Great Meadows National Wildlife Refuge
75th Anniversary Oral History Panel

Libby Herland, Ed Moses, Linh Phu
September 26, 2019

Interview conducted by Peggy Hobbs
at Assabet River NWR, Sudbury, MA

Oral History Cover Sheet

Interviewees: Ed Moses, refuge manager from 1966-1969 and 1988-1997; Libby Herland, refuge manager from 2003 – 2017; Linh Phu, refuge manager from 2018 – present. Bud Oliveira, manager from 1997-2002, provided answers in writing (see addendum).

Brief Summary of Interview: The interviewer, Peggy Hobbs, asked former refuge managers Ed Moses and Libby Herland and current manager Linh Phu to discuss what the Great Meadows NWR was like when they worked there, what there major activities and accomplishments were, what the most significant issues were, and to highlight some of the memorable staff. Ranging from the establishment of the refuge in 1944 with a donation of land and waters in Concord, MA from Samuel Hoar, the interviewers described the additional acquisition of within the acquisition boundary including the important role of the Sudbury Valley Trustees; posting boundaries; beginning waterfowl banding; developing water management capability in the Concord Impoundments and managing the impoundments for waterfowl and Blanding's turtles; the acquisition of the aquatic weed harvester to combat water chestnut; the Wild and Scenic River designation; infrastructure and maintenance; cooperative invasive species management; hunting; comprehensive conservation planning; partnership development; Nyanza Superfund Site and Natural Resources Damage Assessment funds; mosquito management; and the urban education program.

People named in interview: Don Chase, Congresswoman Niki Tsongas, Congressman Chester Atkins, Dick Borden (Borden Productions videography), Tom Horn, Roger Steelman, Bob Bradshaw, Marilyn Fuller, David Beall, Bud Oliveira, Harry Sears, Sam Hoar, Pat Bosco, Wayne MacCallum, Lucy Wallace, Barbara Volkle, Amber Carr, Bill Ashe, Janet Kennedy, Eileen McGourty, Kate Iaquinto, Sharon Marino, Sue McMahon, Peggy Hobbs, Jackie Kornish, Jeffrey Simons, Dan Sakura, Ronald Lambertson, Senator John Kerry, Senator Edward Kennedy, Mary Varteresian, Dick Dyer, Tony Léger, Tim Prior, Chris Kelly, Mary Parkin, Pam Hess, Henry David Thoreau, Nathaniel Hawthorne, Ralph Waldo Emerson

The Interview

PEGGY HOBBS: Good morning. I'm Peggy Hobbs, and we are here at the Assabet River National Wildlife Refuge [the first part of this sentence is only on the video recording; the audio picks up the rest of this sentence as "located"] located in Sudbury, Massachusetts. Today is September 26, 2019, and we are here to commemorate Great Meadows National Wildlife Refuge's 75th anniversary with a special interview panel. Please tell us your name, what your job title was at Great Meadows, and during what years you worked here. We'll be going into more detail later. I personally was the administrative officer here from 1997 through 2013 and I'm currently the regional representative on the Fish and Wildlife Service Heritage Committee.

ED MOSES: My name is Ed Moses. I was stationed here in 1966 to 1969. I was the first on-site resident manager as the area had been a satellite refuge managed by Parker River National Wildlife Refuge up at Newburyport.

LIBBY HERLAND: And then you came back.

ED: Well, I thought we'd cover that later. (laughter)

PEGGY: Well, tell us about your second stint.

ED: Okay. I was the north zone, the north refuge zone supervisor in the Regional Office. I was in the Regional Office for 15 years. And at the time, the Regional Office was going to move out to our new facility in Hadley, Mass. I made the determination that I wasn't going to be commuting two hours a day so I basically, I complexed, I put Monomoy back under Great Meadows, 'cause at that time it was under Parker River. It was not getting the attention that it needed. I added, which would have been Nantucket [NWR] and Nomans [Land Island NWR] also at that time. The complex proposal was put forward. My immediate supervisor, Don Young, approved it. Bill Ashe approved it. The Regional Director approved it. But then they said it's on hold until the new Regional Director's come in because Howard Larsen and Bill Ashe had both been replaced by Ron Lambertson and Jim Gillette as Regional Director and Deputy Regional Director. So, I was on pins and needles until that approval came through, which it did, and I came back out as the Complex refuge manager.

PEGGY: And what years were that?

ED: 1988 to when I retired in January of 1997.

PEGGY: Okay.

LIBBY: Okay. I'm Libby Herland. I was the project leader for the Eastern Mass Refuge Complex (Complex) which includes Great Meadows from 2003 to 2017.

LINH PHU: My name is Linh Phu. I am now the current project leader or complex manager for Eastern Massachusetts. I started last August 2018.

PEGGY: All right. Briefly describe your day-to-day responsibilities, not including big issues or projects. We'll talk about that later. If you were not the manager, which I think all of you were, who was the manager at the time? So, your day-to-day responsibilities, Ed.

ED: In 1966, I was the only staff person which meant I had to deal with everything. So, I think we can just leave it there. I had to deal with every aspect. It wasn't until three months afterwards that I was able to put on a temporary clerk-typist. At that time, we were sharing office facilities with the Realty person on-site, Don Chase, and a crew from Surveys and Maps who were doing the surveys on all of the – 'cause it was an active land acquisition project at that time. That was on the third floor of the most firetrap-type building I've ever seen. It was the Old Manse up in Bedford, Mass. So, I got working real quickly with GSA (General Services Administration) and located office space that we could rent in Concord. Then we had another temporary clerk-typist. So again, still being a one-man show. Those were the, you know, whole broad range of refuge manager duties.

PEGGY: So, that was at the beginning and then what …

ED: Maintenance man, everything.

PEGGY: At the beginning, you were a one-man band. So then, how did your job evolve? What were your responsibilities after that, once you got more staff?

ED: Well, at that time, the big overriding responsibility was stopping all the illegal uses on unposted Fish and Wildlife lands. I did that by direct contact with landowners. Everybody was extending their back yards into the refuge, driving ATVs (all-terrain vehicles), cutting firewood, hunting in areas that were too close to other houses, etc. I did that through what I called the "educational law enforcement program", in essence, a non-adversarial type of situation. In essence, I could have gone in and written citations right away. That would have gotten us nothing but animosity. So, I dealt with people, explained things. Spent an inordinate amount of time trying to bring them on. In essence, people oppose that which they don't understand. Increase their level of understanding and you get cooperation and support most of the time. When they fail the attitude test, then they got the citations. And that's what …

PEGGY: Did you have outreach folks back then?

ED: Pardon?

PEGGY: Did you have outreach folks back then on your staff, like they do now?

ED: No.

PEGGY: You were it.

ED: No, just myself.

LIBBY: How many acres was the refuge at that time?

ED: At that time …

LIBBY: In 1966.

ED: At that period of time in 1966, it was probably about 1,600 acres. In 1968, it was 2,333. So, it had increased considerably. In 1968, we posted 20 miles of boundary line, built 7 miles of fence.

LIBBY: I know where some of those old signs are – they're still up, you know (laughter) some of them. I saw them in my travels.

ED: Right.

LIBBY: Were you actively involved with the land acquisition, too?

ED: No, Realty basically handled all of that. It was only when Don would come to me and say, "Ed, I've got an individual that wants to hear what the refuge is going to do with HIS land (or HER land.) And at that time, then I would go meet with the prospective land salesperson – you know the person owning the land and go over what my vision at that time was for the, that portion of the refuge.

PEGGY: So, what were your day-to-day responsibilities during your second tenure here from '88 to '97? Was it different or the same?

ED: You had at that time, there was such a thrust … well, let me back up and say I'm an old school refuge manager. In essence, starting like I did, doing everything, maintenance work, the whole nine yards, which I loved, it was very difficult for me to transition into what was more of an administrative responsibility. Jockeying the desk and running the computer, which is what I'm afraid everybody today in the project leader position is tied to. However, I did break from that mold if you will, especially when we get to talk about Monomoy. I got into a lot of the field work. A lot of law enforcement. I liked doing law enforcement as opposed to a lot of refuge people.

PEGGY: Did you have a collateral duty thing set up?

ED: Yes.

PEGGY: You had credentials?

ED: Yes. We had hunting issues, big time. We had illegal hunting, poaching of deer at night. As I drove in past the fire facility [State Fire Training Facility in Stow, MA] it harkened me back to when we had an individual who lived just up the road here who was always in here illegally hunting. Yeah. I think he's probably still active at it today! Those types of activities. And of course, your supervision of personnel. Your staff meetings, that's another …

PEGGY: Okay, we'll talk more about details and what it was like at that time as well. So, Libby, what were your day-to-day responsibilities pretty much?

LIBBY: I think I became the desk jockey that Ed was just talking about. I spent a lot of time on my computer, I hate to say. Well, by the time I got here in 2003, there was a pretty good size staff, between Monomoy staff and then, at the time, we had some staff that were newly hired. I don't remember the name of the program now, but I think it was called "New and Expanding Refuges". We were able to get new FTE's (full time equivalent staff) through that program in the late 1990's and early 2000's. So, we had a couple staff hired for Assabet River which was a new staff [refuge]. But everybody was at the Complex headquarters, and we all worked on everything. So sometimes it will be hard for Linh and I particularly to differentiate between all the refuges because we do so much out of Great Meadows, but it was budget, administration, a lot of partnership development, working on the Wild and Scenic River stuff, invasive species, some comprehensive plans. I spent a lot of time working on comprehensive plans, and if there is anything and we'll talk more about the Great Meadows one in detail in a minute, but if there is anything that I think about that I did more than probably anything else, it was getting all those comprehensive plans either finalized or drafted. I didn't do all the writing. The staff did the writing, but all the editing. We had consultants but I'm not sure that was all that helpful at times, because you always had to re-write what they wrote, it seemed like, but getting the comprehensive plans done. When I came here, there were 19 employees for the Complex in 2003. When I left, it was down to something like 13, and those were permanent employees, so. But the administrative part of it, for sure. The outreach – working with Congress, I had a good relationship with, particularly with Congresswoman Tsongas and her staff. My entire career I did work with a number of congressionals, and Congresswoman Tsongas is the only one who, I know, if she saw me outside of a refuge, not in a uniform, she would still know who I was. That's how much we interacted, and her skills as well.

PEGGY: Okay, Linh. I know you are new as a refuge manager, but tell us what your responsibilities are day-to-day, today.

LINH: Well, I think since joining here in August 2018, my day-to-day responsibilities is learning about the Complex. One of the things that I find really important is doing some of these jobs that we have staff doing. I think you said we had 13 when you left, and it shrunk as I was joining the team, so we lost a maintenance worker and there's been some shifts in positions, so just kind of adjusting and understanding and right sizing our work and our priorities has been a lot of the work. To summarize, the biggest things that I do are develop partnerships and communication. A lot of it is just trying to understand who is doing what and not just internally but externally and building those relationships. So, I've been doing a lot of work outreaching to our federal Congressional representatives but also local and State legislature and town representatives. So that has been a lot of my time. One of the big things that we are doing in recent years with this administration has been trying to increase recreational opportunities, wildlife-dependent opportunities. So, what I've been spending a lot of time is working with our state counterparts and figuring out where it makes sense to expand hunting opportunities at Great Meadows. So, that's been a big chunk of what I do for this one refuge.

LIBBY: I'd like to just add something. The other thing that I did a lot in my 14 years is I did a lot of infrastructure development with the staff, working with the staff, it's always working with the staff. We're sitting in the visitor center that is located at Assabet River National Wildlife Refuge. I was heavily involved with the design and the construction oversight. We renovated the headquarters building in 2005 and we got air conditioning in it. You remember that, Peggy.

PEGGY: Oh, yes.

LIBBY: 'cause it didn't have air conditioning. It just got re-sided. So, all the maintenance of the facilities – opening the Bill Ashe, getting the Bill Ashe Visitor Facility constructed at Oxbow. So, again, not always at Great Meadows, but at Great Meadows we had the building renovation, we had a Butler building built up at the Concord Impoundments. We replaced the shop with a new building up there. Trail work and stuff like that, working on Natural Resources Damage Assessment projects with the Sudbury River. That's just some of the highlights. I never knew when I became a refuge manager that I was going to do so much with construction.

LINH: Maintenance and construction is big.

ED: I would be remiss, Peggy, if I didn't comment on the day-to-day activity of establishing the working relationship with the Sudbury Valley Trustees who were so important in, much like The Trust for Public Lands. The Sudbury Valley Trustees would move in and acquire a piece of property that we did not have acquisition funds for. Our working relationship with SVT became stellar and it was a result of my getting out with them and establishing the trust factor that has to exist between two partners. That also carries forth into the Friends group. We formed a Friends group for Great Meadows. We formed one for Oxbow. That was at the peak of the land acquisition activity in that '88 to '97 period. Congressman Atkins as the Concord representative in Congress, he was very key – he lived just on that same road that Dick Borden lived on – and he became exceedingly interested in the refuge and championed our cause for land acquisition money, especially with SVT there talking into his left year and me talking in his right ear. When he was home visiting, he would stop in and I 'd take him around and show him some of the parcels that we were, had in our high priority list to acquire. So, he developed a real ownership for proceeding with completing the acquisition program at Great Meadows.

PEGGY: Okay. Describe what the refuge was like during your time here. For example, was there an office? How many acres did the refuge encompass? Who was your supervisor? How many staff were located at the refuge while you were here? So, we already talked about some of these things, but if there is something you would like to add about describing the refuge, what it was like during that time. For you (speaking to Ed), it's two chunks of time.

ED: Well as I mentioned earlier, I found a rental space which consisted of three fairly large rooms and one very small storeroom. It was right adjacent to the railroad tracks in Concord. I built the staff at that time, this is in the '66 to '69 period. I had an assistant refuge manager who - Tom Horn, who was the refuge supervisor at that time – I had become very impressed with; he was a gate attendant up at Parker River. A fellow by the name of Roger Steelman. He

was a biology teacher in the Pentucket School System. Flashing back a bit, Tom Horn was an iron handed refuge supervisor. In essence, if you want to talk about micromanagement, that man was the epitome of it. He was involved in every single detail that you did. He made all of the decisions as to who was going where. I'll flash back – as an assistant manager at Erie, I got a phone call from Tom Horn. "Ed, are you standing up or sitting down?" I said, "Well, what are you trying to prepare me for?" "Well, we've selected you for a position up at Iroquois refuge."

LIBBY: Just like that.

ED: "Talk it over with your wife and call me Monday morning and let me know when you're going to report to duty." I mean, it was that way. There was no green sheet, no type of thing. Tom Horn basically created the career path for everybody. Myself, George Gavutis, Tom McAndrews, all the people – the names you recognize. The three of us ended up as refuge supervisors in the Regional Office. Tom basically made an assessment of individuals and when he felt that you were somebody that he wanted to move along, then he moved you along in your career. So, he selected Roger. I selected a maintenance man; Bob Bradshaw was his name. Then I got a full-time permanent clerk at that time. Marilyn Fuller was her name. My wife's name is Marilyn, so that was easy for me not to forget her name. (laughter) Marilyn was probably the best office help that I've ever had. She was just super. We attended her wedding when she got married and stayed fairly close with her even after we left to go to Parker River. The, I've got to digress and tell this story because …

PEGGY: That's okay. So, we were talking about what the refuge was like during your time here.

ED: Okay. The refuge – we were into land acquisition as you know. There wasn't habitat management that you got involved with. It was more of a protection mode. Posting, posting and doing the fencing. Fencing was something that Tom Horn brought with him from out west. He had a philosophy that good fences make good neighbors. As it applied to Great Meadows, it was spot on because all the encroachments, even after you made contacts, once that house sold, you had to make a contact again, because without visual or prohibitive fencing to keep them from moving stuff onto the refuge, that would happen. So that was a recurring, always a recurring type of thing. The activity on the refuge in terms of seasonal – boating and canoeing was a big item, a big recreational item. In the fall, waterfowl hunting. There were a lot of problems because there are homes that are built on the high ground right over the - adjacent to the marsh - and many times duck hunters didn't even know that there was a house there. There would be shot falling on, and we were constantly responding to those kinds of complaints. But in terms of the refuge, it was just - the habitat was what was there and not any kind of management activity.

PEGGY: Now you mentioned 1968 it was about 2,300 acres. In the 80's, did the size increase?

ED: Yes. In the second, my second phase, that was the 2,333 is what it went to before SVT got involved, and then it took off. I don't have a figure of what …

PEGGY: But it did expand?

ED: … our acreage was at the conclusion of my tour in ’97 but we were close. Well, I’ll just use the term we were probably in the low 90’s of percentage of our acquisition.

LIBBY: I bet it was about, maybe about 3,400 acres by then, because after you left and before me, the manager was Bud Oliveira. Bud was involved with the acquisition of the O’Rourke tract up in Carlisle. You started that (looking at Ed).

ED: Yes.

LIBBY: But Bud concluded that, and I want to say that’s about 150 acres. Then Bud also brought on the Kennelly property which is a 50-acre property in Billerica. So, even though we don’t have the exact numbers, probably and then he said that he was also working on a Water Row tract. I’m not sure which one that was. So, you were probably in the 3,400-to-3,500-acre ballpark because now I think the refuge is about 3,800 acres and we added some land while I was the manager. Not a whole lot. Land acquisition was practically – there is no money for land acquisition for refuges that are near Boston, in the urban areas. In the northeast, land is expensive. We were only able to get land if it’s funded through some other program like Natural Resources Damage Assessment money paid for that 5-acre parcel on Rt. 20 in Wayland and also paid for a 1-acre parcel on the Sudbury River in Sudbury, in Wayland, I think. That’s just, there’s - or you could get money from tax title. Like you bought (looking at Linh), I started a process to get 91 acres along the Sudbury River – no, it wasn’t that many. We got 91 acres through fee title with the Town of Sudbury many years ago and then you just acquired more acreage along the river through fee [correction: tax] title, so it doesn’t cost that much money. But really, I think probably by the time Ed was gone, it was finished up. It was probably about 3,400, 3,500 acres.

PEGGY: So, Libby, why don’t you tell us what the refuge was like while you were here.

LIBBY: Well, I think the refuge was, it seems like it was mature, I would say. We had an office at Weir Hill Road. Did you (looking at Ed) move into that office on Weir Hill Road? Did you move us into the Elbanobscot?

ED: When Dave Beall was here, that’s when it was acquired from the Elbanobscot Foundation.

LIBBY: Yep, it used to be a camp.

ED: A summer camp.

LIBBY: There were a bunch of buildings there, and I think our office was moved into one of the dormitories.

ED: Well, the whole building was a summer camp for handicapped children.

LIBBY: Okay. So, we had an office, a permanent office. Bud Oliveira had done a lot of infrastructure work when he was the project leader. He had, he was not able to participate [in

this panel], but he sent me some information. He added, like we had quarters for staff. We had a lot of buildings. That's the thing that I remember when I came here. Just even at Great Meadows, there was a lot of infrastructure. There was the shop at Concord and the restroom at Concord. There was the quarters up in Carlisle – the O'Rourke farm. There were two barns up at O'Rourke's. There was the headquarters, the duplex had just recently been built by Bud when he was here. We had the quarters next to the shop. We had the maintenance shop. You know, there was a lot of infrastructure.

PEGGY: The Butler building at Rice's barn was during Bud's tenure.

LIBBY: That's right. When we acquired land, a lot of time the land had buildings and they had to come down. I have a story from Harry Sears who was the long-term maintenance worker here, and we are going to talk about Harry I think in a little bit more detail. But back in those days, they would just knock down buildings. Or burn them! Or knock them down and burn them.

LINH: Not anymore.

LIBBY: Not anymore. Things are so different. But we have two buildings at Rice's barn – that tract. That was the Water Row property I think that Bud was talking about.

PEGGY: And just for the record, Bud was the assistant refuge manager at Great Meadows from '86 to '88 and he was the project leader from '97 to 2002. Just to throw that in there.

LIBBY: Right. Bud had repaved the parking lot up in Concord and then also the one at the headquarters. When I came here, visitor use was a big deal. It still is. And Concord – when you say "Great Meadows" depending on who you are talking to, a lot of people think of Concord. They don't really think of the Sudbury [Unit].

ED: The Concord Unit.

LIBBY: Yeah. And Concord was the original part of the Great Meadows refuge. It was donated by Sam Hoar, and it'd be nice to talk about that, perhaps, in a minute. They get a lot of visitation up there. 200 … and we estimated, and I don't know how accurate these numbers are, and nobody knows how accurate any of the numbers are, but we estimated about 250,000 visitors a year at Concord. So, there was a visitor services program. We had an urban ed program at the time. We did not have a Friends group though, for Great Meadows. That Friends group that you referred to …

ED: Disbanded?

LIBBY: Basically disbanded, and a lot of the people that worked at Great Meadows, part of that group, came over here to Assabet River and then started getting really active with the potential for the establishment of the Assabet River refuge. Actually, the Friends group for Assabet River was formed before there, it was actually a refuge. But we don't want to talk too much about Assabet River. That's where being Complex managers … We are going to have a special thing for Assabet River. But anyway, staff. We had a pretty good size staff. We were starting to, we were

managing the pools now, the impoundments in Concord. That was something that we will probably talk about in a little bit more detail also, but Bud, Bud had started some more intensive management of the pools at Concord, the impoundments. You know, over the years, the management has kind of up and down. That's changed, but they realized they had water chestnut in the impoundments, and they were trying to manage water levels a little bit more there. When I came here, we were actually doing, trying to do moist soil management in the Concord impoundments. We don't do that anymore. We did manage to – it took about three years to do all the paperwork for the permit - to just do maintenance dredging in the channels. We did try to dig out a couple little potholes, because the impoundments started becoming, we realized they were more, very important for Blanding's turtles. They are habitat for Blanding's turtles. We actually had some folks from our Regional biological team come and look at the impoundments to see how important were they for waterfowl and shorebirds. Turns out that they're not that important. They are good during fall migration but that was about it. So, when we started having more of an emphasis on Blanding's turtles, we realized that we could provide more ecological value to the Blanding's turtle. Also, we ended up having honestly a little conflict with the State because the way - we hadn't been able to manage the pools that well because the drainage ditches hadn't been maintained, so cattail had grown up in some areas, and now we have bitterns and grebes that were nesting there. So, while we were thrilled to have those birds, that ended up limiting some of our management options too. So, and then the other thing I would say is invasive species management kind of became a big deal. And then the comprehensive plans which I definitely want to talk about the Great Meadows comprehensive plan at some point.

PEGGY: So, Linh, what would you say the refuge is like now compared to what you've heard about prior years?

LINH: It's great to kind of hear all the history of it. The Great Meadows as it stands today is 3,850 acres. Something that you started, Peggy [correction: Libby], and we just recently finished acquiring was two small inholdings along Water Row by the Sudbury River, so we are slowing getting all those little holes filled, but as you know, it's expensive to acquire property. We have much of the same issues that you have and you guys experienced. Invasive species is a huge deal. We spent two weeks this year as we do many years harvesting water chestnut. It seems it is one of those never-ending problems. One of the things I am looking to do is have more of a comprehensive, strategic plan of how we tackle water chestnut along the entire river with our partners. So, we are having those discussions now. But one of the big things is also the Concord impoundments as you said. It's still something where it is where it is a bit of a management question of how best we manage this and for what. Right now, it is choked full of lotus, which is you know, which is from a biological perspective, it's not the best. But it also, oddly, draws up a lot of visitation in the summer. Then people pay their rec fee. I see huge buses coming in and they call us at headquarters and say, "Are the lotus blooming? Can we go?" They come in their Sunday's best, and they take pictures. It's like a bit photo op place. So, it's an interesting shift. While people are coming to the refuge, they're not coming for the reasons we want them to

come. So, it's going to be another interesting management and communication issue when we finally get the resources and the information to start managing those properly.

ED: When we were night lighting – that's capturing waterfowl at night using an airboat – one of our best areas for catching wood ducks was in the lotus plots, because they were in there feeding on insects underneath the leaves. So, I developed more of an appreciation for the lotus 'cause it's been there since I can remember.

LINH: I see.

ED: It does have a wildlife value, even though it might …

LINH: But right now, it is, it's covered the entire, there's no open water. It's a challenge.

ED: It's really expanded. It was in one location in the upper pool of about oh maybe a tenth of an acre.

LINH: Right now, it's the entire impoundment that's covered.

LIBBY: I think when we started having to alter our management because of the concerns over the bittern …

ED: Over the what?

LIBBY: The American bittern. And probably the Blanding's turtles, too, that's when it seemed that the lotus just started getting out of control. But it has brought new people to the refuge, as you mentioned. The other thing that we have now, and Linh mentioned this, is we have a fee program now at Concord. So, you actually have to pay to get into the Concord Impoundments.

ED: While I'll be darned.

LINH: And people willingly pay the money.

ED: What year did that start?

LIBBY: What year did that start? It was in our comprehensive plan, but it still took us many years to start it. Probably five or six years ago or so now, I think. Yeah, I think about that. If you have a senior pass, though, you can get in for free.

PEGGY: All right. We are going to go onto the next question. Ed, start with you. Describe one or two of the major activities or accomplishments that you saw when you were here. Examples would be wildlife management, public use, infrastructure construction, land acquisition, etc., that happened while you were at Great Meadows. If you have more than one or two, just kind of prioritize them, and we'll come back if we have more time to talk about some of these. So, your major activities or accomplishments.

ED: In the Sam Hoar donation, the original tract, there was no ability to control the water levels. There were just the dikes and no emergency spillways or anything of that nature. The dikes

were made out of organic material, dredged up, so there was always dike subsidence. In the ’66 to ’69 period, I installed three corrugated metal pipe water control structures. This, from my background, is something that I had been doing at Erie and at Iroquois refuges, so we were quite adept at putting those in and putting them in fast. What this gave us was the ability to do some water level management. However, the limiting factor was the Concord River. If the river was high, you had in-flow so you could only draw your impoundment down as low as what the river level was, without pumping. We ended up buying a large, what they call a Crisafulli pump which runs off a PTO on a tractor. That would remove large volumes of water when the river was higher than the water level that we wanted to maintain in the impoundments. We’d been monitoring the purple loosestrife spread in the refuge from the beginning, from 1966 on. Aerial flights, doing photography which was something that refuge supervisor Tom Horn wanted documented. We even started doing experimental control, hand-pulling, that type of thing. Flash forward into my period when I was the refuge supervisor. I became aware of the fact that the Department of Agriculture (USDA) was doing research on insects that would be a natural predator for purple loosestrife in the Eurasian area. We had some end of year funding to the tune of $10,000. We funded USDA to start the program of testing for 10 years – which is the requirement – before any introduction of foreign species where they be insects, plants, or whatever. That I started when I was in the RO (Regional Office). It came to fruition with the bugs, which I can’t remember the name, the scientific name …

LIBBY and LNH: *Galerucella*. *Galerucella.*

ED: Which one?

LIBBY: *Galerucella*.

ED: Yeah, *Galerucella*. Two species of *Galerucella* out in, at one of the universities in New York [Cornell University]. Pat Bosco, the special agent and I, drove out and picked up our supply. This is funny. They looked a lot like marijuana plants when they are in a pot. They were covered over, to keep the bugs in, with cheesecloth. We had a state police officer sitting in the parking lot when we’re offloading these plants from the university’s van into my truck. He’s watching us, and I said, “Well, it’s going to be interesting whether or not we get him coming over asking if we’re transporting marijuana!” But anyway, we brought those in and released them in the various areas. The Broad Meadows area of Great Meadows is one of the big spots …

LIBBY (whispering to Linh): That’s the Sudbury part.

ED: … out there where the purple loosestrife is, just taken over. That’s two. We did waterfowl and dove trapping and banding in the first session. I hired a biological technician out of school by the name of Wayne MacCallum. He went on to become the director of the Mass Division of Fisheries and Wildlife, so I think we influenced him pretty positively. Wayne conducted all the dove banding and, as I mentioned to Linh about the night lighting and the lotus, we were night lighting out at Great Meadows as well as running a cannon net trap operation. Now in the old unit, there was a log cabin that was built by Sam Hoar, and that was their lodge if you will. That

was located at the, where the lower pool is. When I first came, we'd been doing a lot of cannon netting at Iroquois, and that's a good way of capturing waterfowl without having predation being a potential problem. You handle, you catch the birds, you handle them, you band them, and you release them. No predation can happen. Anyway. We set up a cannon net operation right there and banded 300 and some odd birds right off that site that year. So, finally towards the end of that first '66 to '69 period, we were getting into be able to do some wildlife management activity and contributing to the overall effort. That's three. I won't talk anymore.

PEGGY: Yeah, we can come back to more afterwards. So, Libby, if you want to describe your one or two major activities or accomplishments?

LIBBY: I think I'll talk about the CCP (comprehensive conservation plan) process. So, when I came in 2003, there was already a draft CCP that had been written. It went out for public comment shortly after I got here. I reviewed the draft, but I didn't want to change anything because I didn't really know anything about the refuge. So, one of the things that we were going to do, we were proposing to not allow dogs anymore on the refuge. At the Concord impoundments, in particular, this was really a big issue because a lot of people walked their dogs on the refuge. We felt that it was not beneficial to wildlife to have so many dogs on the refuge. There were conflicts sometimes between people and dogs, or people taking pictures and the dogs. So, the other thing we were proposing to do was to open up the refuge for hunting. That was really controversial. There was no hunting at the time. Now Ed mentioned earlier that there was waterfowl hunting at an earlier time in the refuge and when it was established, we know that Sam Hoar, who donated the land to the Fish and Wildlife Service, the Concord impoundments, he actually got a provision in his deed that allowed him and his son to continue hunting up there.

ED: Deed reservation.

LIBBY: Because he had set those impoundments up. He created those impoundments and he set them up for hunting, and then he wanted to give them, have them be permanently protected so that they would always be in existence. So, we were proposing to allow hunting - archery only for deer, no shotgun; and waterfowl hunting in certain segments of the Concord and Sudbury Rivers. The third big thing we were proposing to do was to institute this fee program at Concord. People just erupted. I remember having a special public meeting in Concord just so that I could talk to the people about the plan and how it would affect Concord. I already had known this but one of the things that you have to deal with when you are managing a project like this, and it goes out for public review and comment is that most people don't take the time to really be informed about what they are talking about. Because I had a lot of people come to the meeting and "You can't have hunting in Concord!" Well, we were actually not proposing to have any hunting in Concord. Concord is a big no hunting zone. There were other places. We wanted to, but anyway, we did manage to get that through, and I think now, that was - well one of the things, I'm not a hunter, but I think people are beginning to realize in this area that we need to have some more, you need to use hunting as a management

population control for deer. Even some of the land trusts around here, and some of the town conservation commissions by the time I left, were starting to open up for hunting. So, it is a little bit harder in this area because it so populated, but I think getting the CCP done was one of the main things and implementing those changes for public use. The other thing is I'll just mention real quickly is that we added, building off the invasive species stuff with the purple loosestrife, we did continue the beetle release in the marshes outside our office and some other places. That was our biological staff. We raised beetles here. But we started a group called, and of course we continued with the water chestnut [harvest]. There were a couple of years where we didn't do it, and that was a big mistake. We didn't realize how you actually really needed to go in every single year. We had the harvester that Ed had acquired. Acquiring that harvester was a huge accomplishment that you did with all the fundraising that you did. You got money from - local people gave money to the Fish and Wildlife Service to buy an aquatic weed harvester.

ED: Well, let me tier off of that, interject. We had provided an office for Bill Ashe who was the director for the wildlife foundation, the [National] Fish and Wildlife Foundation. That was congressionally authorized to accept money, donations from corporate world and channel it into refuge operations, without going through Contracting and General Services. Bill would decide which projects he was going to fund, etc. etc. So, Janet Kennedy on the staff at that time, this was in my second tour, Janet was the outdoor rec planner. We had gotten together and just discussed well, I'm not a chemical control advocate. Bud Oliveira was and did a lot of it in the old unit. I'm more of a mechanical control. So, we got researching the ability to remove water chestnuts mechanically. There was an operation, rental operation in the Charles River that I became aware of. I went out and looked at it. I realized that you can do a significant amount of removal. So, we – no funding for it – so we, working through Bill, we set up a fund. We had a real nice newsletter that went out at that time. We put out a call for donations and in a two-year period of time, we raised $150,000. The last donor had his attorney call me and say, "When you get within $50,000 of your goal, you give me a call and we will write you a check." And they did. $50,000 finished us off.

LIBBY: That's pretty amazing.

LINH: That is awesome.

ED: It is, but the donor absolutely demanded that he remain anonymous.

LIBBY: Yeah, and you kept that. I have no idea who that was, as far as I know.

ED: So, the machine was acquired. It was purchased in 1996. It didn't get delivered until after I retired. I was back working as a contractor with the Monomoy gull control which we will talk about later [in the Monomoy 75th anniversary panel]. We had, we purchased the machine and the amount of money left over was $30,000. They actually dropped the price on the three pieces of equipment. So, Bill had that $30,000 and Bud was, had been selected as the refuge manager. My knowledge that he was a chemical control advocate and I wanted to make sure

that we proved that the mechanical control would work. I came and operated the water chestnut for the entire, water chestnut harvester for the entire summer. The first day of operation out of the old Great Meadows I was offloading it waiting for Harry Sears to come back with another, we were using two dump trucks, and I had to go out the moving conveyor to shut the engine down and slipped and broke my ankle. That was right towards the end of the day. Bill Ashe and Lucy Wallace, his secretary, came out. Harry's car had been stolen that day. He had left, he always left the keys in his car plus $800 in the ashtray. Somebody obviously knew that, and the car went.

LIBBY: I never heard that.

ED: So, they wanted to haul me off to the hospital and I said, no, I'll get a … Harry can drive my vehicle home and we'll run him home from there, which is what we did, and I was back operating the machine the next day with my foot in a cast.

LIBBY: You're unbelievable.

ED: The water chestnut removal in the river, there's photographs that I took of that. The complete river, all it had was a little thread where the outboard motors ran up the middle. We worked from Rt. 27 to Sherman's Bridge and completely cleaned that all out the first year, and we were depositing it on the banks. We monitored that. The heat generation in the piles rendered the nutlets completely non-viable. But that technique was not continued.

LIBBY: You mean, leaving them on the banks?

ED: Yes.

LIBBY: Yes, because the conservation commissioners didn't want that.

ED: Well, that was, they had approved that earlier.

LIBBY: Some other people didn't [later].

ED: We did the Heard Pond area also. That's too much on that.

LIBBY: No, I think that's good to talk about water chestnuts, because that's a huge part of Great Meadows, and it still is a big part of what we do. I would just like to say that because of the work that we did with the water chestnut and the purple loosestrife, we ended at the same time there was just a growing awareness of the importance of invasive species and the prevalence of them and how they were impacting ecosystems. So, the New England Wild Flower Society put together a conference in Framingham – an invasive species plant summit – and I went to it and Barbara Volkle, who was the president of the Friends of Assabet River at that time was there. A bunch of people. Mass Audubon and our Wild and Scenic River folks. Lee Steppacher from the Wild and Scenic River. They recommended that we get together during one of the lunch breaks and form tables and talk about stuff and what you could do. So, we all got together at a table, and as a result of that, we started working with all these different

towns. Sudbury Valley Trustees was there. We ended up forming after a couple of years, a cooperative invasive species management area, CISMA, which the Fish and Wildlife Service supported the first coordinator for the first 4 years. Amber Carr was the coordinator. She was a term employee and we paid for her, out of our own budget. But because we had this CISMA, we were able to get a bunch of money from the Natural Resources Damage Assessment for the Nyanza Superfund site on the Sudbury River. Using that money, we bought a new harvester. Tom Eagle, who is the deputy at the refuge complex, worked to develop the specifications to acquire a new harvester that's a little bit easier to use. It's a little bit more mobile, and the transport equipment and everything. So, we have, now we have a new harvester. Has the old harvester been retired?

LINH: It has been retired. So, we are now using the new harvester, and it's actually now quite a few years old. It's smaller than the old one but it still comes with a lot of maintenance and a lot of operations and a lot of logistics, just to haul it. And so, we are thinking about different, how best to tackle some of these issues. What we are seeing is, as we remove water chestnuts, there are other invasive species that start moving in. Milfoil. I wanted to pause working with CISMA and working with the River Stewardship Council, kind of really think about a strategy of when we are pulling this, are we just making more room for other invasives, and how do we best address the long-term goal of maintaining this riverway? So that's been a challenge that we're just starting to take a look at. It's difficult to try to figure out the best answer.

LIBBY: It is difficult and there's never enough money or time or people to work on it, even though the state has a couple of aquatic ecologists that have familiarity with invasive species. The system flows, especially the rivers, so Framingham has a lot of water chestnuts, and they end up coming down our way, although they are using aquatic, they are using chemicals to address that, and it may be – I'm not a big chemical proponent either but it may be that that is going to have to be a tool.

ED: Be the tool.

LINH: It's a balance of trying to figure out what works and to what end and why. So, the other thing we are trying to look at more is tiering off of the comprehensive conservation plan, thinking more about how we manage the impoundments. As you know, within the deed of the impoundments there was a special restriction that said it needed to be managed in perpetuity as impoundments. So, we weren't allowed to, well if we were to revert it back to a natural system where it might have been maybe like an oxbow or have the river flow into it more naturally and remove the dikes, then the property would revert back to the heirs of the Hoar family. And so, having that restriction really limits us to some of the options that we can do. So, one of the things we did this past winter was complete a bathymetry study of the Concord impoundments looking at the contours and the bottoms of those wet areas to figure out - what exactly do we have? I know we had, prior to my time, we had spent some time digging some deep holes …

LIBBY: Refugia.

LINH: … as habitat for Blanding's turtles. So, trying to understand – are they still there? Have they filled in? Getting a better understanding of that, and hopefully that will then feed into the work, a habitat management plan, that we want, so we can really have a strategy of how we manage it, not just kind of tackling issues as they come up.

LIBBY: It was 75 years ago that Sam Hoar deeded this property to the Fish and Wildlife Service. That was what started, established the Great Meadows National Wildlife Refuge. He actually is the person who recommended the name of the refuge as well. Call it Great Meadows, 'cause that's what people called it up there [Concord]. I have the paperwork that shows that there are all these different names that they were considering including Musketaquid, which we don't think anything about Musketaquid. There's an arts center and it's in Concord. But at the time, it was like, no that's too difficult to say, too confusing. So that was one of the names that they talked about for calling the Great Meadows, calling it Musketaquid National Wildlife Refuge.

ED: It was one of the Indian names.

LIBBY: Yeah, it was an Indian name. Now I think they are reverting back. At some places, they are complexing things and giving them the Native American names. But anyway, at the time, Great Meadows was really important for waterfowl. I also have documentation about how they know, from some of the ducks that were caught, that had been banded, that ducks, there was a direct connection between Parker River refuge and Great Meadows in terms of the ducks. This was a really important area for waterfowl, and it isn't so much an important area now for waterfowl. It's just interesting how over time, 75 years, I mean, things change. It's still important for wildlife and it's important for nature, but it isn't quite the same as when Sam Hoar was here.

ED: You had mentioned, when talking about your CCP and the increase in hunting, as it landed in my second tour, my second tour there, the problem with waterfowl hunting on the refuge as we acquired more land and plus the fact that refuge property is closed to all hunting until a formal hunting plan is prepared and approved. So here we had a situation in which hunting was being conducted on a waterway. The question was raised - do we have the ability to control what goes on, on the surface of the water? The Solicitors, United States Solicitors [for the U.S. Department of the Interior] rendered an opinion that said, okay, if we own the bottom to the center line of the river from either side or from the center line to one side, we own, we control what happens on the water surface and the air above it. So, with that, I closed the entire length of the river to all hunting until such a time as we would do a waterfowl hunting plan. Wayne MacCallum, my ex-biological technician, was the director of Mass Fish and Game at that time. Wayne thoroughly understood because I told him, "Look, we are being sued by the animal rights folks for not doing our job. We're not, we're on the brink right here of having that happen, and I'm not going to, under my watch, not going to have that happen. So, we're closing

it until we formally open it." He thoroughly understood and even though they didn't like it, it happened. That remained closed until you recently opened it, apparently.

PEGGY: Well, let's go on to our next question. It might cover some more thoughts here. We'll start with Ed. What was the most significant issue you and/or your staff or co-workers faced during your tenure or tenures? This could be resource issues, budget, staffing, community relations, etc. Again, if you have more than one issue you want to talk about, just prioritize and we'll come back to any additional ones you might have. And then, how did that issue get resolved?

ED: There were many, but I'm going to just select one which probably is the most significant one, and that was during my second tour here. The base closure issue and establishing a boundary line for the expansion of the Oxbow unit of the Complex. There was a thorough, a complete misunderstanding as to the base closure organizational structure. In essence, when a Department of Defense base is listed for closure, the first group that have the opportunity to make a selection of lands is another Department of Defense agency.

PEGGY: And which base was this?

ED: Pardon?

PEGGY: Which base was that?

ED: This was, actually Fort Devens and what was called the Sudbury Annex. It was the whole complex. I had been over quite a bit of this property and seen how valuable in terms of the wildlife value was as well as the Nashua River which was identical to our Great Meadows Sudbury and Concord rivers situation and marshes. So, as I was saying, the Department of Defense has the opportunity, has the first choice. Fish and Wildlife Service is number three [correction: two]. Politically, what was established was the Massachusetts Land Bank, headed up by a guy by the name of Jeffrey Simonds. He basically ignored what the base closure order of succession was. So, we were in a constant, a constant battle with him. This is again where our Congressional contacts – Dan Sakura in the Assistant Secretary's Office, the Friends group that got, we got established at Harvard, Bill Ashe and Lucy Wallace being residents of Harvard, became very key people in that. I conferred with them on many, many days, coming up with meetings. Regional Director Lambertson and I attended a meeting at which time Jeffrey Simonds was making statements that they were basically in control of what boundary got established. He [Regional Director Lambertson] turned to me and he said, "Ed, have we got good support on this?" I said, "Yes, we do." He says, "Well, we better have because we're going to lose if we don't." We adhered to the boundary that I established. We did not back off from it and that, in essence, was a major issue and it was resolved through the support that we had from the Friends, the Congressional folks, and Dan Sakura in the Secretary's Office.

LIBBY: I think, you know, that was for Oxbow refuge.

ED: That was for Oxbow.

LIBBY: And Assabet River. I think that that shows that when we think about our jobs, when you say what is the most significant issue, well you know what? It wasn't Great Meadows.

ED: No.

LIBBY: I know we're here to talk about Great Meadows, but we all are dealing with all these refuges and there's a lot of stuff going on.

ED: It's part of the Complex, yeah.

LIBBY: I think for me, I think the hunting was probably one of the most significant. But I wanted to mention something that I dealt with early on, because of what's happening now, is mosquito control; [it] was a really big issue for me in 2003. And it had been for Bud Oliveira too. He didn't mention this, but we stopped allowing the towns to spray larvicide [correction: pesticide] whether it was adulticide or larvicide on the refuge in the wetlands in the early 2000's. There are a lot of wetlands at Great Meadows, and a lot of neighborhoods butt right up to the edge of the wetlands, and there's a lot of mosquitoes. People were complaining. Bud took a very strong stance on this, and he took a lot of flak from Senator Kerry in particular, and his office, although they supported him, but, there was a lot of Congressional ... Maybe I shouldn't say "flak", maybe I should say "interest" from the Senator's Office, and Senator Kennedy. Then when I came, you know these issues, they don't go away just because there is a new manager, just like Linh is dealing with a lot of the stuff that I was dealing with, so I'm dealing with an issue that Bud had been dealing with, and it's mosquito control. There is a neighborhood in Wayland where they do get a lot of mosquitoes, and the people were livid. We had a meeting in my office with Senator Kerry's aide, and we stuck firm to our policy, our decision that we were not going to allow the spraying of larvicides. But adulticide is another thing, and when you have – so that really basically is nuisance control. People don't want to get bit when they are in their back yard. But you have human health.

ED: Triple EEE (eastern equine encephalitis).

LIBBY: Triple EEE, and West Nile Virus was just coming up at the time. We were doing sampling. Our biological staff, Stephanie Koch and Eileen McGourty, and all the staff at Monomoy, were all doing sampling for birds. We had a big avian influenza initiative for several years to see if the birds – there was avian influenza, there was West Nile Virus – are they getting West Nile? Are they transmitting it? Then the policy – the regional policy and the national policy on mosquito control – just didn't ever seem to quite get finished. I always had to just kind of keep people off. Wayland in particular did not, the Board of Health was not happy with us. Mass Audubon Society was very happy that we had the policy that we had against spraying because they also do not allow spraying on their sanctuaries.

ED: Same position.

LIBBY: So, we kind of worked together with them. But now, and every time there would be a triple EEE threat, it's generally more of a problem down in the southeastern part of the State. It

wasn't that much of a problem for Great Meadows but occasionally we'd have something in this area, and I think this year you did.

LINH: Well, I can certainly expand upon that, having recently met with Central Massachusetts Mosquito Control. You're right. Triple EEE is one of those diseases that you know incubates in birds and then every five, six, ten years, it pops up for a few years and becomes an issue. So, one of the things we're looking at, they finally, you know the Service finally published their mosquito control handbook in 2018. February 2018. So, we have that as guidance.

LIBBY: That's good.

LINJH: So, I've been talking a lot with our national invasive pest management coordinator, just getting an understanding of how best we address this. But I think what we have now that might not have been available back then is a lot more data. Online, everywhere, there's been a lot of studies done. So, we have the information and the data to show if and when we may consider it. And again, as you said, the policy of the Service is to not allow mosquito control for nuisance but when it becomes a health issue, we do have to take a serious look at how we do that and balance that with the resources we are trying to protect. So, those are the things we are starting to look at, moving forward. Again, we are late in the season this year - it's September now - to address it, but we hope to have a mosquito management plan in place by the start of next year, taking a look at what those thresholds are. At what level when it becomes a human health concern, working with the public health board, do we allow the use of larvicides? At what rate, at what area? Now that we have all this information on mappings of where cedar swamps are, which is an area where many of those mosquitoes will thrive in, how we go about working with the mosquito control board to monitor adjacent areas when we have those thresholds to figure out, okay, and especially working closely with the health board to decide, okay, we have hit that threshold of where it's a human health issue, and this is what and trying to understand how it works and how we, our control on our lands, will address the issues but also balance it with protecting our resources.

ED: Really puts you folks in the front line here of the battle when you've got human health issues.

LINH: Absolutely. That is definitely a concern.

ED: Especially where there's been several deaths from triple EEE. I don't envy your situation now. That is very difficult to maintain a firm line, to protect the wildlife resource when you've got the human resource that's being seriously threatened.

LINH: I think it's all about a balance. In our jobs, it's always about a balance. The difficult thing with mosquito control is, you're not just saying, you're not just developing this plan and there's these three things you check off, and then it's time to spray. It all depends on the weather. When you have a big heavy rain, that's really when it, and so you can't really predict the

weather that well. So again, you have to have those thresholds and those very clear guidance on when you can consider it and when you cannot. So, we're working through that.

LIBBY: That's a lot of work but that's progress. It is progress.

PEGGY: So, Linh, would you say that is your most significant issue that you've been dealing with in this past year that you've been here, or do you have something else?

LINH: I think we've already touched upon a few of the issues – invasive species, hunting, and also the mosquito. But the other thing that really plays into all these issues is really our staffing. So, I think I've heard we've had, as the Complex expands, I've heard that when you came in you had 18. We are at 12, and that's covering over 13,000 acres, 8 refuges, from Oxbow in Harvard all the way down to Chatham and Monomoy over in the Cape. So, being able to address all these issues that come up, all these new initiatives, the priorities from the administration and how best we can address them and implement them while working on barebones skeleton crew of 12 people is very difficult. When I say 12 people, I don't mean 12 people for the Complex. We have three that are dedicated just to Monomoy, so I'm really just working with 9. So, it is very difficult, trying to figure out what your priorities are. One of the biggest challenges right now as we move forward is trying to figure out what those priorities are and agree that, if it's not a priority, that we have to let it go. And it's a really hard decision because everyone is so talented and so passionate that saying no to things that they've done, that they are doing, that they have done, that they've worked on for a long time, that's hard.

LIBBY: I found that, I echo that that sentiment. And actually, Bud Oliveira had the same concern. He said that for him at Great Meadows, his most significant issue, remember he was from, he was there from '97 to 2002 as the project leader, that it was finding the resources to accomplish the various tasks that we faced. In trying to do a work plan, I always, that was probably one of my most frustrating things – our annual work plan. Again, maybe it takes years and years to finally get to the point where people are going to realize that they can't do everything that they want to do, because we have a bunch of super achievers on this staff, as you know Peggy.

PEGGY: Passionate people.

LIBBY: Passionate about the resource, passionate about what they do. There's all these opportunities to work with other partners on things. We have volunteers who want to help out. But all that takes a lot of time and coordination, and you can't do it all. Being able to say no and prioritize, actually hone those priorities – is, it's hard.

LINH: It certainly is.

LIBBY: To do it with 12 people is ridiculous. I'd just like to say it's just ridiculous. The national staffing model that was developed in the 2000's some time, we should have 36 full-time employees based on that criteria. I suspect that if it was run again and adapted with some

different criteria, we still would end up being way up there. And we're not. We went through a downsizing as Peggy will remember in 2008 where we started. That was …

PEGGY: 2006.

LIBBY: 2006 to '08, where we started losing staff. And then maybe it bumps up a little bit but.

LINH: So, there was a workforce plan again for the region. Monomoy and the Complex - Great Meadows - actually ranked up as one of the highest biological values within the region, not just the state, within the region. The plan was that if there were, the financial investment was worth the return. And so, it sends a mixed message when we are down to 12 but yet we are considered one of the most biologically diverse and important refuge. So, managing those priorities and almost like managing expectations when it comes to what our partners expect, what the regional office expects, what the national headquarters expects when they have all these new initiatives, all these new priorities, and communicating not just all the amazing things we do but some of the challenges we face, is really important.

ED: Having sat on both sides of the fence so to speak, the field project leader side as well as the refuge supervisor side of the fence, when it comes to budgetary issues and funding priorities, when there is a good supply of funding coming to the Service, then that's not a major problem. When that supply begins to get cut back as you folks have been through your two tenures here have been realizing and for you, Linh, that's going to be continued for a little while anyway, that certainly becomes a major overriding problem for doing the job that we should be doing for the resource and the public.

LIBBY: I'd just like to say one more thing real quickly before we move on, is that the other problem with all this budget thing is that lots of times we're told, "You're going to get less money this year." And then, all of a sudden, whether its sequestration, while it didn't really kick in the way they thought it would, all of a sudden, we finally get a budget, in March or April …

PEGGY: It's been May.

LINH: May.

LIBBY: May! And then there's more money than we thought, and now it's like hurry up and spend it. It just adds to the – this happens. How many times has this happened? And you do, really, it's so difficult on the staff. At all levels – in Contracting! But at every level, because all of a sudden, even though we have a two-year budget, they want you to spend all the money this one year.

LINH: It's hard to plan your work year when you don't know what to expect. And then you also have this fluctuation in budgets and then you get extra money that you didn't know you were getting, which throws off all your priorities which because you know you don't want to give away, extra money, but then it throws your priorities off and that the things you said you were

going to do is pushed to the side because you have to spend that other money that's going to go away.

ED: Piece of advice. Keep a folder with purchase orders of needed items in your desk, because I got the reputation of being the go-to guy when George Geis who was handling our budget had a windfall of end-of-the-year money, when some station didn't get their job done. Then he knew he could call Ed and I'd pull out my file and we would take care of the problem.

PEGGY: That is good advice. I'm going to move on to our next question because we are getting into our last half-hour here. Start with Ed. Who were some of the memorable staff that you worked with? Did you stay in touch with them? Did they go on to other positions in the Fish and Wildlife and if so, where? So, memorable staff we're talking about.

ED: Well, there – because of the small staff, certainly, I mentioned Marilyn Fuller earlier, and she was the best, just a great person. We did stay in touch with Marilyn for many, many years but that has stopped, obviously. Roger Steelman went on to become refuge manager at Erie after his first tour as my assistant. He distinguished himself as a very capable project leader and ended up at Long Island Complex refuge. Those are the outstanding folks from the first tour. The second tour obviously Janet Kennedy. Janet was the ORP (outdoor recreation planner) here and towards the, well about '95, I spoke with her and I said, "Janet, I could really support your transferring into the 485 series." The manager series. I said, "You've got some course work that you should be picking up and you're in a great area to do it." Well, whether or not she got the course work part I don't know, but she did become a project leader up at Parker River and later followed in my footsteps as refuge supervisor north. Janet was a very capable person, very capable. I've seen her at various functions, the last of which was the dedication for the Bill Ashe facility. Then, Mary Varteresian who at that time was filling in as a clerk typist, waiting for a position. She was a biologist. She went on to become a biologist with the Division of Realty. Mary was very involved in the Mashpee project with Carl [Melberg]. So those are four of the folks who were outstanding in my view.

PEGGY: Great! What about you, Libby?

LIBBY: Well, so, I was here for 14 years. That's a lot of people. I will name some names, but I know I'm not going to remember everybody. I do want to start by recognizing some of my superiors. Dick Dyer was my supervisor when I started here. I just thought he was a great supervisor. He was there – I told him this too – "You're there when I need you and you're not there when I don't need you." I loved that about him. He was great, he was accessible, and he was terrific. Tony Léger was the refuge chief, and I just thought he had great vision and smart and he would fight. He had courage to make a decision. You might not always like him, and he did butt heads with a lot of people. He probably butt heads with you, Ed, but he would make a decision, but you could also tell – if you didn't like that, if you presented information to him, he would change his mind occasionally. He wasn't a flip flopper, like wishy washy. But he would listen, and we're not going to talk about you guys [Ed and Tony], anymore. (laughter) Bud

thought he was great. In terms of some of the staff, wow. We went through quite a few people here. I really, the biological staff at Great Meadows, at the Eastern Mass Complex, has consistently been stellar. That's whether it is here at Great Meadows or at Monomoy. I do want to say that I was fortunate enough to be able to convert some people to permanent. I want to highlight Eileen McGourty and Kate Iaquinto were converted to permanent while I was here. I know other folks were. I think, Sharon Marino – I was actually Sharon Marino's supervisor for about …

PEGGY: And tell us for the sake of the recording how these people have moved on to other positions.

LIBBY: Yeah. So, Sharon Marino was the, she started as a SCEP [Student Career Experience Program] student and then she came to Monomoy – and we are going to learn more about her in the Monomoy oral history that we do separately. But she was a biologist and then she became a refuge manager. I came in April of 2003 and in August, Dick Dyer moved her to, after the field season essentially ended, moved her to Great Meadows, I mean Great Swamp in New Jersey, to be the deputy project leader there. And now she's the deputy regional refuge chief. She's like two above me. Sue McMahon is another person who was above me in my chain of command. Deputy refuge chief before Sharon and she was excellent and very supportive of the field. Peggy, you were an amazing administrative officer and I know that I could not have managed the budget as well as I did without your help. We had the best record of all the refuges in the region in terms of getting down to almost zero, not overspending. We never, we never got in the red, I guess that would be, and there are some refuges who do that, consistently. But that was so much in large part because of you and your great abilities. I do want to talk about Harry Sears really briefly. He was the maintenance worker here. We've had some, I mean all the staff are great. Really, all the staff are great. But Harry Sears, who you worked with (looking at Ed), just deserves a special credit because Harry worked for the Fish and Wildlife Service for close to 50, well I think for 50 years. But he wasn't the longest served employee. There was a maintenance worker from Wichita Mountains who worked longer – I think he worked 55 years. But when Harry joined the Service, he, this was actually his second career. He was 40 years old. Did you hire him at Parker River?

ED: No, he was on the staff.

LIBBY: He was already there.

ED: I inherited him.

LIBBY: You inherited Harry, and he was at Parker River, and then they did a downsizing and they moved, they told him you can move to Great Meadows.

ED: He was either going to be terminated or accept the position as maintenance man here.

LIBBY: Right. So, he came here, and Harry he was, he just loved to work. He was a real character. He would often say to somebody – for women coming into the workforce – that was a big change for him, because it used to be all guys.

ED: All guys. Yep.

LIBBY: Then women started kind of infiltrating. You knew that Harry, that you were doing a good job, if Harry would say "She's a good girl." Right? (laughter) Now I know that sounds kind of patronizing, but that's just the way it was, and it was sweet. Harry was really dedicated, but Harry worked until, he died – one day shy of his 91st birthday, and he worked up until 5 days before he died.

LINH: Wow.

LIBBY: I can remember saying, "Hey, Harry, why don't you think about retirement?" He lived 50 miles away in Newburyport, up in that way. I was going to try to get him a volunteer job at Parker River. Unfortunately, he got sick, and he died, but it was, for him, it was quick. But Harry did a tremendous amount of work on all these complexes. He was our heavy equipment operator; he did all the maintenance work. He did a lot of work at Monomoy. We might talk about that separately. But he was, he took a lot of people under his wing. He was a great employee. We did do an oral history – Tom Goettel did an oral history with him – so that is available online on the NCTC (National Conservation Training Center) oral history page.

PEGGY: And Bud, in his words, mentions Jackie Kornish.

LIBBY: Yes. So, Bud also talked about Harry Sears. But he mentioned Jackie Kornish, who I didn't know. Jackie was – what was she, a biologist?

PEGGY: She was an outdoor recreation planner.

LIBBY: Outdoor recreation planner. Unfortunately, she went scuba diving one day. It was not work related, and she died as a result of a scuba diving accident. I think she was 23 years old.

PEGGY: She was 23.

LIBBY: There's a little memorial garden for her at Great Meadows. I met her mother who comes every once in a while, on the anniversary of her death to look at the plaque.

PEGGY: This year was the 20th anniversary, this year.

LIBBY: Ahh, 20th anniversary. She was a bright, young talent.

ED: What was her position?

LIBBY: Outdoor recreation planner. Tim Prior was the deputy project leader when I got here. Tim was awesome. I was really disappointed when he retired because he was really knowledgeable about contaminants. Contaminants was a big issue for us at several refuges including Great Meadows.

PEGGY: Bud gave him kudo's as well.

LIBBY: Yes. Right. Bud also recognized – I really want to say this about – I'll read what Bud has to say about Harry Sears. "Harry was a curmudgeon to many people." (laughter)

ED: Good word.

LIBBY: "But the man had many hidden talents. He was from the old school where he kept things running with baling wire and was used to operating on a shoestring budget. I really enjoyed talking to him." That was, that was Harry. Thinking about him, his skinny legs wearing shorts and his boots, and he was always filthy, his shirts were always filthy. What a great guy! Just, I think Chris Kelly, starting Critical Incident Stress Management for our region. Chris is very empathetic and funny, and you know, honestly, we had some tensions at the office – you're going to have those – and Chris could always find a way to defuse the tension. He's very effective at that. Make us laugh or at least kind of lighten it up a bit. But all the staff were great.

PEGGY: Linh, do you have any standouts?

LINH: Well, since I'm still there, I'm not going to choose favorites, but I will say that I agree with a lot of – I actually had the opportunity in the past year to meet Tim Prior and talk with him and actually Stephanie ran into him in a grocery store the day we were releasing New England Cottontails on Nomans Land Island. She's like, "It's a sign." It's a sign it's going to be successful project because we saw Tim Prior. It was kind of random. But Mary you had mentioned. Sue McMahon, she still helps us mow up over at Oxbow. These are pretty extraordinary people. Janet she was wonderful enough to help us do a career panel recently with underserved youth, that came over to Oxbow. Not here at Great Meadows, but. All these names that you mentioned, it's really great that they are still around, and they are still supporting us in one way or another. I can't agree with you more about how they are so memorable.

PEGGY: Now, there's a couple of topics on our bullet list that I want to make sure we touch base on before we wrap up in about fifteen minutes.

ED: Can I make a comment?

PEGGY: Of course. Of course.

ED: I found it very interesting you mentioning Tony Léger. I chuckled because Tony was my assistant when I was in the Regional Office. He just did such a super job. He always said that he emulated a lot of what I was doing when we were dealing with the Back Bay issue when I selected him for the manager down there. He held, held ground like you were saying. He's very, very tough. But I had to chuckle to hear your assessment of him because that was Tony. Good person.

LIBBY: We're still really good friends. We stay in touch.

PEGGY: So, we had wanted to make sure that we covered enough. You did touch base on it, but the Wild and Scenic River designation, 'cause I know that was a big deal for the refuge.

LIBBY: Well, that was a big deal for the refuge, and it was something that I spent a fair amount of time on. When you come in and you have so much going on, and you really don't have that many staff, but a big part of the project leader's job is to do all these partnerships stuff. So, the Wild and Scenic River was designated in – I think it was 2000.

ED: I was on that committee.

LIBBY: Yes. There was a study committee in 1995 and then it was enacted by an act of Congress. This gave the Sudbury, Concord, and 4 miles of the Assabet River special status. It was really important because it did help us. We used the designation to not only get funding for certain projects, we also were able to stop a wastewater treatment plant from going in, and we were able to get better controls on another, some other facilities. We were able to have more say in the renovation or reconstruction of bridges across the rivers, like the Pelham Island bridge and Lee's Bridge. That bridge – Lee's Bridge which is in Concord and, I guess it's just Concord – is - I know I'm missing a town – Lincoln. Concord and Lincoln. The state would have just put an ugly bridge in there and that is a historic bridge. It's stone, it's got the arches. We fought for that as part of the Wild and Scenic River. Just being on that, that I think that is a really important designation for the Great Meadows. I don't know how many refuges have national wild and scenic rivers through them, but in the northeast, that's really important. And again talking, you were talking about Chet Atkins before, he was the congressman before Congresswoman Tsongas. He was a strong supporter of that. There's a lot of water quality issues in the Sudbury River in particular, but in the Concord and Assabet also, and having that wild and scenic river designation and being able to work with the partners around here. Maintaining the water quality of these rivers is really important to the health of this refuge. So, I really just wanted to call that out.

ED: Mary Parkin was the major Fish and Wildlife person involved in that.

LIBBY: Mary Parkin?

ED: Mary Parkin.

LIBBY: Oh, that's cool. She's retired now.

PEGGY: The other thing that we wanted to touch base on, we mentioned it briefly, was the urban ed program.

LIBBY: Yeah, so the urban ed program. I wasn't here when it started, but I know that Bud said it was started by Pam Hess. Pam Hess was, she started here as an outdoor recreation planner and then she became the deputy manager. She left before I came here but she works for the Appalachian Mountain Club now, has been for many years now. (coughing) Excuse me. So, Peggy why don't you tell us about what Pam's vision was.

PEGGY: I remember Pam coming up with the idea of having a program reaching out to urban youth, going to the schools, giving presentations by uniformed staff along with volunteers, and then the children – well children, they were high school aged I believe – coming to the refuge and actually getting hands-on at the refuge. So, there was a curriculum involved. There was all of that with the teachers and the schools. The premise was that there would be mentors developed out of it from high school that would then come back the following year to keep it going, to keep the program going. So, she, we talked about it, and she brainstormed the idea and the next thing we knew, she wrote some grants. I believe she's the one who started that and got the program going. We had a great base of volunteers that continued for years – the same volunteers basically kept the program going. It evolved into other things I believe, but that was the basis of it, years ago.

LIBBY: Right. We had a crew, and we had the classes. Everything was at Great Meadows. We worked with the Concord schools. We worked with the Sudbury schools. We worked with the schools in Boston.

PEGGY: Framingham and Lowell, maybe?

LIBBY: Lowell. Worcester.

PEGGY: Worcester, yeah.

LIBBY: Worcester for a while. And they did change, but we did, as you said, we had a core group of volunteers. They were amazing.

LINH: So, from that, it's kind of evolved. Recently, there's been a whole national initiative getting people outdoors and connecting people with nature are some of the regional priorities. But nationally, there is what we call an Urban Wildlife Conservation Program and from that, there's actually money where different refuges and their partners can apply for funding to become recognized as a national wildlife refuge and refuge partnership. So, we recently, in the last two years, formed, solidified - I mean, we had been working with the City of Lowell for a while, Lowell Parks and Conservation Trust and also with our colleagues over at the New England Fisheries field office, doing a lot of the fish ladder work over in Concord. So, we've been able to formalize that and be recognized as the Lowell Urban Wildlife Refuge Partnership which came with quite a bit of money, $36,000 I believe, more or less, and that was money from the National, NFWF, the National Wildlife Federation [correction: Foundation] and also, we got money from a grant from FedEx. So, having those corporate sponsorships has really helped grow the program. We do very much the same thing. We go into the classrooms in Lowell for where there is underserved youth and we actually reach them when they are younger because there has been studies showing that the younger you reach the youth, the more impact you have, and you influence their love of nature. So, we go to third grade classrooms and then they also come to the refuge in the fall and the spring. But then we also incorporated some of the science and the bio behind it by doing the Blanding's turtle head starting programs where they take hatchling turtles and raise them for a year. They have a lot

of ownership of the project. They name their turtles, then they come to the refuge, and they release them, which has been fantastic and great. So, with that, we've not only just done this really great idea of connecting with urban populations that might not have that connection to the outdoor world, but we've expanded it. So, one of the things we're working on now is again thinking strategically about how we grow, where the greatest impacts are. How we grow, which partners we have and what we need to do. So, we're working on an urban wildlife refuge partnership strategic plan.

ED: This has been a thrust for many years. It sounds like it's really taken hold, 'cause it never really did. There were efforts made here even with you know with mostly minority groups out of the inner city, to get them out of the pavement and into the wilds so they can enjoy it. The Parker River environmental project, not to digress, but that was geared totally on that, that whole thing.

LIBBY: Well, we are fortunate in the northeast here. We are in an urban area. We're near urban areas. We can do this. We can build these partnerships.

PEGGY: So, to begin to wrap up, we just want to get your thoughts. What thoughts do you have about the refuge now and what would you like to see happen in the future on the refuge?

ED: What I've heard from Linh is and Libby is that there is so many exciting things that are going on now that were not even remotely possible because of staffing and funding back when I was involved, that it just encourages me. The Service is definitely on the right track to involve the public in appreciating the wildlands and wildlife that refuges have to offer. That's, to me, the most important thrust. That's why we are here. We're protecting the resource and we're protecting it for the people. To get them out to enjoy that which we are here to protect is one of the major, major thrusts. I'm glad to hear it!

LIBBY: I know that there's always a, again a little tension between public use and wildlife management and protection. At Great Meadows, you're kind of in a spot where because we are so close to so many people, who especially want to come out here, that can be a tension. But we also have an opportunity to reach a lot of people and spread the word about the refuge system in a way that is, could be very beneficial as a whole. I think managing that is always going to be a challenge. It may just be that we can't be all things to all people or to all wildlife. I know the Blanding's turtle work is, I hope that that can continue and that our population at Great Meadows, which is an older population, I hope that there can be some new recruitment into that population. The main thing I, what are the impacts of climate change going to be and how are we going to deal with that? That's, I worry about climate change a lot. But the main thing is, my biggest concern for this refuge is the lack of staffing and funding because we have to take care of our people. As Linh so eloquently said, managing expectations. It's hard when you're getting always new initiatives. Every new administration has new initiatives and yet they don't necessarily give you the resources to do it. So, I think we have to take care of our people too.

LINH: I agree with both of you guys. As the person that's still there, I really think that we have quite a challenge ahead of us, based on our resources that we have and those that we need to protect. We can't do it all with what we've got. The challenge is to figure out how we right-size our priorities, how we manage those expectations and really how we communicate, because that's a really, that is really important to everything we do. When we don't communicate both internally and externally, up and down the chain of command, things are going to break down. So, it's a challenge to kind of figure out the right messaging, the right way to say things. A lot of time we can't, we aren't going to be the ones that can communicate best. So, working with those, our partners is very important so that they can be some of our messengers and they can advocate for us.

LIBBY: One thing I thought we could always do a little bit better job of is trying to come back to Henry David Thoreau. Because, and I did want to say this somewhere in the interview, so I guess we'll put it at the end, although it could have been at the very beginning – this area, Great Meadows, is really, really special. It's easy for it to get lost. But it's really special, and really Henry David Thoreau and Nathanial Hawthorne and Ralph Waldo Emerson, they were all buddies and they spent time out here. Of course, Thoreau wrote about it, so eloquently. He went birding, birdwatching, in the Concord area which wasn't impoundments at the time, it was all marsh. But that's where he wrote about, and he paddled on the Concord River, and he wrote a book about that. Really the birthplace of the environmental movement in this country was right here. Somehow, I'd like us to be able, that's a really special fact that we should continue to make sure that people are aware of that and to support that. We are special in the history of the country.

PEGGY: Well, I can't think of a better way to wrap up this special interview. So, thank you to Ed Moses, Libby Herland and Linh Phu. This has been a really great interview. Thank you very much.

ED, LIBBY, and LINH: Thank you!

KEY WORDS: biological control; bird banding; buildings, facilities and structures; Congressional operations; employees; environmental education; hunting; invasive species; maintenance; partnerships; personnel; realty rivers and streams; wetlands; wildlife management

Addendum: From Bud Oliveira, Great Meadows NWR manager who could not participate in person

What years did you work at Great Meadows (GRM)?

1986 – 1988 – Assistant Refuge Manager; Lloyd Culp was the manager

1997 – 2002 – Project Leader (PL)

Describe what the refuge was like at that time.

During both my tenures at GRM, the headquarters was located in Sudbury, MA on Weir Hill Road. I don't remember the exact acreages at either time, although we added the O'Rourke tract (negotiations begun by the previous Project Leader), the Water Row tract and began work on adding the ?? tract in Carlisle (17 years is a long time to remember ☺).

When I was PL, I was supervised by Ralph Pisapia briefly, Sheri Morgan and finally Dick Dyer.

Staffing during the 80's was 6 FTEs. During the 90s – early 2000s staff increased to 9 (at GRM).

Describe one or two major activities or accomplishments. (as PL)

Infrastructure – At GRM we worked hard to improve the infrastructure of the refuge. This included adding quarters for staff (O'Rourke house, construction of the duplex). We also upgraded the facilities in Concord – rehabilitated the restrooms and paved the parking area and installed new gates to the dikes. At the HQ, we remodeled the interior to add offices and give the building a facelift.

Resources – We reinitiated management of the Concord pools. We installed fish barriers and drained the wetlands, mowed cattail, treated the invasive species and reestablished the drainage ditches within the impoundments. We also aggressively searched for and removed carp from the impoundments in order to prevent a botulism outbreak. The vegetative response was good and the wildlife response post flooding was impressive.

The Urban Education Program was created by Pam Hess and later taken over by Matt Poole. I believe this program had great potential providing it received RO support (not sure what became of it).

What was the most significant issue? How did it get resolved?

For me at GRM, the most important issue was finding the resources (staff, funding, support) to accomplish the varied tasks we faced in the Complex. It's hard to tease out GRM specific issues that rose above the issue of the scarcity of resources. We were a relatively small staff assigned with the management of 10 (later reduced to 8) NWRs. We were fortunate to have been able to add some staff to the Complex, but equipment and dollars were hard to come by.

Fortunately, we had some great staff and friends who assisted us in getting our needs met. If it weren't for the dollars we received through grants we would have never been able to accomplish what we did.

Memorable Staff

I was blessed to have worked with some great folks at GRM which really made my job easier and a lot more fun. First and foremost, I have to mention Harry Sears. Harry was a curmudgeon to many people, but the man had many hidden talents. He was from the old school where he kept things running with baling wire and was used to operating on a shoestring budget. I really enjoyed talking to him. The fact that he worked for the NWRS for all those years, to me, is an awesome feat.

Our biological capabilities grew by leaps and bounds when Stephanie Koch became the Complex Biologist. She was smart, hardworking and dedicated to the Refuge/Complex. She was the main driver behind much of the grant funding we received. She spent countless hours administering to the various refuges (especially Monomoy) in the Complex.

Tim Prior, Deputy PL did everything a good deputy should do and more. He was able to take so much work off my plate which allowed me to deal with our varied constituents. I'll never forget our boat ride to Nomans Land Island in the Fall of 1997 with the Navy ☺

Having Dave Nicely come aboard as our first FT Refuge LE Officer was a real lift to the Refuge/Complex. He filled a large need and handled our myriad of issues with true professionalism.

Finally, I would be remiss if I didn't mention Jackie Kornish. Jackie was a young talent with a lot of potential. She could have gone far in the Service. Her tragic death left a lasting impression on me.

Thoughts about the refuge now and what I would like to see happen in the future.

This is a tough question for me as I really have not followed the development of the refuge and the Complex. I would hope that it would continue to grow physically and in stature. I think the Region missed out on making GRM a focal point in the environmental education arena with its proximity to Boston and the surrounding communities.