

# Dr Maren Wellenreuther - Curious Minds, He Hihiri i te Mahara

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## Dr Maren Wellenreuther

Maren is passionate about understanding the mechanisms that generate and maintain biodiversity in nature. Her research is rooted in evolutionary ecology, and she works to integrate genomic methods with field and experimental approaches to address basic and applied questions in biology.



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### **What do you do on an average work day? He aha tō mahi ia rā, ia rā?**

My work days are never the same. This is part of the reason why I love my job. It never feels repetitive or boring. Most days, I get to think about science and help navigate projects. The projects in my group are quite diverse and span across aquaculture and fisheries. I do not get

too much time for lab or fieldwork these days, or to run analyses, which I used to enjoy. I do love to see others developing and growing though, and this gives me great satisfaction.

I also have three children which means once I get home I have to focus on them, which is a great way to decompress after a long day.

**What did you study at school? And after high school? I ako koe i te aha i te kura? I aha koe whai muri i te kura tuarua?**

Since I was a child, I had an interest in the world around me. I have always been fascinated by the diversity in form and function of species around me, and I often came home with ripped pants or dirty hands.

Biology was my favourite topic at school, but I also liked arts and German. I knew from the age of 15 that I wanted to study biology, so I didn't hesitate at all to enrol myself into a biology degree at university after school.



**Was your study directly related to what you do now? He րrite tրu mahi i taua wր ki tրu mahi o inրianeinei?**

Since leaving school I have either been studying to become a biologist or I have been working as a biologist. I started out being really interested in the ecology of species, and in later years developed a deep interest in the evolution of species. Evolutionary thinking has given me a more holistic view of species, and a greater appreciation for the diversity of life on Earth. I use genomics nowadays to gain insights into the processes that shape life, and I think it provides researchers like myself with a bit of a crystal ball that can be used to go back in time. This is because an individual's DNA holds an extraordinary trove of information not just about the individual, but also about its ancestors.

**What would you like to share with young women who are thinking about their career choices right now? He aha āu kupu hei āwhina i ngā rangatahi wahine e whakaaro ana ki tā rātou mahi mō te wā kei mua i te aroaro?**

When looking at a CV, many people think that the achievements they see listed were clearly planned out and approached in a strategic way. I think that the younger generation should always keep in mind that CVs don't feature the things that did not work out. I also think it's important to note that some things in life only happen because of chance. Some doors will open for you because you are at the right time and the right place. I think that varied paths can lead to success and the road to success is not always straight. Ultimately, it is important to follow your own curiosity, and even so the path towards this goal will not always be smooth, trust your own instincts because there will be magic in it.

**What are some of your career highlights so far? He aha ngā painga o te umanga e whāia ana e koe?**

A career highlight for me has been the pursuit for a better integration of genomic technologies into the management and sustainable use of aquatic species. In 2016, I organised with colleagues an OECD-funded symposium at the World Fisheries Congress in South Korea, and then compiled, with our invited speakers, an extremely diverse and detailed summary and synthesis paper (the supplementary material for this paper alone is 172 pages), entitled *Harnessing the power of genomics to secure the future of seafood* (Bernatchez, Wellenreuther et al. 2017). My passion for this topic has since become deeply embedded in my research career, and is something that I think will stay with me.



**Why do you believe engaging in science, technology, engineering and maths (STEM) – whether it's working in the field, studying it or just educating one's self around the issues – is important to New Zealand? He aha a STEM (pūtaiao, hangarau, pūkaha, pāngarau) e whai take ana ki Aotearoa?**

Our world is facing many challenges related to a changing climate, changing environments and a rapidly growing human population. Research in the STEM fields, resulting innovations and new technologies have massive potential to mitigate human impacts on our global ecosystem. Aotearoa New Zealand, with its diverse and often unique natural resources, has a lot to offer towards this goal. Only by integrating diverse STEM research fields, and the learnings across the globe, we can tackle these large problems. Research in these areas should thus be seen in Aotearoa as globally significant.

### **Why is it important to have more women working in STEM? He aha te take me whai wāhi ngā wāhine ki STEM?**

Even though women show immense interest in the STEM fields, this isn't reflected in senior positions. I have long been an advocate for women in science and was the coordinator of the women network at Lund University in Sweden for several years. I have lectured and written about it (Wellenreuther and Otto 2016, Wellenreuther, Stadmark et al. 2016), and also in 2016 edited a special issue in evolutionary applications on women's contribution to basic and applied evolutionary biology. The overarching goal of the special issue was to celebrate the outstanding achievements and contributions of women scientists, and I will be forever grateful I have devoted my time to this and helped to produce a volume of which I will be forever proud.

*Maren is the Science Group Leader of Seafood Production at Plant and Food Research in Nelson, where she heads the marine fish selective breeding program, using genomic breeding approaches to domesticate native species and diversify aquaculture production beyond introduced species. She is an advocate for applying genomic tools to inform fisheries management and enjoys the mix of applied and fundamental research-based around animal evolution. Whenever possible, she employs complementary approaches at the genomic, phenotypic, ecological and environmental level.*

### **Cited references**

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