



**WG4 webinar for scientists, practitioners,
managers, and decision-makers on
genomic & biotechnological
opportunities for conservation**
June 22nd, 2023 15:00 CET

**Dr Maud C. Quinzin
Project Manager
Ocean Discovery League
Brussels, Belgium**



Rats on islands - technological approaches

Abstract

The series of presentations fits into the G-Bike perspective to bridge conceptual advancements made by academic research and conservation needs experienced by practitioners on-site.

In this presentation, we will start by highlighting how genomic advances can improve conservation-aimed monitoring and interventions, both in-situ and ex-situ. Then, we will dive into an example where the field of population genetics/genomics and advances in gene editing may deliver an alternative to current management methods of invasive rodents such as the Norway or brown rat (*Rattus norvegicus*) and the ship or black rat (*R. rattus*). In particular, these species threaten insular ecosystems and were involved in the extinction of many endemic plant, reptile and bird species. The eradication of invasive rats from several islands led to ecosystem recovery successes but such eradication programs are challenged with larger and inhabited islands as well as by cultural and

ethical issues. We will explore how gene editing presents potential solutions to several of these challenges and if/how such technological development could be applied to other invasive species.

Biosketch for Dr Maud C. Quinzin

Her work centers on sustainability and proactively addresses the biodiversity crisis, while she explores approaches that support social and environmental justice. Evolutionary and conservation biologist trained in western science, she is learning about traditional knowledge and practices with local and indigenous knowledge holders to collaboratively propose holistic remediation against environmental conflicts and threats. She is notably looking at how technologies developed for the exploration and healing of the living world can influence human societies and how diverse societies influence those technologies that span efforts from the control of invasive species with gene editing to the exploration of deep-sea ecosystems. By weaving scientific developments of different knowledge systems using a biocultural approach, the projects she develops seek to better understand ecosystems and guide the development of transformative technologies and practices.