

# 'In the light of present knowledge': historical perspectives on peatland management and conservation

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## Introduction

**"At no very distant period, all traces of their very existence will have disappeared" (1)**

This research traces the history of peatland management in Ireland, using historic maps and other archival sources to illustrate changing perceptions of the value and use of peatlands. The time period in this case study begins in the 1600s, when historic peatland management practices such as drainage, reclamation, grazing, burning, and turf-cutting were commonplace, to current management for conservation, local communities, and maintenance of ecosystem services.

## Methodology

This research examines how different forms of knowledge can inform decisions on conservation and management of peatlands, collating knowledge from scientific research, documentary evidence from historical archives, and oral history interviews (See Fig. 1).

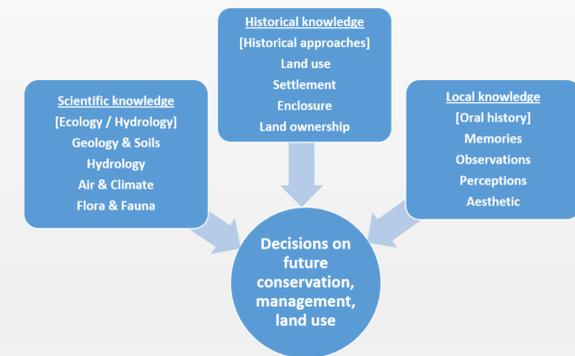


Figure 1 Knowledge integration for peatland management

## Literature Review

**"All natural areas have a history, usually involving hundreds or thousands of years of interaction with people who have lived and worked in them. Understanding that history is an essential part of conservation" (2)**

The use of historical approaches is increasingly recognised as a valuable component in conservation and habitat management (2). Historical approaches are interdisciplinary in nature, synthesising information from diverse subjects including geography, ecology, archaeology, palynology, politics & history.

## References

1. Cromwell, T. 1820. *Excursions through Ireland*.
2. Rackham, O. 1998. Implications of Historical Ecology for Conservation, in *Conservation science and action* Sutherland, W. J. (Ed.). Wiley & Sons.
3. Duffy, P. 2007. *Exploring the history and heritage of Irish landscapes*.
4. Raymond et al. 2010. Integrating local and scientific knowledge for environmental management. *Journal of environmental management*, 91(8), 1766-1777.
5. National Institute for Physical Planning and Construction. 1972. *A Report on Areas of Scientific Interest in Co. Meath*.

## Results

**"A great many of the social, economic or political events of the past had associated environmental repercussions expressed through agents or processes of change in local or regional landscapes" (3)**

1. The timeline in Fig. 2 demonstrates the evolution of management at Girley Bog from a utilitarian approach to its current sustainable management for conservation and recreation.
2. Girley Bog has a long history of anthropogenic disturbance and land use. It has been subject to drainage, reclamation, grazing, fertilisation, turf cutting, burning, and forestry plantation. Despite these impacts, the bog continues to support areas that are actively peat-forming, demonstrating its resilience as a functioning ecosystem.
3. The colonial conquests of the 16<sup>th</sup> and 17<sup>th</sup> centuries were followed in the 18<sup>th</sup> century by efforts to drain and improve marginal land such as bogs. In the 19<sup>th</sup> and 20<sup>th</sup> centuries, bogs were increasingly exploited as a source of fuel. While Girley Bog is now approximately a quarter the size of its original extent, it is actively growing once again after centuries of contraction.

Management Practice	Historical context/Drivers of change	Size of bog (acres)	Time period	Girley Bog context	Source
Turf cutting & reclamation	Cromwellian Plantation & land transfer in aftermath of war	535	1655	"there is no wood but severall turf bogs which serve the county for firing"	Down Survey Maps & Written Terriers
Reclamation for agriculture Burning/Draining	Colonial imperative to increase agricultural land		1802	"Many small patches of bog are reclaimed by poor persons, living on their edge, who, by burning and draining make considerable profit from the sale of cabbages. Some improve their bog by throwing up a spit of gravel, clay or marle..."	A Statistical Survey of County Meath
Tree plantation	Need for timber – Acts passed encouraging tree plantation among tenants		1814	"Affidavit of Ferdinand Meath McVeagh that he hath caused to be planted on the lands of Drewstown the following trees: 10,600 Scotch Fir, 2400 Spruce Fir, 1400 Larch, 550 Oaks, 100 Beech, 900 Ash, & 288 Timber Sally."	Meath Tree Register
Drainage Settlement	Ordnance Survey Office created to survey property for taxation purposes	472	1837	"It is the property of Chamberlain of Dublin and contains 588 acres of which 143 are bog. It contains numerous inhabitants settled chiefly along the edge of the bog"	OSI maps 6 inch
Settlement around the edge of the bog	The Great Famine – poverty, population growth, absentee landlords		1846-1855	"The neighbourhood of bogs is always thickly inhabited on account of the facility of procuring fuel and also of building cabins there without molestation. Vagrants also flock to bogs for the sake of the fuel which is plentiful there"	Griffith's Valuation Poor Inquiry Ireland
Habitat management for game	"The Big House" & landed estates 19 <sup>th</sup> century		1850-1880	"Saw but 2 grouse on Ethelstown, had not leave over Mr. Rothwell's or Mr. Chamberlayne's. Three parties out besides myself, Drewstown beater before me"	Balrath Estate Shooting Book
Sphagnum collection	First World War		1914-1918	"Local people have received a circular on behalf of the Kells Hospital and Work Supply Depot...assistance is asked by helping in the picking and packing of Sphagnum moss"	Irish Sphagnum Supply Depot Reports
Turf Production Drive	Second World War		1939-1945	"Records for Chamberlainstown bog show that 4,833 tons of turf were harvested in the 1941 season"	Meath Chronicle, 1941
Management for Restoration, Conservation & Recreation	Climate Change National & European designations	138	2018	"The Girley Bog Meitheal is a community based group of individuals and organisations involved in the conservation and management of Girley Bog"	National Peatlands Strategy 2015 Girley Bog Management Plan

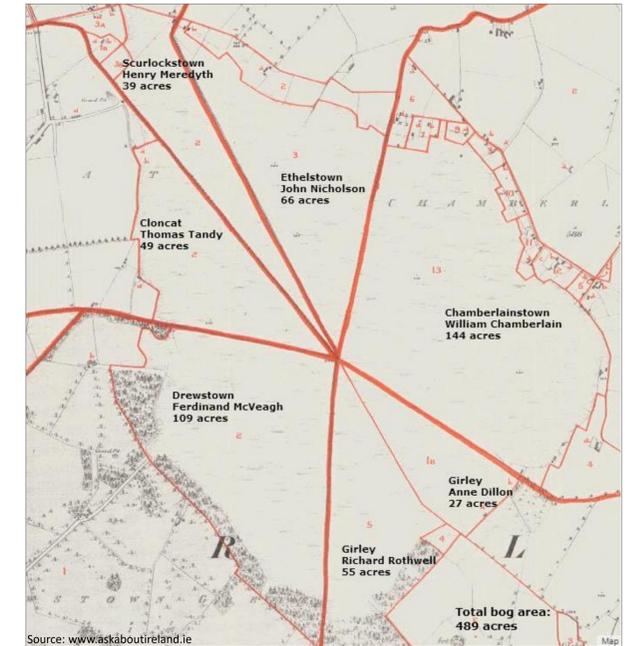
Figure 2 Timeline of historic land use at Girley Bog 1655 – 2018

## Oral history

**"The turf on Girley wasn't the best quality, the brown black turf was down at the very bottom, down to the gravel!" C. Lynch**  
**"It was a very social type of a thing, at lunchtime we'd all have a game of cards, there'd be people next door to you cutting turf and they'd all come together at lunchtime and have a big chat" T. McGrane**  
**"There was a safe house for the IRA on the bog during the War of Independence" M. Murtagh**



Taking turf off Girley bog in the 1950s



Division of Girley Bog in 1855 showing townland, landowner, and acreage of bog. Forestry, settlement, and drainage are visible.

## Conclusion

In order to ensure more sustainable outcomes for peatland conservation in Ireland, management should integrate knowledge from multiple sources, employing an interdisciplinary, holistic, and inclusive approach to conservation.



Increasing awareness of the value of peatlands has led to their conservation and restoration for both wildlife and local communities.

Perceptions of bogs have changed from being viewed as wastelands to be drained and reclaimed, to recognising the many benefits and ecosystem services these habitats provide.



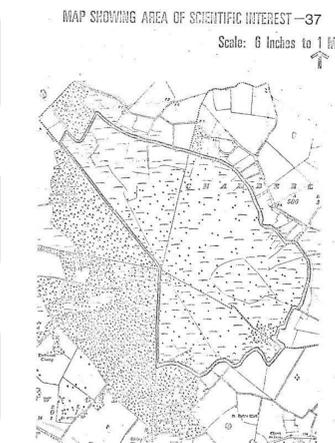
## Contribution of knowledge type to management

**"To manage the scope, complexity and uncertainty of global environmental problems, it is important to take account of different types and sources of knowledge" (4)**

<b>Scientific knowledge</b>	<ul style="list-style-type: none"> <li>• Determine ecosystem structure and function</li> <li>• Inform restoration and conservation objectives</li> <li>• Establish baseline conditions for monitoring and evaluation</li> </ul>
<b>Historic knowledge</b>	<ul style="list-style-type: none"> <li>• Understand land use history and impact of human activity</li> <li>• Understand social and political drivers of landscape change</li> <li>• Knowledge of cultural history and heritage for interpretation</li> </ul>
<b>Local knowledge</b>	<ul style="list-style-type: none"> <li>• Improved knowledge of economic and social history</li> <li>• Preservation of intangible cultural heritage</li> <li>• Engage communities and include in management process</li> </ul>

## 'In the light of present knowledge'

**"Finally, it must be emphasised that all assessments of the importance and priority of areas and all recommendations in this report have been made in the light of present knowledge. New scientific research or future planning applications make revisions necessary." (5)**



This report (5) demonstrates how expert knowledge can change over time as new research emerges. The area of forestry was not included in the original Area of Scientific Interest, but is now part of Girley Bog Natural Heritage Area and Special Area of Conservation. Improved scientific understanding of how forestry affects the hydrology of the bog led to removal of the conifer plantation and subsequent recovery of the water table to enable the bog to grow again.

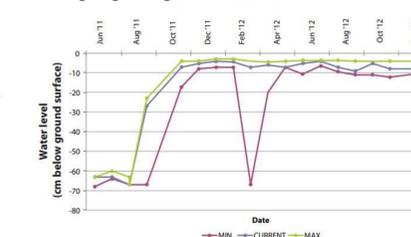


Table 4.4: Dramatic rise in the water table experienced at piezometer no.6 at Girley Bog, Co. Meath, as a result of the clear-felling of conifer forestry in August, 2011 (as part of Collie LIFE Project restoration measures)  
Source: National Raised Bog SAC Management Plan 2017-2020

## Acknowledgments

Thanks to Dr. Claire Cave, UCD World Heritage Programme, and all who shared their knowledge of Girley Bog with me for this project.  
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