**Australian Chief Plant Protection Officer webinar\_ Biosecurity Commons**

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51m 45s

**Collins, Susie** 0:03  
So welcome everyone. It's great to see so many people online.  
We will get started. It's great that we've got more people joining us and the interest in these webinars and in what we're presenting today is of interest to you all.  
So today we're talking about the Biosecurity Commons. My name is Susie Collins, and I'm hosting today's webinar on behalf of Gabrielle Vivian Smith.  
Before we get into it, I'd first just like to acknowledge the traditional owners and custodians of country throughout Australia acknowledge their continuing connection to the land, waters and community. I want to pay our respects to the people and the cultures and the elders, past and present, and extend that recognition to the traditional custodians of the lands on which we are all gathered on today.  
And to all Aboriginal and Torres Strait Islander people attending today's event, so welcome everyone. And as I said, it's great to have such a fantastic turn out.  
In terms of some housekeeping, if you can please turn off your video and mute your microphone to improve bandwidth. There will be an opportunity to ask questions at the end. And of course, we encourage you to have your videos and microphones on for that of course. And you can also use the chat function for any questions that you might have. The webinar itself is being recorded and it will be available afterwards.  
And as I said, there will be an opportunity for questions. But please, as we work through the webinar today, if you think of a question, please add it to the chat as I said.  
So today's webinar is about Biosecurity Commons, which is an online Open Access and shareable risk analytics platform for estimating and managing biosecurity risk.  
The platform has been developed specifically for the Australian biosecurity sector through a collaboration between the Centre of Excellence for Biosecurity Risk Analysis (CEBRA), the Department of Agriculture, Fisheries and Forestry, the Queensland Government and the Australian Research Data Commons and our speaker today is Doctor James Camac.  
James is a senior research fellow and chief investigator at the Centre of Excellence for Biosecurity Risk Analysis, which sits within the University of Melbourne and he is also the programme manager for Biosecurity Commons. James has a PhD in ecology from the University of Melbourne, and extensive experience in developing risk analytics to inform and support biosecurity risk management both within Australia and also for New Zealand.  
So James's role as the programme manager in Biosecurity Commons means that he's responsible for ensuring that this particular platform develops, cutting edge risk analytics that meets our current and future needs and really helps support our biosecurity decision making across all levels of government and industry. So welcome, James.  
It's fantastic to see you here and we've got a really great turn out.  
I'll hand it over to you.

**James Camac** 4:43  
Thanks, Susie, and thanks everyone for inviting me to do the first webinar for the year.  
So as I've been introduced already, I'm a chief investigator in the Centre of Excellence for Biosecurity Risk Analysis and I'm the programme manager for this new Whiz Bang Analytics platform called Biosecurity Commons.  
So what I'll start off with is a very, very broad introduction. In fact, I'm going to actually play a little video because listening to me speak for the next 25 minutes, I thought, well, you know, we can show a video and actually see parts of the platform.  
And then I'll go through some of the use cases that we've been developing with the platform and how we've also used that to make additional improvements to the platform based on user experience.  
So biosecurity globally, well, biosecurity risk, I should say globally is increasing and so there's been a multitude of published academic literature showing across various different taxonomic groups that we're getting almost linear increases in new introductions of new different taxonomic groups to different regions, and this is largely driven by a significant increase in global human movement and trade, but also changes in species distributions driven by changes in climate and fragmentation of habitat.  
  
And it's the government's globally have been tackling this increased risk in a variety of different ways. The Australian Government in particular has invested significant amount of resources into better data harnessing capabilities such as the development of the auspice.us, check surveillance database or the National Aggregation Surveillance database for plant pests and diseases, we've also been investing in developing biosecurity alerts in the Atlas of Living Australia. And we're also doing more work at the border and in terms of surveillance technology such as the development of these new 3D X-ray machines, the use of Edna approaches such as the IMAP pest programme. But we're also investing heavily in trying to increase stakeholder and community awareness of biosecurity threats.  
And so we're developing, Plant Health Australia and others have been developing pest and disease image libraries and a variety of other different apps that have been used to basically upskill, the general public.  
Big problem is that we're investing a lot in all these different data harnessing capabilities and this community awareness and new tech, but we are missing something or have missed something and that is a standardised system for developing risk analytics for decision makers and part of the reason this is the problem and I'm going to put myself in this problematic group.  
Is that a lot of the underlying risk analytics have been developed by academics.  
And so they write these nifty papers that get published in the higher impact journals in complicated math, behind a paywall that's generally inaccessible to the decision makers that actually need to use these tools.  
Also, like I'm trained as a quantitative ecologist. Deciphering this maths takes me a long time to do it. It's going to be even harder for someone that's not naturally dealing with this type of problems on a day-to-day basis. And so this is ultimately led to limited access of cutting edge data, and invariably that's led to national inconsistencies in terms of how these different risk analytics can be used or if they are used. And because of that, because they often involve some form of coding or programming or running statistical models, there's limited sharing of these risk analytics between government agencies or even industry. And all of this ultimately leads to suboptimal outcomes in terms of how we manage risk in Australia, but also globally.  
So this is basically the pretence of why we developed this platform called Biosecurity Commons. And so what I'm about to do now is just play a short little video that will provide a very high level overview of what the platform is, what it does, and also show you some on platform graphics as we step through it.  
You can actually see it on the Biosecurity Commons web page but broadly the key thing to take away from the video is that it has a series of six to seven different underlying analytical workflows. These workflows were designed in collaboration with end users, so we ran user requirement workshops to work out what the key underlying analytics that were required to make various decisions. So broadly that species distribution models for thinking about climate suitability of a threat risk mapping which integrates something about climate suitability but also habitat preferences or host availability and also propagate pressure coming in via different pathways.  
We've got surveillance design for thinking about where to put your surveillance based on a risk map or other risk information.  
Proof of freedom, so given that surveillance design, how many times do you need to revisit a location to reach a predetermined level of confidence that you want to use to declare area freedom? For example, we've got impact analysis, so Biosecurity Commons has access to the 16 asset layers that were developed in collaboration with DAFF and ABARES and CEBRA.  
As part of the value model that estimated what the value of the entire biosecurity system was, but you can also create your own on platform as well and then we've got this other workflow called resource allocation that's very, very new and that's basically an opportunity to basically simulate spread impacts and controls.  
So if you really want to have an understanding about how effective a given method might be, you can actually run that on platform as well.  
The one thing the video didn't actually touch on at all is that the platform has been purposely designed to be quite modular. So as I pointed out, it's got a series of modular workflows or what we call work risk analytics or workflows. So as I've pointed out, species distribution risk, making dispersal modelling, often when we're developing these various different models, input outputs of one model might be used as an input for another.  
And so we've purposely designed the platform to be modular to allow people to have the maximum flexibility to use the models and the underlying analytics that in the way they want. So for example, right often a species distribution model will be fitted to estimate the climate suitability of a pest, right? That can then be directly fed into a risk map to inform one of the three geographic barriers for establishment potential.  
Which is climate suitability, the other two are you still need to know something about the habitat preference preferences or the host availability of a threat. And so there's a variety of different spatial datasets that can be used to inform that, including the Australian land use layer that IBES creates. But we've also got the National Vegetation Information System and there's other data sets that are available.  
So a risk map can be useful for informing where iIn the landscape is a first establishment most likely to occur, particularly if you're thinking about pathways of arrival coming into the country and then that in turn can be used to seed a spread model. So rather than going, I'm going to assume it starts in, you know, some suburb of Melbourne. We can go statistically sample that based on our understanding about the geographic risk derived from a risk map, and so then we've got a spread model and a spread model can then be used to inform a surveillance design. So how quickly do we want to detect something given a particular spread scenario and then with that surveillance design, then we can work out how many times do we need to revisit these locations to reach a predetermined level of confidence so we can declare area freedom. So all these models can be the outputs of a species distribution model, can be fed into a risk map. A risk map can be fed into a dispersal model. A dispersal model can inform a surveillance design. A surveillance design can inform our confidence that a pest or a disease is absent from the region, so it's really, really modular.  
And that's done deliberately. So a question that I often get asked is who are the intended users of this platform?  
So the research data commons commonly invests in these platforms, particularly for researchers and universities trying to upskill our researchers. But this platform was largely developed with government users and industry and environmental groups in mind. So we're really interested in developing analytics that can be used to inform policies and operational management of threats, it's also useful from an industry perspective to have a better understanding about what's the risks to their assets and how they can best manage.  
Universities and researchers do use the platform. We use it at the University of Melbourne as a way of teaching master's students how to think about risk and how to estimate risk. So it's directly useful to upskill the next generation.  
But more or less, universities and research centres develop these new cutting edge risk analytics and what we see Biosecurity Commons as is basically a pathway to actually make that underlying cutting edge research usable by practitioners. So it's a pathway to adoption.  
So how have we been engaging?  
We, as I've said before, we've used a variety of different mechanisms. It's a multi pronged approach. So when we were developing the platform we were running user requirement workshops to understand what were the needs of our core users. In this case government and industry. We had academics also feeding to that because they have a better understanding of some of the cutting edge risk analytics that could be used on the platform.  
And then what we've done as we've developed that platform, which so the prototype of the platform was released in May 2023, all right, and we've done that with a really small group of developers. So we're talking about 5 people with me as a project manager. They've done all this work over the last couple of years. And so what we've then since moved on is now we want to develop real world case studies, right? And so that's been working with governments at all levels, so Commonwealth government, state governments and even local governments.  
We're also working increasingly with industry and I'm going to touch on some of these real world case studies in a second. Of course, we've still done things like conferences, live demonstrations, presentations such as what I'm giving today and we're increasingly using social media newsletters and YouTube to create how to videos and other resources for the users.  
But one of the case studies that we've been developing, so over the last 18 months, we've been working on a variety of case studies with local and state government agencies and these broadly encompass things such as the red imported fire ant spread modelling and surveillance modelling around Brisbane.  
We've been doing some exotic fruit fly, risk mapping and surveillance design and proof of freedom for fruitfly.  
In the past we've done some spread modelling of a weed parkinsonia down creeks for NSW DPR. We've done some extensive risk mapping and we're planning to move into surveillance design and simulating spread and controls for bufflegrass with Landscape SA. We've done some work on yellow crazy ants with QDAF and some of the local government areas around the Whitsundays.  
And we've currently got a project with the Tasmanian biosecurity crew that want to utilise the historical surveillance data coupled with a new surveillance data that they're in the process of thinking about collecting to help inform area freedom, so a proof of freedom - shows that there are a variety of different projects there. These workshops have largely been done interactively with what I would call champions within each of these different organisations. So it's not simply us going and building these models, we work actively with these individuals.  
So it's a bit of a capacity building process while also getting these new risk analytics onto the platform that then can be shared with other organisations. And then at some point get reviewed by relevant experts in the field.  
More recently, we've been doing a lot of work with industry, so we've got two major industry funders of Biosecurity Commons at the moment, one of which is AusVeg and working with AusVeg we're developing a series of risk maps for different threats that they've identified as significant threats to Australia's vegetable industry, and these include leaf miners, BMSB, tomato viruses and largely this is focusing on doing national risk mapping, some spread modelling and some surveillance design.  
Particularly for thinking about where not only governments should be thinking about doing early detection surveillance for these threats, but where industry should consider focusing some of their resources in trying to determine the presence or absence of a threat.  
We've also just started another industry set of workshops for different sets of case studies. So this is with the Forest Wood Products Australia. So this is working on Japanese soya beetle, giant pine scale brown spotted needle blot and exotic strains of Myrtle rust. And again this is largely spanning risk mapping some spread modelling, some surveillance design and even some impact analysis, depending on how far we get through with these and this is again like all the other case studies, working with relevant experts on these taxon, these different taxon in parametizing these models on platforms. So the focus is less on how do I model it right and the focus is from experts point of view is what's the underlying biology that they think is most important that we need to ensure is encapsulating these risk analytics.  
But they're the case studies that we're directly working on.  
The other bit of case studies that are being done that have been done separately to say myself and my team is independent work that's been done by different organisations.  
So I know that QDAF has been using the platform for doing a variety of risk mapping and spread modelling and surveillance design area of freedom.  
My understanding is that it's been used in some of the varroa response in Queensland, but also some of the Toby virus surveillance modelling up there. I know that ABARES have been using the platform independently to model changes in the potential extent for national priority weeds under climate change.  
That's basically using the SDM SDM functionality on the platform.  
DAFF itself is using the platform for some risk mapping and some spread modelling of priority exotic threats. We've done some work with the GRDC for estimating some biotic and climate suitability models for Khapra beetle and spotted stem borer as well as some population dynamic models there and more recently we've also been working with the National Environmental Science programme, so the NESP programme, on implementing some of their operational spread models for particularly for Gamba grass, so this little animation to the right is basically an output from a published spread model on Gamba Grass in the Litchfield National Park. And so we're now taking that published literature, right, implementing it on the platform. So then park rangers and other land managers can actually use these models to help inform how they manage these populations.  
So one of the things that we've got out of doing all these various case studies is now we're starting to develop an extensive library of examples on how people have approached doing different types of analytics.  
This came out of the last bit of funding that we got from DAFF and basically what we've done is, because a major hurdle for using this platform is people often don't know where to start.  
And so what we've done is we've created what we call workflow templates of basically completed work.  
Worked examples that a user can then go through and they're basically got a little library of them and then they can see, for example, oh, someone's got a template model for this particular xyiella vector. You can then recreate that on platform, right? And then you can make modifications to that based on either applying it to a different thread.  
Right or by updating some of the data inputs into that model or adding additional risk information into those risk maps. And so what we've currently got is 38 completed workflow templates on the platform. These include six species distribution models, 9 risk maps, 10 different forms of dispersal models, 4 surveillance designs, 4 proof of freedom projects, 3 impact analysis, and two resource allocation. So the resource allocation model again to so you understand is really a big simulation model. The most complicated that's available on the platform. For thinking about how do you model spread control impacts all in one massive work analytical workflow and so we've got these worked examples and we're going to continue to build these examples as they become available. And so we're working with different groups that eventually they want their risk maps or their spread models to be publicly available. We can make it available on the platform, if they so choose that then others can go and find it and recreate it and then use it how they see fit.  
There are a series of extensive libraries available on the platform to try and get around that difficulty in, but for users that are not traditionally modellers going well, how do I approach this problem right? And so there's a variety of different examples.  
We've also used these use cases to get to receive feedback from users and make the necessary changes on platform as we go to make sure it meets the needs of our common user. Most of the users to the platform are not going to be, you know, high flying wizards in various statistical analysis and part of the challenge that we have is we need to make sure there's enough information that people understand what they're doing on the platform.  
And so part of what we've been doing is we've got these little interactive tool tips that come up and then explain what this particular parameter means. So for example, in the bottom left here, we have quite extensive array of types of spread models that can be run directly on the platform from something as simple as presence only model to something as complicated where you're fitting a population stage-based matrix model. If you're going for those complicated models, people are going well - What do I put in this matrix? And so we've got little, you know, demo examples.  
Walk people through this is what the decisions are that you're making on the platform, and we're gonna continue to refine that as users engage with the platform. We've also improved some of the data cleaning functionality on the platform. So species distribution models, a lot of people pull data down from Atlas of Living Australia or for invasive species, global biodiversity information facility, a challenge with those types of data is that they're often full of all sorts of weird and wonderful.  
And so what we've done is we've basically implemented some work that's came out of the species distribution literature for basically testing the occurrence records for whether they're likely to be real, or not. So for example, we've got routines on the platform for testing whether someone's potentially just used the centroid of a country or a capital city for specifying their lat longs of a species record that happens a lot - and you don't want to use those records in a species distribution model. There's others, for example, another big problem that we often see is that rather than put the lat longs or the coordinates for the location where this the species was actually found, they'll put it based on the museum where they're found. You know, they've found it in their records, right? We can cross reference those records against where the known institute, museum or biodiversity institutions are, and we can flag them and remove them. So there's a variety of tests that we can directly do on the platform, that tries to weed out those potential problems with running models such as species distribution models. We've also got better visualisation. So for example, in spread models, often you need to think about different types of distribution functions for specifying how far something may potentially spread. We can visualise that directly on the platform, which you can see in the top right.  
And of course, we've been improving the visualisation on the platform continually as people are adding new data sets and you know, DAFF in particular was interested in the particular way of visualising some risk map data on the platform. So it's all interactive. We've developed animations for our spread model so people can actually see what it actually means rather than just having these static maps. So yes, what you can see in the bottom right corner and we're increasingly trying to further up skill biosecurity users of the platform, by adding additional support documentation directly on the platform. But that's in a digestible, not too technical language. So it's plain English. We've got quick start guides, which is step by step guide for thinking about how you use these analytics. And we're increasingly in the process of developing little how to videos on each of these workflows that we've got and we've done that because different users prefer different media to absorb their information, and so we're really trying to make this a platform that's easy to use, but at the same point we need to make sure people understand what they're doing.  
So a lot of stuff's been going on. I don't have too much more, given that the time limits nearly up. But I will point out that most of the platform to date has largely been based on invasive species, biosecurity and plant health biosecurity. They're very much interchangeable.  
Basically the underlying analytics is also particularly useful for animal health disease. So for example, some of the platform work has been used to inform the distribution of vectors or the activity of the vectors. So we've applied similar logic to lumpy skin disease, but there are some additional EPI tools that we don't currently have on the platform. And I just want to highlight that we have a secondary project that's led by a colleague of mine, Chris Baker. It's called the HASTE project. It's also funded by the Australian Research Data Commons.  
It's a collaboration between CEBRA and the University of Melbourne. We're also developing new tools, that have been developed in the animal health space for forecasting animal diseases in an emergency response setting, we're also utilising that project to do other additional things that have direct benefits to the plant health side. So for example, using historical incursion data that estimate what the likely dispersal distance kernels could be, that can then be used in those spread log.  
We're also as part of that project, developing additional ways that will ultimately be become available on the platform.  
So as I probably haven't stressed this enough, particularly for those that couldn't hear the video the platform has access to 60,000 or so spatial data sets, a lot of it is climate related, but there's also land use, data sets, the national Vegetation Information System data sets, we've got API connections to a variety of like third party providers such as BIF, Atlas of Living Australia and we're going to increase those API connections to other sources such as Geoscience Australia, but there's also going to be special layers that are developed by academics that should become directly accessible on platform. So one example from this particular project is that there has been a machine learning project that's been trying to use aerial imagery and satellite imagery for identifying where all the chicken farms or the pig farms are across Australia acknowledging that most state government agencies don't have a complete list of what those are. That information can then be used to inform risk mapping and surveillance designs going forward.  
So a variety of different data sets, as I said, are available on the platform. We have extensive analytical functionality on the platform that is basically generalised enough so you can fit something simple to something that's much more complicated I guess. It's really modular that is sits there and we're going to continue to refine this, particularly over the next few years.  
So I've just seen a question pop up and this is the slide I'm gonna say so that the first thing I want to point out is the key benefits of the platform is it's currently open to absolutely everyone. Anyone can join it. If you're a university user, you can directly access the platform using the Australian Access Federation log in. So you just log in with the university credentials. If you're a DAFF user or a Commonwealth user, you can log on using the Commonwealth government's single sign on, which is called Vanguard.  
So you can just again use your government credentials if you're from an organisation that is supported by Vanguard and if not, you need to convince them to sign up to Vanguard, then you can directly log on using your government credentials. If you're neither of those two, you just need to register an account and we'll create one for you, so then you can access the platform.  
Its available to everyone, all right. And when I say everyone, I mean everyone. It's available in New Zealand, for example, are interested in using it to do it, to do their own risk mapping in their context.  
Right. So it's not just Australia, it can be actually used anywhere in the world. Most of the data sets today are Australian because it's a platform that's predominantly being paid by Australia.  
On the platform it's easy to access the data and the cutting edge analytics. You don't need to be a programmer and the one thing I'll point out is when you run these models, if you want to, you can run them locally because it outputs the relevant R scripts and the input parameters and it has all the API connections. So you can just run it locally if you wanted to.  
The real benefit is that it also forces collaboration and sharing between organisations. Too often we've seen, and I've seen it myself. Victoria, for example, asked me to develop a risk map for Fruit fly and then QDAF will go and ask someone else to do the same thing, and there's a lot of reinventing the wheel. And here we've got an opportunity to basically stop reinventing the wheel, right, and combine resources and foster that collaboration for developing various types of analytics that ultimately would potentially lead to nationally endorsed frameworks for not only the analytics, but also the models that are used to inform operational and policy decisions making.  
So I think that's all I have. Is there any questions?

**Collins, Susie** 38:31  
Thanks, James. I really like seeing the visual outputs and seeing you know how things change. So for me that's particularly exciting before I open it up for questions. Owen, there's already one in the chat. So please, if you have a question, either put up your hand or into the chat. But before I open it up, I had I suppose a couple of questions. So you talked a lot about user experience and making sure it's easy to use. And as I said, some of those visualisations that I quite like, go to that.  
But I wonder is there any trade off or balance you had to do with that user experience and it being accessible from people who aren't quantitative analysis and statisticians and the actual underlying analytical model and the integrity of that analysis side?

**James Camac** 39:19  
Yes, it is. And so, one of the one of the things that my team's been really, really good at right is.

**James Camac** 39:28  
So, we constantly get asked by academics, can you put my tool on there, right. And so what my team and I'll put a shout out to Sean Haythorn here, he's really tried to take all these various disparate models and try and generalise it. So basically what we've got is a system that you know you can fit something really really simple. So if you're thinking of a spread model for example.  
We could fit a presence only spread model that has a lot fewer parameters in it, and so it allows users to kind of build up their understanding by starting off simple and then building up to those much more complicated models.  
It is always a trade off and it's hard to get perfect because there's a wide diversity of skill sets available on this, and that's part of the reason why we're trying to, utilise all these different media to try and upskill and one of the things that I'm really keen to move forward as we're slowly moving out of the development phase and more into the engagement phase is there needs to be some focus on how do we upskill in particular state and Commonwealth government agencies and land managers as well like Parks Victoria and others on how do how to utilise these models in a sensible and understanding way.  
And so that's where the Australian Research Standard Commons in particular comes in really handy here, because that's where they've got their expertise in that space.

**Collins, Susie** 41:03  
Thanks, James. So there's a question here about the marine and aquatic biosecurity space. Have you done anything or you're planning to do anything into in that area?

**James Camac** 41:12  
So far we don't have a case study on any of the marine pest, but if you're interested, reach out happy to work with anyone and everyone, so just reach out. We do have marine spatial data sets on the platform.  
So, but most of the work to date has largely been terrestrial. That's partly because the use cases have been funded for terrestrial use cases, but if you're interested, reach out. I'm happy to work with anyone and everyone.

**Collins, Susie** 41:44  
Thanks James. And those of you who need James's contact details, if you don't have them, let us know through that webinar e-mail address. There's a question here about capability to include biophysical modelling. So if you've tested the performance of an organism under different temperature, humidity ranges and how that feeds into the outputs and the outcomes.

**James Camac** 42:06  
Yep. So particularly for species distribution models. So at the moment, the models that we have available are the ones that people most commonly use, which is parallel leave models. In fact, the ones that we support on our platform is they're straightforward profile model. So we've got the client match algorithm which is ABS Staffs algorithm and then we've got range bagging which is another method that's been quite useful for modelling invasive species in terms of the more mechanistic and biophysical models.  
I've been in chats with people like Mike Carney, who does a lot of the work in that space and there's some potential possibilities of building those models. But today, largely the focus has been on the models that people most commonly use because these other models are even more complicated and they often require even more data sets that's often not available. And so they haven't been a priority at this point.  
But we are in active conversations with people that do develop those models.

**Collins, Susie** 43:10  
What's the future look like? Claire's asked about, how long are you currently funded for and for what sort of projects and what does the future look like in terms of management and hosting?

**James Camac** 43:24  
Yep, so we're lucky that we've got backing from the Australian Research Data Commons or ARDC, at least until about mid next year. They're already in conversations for extending that at least to June 2027.  
But this is always the challenge with running these type of platforms is that they aren't cheap, even though we've done this in a very small team of about four and a half FTE.  
The only way that we can do that is basically we've got to create the value proposition of why these analytics are actually useful for informing decisions and, where this ultimately go? I don't know. So currently we're pretty much solely funded through the Forest Wood Products, and AusVeg. And then we're there at the Australian Research Data Commons is matching those funds.  
At this point there are other interested parties. As I pointed out, MPI from New Zealand are potentially interested in doing a user case to understand how they can use the platform that's likely to come down the track, and there's other interested parties that'll do that, but where, where it'll ultimately go. It ultimately comes down to my governance and my steering committee.  
But I suspect it'll need to be some form of sustainable funding model at some point, but we've got to create the value proposition for different stakeholders to invest in it.  
But it's currently totally free and ARDC cover the cost of the infrastructure, so there's no issues with the hosting, it's just the development and the capacity building.

**Collins, Susie** 45:15  
Yeah. Thanks, James. So it will be interesting to see how it, how it continues to evolve and what does happen next with it, I suppose.  
Another question for me. Looking back, I mean we've had, you know, individual models for a while and on different platforms and like what, what are you most proud of or what do you think is the biggest value that you've achieved in Biosecurity Commons in this space?

**James Camac** 45:42  
So, the underlying risk mapping functionality is one that I'm particularly proud of. So that was work that I originally started with Mark Stanway and you, Susie. And so we originally, I developed it as a standard academic. I created a package and I handed it over to DAFF and then we quickly identified, that DAFF ICT wouldn't allow anything to be installed or it was a really like bang your head against the brick wall type process and that's part of the reason why Biosecurity Commons came about because we wanted to develop tools that were actually useful, but we couldn't just simply hand over code and go, run with it because DAFF's IT system really made that challenging. And then the other big problem with it is I knew a lot of state government agencies wanted access to that same underlying tool functionality, and it's particularly useful because it's useful for thinking about early detection, surveillance and it feeds into so many other different policy and operational decision making.  
So seeing that method be applied on the platform and then engaged with because that's engaged with quite a lot.  
Is incredibly rewarding, It's all well and good to create papers that are hidden behind a paywall, but for me the value is actually seeing this work actually get used and the creativity that others bring to it and their understanding about other different types of risks in the biosecurity sector and basically running with it.

**Collins, Susie** 47:23  
Yeah. And I think the work you're now currently doing with AusVeg and Forest Products Association, you know they probably have seen that as well, and want to invest.

**James Camac** 47:33  
Yep.

**Collins, Susie** 47:36  
And Harrison makes a point in the chat there around, you know, knowing why they're useful is in terms of the insurance sector. So yes, hopefully support that.

**James Camac** 47:42  
Yeah.

**Collins, Susie** 47:48  
Sorry, I'm just reading Andy's comment.  
Is oh, species that are not described.  
So how will you deal with that?

**James Camac** 48:02  
It depends on the workflow that you're running. So if you were to do something like a species distribution model, if there's a species that's not described or there's not enough information about it, often what people would tend to do is they'd use an exemplar that they believe is close enough to it. That's often what's done.  
But yeah, that's not something that we directly tackled, right? We just provide the underlying functionality for doing that. But how you approach that really kind of depends on the context of what you're trying to apply it for, and whether it's appropriate for the decision making, that you're trying to apply it to.

**Collins, Susie** 48:42  
And I suppose on a similar vein to the configuration or the refining of the different parameters is that I assume that's relatively simple to do something you do have this odd thing that might not quite fit.

**James Camac** 48:55  
Yeah. And that's exactly why we're creating these templates - we call them, but they're worked examples that you know, people can go, all right, it's very similar to this. You know, I want to understand how, you know, for a spread model. All right, it's going to spread in a similar way. Let's recreate that. Then you can use the literature or any other information you got to tweak those parameters or data inputs.  
Or for that particular thread, rather than just continually starting from scratch because one thing that I've worked out is if you go oh, there's a nice analytics platform. Off you go. People go Oh, I don't even know where to start. And so really developing this and we're going to continue to do this develop this library. Some of them will be based on real world examples and some of them will be you know hypothetical examples like we've got a spread model which I call the Jimmy virus right where I’ve just put some incursions around Ballarat and I've just simulated spread from there just to show what different functionalities available on the platform.

**Collins, Susie** 50:03  
Well, that sounds fun, but, and I hope that Jimmy Virus doesn't spread too far. Are there any last questions from anyone?

**James Camac** 50:09  
Yeah.

**Collins, Susie** 50:16  
So I just want to give a big thank you to for you to come up for you in coming along James and talking about Biosecurity Commons. It is really good to see where it's got to and what it can do now. And again I like all the visuals, they're nice and shiny and and pretty, but even better that they're giving users what they want and supporting our biosecurity, that we really need that. It's strong evidence base for and strong analytical foundation for. So it's really great to see that.  
So our next webinar, I think the 16th of April and I think you get me talking about the national priority plant pest list. So we'll send out invitations for that, but do come along.  
Do get involved in these webinars, and if you've got any feedback about the sort of things we talk about or the like, feel free to send it through. We want to make sure these things are useful and helping share knowledge and share what's happening in our fantastic plant biosecurity system. So get in touch and thanks everyone and thanks again, James.

**James Camac** 51:28  
No problems and if anyone is interested and doesn't know where to start, send me an e-mail, for information on the Biosecurity Commons platform. Happy to work with anyone.

**Collins, Susie** 51:40  
Alright, thanks all.