

## SciCitMonth 2023 Presentation - 10 Minutes on Zoom 2 April 2023

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Kiaora koutou I'm Siobhan Leachman. I'm a New Zealand citizen scientist, wikipedia, and digital curator of biodiversity data.

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I digitally volunteer for multiple biodiversity projects including transcribing specimen labels and field notebooks, tagging camera trap images, and also taxo tagging scientific illustrations. I get out into nature and take part in collecting biodiversity data via the app iNaturalist. But today I'd like to talk about how I undertake citizen science through Wikipedia.

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I spend time writing Wikipedia articles on New Zealand species, particularly our endemic moths. I gather all the research I can find about a species and summarise this in a wikipedia article. The Wikipedia article can include information such as the original scientific description of the species and any name changes that might have taken place. It may include an image of the species. It may provide information on similar looking species and how to distinguish between them. It is likely to include where in New Zealand the species can be found, as well as information on its behaviour, including its host species and species that prey on it. The article may also give information on whether the species is at risk or endangered.

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Now, my motivation for spending my time undertaking this work is that Wikipedia articles are openly copyright licensed and such A LOT of internet search engines, websites, apps and citizen science groups reuse these articles. Take for example the internet search engine Google. Once a Wikipedia article is written about a species it very often becomes one of the top results when someone is searching for that species on Google.

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The text of a Wikipedia article is also reused on multiple websites. The one that motivates me the most to do this work is the reuse of these articles by iNaturalist. Hopefully everyone here will be familiar with iNaturalist. But just in case you are not, iNaturalist is a website and app that empowers citizen scientists to take photos of biodiversity on their smartphones and then upload those observations onto the iNaturalist website. Other citizen scientists then come along and attempt to identify what has been observed, ideally to a species level and confirm that species observation to a research grade.

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Once the observation in iNaturalist is identified to “research grade”, the image and the data attached to it can be aggregated into GBIF, the global biodiversity information facility. GBIF is an international network and data infrastructure funded by the world's governments and aims to provide anyone, anywhere, with open access to data about all types of life on Earth. Scientists, policy makers, citizen science groups and more, reuse that aggregated data to obtain knowledge about species and also to help make policy decisions about biodiversity.

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If an Wikipedia article exists for a species, iNaturalist ingests that article and places it in the “about” tab on the iNaturalist species page. This reuse then helps citizen scientists to correctly identify the species in the field and also assists those identifying those observations to research grade on the iNaturalist website.

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The Wikipedia article therefore plays a part in ensuring the data on iNaturalist is of good quality and in turn that aggregated data about that species in GBIF is also accurate. And good quality data plays a part in obtaining better policy decisions about conservation and preservation of biodiversity. And THAT is why I spend my time writing articles.

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When creating a species Wikipedia article I'm always keen to make sure it has great images. A picture really is worth 1000 words when helping folk to correctly identify species. In order to add an image into a Wikipedia article that image has to be available in Wikicommons. Wikicommons is the media repository that collects together openly reusable images both for possible reuse in Wikipedia and also for anyone wanting to reuse those images for any purpose.

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For an image to be placed in Wikicommons it has to either be in the public domain or openly copyright licensed by the copyright holder for reuse. If an image is in copyright, the copyright holder has to licence the image under one of three creative commons licences. The image has to be licensed CC0 license, Creative commons attribution which is also known as CC BY or creative commons attribution share alike CC BY-SA.

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Now I'm lucky in that many museums and natural history institutions in New Zealand openly licence their images, either on their websites or when they upload their images and data into GBIF. So when I'm writing a Wikipedia article, I make sure that I upload some expertly identified images, sourced from natural history institutions, into Wikicommons. Then I reuse them in the Wikipedia article. On the slide you can see some beautiful openly licensed images of specimens that have been expertly identified and made available for open reuse by the New Zealand natural history institution Maanaki Whenau Landcare Research.

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And the great thing is that once those images are added to Wikicommons I can not only reuse them in a Wikipedia article, I can also reuse them directly in iNaturalist. I can curate the images in the iNaturalist species page and add into it those expertly identified images obtained from Wikicommons. Again this can help citizen scientists correctly identify the species in their iNaturalist observations.

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And of course the iNaturalist users themselves have the option to openly licence their images in iNaturalist. If they do so I can then reuse those openly licensed research grade images that citizen scientists have uploaded to iNaturalist. I can add them to Wikicommons and then to the Wikipedia article. Which is fabulous because iNaturalist images tend to show the species while it is alive as opposed to the preserved specimens in natural history institutions.

Now at the moment the default licence in iNaturalist that is placed on observation images is the Creative Commons Attribution Non Commercial Use licence. This licence is NOT an open licence. Images with this licence cannot be reused in Wikicommons. So I'd like to encourage anyone here who contributes to iNaturalist to consider the copyright licence they release their images under and to think about openly licensing them for reuse.

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The easiest way to change the licence settings in inaturalist is to log into your account on either your laptop or on the internet browser on your phone. You then go to your account profile, use the account drop down menu and pick account settings. Then go to "content & display".

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You then get to choose the licence under which you release your observation data, your images and your sound recordings. If you do decide to change your reuse licence, consider updating the licence of all your existing observations by ticking the box below and remember to press save.

I've licensed all mine under the most generous terms possible that is the CC0 licence. Anyone can use anything I upload into iNaturalist for any purpose, including for commercial use, without asking my permission or having to credit me. But I recognise this licence may not suit everyone. If you want to be credited choose the Creative Commons attribution licence. And of course if for example you are a professional photographer who makes money from your images you may choose not to change the default licence.

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Thank you to those who are considering openly licensing their data and images. If you do decide to change the default, your images may end up in Wikicommons and may be reused in Wikipedia articles for the benefit of everyone. I encourage all citizen scientists to think about how they licence their data, images and generated content for reuse. The more open you are the more likely it is you create a virtuous cycle of reuse and help improve knowledge for everyone.