Oral Interview With
Keith Seaburg
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AW: Keith, let's start out with a brief history of where you were born and where you grew up.

KS: Okay. I was born in Grand Rapids, in Minnesota, April 22, 1925. My Dad and Mother had a small farm up there in the iron range and I and my two brothers were raised on that farm. I went to grade school in Marble, Minnesota and high school in Coleraine, Minnesota. I graduated in the spring of 1943 and enlisted in the Navy, aviation cadet program. I spent two and a half years in flight training and was stationed during the war. I was discharged in 1945 when I started college at Coleraine. This time it was a junior college. From there I went to the University of Minnesota and ultimately graduated with a Bachelor of Science. I started out in Forestry but decided after a year that the fisheries and wildlife management were more to my liking.

AW: You learned about fish and wildlife management when you were in college?

KS: That's right.

AW: We know that you worked for South Dakota and Minnesota for several years before coming to Montana but I do remember that on one of your vacation trips, you got into a little preparatory work on the Marias project which was one of the major objectives or operations of the fisheries division. Would you like to relate that?

KS: Well, yes. It was, really was very interesting. They were, at that time, testing out the distribution of toxicants by airplane. Of course, a lot of it was done by grunt work in these sloughs or areas but they were testing, or designing a venturi system in a tri-motored Ford airplane. I happened to be around at that time and the testing of that where you dumped the

rotenone or the toxicant into the venturi, which then distributed the toxicant in a pattern rather than in the cabin of the airplane being filled with the toxicant. That was rather exciting for me.

AW: You have it right. The objective was to get the venturi to suck it out of the barrel so all the crew had to do was pour it into the barrel. But, as I remember, it would bridge over and then you'd poke it with a shovel and it would blow back into the interior of the airplane and you'd be covered with this dust. At the time we thought was nothing but rotenone, but later found out it had toxaphene with it. Well, after getting out of school you worked for Minnesota and South Dakota before coming to Montana?

KS: Yes. My first job was with the Minnesota Department of Health in the Water Pollution Control division. I was a water pollution control biologist doing pollution studies in Minnesota. After about two years the Dingell-Johnson program started to provide additional information to the conservation department, fisheries division, and I did creel census work on some of the lakes around Detroit Lakes Minnesota. After that, one of the research biologist who was down in Glenwood Minnesota took a job with California and I started then as a research biologist in Glenwood Minnesota in 1953.

AW: How long did you work there?

KS: I worked there until 1962. Then I went to South Dakota as a regional fish manager, stationed out of Webster, South Dakota. I worked there for about two years. Then I took a job in Montana, in Missoula, as a project biologist.

AW: Working for Boyd Opheim directly?

KS: Yes. Several of the major projects that first winter were using air compressors to try to prevent winterkill on Georgetown Lake and Browns Lake.

AW: Can you describe the project a little more?

KS: There were these perforated hoses laid down in the bottom of the lake and as I recall they were weighted so the air that was in the hoses didn't float them to the surface. But there were lines set out there in several directions. We tested the oxygen throughout that period on Georgetown and also on Browns Lake. Early on in the program we were able to sample fairly close to the airlines, but as the season progressed towards spring, we were working quite a ways away from the open water or rotten ice created by the air bubbles that were taken to the surface.

AW: It was a project that Fisheries engaged in for several years but apparently finally determined that the effort was not worth the benefits.

KS: Yes, that's true. It raised the oxygen level immediately in the area but of no great dispersion.

AW: And there was always the problem that somebody might fall into the hole and sue the department. I remember in Kalispell we had to buy a couple of cows that fell into a lake. We never lost any people in Georgetown Lake, though.

KS: No, no.

AW: Then you worked for a while as a project biologist. What was your next job?

KS: I was offered a job as the I. & E. officer in the Missoula region. Perry Nelson who had been the information officer got the job as regional supervisor in Great Falls and I was given the opportunity to become the regional information officer, which was something I was pretty happy with. The department gave me the opportunity to learn how to do a better job presenting information to the general public.

AW: As I remember you had one fisheries project developing a film on Rock Creek--some interesting photography on stonefly.

KS: Yeah, it was interesting. We were able to get a housing built for standard 16 mm cameras and we got some pretty good underwater footage; the habitat; and also used a time-lapse movie camera to show the stoneflies coming out of their cases and they become full-fledged fliers instead of strictly an aquatic organism.

AW: I remember some of that photography; you had to have the lights so bright that your subjects sometimes expired before they got fully hatched?

KS: Yes, that did happen. We learned from it and moved the lights further away. It came out rather nice. I was pretty happy with how it came out.

AW: Then you moved from that job to regional supervisor in Miles City?

KS: Yes. In 1970 I came down to Miles City as a regional supervisor. And of course a number of titles changed, they started with regional supervisor, district supervisor, regional coordinator and those sorts of things. Basically it was still the same job and the pay was the same. Nobody could decide what we were.

AW: Each time the job was really stretched somewhat and the title changed and they thought, I think it was when the department was asked to reorganize.

KS: Yes, not once but several times.

AW: When you were supervisor in Miles City you were in charge of the department's work. As a fisherman, an old fishmonger we used to say, you must have some ideas on some projects that went on. Which ones do you think were most important?

KS: Well, I think the, at that time in the early '70s, coal mining was really started to begin production; there were many companies that were eyeing the water of the Yellowstone River and some of the other rivers in Montana for perhaps coal slurry lines or cooling water for power generation. The knowledge that there was on the Yellowstone River fish populations and impacts were quite important. A lot of studies were planned and worked on to really look at the Yellowstone River, primarily in this region. Also in some smaller tributaries. So the fisheries aspect really expanded, the number of personnel really expanded in that period.

AW: It wasn't just fisheries personnel; they expanded your whole region with this coal development?

KS: That's correct. The impact on wildlife and recreation and all sorts of things of that type had to be considered and were researched.

AW: As I remember you had some comparison of the people in the office versus the people in the region and when you started, when this coal development really blossomed.

KS: Yeah, when I first came down here there were a total of 28 personnel--not all in the office--included game wardens, wildlife biologists in various areas in the region. In the height of all of these studies there were 28 people in the main office.

AW: Well, you had a project, South Sandstone, that took a lot of energy from you and it turned out to be pretty important to the fisheries in southeast Montana?

KS: I think for a lot of years, as a matter of fact when you were working here in Miles City, quite a few years ago, most of your work was dealing with ponds. There was a real need for water-based recreation in fisheries and utilization of water for the agricultural projects, etc. The south sandstone project was, I felt, was great for fisheries, recreation; but also the ranchers in south sandstone drainage. There were a number of ranchers who were mainly raising hay for their livestock and this project basically called water spreading, as compared with straight irrigation. The water spreading utilizes runoff water in February and March and for the rest of the year there's no irrigation water utilized. That part of the year it was strictly for fish and associated wildlife and recreation. So it was a win-win project for the ranchers and

also for the wildlife resource. I had a lot of help with SCS and the ranchers and it was a fine cooperative venture and I'm real happy with the way it finally ended up.

AW: Could you go into a little more detail as to how the water spreading worked, compared to irrigation? What time of year are you storing water?

KS: Well, basically a certain percentage is stored for fish year round. But it's only during high runoff in February and March that water is diverted to these particular fields. The interesting thing about this water distribution on these soils is when they are frozen. So it gradually thaws out and the water goes into the soil. As a matter of fact, any water that is put on a little bit later would really not cause any increase in production; it would actually be a detriment. So we were able to bounce the water levels to enhance northern pike reproduction.

AW: Let's back up in time a bit. Something you did when you were in one of the other states before you came to Montana. It was quite a bit of importance to fish managers all over the country. You developed a method of sampling fish for food habit studies that was unique at the time.

KS: Yeah, I developed a system of flushing the stomach contents from quite a few species of fish; there are some that would be very difficult to do that. Basically, prior to that to study food habits, fish had to be sacrificed and stomach contents cut out and preserved. This method utilized a double tube; one small tube that had pressurized water going into the stomach and then forcing the food contents into a jar. It really advanced a lot of the food habits or knowledge of food habits at that time. Things such as you could go back time after time--over a period of time flush the contents from the same fish you might have sampled several weeks prior to that. We learned quite a bit more about digestion rates and seasonal utilization of food. And the fact that small fish are able to get a greater percentage of food, considering their size and weight as compared to larger fish who have no opportunity to utilize any more than the smaller fish. So the daily rations were pretty well correlated with the growth rates of these fish and also the maximum size that could be achieved by some of these fish. It was very interesting and I was pretty happy with the results and the publication of those results.

AW: It's a pretty impressive addition to the things a fish manager can use. It's written up in literature but not quite the full summary. I was there and people should know that it started with something other than the tube.

KS: I thought at the time one could use a suction method to suck the contents out of a fish's stomach. It didn't work very well.

AW: Anything else you can think of, Keith?

KS: That's about it. Thank you for the opportunity to do this. I hope that with all the other folks you're going to interview it will give a historical record of where we were and where we are.

End of Tape.

Transcribed by Margie Peterson
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