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AN INTERVIEW WITH NIR BARNEA
FOR THE
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INTERVIEW CONDUCTED BY
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TRANSCRIPT BY
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Molly Graham: This begins an oral history interview with Nir Barnea. The interview is taking place on February 10, 2020, in Seattle, Washington. The interviewer is Molly Graham. Can we start at the beginning? Could you say when and where you were born?

Nir Barnea: I was born in Kibbutz Hagoshrim, in Israel.

MG: I'm really curious about your family history. I have a feeling we'll spend some time talking about it. Could you tell me your family's story, starting on your father's side?

NB: Sure. My father was born in Mannheim, Germany. His father was basically a German patriot. He fought in World War I. He was decorated. He came back to Mannheim after the war. He worked for Deutsche Bank, and he met my grandmother. They got married, and they had two children: my father, who was born in 1929, and my uncle, who was born in 1925.

MG: What year was your grandfather born?

NB: My grandfather was born in 1892.

MG: What do you know about your grandfather's service in World War I?

NB: I'm not familiar with the exact details, but I do know that he served in the German artillery on the Russian front. He fought there for a while. He was decorated with the Iron Cross. There's a famous photo of him with Russian soldiers, either before or maybe even during the war. At that time, people took a break from the war, from the fighting, and got together for a smoke or what have you. So there's a photo of him there.

MG: That's interesting. I'm already jumping ahead, but in doing this research, you had sent me some links to archival images that your father donated to a museum. Which museum was that?

NB: The museum must be the Holocaust Museum in D.C. It is also possible that he – he also donated some documents, and maybe was interviewed by Yad Vashem in Israel because my father is a Holocaust survivor.

MG: I was curious how all of those artifacts and photographs survived and where they lived until they were donated.

NB: My father had some photos, but these photos I don't believe were kept by my father because my father and his family were deported from Mannheim, Germany, in October of 1940, and were sent to two concentration camps in France; first, Gurs, and then Rivesaltes, from which my father then was later transferred to a children's home in Southern France. I don't believe that he kept the photos with him because, at some point, he had to leave the children's home in secrecy, go on a train with one adult, pretend that he is a sick kid going to some sort of a convalescence home. I am sure that he was not allowed to take any documents. I think that the photos he had he got from relatives in the United States that escaped Germany before the war and kept these photos, and perhaps from other organizations that took photos, and then my father got them after the war.

MG: What do you know about your father's family's life before World War II?

NB: The family was comfortable. My grandfather, his name was Erwin [Heilbronner]. He worked for Deutsche Bank. He was a department manager for Deutsche Bank in Mannheim. He worked for Deutsche Bank until 1937. Deutsche Bank actually treated him fairly and kept him there even after they were supposed to fire him, according to the racial law at that time in Nazi Germany. They kept him there, I believe a day after he completed twenty-five years of service to the bank, and then fired him. At that point, he could collect half a pension. Also, they gave him a medal and a trip for two to Italy.

MG: Did he take that trip?

NB: He did. The kids stayed with their grandma. The kids could not come because the Nazis were concerned about him leaving Germany with the kids. The whole family lived in Germany, and that way, they basically kept the kids as hostages.

MG: Did he find work after he was fired from Deutsche Bank?

NB: He did find work for a Jewish agency that helped the Jews in Mannheim. I'm not sure what his pay was; I'm sure a whole lot less than the bank. He had a pension from the bank, so they could survive. They were much better off than most because Jews at that time had to deal with persecution, confiscation of their property, and sometimes even beating and murder.

MG: Can you tell me more about your grandmother?

NB: Her name was Flora. My grandfather, by the way, was born in Memmingen. My grandmother was born in another town, Speyer. But they got together in Mannheim. I think she also studied. They got together in Mannheim, and she worked in the home with my great-grandmother, her mother. They lived in a nice apartment in a nice part of Mannheim, from which they had to move into a smaller, very crowded building together with other Jewish families, but a building that became basically a mini-ghetto, from which they were deported in 1940.

MG: When were they moved into this apartment building?

NB: They moved to an apartment in that building, on a street called Merzelstrasse. The building was Merzelstrasse number 7. They moved there a few days before Kristallnacht. [Editor's Note: On the night of November 9-10, 1938, SA stormtroopers and German civilians, with the cooperation of the Nazi regime, carried out a series of attacks against Jewish communities throughout Germany and Austria known as Kristallnacht.] Kristallnacht was November 1938.

MG: Can you say more about what happened then?

NB: So, from my father's recollection and his interview for the [University of Southern California] Shoah Foundation, his father was arrested earlier, before Kristallnacht, and was sent

for – he was arrested – preventative arrest or something like that, and was sent to Dachau for six weeks. During Kristallnacht, a bunch of basically hooligans – Nazi youth, “Brownshirts,” spread all over towns in cities in Germany and Austria, and beat up the Jews, and destroyed their properties. It was mostly destruction of property, but there was also beating, and over a hundred people were killed. There was a lot of destruction of personal property, and there was burning of synagogues, desecration of Jewish important sites, holy sites, and in their house on Merzelstrasse 7, in their building, a lot of damage was caused, but to their specific apartment, not much damage was inflicted because the Nazis came and my grandmother had a sense, the coolness of mind, to show them the Iron Cross and the officer bars that her husband earned during World War I. They were impressed, and the only thing they destroyed was the phone. They hit the phone and broke it. A day or two later, a technician from the phone company came to repair the phone. According to my father, he really cursed the Nazis because they caused so much work for him, repairing all these phones. So we see the irony of the whole Nazi regime. On the one hand, a bunch of – I don’t know what to call them – lawless hooligans came and beat up people and broke property. On the other end, an order is an order, so somebody from the phone company came and repaired the phone, even though it belonged to Jewish customers.

MG: What happened next for your family? Did they stay in that apartment?

NB: They stayed in that apartment. My grandfather came from Dachau six weeks later, and it really impacted him. His head was shaven, and it really broke his spirit. Like I said earlier, he was really a patriot for his country, a patriot for Germany. I think he kept on believing that the thing will turn for the better like many Jews thought. Nobody could possibly imagine the thing would be so bad. So they did not leave Germany. When they decided to leave Germany, it was too late, and they couldn’t. So they tried desperately to get out of Germany, and nobody would take them, including the U.S. According to my dad, they got some (gray?) visas that were obtained semi-legally from the Cuban consulate. But after they got those visas, the visas were canceled so they couldn’t leave to Cuba. So basically, they stayed in Mannheim. Then in October 1940, they were deported from Mannheim. There were about two-thousand or twenty-five-hundred Jews left in Mannheim, about six thousand in the whole area. Everyone was deported to a concentration camp in France called Gurs, and maybe some other places. When they were deported, they were actually relieved that the train was taking them to France because they knew that conditions in the East, in Poland, were much harsher.

MG: Were your grandparents active in the Jewish community in Mannheim?

NB: They were. My grandfather was active in the liberal synagogue that they belonged. My dad sang in the choir. My grandmother was also active. As I said, he was active in that charity organization where he worked after he was fired from the bank. And he played the cello. My grandfather played the cello quite well. All the musicians – and he played for the Mannheim Symphony Orchestra, but he was fired from that as well. So Jewish folks came to their home, the first apartment that was large, to play together. I think after 1938, social interaction was much diminished. It’s not in my father’s interview, but that’s what I understood. People were trying desperately to get out of Germany, and they couldn’t. They stayed there. They basically lived pretty much day-to-day.

MG: Did your father ever describe the events leading up to their deportation in 1940, and the discrimination and persecution they faced?

NB: Yes, he did. He said the process was not instantaneous. It was like a salami process; cut it piece by piece. First came this rule, and then came the other rule, and then came another rule, and one discrimination followed another, not everything all at once. It was definitely harsh discrimination, much suffering that continued over the seven years since the Nazis took power until the Jews were deported from Mannheim. It was increasingly worse. Then, after Kristallnacht, which was really terrible, things actually were worse even still. At that point, the Jews lost any illusion that things would get better, but at this point, they were not able to get out of Germany easily.

MG: Can you say a little more about when your father and his family were transported to France and what that was like?

NB: So the transportation of the Jews from Mannheim – at least what I can say about my father's transport – it was in passenger cars; it was not in the boxcar that we associate with the deportation of Jews to the death camps. It was passenger cars. Although it was crowded, it was humane. There was water. There was some food. Each person was allowed to take one suitcase with clothing and some money. I think a hundred German marks or so, which was not insignificant back then. They were very anxious, of course. They were deported not from the main train station of Mannheim, but from another one, a side station, a more remote station, because the Germans were concerned about their image. Even they were concerned about public opinion. They were concerned a lot about public opinion and image, and they didn't want the larger non-Jewish population to see how the Jews were deported. So they took them all to a smaller station outside of Mannheim. They loaded them on the train there and sent them to France. The journey took about three days.

MG: Your father would have been about eleven years old at the time.

NB: Correct. He was born in May 1929, so he was eleven.

MG: Do you know what he packed in his suitcase?

NB: I don't know that. I assume clothing. My father was very practical. My understanding is that his parents were practical as well. So probably clothing and whatever was necessary for the road.

MG: Did they have other relatives that were deported as well? What was their fate?

NB: Their grandma was deported with them. They lived with their grandma throughout. My father's grandmother, on his mom's side, lived with them, first in the first nice apartment that they had, and then she moved with them to Merzelstrasse 7, that mini ghetto, and lived with them the whole time, and then she was deported with them. So it was my father and his brother, the two parents, and the grandmother.

MG: Where was the first camp that they were sent?

NB: It was Gurs, which is in Southwestern France, close to the Spanish border. The conditions were very harsh. The buildings were built, I believe, to house Spanish prisoners of war from the Spanish Civil War, but the building was deteriorating already; they were built of cheap material, there were no windows. [Editor's Note: The Spanish Civil War, fought between the Spanish Republicans and the fascist Spanish Nationalists under Francisco Franco, lasted from July 1936 to April 1939.] So it was basically a frame and tarpaper over it. They leaked. It was cold. It was very rainy. It was very muddy. The sanitation facilities were horrible. Many people died from hyperthermia, malnutrition, and diseases. Hundreds of people. It was not similar to the concentration camp or the death camp that people are familiar with because the guards were French. They were not cruel, although some of them were stricter than others. But there was no direct cruelty towards the prisoners, but many of them died anyway just from the conditions.

MG: How was this explained to them? What were they told was happening?

NB: I think they were just told they were being deported. At that point, they did not really have many rights. They lost their – the Nuremberg Race Law of 1935 practically deprived them or stripped them of their citizen rights in Germany. They were not allowed so many things that were associated with citizens in good standing that basically, at that point, they were humiliated to the point of second, third, or fifth-degree non-citizens even, if you may call it. At that point, they had no rights. They were basically prisoners of the German Reich. They moved to the free France, which was not free; it was under the Vichy government and under the control of the Nazis. They were prisoners, prisoners of Germany.

MG: How long were they at Camps Gurs?

NB: At Gurs, they were for about half a year. Then families were transferred to another concentration camp called Rivesaltes, which was in Southeastern France. It was drier. It did not rain much. The buildings were made of bricks. Better buildings. They had windows. There were some beds. There were some mattresses. My father continued to stay with my grandma, so with his mother, and his brother stayed with his father. That's the arrangement that was there from the beginning. There was no separate accommodation for the children. So younger children stayed with their mother. Older children stayed with their father. So my father stayed with his mother and continued to stay with his mother in Rivesaltes. In Rivesaltes, they studied. There was a French teacher from a nearby village that insisted on them speaking French. She insisted on them learning. She was harsh, but she treated them with respect. She insisted on them learning, and they did. So after a few months, they spoke French fluently. They probably picked up on French before in Gurs. So she taught them different things, but obviously, it was not like an ordinary school. There was also some assistance from the Red Cross. They got some extra nutrition. All said they were always hungry. The conditions were not good. The food was insufficient and bad – low quality. Everyone was basically malnourished. Shortly after the move to Rivesaltes, my father's grandmother died. She got sick with dysentery and died very quickly.

MG: You said your father stayed with his mother. Were they in separate barracks or camps?

NB: They were in separate camps in Gurs. In Gurs, it so happened that the women's camp was actually worse. There were some sidewalks or some semi-paved paths in the men's camp. In the women's camp, it was just mud. I don't know why. Probably incompetence. But the women got the worst of the two camps, of the two locations at least. Gurs was huge, so it was not just the Jews; it was other prisoners. In Rivesaltes, they also stayed in separate places, but they were allowed to see each other for two hours a day if I remember correctly. The conditions were somewhat better in Rivesaltes. It was more geared to family. But still, conditions a little better did not mean that conditions were good.

MG: When your great-grandmother passed away, how did they observe her death? How was it dealt with?

NB: I think it was actually my father's grandmother, so it was his mother's side. They buried her here there. It was one of many. So I guess they buried her according to the Jewish tradition and did the prayer and the ceremony, but it was done, I'm sure not – the necessary and sufficient, not elaborate. It was impossible to do elaborate burials, like are commonly done when so many people die all the time.

MG: I read that your grandparents were involved in the camp kitchen.

NB: Yes, my grandfather continued to – I guess he had very good organization skills. He was a good manager, which my father actually was, too, although he did not like to be a manager. So my grandfather continued to work in an internal aid organization in the camp to help with the distribution of food and to help those who need it most to make it as fair as possible. But I don't have that many details about what exactly they did.

MG: Your father and his brother were involved in a Jewish scout movement in the camp.

NB: Yes. The Jews really tried to – basically, the interned Jews, the prisoners, really tried to do what's best for the kids. They really tried to give the kids some sort of a framework, some sort of a – if not a formal school, then at least try to provide for them some resemblance of what they would have gotten if they stayed outside the camps. Yeah, there was some sort of a youth movement or some sort of organization for the kids to keep them busy. Otherwise, it would have been so much more difficult. But the fact that my father studied in the camp and there was a teacher there that came from a nearby village really added a lot to – was a gift to him because the fact that he could speak French fluently when he left camp was a huge help later.

MG: Did the youth organization have a name?

NB: I don't remember it. It could be OSE [Oeuvre de Secours Aux Enfants or Children's Aid Society]. I'm not sure. [Editor's Note: Daniel and Kurt Barnea were involved with the Eclaireurs Israelites de France, a Jewish scout movement, at the Rivesaltes transit camp.]

MG: I read that the OSE arranged for your father and brother to be released. What was the OSE?

NB: It was all legal. It was all proper. The OSE [was] a Jewish charity organization that got funding from a variety of sources, including Jews in the U.S. that wanted to help. They were in communication with the Vichy government in France, and then negotiated the release of children from the camp up to a certain age. So my father, who was twelve at the time, and kids his age were allowed to leave the camp and go to children's homes because everybody was aware that the conditions of the camp were terrible. So they were allowed to leave the camps with the assistance of the OSE. They were placed in children's homes. Some of them were placed with farmers and maybe monasteries, different places, churches, basically, out of the camp. To take them out of the camp to give them better chances. The parents all supported this because everyone suspected that things could get worse. They didn't know when. They suspected that they are not going to be forever in the camp. So in 1942, I believe in April of 1942, my father's turn came. He was sent to a children's home in a hunting castle in Southern France. He was there with one of about a hundred to a hundred-and-fifty kids. There, they really had a pretty organized routine. They had counselors. They continued some studying. My father had his bar mitzvah there, Jewish bar mitzvah, which was, of course, not a happy one without his parents or his brother. But he had friends. He had his own bed. He said that when he moved there, for the first time, he felt that he was not a prisoner anymore, that he was allowed to be a kid again. He missed his parents terribly; his parents were in the camp. I'm sure that the children, too, had a dreaded feeling about what's going to happen next.

MG: When he left the camp, was that the last time he saw his parents?

NB: That was the last time he saw his parents. In August of 1942, they sent him a letter, and that was the last letter that he got from them. They said that they were being shipped to a destination unknown. A few days later – I think the letter is dated August 9th, but I don't remember the exact date. A few days later, they were transported to Drancy, near Paris, which is basically a concentration transfer camp [for] Jews and others. From there, they were sent to Auschwitz.

MG: What about your father's brother?

NB: His brother's story was interesting, although I don't know it in as much detail because my uncle did not interview for the Shoah Foundation. We do know that when he was in Rivesaltes, he was kidnapped by the Nazis or maybe their collaborators and was sent to help build the Atlantic Wall, the line of fortification along the beaches of Normandy and others. So, he spent three months there; worked very hard, but was well-fed. He came back to camp and actually looked fairly well because he was fed well. Then he stayed in camp. His story is interesting because he was sixteen at the time. Still, they managed a few days shortly before the deportation of the Jews there; he was also transferred to a children's camp, but a different one than my father's, where he stayed for a while until the French police came looking for him and his friend. He had to escape with the help of the French underground. He made it to Switzerland eventually. A very interesting part of his escape is that the first time that he crossed the border into Switzerland, he was caught and was sent back by the Swiss into, basically, Nazi France. A very brave priest, Father Eugene, in the Saint-André Church in Annemasse, hid him in the church. A few weeks later, he sent him back across the border, helped him cross the border.

This time, he managed to cross it safely and was safe. This person, Father Eugene was an example of a person who did the right thing at great risk to himself. We see it now, people who stand up for what is right and speak up, and maybe even do the right thing. He did it. He was not caught. We'll get to it later. A person who helped my father escape was actually caught a few months later and was shot.

MG: Who was that?

NB: My father was in the children's home for about a year. A few months after he came, the French police came for the older kids and for the counselors, and they escaped, they disappeared. Then older counselors came. So the older kids were gone. Younger kids stayed in that chateau, which was called Montintin, by the way. It was now comprised of younger kids and the older counselors. Everything changed because, where before, my father felt finally not a prisoner and safe, now, all of a sudden, the anxieties of what's going to happen next all came back. He was there for a while; I think about a year. After about a year, one day he was told to pack his things and the next morning go to a train station. He'll meet somebody there who will help him. So he and another kid or two walked to the station, and there they found a counselor or one of the older counselors [inaudible] see if there's there from the interview with my dad. He took them on a train, and they pretended to be sick with tuberculosis so people would leave them alone. The cover story was they were going to Annemasse to some sort of an institution for tuberculosis patients. This person, Mr. Fizer – the teacher, who was very strict with the kids – did it on a regular basis. Then, one of the times, he was caught and was shot on the spot. So some people who did the right thing survived, and some did not, and paid dearly for their courage.

MG: When your father was able to escape, where did he go?

NB: The story of the escape is very interesting because my father was thirteen at the time. In his group, there were several kids, and one of them was three-years-old, a very young kid, who, at some point, started crying. Anyway, they were told what to do. There was a smuggler that helped them that took them close to the border. Annemasse is right on the border. So they took the last streetcar all the way to the last stop, near the French border. From there, the smuggler showed them how to cross the border, but they crossed the border on their own. So several kids, the oldest of them is thirteen and the youngest about three years old, crossing the border. They had to cross a creek and a fence. Then they were caught. They were picked up by Swiss soldiers. The Swiss, they had some strict instructions to let in and keep kids up to a certain age, but kids older than that age [should be] sent back. The Swiss had to walk a very fine line. They had to make their own compromises, but they did contribute to saving many kids, many people, including my father. My father actually was – whenever someone would say, “No, the French were so horrible, the Swiss were so horrible,” my father, who was an eternal optimist and kind person, he would point out that many French actually helped the Jews, if not enough, and the Swiss had to walk a very fine line because they were a country surrounded by Nazi Germany and fascist Italy, and was dependent on them for many things. So they had to walk a fine line. They had to compromise. But he was saved thanks to the Swiss, who took him in.

MG: And then, where did your father go?

NB: He stayed in a transfer house, and then he eventually found his way to a Jewish youth home. They had counselors there. He actually thought that it was a very happy period in his life. Although, at some point, he realized when news came that Jews in Poland were decimated, were killed en masse in death camps, he realized that he was not going to see his parents again. That was a very sad time for him. But it was basically teenagers in a boarding school for children, survivors of the war. And in 1945, he made it to Israel. By the way, when he came to Switzerland, he made contact with his brother. He knew that his brother had crossed the border earlier. So he found his brother and they visited each other every once in a while. His brother actually was sent to work for a farmer because the Swiss men were sent to defend the borders, and there was a need for help. So he worked on the farm. He stayed in a good relationship with the family that hosted him.

MG: Did they immigrate together from there?

NB: I believe that they immigrate together on the same ship, the *Plus Ultra*, if I remember from the interview, and made it through the Mediterranean that was full of landmines, so they had to be escorted. It took a while. Then they made it to Israel. It was proper and legal because much of the immigration to Israel at that time was against the British rule, but theirs was fine. So they were in another processing facility for a couple of days, and then they were sent to a kibbutz in Israel, two separate kibbutzes. My father was sent to one, and my uncle to another.

MG: Were they able to finish their education?

NB: They did not study a whole lot. My father had an incredibly curious mind, so he studied as an adult, and he studied whatever he could as a kid. They studied some. They studied Hebrew, and they worked in the kibbutz.

MG: How was it they found the kibbutz they settled in?

NB: All the kibbutzes wanted to help. There was no Israel at that point. There was Palestine that was ruled by the British. The kibbutzes were highly idealistic. They wanted to absorb the Holocaust survivors.

MG: Is that where your father met your mother?

NB: That was later. From there, the whole group in the kibbutz was drafted, or they volunteered to the Palmach, which was the precursor to the Israeli military because there was a feeling that a war was coming. So they were trained. They got some basic training, clandestine, of course; it was not allowed. When the war in 1948 started, he fought in the war. Then he helped to establish a new kibbutz, Kibbutz Iftach, in the Upper Galilee. In 1952, there was a breakup of the kibbutz movement, a very sad chapter. He ended up in Kibbutz Gadot. Before that, he met my mom in Kibbutz Hagoshrim. That's where they stayed in the end. He moved to Kibbutz Hagoshrim. She was there with her parents, and they got married. That was where they raised their family.

MG: Can you talk in a little bit more detail about those years following World War II?

NB: Sure. People can definitely find more in history books. It's a very, very complex story. The Jews were deported from the land of Israel by the Romans back around Jesus's time but kept their identity, which was a miracle, over two thousand years. At the end of the nineteenth century, the Zionist movement became prominent. Basically, the idea was that the Jews should have their own state and in the land of Israel, that they were entitled to have their own place in the world. So Jews started coming. What precipitated that were some horrible pogroms in Russia and Poland and other places. So, my grandparents, for example, on my mother's side, just said, "We've had it with pogroms and being persecuted." So they came to Israel in 1920 or '21. Other Jews did the same. When the Nazis rose to power, some Jews from Germany came to Israel. So more and more Jews came to Israel because they saw it as a solution for – it was an option for the Jewish people who were persecuted all over the world for millennia. Of course, it was a problem because there were Arabs in Israel, and it was their home, too. Although most of the land that is the state of Israel now within the Green Line was actually purchased legally, the Arabs did not like it, did not like the immigration of Jews, and there were ongoing conflicts. In 1948, the conflict broke into a full war. The British left, actually – I'll take it back one. After the war, after World War II, in 1947, the United Nations recognized that the Jewish people should have a country in the state of Israel and, of course, that was highly objected to by the Arab nation and the Palestinians as well. The British were told to leave on May 15, 1948. Even before they left, I would say that a war broke out. My father served on the Israeli side in that war. At the end of the war, the Jewish people in Israel managed to secure some borders – some of them are more secure than others – and basically have a state. So the one thing that they really had to do was absorb people from other countries, and, at the same time, to have places along the less inhabited areas of the state to secure it and become a state. So the kibbutz movement started in 1910. One of their ideas was to work the land and to protect the country and to protect their people. So, for my father, it was a perfect place to go to and be part of. My mother's parents came to Israel and ended up in a kibbutz. My mother was born in a kibbutz.

MG: How did your parents meet?

NB: They met in Kibbutz Haboshrim. My mother moved there after the split in the kibbutz movement. My father, I think, was still in Kibbutz Iftach, but he was on loan to Kibbutz Haboshrim – it was a young kibbutz – to help them with carpentry work. My father studied carpentry in Kibbutz Givat Brenner, the first kibbutz that he went to. So, in addition to studying general subjects, he studied carpentry. He loved working with wood. So he met my mom in Hagoshrim. He saw her and said, "Hi," and my mom thought, "Who is that nice guy who is saying 'hi' so nicely?" So they got to talk with each other and liked each other, and they later got married.

MG: What was your mother's name?

NB: Amira.

MG: Is there anything else about her background that you wanted to mention?

NB: Just her parents immigrated from Russia – I think either Russia or what’s now Ukraine. They came to Israel. They were Zionists. They really had it with pogroms. They were young and proud Jewish people who just could not stand it anymore. So they left the family. You need to understand that at that time when you leave your family, that’s it. You don’t come back. So they left their family. It took them, I think, two years to roll through Europe and finally make it to Israel. I think they arrived in Israel in 1920 or ’21. They worked in different places, and finally, they went to one kibbutz and then another. Then they established a Kibbutz Ayelet HaShahar, which is in the Upper Galilee, too. That’s where my mother was born. She was raised there. In the War for Independence, she was seventeen. So she was a bit too young to be a full-fledged soldier. But she did help – she was a runner, a radio operator, or something of that nature. So she helped out. After that, she went to teacher school, teacher seminar. She became a teacher. Then when she came to Hagoshrim, to the kibbutz, she started teaching a class.

MG: So tell me a little bit about how their lives unfolded and then when you were born.

NB: Well, the kibbutz was poor. I think, to begin with, they may have even lived in a tent or at least in some sort of a pretty drafty cabin. I was born in 1956. I remember the cabin that they lived in. It was made of wood. There were three rooms and a bathroom on each end. Three families lived there. But I lived in – call it the kibbutz (tradition?) at the time – in a children’s home. The kids would see their parents for two hours in the evening, and the rest of the time they would spend with their peers, with their class, in a children’s home. To begin with, it’s a daycare, but it’s a daycare throughout the day and night. So other than the two hours that the kids are with their parents in the little drafty rooms they had – hot in the summer and cold in the winter – they spent the rest of the time in the children’s home, which was much nicer. It was a brick home, right next to an underground shelter in case there was shelling. It was much safer, and the conditions were better.

MG: I’m curious about how your father processed his experience during the war. Did he follow along with the events after the war and the Nuremberg Trials?

NB: My father, like many, many people, did not want to talk much about his experience. I was curious about his experience. I remember asking a question at some point. My mother told me that I hurt him with these questions, and it is painful for him, and I should stop asking questions, so I did. But then, later in life, he began talking about it. I read later that after the [Adolf] Eichmann trial in [1961] – before that, many Jews lived in shame because they felt that they were like sheep being slaughtered, that they should have done more, but after the Eichmann trial and when the testimony came out, and there was so much courage on display, even by people who were subjected to horrible conditions, the Holocaust survivors felt much more – I wouldn’t say comfortable with their experience, but I would say they came to terms with their experience, and they were willing to talk about it. [Editor’s note: Adolf Eichmann was a German Nazi in WWII and one of the major administrators of the Holocaust. After the conclusion of WWII, Eichmann escaped to Argentina, where he was later apprehended and sent to Israel to face criminal charges. He was executed in 1962.] So it was a watershed event, the capture and the trial of Eichmann. But I didn’t see the change really, because my father, I would say, until the 1970s, didn’t talk much about his experience. But then he started talking a little bit more about it. To my knowledge, he never visited Germany and Mannheim. His brother did. So people

were different about it. I know that the German people of Mannheim really wanted to atone and to make up for – not to makeup; it's impossible to make up, but to commemorate and to discuss and to try to keep the memory alive so it would never be repeated. They invited both my father and my uncle. My uncle agreed to go; my father did not. My father, who was a very calm and kind person, on the one hand, had very strong feelings about this, that he would not compromise. So he did not go to Germany until the '70s. The reason that he went to Germany later is because he realized that there is a really strong commemoration effort. So he wanted to contribute to it. It made him feel that he should help that. So after all these years, he changed his mind, I guess, or he came to a point where he was able to talk about his experience, his own process, perhaps, and he did. So you see all sorts of interesting things happening. So his brother, who was willing to go to Mannheim earlier and participate in forums and workshops and provide his testimony, did not want to interview for the Shoah Foundation. But my father, on the other hand, who did not, was willing to interview. So I would say that both of them contributed in their own way.

MG: What was that experience like for your father? The interview with the Shoah Foundation?

NB: I didn't really ask him specifically about that. My father was a very loving man, but not one who would show it very – he was not one to kiss and hug, for example, readily. He was reserved a little bit, although he was very loving. So I think throughout the interview, he was very collected. But you could tell when things were hard for him. When he talked about when he found out that his parents perished, or when he realized they perished, it was hard for him. So the whole experience was, on the one hand, he really wanted to do it; on the other hand, you could tell that it was not easy for him. But he was also – I think he was proud of the fact that he did it. He felt that he was part of an effort to commemorate the collective experience of the Jewish people during World War II. I would say that this whole effort by the Shoah Foundation is unusual and extraordinarily important.

MG: I agree. I want to hear more about your childhood unless there was something I forgot to ask about up to this point.

NB: No, you ask very good questions, and I am glad for the opportunity. So I was born in a kibbutz, Kibbutz Hagoshrim. Like I said before, I lived in a children's home. When I was six, my father went to France. He was given the opportunity to be a counselor, an adult counselor to the Jewish youth movement in Paris. So we went with him. I learned French, but I forgot it. I'm studying it now on Duolingo. I can't say that it comes handily back. But it's fun. So we went with him. I was there in public school for two years, and then we came back. It was good that I learned French because it came handily when I studied English at school in Israel. So we came back, and then I was – I came back to Israel, to the kibbutz, to school there. So I studied in the kibbutz until the eighth grade or ninth grade. In ninth grade, we went to a district high school. So that's for nine, ten, eleven, and twelfth grades. We were in a district high school for kibbutzes in the Upper Galilee, so maybe ten kibbutzes.

MG: Can you say a little more about the classes you took and the subjects and teachers you enjoyed?

NB: I would say that the kibbutz – elementary and middle school in the kibbutz, it was interesting, but it wasn't too rigorous. It was not difficult for me. High school was a little bit more rigorous. But it was not super difficult. I really enjoyed going to school. I was too short for basketball, too clumsy for sports; I was not a good athlete, so I had to be good at something, and that was school. So at the top of my class, there were a couple of girls and me. [laughter] I'm laughing because I would do my homework, and my buddies didn't bother. So they would help themselves to my notebooks or to my homework and copied. I couldn't care less as long as they would change it enough, so it doesn't look like it all came from one source. I think the teachers – a couple of them – were suspicious, but they could never prove it. Me, I really don't care as long as I did it. If they wanted to do it, fine. If they want to copy my homework, go for it. [laughter] So there was a line for my homework. But it's interesting because all of those kids, at some point, became excellent – they went to study further at universities in Israel and elsewhere, and they really became excellent. They completed degrees that are meaningful, and they went on in life and did wonderful things. So, not that I'm advertising copying other people's homework, but it didn't hurt so much.

MG: Were you developing an interest in earth sciences or oceanography at this point?

NB: I did well in biology. I loved biology. I enjoyed chemistry. I enjoyed physics. I wasn't that great in math, but I was okay. I loved history and social sciences. So biology, physics, chemistry, history – that's a pretty diverse background. School was fun. We enjoyed it. I enjoyed it.

MG: What were you hoping to do with your career or education after you graduated from high school?

NB: I thought back then that I would stay on the kibbutz, but I knew that I'm going to get to college and get a degree. At that time, I thought that maybe I'll get a degree in agronomy and help the farmers in the area farm better and be more successful. Agronomists in the Upper Galilee have their station, and they do a little bit of research on the side and get to meet with farmers and get to keep up on the best agricultural practices in Israel and the world and basically help the farmers, help people in the field get better results. I'm sure that now it's far more sustainable. But it all changed because I came here.

MG: Well, walk me through those years in a little bit more detail. I'm also curious about your military service in the Israel Defense Forces.

NB: I finished high school. When I was eighteen, I was drafted to the Israeli military like all kids do, at least at that time they did. For guys, it was three years. For girls, it was two. So I served for three years. To begin with, I was drafted with some peers of mine to basically an accelerated track for kids from kibbutzes and moshavim. Moshavim are like villages in Israel. Because the military realized that kids like us can go to things quicker because we were already used to discipline and used to working together. Living on a kibbutz and in a village really prepares you better for military life. So it was accelerated. After half a year, I was a corporal. After a couple of more months, three more months, I was a sergeant; it didn't take long. I did not want to go to officer school. The military was okay, but I didn't really want to serve more

than the three years. I volunteered to go to the paratroopers, actually. I was in the Israeli airborne for two and a half years or so.

MG: Can you tell me more about the nature of your service, your duties, and assignments?

NB: Most of my service was in an airborne battalion. We trained. We were a staff. I was part of the staff. Basically, we trained other soldiers. We trained them to be paratroopers. It was infantry combat. So we did that. I'm very grateful that I didn't have to fight in any war.

MG: Was that ever a concern?

NB: I really didn't – for me, it was. Even as a young person, I didn't want to shoot anyone. It wasn't a priority for me. [laughter] It was a priority for me not to. On the one hand, I really wanted to do whatever I could that was in my power and my physical ability. That's why I volunteered. On the other hand, I was hoping that I would not be in a position where I had to fight, not so much for fear of what might happen, but just to kill other people or maim other people. But I think people need to realize that Israel is tiny. So when you serve, you really see – sometimes you see your own place, your own kibbutz. I remember one time I served in a place where I could see my kibbutz, and with binoculars, I could see people playing on the basketball court. I thought, "If I screw up here, it's so close. Somebody there will get hurt." My kibbutz was a mile and a half from the Lebanese border. So things were much more tangible than they are here. Here, I really respect the people who serve, but we send them overseas; I don't think there's any risk from Canada or Mexico. In Israel, that's not the case.

MG: Where you lived and went to school, were there lots of sons and daughters of Holocaust survivors?

NB: I think more than half of the kids in my class were sons and daughters of Holocaust survivors. So it was always the big elephant in the room. But we didn't mention it. We didn't talk about it much. But I do remember that when I was nine, the father of one of the girls committed suicide. He was an Auschwitz survivor. In addition to being a Holocaust survivor, he survived Auschwitz, which was a terrible camp. We don't know the reasons, but one day he hanged himself. I remember looking at other kids. Of course, we were young. We couldn't express it in words, but I'm sure that what we thought about it – we hoped that our fathers or mothers were not next. It was a horrible experience.

MG: I've interviewed other Holocaust survivors, and some have said "survivor" is not the right term because you never really recover.

NB: That's true. I would say that this is true for people who fight now in the U.S. military in Afghanistan or other places. It stays with you. PTSD [post-traumatic stress disorder] – we have a word for it and a treatment for it, but back then, people didn't – it wasn't even a term. So that's one. Yes, it's true. But some people, I guess, are better equipped to deal with it than others. My father was better equipped. And he used to say that his Holocaust was "Holocaust Deluxe," because he didn't go through the terrible camps in Poland. But I think for somebody who was

orphaned and who went to the camps where hundreds died, including his grandmother, it's not a deluxe situation in any way.

MG: At the end of your military service, you had the option of going on to officer's school?

NB: In the middle of my service, I was asked to go to officer's school, but I really didn't want to. At that time, it was more optional. They didn't force you to – forcing you to go to officer school came only later. I don't know if they still do it. But at some point, they really needed officers. There was another guy who really wanted to go, so I offered him instead, and everybody was happy. He got to go, I got to stay, and it all worked out. I had a very understanding battalion commander. I had a really good relationship with him.

MG: What did you do instead? I know you stayed in Israel for a number of years before you came to the United States.

NB: I actually left the kibbutz pretty soon after I came back. I was discharged from the Army after three years, came back to the kibbutz, left it fairly quickly thereafter. I worked in Tel Aviv and then in Central Israel, made some money. [Telephone rings.]

MG: Do you want to take a quick break?

NB: No, I'm good. I can turn it off if you want to.

MG: It's okay.

NB: So there will be some background phone ringing and not being picked up. So I worked there, made some money with a friend of mine. We went for a trip around the U.S. We got an old station wagon and hit many national parks, if not most. Then I went to Europe; I worked there for a while, and then came back to the kibbutz.

MG: Tell me more about your trip to the U.S. What were your impressions of the country?

NB: It was awesome.

MG: What year was this?

NB: It was 1978. So Americans think of 1978 as maybe a little bit of a trying time. It was after the embargo and gas prices going up. We came here. I remember looking at the gas prices and translating them into how much it would cost in Israel, and I thought, "Wow, this is so cheap." [laughter] Anyway, we got a station wagon, and we went to different national parks. We would hike a lot. I was really, really impressed both by the country and all that it has to offer and by the generosity of the Americans. For example, one day, my friend and I had our breakfast. We sat at a campground. We had a little bowl of cereal. A family or several friends at a table nearby saw us, and maybe they took pity on us. They brought us a bunch of pancakes. We didn't quite know what they are. I said, "What is it?" They said, "You'll like it. Try it." Then they brought a bottle with something brown in it. We asked them, "What's that?" They said, "That's maple

syrup. You'll like that, too. You put the maple syrup on the pancake, and you eat it that way." So we tried that. It was very sweet, but we liked it. Then we wanted to return the syrup to them. They said, "No, no. You guys keep it. We have lots of it." We thought, "Why?" It was a real generous little thing. People would help us everywhere. They were very curious. They mainly caught our accent. "Where are you from?" "Israel." "Oh, Israel. Do you know Jerusalem?" "Yes." [laughter] Pretty much everybody knew Jerusalem and some other holy sites. I thought that the country was very, very friendly. Another thing that I remember that really amazed me is that someplace in the Midwest where we stopped – we had to get something, I think, at the mall – there was a car, a convertible with the top down and a bench seat and red leather seats, or fake leather. I don't know. Anyway, in the middle, between the passenger and driver, there was a fancy camera with a huge lens. There was nobody around. I was thinking, "In Israel, that thing would be gone in no time flat." [laughter] Here they are, they just left the camera. Who knows how long the car was parked there? Very trusting.

MG: Tell me about the places you visited. What was your route?

NB: We landed in New York. We went from there along the coast to Niagara Falls, Montreal, Ottawa, Toronto, Chicago, Detroit, and then the Badlands and Yellowstone and Glacier and Canadian Rockies and Seattle. Then down the coast to different national parks and then across to the parks in the East – Smokey Mountains, Shenandoah, and the beautiful parkway in between. I think that was it. A lot of national parks – I won't name them all.

MG: Tell me about this friend you traveled with.

NB: My friend from the Army, from the military. You make friends in the military, and they last for a lifetime. I can definitely see veterans and how they keep in touch with their buddies.

MG: You mentioned when you came back, you worked in Europe.

NB: I had a job in Europe.

MG: Where was that?

NB: Well, I'm not going to talk about that much. It was a security job for the Israeli government.

MG: Okay. How did you come to apply to the University of Washington?

NB: Well, in the military, I met a girl, and she actually [had] triple citizenship. She had Canadian, U.S., and Israeli citizenship. She came to Israel in 1968 with her parents, and we dated for a while. Then she came to visit me in Europe. One thing led to another, and she visited me again in Israel because, after Europe, I came to Israel for half a year. So she visited me on the kibbutz. At that time, she was going to school here in Seattle, to the University of Washington. We decided that I'll go there, join her for a while, and we'll come back to Israel after she graduates. So I did. So from 1980 to 1983, I was here.

MG: Did you finish your undergraduate degree here?

NB: No, I just took some classes at community college. I didn't study full-swing. I took classes that I thought would be helpful to me when I get my agronomy degree – some chemistry and biology and some other classes. Then I worked, too.

MG: Where were you enrolled in school?

NB: North Seattle Community College.

MG: Where did you work at the time?

NB: I did several jobs, including being a part-time bus driver, and I worked at the golf course, including this one. [Editor's Note: Mr. Barnea points to a golf course that can be seen through his living room window.]

MG: Nearby your home now.

NB: So the first time I walked through the house and looked at this window, I could almost see myself standing there and looking up at this house. The twists of life, I guess.

MG: What were those years like when you first lived in Seattle?

NB: They were not terribly easy because we were poor. We were poor students – little money, not bad grades. But, at that time, my former wife's parents came here, and they lived here, in Bellevue actually. So it was okay. We didn't do any big trips because we didn't have money, and we really focused on school – my former's wife's school. She finished it, and we went to Israel. We came back to the kibbutz. Things didn't work out, and then we decided to come back here to the U.S.

MG: Did you come back alone or as a couple?

NB: A couple. We got married in 1980.

MG: Am I missing anything up to this point, when you return to Seattle?

NB: I don't think so.

MG: Had you started your family?

NB: We had a kid in 1982 before we went to Israel, my older son. Then my younger son was born in Israel two weeks before we came here.

MG: You had your hands full.

NB: Yes.

MG: Why did you want to move back to Seattle?

NB: I didn't. My wife did. So things didn't work out in the kibbutz. They really screwed up. They promised us – they basically lied. I wouldn't say "they." It was mostly one person who lied to us, and we came to a point where my wife couldn't use her degree, and she was very stressed out and disappointed. So the choice was to stay there and live with that lie, the deception, and try to recover and repair and see what we can do. She did try that for a while, but it didn't work out in a way that is satisfactory. Or, to come back here. At that point, I think she began to think that maybe she'd go to medical school, and that's what she did. So we came back here. She went to medical school, and I realized that we're going to stay here. No more coming back to Israel, probably. What are the options for me? I really wanted to go to school. I got into the University of Washington. I think it was easier then that it is now. But my grades were good from North Seattle Community College. It was very helpful that way. I got in, and eventually, I graduated with a degree in microbiology. Then I continued right away in the School of Public Health and got a degree in environmental health and safety.

MG: Did have other relatives who moved to the United States, or did they mostly stay in Israel?

NB: They all stayed in Israel, but they came to visit.

MG: Tell me how you came to study microbiology. You originally planned on studying agronomy.

NB: It took me a while to realize that what I really need to do is go back to what I enjoy and what I like and what I can make a living out of. So, yes, I enjoyed history. But unless you're a history teacher, it's not going to work for you very well. But I really liked biology, too. I really enjoyed life sciences, and I find it fascinating. So I looked at the degree that U-Dub [University of Washington] offered. For biology, you had to take some extra classes. With the classes I already had, microbiology was the shortest route to graduation, so I took it, which was a mistake, of course, because half the students who want to get into medical and dental school take microbiology because it's more rigorous than biology. So I had to compete with some really determined and sometimes nasty students. I didn't have the time that they had.

MG: Because you had a family?

NB: I had a family. I had to work part-time. It was intense. My wife went to medical school, and the kids were young.

MG: That sounds busy.

NB: Yes.

MG: Where in Seattle were you living at the time?

NB: Student housing. The U.S., at the time, I must say, was much more accommodating and much more generous than it is now. I am certain that we could not have made it had we come now. It would not have been possible for us. At that time, the U.S. was a different country, and much more open-minded, much more accommodating, much more far-sighted. They knew what we all know, that when you invest in people that people will make the most out of themselves, and that benefits society. That's exactly what happened with us.

MG: What made you want to go to get a master's degree?

NB: When I was taking a class, actually in safety – when I was in undergraduate school, I took graduate classes, and that was one of them. So I took graduate courses in toxicology and then I did graduate courses just for the distribution. This professor told me, “You really want to apply to our program. If you think about a master's, apply to this program because it would really suit you. We study management, but we also studied biology or life science-related classes. I think you'll enjoy it.” So I thought about it. I realized he was correct. So I applied and got in.

MG: What did you focus your research on in graduate school?

NB: In graduate school, my thesis was basically on ventilation. Again, I was looking for projects that I could do and quickly graduate. I just did not have the luxury of getting engaged in something that would be very deep and complicated and convoluted and would take me longer to graduate than I would absolutely need to. So when you have two kids, and you work part-time, and your wife goes to medical school, and you have practically zero minutes in the day that's not called for and spoken for, you just try to do your very best, but not to take anything that is superfluous.

MG: What were you hoping to do with this degree? What kind of job did you want to get?

NB: At that point, I realized that the people – I knew the people who graduated from the program, they go into the safety field or into toxicology, public health policy some of them. My advisor said, “You want to be in the industrial hygiene track.” There were three tracks: toxicology, industrial hygiene, and I think technology. Technology goes into public health and water and sewer systems, I believe. I said, “Fine.” Because, again, from a practical point of view, if I want to do something else, that's fine. But if you don't take the IH track, the industrial hygiene track, you're more limited. So I took it. It proved helpful because when I graduated and sent resumes all over, and filled out applications, at that point, the Office of Response and Restoration, or what they were called then - NOAA Hazmat [National Oceanic and Atmospheric Administration Hazardous Materials Response Program] – was looking for an industrial hygienist.

MG: So did you come to work for NOAA right after graduating?

NB: No, no. [laughter] Nothing is that simple in life, is it? Not for most of us. So, when I graduated, it was in the summer of 1991. I could graduate, I think, if I worked – I would have been able to graduate in the spring of 1991, but my advisor was wise. He said, “Stretch it a little bit. So work in the summer on just finishing it and write an article for me.” My professor

[inaudible] thesis, which was published by the way, so I can claim that. [He said], “Look for jobs. Don’t just graduate and then be on your own completely.” So I did that. Unfortunately, it was 1991. It was a recession, a short but sharp recession that cost the first Bush [George H.W. Bush] his presidency. Nobody was hiring. Only a few were hiring. So my class had a hard time finding work. But everybody managed to eventually, and so did I. So, to begin with, I worked as a subcontractor, basically doing industrial hygiene and safety work for the Everett Navy base that was being built at the time. So that’s what I did. I also filled out applications for different places, including NOAA and the Washington State Department of Labor and Industry. I got offers from both places two hours apart. I looked at both. The state paid more at the time, but the NOAA job seemed so much more exciting, so I took it.

MG: What was that position?

NB: Industrial hygienist, I believe.

MG: Tell me more about the position and what your duties were.

NB: The Office of Response and Restoration – back then, they were called NOAA Hazmat – was a relatively small group that responded to oil and chemical spills all over the U.S. They had some people in Kuwait, coming back from Kuwait from the Gulf War. My role was basically to be the health and safety officer for the organization. So we established a health and safety program that existed but was a bit neglected at the time because it didn’t have a person doing it for a while. The position was open. So we established it, made sure that there is a training program that’s sufficient for the staff that needs it, and those things in place to support them. So that’s training, equipment, procedures. That was to begin with. That’s what I did. After a while, I had spare time, so I went to my boss – I reported directly to the boss of this group. I went to him and said, “I have time. What do you want me to do?” “Well, why don’t you work on in situ burning?” So I worked on in situ burning of oil and water, which was a technology that was then developed. From that, I worked with the Coast Guard and others to establish a national protocol for monitoring in situ burning and dispersant during oil spills.

MG: Was that SMART [Special Monitoring of Applied Response Technologies]?

NB: SMART. SMART ended in the year 2000 or so. It became a protocol and the Coast Guard – it was very nice of them – gave us all some sort of a citation. It was tried during the *New Carissa* spill in 1999, and it worked out well. During other spills, dispersant monitoring was tested. So it was all good. Then there was a period of time where I was beginning to think, “What next?” and then the Pribilof [Islands] project came along.

MG: I want to stop here because I have some follow-up questions.

NB: By the way, can we pause?

MG: Do you want to take a break? Sure.

[Tape paused.]

MG: I wanted to ask you about the organizational structure of the office you worked for? Who was it under?

NB: Sure. So Department of Commerce, NOAA, National Ocean Service, Office of Response and Restoration. Then I initially reported to the Chief of the Office of the Response and Restoration, which was then called Hazmat. Then it changed, and I reported to the deputy. After that, I actually reported to the Marine Debris chief.

MG: Which was in the Office of Response and Restoration?

NB: Yes, a division within the Office of Response and Restoration.

MG: Can you talk about the origin of this office? I thought I read it formed after in 1976 after an oil spill in Nantucket. [Editor's Note: In 1976, oil tanker *Argo Merchant* ran aground and sunk off the coast of Nantucket Island, Massachusetts.]

NB: Right, but at that time, they didn't call it the Office of Response and Restoration. They didn't even call it the NOAA Hazmat; that came later. But yes, the functional group started then because they realized that there's no coherent, unified scientific information that could be provided to combat oil spills. From there, it went to chemical spills. Then marine debris was added later, and restoration was added as well. So I think a much better name for that office is the Office of Marine Pollution because they deal with pollution and with the recovery afterward. But Office of Response and Restoration is fine, too, I guess.

MG: Can you say more about what NOAA was doing in Kuwait at the time? I know NOAA Corps deployed the *Mount Mitchell* there.

NB: Yes. It was deployed, not just the *Mount Mitchell* but others because the oil spills, the deliberate oil spills that Saddam Hussain created, were huge, and a study was needed to investigate that. The military needed advice on how to deal with that. That came naturally for the office. They were recruited, and they flew there, and they helped out.

MG: So the effort involved research on the impact of the oil spill, but also mitigation as well?

NB: I don't know if mitigate is the right word. I think that a lot of it was a study of the aftermath of those big oil spills. But yeah, I'm sure that there was a need for information on how to deal with these oil spills.

MG: Can you say more about how you were introduced to the practice of *in situ* burning?

NB: Yes, at that time, the technology was developed to create booms that could hold oil in place and could withstand the heat when that oil is burned. There was a realization that oil can burn on water if the thickness of it is more than three millimeters or so. But for that, you have to corral it, so to speak, because it all tends to spread thin very quickly. So you have to corral it into that degree of thickness. For that, you need booms, unless the oil is trapped naturally. So the

technology was developed. At that point – actually, in 1989, it was tested during the Exxon Valdez, and the test was – many say it was successful, at least to a degree. So more efforts continued, but there was a need to support the ongoing experiments with booms and other things, and to create some sort of an agreement among agencies and the state that burning oil in situ on water is acceptable. One of the hindrances was public health concerns because of the smoke. To see if the public is really affected, there was the suggestion to deploy teams with portable instruments and see what the exposure is. That’s what SMART is all about. If exposure exceeds a certain level, a certain limit, then stop the burn if it’s possible. For dispersant, it was also developed. It’s to see if they were effective, not to continue on introducing chemicals into the water if they’re not effective. But I was involved more [with] the in situ burning. There was a lot of resistance to it from some states, maybe even government agencies, but I think everybody realized that there are times that it’s a good idea to do this because it’s oil that’s going to be burned anyway, maybe more efficiently, but was going to turn into carbon dioxide. What are we going to do with it? Are we going to let it sit there and be much more harmful when it’s on the water, or are we going to burn it?

MG: Can you say a little more about the factors you have to weigh when deciding whether or not to use in situ burning?

NB: First of all, as you know, as we know all know, we all live in a world that is really, really far from ideal using oil, using fossil fuels that become carbon dioxide that now basically create the global warming that we’re all experiencing. So I’ll start with that. Given that and the fact that oil is being transported and used, what happens if there is a spill. Of course, the number one thing that we want to do is to prevent a spill, to begin with. But if there is a spill, how are we going to deal with that oil? I think there’s a wide agreement and understanding that oil on water can travel long distances and can cause a lot of harm to the environment. So what are we going to do about that? Of course, if it’s possible to skim it, that would be great. But the skimmer’s capacity is limited, and even if not, they’re not very effective honestly. And even if they are, there may not be enough. So what are we going to do? So dispersant is one option. There are plusses and minuses to it. In situ burning is another option, and there are plusses and minuses to it as well. So approaching it this way and not rejecting in situ burning offhand, but instead saying, “Okay, we’re going to look at it when it is applicable and use it when it’s applicable,” to me, it seemed like a good approach. There was a thinking – it’s all a question of trade-offs. What are you going to do? You have a spill. What are you going to do now? In situ burning is one option. When it can be applied safely, safely both to the people doing it and to the public, then maybe that’s an option that needs to be considered because the impacts are going to be transient and short-term.

MG: There was a big experiment, the Newfoundland Offshore Burn Experiment [NOBE].

NB: Yes, that was in 1993. That was led by Environment Canada. Yes, they basically burned oil and used booms to burn the oil.

MG: Were you involved in that at all?

NB: I was not there. But I knew of it, but I was not there.

MG: And are you saying boom or boon?

NB: Boom, B-O-O-M.

MG: And what are they?

NB: Booms are floating barriers on the water. Booms for oil, those floating barriers that float above and below, basically corral the oil, like floating walls, but not walls that extend twenty feet into the air, but maybe a foot or two at most. That's to corral the oil and either skim it or burn it. So to have a boom that's effective for burning, it has to be made of material that can sustain the heat as well as the stresses of the energy at sea, waves, and being towed and so on.

MG: Do you want to take a quick break?

NB: Yes.

[Tape paused.]

MG: You were describing this practice of in situ burning. Can it be dangerous?

NB: No. It's not. You have to apply some basic commonsense procedures, but otherwise, when you corral the oil, and you ignite it, the burn is far from you. Basically, to ignite it in water, you release a burning wick on a float, and you let it float towards the oil, and that's it. It ignites the oil. The boom is not really close to the vessel you're on.

MG: Who is in charge of doing the burning?

NB: The actual burning, different companies that have the technology and the booms. Of course, it's at sea, so the Coast Guard had a role in it as well.

MG: What is NOAA's role?

NB: NOAA's role was to provide scientific information to support scientific monitoring and coordinate among the different agencies that were supporting it. For example, the National Institute of Science and Technology had or still has a team that developed a model that can tell you what the concentration of the smoke plume is going to be. That's very helpful because if you do it near a population center or within reach of a population center, you want to have some sort of a model to tell you this is what we expect. You don't want to do it willingly. So that's one. It was fantastic to work with them. They also did research on in situ burning that was very hands-on, great research. That's something that I collaborated a little bit with them. That's one. Then other agencies need to be involved as well. EPA [Environmental Protection Agency] needs to be involved. Local agencies need to be involved in the local community, need to be told, "Hey, this is what we would like to do. We want to make sure that you're informed. We need to make sure that people know." So everybody needs to be informed. Everybody needs to be in the know. Everybody needs to concur.

MG: What oil spills did you work on? What incidents happened while you were doing this work?

NB: The main one was the *New Carissa*. It's a freighter that went aground near Coos Bay, [Oregon]. It was there and being pounded and stuck in the sand. It had its own oil that it used for propulsion. It was going to break apart at some point, and there was going to be a big huge spill. So the question was, "Well, what are we going to do with it?" So the decision was made to basically burn the oil there because the vessel was already gone. It couldn't be towed. It was stuck. So the decision was made to burn it. The governor agreed, the governor of Oregon agreed. The locals were brought on board. That was part of my job, to coordinate with them, to make sure that they know, they understand, and they agree. I also worked with the head of Oregon DEQ, Department of Environmental Quality, about the implication of burning and the smoke plume. And, of course, worked with the monitoring team. It was a collaborative effort of EPA – EPA provided some assistance with the monitoring – Coast Guard, NOAA, the state, the local. It was a very collaborative effort.

MG: Can you say what SMART stands for?

NB: Special Monitoring of Applied Response Technology. That's what it stands for. It basically employs instrumentation to measure the concentration of particles where you want to monitor it. It can be near a population center or anywhere you want to. And it also employed a monitoring instrument to measure the dispersion effectiveness under the water.

MG: In the materials that you sent me, you said that this work stopped in 2001. Did the program stop or your involvement in it?

NB: Stopped for me. The practice is still there. It was used during the *Deepwater Horizon* spill to a large extent, actually. But I started working for the Pribilof [Islands] cleanup.

MG: Can you start at the beginning with that effort and tell me the history of that area?

NB: Sure. I have to do it quickly because the history is long. So Alaska was sold to the U.S. The U.S. continued exploitation of the fur seals. It was before plastic. Fur seals actually were very lucrative. Two islands in the middle of the Bering Sea called the Pribilof Islands has a huge concentration of the northern fur seals. That's where they go to breed and have their pups. So basically, it's a concentration of fur seals, and that's where, unfortunately, they were killed en masse. Furs were processed and sold. So the Russians brought Aleuts from the Aleutian Islands to the Pribilof Islands. They were uninhabited to begin with. They brought people there to basically be the slave of the harvest like you read in the book. When the Pribilof Islands were sold, and the U.S. took over and continued the harvest until the harvest stopped because the seas were decimated, but the people were there. One agency followed another, and then NOAA was the last federal agency that was there on the Pribilofs. NOAA was tasked with the clean-up of the Pribilof Islands because for the U.S., possibly the Russians before, but the U.S. mostly, everything that was brought to the Pribilofs was basically one way. It was brought there, used, and discarded of on the Pribilof. That created a huge mess.

[Tape paused.]

MG: I also wanted to ask you about a little more about SMART. Would you call it a protocol or technique?

NB: Well, protocol. I think most people call it a protocol.

MG: Was this your “baby,” or were you working on it with a team of folks?

NB: Working with a team definitely.

MG: Any other spills during this time. You mentioned the *New Carissa*.

NB: Yes, and there were several spills in the Gulf, but they were mostly for dispersants. The dispersant element or the SMART was used there.

MG: And can you say when the effort in the Pribilof Islands began? And what needed to be cleaned up?

NB: The cleanup entailed a number of things. To begin with, the project removed everything on the surface that was not supposed to be there. That was a huge amount of drums, vehicles, wrecks. There were boneyards of vehicles and all sorts of trash and debris that survived over many years. That was removed. By the time I got there, the big drive was to collect all the drums from all over the island. They were all over. So, collect drums, test them for toxicity and then ship them – either neutralize them on sight if possible, usually not done. Most of them were sent out to the mainland for disposal, basically.

MG: How long did this effort take?

NB: I believe that this effort started in – well, it started in the mid-'90s. To begin with, it was under another group of NOAA. The work was not ideal because the state of Alaska basically slapped NOAA with a compliance order to do a better job with the Pribilof. What NOAA did was to move the responsibility and leadership of the Pribilof cleanup from the group that was doing it to the Office of Response and Restoration. So they opened the Pribilof group within the Office of Response and Restoration. They asked for volunteers. To begin with, I was asked to help out, and I wasn't able to because my kids were still young. I didn't want to travel that much. But the second time that they asked – I think the first time was in 1999. I said, “No.” in 2000, the manager of the program, John Lindsay, asked me to help him, basically go there. The first time was to monitor some training that was done there, which I did. The second time was to help him with the assessment of the testing of fifty drums. Those fifty drums turned into more than seven-hundred or eight-hundred. So I think John knew full well that there are not fifty drums, but he was willing to bend the truth a bit, which was fine. So that was 2000. Sometime in 2000, I was asked if I could help again. This time I said, “Yes.” My kids were older. One kid was out of the house already and in college. The other kid said, “I'll be okay.” So I started working for the Pribilof project. I volunteered, basically. Basically, the deal was that I'd do the

Pribilof project half-time and continue to do everything else, the safety program, and whatever is half-time. But it didn't take long for the Pribilof to take most of my time.

MG: Can you say more about the efforts and what this cleanup looked like? How long were you up there, and where would you stay?

NB: I worked mostly in Saint Paul, but in both islands, there was space that the group had. So in Saint Paul, it was staff quarters. There's a big building there for NOAA, basically for NOAA scientists and other scientists, so when they come to Saint Paul, they have a place to stay. It's totally self-contained. There are bedrooms, a kitchen, dining room, living room, and so on. The Pribilof project had a unit in this building that had three bedrooms, a kitchen, dining room, living room, storage space, and so on. That was our space. There was a store in the village, and that's what we used to get food. We had our own vehicles and ATVs [all-terrain vehicle] and later, heavy equipment that helped with the project. It was a pretty big operation. The main effort was to facilitate and guide and lead the clean-up of the Pribilofs. So as I told you earlier to begin with, and before I got there, actually. In 1999 and 2000, they removed a huge amount of surface debris. Then, in 2000, there was an effort to move the drums along with other things. From 2001 to 2008 or '09, it was the removal of the subsurface pollution. That was mostly diesel fuel, but also some gasoline and some other oil.

MG: Are there communities of people on these islands living there?

NB: Yes. On Saint Paul about five hundred, and on Saint George, the other island that we cleaned up, I think less than a hundred. There were maybe seventy or eight. I think now there are maybe fifty.

MG: What were your interactions with the community there like?

NB: They worked for the project. The project paid well. So we worked with the local corporations. Both islands had three entities: the city, the tribe, and the corporation. One person could serve in more than one, so it was very interesting. They get along, of course, but sometimes there was some conflict. So we worked mostly with the corporation but not only. We also worked with the city, and we also worked with the tribe. For example, a project done with the tribe was roof replacement of a storage building. We collaborated with the city on some projects, but most of the projects and most of the assistance from the locals was through the local corporation. They were basically subcontractors or contractors that were awarded funding to do projects, to excavate or to remove, basically to do the cleanup.

MG: You may have already said this, but how long did the cleanup last?

NB: The cleanup lasted from 1999 to about 2009. So it lasted for about ten years.

MG: That seems like an enormous amount of time.

NB: It was. In addition, an effort I was less involved with, there was the conservation of the history of the islands. John hired people especially for that, and they did a fantastic job.

MG: Were there folks doing oral histories, like I am today? How was the history being documented and preserved?

NB: Yes, there were folks like you doing interviews. Cinematography. Going to references, collecting references, writing several books about the history of the island, family relations, and so on. So the history of the cleanup was very extensive. I remember one project when every grave in the cemeteries of the island was marked with GPS [Global Positioning System] – we had sophisticated GPS equipment – was marked with GPS equipment because, sadly, the cemeteries are not far from the ocean, and there is erosion, one. And two, not all graves are marked. It was important for the project to try and ascertain where people are buried. It's also, of course, very important for the people living there. So it was a collaborative project between the group and the locals. Every grave was marked exactly to within half an inch or an inch of where it is and who is there to the degree that is known. So I think it's really amazing.

MG: Were there folks living there that had been connected to the seal fur industry?

NB: Yes. They talked about it. They were interviewed and talked about their experience.

MG: Were they grateful for your efforts?

NB: Yes. Not that there was no conflict and no tension once in a while. But I think that the people who worked on the island stayed in that job and could do it effectively because all of them were respectful to the local folks. I remember two or three cases where people came, and they said something or did something that the people living on the island did not agree with and were offended by, and they just could not work there anymore because there was no collaboration with these folks. So you had to be respectful to their culture and to their history. John was very, very good at both showing respect on the one hand, and on the other hand, being tenacious and very determined to basically do the job that he was supposed to do. I think when they realized – when the locals realized the amount of effort that our group was taking to preserve the cultural heritage, it really changed hearts and minds. I'll say that sometimes it was a single incident that could change heart and mind. Such was the case, for example. So I started working there in 2000 briefly but in 2001. In 2003, a little boy was killed. It was very tragic. Anyway, I went to the funeral, and I noticed that people were doing what the Jewish people do, which is to cover the grave, and take turns to cover the grave with dirt – take a shovel and put dirt into the grave. So I volunteered to do, too. It seems to me that since then, things really changed because, before that, people didn't really make an effort to talk to me or approach me outside of work, like in the store. But after that, a whole lot more so. I always got along well with the representative, with the manager of the local corporation. Her name was Julie Shane. Sadly, she passed away not long ago. With other folks, to begin with, not so much. After the funeral for the boy, they realized that I respect them. Of course, respect was always there.

MG: What is life like on the Pribilof Islands since the cleanup concluded?

NB: Since it ended? I really don't know. I couldn't tell you. I really don't know. I left in 2006. So the project continued in earnest another year or two, and then they wrapped up. In 2009, we got the medal, and it officially ended. So I don't know for sure how they're doing.

MG: What was the medal?

NB: We got the Gold Medal from the Department of Commerce for the work down at the Pribilof. The group, not me. The group did. I got it as part of the group.

MG: I think I saw some pictures online of the group accepting the award.

NB: Yes.

MG: You mentioned the GPS technology you were using. I read there were advanced technologies applied during this project. I was curious about what they were and how they were used.

NB: Another technology that really helped us immensely was the use of a Geoprobe. You really need to know where the oil plume is underground. So there's a Geoprobe, which is a little probe that goes underground and collects samples. Then the samples were analyzed but by thin-layer chromatography. Where you put the sample in a hood, and there's separation of oil by concentration. You can see if there's oil or not, and roughly how much. That was really, really handy because you can do it quickly and get a rough idea of what the level of contamination is. So these are two other examples that I can mention.

MG: Were you also developing techniques or doing research projects during cleanup?

NB: I did not.

MG: What was your next position when the cleanup ended?

NB: Well, the cleanup came to an end or was coming to an end, and we were encouraged to look for another thing. At that point, the Office of Response and Restoration asked for volunteers for the Marine Debris Program. I raised my hand and said, "Sure, I'll do it." I thought that I will do it for a short time, but the program took off, and I stayed for fourteen years.

MG: Tell me about those first years with the Marine Debris Program.

NB: I think I volunteered for that in 2005. The Marine Debris Program started in 2005 and mandated in 2006. People say the Marine Debris Program started in 2006. Not correct. It started in 2005, in March of 2005. I volunteered for it. Several other people volunteered. In the end, the other volunteers didn't stay, but I did. So the program got a fair amount of money and dispersed it quickly. It gave money, for example, for derelict fishing gear removal in the Puget Sound, especially nets that were wreaking havoc on marine animals in Puget Sound. That's the first thing that I visited in the field, was to observe how the nets were removed, which was pretty impressive. Then, another project early on was the cleanup of the Aleutian chain, specifically

Unalaska Island, where Dutch Harbor is. So I went there. The project was actually submitted by somebody from the Office of Response and Restoration, but I went there as a field representative to help this person out. I went out with a group of boys from Sudan for four days on an old little freighter to collect marine debris from Unalaska Island.

MG: What was the main source of the debris?

NB: Yes, the usual debris that accumulates in Unalaska. So a lot of it was fishing gear and some general debris like packaging material, plastics of different sorts, and so on. We collected whatever we could, but simply there was no time – there was so much debris, [and] no time to collect every small piece. So we filled bags and loaded nets and lines. It was pretty intense.

MG: What was the genesis of this program? What was going on that made NOAA form an office to focus on marine debris?

NB: I believe the genesis was the report by two commissions, the Pew [Oceans] Commission and the Ocean commission [U.S. Commission on Ocean Policy]. I don't remember exactly the formal name for it. But both, in the early 2000s, realized that the ocean faces a bunch of stressors, one of them was marine debris, and marine debris is manmade and can be addressed perhaps more immediately and right away, and maybe effectively [with] means that were available to us. It's much more challenging to address acidification. But marine debris can be addressed in different ways. Their recommendation was that a program be established in the federal government. A decision was made to establish that program in the Office of Response and Restoration.

MG: It's an issue that impacts a number of NOAA line offices, such as National Marine Fisheries Service, NOAA Research, and National Ocean Service.

NB: Yes, I think we were the marine debris program 2.0. Because the first marine debris program was started in fisheries, and after a while, it stopped for different reasons. So the second one in the Office of Response and Restoration took off.

MG: That same year, Hurricane Katrina happened. I imagine there was a big effort related to debris caused by the storm.

NB: Yes, Hurricane Katrina, Rita, and after that, it creates a big, huge marine debris problem in the Gulf of Mexico. There was a need to survey and remove debris. So money was awarded, and the Marine Debris Program was involved. We were part of it. It was the Marine Debris Program and the Office of Coast Survey. So the Office of Coast Survey was responsible for the actual survey and got most of the funding. The Marine Debris Program got funding to coordinate with the local folks and do the outreach, and so on.

MG: Wasn't there a model developed from the Gulf Coast after Hurricanes Katrina and Rita?

NB: Are you talking about marine debris dispersion?

MG: The Gulf of Mexico Debris Model.

NB: Yes, that was the model that was developed by RPI for the project.

MG: I'm not sure.

NB: Yes, there were a number of things that were developed after Katrina. If it's just marine debris, then yes, it's a model that takes into account the infrastructure and then wind and not so much current, but storm surge to predict the degree where you have basically marine debris washed out from the shore towards the ocean.

MG: You said not so much current?

NB: Yes current because current will either take it back in or take it out, but current less. It was more surge and because surge is really the number one cause of transport. If you have high surge, you could have high probability that marine debris will be basically taken out and deposited. So it was storm surge and infrastructure and, to some degree, wind. What's going to be the damage? What's going to be the mechanism for transport? What's the infrastructure to feed that marine debris?

MG: I want to ask you next about the Japanese Tsunami and all the work around that event. But am I missing anything to this point?

NB: I would say that the program developed rapidly. There's a strong need to deal with marine debris. It doubled and tripled itself in the span of several years. It's still a very small program, twenty or twenty-one people total, but it's really much bigger than it was when it was first created just fourteen, fifteen years ago, because of the need. I also want to give credit to the restoration centers within fisheries that help a lot with managing the cleanup project, doing the financial and contractual management until 2014. So for nine years, they basically managed the contractual effort. Then it really became – it made so much sense for the program to do the management itself. It didn't make much sense for a program to get funding and then let somebody else manage it. So not very efficient and maybe not the best. So now the program manages it. But I want to recognize the wonderful assistance that we got from the restoration center and still the ongoing collaboration with them and other NOAA entities.

MG: It seems like an enormous effort to coordinate with the different states, agencies, countries, and communities to get a handle on the prediction, communication, and operations.

NB: It is. That's one of the things that regional coordinators do. It's that nebulous work, coordination, under which so much falls. It's phone calls and emails and documentation and workshops that bring people together and action plan in the region with, basically, the overall goal of bringing everybody together to work more effectively on the reduction of marine debris.

MG: Did you see progress?

NB: Yes, absolutely.

MG: In which areas?

NB: In all of them. Honestly. There's a whole lot more cleanup being done, a whole lot more prevention is being done, and it's done much more effectively. The problem is huge. Foreign countries are involved. Marine debris is recognized as a real significant problem worldwide. Other countries are also focusing on prevention and cleanup of marine debris, and there's so much more research being done on it. Because people started looking at marine debris, they found marine debris. With that, I mean microplastics and microfibers that were not even on the radar when I started working for the program. So I would say that the progress, both identifying the problem and dealing with it, is really amazing.

MG: I've heard about the beach cleanups under Rear Admiral Tim Gallaudet. Were those efforts connected?

NB: Yes, I think it's really important to walk the walk. So for us in the region, it's really important to meet with people and go out there and get dirty and join them in the cleanup. But, I must admit that, for me, it's much more fun and go out and work in the field. But as far as effectiveness, it's much more effective to stay in the office and move things behind the scene. Everybody can do the cleanup – not everybody, but most people. Many people can do the cleanup. Thanks to where we are in the organization, in the grand scheme of schemes, I think we're more effective with the coordination and the behind-the-scenes things, motivating, empowering, and facilitating.

MG: Can you say more about where the marine debris comes from? You mentioned derelict fishing gear and storm surges.

NB: First of all, it's manmade, so we create it. In countries with good solid waste management like the U.S., marine debris comes from what is not managed. Some debris on the beach that people throw away or storm runoff that washes debris – especially the litter. Then in countries with insufficient solid waste management, then it's whatever people throw away. It used to be all of it was organic, but now a lot of it is plastic, and it does not decay. It's there for many, many years. It all washes out to the ocean, stays there, some float, some sink. Whatever floats, flows everywhere.

MG: What are some of the hazards of the debris?

NB: If it's derelict fishing gear, it entangles marine animals and destroys habitats. For example, derelict crab pots. If it's plastic, it'll break into smaller particles that are then ingested by marine animals, and we end up consuming it ourselves. What does it mean? I don't really know. The research is ongoing. Then, bigger marine debris can sink ships, and has. So the risks are spread along a wide range of recipients.

MG: I want to ask you now about the 2011 Japanese tsunami because a lot of your work focused on that event.

NB: Yes, it started in 2011. It was very intense. To begin with, we were not sure what exactly would happen, but then marine debris started arriving, and we realized that it's here. There were some incorrect announcements made by local folks, mostly local oceanographers and others about the marine debris and what to expect and what it's going to do, and body parts and shoes and whatnot. There was some public concern. It was very important to go out and really talk to people, have workshops, talk to people, tell them what we think, tell them what is happening, and basically communicate, communicate, communicate, both us and, of course, our partners. That we did a lot. It was also important to put information on our website and to collaborate closely with the government of Japan. We were fortunate that in Seattle, there was a very active senior consul who really worked closely with NOAA. In general, Japan was very proactive. They decided that they're going to give six million dollars to the U.S. and Canada; one million to Canada and five million to the U.S. to help out with addressing the Japan tsunami marine debris, although it was at no fault of their own. So they did that, and that helped a lot. To be honest, the number one problematic issue, what really made the headlines from the Japan tsunami were two docks that arrived here. One arrived in Oregon, and one was removed by the State of Oregon. The other one arrived on the Olympic Peninsula in a remote location and was removed by basically NOAA and the Olympic National Park. The main contract was led by the NOAA Office of Marine Sanctuaries with funding mostly from the Japan gift and seventy-five-thousand from NOAA and seventy-five-thousand from the national park because it was on parkland basically and sanctuary. So sanctuary gave seventy-five-thousand, national park [gave] seventy-five-thousand. The rest of it was from a gift from Japan. I'm saying that just to show that everything falls flat if there is no funding. There was funding to remove it. It cost over half a million to remove that dock because it had to be cut into pieces and flown out by helicopters. Those were the two biggest eye-catchers. There were – I don't know how many exactly, but definitely over fifty skiffs that arrived in Oregon and Washington, maybe close to a hundred. And a number of them arrived in British Columbia, a few in Alaska, a couple in California. They captured the attention of the public. Styrofoam, unusual pieces of Styrofoam not common to the area also arrived, and all sorts of packaging material and some ornate wood material. But we learned a lot from this incident. One thing that we learned is that while there were big rafts of debris, to begin with, a lot of it was construction material that was wood that did not last very long. What lasted a whole lot longer were floats – many of them arrived here – floats, high-quality wood, and, to our surprise, I must say, the skiffs that were amazingly well-made.

MG: To survive that journey is very impressive.

NB: Yes.

MG: What was the timing? I forget when the tsunami took place.

NB: Tsunami took place in March of 2011. The first debris started arriving in December 2011, January 2012. The majority of the effort to remove it was in 2012, '13, and ended in '14. In '14, we had a workshop to summarize it all. Not to say that there is not some debris from Japan that is still arriving after all these years because it's floating out there. If it's floating out there, there's a chance that it will arrive here.

MG: I imagine a lot of the debris sunk as well.

NB: A lot of it sank.

MG: Are you able to say how much debris sunk and how much floated?

NB: I think they calculated that five million tons were washed out, and of that, about a million and a half stayed afloat, but most disintegrated after a while. So you can't say for sure. There's not enough information to tell you how much really remained afloat.

MG: What happens with the debris? Were attempts made to reunite people with their lost items?

NB: There was an effort to reunite the debris that you could identify, like a soccer ball or a float or some other items. One skiff was reunited with the high school that it belonged to. But for the most part, people really moved on. For example, the skiffs could be identified. We agreed with the consulate on items that we always ask the consulate of Japan to identify. If there was telling information, like the identification number of the vessel, we asked the consulate to identify the owner and does the owner want the boat back. They always said, "We identified the owner. The owner does not want the boat back." That's it. So most of the vessels were in such a shape that there was nothing to do with them. I know that one vessel was repaired. That was in Canada. Someone put an engine on it and said that this is the best skiff that he ever had. One is in Astoria, in a maritime museum.

MG: Did this effort impact your mental health at all, to see so much evidence of destruction and loss?

NB: It was sad, but I wouldn't say that it impacted my mental health.

MG: Can you talk about the trajectory models that would attempt to predict the flow of marine debris? I know you've said this is pretty unpredictable, so how do you do this?

NB: First of all, the debris arrived sooner than we thought. Second, NOAA developed a model that less predicted, but more could tell where the debris is right now. The model is available online. By the time the model was developed, the debris was already here. So that was coupled with a trajectory model – here is the debris, and here is where we predict it will be. It was a combination of modeling and observation. But the ocean environment is a dynamic one. What's known as a garbage patch is a dynamic environment, too. The marine debris in that area of high debris concentration does not necessarily stay there forever. Some leak out, so to speak. In the late fall and over the winter, when a strong winter storm blows debris toward land, debris would flow out of that area, and some of it could be from Japan.

MG: As the weather gets more unpredictable, will the debris patterns also be more unpredictable?

NB: Possibly, but I don't know for sure. It makes sense that it does, doesn't it?

MG: Yes. Wasn't there a Senate hearing where NOAA representatives had to present their findings from the tsunami?

NB: I think that there were Senate hearings if I understand your question correctly. There was a period of time early on in 2012 when there was a lot of interest from senators about the debris because there was a lot of pressure and some concern of the local population, and it was before the election of 2012.

MG: Was it a stressful experience for the NOAA staff that had to go to Washington?

NB: I think it was stressful for those who were there at the hearing. I'm talking about the early hearing. I think what was stressful is that in the early stages, there was a great need for information, and I think that the NOAA management request for information really overwhelmed the Marine Debris Program that was smaller than it is now. A lot of the work that we did back then was to satisfy the NOAA request for information. I think one big lesson learned for the NOAA management is that if there is a big spill – tsunami, oil, whatever – and you want a lot of information, send somebody that will be with the people working on that project and will report to you with all the information that you want. Don't make the people who are trying to respond and are already stressed out to the max to work a majority of their time to provide your need for information. It is not the best use of their time, and can easily be resolved by an embedded upper management person who could provide the information to upper management.

MG: I also read about transponders washing ashore that the Japanese were using in their research. Wouldn't that be a great way to track the course of the debris?

NB: It would be. The transponders were few and far between. They were not sent during the tsunami, but later. A few of them were found.

MG: Is there anything else about the tsunami that you want to talk about? Is there anything I'm missing?

NB: I think you asked a lot. A lot is available online.

MG: I know you joined a number of committees and task forces during these years following. Can you say more about them and the work they've done?

NB: Can you be more specific?

MG: The West Coast Governors Alliance Marine Debris Team and the Oregon Marine Debris Action Plan.

NB: They are not really related to the – they're a little bit related to the Japan tsunami. The Marine Debris Program really realized that the marine debris issue is big and huge, and the best way to address it is collaboratively. The best way to address it collaboratively is through action plans in the region that bring everyone together, talk about marine debris, talk about what you're

doing now, and what they would like to do in the future. Then have a list of actions they would like to embark on. Basically, that's the Marine Debris Action Plan. As far as the West Coast Governors' agreement, that was an agreement that was signed in 2006, put into action in 2008, and I served as a representative of the NOAA Marine Debris Program to the marine debris group within the governors' agreement. I would say that of the groups that were created to begin with, the marine debris group is the only one that still exists. It's now transformed into basically information dissemination groups; it has webinars twice a year and several other forums for other exchange of information.

MG: What else did you work on in the final years of your career at NOAA? I know you just retired recently.

NB: Well, I worked on the marine debris. The action plan took a fair amount of my time, both in Oregon and Washington. One goal was, before I retired, to create those action plans, to make sure that they are there and they are beneficial. So it took a fair chunk of my time. Then the projects in the region. I'll say that in the Pacific Northwest, especially in Washington State, I was very honored and very proud to work with a number of Native American tribes, the Quinault, and the Quileute, the Makah, and the Swinomish tribe. I also worked with the Nisqually Tribe, especially the tribal diving program. They were very gracious to host an Australian visitor that wanted to know more about Native tribes here. I really enjoyed it. I really liked working with the tribe.

MG: Can you say more about the nature of that work?

NB: It was mostly marine debris removal. With the Quinault and the Quileute, it was the removal of derelict crab pots, and now it's with the Makah, too. Nisqually has a diving team that collaborated on the removal of nets in Puget Sound. One project with the Makah focused on removal of three abandoned derelict vessels from the marina. So it was the removal of marine debris. For all the projects, they also did outreach. In addition, the Makah, the Quinault, and the Quileute developed their own tribal program to prevent, report, and remove derelict crab pots that were lost by their fishers.

MG: What went into your decision to retire?

NB: The fact that I'm getting old.

MG: You're not old.

NB: [laughter] I know. I love my job, but my wife is older than I am, and the window of opportunity to do things together that we would like to do is closing. So we did the back of the envelope calculation and realized that we'll manage if I retire a little early. That's what I did. I intended, to begin with, to work until I turned sixty-five or so. My wife would have turned seventy then. I decided to retire a little early to basically do the things that we want to do. One of the main ones is to visit all the national parks if we can manage that. Both of us really enjoy visiting national parks. We really enjoy visiting different places in the U.S. We also go abroad. I have family in Israel, which we visit, and we stopover in Europe. But the U.S. is a wonderful,

beautiful country. I feel a huge sense of gratitude towards the U.S. in general for the opportunity that I was given. As much as I like NOAA and the Marine Debris Program, which are really awesome, it was time to move on.

MG: I want to get out of your hair because I know you're getting ready to travel tomorrow to some of those national parks. But I wanted to ask how you met your wife, Carol.

NB: Well, my first wife and I separated, and I lived in an apartment. One day, Carol moved in. I met her, we introduced, and then I decided to help her move in some boxes. It's an example that doing something good actually paid off.

MG: Tell me a little more about Carol and her background.

NB: Carol is a Seattleite. She was born and raised here. She went to the University of Washington, and then she went to a college on the East Coast, but came back here after her divorce. Carol and her former husband lived in Massachusetts for several years. After the split, she came here with her two kids. I met her here. Her family is from Seattle. She has two brothers who live on Vashon Island, a sister that moved to California with her husband many years ago. Her parents, both deceased, lived in Seattle for many years. Her father was an architect in Seattle. His name is Ibsen Nelsen. Among his projects is the Museum of Flight near Boeing Field.

MG: He was a well-known conservationist in Seattle.

NB: Correct. He's among the people who fought hard to save the Pike Place market.

MG: I can't imagine that being developed.

NB: We can't imagine many things that are happening. In a few years, we will probably say, "What was I thinking?" This is one "what-were-they-thinking" that didn't materialize, fortunately.

MG: Let's end this on a happier note.

NB: Happier note is that I cannot be grateful enough to this country, one. Two, I really enjoyed meeting people, even if the political opinions are different from mine. There are different people than me, and their political opinions are different, but it's just a joy. Americans, overall, are wonderful people.

MG: You also recently became a grandfather.

NB: Very big deal. We just enjoy that very much.

MG: Good. Well, I really appreciate all the time you have spent with me today. This has been a treat to talk to you. I will look forward to staying in touch.

NB: Thank you so much.

MG: Thank you.

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Reviewed by Molly Graham 4/21/2020

Reviewed by Nir Barnea 5/1/2020

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