

Justine Hite
Field Supervisor
Kaua'i Forest Bird Recovery Project
(Note: Justin now works as a planner for the DLNR Division of Forestry and Wildlife.)

Please introduce yourself. What is your name, title, and what do you do?

Justine Hite
My name is Justin Hite. I'm the Field Supervisor at Kaua'i Forest Bird Recovery Project. I've been on the job for eight and a half years and my main job is working with the field crews, making sure that they can get in and out of the field safely, that they know how to navigate and find birds, and band birds, and all those things.

How did you get into conservation work? Was this something you've been wanting to do your whole life?

Justine Hite
I've always been fascinated with the natural world and always wanted to work in conservation, whether it was going to be having a biology job or a conservation job. When I was a little kid, I was really into snakes, and then in dinosaurs, and early on, I even thought of becoming a paleontologist, because dinosaurs are so cool, right? And then, I understood that birds are dinosaurs, and realized that I can study dinosaurs that are still alive, that I don't have to work with dead ones. I found out that field biology is something people do and get paid for, so that was it. I don't really think of myself as someone who studies birds. I think of myself as someone who gets to hang out with little modern dinosaurs, do cool exciting field work, and get paid to do so. My first field job was spending six summers living inside a fake volcano from an abandoned 1950s movie set on a little island on a salt lake in California, in the mountains, with 50,000 breeding seagulls, monitoring their population, learning the effects of human impacts on these birds, and so on. From there, I went off to other bird jobs.

Did you grow up surrounded by nature?

Justine Hite
I grew up in Berkeley, a little city in California close to many national parks and wild landscapes. As a kid, we were always going to Yosemite, hiking in the granite, seeing bears and all that stuff. We were going out to the coast. We went on whale watching trips, hiked in the redwoods, out to the desert, seeing the blooming ocotillos, the bighorn sheep, the whales, the condors. I feel I grew up in a city, but my parents took us all across California throughout my childhood. California has absolutely everything!

You cannot love what you don't know. Do you think that's maybe one of the reasons why so many people are disconnected with nature? Do you think it's because they didn't get to experience it at some point in their lives?

Justine Hite

I definitely agree that it's easier to love what you know, and that's it's a lot harder to love something you have no connection with or feel nothing for. If you don't have a connection to nature, it's harder to care for it. I was lucky to grow up with that connection.

Can you please tell us more about your involvement with KFBRP and the work you do there?

Justine Hite

I started with KFBRP in the spring of 2015 as a field technician. That was the first year we were going to be collecting 'akikiki eggs to start the conservation breeding flock. In previous jobs, I really enjoyed nest searching for birds, and the job was searching for nests of very endangered birds, collecting the eggs for captive breeding, and helping save the species. (little pause) I really like birds, but Hawai'i, in the end, has almost no birds. I mean, there are a couple of little native forest birds, but in your daily life, where people live, you don't ever get to see any of them because they're dead. So soon after I started working, I began thinking that this is a terrible place to live, a terrible job, because I would never get to immerse myself fully in the wild, natural, intact bird communities. That's what I had always done everywhere else, but in Hawai'i, it's hard because the birds are restricted to the highest, most inaccessible places. All the birds people see here are kind of weeds in your garden; they were all introduced from various parts of the world. So that was a tough job for me at first, and I was like, I'll stay maybe a year because there are so many other good bird stuff everywhere else. One of the things people need to understand about these kinds of jobs is that they don't pay well. So then, at that same time, I kind of realized that after working in the field for 15 years and never really being permanent, I had been living in stress, bouncing around from contract job to contract job, without health care and things like that. When I first started, I didn't quite really appreciate that it was a full-time job, that they were going to keep paying me every two weeks. So I was like, oh my gosh, this is great. I get to work with really cool birds. I get to work up in the mountains. I get to fly in helicopters, and they want to keep paying me. So I thought, I guess I'll just coast in this for a little bit longer. But then, as I worked more and more, I really began to realize how special these birds are, and how much fun it is to work with them, and how important the work is. So I decided to stay.

In 2020, you sounded the alarm bell about the 'akikiki, and that in turn triggered this emergency conservation effort we're currently in. What did you see or observe? Why did you sound that alarm?

Justine Hite

Understanding a bird's population is difficult. Doing good science that can be peer-reviewed, collecting good scientific data to be put into a journal article is difficult. You need to have

established methods. You need to collect the right data. You cannot shoot from the hip, but for the 'akikiki, for all forest birds in fact, there is very little scientific information. So the question was, how can we infer given the limited knowledge we have? How can we make sure that we're keeping good natural history notes on what's happening? So, as part of the effort to collect 'akikiki eggs in 2015, we had to first find the birds. We had to find the pairs in order to find the nests. We had to figure out how is this pair different from that pair? We had to spend time take notes on the subtle differences in the plumage, so we kind of organized all that up and ended up making territory maps. So at the end of that first year, there were about 35 breeding pairs at our main camp in the Halepa'akai Watershed. Then the next year, we went out and did the same thing. And we did that for a couple years. So that was something we could begin comparing year to year. Even after we had stopped collecting 'akikiki eggs and our work was pushed into other avenues, and we didn't really have funding anymore to look at 'akikiki, I was sort of pulling everybody who was out there and asked if they had seen 'akikiki. And if so, where did you see them? Who did you see? Those kinds of questions. I was using everybody's detections to continue to build maps even though that wasn't really our primary job anymore. In 2015, 16, 17, 18, everything was good. I mean, it wasn't really good, but it wasn't terrible. And then in 2019, I kind of realized that something was amiss. The number of territories had gone down more than it ever had before, but really one of the big things too was that the age structure of the breeding population was different. One of the things that we had been doing to track all the territories was looking for those subtle plumage differences, and one of the things this tells you is the age of the bird. Until they're two years old, they have different plumages. In all those years before, 5% of the breeding males were only one year old, and about a third of the breeding females were one year old. And that was consistent from 2015 to 2018. Then, all of a sudden in 2019, way more young birds were in the breeding population. So, with the number of birds going down, and then, all of a sudden, the proportion of breeders being one year old, I was like, oh no, something's wrong here, older birds are dying. Maria Constantini was doing her PhD and worked with us at that time. Her project was looking at the birds' diets and required fecal samples. So to do that, we had to band a lot of them. Doing so, we began tracking who we were seeing again, and who we weren't seeing again. For a long time, we saw most of the birds that had been banded, but in 2019, that number dropped to under half of the birds that had been alive the previous year. So again, in 2019, we fully realized that something big was happening, and I think there was some frustration too, because there wasn't really an audience yet to hear this. We knew something big had to be done, but anything to control mosquitoes was still in the distant future. Then in 2020, the number of pairs dramatically dropped once again. It was down to half of what it had been the year before, and almost none of the banded birds were around. That year, it was also really hard to get anyone to pay attention because everybody was dealing with their own pandemic, COVID. In 2021, it was sort of in your face for everybody and nobody could ignore it anymore. Where there had been 35 breeding pairs at the Halepa'akai site, only five breeding adults lived, and three of those adults ended up dying during that season. So we were down to just one nest, and then the year after, there were no breeding left. Only a father and his son from that last breeding pair persisted until the end of that year, and after that, they were gone too.

When did everyone realize this catastrophic decline was due to avian malaria?

Justine Hite

That's the sad part. Everyone has known all along that avian malaria was and is the number one cause of their decline. That's why there are no birds in the lowlands. That's why they're only up in these highland areas. It's what has killed most of the ones that have already gone extinct. It was just that these ones had a big enough population a hundred years ago, or successful enough to hide in the highlands.

So was avian malaria on your radar from the get-go? Even before 2015?

Justine Hite

It was on the radar from the 1950s. One of the species that went extinct in the Alaka'i in the 80s, the 'o'u, was the most abundant honeycreeper on all the islands. But their problem in a sense was that they were nomadic. They were fruit eating nomads who would always go to where the biggest patches of ripening berries and food were. So none of them ever just stayed up in the mountains, everybody came down. And so everybody got malaria, and all of them died. The 'akikiki don't travel far from where they were born. They get a territory, and they stay on that territory, probably for the rest of their lives. And so all the birds that were in the lowlands died in the 50s, 60s, 70s and 80s. This reminds me: there's a recording on McCauley Library, I think it's by Doug Pratt, from the 1970s. He recorded a group of 'akikiki with a microphone, and there's this constant sound of traffic, of cars, because he's standing on a road somewhere, and you can just hear all the cars driving by. Since I moved here, there's never been an 'akikiki anywhere near a road like this. The fact that they used to be all the way out to the roads, that says a lot. So I think avian malaria was always on the radar. In fact, I remember that in one of the meetings we had in 2021, somebody said: this is shocking, but it isn't surprising. And that statement made a big impact on me.

So what is going on right now, in 2023?

Justine Hite

This year, the goal was to go out and catch the last birds and try to save them by bringing them into captivity. It's like a rescue mission. These wild birds will hopefully help the captive birds we already have, those that were raised from the eggs we collected previously. None of the birds born in captivity has had the experience of being an 'akikiki in the wild. So besides saving the wild birds from avian malaria, the thought is that this could also help the captive breeding population. The best time to catch them is during the breeding season, because it's really hard to catch birds when they're just flying around everywhere. But if they are coming to a nest, it's a lot easier to catch them. We had already proven that we can find the nests. We also know how to collect the eggs and put fake eggs in the nests so we can try to catch the adults. So that was our main strategy: get the two eggs, then get both parents. At the beginning of the season, our crew found 16 breeding pairs spread across the landscape, but then everything became difficult. The birds

just started dying it seems. Some of the banded birds simply vanished and were never found again. And then, we started having an incredible rat problem. Most of the nests we found failed before we could actually go in there and collect the eggs. Some of these failures had to do with rat predation. There was also a windstorm that knocked one of them down. There was a lot of abandonment, and everybody suspected the adults had died. So it hasn't been easy.

The fact that you have seen the same birds year after year, does it make it harder when a banded bird simply vanishes? Do you develop a relationship with specific individuals?

Justine Hite

Oh my God, yes! That's actually the thing that will get me here. I got here in 2015, when there was a ton of them. I got to know many, many 'akikiki as individuals. That was always one of the best parts of my job: I saw them in their daily lives, in their year-to-year lives. I got to observe their successes. I got to observe their defeats, like when their nests would fail. I got to know dozens, and dozens of forest birds over the years. I knew their personality quirks, like there was this one guy, one of the male puaoihi would do the most other bird mimicry in his daily calls. He would go around doing little calls, but he would throw in so many 'elepaio notes, 'i'iwi notes, 'apapane notes That was always just fun, something he would do, and the others wouldn't. When we first started banning them, from 2015 to 2018, they were doing well. There was very little mortality. You would see the same birds again and again, year after year. The first bird I ever caught in 2015 had a blue and an orange band on one leg, so we nicknamed him Bronco because it was like the colors of the Denver Bronco. I followed him for years. We found seven or eight of his nests. I watched ten of his chicks grow up. I knew him well. Anyways, we use a lot of flagging in the field to mark our trails and indicate main trails and side trails, where we're doing a lot of rat trapping. In 2019, we decided to move some of our rat traps, so we were re-flagging and adding some additional orange flagging where we hadn't had it before. It was right through the middle of his territory and there was this blue flagged trail. I hadn't seen him in my first couple of trips, so one day I was like, okay I'm just gonna go in there and find him. So I spent probably five hours just running all over his territory, and I found another male, not him, and it just sort of dawned on me that he was gone, that he was no longer there. So I was walking back and got onto the main trail and saw the orange flagging with the blue flagging, and I just broke down and started crying. I was walking through his territory, and it was almost like it was a memorial to him with all the fresh blue and orange ribbons hung up. Yes, I kind of just lost it. I took for granted all those early years. We just kept seeing them and so when they started disappearing, it just started to get a lot harder. I have a million stories, and I don't know which ones are the best ones, or which ones are the boring ones, but I have a million stories.

I'm sure that anybody who has had a relationship with their cats, or their dogs understand what you're talking about... Please tell us about the landscape, the difficulties with working in the field.

Justine Hite

Yesterday for example, we successfully collected some eggs. This was done by a team of six people who know how to do many complicated things. They are very comfortable flying in helicopters and landing in tiny little grassy patches hidden in the Alaka'i. Our work is not easy. Field crews need to know a million different things. They need to have and carry everything with them in case we're not able to pick them up again - things like their rain gear, their synthetic clothes, their extra layers, their food, and water filtration stuff. It's incredibly difficult to navigate so everyone has phones with super detailed maps using lidar. Everybody carries climbing rope with them because of all the going in and out of chasms. Yes, the field environment is really challenging. It's raining 250 inches or more at our field camps through the year. There are bands of rain and sun every five minutes, for like ten hours, so you can never decide what you want to wear. We almost always hike in thick brush everywhere, so you get wet easily and stay soaking wet. Our field crew consists of people who are into that, people who enjoy hiking in some crazy little canyon through the mud, in and out of the chasms. Our team members come with a huge amount of practical knowledge, but you would never know it by how much we earn, which is not much. We're total professionals. Many of us have been doing this kind of work, year after year, honing our skills. The reason why we can trust Alex to climb to the top of a 40-foot ladder that's held up with ropes and pluck 'akikiki eggs is because she's done that kind of work with endangered sparrows in Florida. People working with us really, really know their stuff. And they're extremely passionate. It's a vocation because people who do this kind of work don't earn much money.

Given everything we've discussed so far and the vast experience you have with the birds, do you feel hopeful about the future?

Justine Hite

I think there may be false narratives around the importance of hope, and that's a tough question. If you just give up, nothing will happen. However, if we need to do five different things and get really hopeful after doing one of those, and say we did our job, then there's a real danger. That's what I call the danger of hope. For the 'akikiki species to survive, many things need to happen. They are now extinct in the wild, so it's just down to the captive breeding flock we have. We need to breed more of them in the captive breeding flock, then we have to kill the mosquitoes in the landscape in a meaningful way, then we have to release the birds and have all of them not die when they're released, then we have to continue to effectively control the mosquitoes. If we "mostly" control the malaria but forget to apply one August for example, the mosquitoes will get up there and then all the birds will die. There are so many things that we have to do. We can't just tell ourselves like, cool, we caught a bunch, we worked really hard, did a good job and now it's over. To me, that's the danger of hope. People kind don't really understand what they're being asked to be hopeful about. I also struggle personally with environmental communication. We're really not accustomed to being told it's all messed up, like you know, where every movie ends with a happy ending, like someone saving someone else by providing CPR. What is the real

survival rate for CPR, versus the survival rate of CPR in the movies? I think what's really hard is being the person who has to give CPR. We often feel like hospice nurses, watching the 'akikiki disappear, and all anybody ever wants to talk about is hope. We're down to less than ten birds left total, and people want to talk about hope. So it's a tough question. I think the chances are incredibly bleak for the 'akikiki to survive. Given all the challenges to come, it seems to me a lot more likely than not that it will be extinct. It will never be back out on the landscape, dominating in the way it once did. But it's not too late for most of the other honeycreepers out there. We can still save the ecosystem. We can still save most of the other honeycreepers. If we're not going to be honest about the state that the 'akikiki is in, then for me, it's like we're not taking the threats seriously. If we're not gonna work as hard as we can to save the 'akikiki, because we don't even believe the 'akikiki is about to die, then how are we expected to take the other ones seriously? Those are patients that can be saved.

Why do you do what you do? Why do you care?

Justine Hite

I like looking for the soul of a Tyrannosaurus Rex in the eyes of every little bird. An 'akikiki will pull a giant caterpillar out from under a flake of bark, and then hold it down, and tear it to pieces and eat it. I can absolutely see a Tyrannosaurus standing over some large dinosaur and eating it. It's fascinating, it's awesome, and it's wonderful to imagine what the Mesozoic used to be like. It takes me back to my childhood dream. I also like the fact that certain birds, like the 'akikiki don't care about us humans. Most of the other birds in the forest are hard to interact with. When people first go to the Alaka'i, they often come back with stories of hanging out with the 'elepaio. Most of the honeycreepers fly away when you get there, but the 'akikiki or the 'elepaio don't. Those two species were not really used by Hawaiians for feather work, but the other birds all had human pressure for generations, you know, watch out, these guys are gonna grab you and take your feathers. But no one ever wanted 'akikiki feathers, and so they're still just like, whatever dude, like, they always just seem totally indifferent to me. And if there's something I love in nature, it's that indifference towards me. One of the things that freaked me out the most was the first time I saw a jaguar. It did not care, and it just slowly kept doing what it was doing, and I was like, oh my God you don't care about me. I think seeing 'akikiki is like that. You can get really close to them because they don't care. What's also great is that the male and the female are almost always together as a pair, just working the forest together quietly, calling back and forth to each other as they go. A human can share an experience with them that you can't really do with any of the other Hawaiian honeycreepers. Those experiences is why I care.