

# Local Organizations and Collaboratives and Assisted Migration: Perspectives From a Seed Collector

Assisted migration is a recurring topic in the treeline newsletter, and we have been fortunate to feature the wisdom of many individuals and orgs. If you'd like to peruse any of the previous resources (14 and counting) on assisted migration, visit our new [website](#) and select "Assisted Migration" from the topic bank.

Federal agencies like the Forest Service have the connections, resources, dedicated technical expertise and land access to procure seeds from populations and species at regional

scales and conduct assisted migration field trials like the [ENAMES Project](#). Many small and medium sized organizations and collaboratives are also grappling with questions around whether and how to experiment with assisted migration. These place-based entities can face unique challenges in:

1. Funding dedicated expert capacity to vet and advance projects.
2. Accessing plant materials to implement trials.
3. Securing long term funding to steward studies over many decades.

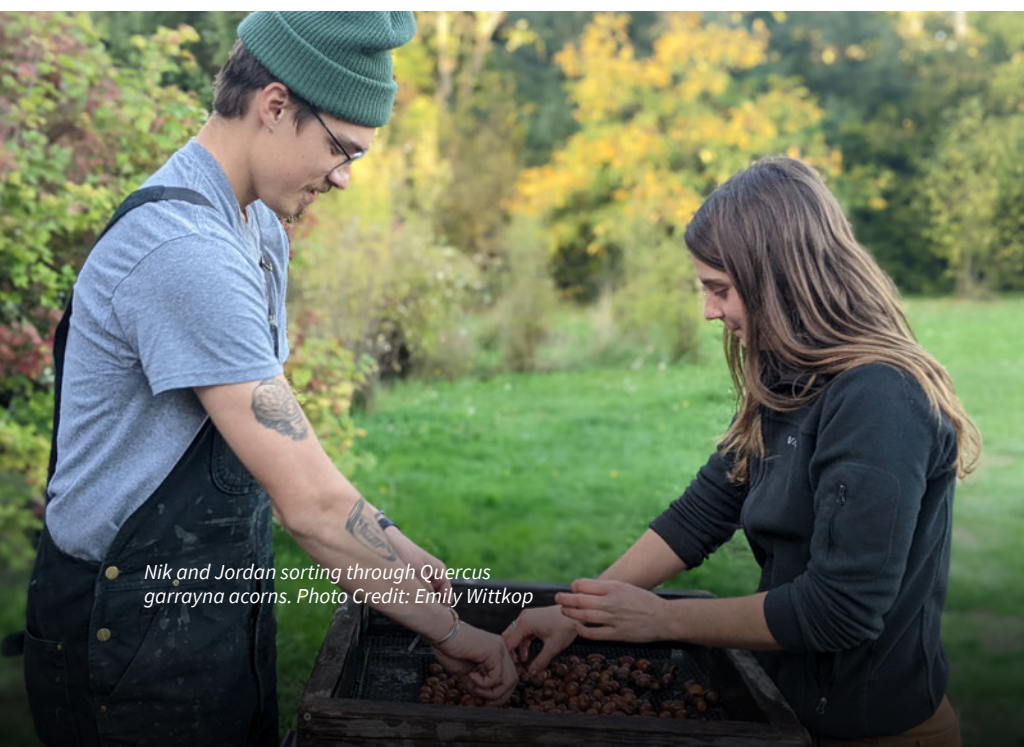
The small number of professional native seed collectors, the lack of standardization of seed zones for species outside of those used in industrial and private forestry, the broad technical focus of project managers, and limited

capacity to build networks to support seed acquisition compound challenges faced by smaller, more places based entities and collaboratives.

In this interview, BEF's Kayla Seaforth talks with Emily Wittkop, owner of [Jonny Native Seed](#), about her experience collecting plant materials for an assisted migration trial. Her story offers a glimpse into seed collection, an essential part of the restoration economy, and into the growing complexity of seed procurement and ordering under new and predicted future climate scenarios.

**KAYLA:** Hi Emily. You're working on collecting seed for assisted migration projects, right? How does that differ from your everyday operations?

**EMILY:** Yes, I categorize Jonny Native Seed into two parts. One is wholesale



Nik and Jordan sorting through *Quercus garrayna* acorns. Photo Credit: Emily Wittkop



*Oemleria cerasiformis* harvest. Photo Credit: Emily Wittkop

distribution, and the other one is contracted services. Anything that requires a little more attention to detail or collecting more data than usual, falls into that contracted services realm. With wholesale seed, we're trying to bring in as much quantity as we can; there are some parameters like specific regions or elevations that seed should come from, but those are not above and beyond the data we typically record.

With assisted migration, there's more criteria to keep track of because the projects are usually very specific to where the study is happening, and what kind of growing conditions exist there. These projects typically require less seed, either small amounts from various populations to create a large lot size, or for other projects, individual sub samples are required to track how individuals from specific populations fare. The assisted migration projects are more research based, so it's necessary to thoroughly document where the seeds come from. This also requires us to collect from very specific areas, habitat types, and elevation bands. For one of these projects, our range of collection is a 500 foot elevation band. This narrow criteria can drastically change availability of seed resources, and limit site availability especially for tree and shrub species.

With wholesale collection, our criteria is much broader. We can easily identify new sites by the roadside and can quickly assess population size, abundance, and vigor. With assisted migration projects, you really have to make sure that not only is the project criteria being checked, but it's within that very specific collection range. Often the tools used to predict what might fare better in an area under a future climate scenario, doesn't directly reflect the species currently in the collection area. Or sometimes the species are there, but they're on private property. It takes a lot more work to make those collections happen. We're still able to accomplish many of our goals, but it's not without its challenges.

**KAYLA:** Have you been able to make any adjustments if you are not able to locate and/or collect seed that meet project criteria?

**EMILY:** It depends on the project. One of the projects has a little more flexibility. Based on some of our observations in the field, some species weren't checking the boxes given the criteria that they had listed. In that case the agency was open to recommendations. In contrast, another project that we're working on is very specific. They have one region that's being used as a control and the seed we collect is being grown out in a common garden study. This project has been years in the making and we're only one step in a much larger plan which doesn't leave room for flexibility.

Another difference between wholesale and assisted migration collections is project duration. With assisted migration projects there are deadlines for getting plant materials and completing the project. We also tend to play a much smaller part in the overall design of the project. With the wholesale side, since I'm working with these people on an annual basis, there is more flexibility from year to year. For example, last year's *Acer macrophyllum* crop was absolutely horrible. Jon, the previous owner of JNS said it was the worst *Acer macrophyllum* year he'd ever seen. It's also commonly used in assisted migration trials, but when the project is limited to a 1-2 year timeline, and there's a bad crop year, it can really limit how much seed is available to make the project successful.

I think it's a nuance that can be hard to convey to people who are funding these projects, because we really don't have control over Mother Nature. As much as I can sit here and pour over my spreadsheets, there's only so much information I can gain from historical data. Some years are bad for certain species, or are bad in certain areas but it can be pretty impossible to predict, especially as the climate continues to shift. As a business owner, I want to build confidence with my clients, but I also want them to understand that things will not always go as planned for reasons that are out of our control.

**KAYLA:** Tell me about your network and how you're collaborating with other collectors to cover the geography that is required for these projects.

**EMILY:** I have a Willamette Valley crew that I work very closely with on day to day activities during the collection season. I also have remote crew members that work more independently, which allows us to cover more ground in a season.

We manage most of these projects internally, but for one of the assisted migration projects, we are collaborating with other agencies on collection. It's been broken up into very specific regions, so I'm doing the collecting in the South Willamette Valley region and other people are in charge of other areas.

**KAYLA:** I think we're probably seeing an increasing demand for plant materials for assisted migration at various scales. Do you think there are any networks or infrastructure that would be helpful for making that more accessible to people?

**EMILY:** I'm always in favor of more networks or agencies that allow collaboration between private landowners and state or federally funded agencies. One of the biggest limiting factors for seed collection is land access. With greater specificity of collection areas required for these projects, the bigger the access challenges become. Sometimes the collection area is exclusively on private land. Some landowners are enthusiastic about allowing collections, but others don't want to have anything to do with it. Sometimes landowners assume that this will allow continuous access,



*Iris chrysophylla*.  
Photo Credit: Emily Wittkop

resulting in a lack of autonomy over how they manage the land, or that they might be liable if someone gets hurt while collecting. Most of these concerns can be addressed by explaining exactly what it means to grant access to seed collectors, but those conversations take time and I often don't have the capacity to have them with the number of landowners that is necessary, in addition to coordinating all of the collections in a season.

I think if there was a network that was able to provide that information, and have those conversations with landowners, that could be helpful. These conversations look quite different depending on who I am talking to, or where I'm collecting. I think it's important to meet people where they're at and figure out ways to relate to their personal interest with the landscape. For example in some areas people love wildcrafting and making medicine, but in other areas that would end the conversation. Most people care about our forests but we don't always know how to talk about our scientific interests in a way that's relatable to landowners especially in remote areas. This type of outreach could be really helpful in building a bridge between collectors and landowners, which hopefully could facilitate more assisted migration projects or wholesale seed collection.

**KAYLA:** That makes sense, having somebody to do some of the vetting,



*Physocarpus capitatus* live stake cuttings. Photo Credit: Emily Wittkop

the communications, the permission seeking. Has this process gotten any more difficult due to climate related events like wildfires or floods?

**EMILY:** It has. One of the agencies we collaborate with couldn't access a collection site because the access road had been shut down due to a wildfire, which lasted over a month. The wildfire season can limit site access for a full collection window, and depending on the severity, for years afterward. Then, on the opposite end of the spectrum, flooding can also limit site access. There was more flooding this year than I would have anticipated in some areas. It wasn't record breaking, but it was enough to complicate when we needed to collect certain species. I followed weather forecasts and river gauges very closely to determine what sites would be accessible, and where it would be safe to go. In an extreme case, we had to wade into a river, in the middle of winter, to collect a few live stake cuttings. It was a little questionable but we got it done. We want these projects to be successful, but sometimes mother nature just says "sorry, this isn't the year."

**KAYLA:** There are so many ways that wildfire and increased flooding is impacting the work that people are doing in natural areas. That's one that I hadn't personally thought about; for species that set seed in late summer, so many are being collected during wildfire season, and enormous swaths of land can be inaccessible for the whole window.

**EMILY:** Sometimes those areas are completely decimated and the species composition is forever changed. That piece of it is really challenging, especially as the demand for native seed increases.

**KAYLA:** That has to be hard, especially as you are trying to have some consistency in sales, and also bringing on new seed collectors. As discussed in a [webinar](#) that you participated in, the seed collection workforce has always been small, and many seed collectors are considering retirement. How have you been experiencing this shift in the workforce since taking over Jonny Native Seed from Jon Anderson?

**EMILY:** I'm happy to report that Jon still works with me. I am so grateful for his mentorship and that he still wants to collect seed. I'm always bringing new people on, and they bring so much enthusiasm and excitement to this work. It seems like they see this as more than just another job, and really see the role that native seed plays in ecological restoration and adapting to climate change.

I did recently hear about another seed collector shifting their focus away from wild seed collection due to sites being compromised by climate change and/or drought. This not only makes collection logistics more challenging, but also leads to challenges around the economic viability of this work. They've had to keep their prices low, because long-time customers aren't interested in paying higher prices. But in the end, between diminishing access to sites, plus a serious rise in cost of living, that price point did not make an effective hourly wage for the people who were doing the work on the ground.

Because of climate change, we're also noticing the yield of some populations slowly dwindling. Or in some cases there is no crop for multiple years and then a bumper crop, which isn't normal for certain species. But everybody does things differently. I'm dealing with some of the climate related challenges by employing remote collectors that I can rely on, which expands the spread of land that I can collect from. But I know other people have to stay very localized, which helps keep their costs low.

Seed crops are also becoming less predictable. A couple years ago, we had a bizarre weather pattern that brought a bunch of snow and ice at the end of April. It ended the pollination window for one species, and just like that our opportunity to collect was gone. This combination of the effects of extreme weather, more gradual shifts due to climate change, and the very human side of expectations around being able to access cheap seed, is leading to some people making the hard decision to leave this work altogether.

**KAYLA:** I think it's important to shed light on that side of this work. It can be easy to romanticize it, especially the

roles that are primarily field based. But it's a legitimate career, and more than that, seeds are really the foundation of the native plant economy.

**EMILY:** I couldn't agree more. I think a lot of times, seed collection is viewed as a low skill, and therefore low paying position. My people are very dedicated and work very long days sometimes when a certain crop is ready. We are also exposed to many safety risks; I've been evacuated from sites due to wildfire, flooding, thunderstorms, extreme heat, hornets, poison oak, bears, sometimes we're collecting on the sides of busy roads, the list goes on. All while understanding phenology trends, pathology, when to collect ripe seed, over an extensive range of habitat types. I think that there needs to be more grace and understanding for the work that goes into collecting seed and it definitely needs to be valued more. It does seem like we're moving in that direction but for some individuals, it might be a little too late.

**KAYLA:** Is there anything coming up this season that you're excited about or would like to share?

**EMILY:** One thing that I'm really excited about is bringing on new collectors and seeing the successes that happen throughout the season. I am very lucky to have a lot of highly competent people that work for me. I'm also super excited to be participating in these assisted migration projects. The information that's going to be gathered from these studies will hopefully lead to more options for adapting to climate change at the plant materials level. I am very excited to play a part in that.

I'm also excited about looking at the way we use plant materials to adapt to a changing climate in a more expansive way. What role do live stake cuttings play? Might using cuttings in an assisted migration planting be a way to facilitate the persistence of some of our dioecious species on the landscape? Could that address some of the pollination timing issues that have started occurring? I don't know the answer to that, but I'm excited that we are looking at creative ways to answer questions like this.



**Emily Wittkop** is a trained botanist from the Pacific Northwest. She has spent the last six years working as a native seed collector specializing in threatened and endangered species augmentation and prairie oak restoration. She has a Bachelor's of Science in Natural Resource Management from Oregon State University and a minor in Forest Management. Her work focus is to provide access to a wide variety of plant materials through education, conservation, and land stewardship. In her spare time, she enjoys photography, dinner with friends, and her favorite winter activity: willow basketry.



*Rubus parviflorus*. Photo Credit: Emily Wittkop