BIOGRAPHICAL SUMMARY: Patricia “Patti” Carol Welton

Patricia “Patti” Carol Welton was born in Northridge, California on January 7th, 1961. She has always been an avid traveler. After graduating from college, Patti spent two years traveling the world exploring ecological landscapes. At the end of her adventures, she was accepted into the Botany program at UH Mānoa in 1988 as a master’s student and moved to O‘ahu soon thereafter. Patti’s master’s thesis focused on the natural area reserve of O‘ahu’s Wai‘anae Mountains. It was during this research that she met her husband, Bill Haus, who was working on fences in the area with the Division of Forest and Wildlife. Bill and Patti both went on to have extensive careers as scientists at Haleakalā National Park. Patti continues to serve as a botanist at Haleakalā National Park.

Patti Welton with silverswords at Haleakalā National Park

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ORAL HISTORY INTERVIEW
with
Patricia “Patti” Carol Welton (PW)
March 3, 2021
Via Zoom
Interviewed by Alana Kanahele (AK)

AK: Okay, so we'll just go ahead and get started, I think. So, can you please give me your full name and when and where you were born?

PW: Okay, my name is Patricia Carol Welton. I was born January 7th, 1961, in Northridge, California.

AK: Thank you. And can you please tell me a little bit about your family history or any connections that you or your family may have had to Hawaiʻi or the Pacific?

PW: Well, my grandmother—my father's mother—loved to come to Hawaiʻi; they often came. And I remember one time, I think I was nine years old or ten years old, there was a Christmas dinner and all my siblings and my cousins received a letter at our dinner plate on the dinner table before we ate, and we all opened it up, and it was an invitation that my grandmother had for all of us cousins and my aunt and uncle to come and spend a week in Honolulu. That was in 1970 or 1971, I'm not quite sure—I was either nine or ten—I think it was actually 1971.

And so, we spent a week in Honolulu and we had so much fun. It was actually at Halekulani, but it was when they still had a lot of grass and there were little villas and that type of dinner and restaurants. And then my father and my family, we went, and we rented camper vans and campers on all the other islands. And so, we camped and I had dreadlocks because I just lived in the ocean. I remember Kauaʻi was my favorite, but we had all the wonderful islands. And then my cousins on the other side, they stayed in the resorts, and we would meet with them for Sunday brunch. But I just fell in love with Hawaiʻi.

And then when I graduated from college and I was looking for a program to study tropical botany, obviously I thought of Hawaiʻi, and I thought that I would be here for a few years. But as it turned out, that was in 1988 when I got accepted to the botany program, and I've been here ever since.

AK: Thank you. Can you talk a little bit about that transition from, I guess, living on a Oʻahu and doing your master's in botany to going over to Maui and working on Haleakalā?

PW: Okay, well, as I was a grad student on Oʻahu—obviously coming from California—I thought a master's program would take two years, but as I was entering my third year---because there was a lot of little trials and tribulations to get into my actual program and or my thesis project, I realized how much I was learning about how unique Hawaiʻi ecosystems were and how special this place was. Because as you're familiar, most people coming to Hawaiʻi think it's beaches and palm trees and macadamia nuts and pineapple, and I was able to really see how really unique and special it was. So, I started feeling as though that I wanted to give back something to Hawaiʻi.

But I was still trying to finish up my program. And in my program, I had some natural areas reserve grants, and I did my master's thesis in the Waiʻanae Mountains, it's the only natural area reserve up behind Mokulēʻia. And that was really special because that at the time had some of the most diversity of native plant species in a Natural Area Reserve plant species on the islands. So, I was able to learn a lot. And then again, I met my husband, who you met, and he taught me a lot of the native names. I learned the scientific names and we worked together up there.

And I was finishing up that project and I had the opportunity to do another natural area of reserve grant, and I was directed to do one on West Maui. So, I did get that grant and I did a lot of work beginning in 1991 on Līhau Mountain, which is behind Olowalu. So, I would come over for long weekends and we would camp and explore up there. And in my mind, I thought that I knew that if I wanted to stay in Hawaiʻi that Maui and Haleakalā would probably be the best fit for me.

I went home to California for Christmas—and my birthday is in January, as I mentioned—and I came into my office on my birthday, January 7th, to get my field gear and I was going to go up to the Waiʻanae's with some roommates and do some work up there, and there was a Post-it on my desk that said, "Call Haleakalā National Park. Needs botanist for a year and a half." And at the time, like I said, I was still in this transition, I wasn't finished yet. But then I had a chance to think about that for a week and a half or so before the deadline and I thought, well, that is what I want to do.

And then at the same time I applied for the job, and within another week or two, the Bishop Museum contacted me and asked if I wanted to have a job down in the South Pacific in Papua New Guinea or New Caledonia collecting plants for a program they had with the National Institute of Health and to tell you the truth, before I came to the Botany Department, I did travel around Asia and the South Pacific for two years. And one of those stints was on a sailboat for two months in Papua New Guinea and the Solomon Islands. And when I was in the Solomon Islands, it just struck me one day. I just was looking---we were sailing past these green, verdant islands, and I said, "That's it, I'm going to study tropical botany." So, when that opportunity from the Bishop Museum came up, I thought that is just exactly what I wanted to do.

And at the same time, Fish and Wildlife Service was looking for a botanist to help with the endangered plant species listing packages, and I had worked a summer with Fish and Wildlife Service in their federal building down in Honolulu. So, I knew what that was like. So, I didn't want an office job, but I was being interviewed for the Haleakalā position. And in the back of my mind, I was still thinking of the opportunity for Papua New Guinea. It turned out it wasn't New Caledonia, as I originally thought it was going to be Papua New Guinea. And so, they were going to offer me the position here, which was, of course, the best that I could dream of, but I remember waiting. I said, “Well, I need to think about it over the weekend,” because this other opportunity might be really, really amazing.

But in the end, the Bishop Museum didn't want to give that position to a female because they worried too much about the situation that was down there. So that probably worked out in my favor because then I came to Haleakalā and that was in May 1992. So, it took a couple of months for me to transition from UH to Haleakalā because in between I had an opportunity to go to the Smithsonian Research Station in Panama in the Panama Canal. So, I was able to finagle that in as well. And then when I came to Haleakalā, I thought, well, okay, a year and a half, and then just it just progressed. And it was a very special place.

AK: That's amazing and very well-traveled. How cool. Can you tell me a little bit about your first time to Haleakalā? Was that during sort of that transition period?

PW: Well, no, that was when---because I, I've been thinking about that question that you gave us. And I think my very first time was not the time I came with my family when I was ten and eleven. I know that we went from Oʻahu to Kauaʻi and then we went to Molokaʻi for a day because my father wanted to see Father Damien’s church. And they lost our luggage, but when we came to Maui, we only had a couple of days and I remember sleeping in the camper under the banyan tree in Lahaina. It was very hot. Everybody was very upset. Of course, we were like maybe six of us in the camper. And then we went to the well, I guess we did go to ʻOheʻo. We went to Kīpahulu to the pools there. And so that would have been my first visit to Haleakalā. We didn't go to the summit area, but we did go swimming in the pools. And I just loved it.

And then my first visit to the summit was when I was in high school, and at that time it was my sister's two older siblings and my parents. And we, we stayed over in west Maui and my sister wanted to go see the sunrise at Haleakalā, and that would have been maybe in 1976. And we came up and it was a beautiful sun rise and my pictures were beautiful. My sister took them and showed them to everybody, and I never had my pictures back. But, but that was, that was a really special place.

And then when I was a grad student, I came to Haleakalā one time with another grad student who was doing some work on ʻōhiʻa and I was able to help him for his weekend. But I think the real coup de grace for my grad student being at Haleakalā, I was actually able to help another grad student with Steve Perlman, who was a very famous botanist here. And we went to stay at Palikū for three days. And we got to fly in the helicopter in and out. But we got to go into some of the most incredible places that at that time were off trail. He, he was looking at a little primulaceae for his master's, so we needed to go to some of these remote areas for him to collect these plants. And actually, I think that kind of paved the way for me to get this position because I had been on that research permit to do that. And so they knew that I was familiar with some of those places.

AK: And so is that the first time also that you went into the crater as well on that trip? Or was that a different trip?

PW: Actually, I have to say that in 1986 I went into the crater. So like I said, I graduated from my undergraduate from UCSB in Santa Barbara in 1983 or 1984. I decided I wasn't quite sure what I wanted to do with the rest of my life, but I did still want to travel. So I decided—I declared—between my two last exams, my pharmacology exam and my entomology exam, I declared that I was going to take two years off to myself and I was going to go to Nepal. And I had my pharmacology exam was at six a.m. and my entomology exam was at six p.m. and so I had all that time in between. And at that time, libraries had newspaper rooms and map rooms where you could kind of spend some time. I went to the wall, and I had spent my junior year in college in Norway, and the Norwegian women are very well traveled or they were well traveled, and they traveled by themselves quite often. The men liked to go to the mountains and the women went to the Mediterranean. And one of my friends—she still is my friend—had gone to Nepal. And so, I thought, well, where is Kathmandu? So, I went to the wall and I saw the map and I said, “Okay, I'm going to go to Kathmandu.”

And then in my entomology class, there was another one of my friends, who still is my friend, and her parents were going to be on sabbatical in China. And so, I graduated in 1984 as it turns out, so they were going to be in China in 1985 and I said, “Well, perfect! I'll go to Nepal, Kathmandu, and then I'll come visit you in China.”

And then in the back of my head, I always wanted to go to Papua New Guinea. So those were my three---I'm going to Nepal, China and Papua New Guinea and it's going to take two years. And I did all that! And then I ended up---it's a long story, of course, but I went to India and Sri Lanka and then back to China and the Philippines. And then in between I went down to Australia and I worked under the table. And then I got on a boat in Cannes, Australia and I went to Papua New Guinea, and on my way home, my parents were actually on Maui and I came to Maui.

And after not seeing my parents for two years, after a couple of days, I said, I'm going to Haleakalā. And they drove me to the summit and I went in and I walked in myself through the crater and I camped at Palikū and I walked out of Kaupō, so that was actually the first trip that I actually made in the crater. And that was a real special trip for me.

AK: Thank you. That sounds amazing. Can you tell me a little bit more maybe about that first trip into the crater, too, and maybe some highlights that that you remember?

PW: Okay, so we came up and—I don't know if we made it, I think we made it—we must have made it to the sunrise. I had a friend---it's a funny story because my, my mother's parents lived across the street from Lloyd Loope, who was a very famous researcher at the Park, and he worked for the Park Service at the time. And so, my grandparents lived across from his parents in Virginia and they knew him as a small boy; he was a little older than my mother. And we stopped to try to find him at his office but it was like seven a.m. and it was too early and we really didn't know where his office was. The visitor center wasn't open, so they dropped me off at Halemauʻu and it was in November and it was very windy and I didn't know where the trail was and my mother had this big video recorder that I was trying to get away from. You know camcorders back in the day---it wasn't quite a rolling one, but I was just like, okay, get away. And I walked up the wrong hill, and it's a tape that she played over and over again in the 1980s of me trying to find the trail. And eventually I found the trail and it was at the time which was down the Halemauʻu trail.

And so, I didn't go down sliding sands at that time. It was at the time when the helicopters were flying in the crater because I just remember being annoyed every five minutes there'd be three or four helicopters buzzing over me. But I made it to Palikū and I had a plastic tent and a blanket from a condominium in Lahaina. So, it was very cold that night and it was a full moon. And the nēnēs were making noise and the people that were also in the campground actually turned out were from Kailua, Oʻahu, and one of them was a brother of one of my soccer teammates in Santa Barbara. So I got a little warm cup of water from my coffee and then I went down Kaupō.

But it was that, that first day that I did have extra time, and I saw that there was the Lauʻulu trail. So, I walked up the Lauʻulu trail and I saw the pueo and I thought that was the most incredible thing seeing owls flying around in the daytime. And I didn't know that they were here. And I had heard about a bird that they had just discovered in Lahaina when I was getting ready and talking to people in the activity centers. And they said, oh, they just found the bird, which was the poʻouli. And I walked down---it was probably off trail a little bit, but I didn't know at the time and I walked down to the edge of the forest and I just thought, "Wow, that must be where that poʻouli is." And I had no idea that I would be back in Hawaiʻi in a few years, Maui or at UH or that I would even be calling that my workplace in a few years after that. So that was really special.

And then, of course. okay, so then I walked down Kaupō Gap and the road was closed because there had been a landslide between the store and ʻOheʻo, so I actually ended up even walking down from the campground at Palikū all the way to campground at ʻOheʻo.

My toenails fell off that trip which was funny because I had been in the same shoes that I walked and spent three months in the Himalayas walking on a lot of treks in the Everest area and Annapurna but the same shoes that I used to walk out of Haleakalā really affected my feet. So it's a whole different mountain terrain. And of course, walking on the coast but that was a wonderful trip.

AK: Thank you for sharing that. And maybe just to segue a little bit. Can we talk about what your role was when you first started at the park? I know you mentioned they were looking for a botanist. Was that kind of your first primary role with Haleakalā?

PW: Yes, I was. . . . They were just building up the vegetation management program at the time. Resources management had begun in the 1980s and they had a botanist, Betsy Gagne, it wasn't a NPS employee, but she worked with the Lloyd Loope and with the resources management. But she had left and so they were looking for another botanist.

And Betsy, a few years later, told me that she actually, said she really wanted me to replace her, which I thought was a great honor. And they were transitioning in resources management from doing a lot of the fencing and the feral animal removal into doing an alien plant control management team. So, I was hired to help lead the crew to do alien plant control. And they thought they knew which plants they wanted to control. But my very first day I found a weed, the clidemia hirta that they thought they didn't have at the park, which sort of directed a lot of what we needed to do at the time.

And so, I like to say I was a luna for a bunch of lunatics. But the people they hired - it was a big switch actually—and a great way to ask that question. Because I had been at UH and I had been where there were a lot of grad students who were excited about how unique Hawaiʻi was. And we went to seminars, and I did a lot of work with the zoologists and the bird people and the insect people that were fascinated with all the unique species and how wonderful it is. And then having the opportunity to come to Maui was an incredible experience. But then the people that I had to lead were young boys, mostly—there were no female on my crew—and, and they were not really interested in how unique everything was. They were just needing their jobs and it was a little frustrating at first, but some of the best part of that was actually working in Hāna with the Hawaiian crew and the people there. And they, of course, were enthusiastic about it.

But me trying to explain all the terminology about the plants---like, I would explain, “Oh, here is a unique clermontia,” or something.

And they look at me and they say, “Why?”

And I'd give them some taxonomy terms. And they would look at me and say, “What?”

And then I would say, “Oh, because of the da kine here.” And they could understand. So, my education of taxonomic terms just went out the window, but it was really fun to work with them. Basically, all the crews that I've been working with here.

AK: Great. And what part of the park were you guys mainly working in and what was sort of the vegetation that needed to be managed in those early years?

PW: The park was mainly...well, we went mostly into Kīpahulu Valley every other week. We would fly in with helicopter because it's only a five-minute flight in from ʻOheʻo, which is what we call the lower portion of the Park in Kīpahulu, to our camps. And they started out as Alpha, Bravo, Charlie, Delta. And then we—actually that first year—built two more camps that were at Fern, which we called Fern, to control the Australian tree fern, and then we had another one, which we called Ginger to control the kahili ginger on the upper shelf. And so it was going to mostly Fern, Ginger, Delta to control—and of course, I found the clidemia at Delta Camp—so that was the clidemia camp, Fern was the Fern Camp, and ginger was the Ginger Camp and we would go and. . . . there were more or less set trails. So, Monday through Friday, we'd fly in on Monday we would get to work up at the summit, get our trucks loaded up with our gear, and drive around the south side of ʻOheʻo and fly in usually between two and four and set up camp. And that usually gave us time to explore a little bit behind the camp and then do our work.

And I remember the first trip that I went in June and that was when—the first day—I found this clidemia. We were setting up snares because we were still part of the feral animal removal team. We were a team that worked together with them the whole time. We would check fences, we would set snares. And in one snare group I found this clidemia and I said, "Clidemia!" Because you yelled from one area. And my supervisor—the guy who hired me—I knew he was around, but he didn't answer me because he was in denial that there would be clidemia there. They had found it like a few years before but they had some elaborate stories that somebody who had been on Oʻahu visiting a boyfriend had it on their boot when they came back, and then they pulled it and then they thought they didn't have it anymore. But we found quite a lot of it, that trip. But I just remember going up one slope and then looking up across Kīpahulu and seeing nothing but Koa trees and a native forest and a whole ecosystem, and it was just a blue day and the cliffs were green and it was all natives. And the ʻiʻiwi and the ʻapapane were twittering overhead. And it was like I had gone to heaven after all what I had learned at UH and then seeing it because being in the Waiʻanaes on Oʻahu it was a joy to see anything native, but this was an ecosystem, that was the first ecosystem that I saw. So I just really loved working in Kīpahulu Valley.

AK: Were the members on your crew, were they park staff or volunteers or how did they play into it?

PW: At the time, they were—we were—all RCUH crew. The crew I supervised initially was NPS. I was the only RCUH hire, the Research Corporation at the University of Hawaiʻi, so we weren't NPS' Employees - I was hired, actually, I was still a TA [Teaching Assistant] at UH when they wanted me to start in January or February, but because of my opportunity to go to Panama and also because I was still teaching—and I wasn't teaching, I was a TA—but I had papers to grade, I didn't start until May 1st. And they wanted me to start because their crew that they had also hired that I was going to lead was going to begin in June. So I had to be there a little bit before. So they had previously hired a crew that I was going to lead.

And so the first year it was myself, as an RCUH employee, and four other vegetation crew that were NPS employees, as well as a feral animal crew that had maybe, I don't know, maybe six or seven of them, and mostly I led the the veg crew doing these invasive plant projects. But that crew only lasted nine months. And then that was their term—their money had run out. And after that is when they tried to hire a federal crew and or actually just another crew. And it was another RCUH crew.

And that's when Bill, my husband---he wasn't then at the time, but I knew him from Oʻahu when he was actually working for the state at DOFAW in the natural area reserve system. And he was able to get at one of the veg jobs. And so he came over in June 1993 after I'd been here a year. And then we worked together and we had one other veg crew. And they were smaller crews at the time, but that was fine. But smaller crews that were able to work for more years, actually. And then at that time they were transitioning or trying to transition me into a federal park program. But it's always hard to get a Park Service federal position and I wasn't really keen on sticking around because I was still fairly young in my mind and wasn't committed to a permanent job, but I also was in love with working at the Park and in the rainforest.

So, after a couple years, because there was a hiring freeze and they needed to hire other people, I did take some time to go volunteer with Fish and Wildlife Service up on the French Frigate Shoals, because if they were going to phase me out, I wanted to do other things. And I spent a couple of months up there on Tern Island and eventually, I got the Park job.

Actually, if I go back, I remember I applied and I got a position to volunteer at the Fish and Wildlife Service up on Tern island, and like the two weeks before I was supposed to go to Tern island, they finally got through all the rigmarole to offer me the real job. And I said, “Well, I'll take the real job, but I want to really volunteer out on Tern Island.”

And they said, “Well, that wouldn't look good. We've been fighting for a couple of years to get you this job. And the first thing you're going to do when you get the job is take time off?”

So, they thought about it for a little bit and then the Chief guy said “Well, you know, I didn't budget in the extra money for your park service position, so if you stay two months in this position, we'll let you go for the four months so that we could have the budget for the rest of the project.”

So, I then was able to go to Tern Island and come back and have the Park Service job. And that was really that was only 1996.

But things were really good at the park at the time for us in the Valley because the Valley had just been fenced in the 1980s, was the big push, and then in the early 1990s it was removing the feral animals, which were the pigs. So the recovery in these lower areas was incredible. It was like ferns, ferns over your head. I have a picture that I saw yesterday and it's nothing but ferns. But in the picture you can see these hands tying blue flagging up to the branch up above the ferns so that we could make a trail. That was our trail, blue flagging in this field of ferns. And in those fields, we find all of the rare plants that were endemic to east Maui and search out areas for the invasive plants. And so, it was just a really fun time. And we had a good crew and we had volunteers and so it was really a fun time to be working at the park.

AK: At this point, the invasive plant removal, was there any kind of community outreach involved in that or was it fairly restricted to staff members, RCUH, not so much community outreach—I know that kind of has come later.

PW: Well, it was hard because a lot of this was in very remote areas and did require a helicopter to fly in and we couldn't get. . . . actually, I do remember one time our staff was short, and I met some people at a whale day in Kīhei. And I explained what I did and they thought, well, that would be really cool to volunteer. So, I started recruiting the volunteers and going up to work and saying, I've got some volunteers to go. And then the chief of resources at the time kind of said, well, we can't just take anybody off of the street because they need to go through this training with helicopters. And so that kind of put a lot of that random volunteers in and it put in more restrictions and trainings of what we needed to have volunteers, because it did require, you know, commitment to Monday through Friday. And I looked and not just one week, Monday through Friday, but maybe if we're going to train them to have a couple trips. And a lot of people, obviously, even though it sounds good, fizzled out after a trip or two. But we did have a long-term volunteer at the time who eventually we were able to transition into a position and he was very valuable. So, his time volunteering paid off for him.

And as for community outreach, so most of the people would think about Haleakalā think of the crater and not so much even the front country, but the crater on the trips into the cabins, and we didn't really do much crater trips at all in the 1990s, it was primarily the rainforest. And so volunteers came more after the 1990s, actually. And Friends of Haleakalā didn't like begin until about that time also to have a volunteer program.

AK: Thank you. So, I was thinking for the next part, I was going to put up a kind of just an overall map of the park, and maybe if you're comfortable talking about some key areas that you worked in or, you know, areas that really stand out or you think that are important features of the park.

PW: Sure.

AK: Let me get this map open. Can you see this okay?

PW: Yeah, perfect.

AK: Okay, good. Yeah. So, I'm just kind of interested maybe in what sections of Kīpahulu you were working in. I know it's kind of divided, three levels.

PW: No that's good. Should I point? Or maybe I don't need to point? Or I could use the mouse. Does that work?

AK: You know, I can't see the mouse, but you can just kind of tell me general areas and I'll move my mouse.

PW: Okay. So, the area that I'm speaking mostly is actually just between that Charlie and Palikea line and below that the Fern line. So, the middle of Kīpahulu on the lower shelf and the upper shelf were the areas that we did the majority of our work. And that lower line is three thousand feet on the upper shelf and twenty-four hundred feet on the lower shelf where Fern is. And then below the Palikea, that line right there at Palikea is 4,200 feet, and then Charlie, or actually 4,700 feet. And most of what we worked in were even halfway down in the lower area Fern Camp. And on the lower shelf between Fern and

Palikea is where we first found our clidemia and that was coming in from Waihoi Valley, which is just north of the Kaumakani Ridge line right there. And as you see, there's a little dip right there. And that's a low point in the topography and the birds probably brought in the clidemia fruit as well as we were having some ingress with feral animals, because that's a difficult place for the fence. And so that was a lot of our sites for some of our initial weed invasions.

AK: How did the sort of the taxonomy and the topography change above Charlie Camp and between Charlie and Fern.

PW: Okay, above, so the koa changes real dramatically. The middle part, like between Fern and at the Charlie fence line is the koa belt. So the koa belt is a canopy at the lower-middle parts of the rainforest, and then above 4,200 feet, more or less, on both shelves is where you transition into the ʻōhiʻa canopy. And then it's a dominant ʻōhiʻa canopy. So, it's an interesting mix in that transition, and then when you get down to Fern, you get a lower abundance of the ʻōhiʻa and it's more koa and a lot actual more diversity of understory shrubs and ferns. And above the Charlie/Palikea fence is dominant ʻōhiʻa and mostly native understory. There's not as much work up above the Charlie/Palikea line for invasive plant control.

But that's changing now. There is more pig ingress in that upper Charlie/Palikea area, which is threatening the understory, and when the understory is dug up and threatened by pigs, it's easier for the plants, the alien plants, to get established. And once they get established and they keep propagating and without manual labor or follow up by people, then they can move up. But the Kahili ginger, that is one of our worst weeds actually, that's really taken over the lower area as well is actually from the Himalayas. And so it can actually go up high elevations.

And the topography is really not that different underneath all of that fern and ʻōhiʻa and koa canopy. Like, go down Koʻolau Gap in the north part of the park, the crater where the Conservancy Reserve is in Waikamoi, that is more aʻa under the fern, so it's more difficult to navigate your way underneath the ferns because there's still some loose rocks. I tell everybody who goes into the Valley to make sure they know where each placement of their foot is before they lift off that foot and go to the next foot because you really need to be conscious of all of your steps.

AK: Absolutely.

PW: There is no shame at all if you've got to a steep slope, if you need to, like, scuttle down like a crab because that is better than falling face forward into an abyss of ferns. So it is a challenge, and I have recently started a tai-chi class, and it’s funny because they say you balance yourselves on toes and it's like, well, I've been doing that my whole career, you know. That's how you walk—you really do need to know where your feet are. And we do wear rubber boots. So, you can actually kind of feel your toes---and some people, especially on Oʻahu like to walk in tabis, I think because it's so cold and wet being a week in tabis would be too wet. So, we wear rubber boots, and the worst thing in the beginning of the week is to get water over the boot because then your socks are wet the whole week. So, it is kind of an art to keep your rubber boots dry for a week.

AK: Thank you. Can you talk about maybe some of your favorite areas in the park or some areas that, you know, stand out as highlights in some of your work?

PW: Well, I think I was looking through a lot of slides lately, because with Bill retiring, they wanted to have pictures and not being with this COVID, a lot of the pictures are on servers up there, so they're a little difficult to access. But I came upon a gold mine yesterday, actually, because I'm going to be doing a presentation for the all-employee meeting tomorrow at the Park because I was able to get a dissecting scope and a camera that can take pictures of seeds of the rare plants. And so, anyway, back to my favorite places. I like the old days when, like now Fern and that lower area that I said we did a lot of our work in is basically pretty invaded by clidemia and ginger. So we don't go there that much or not at all. But the favorite places would be in those areas that, say, the Greensword Bog, a new Greensword bog up on the north side. That's what we call a rainforest area and that is just magical. It goes between bog and forest transitions and then you walk through those really low, windblown forest that, you know, you don't really walk like you walk on the streets or on the beach—when you walk through the forest, you're on all fours a lot of the time. And you're definitely doing a little bit of capoeira with bogs because you don't your foot to sink over the water. And then when you get into the open areas like the bogs, if it's a nice day, you have this incredible view of the lower—the whole rainforest, the whole mountain. And instead of like Haleakalā is famous for the silver sword, the nice red fragrant flowers, they have green swords. That's why it's called Greensword Bog which have green leaf swords, but they have yellow flowers and they don't die like the silver swords, do. They kind of form more of a mat so there can be many rosettes instead of just one rosettes that like the silverswords and those are really beautiful when they flower in the summer. And there are three lakes up there and we've spent some time with some researchers who were drilling, doing pollen, doing core samples in the lakes and looking for pollen and looking for transitions of forest tree line over time. And those are really beautiful places. And as well, just any place I could say I love in the park.

The Kaupō area is one of my favorite places as well. We did a lot of work in the 1990s restoring the east side of Kaupō where the Kaupō trail goes from Palikū down the gap and that's the public trail. And we did a lot of restoration in that area in the lower part where we removed just the mat-forming kikuyu grass. We did, we collected seed and we raised aʻaliʻi and māmane and koa in our nursery of the park and then we planted them. But we found that if we just removed the mat forming grass, there was so much seed bank in the soil that the natura regeneration in the seed bank could restore the area, and then we just collected the rarer plants and we expanded their distribution like the koleas were more in the middle part of the gap and papala-kepaus (*Pisonia brunoniana*) were in a couple areas, but we grew those out, the *Pouteria sandwicensis* (aulu), we did a lot of those. And of course, we had to have a maile patch here and there. So, we planted a lot of mailes. So now going in that area, that's one of my favorite achievements, is to see the seed bank that's coming up naturally. I mean, now we have māmane's, and pilo's and even sedges and ferns that are filling in that understory. So that is a really beautiful place. And even on the western side, that's more of the shrubland where there's some māmane.

And of course, we did a lot of work around the Honokahua māmane area, and that would be more from 2000-2013. Since we had so much success in the Kaupō restoration project and we hadn't been working so much in the crater, we came up with the idea that maybe we should do some restoration of the central crater because they were able to remove the animals, but there wasn't a lot of natural regeneration happening because it was so hot and dry there, that any seedling that would germinate usually just got dry. So, we spent a lot of time between like 1999 and 2015 growing māmane and growing a'ali'i and growing plants that were part of the central crater and outplanting them in that area. And it was a lot more patience to watch the success. Some people who were only here a few years, or expecting success within a year or so, were disappointed because it takes patience for a lot of success and these natives to get established. And Kaupō, is a lot wetter and lower and there was soil, but up in the drier areas, we grew out big māmane's because we thought deeper tap roots would be better but what happened was that it would be best to cut the whole top of the big deep rooted tap rooted māmane and plant it and let the root structure get established. And then it would butt out and grow when it was ready, when it had a root system that could get the water going. And now it's incredible to go back in and see along the trail what we did over the past two decades. And māmane, of course, is one of my favorites. It's a yellow flowered in the pea family and when you get the red i'iwis and apapane's it's just incredible. And we actually planted some māmane's out, like in the front country by our office. And we can just hear the apapane's and the i'iwi's go after what we grew from seed and planted now. And it's just really nice to see that too. So, the whole area—now that it's springtime—because I always think that the māmane blooms around Easter which is different than the māmane blooming in the [Kaupō] Gap. The māmane blooms in the [Kaupō] Gap around December. But in this shrubland, in the front and in the crater, it's more March and April, so I'm looking forward, I haven't planned it yet, but I'm hoping to plan a trip into the crater in the next couple of months to to see our restoration once again, and see the māmanes in bloom.

And so, I haven't talked about the Manawainui/Kuiki area, which is also between there. And of course, that's a transition from the shrubland of Kaupō at Koa Forest, mainly into the rain forest, over towards Charlie. And that that is an area that's very little traveled. So it's one of those areas where you just know very few people have stepped in the footsteps where you're stepping, and it's very beautiful. And so I just love it all when I look at this map. On this map, there is a new parcel of the park that is not on your map. This Green Line, I think it says, well, it does say, okay, I see it's a park boundary and fence line and the working Nu'u boundary, right? So, this Nu'u parcel here, it's very dry and eroded and has some native shrubland up in the upper inaccessible area, but it does have a lot of wiliwili. The wiliwili tree had a lot of threats over the past couple of decades, first with the gall wasp and then a little beetle that eats the wilwili seed. [Wiliwili tree pests: Bruchid beetles (*Specularis impressithorax*) lays eggs inside seed and larvae hatch inside the seed and later eat their way out of the seeds]. But there was some bio-control to control the gall wasp and it seems to be working because last year the wiliwili's were flowering; they flower in the summer. And they're flushing leaves right now---they're deciduous trees, so they lose their leaves when they flower in the summer. And then they flush again in the spring, and so they're getting ready for a nice flowering season this year, I hope, and then I hope that they develop into seeds that we can get. So that that is a newer part of the park.

So, the park almost represents all of the ecosystems that the Hawaiʻi Islands have, which is pretty incredible amount in such a small unit. It may seem large from an Oʻahu standard, but in the Park Service standard, the Park is actually a pretty small unit. I was telling, I guess, the reporter yesterday that Haleakalā has the most—last I checked—which it hasn't changed so I expect it to be the same, has the most endangered plant species of all the national parks in the country. Some parks have more endangered species which would include insects and mostly just insects or birds. But it's nothing to be proud of, but it's because it's so diverse and it has so many different ecosystems that a lot of endemism happened there. So, I mean, just even just this map from shrub to dry to green, which is the wet forest, it has a lot a lot of special areas.

AK: It sounds like it, and I know you mentioned previously, too, that during sort of your vegetation management, you would also help with kind of the continued fence maintenance or repair. Were you involved much with the fencing? I know you said you started in the 1990s and that was mainly in the 1980s. . .

PW: But the fence continued through the 1990s and there still is a fence crew and feral animal management. So, we in the early days, the vegetation management team was pretty integral with the whole resource management in the rainforest. So, if the fence crew couldn't get to check a fence and we were there doing alien plant control, we did that. And then we also did the feral animal control if necessary. And we knew how to repair a fence if there was a. . . . I, myself, didn't do a lot of fence work. It's hard work, I mean, the people that do that fence work are really hard working and to be really respected for what they do. You've got to carry these fence materials and be in the mud and do all kinds of hard work—it's hard work doing alien plant control, but it's really hard work doing fence work. But we usually would walk the fence line, the proposed fence lines, to look for rare plants and try to reroute trails and fence lines if there was a population of rare plants that would be something that was normal and compliance that we would do.

Like the Kamakani fence line up there on the Hana side of Kīpahulu, that's an area that the attention hasn't been given. But we would do fence inspections up there and that would give us the opportunity to go there. But there weren't like a lot of weeds that would be a week's worth. We might do a day trip up to Kamakani and walk that fence line or the same thing with the slower Manawainui fence above Kaupō. That's an amazing fence line. And it would be a day we get dropped off on the eastern side and walk out Kaupō side.

And so we did and our crews have transitioning not so much to do a lot of the work with the feral fence crews, and that's more of a political issue that I don't think I have enough information or I'll stay away from that. But it is unfortunate because like I said, we used to do a lot of that and maybe five or six years ago, I noticed a lot of feral animal activity in this area here in between Fern and Charlie and tried to get the veg crew to help do some of that feral animal control there and was basically told them that's not what we do. And I'm like, but we do that because they hurt our plants. I mean, that is vegetation management. Whatever hurts our plants, we want to control. So that's unfortunate.

And like I said, the crews have just been very hard pressed since the park's expanding to take care of a lot of these other areas rather than to work on it all. So I always advocate for other outside agencies to help. And it is amazing since the time that I've been here, I know I'm talking more than answering all questions. . .

AK: No that's great.

PW: But when I first came to UH in 1988 and it was August 14th, I think, and I went to the Botany Department, and I was told to go up to talk with Cliff Smith and Cliff Smith was head of the RCUH at the time and he was also faculty at the Botany Department and he's famous. I mean, I'm sure maybe people would know, but a lot of these fences wouldn't have happened if he hadn't been able to secure the funding for getting the crews and getting the fencing and getting a lot of that through whatever resources he was able to do through his cooperative park service unit.

But I didn't know that at the time when I first sat down in his office, which was piled high with these type of tech reports. You know, like these little blue things were piled and stacked everywhere on his desk. And there was no place to sit down---I felt like a dog. And I found a little place and I sat down and he said, this is 1988. He said, “Do you intend to stay to get a job in Hawai‘i when you finish?”

And I said, “No.”

And he said, “Good, because there aren't many jobs in Hawai‘i for conservationists.” And that was in 1988.

And I guess my transition is, is that now there are so many opportunities for people to do conservation work. Like I said in 1992 when I was finishing up—or didn't really get my finish until a year after I had started this job—but there was the Nature Conservancy, the State and the National Park Service. There weren't crews with all these different partnerships. Every mountain has a partnership now, East Maui partnership, West Maui Partnership, Ko‘olau Partnership, Wai‘anae partnership and as watershed partnerships, people working, building fences, doing feral animals. So our buffer like leeward partnerships, our fence lines are being protected by other agencies, other partnerships, building fences that are buffering our fences.

And so anyway, like I was saying, I'm advocating if we don't have in the park, crews enough to do a lot of that feral animal work and fence work is to use our partners to help come into our lands and and help do some of that needed work. But anyway, that was my transition.

AK: Thank you. Before I put the map away, is there anything else you wanted to sort of showcase on the map before we transitioned to other, I think, more educational outreach and that kind of thing?

PW: Okay, well, I would say. . . . well, the silverswords are obviously a big iconic part of the park and in our wanderings of these other areas up on Haleakalā peak area, we have found wild populations of silverswords that are beyond the original known distribution of silverswords. The grasslands, Kalapawili up here, this is the ridge, yeah, the grasslands of Kalapawili, the area where the green and the brown meet is tree line. But that is on the north slope of Haleakalā, so it's not in the crater, it's on the north side and it is absolutely beautiful as well. It's tussocks of *Deschampsia* (a native grass) as well as ʻōhelo, and that's another beautiful place that I love. But it's off limits for most.

AK: Thank you. Alright, let me stop sharing this and bring up the regular one. Here we go. Oh, thank you so much. And I guess actually before we get into kind of the educational outreach and then also your work with Bishop Museum, I'm kind of interested in how you've seen certain purposes or qualities of the Park change over time since you started?

PW: Okay, well, the purpose I think that is important. And well, the purposes of the Park, I think, have changed—or maybe are not being acknowledged at present—as they were when I began. And it was at the time when conservation was a small group of people, but very passionate about what they were doing. And not to say they're not passionate now, but there was the focus on doing. . . . like fixing the dam, they needed to get that finger in the dam to get that native plant species a habitat to survive and not just in a greenhouse or in a botanical garden. It was a time when fencing had just been proven to be successful. And so, recovery was possible, so there was hope.

I just read a quote on a botanist website the other day that was basically we wouldn't be doing this if there wasn't hope. That there is going to be a better outcome if we do this today. So, for like us, our hope that when we were looking for invasive plants, if we controlled those plants, then it was possible that those endangered plants would have a better habitat.

So there was examples of a lot of that success and that's kind of what fueled at least a lot of the people that we worked with at the time, and it was something that Bill and I would teach the newcomers. A lot of people would come from the mainland because that's where the student cooperation the SCA's would recruit people from the mainland.

I mean, the park is having a better success recruiting locally now. I know there was a gap in the initial phases of the volunteers and interns, but whether if it was from the mainland or from here, Bill and I had a large part of being able to educate them. And we did this because we had a hope that it would get better and.

And I think with the way it is at present, I know Bill may have a. . . . Anyway, we both feel as though that we've been, sort of being phased out of teaching and educating the new people—just within our vegetation management project—not park-wide or other people, and we see that some of the new people want to work with us and but yet there's a middle layer that wants to. . . . because I think if we see some of the directions and priorities that they're doing isn't doing the things that we used to do, so that a lot of those early projects that we did, being in that middle part of the valley, keeping the plants out, or the alien plants out and helping the feral animal program remove what they needed to remove. Those are not being planned or those aren't priorities. So, we're witnessing, we're seeing that a lot of the areas that we love and worked in to save are not being managed as they should be. And our voices really are not respected. So. And part of that is, you know why, you know, Bill, he may have reached retirement age in age in numbers, but not in spirit or physicalit,y but I think just the disrespect, I suppose, that he felt takes a toll. It takes a toll on your enthusiasm. And so, I would hope that that could be improved.

And I always get questionnaires how to improve the park and it's like I can keep writing the same thing, but it doesn't. . . . I guess I will keep writing the same things, and saying the same things, because I think both Bill and I came from Oʻahu, and not originally, but we were educated about Hawaiʻi native people and ecosystems and we really fell in love with the culture and land and everything that was about old Hawaiʻi, and it's not that newcomers can't embrace and learn that, but sometimes they don't. They somehow bypass it and feel as though—we feel that there's a void. . . . so anyway, I don't know how to say that, but we are reaching out to, you know other people. I should probably stop there.

AK: Thank you. Yeah, I think that sort of touched on one of the other questions that was in here kind of about conflicts you've observed between resource conservation and maybe recreational uses of the park or something. But I'm also curious too how, you know, in your time at the park, kind of any sort of native Hawaiian relationships or cultural practices that you maybe were involved with or witnessed, whether that's in gathering a plant or anything else?

PW: Well, I feel very humbled around Hawaiian practitioners and people because I haven't been raised that way and I don't want to step on any toes about people and their culture. But like I said, I have a lot of respect for the people that I work with that are of Hawaiian heritage or practice their Hawaiian culture. And it's always a privilege to be able to work with them.

I know that maybe the fence crew and the feral animal crew represents more of the native Hawaiian people and the vegetation management crew for some reason doesn't have a lot of that represented or any represented. And in a way, even though when we've tried, we have had in the past, it's maybe intimidating that this is, you know, an all haole or non-Hawaiian crew. But we love the enthusiasm when we can have people and let them experience what we see.

Like the other day, I went into a store down there by FedEx and it's a Hawaiian woman from Molokaʻi who's an artist, and she has her store there and then Bill had already gone in and explained that he was a botanist, and works at Haleakalā, and she was just saying how enthusiastic she is about Hawaiian native history and plants, and not necessarily that it's history that it's present, and that she just hopes that her daughter will get a job at the Park someday. And that is such a wonderful thing to hear. And I hope that the park can welcome native people.

When I started, there were very few native Hawaiian people—other than the people in Kīpahulu—that worked up in the front country. And it is intimidating for native people to go up when there's this fee entrance stations and there's somebody with a foreign mainland accent, but I think they've been better. I know there's been a lot of community or outreach from the park, and there's more Native Hawaiians up there working in the front country as well. So, they're reaching out to the community. So, I think that's an awesome thing to move forward with, to have more native people integrate into the native park systems.

AK: Great, and I think next you know, I would just really like to hear about your work with the Herbarium Collection and the Bishop Museum.

PW: Okay, well, one of the first things I saw when I started up at the park was a herbarium cabinet and that was in 1992. I guess at the Botany Department I really became an avid plant collector and that was mostly something. . . . I did take botany at UCSB and I did have a plant collection and I actually did work at the herbarium in Santa Barbara, but little did I know that it would have been my life at the time because I always called it the plant morgue. It's like I'm going to work at the plant morgue now and I was a plant mortician.

But the value, I guess people have been asking me what is the value is, because of the press release about us doing this---they're calling it a legacy collection, but it's a record of what we found in the early 1990s. So the history of people working in Kīpahulu Valley—it became acquired by the park in the early 1970s, the lower portion. But there was researchers going through the park and rangers in the 1940s. One of the things that I like to educate new people onboard in vegetation management is to learn the history of the area, which is to learn the people that came before you, because we're just carrying their legacy and doing what they suggest and their recommendations. We’re not coming up with new ideas, nothing is really that original, and sometimes I see people trying to grab their own new idea and go with it. But it's better just to honor and do what you, you know, your kupuna decided to do.

And so the history of the plant collectors are from the Western science side, are from the first ships that came with Captain Cook, the botanists, and always all those ships. I have in my manual here, the history of all the botanists that have walked, back when the ship would dock in Lahaina and they had to walk to Haleakalā, you know, they did that. And they were the ones that originally collected the silverswords and the koa and they have the scientific name of the eminent botanists at the time from Harvard and places.

So now, I wasn't thinking of that at all a year ago, but going through the herbarium cabinet because I have certain projects that I want to finish before I retire, and I hadn't really thought of the herbarium collection until maybe last summer. It was something that

I had on my list I wanted to do but we were locked down and we weren't able to do that. And I guess the timeline really was that HAVO (Hawaiʻi Volcanoes National Park), they did a lot of the surveys in the 1980s, so Haleakalā resources management began in the 1980s, as well as the resources management at Hawaiʻi Volcanoes National Park. Before that, National Parks didn't have resource management divisions. I think both of these parks are some of the first—don't quote me on that, although I am being quoted—some of the first, if not the first resources management in the whole park system, and that was because fencing had proven to be successful and they recognized that the birds were declining. And so in the 1980s, they had a lot of people from the biologists that were used to working in the rainforest in Hawaiʻi Volcanoes came to the rainforests of Haleakalā and did a lot of the initial surveys. And the biologists that worked at the park did mostly the crater part of the park. So the rainforest specimens from the 1980s have recently been mounted and curated at Hawai'i Volcanoes are ready to send back to the Park Museum here. And that was done by Linda Cuddihy (Pratt). She retired as the botanist over at Volcano (Hawaiʻi Volcano National Park) a number of years ago, and in her retirement, she went to these old herbarium cabinets and was going through them and started mounting and getting ready to put them back into our Park collection.

So, that was sort of the initiation of the whole project a year and a half ago or two years ago now when the curator at the museum said, “Do we want seven hundred specimens from the 1980s?” And they were already going to be mounted and labeled, which was huge, that's huge.

And I said, “Of course,” and then I got a little push back from some people and I said, “No, this is so valuable because these are mounted and labeled and they are park specimens.” And so I advocated for a new herbarium cabinet in the museum because seven hundred specimens will take two herbarium cabinets. The Park museum, when I started, there was not a Park museum—it was built in like maybe 2012. But before then we had a park cultural specialist who actually pulled from a lot of my collections, as well as historic collections that were housed in a stone building in boxes and newspapers, and I helped them 2000s to 2012 mount and label and get them into the Park museum.

But the Park museum is not only a herbarium, it has the insect collection and it has a lot of historic artifacts. It has all the paniolo things like a spur—I found an old spur the other year. Or I might find an old wind—or not a wind vain—but like an old compass that was obviously from 100 or so years ago. And it's not a big building, it has two rooms. So this seven hundred specimens was going to overwhelm the herbarium but I was looking forward to going through them because they were mounted by Linda Pratt or Linda Cuddihy is her name now, no Linda Pratt excuse me, Linda Pratt identified them, and she's a very well-respected botanist. So, when she identified. . . . because the taxonomy did say how the taxonomy changes. . . . maybe not so much during covid, but there's advances in genetics and techniques to name a species.

So, as I've been here, there's been numerous species name changes but she anyway had these plants mounted and were about to send, and they were due to arrive last March in 2020. So that was one of the first things when the Park shut down was like, wait, don't send these boxes or they're going to end up in the post office for the next, nobody knew for certain what was going to happen. And then on my timeline, I was then going to go through my cabinet and get the missing pieces out.

And I had already arranged with the Bishop Museum. Barb, the curator there, her and I were students at UH together so we go back a ways, and she said, well, of course, whatever we have too much of at the Park museum we'll just go ahead and send on to the Bishop Museum and they'll take care of it and they'll send it to museums around the world that have researchers studying this particular plant.

So then fast forward that didn't happen, and so then it was like, well then, I know I need to get through my cabinet because I'm the only one who can get through my cabinet. I can't leave that because they're my notebooks, it's my database, it's my memory of when I collected that plant to get all the information for the label. It might seem like a small label, but there's a lot of information on that label and not only on the label, but in the database behind that label.

AK: Are these specimen's you've collected over the years while working at the park?

PW: That's right. So, yes, sorry. So, I first got the specimen cabinet in 1992 and the majority of the specimens are from the early 1990s when I was becoming familiar with the flora and Bill was on his independent trips and he would collect things. So, a lot of them are his specimens as well. And then a lot of them are ours. But the majority of them are from the early 1990s and most from the areas of the park that I showed you on the map where we used to work, where we don't work anymore, that's been invaded by the clidemia or the ginger.

So they are valuable. And the Park at this point has lost their museum curator, so the option that I negotiated is to just send them to the Bishop Museum, on loan, so that they'll be able to have the interns that can then mount them and put my label that I have created and sent them and glue them on to the piece of archival paper with the specimen that I sent with them. So, I sent them already 230 which is just the birds and the monocots, and I probably have another 400-500 to send them which is more than I think I thought I had.

And many of them might not exist in the wild there anymore, so they are the records going back to the records of what the original Westerner's collected from the ships to the records that were collected there in the 1980s to now being a record of what was there in the 1990s and then in the future, people into 2030, 2040, 2050 whenever will see these specimens in the Bishop Museum collection or wherever, if they come back or if they get to the Smithsonian, will be able to see a record of what was there at that time.

AK: How many records right now do you think exist from the Park in the herbarium or in the Bishop Museum or at Haleakalā Park?

PW: How many records? Or how many specimens are there?

AK: Specimens, yes. Sorry.

PW: Okay, so I think at the Park museum we have close to 3,000 specimens in the Park museum and of those, 400 or so of our Bill and my collections. And a lot of them are from the 1930s and 1940s as well as the 1980s and 1960s. And then of course the at the Bishop Museum has a lot of the park specimens that botanists have sent there. And before the Park Service even had museums and herbarium collections, they were distributed among other museums. And so the Bishop Museum has a lot of that from the early days. As well as the Smithsonian. The Smithsonian in Washington has a lot of Hawaiian plants because the person who actually wrote the manual of flowering plants—there's two volumes—he actually is the curator at the Smithsonian Museum. So, he's very interested and has taken a lot of his plants there. And so right now, we're at the point where we're trying to figure out how. . . . like the Bishop Museum has some specimens that I sent them of the 237 that they want to send out to the Smithsonian and so I'm trying to work out how I could bypass them having to go to the Bishop Museum and send them straight to the Smithsonian so that we can have less people having to work on them, and that's sort of ongoing, right, this week.

And then we have records of like new weeds. And so for an example, we collected what were new locations for invasive plants. And so, I came upon some sedges and I thought, well, you know, current employees would think, well, why would you even want to have a *Rhynchospora caduca* or something because it's all over the park now, but I'm looking and remembering—no, that this was like the original site it was found in the park. So, it's like the first location it was collected. And so many of those alien invasive plants are records of the location and time of when they became collected, I suppose, or found.

Other than that, at some new Park record, so some of those I'm like holding back, these can go to them rather than go to Bishop Museum, they should go straight into our museum but there still isn't room or a curator. So, I don't know if that answered.

AK: It did thank you. I know we're kind of reaching the end of the time, but I'm wondering if you can provide, you know, maybe a reflection of your relationship with the park and how it's changed over time—working with the park, while working at the park. I know your husband recently retired but you're still working, and maybe future direction.

PW: Okay well, I did sort of begin with a lot of the---before I even worked at the park here, I had an internship when I was at UCSB with the Channel Islands National Park. It was a national monument. I don't know if you're familiar, it's off the coast of California. Islands, I've always had a thing with islands, and I love the islands, but I wasn't really keen on working with the bureaucracy of Park Service at the time, even then in the 1980s. So I wasn't keen on being a federal employee or I mean, I was keen on working at Haleakalā and working in Hawaiʻi. And I think the changes over the decades is that the people that had the history of the background and the stories that went into the resources management, why it became one of the first parks that had resources management. . . . well, they are lost. I mean, they're not like in their daily thoughts.

I understand maintenance has facilities, but there's a lot of people in maintenance who love the Park. I mean, they're not just fixing the pipes they're there because it's a special place. I mean, there's been problems in the park since I began, but I was oblivious to it—I mean, I was out there in Kīpahulu and and I loved what I did; I didn't pay attention to the personnel issues.

And, actually going through a lot of these herbarium specimens, it's funny, it's a time capsule because I pressed these plants in newspapers from thirty years ago, twenty to thirty years ago. And so, it's hard to get past reading some of the articles, and one of them was about Haleakalā having a problem with morale and it was from like 1994 and Patsy Mink was involved. And then you get into the development of Maui and the fights for this development and that. And then you get to the next page—see page four and four is not part of your collection, so I don't get to read that.

So, I don't think fundamentally it has changed too much. I think we've had turnover there is a lot more turnover as a Park, but even people who do come for short terms, who move around to parks, who are park service career people, are sort of always amazed at how much this Park people stay, or how many residents are actually here. Obviously then people get here and say they live on Maui, and they don't want to leave and so they get a good position and then they're stuck, or we're stuck with them, maybe I'd say.

But I hope to go---I love this place, I don't want to leave bitter, and some people do. I think just as an example of people who didn't want to go through this interview process, and I think it happens everywhere, though, when you get to a certain age and young people think that they can bypass your capabilities. I hear it over and over again, people get a little. . . .

But you know, like I always said, botanists really never retire. They may not get a salary at that one particular place, but we'll always be botanists and exploring. So even when I do retire, I don't see that as an "I'll be retired," I'll be looking to volunteer or do other things with other conservation agencies and, and help sort out plant ID's and taxonomy confusions, but I do want to get my specimens done before I retire, because I probably won't be like Linda Pratt and spend my free time doing too much of that.

AK: That's great. Thank you. And then I guess we're sort of the final two questions is sort of what direction would you like to see the Park going for future management? And then sort of any final thoughts about the Park or staff or programs or your involvement that I didn't ask or that you'd like to share?

PW: Okay, well the future? Well, the future is for the keiki, obviously. I like that there is a young staff because that continuity is always good, and I think that some of the young staff do look for the stories from the people that have been around longer.

As far as future direction, I hope that it does get a handle on managing the endangered plants that are very critically endangered and focus on that. And like I was thinking in the presentation that I'm giving tomorrow is about our seed storage program at the Park. And

I don't know how much I'm going to say about it, but in my mind, when we started in the 1990s and they were starting the seed storage lab up in Lyon Arboretum in Mānoa at UH, the guy who started it Alvin Yoshinaga, was always asking, “Oh, you should give us some of the seeds from that Cyanea and that Cyanea and then they'll be in long term storage at the facility in Fort Collins, Colorado.” And it seemed like, oh, that's so far from Kīpahulu and cold storage for the seeds just seemed brutal, and we had the habitat at the time for these species, and so we didn't contribute at the time to that.

And then in the 2000s when these other invasives got a grip into that location, I regretted that we didn't really get more represented in that seed storage facility. But at the same time, they were still figuring out how to preserve seeds from tropical areas and it's a whole science—it's a work in progress, how to get fleshy fruits to store and dry fruits are easier to put in storage because they have to be desiccated.

But we did start working in 2017 the Lyon Arboretum and sending them some of our rare plants and putting them in seed storage and then maybe five years ago we started doing some of that up at the Park. And so my presentation about it dissecting scope with a camera so that we could photograph the images of these seeds that we're putting in storage. And thirty years ago, I wouldn't have believed that that was so important that these plants really do need to have that type of protection, and not just collecting seeds from things that are now in the Botanic Garden or in the nursery, because, I mean, we're down to that at this point with a lot of species just collecting seeds from our living collections in the nursery rather than the wild populations in the crater. People have that knowledge that that's the program that we're doing, so doing my presentation, it will probably be to a small group of people who will then have some turnover, but maybe there'll be a few people that could carry that on.

And it's been well received, so it's not like I need to convince. . . . well, I did to get scope a couple of years ago because I was told we didn't need it, but it's a very valuable tool to have. And so I just hope it keeps going in a positive direction and I think there's a lot of people that love this Park and I'm sure the news stories that were on the news yesterday, or even when I watched the weather, I'm old school, so I watch the news. Most people just get it on the phone. They flashed a picture of the crater up there, like, I know it's coming from Oʻahu and people are seeing that, so I have a little bit of Haleakalā out my window here because we planted our koas and our ʻōhiʻas and our kukui trees and our native plants that grow here, but I just hope that all of these endangered plants continue to have a place to live in the wild and not just in nurseries and in storage. And then for the other question was, maybe that was my answer.

AK: Yeah, that was great, just if there anything else you'd like to share about Haleakalā or your time there—anything that maybe I didn't ask or should have asked?

PW: No, I think I don't feel I missed anything. I think you were able to get a lot out of that I didn't think that I had to say. I know a lot of these questions we didn't address, which is fine, because I don't really have much to say about the budget and I don't have a lot to say about a lot of the questions. So, I think we accomplished it just fine.

AK: Well, thank you so much for sitting down and chatting, I know it's been just about exactly two hours, so it's good a bathroom break time about.

PW: You have a good time management skills.

AK: Thank you, your answers were great so that really, really helped. And yeah, if there's nothing else, I want to be respectful of your time and let you get back to what you're doing. I know it's the middle of the week and something's bound to pop up.

PW: Oh no. I think it's getting the technology to upload my PowerPoint and was having some hiccups yesterday, so I'll have it all ready and then I'll be able to share the screen. But that's my project this afternoon.

AK: Yep, that happens. Well, thank you so much it was so lovely getting to talk with you and your husband about a week or two ago now.

PW: Yeah, I look forward to seeing the follow up with this project. And if there's anything I think I missed, I'll just let you know and I'll send you any links of that newscast that I get, just for fun.

AK: That would be great.

PW: I think that's maybe my last thing to say is that we had a lot of fun. I mean, and sometimes it seems as though the new people think that fun is not allowed in the job. We've gotten lots of comments from management saying it looked like you had too much fun when we were showing and sharing some pictures. And it was like, what's wrong with that, you know? And then some of the other people that we've worked with said that, you know, you and Bill were so much fun to work with, and it was a lot of fun. And I think that's where people need to not take things, obviously, things like we say, if it's the last of the seeds or the last of it, it's not necessarily fun work. But you have to hope and you have to enjoy what you do and spread that through the aloha and enjoy and have fun and spread the message so that you can have people enthusiastic about the job, the planet, the place.

AK: Absolutely. Especially in these times. I feel like people could use that too. Thank you so much and we'll send you a transcript either digitally or in an envelope, whichever you prefer and you can go ahead and if want to make any edits to it or delete change anything or say, I wish I hadn't said that. You can feel free to do that.

PW: I don't think I said too much that I shouldn't have, but you could go ahead and send it digitally.

AK: Okay will do. Thank you. And I'll email you a follow up once we kind of get all of the transcripts together and then I'll send it out to you again.

PW: Okay, well, nice meeting you as this meeting. A hui hou.

AK: A hui hou, I hope to see you up in Haleakalā at some point.

PW: Okay.

AK: Thank you. Aloha.

PW: Aloha.

February 6, 1996. Superintendent's office. Superintendent Reeser swearing in new park botanist Patty Welton

Above Fern Camp

Crater outplanting site below Honokahua

In the mist

Monitoring cyanea in the 1990s

Patti outside Charlie Camp

Kipahulu Summer Olympics '96
Events
1. 50m carex dash
2. Biathalon – sink & shoot
3. Log hurdles; long jump
4. Balance beam (over streams)
5. Da Kine (dashade) Lua course
6. Charlie's Nose Luge
7. Koukouai Free Diving
8. Fence vaulting (no need crossover)
9. Central Pali Holua team
Rule #8
Rule #9
Rule #10

Patti Inside Charlie Camp in 2001