

Rear Admiral Harley Nygren

1 November 2001

Brian Shoemaker

Interviewer

(Begin Tape 1A)

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BS: *This is an oral interview with Rear Admiral Harley Nygren, who was the first Director of the NOAA Corps, taken as part of the Polar Oral History Project of the American Polar Society and Byrd Polar Research Center on a grant provided by the National Science Foundation. The interview was conducted by Brian Shoemaker at Admiral Nygren's home in Vienna, Virginia, on the 1st of November, 2001.*

Well, Admiral Nygren, it's a pleasure to be here and we're interested in your career in the polar regions, of course, but what brought you to the polar regions – your background, schooling, mentors, and what your work in the polar regions led to later on. Also, your career and how it all fits together. It's your interview and you do it the way you want it.

HN: Well, I guess I really got interested in ocean engineering and ocean science when I was serving as a damage control officer on a target destroyer down at Bikini for the 1946 atomic bomb test. I had already been graduated from the Navy college training program – the Naval ROTC arm of it in 1945, and I was assigned to the destroyer *Hughes*. I had always been interested in sailing and so forth, but I quickly recognized that there was more to going to sea than just standing watches and watching the ocean go by. I became interested in the general area

of marine charts and navigation and so forth while I was in the Navy. The Navy was a little ambivalent about what it was going to do with this particular aspect of its operations after World War II, and I had applied for a program which would require me to transfer into the regular Navy and be a limited duty officer performing hydrographic surveys and so forth and on contemplation of the details of that, I decided I did not want to do that. If I was going to sea, I wanted some authority to do what I had to do. So, upon conclusion of the atomic bomb tests where we blew up the poor old destroyer *Hughes* twice and decommissioned it, I went back to school, finished a second degree in engineering.

BS: *Where did you go to school?*

HN: The University of Washington. All my academic career was at the University of Washington because I grew up in Seattle. In the spring of 1947, I became aware of the old Coast and Geodetic Survey, one of whose functions was the production of marine charts – nautical charts – and navigation information. And I interviewed with them and I applied and they accepted me. So, in the fall of 1947, I was appointed to the temporary position of deck officer, a Coast and Geodetic Survey civil service position, in a probationary status. And I was assigned to a field party performing hydrographic surveys all that winter.

And in the early part of 1948, I was assigned to the Survey ship *Explorer*, and we spent the summer of '48 . . . well, six months of '48, surveying in the Aleutian Islands, which included a lot of small boat work and ship surveys. Actually, I lived on Kiska Island in a tent for some three months and spent some time ashore on Rat Island. Fascinating piece of work for a young fellow.

BS: *Your work – was that close-in surveys?*

HN: No, we did it all. We made the topographic surveys, we were making beach landings along the coast in skiffs, and we ran these 30 foot hydrographic launches in shore and we also ran the ship out to slightly deeper water. And, of course, associated with this was the installation of tide gauges, aerial photo examination, lots of oceanographic observations – the whole gamut of what you do with a scientific survey. So, that took care of 1948, and in 1949, I was scheduled . . .

BS: *Who was your Commanding Officer of the Explorer?*

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HN: The *Explorer* was commanded by Capt. F.B.T. Seims, who under the legislation that existed at that time, was 62 years old, very well experienced, very sturdy old gentleman. We called him somewhat irreverently “Far Behind the Times Seims,” because of his initials F-B-T, but he was not. He was a very up-to-date officer whose whole life had been in the Coast Survey from a very young man.

BS: *We consider the Aleutians the Arctic as well. The 10 degree sunrises are what I used to guide . . .*

HN: Well, we didn’t spend all of our time in the Aleutians. We actually started up around Kodiak Island and then worked our way out to the Near Island areas which is Kiska and Agattu, and so forth. Terrible place to work, but it was fascinating. Many times the captain would put our 30 ft. launch over the side using the SHORAN electronic control and he’d steam 20 miles away and we’d be out there in the middle of nowhere in the fog. And he’d come back and pick us up at 10 o’clock at night. And sometimes that was a very hairy operation bringing those small boats back on board ship in the open seas out there.

BS: *That was my concern with tourists in the Antarctic. Put them in a zodiac, they’re in their 70s, average age 69, and people running the ship are Russians, they only spoke a little English.*

HN: Well, that whole year was pretty fascinating, really. And part of it, when I was living on Kiska, of course I had a chance to roam around the island when we were fog bound and we did not have electronic control on our launch that we were using at that time, so we got to see a lot of the World War II relics around there. But, in January of 1949, in fact in the fall of 1948, I was asked whether I would be interested in going to the Arctic to perform similar surveys in the American Arctic and, of course, I thought that would be a nice change from the western Aleutians which is where we were headed otherwise. So, in preparation for that, in November of 1948, I was assigned to a field party making astronomical observations in the eastern part of the State of Washington so I could learn how that was done. First order astronomy is done by a field party and is a fairly complicated operation and we knew that the datum in the Arctic was not going to be very good, so we felt that we would have to make astronomical observations up there in order to base all of our surveys on the sound data.

Then, in January of 1949, I actually was transferred to the Arctic field party and in February, 1949, I was sent to the Arctic with the job of recruiting our local field party members.

BS: *Let me ask you a question. You said you were transferred to the Arctic field party. Did it already exist?*

HN: It did.

BS: *Was it already in the field?*

HN: It was in the field starting in 1947 – actually 1945, when they accompanied the Navy to Point Barrow when they did the first work around Point Barrow. The hydrographic field work was done for the Navy by the Coast and Geodetic Survey.

BS: *That was for the petroleum exploration.*

HN: Well, the war was still on at that time, so they were just trying to cover their rear, I guess you could say.

BS: *Yeah, '44, it was started.*

HN: Yeah. '45, they were up there. In '46, they were not. '47, they started work, I believe, down the west Arctic coast and in 1948, the same. So, when I joined in 1949, the field party had been in existence for several years, but only on a very small scale. '49, we geared up for a rather large operation by our standards. So, in February, 1949, I found myself in Point Barrow, Wainwright, Point Lay, Icy Cape, signing up eskimos for our field parties for the coming season.

BS: *Remember any of their names?*

HN: Oh, I remember a lot of them. I wouldn't want to get started on that because I'd leave somebody out.

BS: *Oh, I didn't mean to do that. I was going to throw a couple of names at you. Brower?*

HN: Oh, I knew a lot of the Brower boys, and the Gordons and the Akootchic and the Nagiaks, and . . . I knew all those families.

BS: *Kenny Toovak.*

HN: Yeah. I signed up probably 50 people from those towns. I remember we were down in Wainwright. It was 50 below zero down there and we couldn't fly. We couldn't leave, so I was stranded there for some days. Got to know the local folks fairly well. And after finishing that, I went back to Barrow, and still in February, I flew over to Barter Island near the Canadian border and signed up some more folks over there.

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Now, in 1948, they had established a camp at Barter Island and we were going to reoccupy this in '49, so in March, some of the rest of the party came up there. Now, of course,

we were supported by the folks at the Air Force Station there. It had been a weather station and now it was a LORAN C calibration site – very small Air Force detachment.

BS: *No DEW line there.*

HN: No DEW line. DEW line was just a gleam in the eye . . . Very small detachment there.

BS: *Who was the overall head of this program up there in the field?*

HN: You know, you're going to find a lot of gaps in my memory. Now, this is a name I know very well. He was the one that signed me on to the party and sent me up there. Right now, under the circumstances, I can't remember his name [CDR Paton]. But, he was there only for a short time. And then Commander Robert A. Earle became the overall field party chief. And when we went there, our camp was buried under – well, it doesn't snow much up there, but what snow there is drifts terribly with the wind and our camp was completely buried there. So one of my first jobs . . .

BS: *This was in Barter?*

HN: In Barter Island. Was to dig out the camp and make it habitable. So, I had a little help from the Air Force and some of our local folks on that. The '49 project was a very important one from the standpoint of the US Navy because they were having trouble delivering supplies to Barter Island. The LST convoys were having difficulties with the ice off the north coast of Alaska. And the question was, could they, in fact, avoid that ice by traveling inside this chain of barrier islands. So, our first job, when we got there besides getting reestablished, was to put in what we called the second order triangulation scheme – a network of survey points along the coast as far as we could reach in either direction, on which all of the surveys would be based. This required going out before the break up, locating these point, and surveying them in. This was a fairly arduous project in February, March and early April up there.

BS: *You drill holes?*

HN: We did. We actually steamed in survey marks using pipes and wooden rods, and so forth, with the standard Coast and Geodetic Survey brass disc on there.

BS: *How about off shore?*

HN: Well, when we finally got around to that, we tried to use electronic control in 1949, but our equipment failed miserably. So, we fell back on the classical system of taking angles and bearings, to targets ashore. Measuring horizontal sextant angles from the boat.

BS: *What about your depth measurements?*

HN: We were using an echo sounder at that time called the 8-0-8 – manufactured by the Submarine Signal Company. Very precise, portable battery-driven echo sounder. Of course, the Coast Survey always called them Fathometers.

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I mean, the Navy called them Fathometers and the Coast Survey called them **Fathometers**, which was a big bone of contention between the two organizations. But, anyway, after we put the control in, then we assumed that the ice went out in late July. We put these 36 ft. boats in the water. Now, these were a story all by themselves. These were what they called Plane Rearming Boats. They were like a small PT boat that was used by the Navy for refueling sea planes.

BS: *And what was the designation again?*

HN: Plane rearming – airplane rearming boats. They carried bombs and gasoline. They were a 36 foot open boat on the basic hull shape of a PT, with a Chrysler Crown gasoline engine. And during the period April, May, June of 1949, we took these surplus boats which were just open rigs and converted them into hydrographic launches. We built canopies and installed all the

equipment that we needed. We had a complete carpenter shop with us and skilled help and for three months, we worked, among other things, getting these boats ready for the summer season.

BS: *You jumped from February, 1949, Barter Island, to July. I've got to ask you a couple of questions, too. Did you spend the winter at Barter Island or in that area?*

HN: February through March, we were at Barter Island. In March, we started moving the camp by CAT train to Oliktok Point, which was farther to the west. And we spent five or six weeks moving the camp, digging it out, reloading it on these sleds and hauling it with the tractors across the ice to Oliktok Point to set up a new camp. Now the chronology gets a little . . .

BS: *And did they do the same thing at Oliktok as they did at Barter, more or less?*

HN: Yes, exactly. But, the chronology gets a little confused. This was 50-some years ago. But, anyway, we worked out of Tigvariak in 1949. We worked out of Oliktok in 1950. And it was the same basic program. Go up in February, March. Put in the ground control, do whatever could be done. As soon as the ice broke up, shoved the boats in the water and start surveying the off shore areas. Try to finish and get out before freeze-up.

BS: *Did you get in between the off shore islands and the mainland before the ice broke up outside that?*

HN: Yes, we did. That was very important in 1949, to the Navy because we found that, in fact, they could bring those LSTs inside the barrier islands at least as far as Tigvariak. And they did so and delivered us a couple o thousand drums of gasoline and a few other things while they were there.

BS: *Before the ice even broke up then.*

HN: The ice was breaking up, but it had not moved out. Actually, I piloted a convoy of LSTs through there. That was kind of interesting. We had made only a reconnaissance survey of that

area and we had found nothing less than three fathoms of water. And when I went aboard the LST, the Commodore asked me, could he go through there? And I said, "Well, we didn't find anything less than eighteen feet. Doesn't mean it isn't there, but we just started this work." So, he said, "All ahead full," and they charged at 10 knots through this unsurveyed area which, thankfully was, in fact, adequate for them. So, they got over to Tigvariak and they unloaded our supplies there. Then, they headed out into the ice.

BS: *Tigvariak is on Barter Island?*

HN: No, it seems to me it's way west of Barter Island. It's about halfway to Prudhoe Bay, actually.

BS: *OK. I know about where it is.*

HN: And there was nothing at Oliktok. There was nothing at Tigvariak. We had to start from scratch building camps. This was camp with 40-50 people, half a dozen boats, the complete basic shore camp.

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In 1949, I was sent out to Cross Island which is actually right off of Prudhoe Bay, to start that survey inside the barrier islands and bring those LSTs in. And, of course, the ice never really left the off shore islands in 1949. So, we were greatly hindered by what we could do out there and it was a very uncomfortable business.

BS: *So the ice was backed up against the islands.*

HN: Right on top of the islands and it broke up, but it never left. The south wind was not sufficient to drive it off shore.

BS: *That's how it was in '75, when we had to get the barges through to Prudhoe.*

HN: Yeah. So that was '49, and I got out of there after being up there 8 or 9 months. It was funny – I left Point Barrow in February, and I got back to Point Barrow in September, and in between there was nothing. Just living in tents, wanigans and boats, taking a bath every 3 months or whatever was convenient.

BS: *Whether you needed it or not.*

HN: Yeah. 1950, was similar.

BS: *So, you left Barrow in September. Went where?*

HN: Went back to Seattle, and worked up the records for the year and prepared for the next year. Next March, we went back up, reoccupied the camps, moved them as necessary. Went through the whole process again. And this time, once again, I was based out of Cross Island, north of Prudhoe Bay.

BS: *You got a photo in March of 1951, or was it March or February of '51 that we recently used? You were up there in the winter.*

HN: Oh yeah. February was deep winter.

BS: *So, you went back in February.*

HN: Oh yeah. We went back in February or March every year and tried to get out before freeze up.

BS: *The sun came up about mid-January?*

HN: Yeah. It was up, but it wasn't up very long. And it was cold. 1950, our electronic navigation systems worked very well and we did a lot of work. Extended the triangulation scheme all the way across. Everything was working well. '50 was a very successful year. We ended up in 1950, working back down toward Barter Island again – the area of Camden Bay,

Brownlow Point, Flaxman Island and so forth. '51, we did more of the same based out of Oliktok.

BS: *You used native help and you were the recruiting officer. Tell me a little bit. This was in the early days when they were helping . . . other than helping whalers and fishermen before that, they were helping modern field research. How did they adapt? I mean, they went from basic grammar school educations to working . . .*

HN: Well, they ran the gamut from kids who we trained in everything they did to some who were very well educated. I remember, was it Arnold Brower was a major in the US Army?

BS: *Yes. World War II.*

HN: He worked with us. And he was one example of a very skilled, educated, intelligent person. And the same. There was a, I guess it was Simon, or Peter Akootchic. He had been in the US Army in Germany, and he had been around. So, they ran the full spectrum. We hired some of the younger folks that were inexperienced in what we were doing, but very experienced in what the area was, so we relied greatly on the town. A good chunk of our crew, in fact, were recruited locally.

BS: *We found that many ___ for scientists provided scientific insight into things. They knew what things did. They couldn't explain them. What they did, and the scientists could figure out what worked. Another thing was that they were mechanically very adept. And adaptable.*

HN: Oh, they did everything and I thoroughly admired every one of them. One of my favorites, of course, was Abe Simmons, who was one of the elders up at Barrow, and he worked personally and intimately with me for three years. He was my boat coxswain and I relied on him in a lot of ways. Not only for his local knowledge, but for their ability to keep those young folks under his

thumb, in a way. At Oliktok and at Tigvariak, we actually had a whole city of local folks. And they brought their families out there in the summertime, ran their own boats out there.

BS: *Did the families come out and camp like they did for caribou hunting camp or seal camp?*

HN: Oh yeah. They were right there with us. I dearly loved old Abe. I believe he was finally awarded a silver medal by the Department of Commerce for his work with us, but he was a fine, fine Christian gentleman.

BS: *Abe Simmons.*

HN: I really liked him. And others. There were lots of admirable people there.

BS: *Lots of good Christians up there.*

HN: Oh yeah. And it was funny, you know. At Wainwright, they were Presbyterians, and at Barter, they were something else. Different missionaries had come to them. But, they were just great people. '51, as I say, was more of the same.

BS: *Two stations? Oliktok, Tigvariak, again?*

HN: Oh, that was just on our side of the project. There was also one at Pitt Point. They had been at Wainwright. They had been at Point Lay, they had been at Peard Bay. All these various camps at various times in the project which went on from 1945 to 1952. In seven years, we pretty well inhabited all aspects, all areas of the Arctic coast.

BS: *Cape Whale? Did they have one there?*

HN: No. That was considered south of Icy Cape. Now, I was there years later, but not in conjunction with this project.

BS: *That was pretty well surveyed though – whalers and . . .*

HN: No, it wasn't. No, as a matter of fact, they felt that in many ways the Arctic coast had been well surveyed, but when we got into it, we found gross errors. It was not.

BS: *Dangerous.*

HN: And we were really needed there.

BS: *But, you didn't do it in this project. OK. This is '51. Did you go back in '52?*

HN: I left the party in '52, and I became the Executive Officer of a small survey ship which worked in Depoe Bay, Oregon, and Puget Sound. That was supposed to be my year of not going to Alaska.

BS: *So, a survey ship. What was the name of it?*

HN: *Hodgson.* It was a 135 ft. wooden vessel.

BS: *So, you were in Oregon.*

HN: I was. I was in charge of the project in Depoe Bay. And we worked that using the Coast Guard equipment. Coast Guard crew. Very successful little project. A lot of fun for me. My wife came down and stayed with me. We enjoyed that spring.

(300)

That project went on until December, and it got to be right uncomfortable along about December, handling these current buoys, putting them down in 100 fathoms of water and bringing them back and all this. So, '52, we wound up in December. Then, in '53, I was assigned to the survey ship, *Pathfinder*, which worked in the western Aleutians and the Bering Sea, as well as Cook Inlet.

BS: *What was your position?*

HN: I was operations officer at the conclusion of '53.

BS: *On the Pathfinder.*

HN: On the *Pathfinder*. *Pathfinder* was originally a Coast and Geodetic Survey

ship taken over in the shipyard by the Navy in 1942, and converted to navy use. The Navy just took it over with a wardroom staff of about half Coast and Geodetic Survey officer, 1946, she came back from the Navy.

BS: *Could you be purloined in World War II into the Navy like the Coast Guard?*

HN: Yes, and about half the officer corps was. And they served on all the Survey ships and Marine corps, topographic batallions. And Army – most of them ended up in forward observation batallions because of their surveying skills.

BS: *They did. Interesting. How about for the amphibious assaults?*

HN: Yes.

BS: *They had to go . . . did you have swimmers?*

HN: No. None at all.

BS: *There's a swimmer south of me in Oregon, he did all the big ones. Swam in first to blow up the rigs.*

HN: Captain Ira T. Sanders was actually on Nimitz' staff, I believe, as the chief hydrographer, if you will, during those latter years of World War II. But, all those big survey ships were transferred over to the Navy.

BS: *So, you were just getting them back about then.*

HN: Well, got some of them back. Some of them we never saw again. So, on '53, I was on the *Pathfinder*, that was a very fine year. It was a very productive year. Once again, we were working around Adak, Kagalaska Island, and then we were working up in the Bering Sea on Port Moller, Port Heiden, and these were similar operations with production of nautical charts and related information. So, we were running around in small boats and climbing mountains and making shore landings and doing all that stuff that was good for young fellows.

BS: *Did you go into Nome?*

HN: Oh, not at that time. We didn't get that far north.

BS: *I had a station out at St. Lawrence Island at Gamble.*

HN: Gamble was where they had the beer mine. In '54, '55, '56, I was assigned to what they called the Division of Geodesy in the old Coast and Geodetic Survey and I was head of a field party that was measuring the acceleration of gravity. We did some of that work in the midwest – almost like geophysical surveys. But, I also was assigned to several projects that took me many, many places in the world to establish gravity base stations.

(350)

BS: *Now this was based where – the Coast Survey in Washington?*

HN: Yes, it was.

BS: *You were living here then?*

HN: No, I was never here. For four years I was always on field duty, temporary duty and hardly ever got back here.

BS: *Where did your wife stay . . . where was she?*

HN: Part of the time she stayed in Seattle, and part of the time she stayed in Albuquerque, New Mexico. And a goodly part of the time, she travelled with me. We lived in a 35 ft. trailer. We had two kids when we went into the trailer and had four when we came out. And that was a very interesting area and I got involved in a lot of international activities, some of which probably are still classified because they were not our projects. We were being funded by somebody else to do them. It was kind of a neat story all by itself, but probably not appropriate for this discussion.

BS: *I understand.*

HN: 1957, strangely enough, I found myself back aboard the *Explorer*, Survey ship *Explorer*, which had been my first ship in 1948. And that's where I met Charlie Burroughs. But, before we sailed, I was transferred once again to the *Pathfinder*. So, here I am on the *Pathfinder*. It's been four years and I'm living in the same room, the same job. Operations officer. And this, again, was the Bering Sea, southeast Alaska, you know, the whole thing, same as before.

BS: *Did you all get ships papers for . . . masters papers, anything like that?*

HN: No, I had a Coast Guard license in 1942, but the Coast Survey did not require that. '58, '59, I could say the same thing. I served on the *Pathfinder*, another couple years. We worked in southeast Alaska, we worked Cook Inlet, we worked up around the Seward area and we worked out in the Bering Sea. And, of course, this also involved running deep sea sounding lines back and forth across the Gulf of Alaska. That's '59. In 1960, I went to school for a year at the University of Washington. 1961, I was assigned to the Survey ship, *Pioneer*, based out of San Francisco, which was engaged with a project that extended from the Aleutian Islands to the Hawaiian Islands. So, we would be gone 30 days at a time, consistent almost always underway, going from the Aleutians to the Hawaiian Islands and back again. That went on from April to October. A lot of oceanographic observations.

(400)

BS: *Were you Ops on this?*

HN: No, strangely enough, I was Assistant Ops on that, and I ended up briefly being Operations Officer. So, that's '61. And another fascinating project. I mean we were discovering the sea mount every month out there, turning up a lot of good scientific information. And this was all unclassified work, so the academicians were delighted to be able to get their hands on this. Navy was doing similar work, but this work was all classified. So, ours was not. In January, of '62, I

was asked, not ordered, but asked if on Thursday afternoon, if I could be in Montevideo on Tuesday morning to go to the Antarctic for 5-6 months.

BS: *To Montivideo, huh?*

HN: Yeah. The State Department was just embarking on the Treaty responsibilities of sending representatives with foreign expeditions to the Antarctic.

BS: *This was January, '62 or '63?*

HN: '62.

BS: *Is was?*

HN: So, I was one of the first – not the first, but one of the first and here I am. I've just come back from the *Pioneer*. My family is in Seattle, we're getting ready to lease our house and move to Washington, DC, and then I get these orders to go to South America. We cancelled the lease, we take off the next day, come to Washington and get, in one afternoon, a passport and two visas, which is impossible, but because I was working for the State Department, you might say, they made it possible. I said, "I'm leaving this afternoon for South America and I need a passport," and they said, "It takes 5 weeks." I said, "I'm leaving at 5 o'clock tonight." "Forget it." Well, I said, "Wait a minute. You guys are the ones who want me to go. I was told there might be a problem here. Here's the phone number. Would you call? I don't know who this is, but call this number." And this lady kind of condescended to go away and when she came back, her eyes were about like this and she said, "I'll have it in an hour and a half." I don't know who she called, but somebody really leaned on that passport office. I got my passport and my two visas and I was gone. But, no briefing, no instructions. When I came back, guess what? No, de-briefing.

BS: *That shows you what they can do if they have to.*

HN: Yeah. And I ended up flying from Washington to Miami, then down the west coast of South America, down to Santiago. Then over the top to Buenos Aires. I got to Buenos Aires and there was no way in hell I could get to Montivideo, The river steamers were not running. The airplanes were booked solid. Every means of transportation – now this was Christmastime - was fixed so I couldn't make it.

So, I kept checking in at the airport and one day when I was there, I saw these two US Air Force pilots sitting at a table talking, and I just sort of intruded myself into their conversation and it turned out they were going to Montevideo. They were there flying an Air Force general who was a military representative to the governor of Uruguay and he invited me to throw my gear on board and we flew down to Montevideo.

(450)

BS: *Great!*

HN: Yeah. The next morning, I reported to the Danish ship, *Kista Dan*, Montevideo harbor, and shortly after that we sailed for the Antarctic. And I stayed from then until May.

BS: *Who was the head of the section team – State Department, right?*

HN: Harry Dader was the one that I was supposed to deal with. He's well known in the Antarctic. I never met him. That afternoon was so jammed with getting visas and everything else that I could never connect with him. So, I went down there totally blind as to what I was supposed to do.

BS: *He was the head of the section.*

HN: He was the head of the office that coordinated that kind of stuff.

BS: *I understand he was a polar guy, but he wasn't a State Department guy.*

HN : Well, I don't know. He was part of the Office of the Secretary of Defense, actually. But, the State Department was the one that asked us if we could be sent and we were sent out of that office because I guess they were the best equipped to do it. So, then I spent the next four or five months with the British. I never saw an American base.

BS: *Which bases?*

HN: Well, first thing, in the Falkland Islands, I transferred over to the research ship *Shackleton*, and we started down the Antarctic west coast and visited all the British bases. All the way down to Marguerite Bay.

BS: *Farraday?*

HN: Well, there wasn't a Farraday at that time. There was Fossil Bluffs, and there was Adelaide Island.

BS: *All those things are popular tourist sites.*

HN: They are now.

BS: And Lockroy is a museum and its run by a guy named Bob Barketts.

HN: We were there and in fact, we visited all of them, active and inactive. We visited the Chilean base and the Argentine base. We visited every base.

BS: *Did the State Department guy go in and say, "This is a formal inspection under Article 7 of the Antarctic Treaty?"*

HN: It was the most informal thing I've ever been part of.

BS: *The reason I asked you whether it was '63 or not, because '63 was when we officially made the first formal inspection. So, this was a prelude.*

HN: It was, and it was very informal. It was very disorganized and very much up to me what I wanted to do. They just said, "Go on down there and see what they're up to." And they

welcomed me and I was a guest of the Queen, if you will. I rode on the Shackleton and I rode around on the *Bisco*.

(500)

BS: *Did the Brits inspect it, formally?*

HN: It was very informal. Everything was fine. We actually visited Cold Bay and I mean we visited all of them. We went down the east side of the peninsula as far as we could go and they had a little base over there. We visited that one. I don't think it had a name. It was one little hut and two guys. Way down there. Then we went up to South Georgia, we went up where it was or there had been a base, we visited, either on the *Shackleton* or on the *John Bisco*. And I spent some time at the base they had in the Argentine Islands, they called them, at that time.

BS: *That became Farraday.*

HN: Is that right? Well, I sat there and watched the sun set on those mountains across the Lemare Strait there and speculated at the time that that would be a marvelous place to turn that thing into a hotel.

BS: *Well, Farraday is now [Vernaskies]. It's owned by the Ukrainians. The Brits sold it to them for a buck and left all their equipment and they're plugged into the British Antarctic Survey in Cambridge. Part of the system.*

HN: That's a very solid base.

BS: *Oh, it's a super base. It's the most modern base. Well, it's extremely modern. They gave everything away. And Lockroy's first rate.*

HN: Oh yeah. Real pretty place. Lockroy was closed when we were there as was the base on King George Island, so what we were doing there was taking the equipment out that they had

left, but still leaving enough to make an emergency base out of both of those. But, it was marvelous. That's how I spent time ashore at several of the bases and on these ships.

BS: *It's the busiest tourist site in Antarctica, Lockroy.*

(550)

HN: I'll bet. Then we went up to South Georgia, and we were there for some days. Had a formal dinner there with the British commissioner, I think he was. And finally, late in the spring, we were back in the Falkland Islands, and the *Shackleton* was charged to go back down to the Argentine Islands to deliver some radar spares down there. We had landed a radar set for tracking weather balloons and they needed supplies, so the captain said, "We gotta go back down there. You want to go?" And I said, "Well, no. I've been there. I don't want to go down. I don't want to spend the winter there," which was very possible at that time. So, he said, "OK." At that time, the only way in or out of the Falkland Islands was a ship, once a month. And the ship was not due for several weeks. So, I found out that there was a little Danish ship going around visiting the out ports in the Falklands, to pick up wool, and that I could buy a ticket on that for a week or two, cheaper than I could stay in Port Stanley. And besides, see all the back ports of the Falklands. So, I did that.

BS: *Are those farmers?*

HN: Oh yeah. I visited all the ranches and it was fun to go up and talk to the ranch managers. See the sheep and all the rest. And there were several young fellows from the British Antarctic Survey who were in the same boat I was, so they went along with me. So, there were three or four of us that did this. It was a fascinating experience.

BS: *Did you meet Ronnie Nathier?*

HN: I don't remember.

BS: *He's in his nineties now.*

HN: I probably did. I met all the ranch managers.

BS: *The tourists go to his farm and have tea. Special tea. Sheep farming has kind of picked up, so he's selling tea and charging the tour ships.*

HN: Plenty of things to see there. Finally, we came back to Port Stanley and I caught the *Darwin* and went up to Montevideo on that and then flew home. So, that was '62, and then I was turned into a bureaucrat for three or four years.

(End of Tape 1A)

(Begin Tape 1B)

(000)

BS: *This is a continuation of Admiral Nygren's oral history that picks up as he comes out of Montevideo back to the United States after an Antarctic Treaty inspection.*

BS: *No de . . . You returned, no de-briefing from the Inspection tour?*

HN: I wrote a complete report to my boss about where I'd been and what I'd been doing, which he then forwarded over to Harry Dader's office. But, I never, for several years, saw anybody from that office. So, it was like, "OK Harley. Disappear for four or five months, and no news is good news." I could send a letter out by slow boat to China and every once in a while I would try to get my wife informed as to what was going on, but the office didn't seem to care.

BS: *This is interesting. On the paper I wrote, I didn't know about any of this, but I would have inserted something that we were feeling our way along as to how to do it.*

HN: Well, we were, that's for damn sure.

BS: *I think Kennedy probably had a very careful look at it and formalized it so that we did make an inspection and showed that it wasn't going to hurt.*

HN: Well, I gave them a heck of a report. I'll tell you that. It was a long and detailed report about what I'd seen and what I suggested and I gave them some recommendations. But, it was like, "OK, where have you been for the last four or five months?" you know.

BS: *Well, it's really interesting. Ron McGregor, who I interviewed the other day, was Captain in '61- '63 down there.*

HN: I know Ron very well.

BS: *Ron was in '61, '62, '63, down there and after the Treaty was ratified, that season which was the '62- '63 season, the Russians came in to McMurdo about December, ten of them and they stayed 20 days, and they were building the nuclear power plant and they worked beside all our people and everything and there was big camaraderie. It wasn't a formal inspection either. They just came over and worked with us and everybody had a grand time. And half of them were military and half of them were scientists. I didn't know that. But, I think they thought that's how inspections would be. After we made the formal inspections, they never came and made an inspection. We had exchange scientists all throughout the years, wintered over.*

HN: We had weather service guys that actually lived at the Russian bases for a long time.

BS: *Oh, yeah. Mort Rubin, Gordon Cartwright. I've interviewed them both. Gordon I interviewed when he was 91.*

HN: When did you interview Mort?

BS: *About a year ago.*

HN: His health wasn't very good the last time I saw him.

BS: *Well, his health is good. He can't see, but he says don't feel sorry for me. He and I went across town because we had so much radio interference; it was screwing up the tape at his home. So, we got on the freeway and NSF gave us a room. He goes along with his cane and*

everybody and his brother wants to help him. He can actually get along on the metro system as long as he can hear the announcements.

(50)

HN: I worked with Mort and I met Gordon Cartwright in Geneva.

BS: *Yeah. He stayed on after he retired as official US host.*

HN: Well, the whole thing was interesting. It was so informal. It was almost on a personal basis. The folks in the British Antarctic Survey were very good to me and I developed a number of friendships there that kind of died away as the guys have gotten old and died off. But, it was kind of the chance of a lifetime, because I had no instructions. I had no orders. I was just to go and do *something*. So, there was an aspect of it that was fun, of course, with a total lack of direction. And I guess I did a good job. No one ever really told me I did. But, it was productive. It was certainly interesting. Not all that many people got to do this kind of thing at that time.

BS: *Well, you were the first, I think.*

HN: And I enjoyed running around on the little ships of the BAS, which were similar to ours. I was able to help them here and there. I helped them make little hydrographic surveys down in the Argentine Islands. I earned my keep while I was with them.

BS: *How many tourist zodiacs get hung in the Argentine station because there are rocks all over the place.*

HN: Well, this captain was a gutsy skipper. He took that little ship in lots of places where you could see the rocks going by. It was a fun . . . I actually became part of the crew on a number of cases They were very short-handed. One night we were anchored off of Adelaide Island. The wind shifted and the ice started coming in and the ship swung on her anchor and started

pounding on a rock out there and nobody knew about it. I mean really pounding. And we had to get that little rascal out of there. I ended up taking the wheel for a couple of hours.

BS: *Two screws?*

HN: One screw, variable pitch propeller. I ended up actually taking the wheel. When it was all over, the captain came in, he and I had all these discussions how they would say hard to starboard, hard to port. I would say, its right rudder, left rudder. You got starboard engine, port engine. You've got to be careful. So, we used left, right rudder, and port and starboard engines. He'd call in these commands and I'd do what I had to do and when it was all over, he comes in and he says, "Well, I see you *do* know port from starboard."

1962-66, in a way, to a sailor, was kind of interesting. It turned me into a bureaucrat and I guess the biggest thing I could say is that I was involved in all the negotiations for the reorganization that first led to the Environmental Science Services Administration in 1965.

BS: *ESSA?*

HN: ESSA. And then NOAA in 1970.

BS: *You were based here?*

HN: Yeah. Four years. I was chief of the planning staff of the Coast and Geodetic Survey. In 1966, I told my boss it was time for me to go back to sea. We were going into another reorganization and I had enough of that.

So, I was a temporary Captain. In August of 1966, I took off my four stripes, put three back on and went back to sea. I was back on the survey ship, *Surveyor*, which was working the north Pacific, on the same type project I'd been on before. And I became Executive Officer. In the spring of '67, we were involved in some tropical experiments. The Line Islands experiments

down south of Hawaii. And we had a project in the Mexican Islands off of Mexico with some Mexican scientists.

(100)

And then we went to the Bering Sea. We worked southeast Alaska. We worked the Aleutians again. In the Bering Sea, in 1968, I became Captain of the *Surveyor*. The Captain was promoted and they moved me up to Captain. I was still a three-striper until a little bit later in the year when I got my permanent promotion to Captain. But, when I relieved the Captain, we were in Cook Inlet and we'd been working in the lower reaches of the Cook Inlet. *Surveyor* was a bigger survey ship with 36 ft hydrographic launches, but essentially the same operation. Putting in shore control, hydrographic surveys, tide gauges, and shortly after I took over command in '68, we took her down to Hawaii, and then back to the United States. I hope the chronology is straight here. '68, we were back in the Bering Sea, and in August of 1968, I was relieved in Nome. Now, we had been working as far north as the Cape Prince of Wales. This was a little bit different type of survey. We were not just measuring the depth of the water and so forth. We were measuring the gravity field and the magnetic field.

BS: *Geophysical?*

HN: It was a big geophysical survey. It was supposed to be the prototype for a lot of continental shelf surveys that were to come. So, once again, it was kind of a pioneering effort.

BS: *So, you did the geophysical work in shore or . . .*

HN: All across between St. Lawrence Island and Cape Prince of Wales. Right up into Norton Sound and all the way across. Big area.

BS: *You didn't do the whole Bering Sea.*

HN: No, no. Just north of St. Lawrence. In ensuing years, they moved it farther south, but in this time, we were just taking on that one stretch - Sledge Island, Nome, St. Lawrence Island and Cape Prince of Wales. And we had shore camps on Sledge Island, Cape Prince of Wales, Gamble Island.

BS: Did you get ashore at Little Diomedede, by chance?

HN: No, I didn't. You know, I have totally neglected one aspect of this thing. And it was in 1962 . . . 1959 . . . good night! 1959, when I went ashore at the University of Washington for a year, 1960, I also went to Alaska with the *Brown Bear*, the University of Washington's research ship and we were up there about three months. And I was the only one on the ship that wasn't on the payroll. Professor Fleming wanted me to go. I didn't know why he wanted me to go, but after I went I found out why I was needed there. They needed somebody with some field operation, some sense of how to organize things. They really did need me on that. The *Brown Bear* was a 128 ft wooden ship, a former fishery research vessel, and we had her up in the ice off of Point Barrow, briefly, which was not a comfortable situation, as far as I was concerned.

(150)

BS: *How thick was the hull? Former mine sweeper?*

HN: No. It was a specially build research vessel, built for the Bureau of Commercial Fisheries and after they wore it out, they turned it over to NSF. NSF turned it over to the University of Washington. It served for many years as a research ship for them and then it finally was turned back to NOAA, actually, and became a house boat. I don't know what happened to her. Beautiful

little ship. Washington Estep diesels, twin screws. Captain was Captain Princehouse, who was a marvelous guy. But, I learned a lot about how the academics run field projects on that. Oh man, a little discipline in their system would have done them a world of good.

I can give you one more sea story if the flavor of it would help any, but at one time they were taking what they called a hydrographic survey off of Point Hope and I didn't really have any assigned duties. I was supposed to help out everybody, which I did. So, I went out to see how they ran a hydrographic survey and it was kind of fun watching them. It wasn't what we called a hydrographic survey. The standardizations and calibrations were missing, but for scientific purposes, it was fine. It defined this escarpment that's off Point Hope. And the young fellow that was in charge of that folded up his book and said, "OK, that's it," and he left the bridge. And the guy running the echo sounder went away, and pretty soon there was just the mate and myself up there. The mate looked at me and said, - I don't know if you want to record this, but its fun - but, he said, "What are we supposed to do now?" I said, "I don't know. You want me to find out?" So, I went down to see the Captain. I said the mate would like to know what he's supposed to do. "What is he doing? Is the guy through?" "As far as I know," I said. "He folded up his book and left." He says, "Well, go talk to the chief scientist and see what he wants to do." So, I went down and dug Fleming out of his bunk and said, "Captain would like to know what you want to do next." He says, "Well, is the chief geologist through?" I said, "I don't know. He left the bridge." He says, "Well, find out." So, I went down and got the chief geologist and he said, "Yeah, well, we're all through." Back to Fleming. He says, "What does the chief biologist want to do?" So, I dug him out."Well, I don't know. I don't want to do anything." And back up to Fleming, "No, he's all through." He says, "Well, how about the chief chemist?" So, I went down and dug him out."No, he's all through." Finally, Fleming says, "Well, what's the Captain want to do?" I said,

“I don’t know. Want me to find out?” I found the Captain and said, “They’re all through.” He says, “Well, is it up to me?” I said, “Yeah, you do whatever you want.” He said, “Well, what are we doing? We’re still headed south.” This had been about an hour now. We’re charging south at 9 knots. And he says, “I’m going to go into Point Hope.” So, I went back on the bridge and said, “The Captain wants to go into Point Hope.” So, the mate turns the ship around and goes back up to Point Hope. The Captain’s pretty fed up about this time, you know. Some spare parts are on the beach waiting to come out to the ship and it’s pretty rough and the Captain swings the dory out and rows himself ashore. Now, he knows he can’t get back, and he radios out and says, “I can’t come back out.” Well, the chief mate was a master mariner, old timer, so he took charge of the ship and we went charging off into something else and after three or four days, we came back and picked up the Captain.

BS: *Sober? Was he sober?*

HN: Oh, he was fine. Captain Princehouse was a marvelous guy. But, that was the year I spent at the University of Washington. I found myself back in Alaska, back in the ice.

BS: *Did you meet Norbert Untersteiner there, by any chance?*

HN: I sure did. I met all those folks. I was the chief Bluenose on that cruise. I was the only one that had been across the Antarctic Circle, so I had to paint all their noses blue and put them through the initiation up there. That was fun. Anyway . . . where were we?

1968, I got relieved. Got promoted to Rear Admiral, came back here and got involved with the organization of NOAA. 1970, NOAA was formed and I became the first director of the

NOAA Commissioned Officer Corps. Ten years later, I was still the Director of the NOAA Commissioned Officer Corps.

(200)

BS: *Still the Director.*

HN: No promotions. No nothing for ten years.

BS: *Well, did they have a position for you?*

HN: Well, it was a statutory position. I was a Rear Admiral upper half. I was doing fine, you know, but the way the pay scale worked at that time. Toward the end there, with 36 years of service, I was working for my ration and my rental allowance.

BS: *Tell me, what programs were you involved in doing – I'm focusing on the polar regions. You had some ships go up there that you directed. Did you go visit them?*

HN: I visited all the ships.

BS: *I mean when they were up in the ice?*

HN: No, when we were up off Alaska. There were three ways to handle the ice, Brian. One was the Coast Guard way where you charged through the ice. The Navy way was to go under it, and our way was to go around it. But, I did get to break ice with the *North Star* in Alaska. I broke ice with the *Edisto* down in the Antarctic and I broke ice on the Great Lakes with the *Mackinaw*. So, I had plenty of ice breaking time thrown in on these other projects. Not an Arctic project, but I was involved in a demonstration project to extend the navigation season on the Great Lakes. And

that involved a lot of winter work in the ice, trying various expedients and methods of extending
...

BS: *When you were Director of NOAA?*

HN: Yeah. That was one of my jobs, to represent NOAA on projects or task forces or commissions where more than one piece of NOAA was involved. And usually it was in the marine area because the leadership was all atmospheric. They didn't give a darn about stuff like navigation on the Great Lakes. So, whatever had a marine orientation, I usually got involved with like the committee on the delimitation of the US coast line, the law of the sea task force, oil spill task force, interagency committee on oceanography and all that kind of stuff fell into my lap. So, it was a fascinating job besides being the Director of the NOAA Commissioned Officer Corps.

BS: *You didn't have much time to spend in the field, did you?*

HN: I found enough time. I did. As part of the Interagency Arctic Research Committee, I made a number of trips to Alaska, to Barrow. I think the last time I was in Barrow, was 1976. So, I got around. I was not content being just a bureaucrat. I had to have my hands in what was going on.

BS: *Tell me about the Interagency Arctic Research Committee. Who was on it?*

HN: Oh, man. I was on it for so long that there were lots of people . . . All of the NSF representatives, you know. Bob Rutherford. You name it. All the guys in that position were on that committee. And then they had folks . . . well Ron McGregor was on there for many years. And I was on there for many years. The academics kept coming and going, but us feds managed to stay pretty well locked into it.

BS: *Ed Todd get on?*

HN: Ed Todd was on there, yeah. You betcha.

(250)

BS: *He was the action guy when I came back from Deepfreeze. He was being run by two captains on his back. But, it was frustrating to me, so I would just go off and do what I knew to do. And most of the scientists worked through me in the Arctic – the leaders of the program. So, I'd support their science in the field. Then I'd get criticized for it. So, we'd have to straighten things out, you know. What do you want to do? It was tough, because Ed didn't know what he wanted. And he wasn't close enough to the science. I was used to my first tour with NSF, I went down with Deepfreeze when Bill Smith ran things and he'd say, "Go find this pilot, let's see, his name is Shoemaker. Find out what you want to do and don't bother me until it's done." And that worked well. And we worked it out how we were going to support them in the field and I was there with the helicopter. When I came back, they had to get involved and it didn't work too well.*

Tell me, you said you broke ice with the North Star.

HN: Well, that was in 1949, when the *North Star* was accompanying the LST convoys that were going up there so she had to stay out because she had too much draft and the LSTs were inside. So, I had to run out through the ice to the *North Wind* and find out where these LSTs were. I was aboard for a while there. In 1970, I went back to the Antarctic as part of the inspection team with the US base – it's all VIP stuff. They still do that, I guess. And that was an interesting couple of weeks right there. And I had never visited an American base up to that time.

BS: *You went to McMurdo.*

HN: I did.

BS: *And when you say inspection team, was this for reconstruction or . . . ?*

HN: No, they just sent a bunch of wheels down there – NSF sent a bunch down and the Navy sent a bunch down. They filled the airplane up with a dozen of us or so and took us down – my god, it took forever to get there in 1970. I remember that. We had to drone across the country, then we had to drone out to Hawaii, then we had to drone down to Samoa and then down to Christchurch. And then 8 hours down to McMurdo. And then another bunch of hours into Byrd Station. And then another bunch of hours into the Pole. So, I got more flying in in a couple of weeks than I had in a couple of years.

BS: *C-130?*

HN: Yeah. I had a lot of fun. Admiral Kelly Welch was in charge down there at that time and when I got down to McMurdo and finally met him, I looked at what was going on at the South Pole and about half the people there were Navy people or support people. And the other half were scientists. And most of the scientists, when we added it all up, were guys from NOAA. There was the service guys, the geophysical guys, the atmospheric . . . half the people there were NOAA, so I thanked Admiral Welch for the support he was giving to NOAA. NOAA was brand new at that time and I thanked him for the fine support he was giving NOAA providing this miraculous logistic base down there and he told me to go to hell.

One of the things that I really have to get in here is that because of this Inter-agency hat that I had on, I got in on the ground floor of a lot of things. And one of them was a thing called the committee on delimitation of the US coastline. It turns out to lead into law of the sea, and I

got involved in the law of the sea negotiations with Ambassador McKernan and Burt Britten and others and I got to go to a number of international conventions – the IOC and various others – so it was, you know, it was just a marvelous opportunity to get around and meet the folks. I got to visit the International Hydrographic Bureau in Monaco. I got to visit the World Meteorological Organization in Geneva. I got to know all these folks and then I could come back and front for them if necessary when all this stuff was going on when the whole organization was up for grabs in a way. But, one of them I particularly enjoyed was this committee on the delimitation of the coastline which led into the law of the sea and the continental shelf problems - they were trying to define the continental shelf and so forth. Working with some marvelous people there like Dr. Hodgson from the State Department, who was the geographer at that time, and Alexander who later was the geographer. I had just a great time dealing with a lot of interesting people and a lot of interesting problems and that's one of the things that kept me alive during that ten years.

BS: *I would think that in your job, you're dependent on different groups to get your people into the field and that gave you the entrée to get around. And you were servicing a lot. I mean, everybody uses your maps and charts. So, it sounds exciting to me.*

HN: But, I got in this mix of assignments where I worked for and with the Navy, for and with the Air Force, for and with the Marines, for and with the Army. And even for 6 months, I was with a special weapons project in New Mexico, so being a NOAA Corps officer is not a conventional career. Every one of us was not poured into a mold and spit out to follow a career path. We all had these marvelous opportunities to do a lot of different things. I used to listen to the old timers when they would retire. They would say, "Well, now, if I had it to do over again, I sure would. I enjoyed every minute of it." Well, I knew I would never say that. I didn't enjoy every minute of it. And I was thinking while I was in the business, 'Would I do this again?' And,

I always said “No, you’re never going to say that because you keep hoping.” Well after you’ve been retired a few years, did I enjoy every minute of it? Yeah. Would I do it again? Hell, yes. It all was summed up in the words of a mechanic for Wein Airlines that I ran into down at Wainwright in February, ’49. He had a Norseman down there and he was changing the engine on this airplane. It was 50 below zero. He’s got a canvas tarp up over the nose of the plane and he’s got one of these plumber’s burners going so he could work. He’s got a 12-year-old Eskimo boy helping him, and at 10 o’clock, he’d come up to the schoolhouse where we were staying, for a cup of coffee and he’d go back down and then come up at noon. And I watched him, his hands all black and colder than hell. It was so cold that we couldn’t fly. And I asked him one time if this wasn’t a helluva way to make a living. He said, “Oh yeah, it is. But, it’s going to be fun to look back on some day.” And I thought, ‘Man, he’s got that nailed cold.’

BS: *He had more insight than probably anybody with three PhDs.*

HN: I took that chunk of philosophy and when things were getting real nasty and mean, I’d tell myself, well this will be fun to look back on someday. But, it really was a lot of fun. It was hell on my family. It really was.

BS: *It was tough on my wife when my kids were in high school.*

HN: Summer of 1950, when we were living on Cross Island in tents and sometimes living on the boats, working out there on the ice and of course, the ice was foggy and it was cold, kind of miserable getting our fresh water off of the ice floes. One of our electronic stations was on a little island called Gull island. So, they were running out of gasoline. So, I took the afternoon and I took my boat and I ran down there and as soon as we got away from the ice, the sun came out. This was August. Gee, it was nice down there. So, I resupplied these guys and I didn’t want to go

back out. And down in the corner of one of my survey sheets there was this area that was low priority. They said to get around there if you can, but don't worry about it if you don't. I said, well hell, we're here. Why don't we do that? So, we spent the day surveying this bay down there. Nobody had ever been there. Nobody was ever going to go there because it was the end of nowhere. But, we spent the day surveying that thing, running back and forth in the sunshine having a good time and at the end of the day, we went back out to the ice and fog and all that crap. And it just turned out that that was Prudhoe Bay that we surveyed down there where nobody's ever been, nobody's ever going there. I surveyed the whole damn thing just as a way of staying in the sunshine for a few hours. And the next time I was in Prudhoe Bay was in 1976, I think, and I couldn't tell the difference between what was there in '49 and '76, which was just astounding. But, right in the middle of their camp was one of my survey stations, still there. Right there. So, it's just one of those little things.

(End of Interview)