

Praeger Grant Scheme 2021

Final report

Submission Date May 26, 2022

1. Title: Mr

First name: Daniel

Surname: Connaghan

2. Email:

3. Year awarded

2021

4. Title of project Survey of Breeding Red Throated Diver in Donegal

5. Summary of your findings including what you consider to be the key achievements from your grant. This should include, if applicable, any impact or applications of your findings.

This study of the rarest breeding bird in Ireland took place over two breeding seasons. It started based around known breeding lakes, however by the end I was surveying lakes across the entire county. I personally visited over 160 lakes, and made repeat visits on a subset of the most likely of these. A good visual overview of the survey effort I have put in, and the spatial spread of the lakes, can be found in the attached map. I faced many challenges, from inclement Donegal weather, land access issues, to car and equipment troubles. There was, of course, the obvious difficulty of finding a mobile, secretive, and incredibly rare bird in a vast landscape.

These difficulties notwithstanding, I discovered pairs of Red Throated Divers on three previously unknown lakes during the breeding season. Most significantly, one of these new pairs is present on land which is already owned by the NPWS. This makes the possibility of protection of the nest, and the creation of artificial nest islands which greatly improve reproductive success, highly possible.

Previous years have only found 6 breeding pairs of Red Throated Diver. The lakes I found therefore represent a new potential 50% increase in breeding territories for the bird. The lakes I found are significantly spatially separated from known breeding territories, indicating they are likely birds which have not been captured by previous survey efforts. Considering the birds show high nest fidelity over the course of their long lives (approximately 30 years), the potential for conservation actions targeted at improving nest success and improving the probability of their sustained existence in Ireland at these lakes is obviously promising. This is not to minimise the threats facing them - without effort the bird will likely go extinct in Ireland in the near future. The work funded by the RIA however, has helped to identify potential targets for such conservation efforts. I am liaising with NPWS to hopefully help future nest monitoring of the new sites to confirm breeding status, as such in depth monitoring was out of scope for this project.



7. a) Please tell us about any academic articles, books or other scholarly publications associated with this project, and any dissemination of your research at academic conferences, workshops or other events that you have been involved in, or plan to:

I'm working on an academic manuscript for submission to Irish Birds summarising the survey work.

I've written an article which has been published in Wings magazine, summarising the survey effort to a readership of 15k people. It is attached to this submission.

I've been commissioned for an article to Resurgence and Ecologist on the project for a readership of 35k people.

I am working on a set of essays related to the search, and linking the project to biodiversity and conservation questions more generally.

I have given 3 talks on the project to audiences in informal settings.

b) Number of articles/publications

4

c) Number of presentations/events:

3

8. Please outline details of any collaborations with national or international, or academic partners:

I have liaised with John Cromie, past CEO of BirdWatch Ireland, to combine his work on past breeding surveys of RTD with mine.

I have met with NPWS Rangers in Glenveagh National Park to attempt to secure funding to build nest platforms on breeding lakes and to inform them of my survey work and results.

I have met and liaised with members of the Corncrake Life project who have surveyed for Red Throated Diver in the past.

I have liaised with two other BirdWatch Ireland CEO's to try to secure further funding for conservation efforts for the bird, namely building artificial floating nesting platforms for them. I have identified where they are breeding - the project going forward is to protect them and prevent them from going extinct in Ireland.

Funding is currently not forthcoming, but I will continue my efforts.

10. Please tell us about any engagement activities and communication about your research (inc. public open days, public lectures, work with museum/gallery/science centre, citizen science, work with teachers or schools, interviews on tv/radio, social media projects or any other relevant activities)

I have given talks in informal settings on the project, and on the bird. They were not recorded. I mention the project in the Dun Laoghaire Library Podcast, where I gave an interview on nature writing (<https://soundcloud.com/dlr-soundcloud/the-best-of-nature-writing-with-dan-from-birdwatch-ireland>)

Link to Birdwatch Ireland article (also paster below):

[Wings feb 2022 pp12-21 RTDivers \(5\).pdf](#)



The hunt for Red-throated Diver

Daniel Connaghan goes in search of Red-throated Divers, one of Ireland's rarest breeding birds, in the wilds of Donegal



I'm lying low, frozen flat on my belly on wet sphagnum moss at the edge of a lough in north-west Donegal, watching a dinosaur paddle into view. It is my

first sighting of a Red-throated Diver, the rarest breeding bird in Ireland and one which I have splashed my way across countless wet and windy hectares of uplands searching for. The species deviated in evolutionary history from the other divers around 21 million years ago and is more closely related to an ancient and extinct prototype diver from that era than

to any more modern species. On the flat grey lake, blinking through a thick cloud of midges clogging my eyes and throat, I can just about make out its throat plumage, the rich plum-red colour of wine, and the speckled black and white back, which gives it its scientific name, *Gavia stellata*, "set with stars." A second bird appears and my pulse quickens.

The birds appeared silently and mysteriously, seemingly conjured from nowhere. The lake is not large, and it feels like a magician's reveal that two goose-sized birds have been hiding from view for the last hour, as I combed each tuft of bankside grass through my scope, hoping for a telltale scarlet eye peering from between the reeds.

These birds are notoriously skittish and easily put off from their breeding sites by

human disturbance, so I hunker down lower in the bog. This is a species which needs breeding success more than most. It is thought there are currently as few as six remaining breeding pairs in Ireland, all located in County Donegal. The population in Ireland, which is at the very southern limit of their global breeding range, persists despite habitat degradation, increased incidents of predation, waterborne pollutants and harmful changes in surrounding land use, such as poorly assessed and located wind turbines.

I am currently working on a grant-supported project, surveying for more breeding populations, hoping to find another small relict population somewhere in the wilds of the Derryneagh Mountains. The habitat requirements of Red-throated Divers reflect their dislike of human activities, and they are found in wild areas, rarely surveyed. They like other diver species, lack the ability to walk on land for significant distances, and so build their nests as close to the water as possible, on little islands on small, acidic, mountain lakes, and then spend the breeding season hoping that it is out of reach of potential predators.

The birds return to these same lakes, with the same breeding partners, over their long lives, which may stretch to over two decades. This makes a find of even a single new pair of Red-throated Divers significant, as the opportunity for conservation work around nest protection may have effects long into the future for the same breeding pair.

This species has a rich relationship to human culture. It is a bird which features in creation myths of the world from countries in the far north, in particular a story called the 'Earth Diver', which is considered one of humanity's oldest creation myths and which in



Red-throated Diver in breeding plumage. Photo: Andrew Kelly

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various forms is thought to have migrated to North America along with the earliest indigenous settlers of the continent.

In some cultures it was believed that the bird itself and to be a human being, due to its eerie calls which are like the howl of a mournful human cry. In Scotland, this cry is said to be a local omen of rain, and as its call changes when rain is coming, and can be used to predict the weather. It is a bird with an ancient relationship with us, but I believe it has something new and urgent to teach about our relationship to the natural world.

Biodiversity collapse

We are currently navigating a time of biodiversity collapse, and Irish upland habitats are being lost at a rapid pace. We are faced with choosing either the continuation of our past exploitative attitudes to the environment, or deciding to pursue a more ecologically sane society. This bird has hovered on the edge of extinction in Ireland for a century and it will certainly be lost to us in the near future. It is not prioritised for protection. I feel the bird poses unavoidable questions that humanity will need to answer if we are to reach an ecologically sustainable existence.

on Earth what is a handful of pairs of Red-throated Divers actually worth? What do we truly value when we look at biodiversity? Could the quiet serenity of the landscape be a model for a world where a spirit which truly comes to grips with humanity's use impact on the planet and the responsibility we have as human beings to engage a different future for all of Earth's inhabitants?

I don't have the answer to those questions, but I know that they are worth asking and discussing if we wish to continue to hear the wildest bird songs in the wildest places in Ireland.

■ Daniel Connaghan is the Conservation Action Plan Officer for BirdWatch Ireland's, **Cooperation across Borders for Biodiversity (CABR)** project.

■ The Red-throated Diver Survey project was funded by the **Prize for Great Natural History** from the **Royal Irish Academy**. The content of this report is solely the responsibility of the author and does not necessarily represent the official views of the **Royal Irish Academy**.

■ Acadamh Ríoga na hÉireann Royal Irish Academy



Non-breeding Red-throated Diver swims. Photo: Andrew Kelly

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