



REPORT

Green Foundation Ireland

invites you to an evening online TALK
with **James Corcoran Hodgins**

**Digital photography as a non-invasive
method of sampling Atlantic puffin chick
diet at multiple Irish colonies**



Venue: **by Zoom** *(details given after registration)*

Wednesday 5 March 2025 – 19:00 to 20:00

Digital photography as a non-invasive method of sampling Atlantic puffin chick diet at multiple Irish colonies

THEME

Atlantic puffins are in decline across their global range, and are one of two species of seabirds nesting in Ireland found to be in decline. Diet is thought to play a key role in the species population ecology, though little is known about the diet of Irish puffin chicks.

Our talk will look at research which aims firstly to assess the feasibility of using digital photography to survey puffin chicks diet at multiple Irish colonies, and secondly to investigate inter-colony variation in puffin chick diet.

ABOUT OUR SPEAKER

James Corcoran Hodgins



After developing a keen interest in climate and biodiversity policy during as an undergraduate in International Relations in Dublin City University, James has been involved in the green movement since 2014.

Having worked in Outdoor Education for a number of years, he recently returned to study, and completed an MSc in Applied Coastal and Marine Management in University College Cork.

ABOUT OUR FACILITATOR

Ciaran Monahan

Ciaran, who is a member of our Management Team at Green Foundation Ireland, is a postdoctoral researcher in University College Dublin. His research interests include education, environmental risk assessment, and food safety. He has completed a number of works for GFI, including an analysis of sustainability topics in the Leaving Certificate, as well as event hosting.

ABOUT OUR TALK

Ciaran Monahan welcomed everyone and introduced **James Corcoran Hodgins**, who began by introducing his work as part of his Masters in UCC, where he observed puffin populations using digital photography to observe the diet of puffin chicks provided by their parents. This work focussed on constructing the diet of Atlantic puffin chicks, which is of benefit in understanding the impact of overfishing on species population dynamics.

James emphasised that Atlantic puffin populations worldwide have declined since 2002, and seabirds are among most threatened groups of vertebrates (43% are threatened worldwide). Overfishing in particular is placing pressure on their populations. Seabirds are considered good bioindicators, meaning they can be used as a proxy to assess the health of ecosystem overall – particularly puffins, who carry their catch in a very eye-catching, visible way.

He continued by stating that puffins are ground-nesting species, which means their eggs are particularly vulnerable to species such as brown rats. Puffins have small wings for their size, and they have high energy flight costs, meaning that foraging is particularly demanding for them. Puffins forage far away from their burrows, meaning that sampling for their diet, both invasively or non-invasively is difficult. Provisioning for chicks however, is highly visible, with the iconic image of fish in the puffin's bill being easily visible.

Typically, sampling the diet for chicks is done using nets, which means disturbance and stress for the birds, as well as losing certain prey items. Digital photography has been demonstrated as an efficient and non-invasive method for observing chick diets.

James discussed the challenges he met in carrying out this work. Some issues with the process were that certain photography set-ups did not allow for sufficient resolution to observe food makeup. As well as that, some locations were difficult to access, with special permissions being required.

The Saltee Islands and Puffin Island were both examined, and a wide variation in the species caught were observed, in terms of fish species. Once sufficient photographs had been taken, James classified the catch based on previously defined categories within scientific literature on the subject. Varied groups of fish and in one instance a squid, were observed. Using the average morphological aspects of puffins and fish, the average biomass of each catch was calculated.

In future, James hopes to survey new areas such as Skellig Michael, as well as continuing to use digital photography to survey these sites and to develop greater clarity into the lives of these beautiful, charismatic birds.

The Q&A session afterwards was a very engaged discussion, focussing mainly around the life cycle and behaviour of puffins.

You can [access our video of the talk here](#).