ESAI Postgraduate Researcher of the Year 2020 – Runner-Up Samuel Ross

Samuel R.P-J. Ross, Trinity College Dublin
Understanding the consequences of global environmental change for ecological dynamics and resilience.
Supervisor: Dr. Ian Donohue

My research focuses on developing and applying novel methods to understand how global environmental change (e.g. urbanisation, climate change) affects ecological resilience. I conducted a field experiment in a Japanese stream to reveal how aquatic heatwaves impact the resilience of plant and animal communities, and I found that top predators provide insurance against these extreme climatic events. Another aspect of my work focuses on developing acoustic monitoring as a tool for real-time monitoring of ecosystems. I use data from an acoustic array across the island of Okinawa to test the performance of acoustic monitoring techniques, and to reveal the impact of urbanisation, human noise pollution, and typhoons (another example of an extreme climatic event) on the island's birds and insects. Taken together, the different strands of my research provide new ways to think about ecological resilience and human impacts on the world's ecosystems, as well as novel tools for monitoring biodiversity.

2019: Sam on site at his aquatic heatwave experiment in Hokkaido, Japan.

2017: Sam attaching an acoustic monitor to a tree in Okinawa, Japan.