INT: So, I’ve read a bit about the [wildlife conservation], but it would be great if you could tell me a bit more about your role and perhaps maybe a bit more about the [wildlife conservation] as well.

DEU18: yeah so [wildlife conservation organisation] is a Community interest company set up about five years ago, with the aim to empower communities to engage with conservation projects and the popular quite pioneering conservation projects, that go over and above what other community led conservation projects have done, and within that trying to build a rewilding narrative of restoring ecosystem, re-connecting people to nature and those sort of things. So, a number of projects span in various places across the UK. But a lot of our projects are based in the [Borough] area and in London due to locality of where our staff based and where we have access to opportunities. My role within that I helped set up [wildlife conservation organisation] I was one of the founding members and still help support various projects including the [recovery project], which is something that we've had a lot of engagement with GiGL on historically and we're looking to work with GiGL on a lot of things moving forward.

INT: How many projects, do you have on the go at the moment?

DEU18: So, the organization as a whole, probably has, well it’s a variety of different types of projects so, for example, some of our projects are engaging with school children and children who are carers, young carers. There slightly more on the rewilding people side of things, but in terms of active reintroduction, re-restoration probably about three live ones at the moment and we got three in the pipeline that are just about to kick off.

INT: That's great and so moving on to the purposes for using species data and so, what do you focus on? Is it single species or species groups?

DEU18: So, our projects focus, because we have a Community focus, we find it easier from a communication perspective to target around a focal species, say, for example, the water vole re-introduction on the [River], which is a chalk stream in [City] and the aim of that project at a high level is to bring back locally extinct water voles to the catchment. However, in doing so, it will have greater benefit for a whole plethora of range of species and so using water voles as that umbrella, but in terms of species data that we've used obviously a lot of water vole data and American link data has been very important to guide that project. But we've also engaged in a habitat monitoring and communing our own sort of method of empowering habitat monitoring methodology, where we got 16 volunteers to actually look at the habitat of the entire catchment and looking at a traffic light system in terms of appropriate not appropriate and some medium habitat quality for a high level thing so yeah that was quite an interesting exercise that is important for our water vole re-introduction at the moment and yeah we're looking to replicate that in other catchments as well.

INT: that's good. And in terms of the spatial extent of the data you use is that predominantly [City] focussed, I guess.

DEU18: Yes, but we also have projects going on in [county], for example but yeah, a lot of our projects are focused in London and looking at GiGL on getting data for that.

INT: yeah that's good. Does this inform any decisions of yours; you talk about the focal species?

DEU18: In terms of the species data that we collect. Well yeah absolutely so, for example before re-introducing a species into habitats you have to make sure that you know the habitats appropriate and looking at the species assemblages of that system are absolutely vital otherwise look at the efficacy of the actual leaves so they can support a viable and sustainable population moving forward so yeah absolutely key to our decision making and yeah.

INT: Where do you obtain your data from, predominantly from GiGL?

DEU18: yeah so we, for example, the [recovery project], we get species data from GiGL and then we also help provide a framework in which we could actually have a sort of data entry system, which was appropriate to the catchment and Community volunteers and then also I suppose, where else do we get data from? Well there's local record holders, for example, who might not submit data through various channels half of the [River] catchment goes into surrey. So that's actually Cvic and in terms of the ecological record holder record Centre for there we actually haven't engaged with them too much in that project, we mainly use GiGL and that acts as our main focal point for accessing data.

INT: Do you collect any data yourself through volunteers?

DEU18: So absolutely so as part of that habitat mapping exercise, we will get in the volunteers to collect habitat data with some species data on the site we actually create this over a methodology that was used in the south downs National Park, to adapt to a more urban system but there was a lot of actual surveying from Community volunteers throughout that.

INT: Okay, great. And when you collect the data say from GiGL is that, as a raw product or has it been processed in any way?

DEU18: Well, sometimes we will ask for the species lists…I suppose there is one project we're looking into, moving forward but we haven’t quite secured funding yet which is actually looking at a pan London habitat map and we will be asking them to potentially embark on some level of modelling. We haven't kicked off with that yet that's hopefully going to be taking place in the next few months, but that will be a case where we're looking at GiGL to model data for a particular species in this case beavers which is quite interesting. But yeah so we will be looking for more, I suppose, more intensive modelling approaches from them, than just asking for raw data.

INT: With that project in the pipeline do you perhaps value model data, a bit more now.

DEU18: We haven't actually defined the model yet. So, we are working with the [wildlife trust]and GiGL but hopefully obviously it's quite an interesting project basically we're looking to map the whole of London greater London so all 33 boroughs the habitat suitability for beavers and also socially as well, so we’ll be engaging with local councils and mainly to try and understand the political will as well. So, we’ll have this metrics which shows us ecological and also social appropriateness for beavers and so yeah and I see that as a really important useful [tool] that's way better than having just more data because a lot more application in that sense, and hopefully we'll be able to guide practical action, moving forward.

INT: And in terms of the resolution of the data, is there a specific one that you require, or does it just depend on different circumstances?

DEU18: For example, with our [recovery project] we actually try to get really tight resolution in terms of the data that we collected so basically the main river length is about 9.9 kilometres where we had our habitat suitability surveys. We actually put that down to 100 meter resolutions so we broke the river up into 100m chunks and that's what the surveys, the volunteers went out to survey so that’s quite a high resolution and so yeah I think it depends on what we're asking for. I suppose looking at the beaver situation that’ll be very, for the political side, it’ll be very high resolution very, very low resolution will actually be doing it on a borough by borough basis. It depends on what we're looking at, but yeah, we changed resolutions depending on.

INT: The raw data that you do get from GiGL do you process that to produce any reports or maps yourself.

DEU18: yeah so going back to the [recovery project] we produced our own maps through a framework that they helped us set up but I suppose ideally because we haven't got really great GIS skills within our organization, so if we can ask them to actually create the map it's easier for us.

INT: sure. How do you deal with data gaps?

DEU18: Well, first thing is to recognize there's lots of data gaps. And always have that mindset when we're looking at any data set. How do we address it, I suppose, firstly by being critical of any anything and trying to well, for example, going back to the water voles, encouraging the volunteers to go out and collect data to try and address that.

INT: How do you consider confidence accuracy and precision in data.

DEU18: Well, I trust GiGL’s data has gone through a certain level of verification and validation process so in terms of the data that I do have, I think I have relatively high confidence in that. In terms of verification wise, when we’re getting the communities to go and do volunteering surveys, we made that a simple process as possible. So we weren’t asking for really in depth ecological knowledge we try to make it as simple and as accessible as possible so therefore the limitations around mis-identification and stuff like that were limited because we weren't asking for really precise in depth data yeah hopefully that sort of answers that question.

INT: yeah that's brilliant. Do you collaborate with any other stakeholders to help with your work or produce reports?

DEU18: Yes absolutely, conservation needs to have more collaboration within it. I also work with [historic place]so there’s lots of collaboration between local authority and [wildlife conservation] but also there’s a whole network of other charities and NGOs who work locally, for example, the river there's the [River] catchment partnerships is a whole catchment for partnership with various water companies and charities so yeah we always look to collaborate where possible and I think that's an ethos of conservation to really embrace.

INT: So, moving on to data aspirations now. How could the data you use to help in your decision making.

DEU18: More of it, I suppose. I really like the what the Council are doing with initiatives like I record. Where we you know so I’m always encouraging as much sort of citizen science as possible to make it more of a norm for people to go out and record the species, just to get more data, because I do think, especially in the [Borough] area, I suppose, citizen science in some sense can be deemed lacking and there's not a great deal of active ecologists going around recording stuff so any way, to improve the amount of data available to us it's going to help inform decisions and we’re going to have more confidence in it in that sense.

INT: How would you encourage or would you have to draft people in from elsewhere.

DEU18: Yes, I always try and make use of a schemes, so one thing we try and push schemes, like the pollinator monitoring scheme, which you know and try and find initiatives that are already set up to manage Community [science projects] so is raising awareness of those opportunities and just trying to encourage uptake locally.

INT: I'm going to focus a bit more on modelled data now. Just as the final section, and so, how would you I think you've sort of alluded to the usefulness of modelled data, but how would you feel about using modelled data, instead of raw data.

DEU18: Depends on the model, depends what I’m looking at. I’m hoping it will come into play, very soon, but, as I say, having that model which has taken into sort of species requirements at a glance because the reports that we publish out of this project will hopefully inform a lot of practitioners and then they're not going to want to have in depth species lists and stuff that might be difficult for them to interpret so we want to have outputs that easily accessible, the modelling helps that happen. But again, on the negative side of it, to some extent our understanding of species is always growing and some are more limited and beavers is quite a good example of that I think beavers are a highly adaptable species, and they might, irrespective of the model, they will be able to surprise us and be able to potentially thrive in areas we wouldn't expect to look at areas like Vancouver or cost barrier and on parts of Europe. We've got urban beaver populations living quite happily in quite urbanized environment just in local parks and stuff which I think is a mindset that we probably haven't got in terms of relationships of the beaver re-introductions that we're seeing in the UK at the moment, so I think that the model will be confined to maybe the understanding that we have at the moment, which might not be reflective of the species if that makes sense. A positive and a negative.

INT: So you think that perhaps we need to like you say have a greater understanding of nature.

DEU18: Well, I think modelling is always difficult isn't it so nature is a hugely complex system that is very difficult to put a taxonomy in general is hugely difficult to actually define what a species even is, let alone how it acts and behaves in the complex web of interaction that we might not always notice so there's always a danger with modelling that we’re being overly reductionist and not being reflective of the true situation we try to make it fit a human box which might not be appropriate. But yeah I suppose it's when you do any modelling exercises have that in the back of your mind and you recognize that it is a potential limitation of any model.

INT: That's an interesting but that's good. So, I’m going to show you some examples of modelled data now. And I basically just want to see firstly if you're able to interpret them and then whether you find them useful. So I’ll just share my screen now. It should pop up let's.

INT: say this is.

DEU18: actually see it unfortunately, you see, you said start sharing your screen, I can actually.

INT: show the model.

DEU18: There we go.

INT: how's it come up.

INT: yeah okay good so it’s a raw probability distribution and a variation model for the six spot Burnett moth. So, you've got it on a national scale at the top here and then around a five-kilometre point in Wallingford at the bottom. Just focusing on the national scale first. Are you able to interpret the one on the left?

DEU18: Yes, so just generally, I can see areas of high and low distribution quite is over here. Let me see be quite easy to see Scotland’s not looking so great.

INT: That.

INT: that's great and then I'll just scroll down, so the one on the left is around point in [place].

INT: Again, is that clear and are you able to interpret that.

DEU18: Well, I think that yeah just in terms of identifying hot spots for high probability and low probability distribution is pretty clear.

INT: yeah but.

INT: so the one on the right is a variation model, so this one is perhaps a bit more complex.

INT: I returned separate this one at all.

DEU18: I don't know if it's my screen thing up bit it looks very generic pink.

INT: Now yeah it is.

DEU18: So there's not much I’m getting from that.

INT: Now, and I’ll just give you a description from the modelers who passed on to me. And so the variation is calculated using a sample of the background data to give a range in the predicted probability. So for this model, it was run 10 times on 10 different data samples, which include some points where there a target species records and someone where there are records for other lepidopthera species they've recently combine the probability of variation data, so they are able to show areas where there is both high probability presence and high uncertainty.

Does that make it a bit clearer with that description?

DEU18: Suppose it does, I think I don't really see too much I would definitely go with the map on the left in terms of identifying distribution. I don't see, it might be my lack of understanding of the first time that I just think that if I wanted to understand the general probability of presence, I’d definitely go for that one on the left rather than right now.

INT: So that's great I think what's important is because, obviously, this has got to be understandable for a range of audiences so if you find one not useful at all it's important to know. So that's great is there any additional information that you would add to these to perhaps make them a bit more useful.

DEU18: And, well, I suppose it would be interesting to know the habitats in which this uses. It must have been found to get some sort of correlation between presence and habitat type.

INT: Any more comments you wanted to make?

A nice.

DEU18: thing.

That.

INT: Just share my screen.

INT: answered all the questions that that I intended to ask us was anything else that you want to tell me so.

DEU18: I think that's pretty great, and I suppose just in terms of understanding more about your research, more generally, and what you're doing with it and where you're going with it.

INT: yeah sure um so.

INT: We’re in fact having a meeting later this afternoon with everyone else on the decide project so we're looking at trying to improve modelling for diversity data users and in terms of the specific audiences that we're intending to work with I think it's a wide range. So, we're hoping so, for example, I’ve been talking to with these interviews and transformational organizations environmental consultancies ecological consultancies local authorities and so there's a wide range of organisations, I don’t think there's one particular direction that we're focusing on. But later today we're having a bit more of an in-depth discussion of where to take this the next steps. And so, after that I can definitely let you know and inform you with a bit more information about it, if you'd like.

DEU18: that'd be great.

INT: And so that's just leads me on to my final question is, would you be interested in participating in the next step in terms of co designing the modelled data.

DEU18: um if you think my input will be valuable happy to help.

INT: yeah brilliant.

INT: Well, if there is anything else you wanted to talk about and yeah that's all the.

DEU18: best of luck with everything.

INT: Thanks, very much for taking your time.

INT: yeah.

INT: Take care.