologists to add to the migratory game bird program at Patuxent. After Rollie Sparrowe arrived, Robert I. Smith became the Chief of the Branch of Surveys.

We began to put together a section of Population Assessment, which really represented a collection of biologists, biometricians and other folks with population and habitat questions relative to migratory game birds. I was selected the Chief of that section. As I said, we began to build a real good cadre of folks along the way. Ron Reynolds transferred over from the Bird Banding Lab to that section. I was able to hire Dave Sharp from Northern Prairie and Sean Kelly from, golly, I can't remember where Sean came from. He was still in the Service and a number of other folks. Bob Trost came on board as a biometrician. John Sauer came from the University of Kansas as a mammal biologist but with a great quantitative background and served as another biometrician.

We began to work with a lot of different people and were able to do a lot of things on our own. Still great interaction between our office and the Patuxent Wildlife Research Center on key issues.

The mid to late 1980s were spent on utilizing the talents of all these folks in answering some pretty interesting questions on migratory bird management as well as beginning to ferret out all of the answers that we thought were coming out of the Stabilized Regulation study and that series of publications and plenary sessions that emanated from all the work that transpired between 1981-1985 in concert with the Canadian folks. I might add that some of the information that came out of that study is still being used today, particularly in Adaptive Harvest Management. Some of the models, the U.S. data - interval survival rates in particular - are being used in those models.

That occupied a lot of us in the mid to late 1980s as well as being involved in updating the Environmental Impact Statement that was prepared in 1975 on the issuances of sport hunting regulations for migratory game birds. In the mid-1980s, work was begun to update or supplement the EIS. So, a Supplemental EIS was prepared really under the coordination of John Tautin who used to be the old Woodcock Biologist in our office, but went downtown to the Matomic Building in Washington, DC to oversee the development

of the Supplemental Environmental Impact Statement. I believe at the time when he left, Brad Bortner was hired, and came on board as the Woodcock Specialist to fill in behind John Tautin.

It was really a dynamic, productive crowd that we had in the office and really a lot different than when I started in terms of not only having more people to work with and to work with you, but also a lot more questions were being asked and a lot of more work was being done to answer those questions simply because we had more capability than we had before. Budgets were reasonable as I recall at the time and so that helped out a great deal and reflected the number of people that we were able to hire.

Projects such as Reward Band studies to update the Reporting Rate studies that Henny and Burnham had done in early 1970s occupied a lot of time and sent a lot of us back out in the field again banding waterfowl.

John: Talk a little bit about what a Reward Banding study is, and you know, why you do it and what it tells you.

Bob: Sure. Reporting rates are really a reflection of an estimate of the percentage or the amount of cooperation that you get from the hunting public in not only retrieving a banded bird, but also reporting that information back to the government through the Bird Banding Laboratory. Knowing that, it allows you to better estimate harvest rates through recovery rates if you have a reporting rate. Harvest rate is really a key or vital parameter in terms of harvest management and understanding the role of harvest in population dynamics and the role of harvest mortality in numbers of birds and its interaction with survival rates of birds. It's an important parameter to know.

In 1972, I think when Henny and Burnham did their first study, they determined that the reporting rate of mallards was around .32 or .33, which meant a third of the birds that are recovered are actually reported. That information is sent to the Bird Banding Laboratory for further use.

Between 1972 and the late 1980s, we had this apprehension that perhaps the reporting rate had changed - thinking that it'd gone down over time because some people, some hunters maybe just got tired of reporting information to the Bird Banding Lab. Or maybe they didn't get the staff response back from the Bird Banding Lab for information that they gave them in terms of just thanking them for their cooperation in the process and also giving them information about where the bird was banded and things like that, what age it was when it was banded.

We decided, this was between the research arm of the Fish and Wildlife Service at Patuxent and the management side to jointly conduct a Reward Band study with the idea being that we would put reward bands on birds throughout the country. The idea behind a reward band is that at some point in time, there was going to be a dollar amount on a band that will ensure that you get 100% of the bands back, which was a key feature of the Reporting Rate study. Once you found that out, it'd help you estimate the reporting rates.

The first phase of the study was to determine what dollar amount that was. We spent a good amount of time in my office trying to lay out possibilities. We soon decided that we probably needed to start out on low numbers which I think at the time was \$5 or \$10. I think the first study was \$5, then the high end I think it was a \$400 band. Anyways, anything and everything in between, I think was \$25, \$50, \$75, \$100, \$200, and \$400 if I remember right. It's been so long. So, we started to put these on around the country.

John: So, you would put on a regular [band]...

Bob: Put a regular band on the bird and then

John: ... and then a reward band on the other foot.

Bob: Yep. Put a regular band on one leg and a reward band on the other leg and then wait for the hunting season and these bands to come in. They began to come in. As you plotted out the percentages or proportion of birds that were banded, that were recovered with these different monetary values or rewards bands, you got some semblance of when it started to plateau. In other words, when the reporting rate really didn't begin to change, we assumed at that inflection point, that was probably where the 100% was or close to it.

We determined that was at about \$100 and we did this for a series of years. It involved a fair amount of financial outlay because not only did we have to outlay the cash to the hunter when they returned the band in the form of a government-issued check, but you also had indirect recoveries of those recoveries that come in after the first year and you're obligated to pay for years on end afterwards. Recoveries are coming in a number of years well after the study had been completed.

It was a successful program. It wasn't without its glitches and fears and apprehensions. I know a lot of us used to sit in deadly mortal fear of receiving the William Proxmire Golden Fleece Award for offering \$400 to a hunter to return a band back or information back to the Bird Banding Laboratory.

Of course, there were all these ideas you know somebody was going to fraud the system in a way and you had to keep close track of record keeping systems to make sure that bird bands weren't double reported, and we didn't pay somebody twice, and bands weren't lost and a lot of other things.

The study was focused on the mallard although some bands were put on black ducks in later years. The Reporting Rate study has actually been expanded over into a number of different species, as well.

John: So that particular Reward Band study, did you detect a change in reporting rates from the initial one?

Bob: That was part of it. Then we used \$100 reward band essentially to go back out now that we knew the \$100 reward band [would work]. Actually, the inflection point was I believe at \$75. We just decided to be sure that it was 100%. We took the high end and issued \$100 reward bands and put those out in subsequent years.

John: Okay and then once you determined that, is that you all did, was the \$100 bands after that?

Bob: Yeah. Then from that information, we were able to determine essentially the reporting rates hadn't changed all that much. It was pretty close to what Henny and Burnham had determined back in the early '70s, which was really a key finding for us because then that allowed us to move on relative to analyzing banding and recovery data and estimating harvest rates knowing that.

John: It also gave you confidence in the previous years' reporting rates.

Bob: Yeah. Exactly and estimates of harvest rates from previous years too between the early '70s and the late 1980s.

It did open up some doors too in terms of some questions or ideas that had to do with the whole banding process. At the time, the Bird Banding Lab was undergoing a bit of change as well.

Early in the late 1970s, early 1980s, Dick Pospahala and Phil Koscheka who was the computer specialist for the office, they really were instrumental in beginning the transition of the Bird Banding Lab from the paper age to the digital age. That continued on and of course it certainly helped in the processing of

recoveries of bird bands. In a way, it forced us to ask the question whether reporting rates had changed in the first place because of the fact that the system had become more efficient in being able to process bands.

The Bird Banding Lab was also beginning to wonder whether there were ways to influence changes in their world relative to processing bands and encouraging people to send in bands. On the old band of these bird bands, the “right bird band” dare I say, the old inscription on the band - questions were being raised whether that needed to be changed and whether we could make it even easier for others to turn in bands; put different inscriptions on the band or a phone number on the band so hunters could call a number instead of having to send stuff through the mail.

The bird banding world was changing pretty significantly at the time. We were right in the middle of that with the reporting rate studies because once you knew that you could conduct a Reward Band study, then you realized that you could do this not only for the mallard, but for other species as well to see if reporting rates varied across different species in the waterfowl world - particularly birds that were hunted of course.

Also, realizing too that if you maybe issued reward bands, that might be a way to get more recovery information back on birds that weren’t easily banded particularly if you could figure out ways to increase the reporting rate on banded birds. Then that got back on the use not only reward bands, but also as I mentioned earlier ways to change the inscription on the bands and other things so that hunters would be more inclined to return the information to you.

If you doubled the reporting rates for migratory game birds, then you essentially in a way doubled the efficiency of your banding program because for birds that were easily banded, you may not have to band as many birds. For birds that you could hardly band because they were difficult to trap or scarce in distribution or not in areas where you could get into the banding of birds, but the reporting rates were twice as high, and you normally have to band half the number of birds perhaps to get as much information - that would be useful and helpful to you.

It opened up a lot of doors, being what happened in the Bird Banding Lab and their evolution. It’s still continuing in terms of being able to improve and entice and encourage hunters and others to return banding information to the Bird Banding Lab due to the development of the 1-800 system and toll-free numbers and all kinds of things that have transpired over the years. Alongside reporting rates, Reward Band studies have continued and covered a lot of different species besides the mallard.

Essentially, I think today because of a lot of the change that happened at the Bird Banding Lab, reporting rates are kind of almost probably double from what they were, today, which really is helpful for management world a lot in terms of how it was able to gather and use banding information to look at recovery rates and harvest rates and various aspects of survival.

Anyways, I wanted to digress a little bit and go back to the Stabilized Regulations Study and then talk a little bit more about reward banding too because they were both interesting programs.

Some of the methods that we used for capturing mallards during the Stabilized Regulations program went back to my use of decoy traps for the gadwall. We spent a lot of time and were very effective at capturing thousands of birds over the 5-year period using decoy traps.

Another method that we used that I’m sure we couldn’t use today for a whole variety of reasons was the use of individual net guns. We called them super guns which essentially was a crossbow stock, and a three-retriever launcher mounted on the tip that shot out an 8-foot triangular net at mallard pairs and hens

that were either in ditches close by in close proximity to the road or on the road themselves. There are many, many funny stories that'd be probably too long to describe any of them here, but I'm sure if you asked ...

John: We've got a few of them when we interviewed Ron Reynolds.

Bob: ...well, if it had do with safety issues and some of things that we probably weren't supposed to be doing. The bottom line was that also was a very effective aspect especially with regards to capturing female mallards during the springtime. That information in combination with information that we got from decoy traps and bait traps on the wintering grounds really provided some key information in terms of survival parameters for various times of the year. As I said earlier, really the information was one of a kind and hasn't been easily captured since that time.

It was really a 5-year period in which state biologists and federal biologists and provincial biologists all got together doing fieldwork in the northcentral states and the Canadian prairies. I don't think there's been a program since then that really represented that kind of close cooperation. I know for many years after the program ended in 1985, I continued to get phone calls from state waterfowl biologists wondering if we were ever going to do another program such as the Stabilized Regulations study and if we were, they wanted to make sure that they were available to assist in the project. It was really kind of edifying for a lot of us.

Ron Reynolds was as much a co-conspirator in the fieldwork as I was and really helped coordinate all the activities and more so in many regards than I did.

John: Well, I'm sure that all that cooperation paid a lot in indirect dividends for years.

Bob: Oh, it really did. I mean there were a lot of close personal working relationships that were developed between states and the provinces and the Canadian Wildlife Service and the Fish and Wildlife Service. I would like to think that the impact it's had over the years on continuing close relationships between the states and the provinces and the federal government is due in part to some of those activities way back when even though the players are long gone from the fieldwork scene.

It also represented for many of us, too, probably our last best chance at remaining in the field for such an extended period of time. We now were out in the real life in the real world working real jobs and spending a lot of desk time. For a lot of us we were sad that came to an end as well. But it was fun. It was really, I think, a pretty effective program.

The Reward Band program, one funny thing that came to mind - as you might expect, we got all kinds of public reaction to letters and phone calls when we started putting on those high dollar reward bands. A lot of magazine articles and newspaper articles and of course, one of the things you didn't want to do was advertise the program because that in essence worked against your objective of trying to get an unbiased estimate of reporting rates and obviously not trying to artificially cause it to go up.

We used to get some very interesting letters back in the office relative to somebody recovering a reward band. I know there was one letter that came in that described the dissolution of the hunting partnership between two longtime friends who at one point in time had shot a reward-banded mallard. Evidently the person who shot it wasn't the person that turned in the band. Of course, once the other person found out that the wrong person received the money, then the partnership began to dissolve pretty quickly.

Another one was a lady who was really pretty irate at us in the office in the Fish and Wildlife Service because as she stated in her letter, she had just begun to get her husband away from the hunting scene in

the fall to spend more time with his kids because he was having such poor success hunting waterfowl. I can't remember the part of the country he was in. He was close to kind of giving it up and doing something else and then he went out and shot a mallard with a \$400 reward band. He came back in and bought some new hunting equipment. The lady was quite frankly mad as hell at us because we had ruined her efforts to make him more of a family man during the fall instead of someone they very rarely saw on the weekends and sometimes even during the week.

There were a lot of things like that that came about. Overall, we did not get the Proxmire Award too, which was pretty good for us, not receiving that kind of award for that project. It really, as I said, started a whole series of Reward Band Reporting Rate studies that I think are, I don't know probably are ongoing. The last one was conducted just recently.

The mechanics of doing those were pretty much established by our studies that we set out [modeled on] Henny and Burnham in the late 1970s. Primarily I think the ones that we did in the late 1980s because of being better able to not only capture more birds and then apply the bands to more birds, but also the analytical techniques were a lot more improved as well.

The late 1980s too on the North American landscape really was a challenging time for all the waterfowl management community both in the federal and the state and provincial side because of the fact that mother nature finally decided that it was time for a drought. It really began to kick in - off and on in the early 1980s - but it really set in about the mid-1980s. In 1985, mallard numbers dropped to 4.972 million birds, which I believe is still the all-time record low. Other birds went down too. Populations went down for other species as well.

It really put a big challenge for all of us not only in trying to determine what to do in terms of applying restrictive measures, but prior to that, trying to convince everyone that what we were seeing on the landscape and what we were reporting was indeed true. We really needed to be concerned because there still was this ongoing discussion about whether hunting had any impact at all on populations and survival rates of mallards in particular and so what role regulations had to play on the regulatory landscape and the management landscape.

There were some rather acrimonious and contentious times with States and flyway councils between the period of probably 1985 through the late 1980s, maybe even extending into the early 1990s. It all had to do with whether one group or the other believed in the numbers that were coming out those surveys. More critically, what were the regulatory recommendations based on those numbers, whether they were going to have the impact that we thought they did and whether they actually needed to be implemented in the first place.

A lot of us ended up going to flyway council, technical committee and council meetings and making presentations and trying to answer questions. The bottom line was that the regulations were restricted during that period of time.

I think looking back on it now, we gave waterfowl numbers and the waterfowl community a necessary respite from hunting. The regulations became restrictive both in season lengths and bag limits for a period of time. A lot of the special seasons were discontinued and a lot of other things that were proposed were passed that I think benefited waterfowl management and really kind of set the stage for population rebound in later years.

About 1990, Rollie Sparrowe had gone on from being the Chief of the Office of Migratory Bird Management and went on to higher administrative levels of the Fish and Wildlife Service. Ken Williams,

I think, was an Acting Chief for about a year or less. Then Tom Dwyer became the Chief of the office I think about 1989 or somewhere in there. 1990.

One day I got a phone call from Tom asking if I'd consider coming downtown to be one of his Branch Chiefs. At the time I was still the Section Chief of Population Assessment out at Patuxent in the office.

I talked to Shari, my wife. Thought about it. Of course, I agreed to go down. I told Tom, as I told Dick Pospahala, that I was only going to be there for a couple of years, and I'd like to go back up to Patuxent. Of course, once you go someplace, it's hard to turn around and go back and that indeed was the case with me. I went down as the Chief of Branch of Operations. Mort Smith at the time had retired. I took his place and was responsible off and on for supervising the flyway representatives who were the liaisons between the Fish and Wildlife Service and the state management agencies and flyway councils as well as supervising regulatory specialists and other staff people downtown.

I was stationed - the year before I went downtown, I believe - the Fish and Wildlife Service kind of coalesced all its staff who had been scattered around the D.C. area and settled at 4401 Arlington Square. That's where the office was. There was still of course higher administrative staff in the Interior building downtown including where it housed our Assistant Director. Most of the Washington area Fish and Wildlife Service staff were in Arlington Square. That's where my office was, right down the hall from the Refuge Division.

I went down there I think in the fall of August 1990 and really began the learning curve of that job. I was trying to find my way between Bowie, Maryland and Arlington, Virginia going through the District and back home again trying to avoid all kinds of traffic and stuff. It was challenging, but really an interesting time for me. I really enjoyed those early years of working downtown.

The early '90's, as well, in terms of work and the activities that I was involved in as I mentioned earlier, from a regulatory standpoint, the mid to late 1980s really set the stage for some future changes in the regulations process on how we would go about our business.

In 1988, the Supplemental Environmental Impact Statement came out. It offered up some preferred alternatives for how we manage migratory game birds. It was kind of, at the time, the format or foundation for what we thought was a pathway to successfully manage migratory game birds.

During the late 1980s, there was a year or two that came in a regulatory sense that caused a lot of angst in the waterfowl management community because waterfowl management and regulations a year or two during that period of time really became more politically connected than it had been in the past.

Politics and regulations helped in one particular year in establishing some hunting regulations, not that politics hasn't always played a bit of a role in waterfowl harvest management in the influence of public opinion as it does in a lot of other aspects of natural resource management, but one or 2 years in particular, it played a role.

I think it really had a great influence on where we were going to go in the future relative to harvest management of waterfowl in particular to try to be more objective than we had in the past and to try to remove those elements of subjectivity in terms of how regulations were developed and really stick with the data and what the data told you to try to keep any other outside influence just from impacting the system and determining where the ultimate regulations were going to be in a particular year.

The early 1990s following that year or two that we had some difficulties in getting regulations established. Mollie Beattie was the Director at the time. She had some significant concerns in where all

this was going. Of course, she was as concerned as anyone about trying to keep politics out of regulations development at the federal level.

She encouraged us to begin to pursue other methods or means to improve the regulations development process. On the one hand be better able to sustain waterfowl populations or populations of migratory game birds, but at the same time to establish regulations that provided ample opportunities for hunters but in doing so, would not put the populations at risk and that we would have some idea of what those risks were and help just to counter them in terms of the relationships between changes in regulations and their impacts on harvest rates, survival rates and the like.

A few years before, I think in the late 1980s, '87, I think, I hired Fred Johnson who was an employee at the time of Florida Department of Natural Resources or whatever it was called, Game and Fish Agency, I guess, whatever. He came up as a Staff Specialist for us and was part of the Population Habitat Assessment group. Fred was really quantitative in his thinking. He spent a lot of time trying to figure out exactly what a process might be that would better assist managers in developing migratory game bird regulations, but also at the same time, put us in a better position to determine what impact those regulations or changes in those regulations had on waterfowl numbers. We began to lay the groundwork for what would become the Adaptive Harvest Management Program.

In the early '90s, 1991-1992, Fred began to do some serious thinking about that, and had more and more people involved in Adaptive Resource Management, which at the time had been applied through fisheries management more so than wildlife management, but the principles were the same.

In 1992, we officially embarked on going down the road of Adaptive Management. At the time, Tom Dwyer had moved on into Region 1 and he was a Deputy Director up there.

Following Tom Dwyer, Paul Schmidt had become Director of the Fish and Wildlife Service [correction: Chief of the Office of Migratory Bird Management] in 1993. Paul had been involved in his first year or two in some rather contentious regulatory discussions, as well. I'm trying to think if I have the years right in terms of when the politics came to play.

John: It's alright, we can adjust later.

Bob: Anyways, I do recall in his first year, that we were involved in a rather contentious debate over regulation and the role of politics. That might have been in the early '90s.

What the bottom line was, is that it all prompted a lot of effort to get out of that mode and to get into a more objective establishment of hunting regulations. That's what we did. Paul was instrumental in the beginning of allowing us to pursue Adaptive Harvest Management and that's pretty much what transpired.

In 1995, Adaptive Harvest Management was really put in play as the structure within which migratory game bird populations, particularly waterfowl populations and mallard populations, in particular, are managed. It's been I think a successful program that is ongoing to this day. Essentially, it is based on the premise of taking information that you learn each year and putting it back into the system to make a better decision the following year and along the way, being better able and very specifically to determine whether the relationship between [annual] survival rates and [hunting] mortality rates are additive or compensatory. Also, whether productivity is density dependent or density independent. Those are kind of key questions that are relevant not only to waterfowl, in particular, but to a lot of wild populations as well - the role of [hunting] mortality and its relation to [annual] survival, whether you're taking birds or animals out of populations, you're adding to the [natural] mortality or if there is some band in there

within which you know annual survival doesn't change because changes in harvest mortality are compensated for by changes in natural mortality and the like. Stuff like that. The bottom line was it provided a structure to develop hunting regulations. That was not easy to come by.

In the very beginning, we decided to get the flyway councils and the states involved and establish a Harvest Management Working Group in which selected people from these organizations would participate in walking all of us along together to wherever we wanted to go in the Adaptive Harvest Management world. They were in it from the beginning and making key decisions on scope and extent of the various aspects of Adaptive Harvest Management, its development, how to communicate what we were doing to the hunting public, so they didn't think it was more of an example of a black box application of mumbo jumbo numbers that seemed to come out of Washington and the like.

As I said, it's been very, very successful. Since 1995, the seasons for waterfowl have been essentially liberal and unchanged. Adaptive Harvest Management has gone beyond mallards to be applied to black ducks and some populations of geese. I think we worked on pintails as well.

Overall, it's been another example of a lot of cooperation and assistance among the research and management folks within the Service and without, as well as state agencies and organizations and others to make sure that the program is implemented successfully. It's still onboard and probably some people think it's been too successful since we haven't changed regulations in 20 some years.

I do think personally there are still some challenges if in the event that at some point in time, the prescription regulation if you will or the determined regulation package under Adaptive Harvest Management ever goes from liberal to a monitored or more restrictive package. It's going to be very difficult to convince the hunter that it's really justified particularly given the backdrop of continued liberal seasons. I think there are still some challenges in that regard.

I think overall it's been a pretty good success particularly with regards to answering questions a lot better about the population dynamics and the role of hunting and waterfowl populations. It certainly has been a better pathway for regulations development than the more subjective assessment of development of regulations that we've used in the past. That really had a lot of windows and opportunity for outside influences to play and generally didn't benefit anybody.

One of the key things that plagued us also in the early '90s, that impacted a lot of us was the transfer of the research component of Fish and Wildlife Service essentially to the National Biological Survey and then the Biological Research Division and then ultimately the US Geological Survey.

This essentially amounted to Secretary Babbitt at the time deciding that the research component of Fish and Wildlife Service needed to be, I guess, protected from outside influences and concerns that the research and management of wildlife populations and fisheries populations in the Fish and Wildlife Service were housed in the same outfit. So, it was tempting for others to claim that objectivity in terms of management decisions and research findings were - it was a fear - that they might not be as unbiased as they should have been. To do that, they wanted to move it out of the Fish and Wildlife Service into another entity. Essentially the research folks left, the coop wildlife research units went. It really disrupted a lot of relationships between research within the Service, as well as other organizations. A lot of people still think it wasn't necessarily the best thing.

In our office in particular and at Patuxent as well, a lot of people worked hard to make sure that the cooperative relationships that existed between research and management over the years were maintained. I really believe that through the concerted effort and hard work of a lot of people on both sides, those

relationships have been maintained at the time and they're as good outfit today as they were when I was out there. So, that's a good thing, but it hasn't been easy.

John: No, that's my observation. It's made it much more difficult.

The other thing that it seems to me is as there've been retirements of the research people and somewhat, the Fish and Wildlife Service, especially the research people, the newer research folks coming into USGS, even though they're working for the same research centers don't have the culture and the background that the previous ones did. I don't think it's as effective as it used to be.

Bob: No, I think you're right. Overall, I don't think it's as effective either unfortunately. I think people coming into USGS now on the research side of things, this is their home. To them, it's always been there and so they're not in any position to know what it was like beforehand. Particularly in the early years, it was really, really difficult, relative to not only interacting with research personnel that used to be housed in the same organization as you, but just being able to coordinate projects and activities when they all of a sudden had their own priorities being told to them - that these were things that you needed to focus on instead of what you've been focusing on in the past. I mean that happens in every organization, but unfortunately it was more difficult for the people that had benefitted from their expertise in the past and now suddenly found that they weren't available anymore because they were off doing something else.

Essentially, to be quite honest with you, it's like all things and this was said at the time this happened - that Fish and Wildlife Service will in a way begin to re-create its own research capabilities. In many regards it has.

I mean, within the Office of Migratory Bird Management, the expansion of the Migratory Bird Program in the 1990s, really the integration of biometricians and other staff specialists with particular specialties and areas of expertise were really, in a way, replacing those that were available to us just every day, 10 years earlier or 20 years earlier, before the split. It's bound to happen. I'm sure it's happening in other parts of the Fish and Wildlife Service, as well.

In the early '90s, as I said, I was the Chief of the Branch of Operations. Paul Schmidt was the Chief from 1993 to about 1998 or '99 when he became Dave Olson's Deputy Assistant Director for Refuges and Wildlife and later became Migratory Birds.

Following Paul, there was a period of time just about 6 months between chiefs of the office when I was the Acting Division Chief. Then about 1999, Jon Andrew came in as the Chief of the office. Jon had been the Branch Chief of the Refuges Division prior to that time.

I was still the Chief of Branch of Operations and [with Jon's arrival], I returned to the Branch of Surveys and Assessment.

In a way I kind of became Jon's Deputy because his background wasn't assessment. He had not really been involved in a lot of regulations development and a lot of other aspects of migratory bird management going on downtown - permits and some of the nongame work and a lot of other things. A bunch of us spent a lot of time getting Jon up to speed on all these programs.

Jon was Chief in the office from 1999 to approximately 2002. Then he left and I became Acting Chief again for another 6 months. Then in the fall of 2002, Brian Millsap became Chief of the office. Brian had been with the State of Florida as one of the program chiefs, I believe.

He came up to the office at a time when our office was undergoing some severe budgetary restrictions, so it wasn't an easy task for Brian and all of us to address. We gave him a hand and he really did a bang-up

job in terms of identifying some fiscal problems that were in the program and some funding that really needed to be applied to the Office. He was willing to go out and to make that happen.

Together with Paul Schmidt and others, we were able to get some funding together. This funding increase really helped expand a lot of the programs within the Service and within the Office of Migratory Bird Management.

Prior to that, as I said Paul Schmidt left to become Dave Olson's Deputy. Then, after Dave retired, Paul took over as the Assistant Director. By this time, we had been successful in separating out from the Refuges and Wildlife program to a separate assistant directorship. At that time, it was the Assistant Director for Migratory Bird Management. (unintelligible) Prior to that we were Refuges and Wildlife, Office of Migratory Bird Management, the North American Plan office, Law Enforcement Division, and early years of the Duck Stamp office was there. It really changed a lot.

Brian came on board. His background really was essentially nongame, particularly raptors. He became well-versed in the regulations process, particularly Adaptive Harvest Management. He did a pretty bang-up job in getting sound financial footing for the office program.

About that time too, in the early 2000s, we did get an influx of dollars. We were able to again expand our folks out at Laurel, which by this time we had reorganized as well. Now instead of the Section of Population Habitat Assessment, we established a branch structure. I and others had been working long and hard to begin to provide more capabilities within the Office of Migratory Bird Management. We were successfully able to establish some branch positions where they hadn't been before and also to provide some promotional opportunities so people could move up into GS-13s and GS-14s; hopefully stay with the office and keep their expertise within their office, instead of moving on to other parts of the Service or elsewhere because we couldn't provide any promotional opportunities for them. So that worked out.

Mark Koneff was named the Chief of the Branch of Surveys and Assessment at about that time and was able to expand his program with a lot more staff on board. He really touched on a lot of issues and helped provide expertise within our own house that wasn't as easily available from the resource community 'cause it was transferred to US Geological Survey.

Brian remained as Chief of the office until 2006, at which time he departed to go to Region 2. I applied for the Chief of the Office of Migratory Management and was successful at getting it. I remained as Chief of the office until I retired in December 2010.

I think looking back on the 4 years that I was Chief, probably the quickest and most challenging 4 years I've ever had. From one aspect of work that I've been involved in over the years - the regulations side of things and population assessment side of things - things seemed to be getting a little bit easier particularly with adaptive harvest management along with the contentious issues that were involved with regulations development; they seemed to have calmed down a bit. Back on the population assessment side, there so many people now involved in that work at Patuxent and other places. Some of the questions that were being asked, some of the things that they were doing in terms of methodologies and techniques and just great brain power being applied with some of these issues. We really made a lot of progress in some key aspects of the program.

When I was the Chief, along with a lot of other people, we were able to actively develop the Webless Migratory Game Bird program again and get it back on sound financial footing and develop priorities for

each of these species. Whenever additional monies came along, we could tell them exactly where they should best spend it effectively and efficiently.

From a communication standpoint, we were able to hire a Communication Specialist within the office. By trade, biologists are not the best communicators in the world. I think all of us realized that over the course of our careers, but at the same time, probably about 2007 or 2008, we had some additional funding that we used to hire a Communication Specialist.

Avian influenza issue hit during that period of time and again we were able to find some monies to hire an Avian Disease Specialist, a DVM Ph.D., Samantha Gibbs, who really was instrumental in developing a monitoring program for avian influenza to really help out the Refuges and other types in the Service when it came to diseases or other illnesses of migratory birds.

Let me back up and say Alicia King was hired as a Communication Specialist within the office. I think she has now transferred to Alaska. During my tenure there, did, I thought, a really bang-up job in teaching a lot of us how to communicate better.

Right towards the end of my tenure - we've always been involved in eagle management, permitting process and incidental take issues. Those issues seemed to be gaining steam probably beginning around 2008 or 2009. I believe are continuing to this day with people in the office continuing to work on eagle issues and incidental take and trying to figure out ways to assess the impacts of potential mortality factors such as wind power and a lot of other things that are now on the landscape that are being promoted in the natural resources world. Those were the kinds of things that were going on when I was there.

Then, of course, dealing again with budget issues. Right before I left, you could see the writing on the wall that budgets were probably going to go down more than they were going to go up. There were going to be certain challenges in terms of being able to fund certain programs and maintain the level of personnel that we had enjoyed for a period of time and the struggle that things got done in a timely manner.

Over the course of my career, I really have no regrets in staying 32 years in the office of Migratory Bird Management. I'm thinking back and I laugh when I think about my statement to Dick Pospahala back in 1979 that I was only going to be there for 2 or 3 years and then move on.

As life is, those little windows of opportunity or opening of doors don't stay open very long. Sometimes when they shut, it's not a bad thing. I certainly don't think it was a bad thing for me.

I met a lot of great people and was able to extend my fieldwork and integrate it into my job for a number of years. I got chances to be promoted into other challenging positions in many regards. Hopefully got a few things done that perhaps other people thought they couldn't do.

John: Alright, Bob, I think we've covered a lot of ground here. I would be interested in what you've kept busy with in retirement and what you might be up to this week.

Bob: Actually about 2 or 3 years before I retired, I started putting together a bucket list of things that I wanted to do. In the beginning, it was scribbled on a single sheet of paper and it soon turned into 2 or 3 pages. As my wife says - a "dynamic" bucket list. It seems to keep growing. Every time I cross an item off, I add 2 or 3. So, it's just good, I suppose.

I still have kept up with a lot of things that are work-related even though I'm retired. I think that's not that uncommon with those of us in the Fish and Wildlife Service and other natural resource endeavors. We have a hard time divorcing ourselves entirely from it.

Since I retired, I've written a book chapter on the history of Migratory Bird Program. I coauthored it with Mike Erwin who was on the research side in terms of the research and management programs at Patuxent Wildlife Research Center since it started.

That was kind of nice because I love history and like to think if I hadn't become a waterfowl biologist, I might have been some sort of historian or something. I like to do that and that was kind of fun to do. That's hopefully going to be published here pretty quickly along with a lot of other chapters that describe other aspects of Patuxent Wildlife Research Center.

Shortly after I retired, John Cornely and others invited me to become a board member of the Trumpeter Swan Society, which I did and enjoyed very much. I was on the board for about 4 years. Now I serve in a capacity on the Science Committee as a scientific advisor. I'm available when people on the board have questions relative to various aspects of trumpeter swan or waterfowl management in general and other things.

That was fun. It was a good, productive time for me. It kept my mind active related to what I used to do. That's kind of neat.

What I'm doing up here this week is what I've been doing for the last 12 years. That is coming up to Ontario and fishing with a lot of my friends that I made in the Fish and Wildlife Service and other folks that I didn't know but have become friends with up here. It's a good time to kick back and enjoy ourselves, catch a lot of fish, enjoy the camaraderie of those around us and tell unbelievable stories, 90% are false and maybe 2% might be true, particularly with regards to hunting or fishing success and how big the last fish was that we got.

It's been fun. I look forward to continuing to keep an oar in the water with a lot of this stuff. I think it keeps my brain healthy.

If I can provide some guidance, I do. I get phone calls every now and then and get a chance to talk with people that are still working in the office and in the program. If I can maybe share some experiences with them and hopefully help them to make some decisions, not necessarily that they make the same mistake I did. I think the important thing is that they just make a decision and move on from there. If it doesn't work, make a better one the next time. I think that's important, you know, to be helpful to them as well.

John: Well, you know this is the second interview I've done on this island and it's always great. We've got a gull listening in right now. We've had loons calling in the background. We're not done fishing today. We caught 22 walleyes this morning. You're very gracious to interrupt hot fishing to share this interview with us. I think with that, we'll call this closed and we'll go fishing.

Key words: Adaptive management, bird banding, game birds, game management, hunting, international conservation, migratory birds, partnerships, research, regulations, waterfowl