



# LAKES IN IRELAND

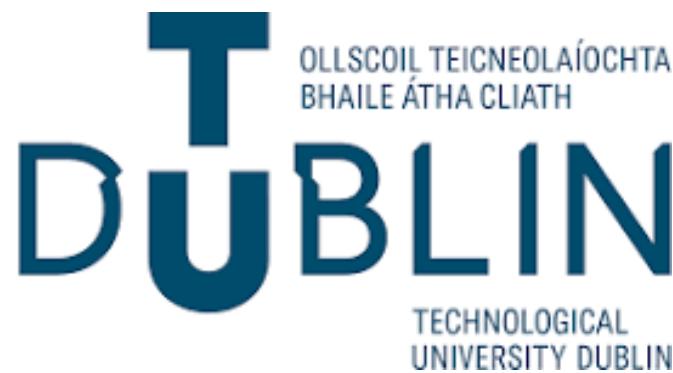
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## MIRRORS OF CHANGE

**United Kingdom and Ireland  
Lake Network**

Killarney 14<sup>th</sup> October 2025

*Kylemore Lough  
Photo: Daniel Cierpal*



**Trinity College Dublin**  
Coláiste na Tríonóide, Baile Átha Cliath  
The University of Dublin



So why the  
Lakes book?



*Clonee Lake Upper, Kerry*  
Photo: Ruth Little

# Inspiration

*Irish Geography*  
Vol. 51, No. 1 May 2018  
DOI: 10.2014/igj.v51i1.1352

Geographical Society of Ireland  
An Cumann Tíreolaíochta na hÉireann

## Natural capital: An inventory of Irish lakes

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*First received: 4 September 2017 Accepted for publication: 22 February 2018*

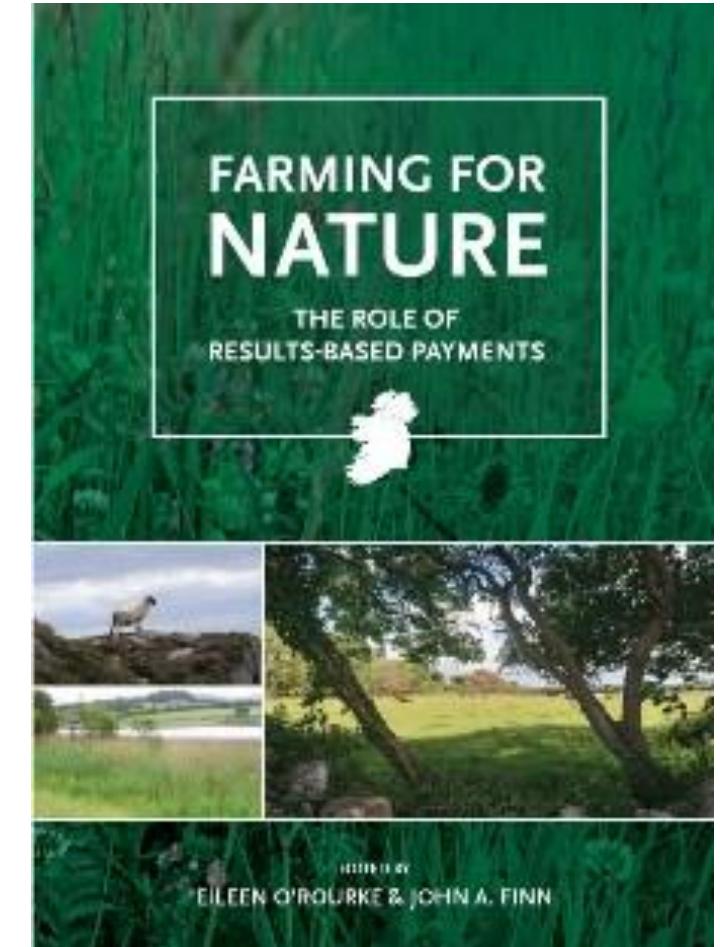
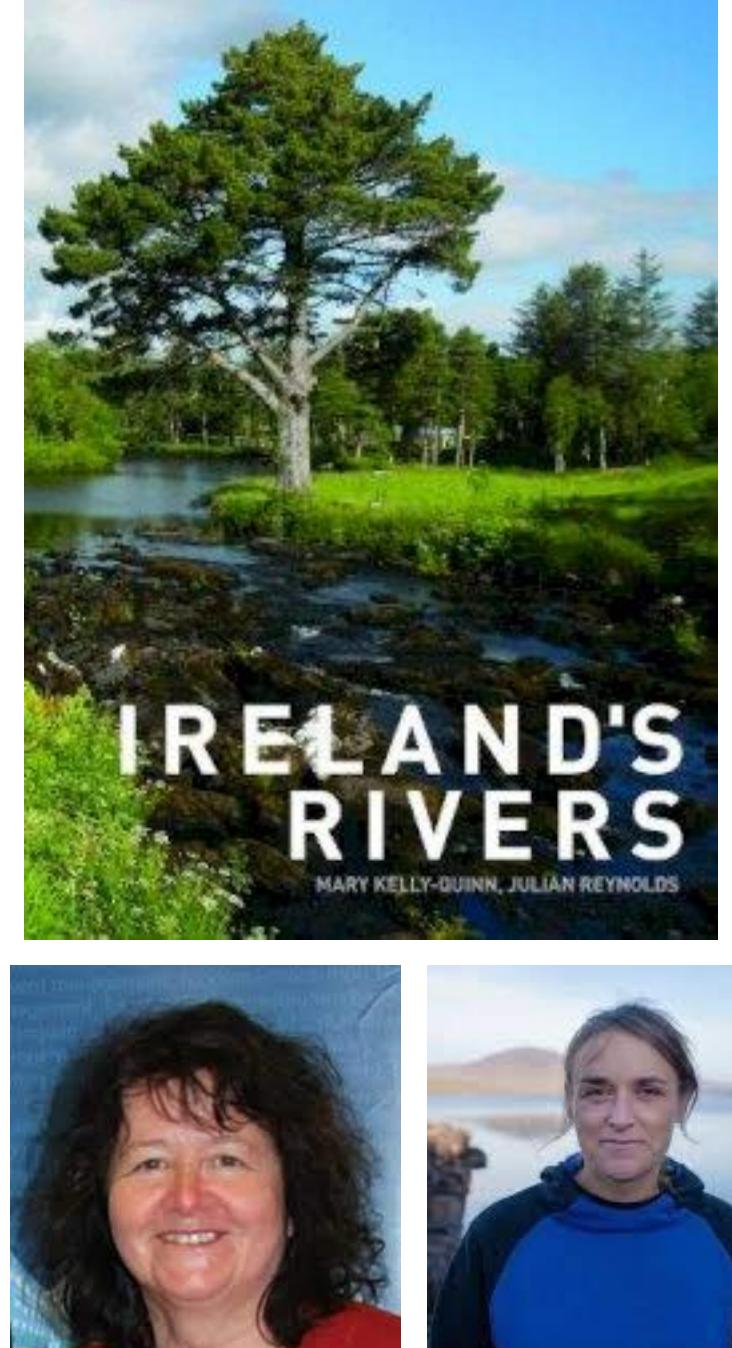
**Abstract:** Lakes are important components of our landscape and along with networks of rivers and streams provide a range of important ecosystem services and natural capital. Estimates of lake numbers, particularly small lakes, have generally been under-represented historically as they did not appear on most printed maps. Accurate calculation of lake numbers is necessary in determining realistic estimates of their collective contribution to provisioning, regulating, supporting and cultural ecosystem services. A summary of the available lake data is vital to help shape research efforts to determine catchment and lake system contributions to biogeochemical processes, for example, carbon burial, pollution, filtration, and biodiversity. This is particularly important in the context of global climate change. In light of the most recent global inventory of lakes and an increasing recognition of aquatic ecosystem services, this paper summarises the publicly available spatial data on the lake population for the island of Ireland. A range of datasets of variable spatial resolution exists for the Irish ecoregion, which suggest varying lake populations of 360, 908 and 976 lakes greater than 0.1 km<sup>2</sup> surface area. Moreover, the most detailed dataset includes 12,205 lakes greater than 0.00001 km<sup>2</sup> in the Republic of Ireland (RoI). Additional complexities exist with access to lake data for Northern Ireland (NI). This creates confusion in efforts to valorise lake natural capital for the Irish ecoregion. This summary of the Irish lake population provides context for the selection of lakes for future study and highlights the variable nature of the spatial data.

**Keywords:** lake inventories, digital datasets, natural capital, Ireland

### Introduction

Lakes have been described as temporary landscape features resulting from natural or human interferences in the drainage area (Reynolds, 1998; Downing, 2010). The number of lakes in the landscape varies with geography and the relatively permanent landscape morphological characteristics. Other influences include the more transient climatic conditions and increasingly anthropogenic catchment activities. For example, high altitude lakes often occur in glacially scoured basins and have outlets but no inlets and thus are described as headwater lakes. Valley lakes are invariably drainage lakes with

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A scenic landscape featuring a calm lake in the foreground, a dense grove of tall, thin pine trees on a grassy island in the middle ground, and a range of green mountains with low-hanging clouds in the background. The sky is a clear, pale blue.

## This FREE Digital Book contains

- 22 Chapters
- in 560 pages
- by 52 Co-authors
- Lakes in 29 counties
- All-Island

*Pine Island, Connemara*  
Photo: Ruth Little

1	Introduction - lakes a valuable resource
2	Glacial lake origins - icy histories
3	Lake sediments - invisible archives
4	Hydrology - going with the flow
5	Biodiversity in lakes - nature in balance?
6	Fish, fisheries and angling - the status quo
7	Turloughs - a disappearing act
8	Coastal lakes and lagoons – the land's edge
9	Uplands - lakes in the clouds
10	Lakes of Distinction - Habitats Directive Annex 1 Lake Habitats
11	State of Lakes - lake health
12	Sentinel lakes - chronicles of change
13	Invasive aquatic species - lake aliens
14	Lakes and Climate Change - looking to the future
15	Shore thing: lake settlement in prehistoric Ireland
16	Waves of time - lake settlement in medieval Ireland
17	Lake cultural histories - snapshots
18	Recreation and amenity lakes - wildlife and human hotspots
19	Navigating Governance and Stakeholder Engagement in Water Management
20	Dive in – engaging public participation in water stewardship
21	Lakes and local communities - deeper links?
22	Lake water futures

- Showcase all-island lakes
- Geography, science, and history
- Significant lake water issues
- Highlight research gaps

Peer reviewed

**Audience:**  
 Practitioners  
 Students  
 ENGOs  
 Academics  
 Decision makers  
 General public



# Book Sponsors



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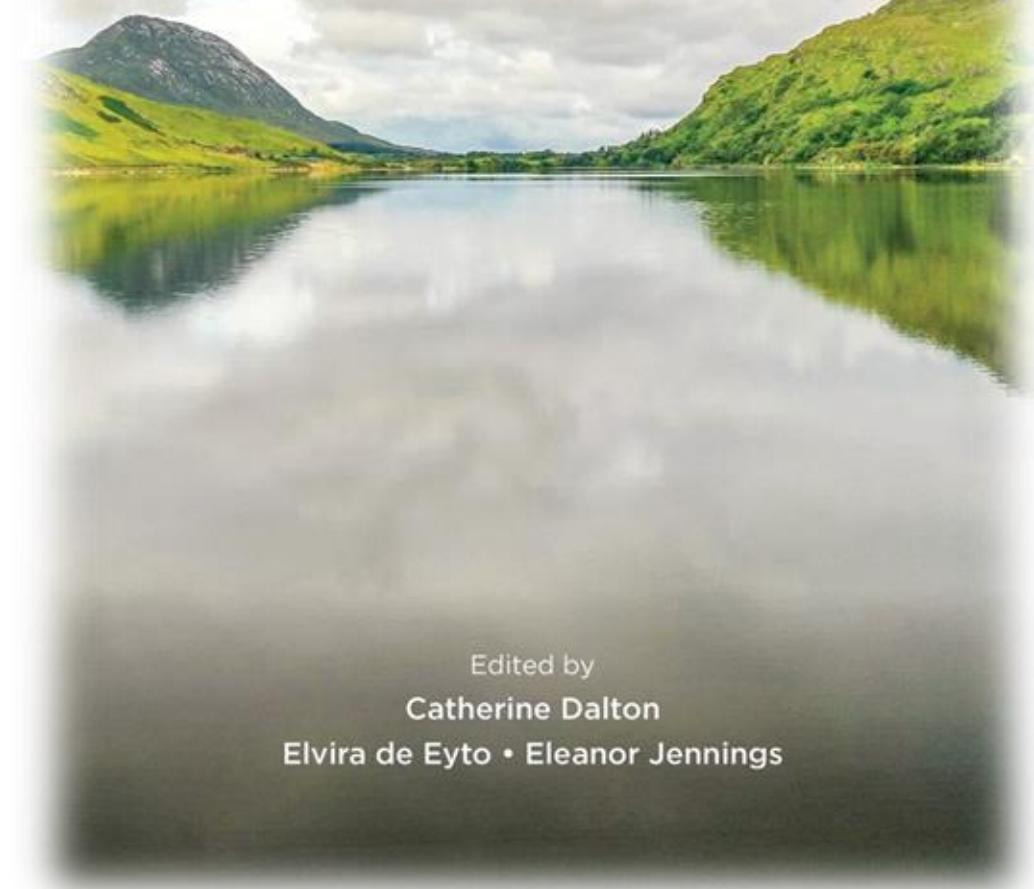
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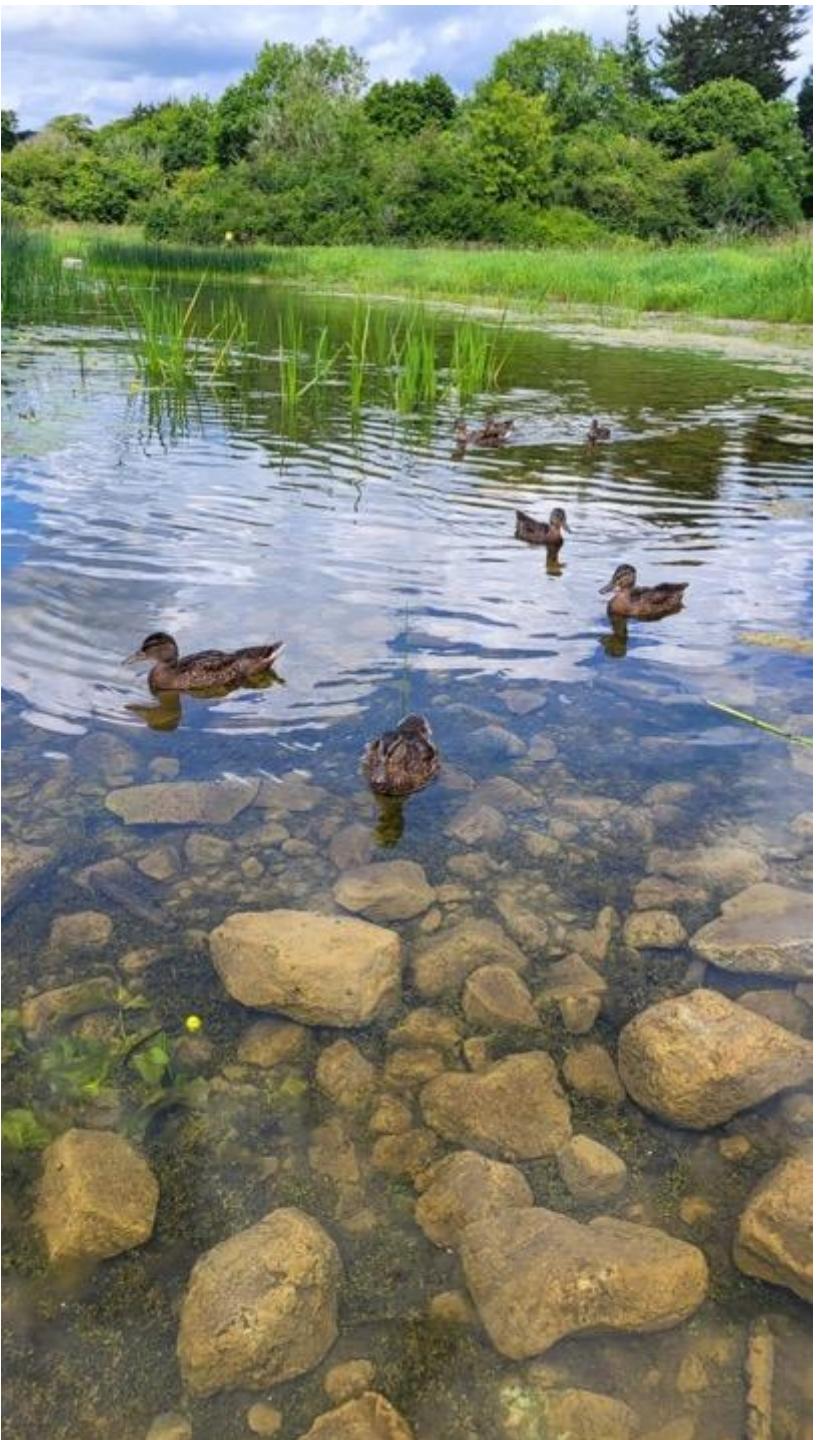
**LAKES IN  
IRELAND**  
MIRRORS OF CHANGE



Edited by

Catherine Dalton

Elvira de Eyto • Eleanor Jennings

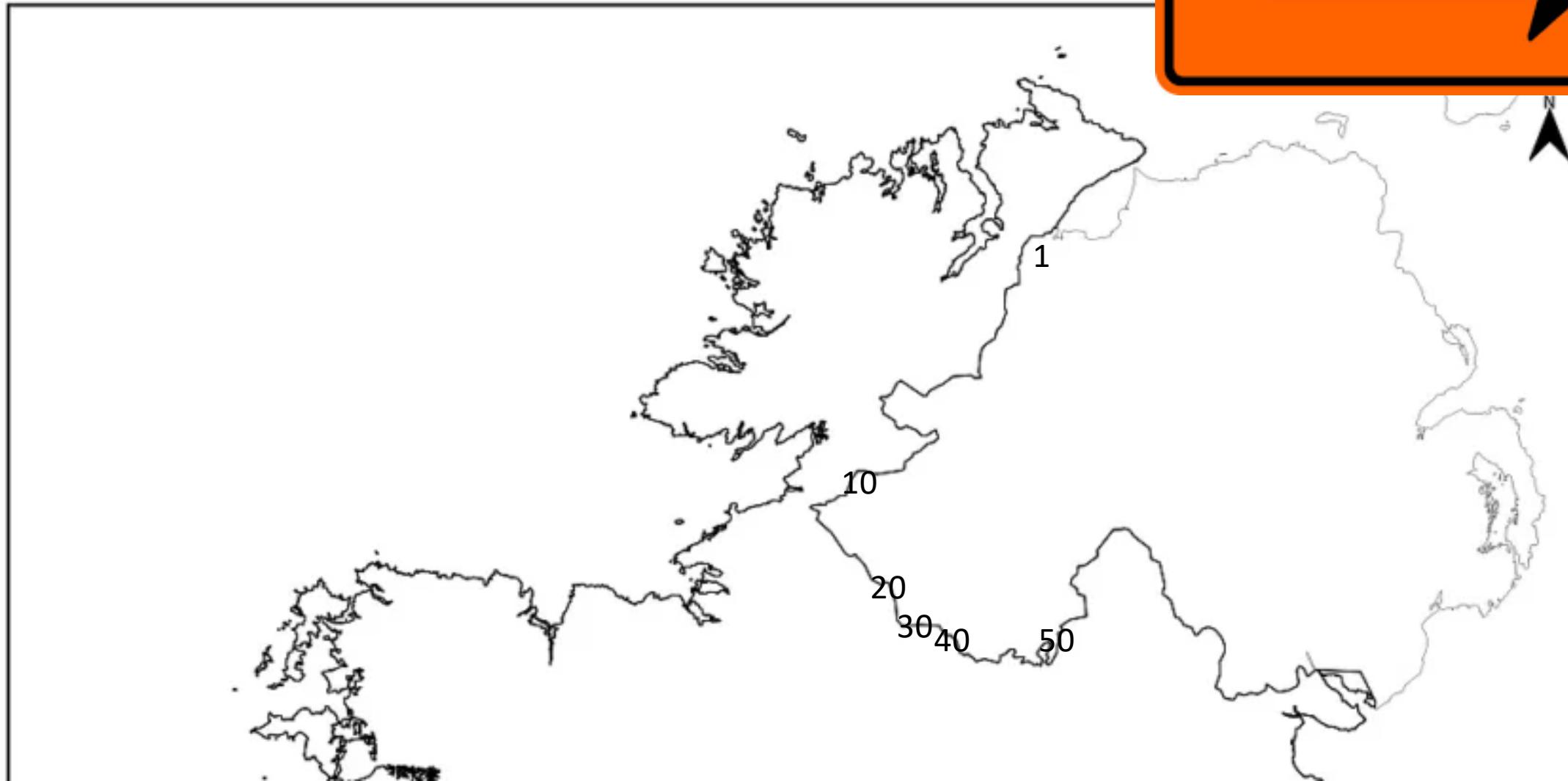


# Chapter Lead Authors



Lakes that straddle the border?

**DETOUR**



*Lough Cummeenoughter, Kerry*  
*Photo: Emer Magee*



**Past**

**Ch. 2 Glacial lake origins – icy histories**

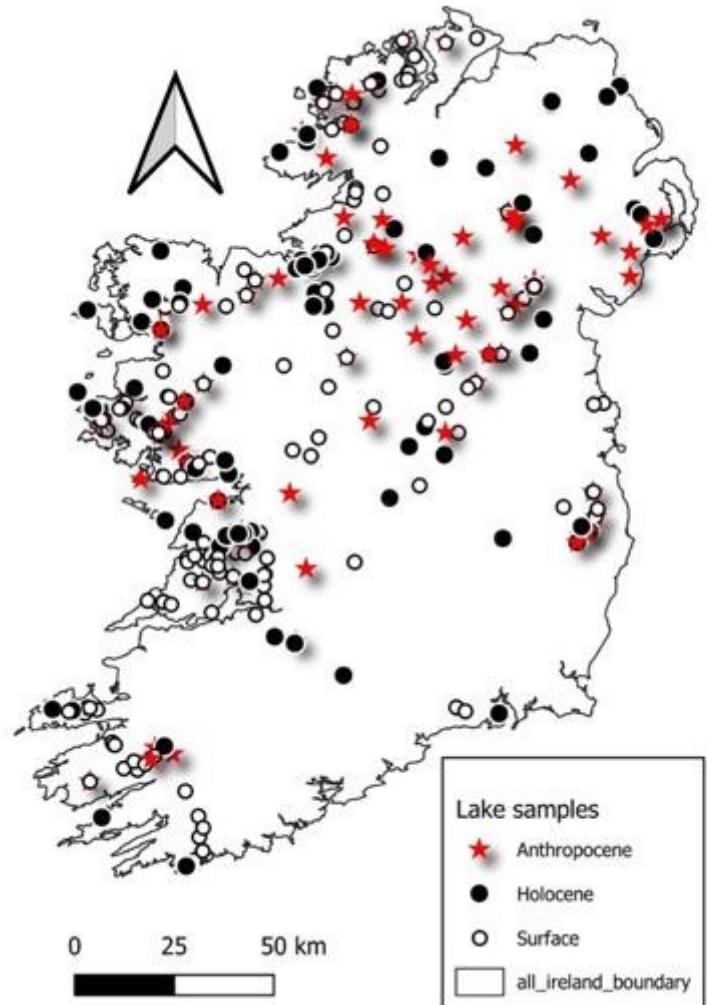
**Ch. 15 Shore thing-Lake settlement in prehistoric  
Ireland**

**Ch. 16 Dive time-lake settlement in medieval Ireland**

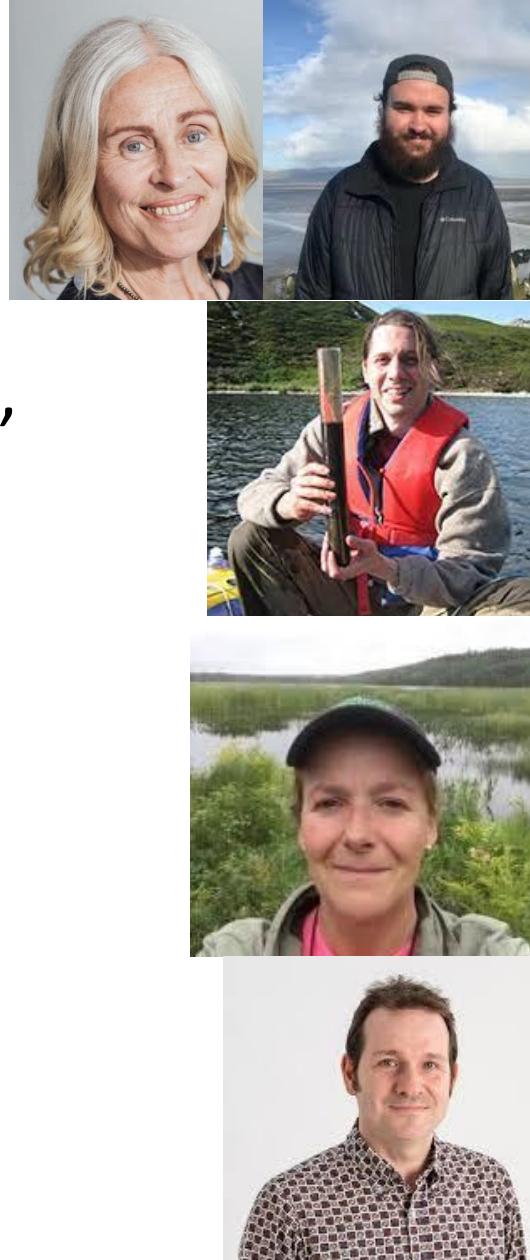




# Ch. 3 Lake sediments – invisible archives



- Synthesises work on Holocene, Anthropocene and surface sediment samples
- A modest subset of the lake population



# Gortlecka and Gealán, Clare



Holmes 2016. Lake isotope records of the 8200-year cooling event.  
*Quaternary Science Reviews.*

Watts, W.A. (1984) The Holocene vegetation of the Burren. In: *Lake sediments and Environmental History*



Weir (1993) Dark Ages  
and the pollen record.  
*Emania 11.*

# Ch. 17 Lake Cultural Histories - Snapshots



Demesne pond, Montalto, Co. Down



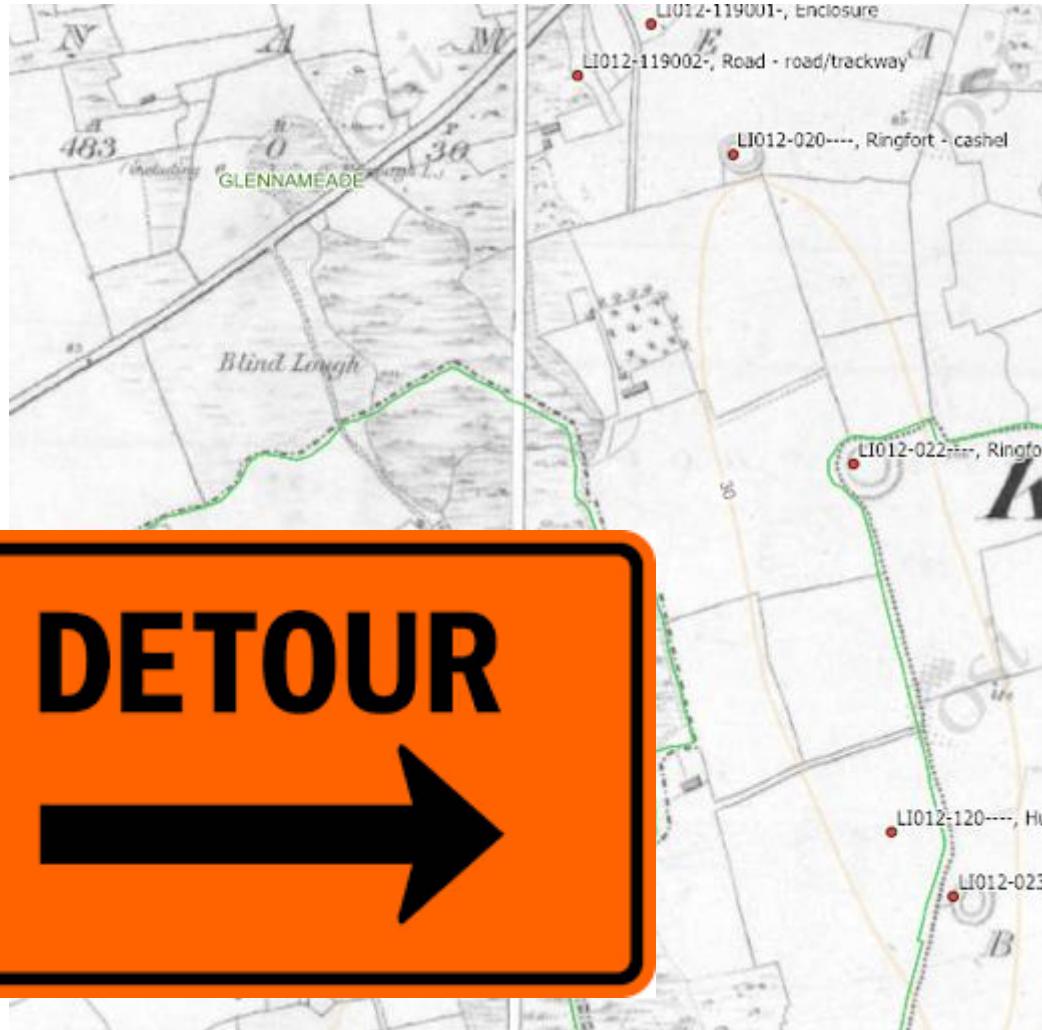
Google Maps

Reviews human interactions and cultural influences of lakes

- Mythology and folklore
- Art and leisure
- Land and lake drainage
- Demesnes
- Industrial use
- Knowledge of lakes

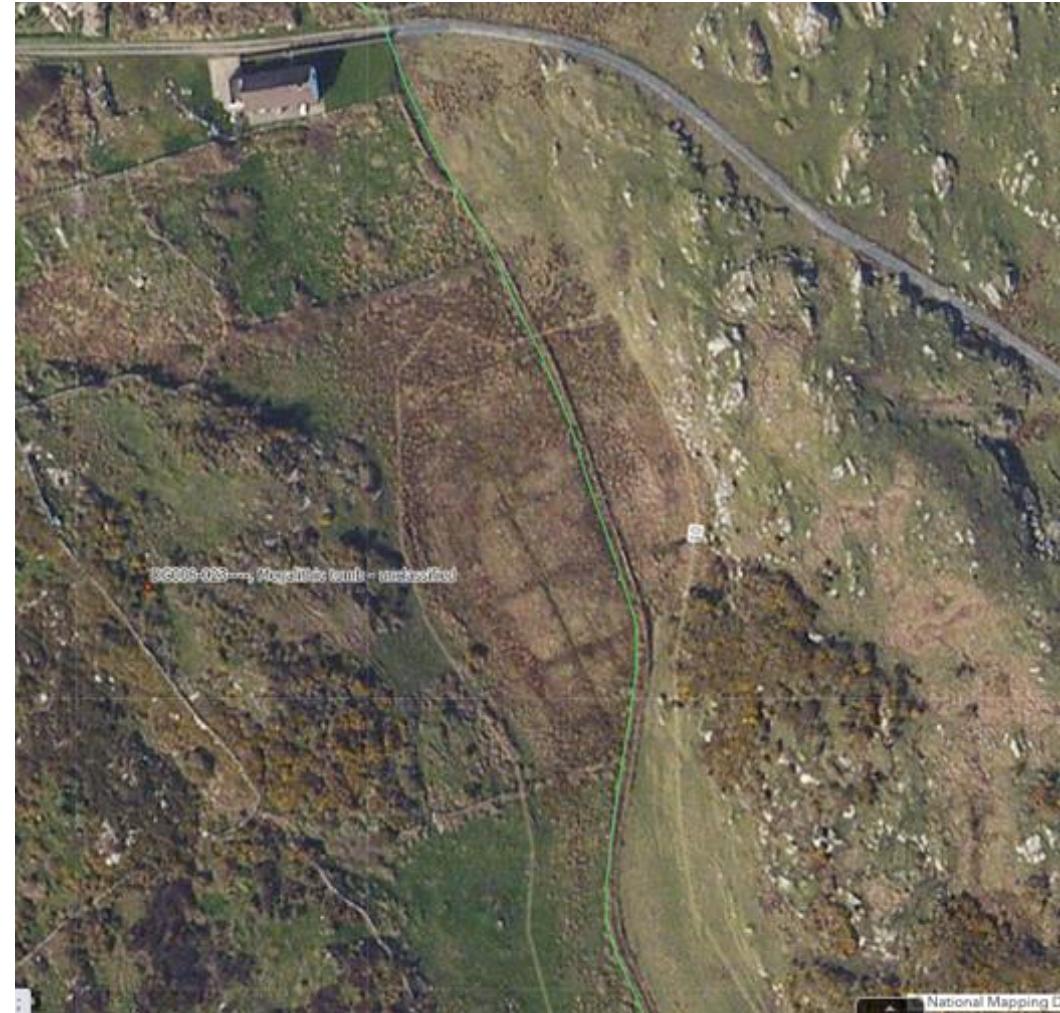
# Blind Lough, Glennameade Co. Limerick

## 6" Map First Edition



# EXTINCT Blind Lough: Rinboy, Fanad Co. Donegal

55.243612, -7.732883

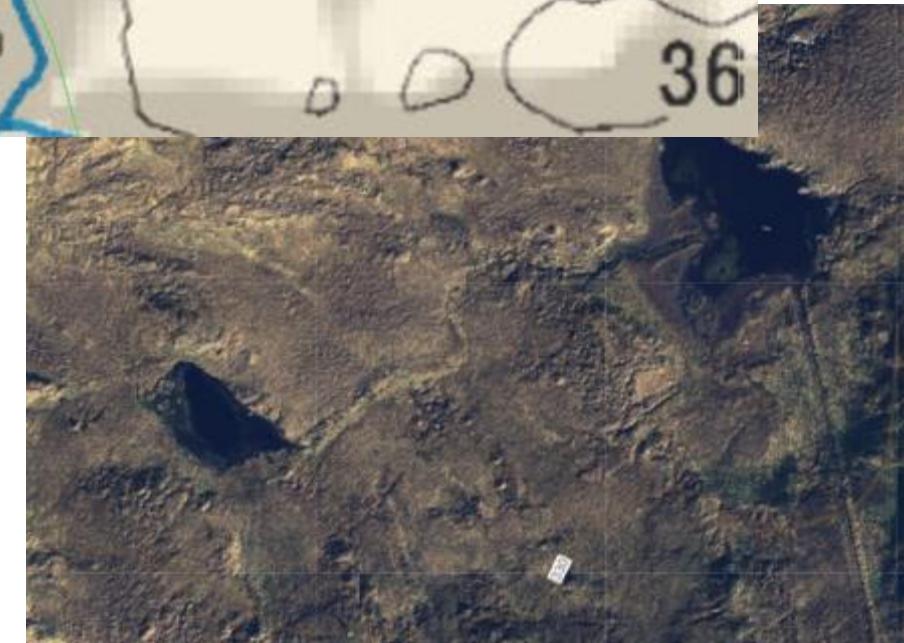


Discovery Maps

# EXTANT Blind Lough

Meenbog Donegal

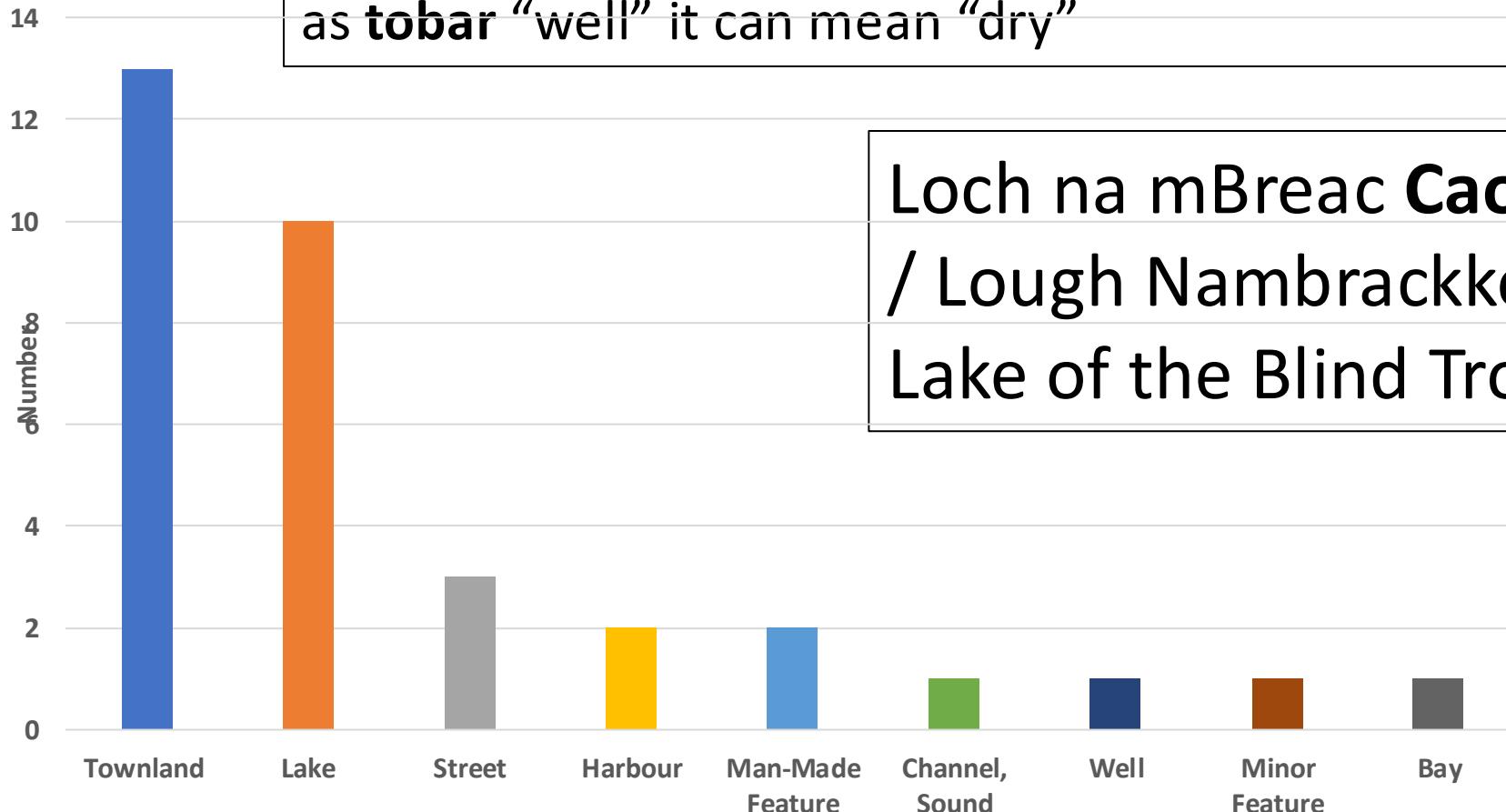
54.707189, -7.929701



# Caoch - “Blind” as Gaeilge



The adjective **Caoch** is generally explained as “blind”, but in compound with other elements such as **tobar** “well” it can mean “dry”



Loch na mBreac **Caoch**  
/ Lough Nambrackkeagh  
Lake of the Blind Trout

# Historical Newspapers - Mentions



*The lake of the red bog is a **Blind Lough** at Philipstown, west of Dundalk* (Dundalk Democrat January 17, 1903; Page: 2)

*At present the sewage flowed into a **blind lough** ; outside the asylum boundary, and from there passed through reeds and bushes: into the stream which flowed into Lough Lannach* (Connaught Telegraph March 16, 1907; Page: 7)

*An eleven-ton digger is devoured by a marsh...known locally as the **Blind Lough*** (Anglo-Celt, Friday, January 02, 1970 Page: 1)

# UK Lakes Portal – 40K lakes (only 3)

ONLINE LECTURES | Events – AICBRN | Ireland's Rivers – M | deirdre tierney epa | UK Lakes Portal | Blind Tarn, Cumbria | Google Maps

uklakes.ceh.ac.uk/detail.html?wbid=27846

UK Centre for Ecology & Hydrology | UK Lakes Portal | Map search | About | Lake name or ID | Search

## Blind Lochs

### Water body ID 27846

Blind Lochs is a very small freshwater lake located in Dumfries and Galloway, Scotland. It is generally shallow with low alkalinity and is situated at low altitude.

Surface area	2 ha
Mean depth [i]	3.5 m
Catchment area	271 ha
Grid reference	NY06088390
Elevation	57 m A.O.D.

Leaflet | © Mapbox © OpenStreetMap Improve this map

Show selected lake  Show all lakes  Show lake catchment

Parameters | Typology | Chemistry | Land cover (2007) | Biology | Connectivity

Perimeter length | 1 km

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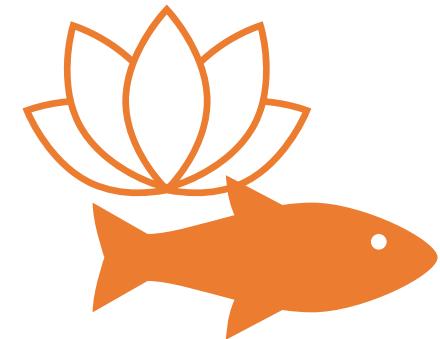
*Lough Alewnaghta, Clare*

*Photo: Ruth Little*



**Present**





## Ch. 5. Biodiversity in lakes – nature in balance?

## Ch 6. Fish, fisheries and angling – the status quo

## Ch 10. Lakes of distinction - Annex I lake habitats

## Ch 13. Aquatic invasive species – lake aliens



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*Lough Neagh*

*Photo: James Thompson*



**Ch. 4. Hydrology - going with the flow**



**Ch. 11. State of lakes – lake health**



**Ch. 12. Sentinel lakes –  
chronicles of change**



**Ch. 14. Lakes and climate  
change – looking to the future**





*Lough Bunny, Clare*  
Photo: Ruth Little



**Ch. 7. Turloughs – a disappearing act**

**Ch. 8. Uplands - lakes in the clouds**

**Ch. 9. Coastal lakes and lagoons – the land's edge**

# DETOUR





## 18. Recreation and amenity lakes – hotspots for wildlife and people





Lake Habitats – shore, shoreline, near shore, open water  
c.40% of our lake/pond population in SACs



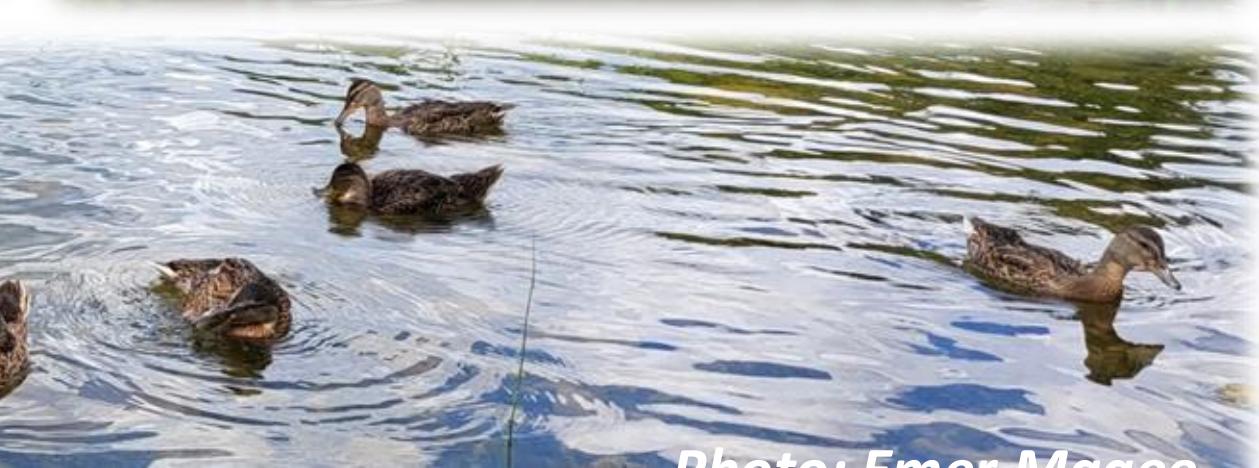
*Photo: Thomas Flynn*



*Photo: Catherine Dalton*



*Photo: Emer Magoo*



*Photo: Emer Magoo*



# Ballyallia Lake, Ennis



## Ch 19. Navigating governance in water management

## Ch 20. Dive in – engaging communities in water stewardship

## Ch 21. Lakes and local communities – deeper links



*Lough Curraghlickey, Cork*

*Photo: Ruth Little*



# Future

*PJ Blaines Lake, Donegal*  
*Photo: Emer Magee*

# Current state of lakes in Ireland?

Better than our more industrial European neighbours



Maintaining the status quo for the last 50 years



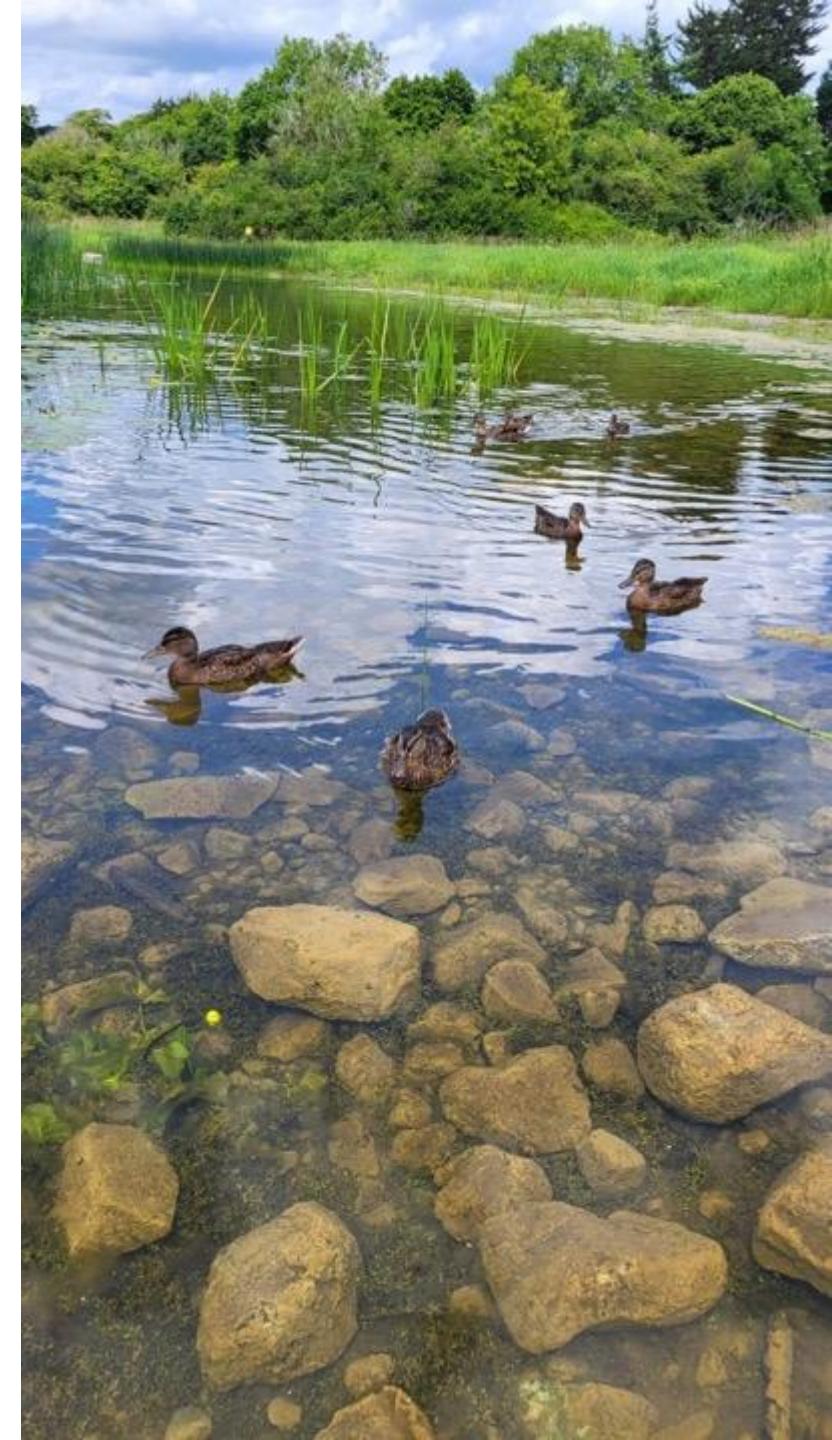
Lacking progress

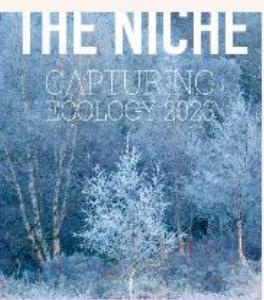


52% of lakes in moderate, poor or bad status

# Ch. 22 Lake Futures?

The chapter authors make 50+ recommendations for lake research in response to the current and future water quality, biodiversity and climate warming challenges





Issue 54:4

Dec 1st, 2023

Read the Winter 2023 issue of our quarterly Society magazine.

Open in a new tab



# Book Review

- Restricted range and number of references
- Include more Irish Historic studies to illustrate plant and animal groups
- The Quaternary and Anthropocene paleolimnologist can only ponder on whether their sites/publications are included
- Add a chapter on lowland lakes of the Carboniferous central plain



## Lakes in Ireland: Mirrors of Change

Edited by Catherine Dalton, Elvira de Etyo & Eleanor Jennings

### Open access

It took great courage and leadership to produce *Lakes in Ireland: Mirrors of Change*. Editors, please take a bow! A whole generation of over 50 limnologists in Ireland, UK and beyond was marshalled to produce the 22 peer reviewed chapters covering glacial history, hydrology, wildlife and habitats, cultural connections, environmental governance and water resources. It is published free online by the Marine Institute.

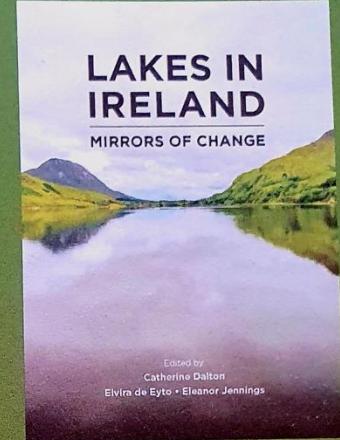
With nearly 14,000 lakes and ponds, Ireland is a fantastic place to learn freshwater ecology. This book is a celebration of the diversity and environmental history of lakes, and provides a valuable environmental baseline for our time. It also contains guidance on the future management of this valuable resource. In an all-island context, you will learn about lake processes, biodiversity and key environmental pressures, such as invasive species, eutrophication and climate change.

It is not a classic natural history of lakes based on a fully comprehensive compendium of earlier investigations. Indeed, some of the general biodiversity accounts could have benefitted from using more Irish historic studies to illustrate the plant and animal groups. Sometimes there is also a restricted feel to the number and range of supporting references. Quaternary and more Anthropocene paleolimnologists can ponder where their publications rest in the bar graphs of papers illustrating the comprehensive account of the development of this field in Ireland.

The book does not disappoint with its specific consideration of Ireland's unique turloughs and rare types of coastal lagoons. There is also a chapter on Ireland's marginal rim of oligotrophic and dystrophic upland lakes, but a complimentary chapter on the lowland lakes of the Carboniferous Central Plain feels absent. However, with rich *Chara* communities and *Najas* records, the best of the unusual alkaline marl producing waterbodies are discussed as lakes of distinction protected by the Habitats Directive. Debates about the true nature of "natural eutrophic lakes" look set to continue. Sadly, an overall picture of degradation of the EU lake types emerges, with few lakes now described as in good conservation condition.

Monitoring under the Water Framework Directive (WFD) has shown that despite some local management interventions, there has been no significant improvements in overall national lake health, with eutrophication being the main challenge. However, Ireland's lake quality is in a better position than most EU member states, although Brexit has complicated the all-island governance across the international border.

In this book, the social and cultural aspects of lakes are a highlight. The richness of Ireland's lacustrine archaeology is remarkable, with 600 log boats recovered and large hoards and votive offerings of gold and other metal objects. Lakes are defining features of ancient landscapes, providing habitation in crannogs, defence, food sources and communication routes. They continue to mark geographical and administrative boundaries. The



colonial descriptions of the Irish people and the abuse of wetlands will make you squirm with discomfort, but this shared history also produced amenity lakes and reservoirs. Today a balance is being sought between nature and the multiple recreational uses of lakes, including angling, water sports, boating and tourism.

Although much knowledge has accumulated, Irish limnology still has a strong exploratory component, and lakes continue to be surveyed, cored and ecologically understood, which is a great opportunity for early career researchers. With academics and environmental managers working closely together, this publication is a very powerful example of the critical importance of long-term monitoring, monitoring and interdisciplinary collaboration. Future research priorities are drawn together in a final chapter. In an environmentally sensitive location on the edge of the Atlantic, Ireland's lakes have been placed on the international stage as an extremely critical natural resource responding to a changing world.

Catherine Duigan



# Lough Gur, Ireland



EUROLakes



## Associated Region



Comhairle Cathrach  
& Contae Luimnígh  
  
Limerick City  
& County Council



# EPA Call Topic: Protecting and Restoring our Natural Environment



## LIGHTHOUSE

Project Reference #2025-NE-1297

Leveraging Island lIGHt houses and Harnessing Technology to examine Heritage Opportunities in Unique offShore Environments

Inform '**Manage by Nature Plans**' for the Lighthouse Sector



Mew Island

# All-Island Climate + Biodiversity Research Network

Plug 😊





# LAKES IN IRELAND

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## MIRRORS OF CHANGE

2<sup>nd</sup> Edition?

THANK YOU !



*Foras na Mara*  
Marine Institute

*Kylemore Lough*  
*Photo: Daniel Cierpal*