



Meaningful Inclusion and Structural Exclusion: Agri-Scheme Restoration in an Irish
Context

Erin C. Bell, BA, BSc

The thesis is submitted to University College Dublin in part fulfilment of the
requirements for
the degree of Master of Science in Environmental Sustainability

School of Biology and Environmental Science
Minor Thesis

Supervisor: Elke Eichelmann, PhD
August 2026

TABLE OF CONTENTS

Abstract	iii
Abbreviations	iv
 Chapter 1 INTRODUCTION	 1
1.1 Literature Review.....	2
1.1.1 Values	2
1.1.2 Meaningful Local Inclusion	4
1.1.3 Local Perspectives.....	5
1.1.4 Gender.....	7
1.1.5 Policy.....	9
1.1.6 Nature Restoration Planning: state disconnection from locals.....	9
1.2 Research Questions.....	10
 Chapter 2 METHODS.....	 11
2.1 Survey Overview.....	11
2.2 Site Description: Cuilcagh-Anierin Uplands	12
2.2.1 Ecological Overview.....	12
2.2.2 People	13
2.2.3 Land and Property.....	14
2.3 WaterLANDS.....	15
2.4 Statistical Analysis.....	16
2.4.1 Socio-Cultural Sites.....	16
2.4.2 Values and Connection.....	17
2.4.3 Landscape Correlations.....	18
 Chapter 3 RESULTS.....	 20

3.1 Socio-Cultural Sites.....	20
3.1.1 Map 1 - Sense of Connection.....	20
3.1.2 Map 2 - Socio-Cultural Importance	21
3.1.3 Map 3 - Landscape Decisions	21
3.2 Values and Connection.....	22
3.2.1 Relational, Intrinsic, and Instrumental Values.....	22
3.2.2 Upland Connectedness Image.....	23
3.2.3 Comments.....	24
3.3 Landscape Correlations.....	24
3.3.1 Slope.....	24
3.3.2 Land Type.....	26
3.3.3 Dúchas	26
3.3.4 Rating.....	27
 Chapter 4 DISCUSSION.....	 27
4.1 Socio-Cultural Areas.....	27
4.2 Values, Connection, and Landscape Correlations.....	31
4.3 Perspective Divergence.....	31
4.4 Overall.....	32
4.5 Limitations.....	34
4.6 Socio-Cultural Areas.....	34
 Chapter 5 CONCLUSION.....	 35
 REFERENCES.....	 37
STATEMENT OF CONTRIBUTIONS.....	48
ACKNOWLEDGMENTS.....	49
APPENDIX A.....	50

ABSTRACT

With implementation of the Nature Restoration Law on the horizon, to what extent do agricultural-scheme restorations include locals? Through a case study situated in Cuilcagh-Anierin Uplands, this research uses participatory mapping tools and the Environmental Value Basis Scale, to investigate whether agri-scheme restoration sites align with locally identified socio-culturally important areas. Point density equivalence was tested, comparing points in restoration sites with remaining upland area. A cumulative logit model with Bayesian hypothesis testing was used to compare ranking order between respondent agreement with relational, intrinsic, and instrumental values statements. Survey participants included a fairly even divide of farming and non-farming Uplands locals.

Meaningful evidence indicated that participants were more likely to agree with intrinsic value statements compared with relational values. Given the proportion of farmers in the study, this insight may present intrinsically-aligned conservation agents with an opportunity to rebuild relationships with farmers from a place of shared-value.

Results for remaining value ranking and for point density tests were inconclusive. However, literature review and supplemental research questions, testing point correlation with landscape features, exposed an understood yet under-articulated point: the interplay of agri-scheme policy, Irish land dynamics, and social inequalities effectively shuts women out of most Irish restoration. This exclusion also applies to the currently un-identified socio-groups who comprise non-farmers.

Abbreviations

BH p Benjamini-Hochberg corrected p value

CAU Cuilcagh-Anierin Upland

CSO Central Statistics Office

DHLGH Department of Housing, Local Government and Heritage

DR Density Ratio

EC European Commission

EPA Environmental Protection Agency

ESRI Economic and Social Research Institute

FAO Food and Agriculture Organization of the United Nations

IAC Independent Advisory Committee

IC Intrinsic Value

INHFA Irish Natura and Hill Farmers Association

IM Instrumental Value

IPBES Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services

IUCN International Union for Conservation of Nature

LIFE L'Instrument Financier pour l'Environnement

NPWS National Parks & Wildlife Service

RV Relational Value

SDG Sustainable Development Goal

Chapter 1 INTRODUCTION

In western conservation and related sciences, there is an established pattern of treating socio-cultural interests as a desired but ultimately non-essential component of restoration work (Flood, Wilson and Renou-Wilson, 2025; Mattijssen et al., 2020; Van Riper et al., 2017; Wainaina, Minang and Muthee, 2023). This is reflected in findings from the International Science-Policy Platform on Biodiversity and Ecosystem Services' (IPBES) 2022 report. However, the assessment report is clear: reversal of biodiversity loss requires transformative change, and an essential ingredient of this change is meaningful local inclusion (IPBES, 2022). Such inclusion involves diverse community perspectives, gender equity, locals included in early-stage co-creation, and addressing power asymmetries between locals and outside actors (IPBES, 2022). Projects lacking meaningful inclusion fall short of UN sustainability goals, with reduced likelihood of ecological success (IPBES, 2022).

As Ireland prepares for the EU Nature Restoration Law, how to address complex ecological and socio-cultural interests is central in the conversation (Independent Advisory Committee, 2026). Ireland's restoration context is challenging. The state has pointed out that Ireland is in a situation unlike European neighbours, with 'high numbers of private landowners (who enjoy strong legal protections in terms of property rights)...' (judgement Department of Housing, Local Government and Heritage (DHLGH), 2025). Approximately 90% of land in Ireland is privately held, with around 60% of land in agricultural use (Food and Agriculture Organization of the United Nations (FAO), 2025; FAO, 2026; Land Development Agency, 2026). Ninety percent of Ireland's protected habitats are in unfavourable status and nearly 70% of these habitats fall within private lands (IAC, 2026).

Meeting the new Restoration targets will require participation of private landowners and farmers (IAC, 2026). Largely due to landownership dynamics, Ireland has approached previous conservation work on a programme, rather than site-by-site, basis (judgement DHLGH, 2024). L'Instrument Financier pour l'Environnement (LIFE) projects and the agricultural Results Based Payment System have been cited

as successful examples, demonstrating navigation of private landownership while furthering conservation goals (DHLGH judgement, 2025; life European Commission (EC), no date). Ireland's Restoration committee has advised that agricultural schemes will need to increase in order to reach new Restoration targets (IAC, 2026). Considering the importance of locals in transformative, sustainable work, the question emerges: do Ireland's agricultural-scheme restorations meaningfully include locals?

This exploratory case study looks at local perspectives pertaining to an agri-scheme restoration project in Cuilcagh-Anierin Uplands (CAU), in the Republic of Ireland. CAU borders Northern Ireland and spans counties Cavan and Leitrim (National Parks & Wildlife Service, 2016). Study participants contributed to participatory mapping activities and a value survey online.

The EU-funded group, WaterLANDS, organised restoration activities in the region (Kearney et al., 2025). They focused on blanket bog areas and aimed to build capacity for Results Based Payment Schemes (Chico, Goggins, and Gallogly, 2023; Kearney et al., 2025). Selected farmers implemented restoration activities following community workshops and task force training (Bullock et al., 2024; Chico, Goggins and Gallogly, 2023; Cosier, Ferrara Richards, 2023; Limpens, Bullock McGuinness, 2023).

1.1 Literature Review

Identifying local perspectives is necessary in order to understand if these perspectives are reflected in agri-scheme restorations. This literature review will contextualise the role of value assessment in restoration, identify what conservation actions facilitate meaningful inclusion, explore local values, and look at gender dynamics in the context of farming and conservation.

1.1.1 Values

Transformative actions are identified as necessary in reversing biodiversity decline (IPBES, 2022). An ingredient in this transformation involves values-centered conservation work (IPBES, 2022). More concretely, conservation agents' understanding of local values is crucial for local uptake of conservation action (Environmental Protection Agency, 2025). Greater local uptake, in turn, increases the likelihood of ecological success (EPA, 2025, p. 27; IPBES, 2022). Additionally, inclusion of diverse values contribute to all UN sustainability goals (Himes et al., 2024; IPBES, 2022, p. 509). In light of this, agents' understanding of local values is not a feel-good addition, but rather an essential element of ecological, sustainable conservation.

In this research, values can be understood as 'judgements regarding nature's importance,' in relation to a given context or situation (IPBES, 2022, p. XVI). Common categories include relational, intrinsic, and instrumental values (Diaz et al., 2015; Himes et al., 2024; IPBES, 2022).

In general, relational values are associated with one's sense of place and one's relationship with spiritual and/or tangible aspects of the world (IPBES, 2022). intrinsic values refer to aspects of the world that fall outside of anthropogenic benefits, such as non-human species' inherent rights to exist' (Diaz et al., 2015, p. 11). instrumental values are typically associated with economic themes, but may also include cultural or recreational benefits (IPBES, 2022). It should be noted that value categories are not strict (IPBES, 2022; Himes et al., 2024). These categories tend to have 'fuzzy boundaries' and any aspect of nature can fall into one or more value categories (Diaz et al., 2015; Himes et al., 2024, p. 26; IPBES, 2022). As well, the natural world, along with what and how a culture values nature, changes over time (Bullock et al., 2024; Flood, Mahon and McDonagh, 2021; Flood, 2023).

Dominant western conservation practices have involved hierarchical, dualistic, ontologies, and formal training rather than 'being on country' (Post, 2024; Sangha and Russell-Smith, 2017; Zafra-Calvo et al., 2020; locals are often treated as 'data and information providers' (Astor-Aguilera and Harvey, 2018; IPBES, 2022, p. XXI; Sangha and Russell-Smith, 2017); communication often involve knowledge flowing 'only-downwards-from' (IPBES, 2022; Brokensha, Warren and Werner, 1980, p. 6;

Gould et al., 2025; Zafra-Calvo et al., 2020); and focus is on economic and instrumental aspects of landscapes (IPBES, 2022).

While there is great diversity in the ways that cultures relate with and value nature, not all are represented within western scholarship (Astor-Aguiera and Harvey, 2018; IPBES, 2022; Pascual et al., 2023; Sangha and Russell-Smith, 2017). For example, concepts of relationality with nature have been central to many cultures' belief systems for millenia (Gould et al., 2025; Post kinship, 2024). Yet, the term 'relational value' was not solidified into western scholarship until recently (Gould et al., 2025). Which valuation methods are or are not included in scholarship speak to social power dynamics (IPBES, 2022).

The IPBES Report notes, 'the way valuation is conducted, including the methods chosen, is in part determined by power relations in society, which influence which and whose values of nature are recognized...' (IPBES, 2022). Among 1163 valuation studies, less than 1% clearly report if or how power asymmetries were accounted for during the process of valuation (IPBES, 2022). In these situations, power is typically in the hands of conservation agents, leaving local ontologies marginalised (IPBES, 2022; Gould et al., 2025; Sangha and Russell-Smith, 2017).

A driving factor in establishing the IPBES in 2012 was to 'explicitly integrate ecosystems with people's wellbeing' (Sangha and Russell-Smith, 2017) Inequality, particularly income and gender disparity, have been globally-identified as primary barriers to sustainable futures (IPBES, 2022). In spite of identifying this barrier, underrepresentation of local perspectives in policy, legislation and regulation persists and social outcomes of conservation, such as equity or well-being, are inconsistently reported (IPBES, 2022; IUCN, 2026).

1.1.2 Meaningful Local Inclusion

In order to transition from engaging with locals as basic 'information providers', to understanding and engaging with locals in a meaningful way, conservation agents need to make efforts to decolonise dominant perspectives they may hold

(Brokensha, Warren and Werner, 1980; IPBES, 2022, p. XXI; Smith, 2012). Along with this internal work, there are a number of actions agents can take to foster transformative sustainability (Table 1).

Table1. Selected actions for conservation agents, to foster transformative projects. (IPBES, 2022; IUCN, 2026).

Meaningful, Transformative Inclusion
Make efforts to decolonise dominant perspectives
Plan for early engagement with locals and fostering local relationships throughout
Maintain consent and transparency
Facilitate deliberations and co-creative processes
Prioritise local values
Address power asymmetries - agents/locals, marginalised/dominate members
Actively promote diversity of perspective throughout
Ensure locals are included in the fair distribution of project benefits

The European Commission has found that climate-related participatory processes among Member States have fallen short of inclusive consultation; lack of clear policy and insufficient experience within States were suspected drivers (Directorate-General for Energy, 2024).

Distinguishing from *meaningful* inclusion, Otto, Oberthür and Schewe (2025) describe ‘participant washing’ by identifying indicators of low-quality participation processes. These include: underrepresentation of certain socio-groups, absence of genuine debate, reinforcement of existing power imbalances, failure to ensure two-way dialogue or bottom-up initiation opportunities, and a lack of regulation or accountability ensuring that public voices are implemented into policy (Oberthür et al., 2025; Otto, Oberthür and Schewe, 2025). When such ‘participant washing’ occurs, public trust can be eroded (Otto, Oberthür and Schewe, 2025).

1.1.3 Local Perspectives

To draft the Restoration Plan, Ireland's Advisory Committee organised consultation opportunities, involving around 1000 members of society (IAC, 2025). The iterative process has generated reports from both Farming and Community perspectives. Along with border literature, these reports reflect considerable overlap between farmers and non-farmers (Table 2). Only minor perspective divergence was identified.

Table 2. Primary areas of shared perspective among community and farmers (ACT and Hometree, 2025; Quality Matters, 2025, p. 25).

Community and Farmer Reports: Shared Perspectives
Desire for increased restoration and protection of lands and water.
Desire for locally-led projects 'with external help provided only when requested'; rejection of projects organised in a 'top-down' manner.
Distrust of government capabilities.
Desire for farmers to be central in restoration leadership.
Understanding of farmers as vital ecological and cultural stewards.
Desire for farmers to be paid living wage.
Desire for long-term projects (10 - 25 years).
Interest in strengthening social fabric of rural communities.
Desire for resilient trees.
Desire to control invasive species.
Understanding that production pressure harms nature.
Understanding that EU and Irish regulations have negatively impacted farmers.
Desire for increased connection between communities and farms

In relation to policy, many farmers commented on the government's role in environmentally damaging agricultural practice, and frustration with conifer plantations and agri-schemes (Brawley-Chesworth, Marks and Clarke, 2026; Leader, Kinsella and O'Brien, 2024). Community voices on these topics were not found, likely explained by lack-of-community-awareness about farm policy (ACT and Hometree, 2025; Regan and Kenny, 2022).

Mixed perspectives are also found in relation to restoration planning and land access. The Community report stated a clear desire for planning participation and increased land access (ACT and Hometree, 2025). Mountaineering Ireland (2026) and Kearney et al. (2025) found landowner support of walkers, while a McGurk, (2019) study suggested views vary by region. The Farming report lacked comment on non-farmer involvement in restoration planning or land access topics (Quality Matters, 2025).

Public misconception of farmers was also found with public wary that farmers were not as concerned about climate action as the broader public and reluctant to change (Martin et al., 2024; Regan and Kenny, 2022). Meanwhile, farmers identified injustice as a barrier to climate adaptation action (Brawley-Chesworth, Marks and Clarke, 2026).

1.1.4 Gender

1.1.4.1 Underrepresentation of Women in Conservation and Farming

A disproportionate amount of women are affected by climate change globally and conservation outcomes have been found to improve when women are equal participants (Blessing, 2025; IPBES, 2022). In spite of this, women are underrepresented in conservation and adjacent fields (IPBES, 2022; UN Women, 2024). Globally, women account for less than 20% of landholders, and receive only 12.5% of CAP direct payment (Blessing, 2025; European Commission, 2026; Diamanti, van Santen and Duncan, 2024).

The UN has declared 2026 'the international year of the woman farmer' and . Ireland recently initiated Highlighting pathways to Empower Rural women to have Sustainable and Equitable, as a baseline study of women in farming (O'Sullivan, 2026; Roche, MacNamara and Hurley, 2025).

Nonetheless, Ireland's latest census reflects the first decline in female farm-ownership in 20 years and the gap from scheme payments actually increased in 2020 (CSO, 2024; CSO, 2025; Roche, MacNamara and Hurley, 2025).

1.1.4.2 Women and Land Ownership

Land in Ireland is tied with political power, in addition to fostering cultural identity and a sense of rootedness (Curtin et al., 2024). Since pre-colonial eras, laws and cultural norms have drastically limited female land inheritance or ownership (Curtin, 2021; Curtin, 2025). Legally, Ireland has eliminated gender discrimination that prevents female land inheritance or ownership (Curtin, 2025). Yet, state structures and cultural norms persist (O'Reilly, 2025). Today, over 80% of named land successors are male, with both female and male farmers carrying mixed views regarding gender-inheritance norms (Curtin et al., 2024; Roche, MacNamara and Hurley, 2025)

Land is necessary for farming. As such, cultural norms of patrilineal succession have been found a key contributor to farming gender disparity, along with structural barriers such as agricultural policy and tax law (Curtin et al., 2024; Curtin, 2025; O'Reilly, 2025; O'Sullivan, 2026; Roche, MacNamara and Hurley, 2025).

An example highlights structural barriers: greater tax is incurred if a farm is passed onto more than one person (Roche, MacNamara and Hurley, 2025); several years must pass before an heir can change the title into joint ownership without incurring this tax (Curtin et al., 2024). Solicitor fees associated with changing ownership, 'not getting 'around to it', seeing no reason to change the title, and divorce were all cited factors inhibiting the addition of a spouse on land titles (Curtin et al., 2024).

The 2023 - 2027 CAP has included gender equality as a named objective for the first time since its inception (Diamanti, van Santen and Duncan, 2024). However, one review of the programme found major enrollment-barriers, and a second research group pointed out that Member States are not required to uphold the new gender equality objective (Diamanti, van Santen and Duncan, 2024; Roche, MacNamara and Hurley, 2025). Both the UN Development Programme and these researchers

emphasis that, where gender equality is not built into financing, such programmes often reinforce existing inequality (Blessing, 2025; Diamanti, van Santen and Duncan, 2024)

1.1.5 Policy

European food shortages following the world wars prompted policies aiming to foster production (Sargent and McSweeney, 2021). Ireland's 1945 Drainage Act and 1949 Land Project resulted in drainage of around 137100 sq km (Heritage Council, 1999). Over time, policies shifted from a food production-focus to that of social and environmental support (Sargent and McSweeney, 2021). Nonetheless, policies and Ireland's implementation of them, have been primary drivers of environmentally detrimental agricultural practices (Heritage Council, 1999; Sargent and McSweeney, 2021).

In 1997 CAU (site code 000584) was designated as a SAC site (DHLGH b, 2025; NPWS, 2017). Ireland's poor implementation of the Habitats Directive greatly damaged state-farmer and provides an example of procedural injustice (IPBES, 2022; Kearney et al., 2025; O'Riordan, McDonagh and Mahon, 2016).

1.1.6 Nature Restoration Planning: state disconnection from locals

The Nature Restoration Advisory Committee's recent report has revealed areas of disconnect between the state and the Irish public, as well as poor participatory practice. The Hill Farmers cited the consultation process as 'a box ticking exercise that effectively excludes the public...' (Irish Natura and Hill Farmers Association, 2026; O'Brien, 2026).

The term 'voluntary' has been cited as misleading among farming and environmental groups (INHFA, 2026; Salter-Townshend, 2026). The report consistently referred to public lands as the target of restoration action, yet the mandated scale will necessitate private landowners participating if Ireland to meet required targets (Salter-Townshend, 2026). The term 'locally-led' work was associated with agri-schemes, whose descriptions appeared 'top-down' (IAC, 2026).

The plan's lack of clear budgeting was particularly difficult for farmers (Griffin, 2026; INHFA, 2026; Quality Matters, 2025). The current plan of action leaves farmers financially exposed (INHFA, 2026). In spite of the financial hardship and precedent of broken trust, reported state response has essentially equated to 'trust us' (Griffin, 2026; IAC, 2025; O'Donnell, 2026; Quality Matters, 2025).

The Advisory report does acknowledge the state's need to rebuild trust with farmers (IAC, 2026). In particular, the state's role in plantation expansion and subsequent environmental degradation is noted, with a plan to lead by example in the future (IAC, 2026). However, in terms of rebuilding trust, an NPWS Public Education and Engagement Unit is proposed (IAC, 2026). In spite of this Unit, present evidence suggests that the consultation process has, thus far, not resulted in meaningful, transformative inclusion.

1.2 Research Questions

In this case study, exploring local inclusion in the context of agri-scheme restoration, primary research questions are the following:

1. Do the locations of WaterLANDS restoration sites align with locally important socio-cultural areas? Point density is not expected to be equal, with WaterLANDS sites favoured, particularly among farmers.
2. Are values ranked equally among locals? Comparing ranking order between relational, intrinsic, and instrumental value, I expect locals will most strongly agree with relational statements, followed by instrumental, then intrinsic values.

Supplementary questions are introduced to gain further nuance into local values, with an additional aim to support future restoration planning:

3. What level of upland-connectedness do locals have? Mid to high connection is expected, particularly among farmers.
4. Within participants' open comments, do frequently used words vary by subgroup pair (e.g. Farmer, Non-farmer)? Word-frequency is expected to differ between subgroup pairs.

5. Is there a relationship between slope steepness and points of socio-cultural importance? Steeper areas are expected to deter participants, with points favouring more accessible areas.
6. Are points of socio-cultural importance evenly distributed relative to land type (i.e. commonage or freehold areas)? Considering that over half of the participants live within CAU, farmers and landowners are likely to prefer their fully owned freehold lands, resulting in freehold land type preference.
7. Is there a relationship between Dúchas folklore markers and points of socio-cultural importance? Greater proximity to Dúchas markers are expected, compared with randomly generated points.

Chapter 2 METHODS

2.1 Survey Overview

This survey was approved as a Low-Risk Study by the Human Research Ethics Committees of University College Dublin (Appendix A). Survey scope included adult residents of the Republic of Ireland, living within 50 km of CAU. It was available online from 22 December 2025 - 18 February, 2026. Roughly 300 invitations were sent with a response rate around 16%. Forty-one respondents met survey scope limitations (Table 3).

Survey invitations were primarily sent to public Facebook group administrators. All groups in target townlands were invited. Groups varied widely in theme; examples include Kelly's Centra Supermarket Mohill, 8 Rays Leitrim LGBTI, and the Carran Walking Club. I sent additional invitations to national female-focused farming groups. WaterLANDS shared the survey invitation among their regional network (Goggins, 2026).

The survey included an Environmental Values-Basis scale (Lengieza et al., 2025), a modified Inclusion of Nature in Self scale (Asanza-Reyes et al., 2024), four participatory-mapping activities with comment options, an activity rating pre-defined socio-cultural points, and a final open comment option.

Gender, Role, Exposure and Family were collapsed into two subgroups for the purpose of statistical testing (Table 3). Exposure refers to the time one spends within CAU, per year. Over half of the participants had family arrival in the region from Great-great-grandparents or earlier; this constituted the Family subgroup of Deep Roots. Others reporting Family demographics were aggregated into Young Roots.

2.2 Site Description: Cuilcagh-Anierin Uplands

2.2.1 Ecological Overview

Table 3. Participant Distribution

Total	41
Subgroup	<i>n</i>
<i>Age</i>	
18 - 30	1
31 - 45	12
46 - 59	11
60 - 75	14
76 +	1
NA	2
<i>Gender</i>	
Female	12
Male	27
NA	2
<i>Role</i>	
Farmer	20
Non-farmer	21
NA	0
<i>Exposure</i>	
Over 6 Mo./ Yr	23
Under 6 Mo./ Yr	17
NA	1
<i>Family</i>	
Deep Roots	26
Young Roots	14
NA	1

CAU is located in the north-west of Ireland, bordering Northern Ireland (Figure 1) (Kearney et al., 2025; NPWS, 2016). The area is slightly over 97 sq km, including several Annex I and II species and habitats (Chico, Goggins and Gallogly, 2023; Kearney, 2025; NPWS, 2016). Blanket bogs comprise around 60% of the designated habitat and have a history of relatively low-intensity farming, compared with other regions (Bullock et al., 2024; Chico, Goggins and Gallogly, 2023; Kearney et al., 2025; NPWS, 2013). Precipitation in CAU is reported to be twice that of midland and east coast farms, averaging 1432 mm per year (Bullock et al., 2024; Price et al., 2024). Recent increase in rainfall is suspected to be an effect of climate change (Bullock et al., 2024). Commonage Framework reports from 2000 found most areas in undamaged status, while a 2012 assessment classified primarily unfavourable-bad condition (NPWS, 2013).

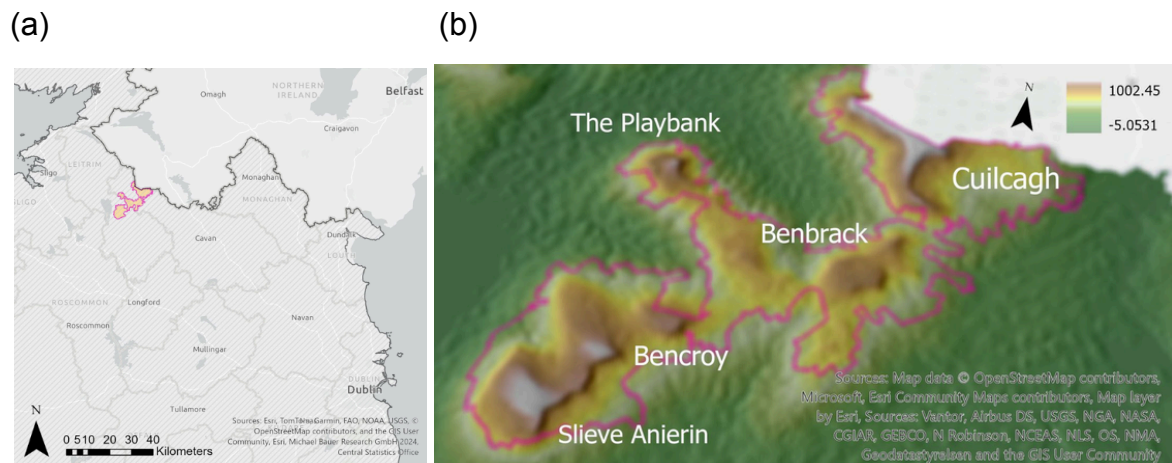
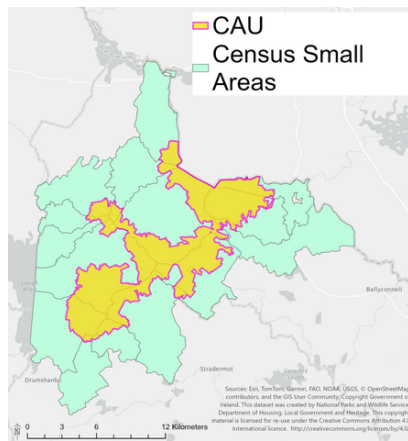


Fig. 1 (a) Location of CAU within the Republic of Ireland, bordering Northern Ireland. (b) Primary mountains within CAU.

2.2.2 People

Census Small Area (Figure 1) data suggest a population of 2333 in the extended area (CSO, 2025; Economic and Social Research Institute Ireland Content, 2024). Many are Irish-born and descendants of the Ulster refugees, who settled near Slieve Anierin around 1795 (ESRI Ireland Content, 2024; Kearney et al., 2025; Leitrim Experience, 2021). The remaining population is largely UK-born, with an influx of Ukrainian refugees over recent years (CSO, 2025; ESRI Ireland Content, 2024).

(a)



(b)

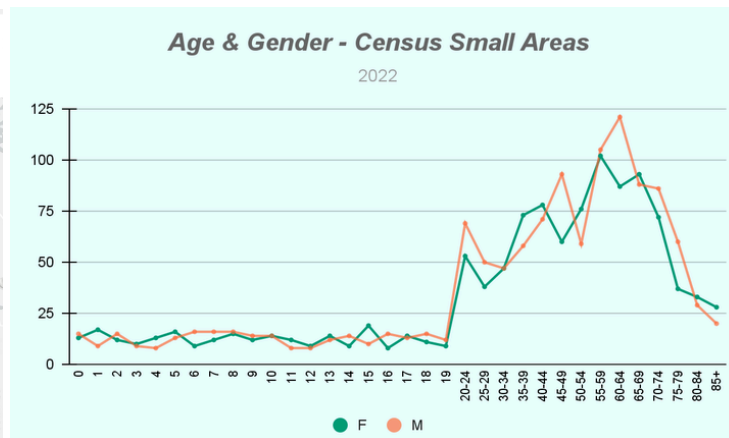


Fig. 2 (a) Census Small Areas, shown in light green, indicate the region included in the demographic data pertaining to CAU (CSO, 2022) (b) Age and gender distribution for the Census Small Areas region. (CSO, 2024).

Walking and cycling occur and local pubs and rambling houses are noted as important sites of storytelling and music; although, the area is suffering from depopulation (Cuilcagh Ramblers, 2001; Kearney et al., 2025). Within CAU, three Dúchas folklore markers reflect themes such as the Tuatha de Danann, and the Polltaí Hole, which came to host Garland Sunday (Dúchas, 2026).

2.2.3 Land and Property

As colonial estates expanded in Ireland, schemes such as ‘surrender and regrant’ transformed Gaelic agricultural and land law (Bierne, 2023). Resistance to these inequities resulted in decades of land wars and redistribution acts (Beirne, 2023; Walsh and O'Mahony, 2018). By 1929 approximately 97% of farmers in Ireland owned their land (Curtin et al., 2025). While land acts transferred the majority of land ownership from landlords to individuals, women were largely excluded from owning property (Curtin et al., 2024; Curtin, 2025).

Shared-use land systems including Rundale in the Gaeltacht, and manorial commons in Anglo-Norman areas, preceded modern commonages (Van Rensburg, Murphy and Rocks, 2009). Today, around 70% of CAU is commonage (NPWS, 2013; Tailte Éireann, 2025). Freehold land, owned outright, comprises remaining areas

(Deeney, 2013; Kearney et al., 2025; Tailte Éireann, 2025). Walking trails cross both land types and trail-use permission is held by land holders (Mountaineering Ireland, 2026).

2.3 WaterLANDS

Target restoration sites in this study were organised by the EU-funded group, WaterLANDS (Kearney et al., 2025). The project focused on blanket bog habitat, along with a priority to foster Results Based Payment Schemes (Bullock et al., 2024; Cosier, Ferrara Richards, 2023; Limpens, Bullock McGuinness, 2023).

A task force was established to train landowners in carrying out the physical implementation of restoration, and interested parties were selected based on factors such as ecology, site access, and landowner capacity (Chico, Goggins and Gallogly, 2023).

Consideration for a community-wide deliberation was noted in WaterLANDS reports (Cosier, Ferrara Richards, 2023). Limited use of the area by non-farming locals was cited as a concern around attendance (Bullock et al., 2024; Cosier, Ferrara Richards, 2023). Secondary concern was raised as a deliberation ‘could possibly have pitted the preferences of the non-farming population against those who actively manage the land, or simply revealed a reluctance to interfere in this management’ (Bullock et al., 2024, p. 29.) WaterLANDS concluded that no local group held ‘alternative interest in the management or appearance of the land’ (Bullock et al., 2024, p.29).

Formal interviews were conducted with 12 stakeholder organisations, 12 farmers, and short-form interviews were gathered at a local agriculture show (Bullock et al., 2024; Kearney et al., 2025). Reports noted that ‘nearly all [farmers] prioritised productive land over biodiversity,’ finding instrumental value to be dominant, with additional evidence of relational value (Bullock et al., 2024; Kearney et al., 2025, p. 37).

2.4 Statistical Analysis

All analyses were conducted using R Statistical Software unless otherwise noted (version 4.4.1, R Core Team 2024). Key package use is noted in corresponding methods. Mapping elements, including point weight-adjustment, random point generation, slope analysis, georeferencing, and digitised Dúchas markers were performed in ArcGIS PRO (version 3.6.2). Testing of all subgroups included a Benjamini-Hochberg false positive correction (Benjamini and Hochberg, 1995).

2.4.1 Socio-Cultural Sites

Local points of socio-cultural importance were defined by three mapping activities (Table 4). Each map was tested individually, as well as in combination. Each activity instructed placement of zero to five points.

Table 4: Description of mapping activities.

Map No.	Activity Name	Instruction
1	Places of Connection	If you feel a strong sense of connection to a place(s) indicate...
2	Socio-Cultural	Indicate 0 - 5 locations that hold particular cultural or social importance...
3	Landscape Decisions	Consider various forms of human-initiated landscape decisions (e.g. preservation of current status, tourism development, rewilding, agricultural expansion, peatland restoration, recreational development, etc). Comment on what you wish to occur... for the selected area.

A cluster bootstrap with a 95% confidence interval and 5000 runs was used to test density difference in WaterLANDS areas, compared with remaining CAU area (Crowley, 1992; Krebs, 1989). Point creation-effort was weight-adjusted to prevent domination by high contributors (National Research Council, 2013). In this adjustment, each participant was defined as 1 unit, and this was divided by the number of points they created (Harvey et al., 2018). Subgroups from Gender, Role, Family, and Exposure categories were additionally tested.

2.4.2 Values and Connection

2.4.2.1 Relational, Intrinsic, and Instrumental Values

The Environmental Value Basis Scale consists of 23 statements, set on a 6-point Likert scale (strongly disagree - strongly agree) (Lengieza et al., 2025). This Scale was found to demonstrate structural validity across disparate cultures. (Lengieza et al., 2025).

In the present study, 38 participants contributed to the value portion, with a missingness rate of 0.46. Probability of one value receiving a stronger agreement response, compared to another value, was tested at a 90% credibility interval. A Bayesian cumulative logit model ($y \sim \text{value} + (1 | \text{uid}) + (1 | \text{name})$) was used with default priors; random intercepts accounted for discrepancies in participant response tendencies and statement agreeability (brms, version 2.23.0) (Bürkner, 2017; Bürkner and Vuorre, 2019; Dunn, 2020). Four Markov Chain Monte Carlo chains were run, each with 2000 iterations and 1000 warmups. Differing from frequentist reporting of significance, Bayesian methods report credibility intervals and probability (Downey, 2021). A commonly used 95% Rule is applied here, wherein probabilities above 95% are considered statistically meaningful (Bürkner, 2017).

2.4.2.2 Upland Connectedness Image

Understood to be linked with relational values, the Inclusion of Nature in Self Scale tests nature connectedness via a 5 point scale (Lengieza et al., 2023; Schmuck and Schultz, 2002). A modified version of this scale was used (Figure 3) Thirty-seven participants contributed.

Subgroup pairs (e.g. Farmers, Non-farmers) were compared in relation to each image. A Fisher test with a 95% confidence interval was used (Kim, 2017). The null hypothesis reflects independence among subgroup pairs; the alternative indicates one subgroup having greater likelihood of being selected.

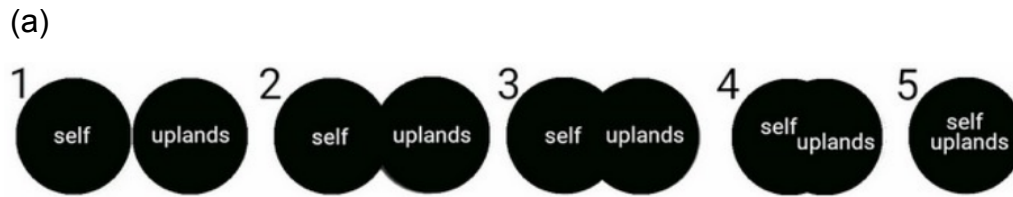


Fig. 3 (a) The modified Inclusion of Nature in Self Scale used in the survey includes a series of venn diagrams, representing the least-connectedness in Image 1, and most-connected in Image 5.

2.4.2.3 Comments

A total of 31 participants contributed comments along with their map points. Comments were attached to weight-adjusted map points, as described in section 2.4.1 (National Research Council, 2013). After removal of common words and spelling normalisation (tidytext, version 0.4.3), comment length was accounted for via weighted word-frequency, dividing the weighted point-value by the number of words in a comment (Kelber and Lawless, 2025; Silge and Robinson, 2016). Word clouds were generated (wordcloud2, version 0.4.3), along with bootstrap and permutation tests for the 10 most-frequently used words (Crowley, 1992; Lang and Chein, 2018). Per word, frequency-equivalence was tested by comparison of subgroup pairs (e.g. Farmer, Non-farmer), using a 95% confidence.

2.4.3 Landscape Correlations

2.4.3.1 Slope

On the coast of Washington state (U.S.A.), the Tulalip Tribes include cultural access in their wetland assessments. An example notes, ‘accessible to elders; <0.25 mile from nearest open road, flat to gentle slope, and walking shoes okay’ (Hall, 2019, p. 19). Based on available data, accessibility was tested by slope..

Via a Wilcoxon Signed-Rank test, slope difference was tested based on median slopes from the participant group and from randomly generated points (sf, version 1.1.0) (Mangiafico, 2026; Okoye and Hosseini, 2024; Pebesma, 2018). The use of medians accounted for variance in the number of points each participant created.

Monte Carlo was used to test variable subgroups (Brown, 2016; Crowley, 1992). Both tests used a confidence interval of 95%.

2.4.3.2 Land Type

Commonage and Freehold areas were georeferenced from a WaterLANDS landownership image, and supported by Landdirect.ie (Chico, Goggins and Gallogly, 2023; Tailte Éireann, no date). Using the weight-adjusted point method described in section 2.4.1, a 5000 draw bootstrap with replacements was used, with a 95% confidence interval, testing density difference between Commonage and Freehold areas (Crowley, 1992; Krebs, 1989). Tests were also performed for subgroups.

2.4.3.3 Dúchas

To test distance equivalence to Dúchas markers, markers were digitised, and participant and random points were compared employing Nearest Neighbor methods (Besag and Diggle, 1977; de Smith, Dúchas, 2025; Goodchild and Longley, 2025). Nested medians accounted for variance in the number of points each participant created. A 2000 draw Monte Carlo was used to test distance difference, with a 95% confidence interval (Besag and Diggle, 1977). Subgroups were tested similarly.

2.4.3.4 Rating

Through direct conversation with WaterLANDS, Kearney (2025) speculated that those interviewed had considerable socio-cultural knowledge of the area. However, due to the context of the interview, socio-cultural knowledge did not seem to come to interviewees' minds (Kearney, 2025). Considering this, pre-defined socio-cultural points were added to the survey. Participants were asked to rate only sites which they understood to be of socio-cultural importance, on a 5-point scale with five representing the greatest socio-cultural importance. To avoid biasing, the rating section followed the open mapping activities.

Thirteen points were created, included cairns, sweathouses, an archaeological hut site, Mullaghgarve Mass Rock, Ultach's Memorial, and walking trails (Cycle Leitrim, 2025; Kearney et al., 2025; HiiKER, 2026; Leitrim Experience, 2021; National

Monuments Service, 2025).

Chapter 3 RESULTS

These sample populations are small and demographics do not fully align with census demographics for this region and so cannot be taken to represent the broader population.

3.1 Socio-Cultural Sites

Evidence among all three maps, and among subgroups, demonstrated relatively large confidence intervals in relation to the sample size and produced results outside of significant thresholds. Maps tested in combination performed similarly.

3.1.1 Map 1 - Sense of Connection

A density ratio (DR) of 1 indicates equal density in WaterLANDS and remaining CAU areas, with rates above 1 indicating a WaterLANDS preference (Chamaillé-Jammes, 2019). Map 1 indicated a WaterLANDS preference over two times that of remaining CAU area, but fell slightly short of significance, at a 95% confidence interval (Table 5).

All subgroups failed to produce significant results prior to false positive correction (BH p) (Benjamini and Hochberg, 1995). The Exposure subgroup, Over 6 Months, narrowly missed a significance threshold at the 95% confidence interval, followed by Family subgroup Deep Roots. Their respective density ratios were highest among subgroups, suggesting WaterLANDS preference. Remaining subgroup trends suggested WaterLANDS preference (Table 5).

Table 5. Map 1: Result summary.

Test	<i>n</i>	CI Lo	CI Hii	DR	<i>p</i>	BH <i>p</i>
M1	28	0.92	3.95	2.04	0.08	-
Subgroup						
Farmer	12	0.39	5.02	1.75	0.44	0.58
Non-farmer	16	0.82	5.23	2.28	0.11	0.30

Female	9	0.34	6.18	1.95	0.36	0.58
Male	19	0.64	4.72	2.08	0.16	0.32
Over 6 Mo	15	0.85	7.33	2.83	0.05	0.30
Under 6 Mo	13	0.26	3.46	1.32	0.66	0.75
Deep Root	16	0.98	7.08	2.91	0.08	0.30
Young Root	12	0.28	2.86	1.16	0.82	0.83

3.1.2 Map 2 - Socio-Cultural Importance

Results for Map 2 testing, and among all subgroups, were far from a significance threshold (Table 6). Density ratio trends for Map 2 were somewhat opposite of Map 1, with the highest WaterLANDS preference trends among Exposure Under 6 Months and Young Roots subgroups. The lowest ratio trends were among Deep Roots, Exposure Over 6 Months and Farmers.

Table 6. Map 2: Result summary.

Test	<i>n</i>	CI Lo	CI Hi	DR	<i>p</i>	BH <i>p</i>
M2	25	0.29	2.06	0.96	0.88	-
Subgroup						
Farmer	12	0.00	1.87	0.62	0.44	0.86
Non-farmer	13	0.29	3.46	1.32	0.66	0.86
Female	6	0.00	5.31	1.21	0.92	0.92
Male	19	0.21	2.05	0.88	0.76	0.86
Over 6 Mo	15	0.10	1.76	0.67	0.43	0.86
Under 6 Mo	10	0.14	4.69	1.48	0.60	0.86
Deep Root	14	0.00	1.80	0.64	0.40	0.86
Young Root	11	0.27	4.17	1.44	0.61	0.86

3.1.3 Map 3 - Landscape Decisions

Similar to Map 2, all results for Map 3 were far from a significance threshold (Table 7). Suggested subgroup trends of WaterLANDS preference were highest among Farmers, Exposure Over 6 Months and Males. Lowest trends, suggesting preference of remaining CAU areas, were Exposure Under 6 Months, Non-farmers, and Females.

Table 7. Map 3: Result summary

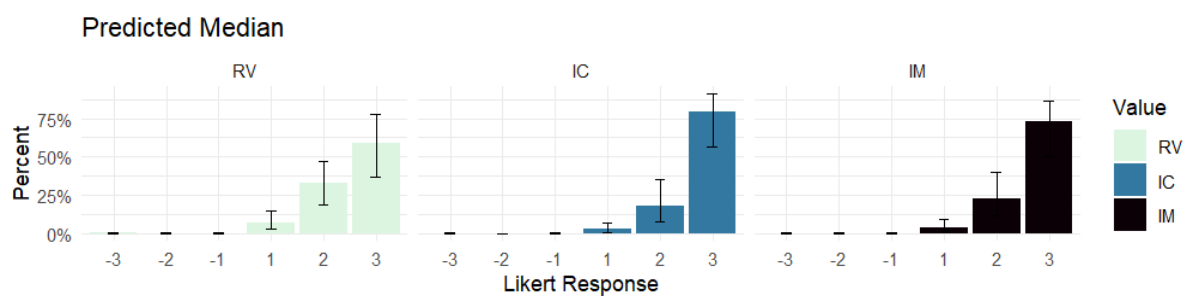
Test	<i>n</i>	CI Lo	CI Hii	DR	<i>p</i>	BH <i>p</i>
M3	25	0.42	2.62	1.24	0.68	-
Subgroup						
Farmer	14	0.32	4.24	1.52	0.51	0.96
Non-farmer	11	0.10	2.58	0.91	0.84	0.96
Female	9	0.09	3.25	0.99	0.86	0.96
Male	16	0.34	3.52	1.39	0.61	0.96
Over 6 Mo	15	0.38	3.92	1.51	0.48	0.96
Under 6 Mo	10	0.00	2.71	0.87	0.79	0.96
Deep Root	17	0.32	3.31	1.29	0.68	0.96
Young Root	8	0.00	3.65	1.14	0.96	0.96

3.2 Values and Connection

3.2.1 Relational, Intrinsic, and Instrumental Values

Results for the ranking of intrinsic > relational produced meaningful results, carrying a 96.4% likelihood (CI 0.08 - 1.82). Likelihood of stronger agreement for instrumental than relational was 89% (CI -0.25 - 1.42), and intrinsic greater than instrumental was 74% (CI -0.57 - 1.26). Sufficient model convergence and sensitivity analysis was found, and a more informed prior, supported initial findings (Kruschke, 2021). Posterior medians supported these findings (Figure 4).

(a)



(b)

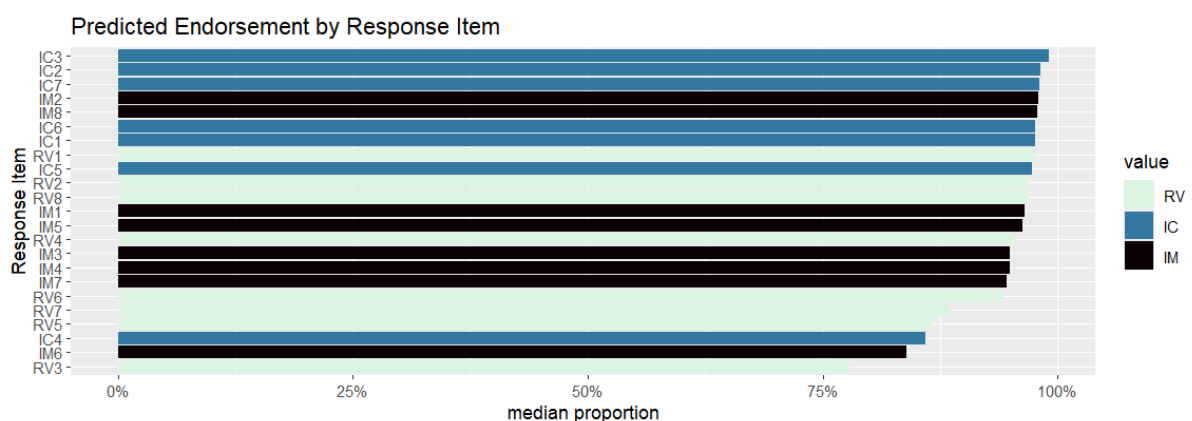


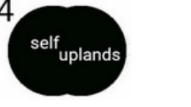
Fig. 4 (a) Median response distribution for relational (RV), intrinsic (IC), and instrumental (IM) values. Response category 'strongly agree' is represented by 3, with - 3 indicating 'strongly disagree'.
(b) Predicted medians of all value statements, reflecting statement ranking..

Based on predicted means, the three most-endorsed value statements were all from the intrinsic category. The top was 'Nature is valuable for its own sake, the lowest was relational: Plants and animals are important because they can teach people many lessons.

3.2.2 Upland Connectedness Image

Raw data distribution indicated Image 3 as the most selected (36%) category.

Table 8. Raw data distribution of Upland Connectedness Image selection with significant result summary of Fisher's Test of Independence

Upland Connectedness Image: Raw Distribution					
Image	1	2	3	4	5
					
Total	6	3	13	6	7
Farmer-Non-farmer Fisher Test					
Image	CI Lo	CI Hi	Ratio	P	BH P
1	0.00	0.66	0.00	0.009	0.035
5	1.3	627.65	12.4	0.01	0.035

Only the subgroup-pair of Farmers-Non-farmers produced meaningful; this pair reached statistical significance in relation to the least connected image (Image 1) and the most connected image (Image 5). Thirty-five percent of Non-farmers selected the least-connected image, compared with zero Farmers. Conversely, 41% of Farmers selected the most-connected image, compared to 5% Non-farmers.

Slope Difference						
	n	CI Lo	CI Hi	Med	p	BH p
Overall		-1.18	4.02	8.95°	0.31	-
Subgroup						
Female	11	1.27	5.89	10.2°	0.003	0.02
Non-farmer	17	0.73	5.04	9.19°	0.01	0.04
Deep Roots	21	-0.006	4.39	9.08°	0.05	0.14
Under 6 Mo	14	-0.25	4.19	9.06°	0.09	0.18
Over 6 Mo	19	-0.81	3.93	8.87°	0.21	0.34
Young Roots	12	-1.45	3.47	8.53°	0.43	0.53
Male	21	-1.2	2.93	8.87°	0.46	0.53
Farmer	17	-2.88	1.86	6.10°	0.66	0.66

(a)

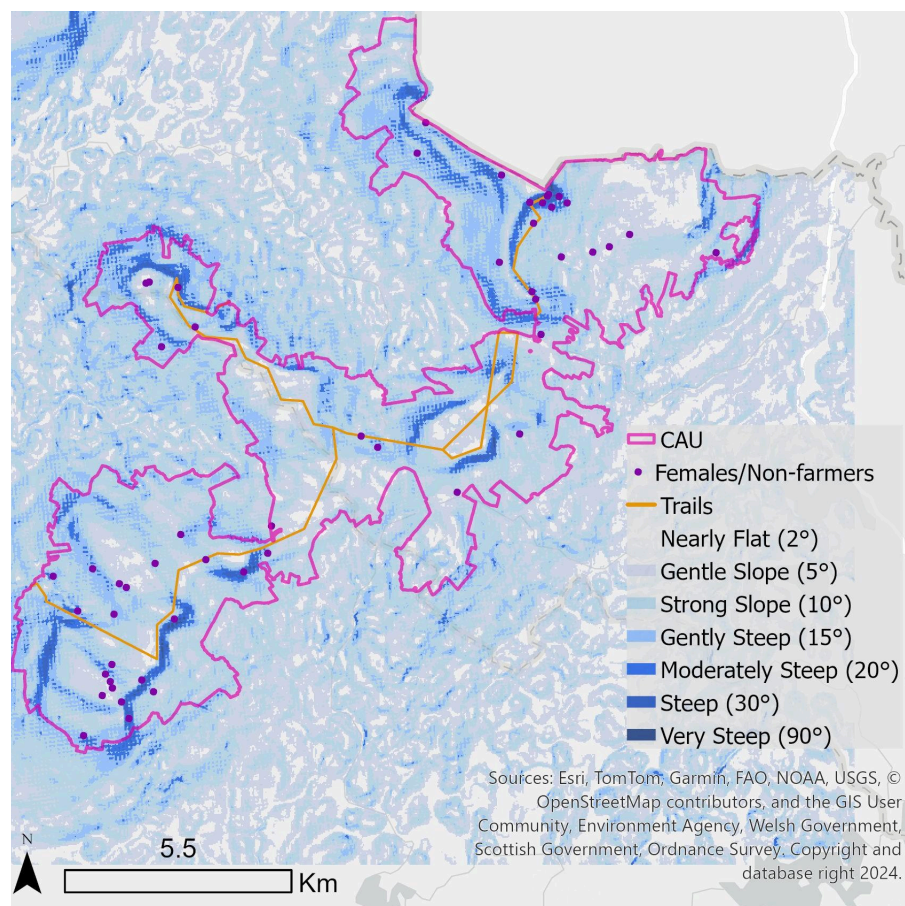


Fig. 6 (a) The two subgroups that had evidence supporting slope difference, comparing participant and random point sets, were Females and Non-farmers. Selected walking trails are naked, with a legend indicating terrain steepness.

3.3.2 Land Type

Strong evidence supported density difference within commonage and freehold areas (Table 9). The tested ratio (DR) indicated commonage areas to hold two times the density, compared with freehold land. Expected density under null condition was 68% for commonage areas, while observed density was found to be 82%.

Only Females and Young Roots lacked evidence of point difference. All other subgroups favoured commonage areas between two to three times the rate of freehold, with significant results. Strongest commonage preference was among Deep Roots and Males.

Table 10. Land Type density difference result summary

Land Type	<i>n</i>	CI Lo	CI Hi	DR	p	BH p
Overall	34	1.42	3.62	2.14	0.0005	-
Subgroup						
Female	11	0.81	3.96	1.56	0.20	0.22
Non-farmer	17	1.15	5.44	2.14	0.015	0.02
Deep Roots	21	1.70	7.17	3.01	0.0002	0.0008
Under 6 Mo	14	1.17	4.65	2.06	0.01	0.015
Over 6 Mo	19	1.18	4.51	2.06	0.009	0.015
Young Roots	12	0.75	2.47	1.24	0.43	0.43
Male	21	1.48	5.45	2.48	0.0002	0.0008
Farmer	17	1.30	4.48	2.13	0.0024	0.006

3.3.3 Dúchas

Results comparing distance to Dúchas markers, between participant and random groups, were statistically significant (Table 11), with participant distance found 1.8 times closer than random points. The median participant distance was less than the random median (3772 m).

Similar results were found for all subgroups after Benjamini-Hochberg correction (Benjamini and Hochberg, 1995). Subgroups reporting the closest medians to Dúchas markers were Young Family Roots and Females, with farthest subgroups Farmers and Exposure Under 6 Months.

Table 11. Dúchas distance result summary.

Dúchas Distance						
	<i>n</i>	CI Lo	CI Hi	Med	<i>p</i>	BH <i>p</i>
Overall	34	1712.5	3082.9	2059.4	0.0005	-
Subgroup						
Female	11	1712	3022	1958	0.001	0.001
Non-farmer	17	1712	3775	2059	0.0005	0.0008
Deep Roots	21	1712	3193	2059	0.0005	0.0008
Under 6 Mo	14	1712	4273	2571	0.008	0.008
Over 6 Mo	19	1712	3022	1980	0.0005	0.0008
Young Roots	12	1712	3083	1835	0.0005	0.0008
Male	21	1712	3193	2059	0.0005	0.0008
Farmer	17	1378	3083	2406	0.004	0.005

3.3.4 Rating

Six pre-defined sites were rated by five or more participants. The average score for each site was four or higher. Of the six points, only one (Mullaghgrave Mass Rock) was a historic site included in national databases. Four points referred to relatively long walking and hiking trails (Benbeg and Cuilcagh Walk, Glangevlin to Slieve Anierin Mountain Walk, Benbrack Mountain Loop, and The Playbank to Benbrack Mountain Trail), and one point (Ultracht Memorial) was found via social media.

Table 12. Rated points distribution with percent of user use and weighted rating score, based on a five point scale.

Rated Sites				
Site	<i>n</i>	% of all Raters	w	Score
Mullaghgarve Mass Rock	14	48.3		4.57
Benbeg-Cuilcagh Walk	13	44.8		4.38
Ultach Memorial	9	31.0		4.44
Glangevlin-Slieve Anierin Walk	8	27.6		4.12
Benbrack Loop	7	24.1		4.00
The Playbank-Benbrack Trail	5	17.2		4.80

Chapter 4 DISCUSSION

4.1 Socio-Cultural Areas

In understanding whether the location of WaterLANDS sites differ from locally important socio-cultural areas, results are largely inconclusive. Overall map tests and all subgroup tests lacked significant results. Density trends in Map 1 did suggest WaterLANDS preference of around 2:1, while Map 2 trends slightly favoured remaining areas of CAU. Map 3 density trends suggested closer to a no preference result. Given the relatively small sample size, these trends may be due to chance.

For Map 1, expectation was for Farmers to show high restoration site preference, as sites may correspond with their own land holdings. However, Farmers reflected rather low density ratios, with only slight WaterLANDS preference. It was Exposure Over 6 Months and Deep Roots subgroups who suggested the strongest restoration site preference. Both of these subgroups reflect relatively high knowledge of the landscape, and likely include non-farming landowners.

Initial speculation was that Famers' above average knowledge of the landscape resulted in relatively even dispersal throughout CAU, rather than concentration in restoration sites. Their strong connection is reflected in the Connectedness Image results, as well as through broader literature (ACT and Hometree, 2025). Yet, it seems likely that those with deep family ties, and who spend much time in CAU, would also have above average landscape knowledge. If these density trends are not a result of chance, there may be factors unidentified in this study which contribute to these preferences.

Map 2 asked participants to mark areas of particular socio-cultural importance. In this, density trends suggested preference of CAU areas (outside of restoration sites) strongest among Farmers, Deep Roots, Exposure Over 6 Months. Again, all three of these categories reflect locals with extensive landscape knowledge. While far from statistically significant thresholds, these trends, among these particular subgroups,

may suggest a real mis-alignment between WaterLANDS sites and important socio-cultural areas.

Participants largely used Map 3 (Landscape Decisions) to speak about restoration and trail improvements. In this map, subgroups with the strongest preference outside of WaterLANDS sites were Exposure Under 6 Months and Non-farmers. The strongest preference within WaterLANDS sites were noticeably weaker than the density trends in Map 1. However, Farmers and Exposure Over 6 Months had the strongest WaterLANDS preference trend in this map. It is likely that these more-knowledgeable groups are aware of where restoration is most-urgently needed. This suggests that WaterLANDS' actions may be aligning well with local interests and knowledge.

This may be a situation in which, the locations where locals desire restoration actions, are not the locations that neatly align with important socio-cultural areas. The reason for designing three map themes was based on this possibility. As these activities failed to produce statistically supported trends, it seems that other methods are needed. Given the small population within CAU it seems unlikely that a larger survey would aid in elucidating local interests related to restoration.

Considering the difficulty of obtaining strong statistical results from small populations, I speculate that deliberations would be a more fitting avenue to amplify local voices. As well, compared with surveys, deliberations can offer more bottom-up opportunities, such as locals playing an active role in shaping mapping activities and debate themes (IPBES, 2022; Oberthür et al., 2025).

4.2 Values, Connection, and Landscape Correlations

Strong evidence was found that participants were more likely to agree with intrinsic value statements, compared with relational values. Notably, one intrinsic statement from the survey supported forests, without differentiating between native and plantation forests. This was one of the three least-endorsed statements overall. Nearly 20% of participants commented strongly against sitka plantations, which

corresponded with WaterLANDS' initial survey concern about forestry-related statements (Bullock, 2025). Had the survey differentiated forest type, it is likely that there would have been even stronger evidence of intrinsic endorsement.

Instrumental value endorsement greater than relational value was found slightly below a meaningful threshold in the Value test. Additional indication of instrumental value was found in comments relating to farming, recreation, aesthetic appreciation, and cultural practice.

Comments such as, 'I have a deep spiritual and cultural connection to the area' and '[t]o me it means home... I am currently getting my wedding rings designed, and am hoping to have the outline of these mountains on them', reflect the presence of relational values. Relational value agreement is also visible in the Value scale medians. In the Connection Image, Farmers reported the highest levels of connection, and no Farmer selected either the least or second least connectedness level. Commonage preferences likely corresponded with greater cultural embeddedness in these areas and may align with relational values.

These results do not directly align with the values identified by WaterLANDS: '[i]nstrumental values are predominant, but relational values to the landscape are evident too' (Bullock et al., 2024, p.114). Some of this difference can be attributed to the fact that WaterLANDS' focus was exclusively on farmers, while the survey results reflect a fairly even split between farmers and non-farmers. However, intrinsic values can be inferred among survey farmers. If half of the survey sample demonstrated minimal intrinsic-endorsement, this would have prevented the strong intrinsic results. Thus, it is likely that intrinsic values were present among WaterLANDS' farmers, but these values were not directly identified. I suspect the primary cause of differing value assessments was the use of differing methodology (i.e. an online value survey and comment analysis, versus in-person interviews). As the IPBES (2022) notes, combining assessment methods can reveal greater diversity in a community's values.

For both farmers and non-farmers, expression of intrinsic value may not fit as readily into cultural norms or language forms, compared with statements that reveal

instrumental values. For example, a participant mentioning farming would quickly reveal instrumental values, while revealing intrinsic or relational values may require a more personal interview, or require questions directly pertaining to these values. Among survey comments, intrinsic values were only clear in Map 3, which specifically focused on Landscape Decisions: '[t]he poor mountaintop is in shite. Lets get it revegetated' and '... [l]ook after plants and wildlife.' Community and Farming reports reflect a similar pattern (ACT and Hometree, 2025; Quality Matters, 2025).

Comparatively, the survey comment, 'this end of the Cuilcagh mountain ridge... sometimes it is covered in snow. In the summer it glows red in the sunset' is not as clear to categorise. As value categories have fuzzy, overlapping boundaries, can change over time, and the qualitative nature of categorisation carries interpreter-subjectivity, it is difficult to understand without further conversation if this participant is expressing intrinsic value, along with instrumental-appreciation.

The term 'farmer' inherently refers to instrumental value (i.e. the practice of farming). This may bias perspective, suggesting that instrumental values dominate relational or intrinsic values, among farmers. Given this, along with noted barriers in identifying intrinsic value, along with WaterLANDS not directly identifying these values, there is a possibility that agri-scheme conservation agents are missing these farmer-values across Ireland. With the lack of trust between conservation agents and farmers continuing to be a pressing issue, increased identification of intrinsic value among farmers may present an opportunity to rebuild relationships from a place of shared-value. To this end, the no-cost and relative accessibility of a standardised value survey may be an important tool-addition for conservation agents.

4.3 Perspective Divergence

I was able to identify a slight pattern of divergence among two variable subgroups, Non-farmers and Females. In relation to Non-farmers, two tests directly compared Farmers and Non-farmers, the Upland Connection test and the word-frequency test. Statistically significant evidence found indicating difference between Farmers and Non-farmers.

Further divergence was suggested in the slope test. Subgroup divergence is potentially suggested in tests where one subgroup produces statistically meaningful evidence, while the other does not. Non-farmers produced results about a significance threshold, and evidence of steeper slope preferences, compared with the random slope median. Contrasting this, evidence for Farmers fell below the null slope, suggesting preference for flatter areas; although Farmer results did not reach a significant threshold.

For Females, only suggested divergence was found. Slope preference was statistically significant for Females, who had the highest slope median of all subgroups. Males and Farmers, on the other hand, had the lowest median slopes, with Farmers actually trending below the random median. However, Males and Farmers lacked significant results to support the reality of these trends. A weaker suggested divergence among Females was found in the land type test. Most subgroups had statistically significant evidence of commonage preference, with rates of 2.06 - 3.01. Females and Young Family Roots, however, had preference rates between 1.24 - 1.56; although, as these trends lack strong p value evidence, they are caused by chance.

While divergence of Female perspective is only suggested, the possibility of divergence is made stronger when considering that women are underrepresented in this survey. Census records indicate that approximately 50.8% of the relevant population is female (CSO, 2022). Of the 39 participants who identified gender, only 31% identified as female. Based on these demographics, in order for Females to produce statistically strong results, concentrated perspective must be present. This is found with slope preference.

4.4 Overall

Returning to the primary question of whether agri-scheme restorations meaningfully include locals, my predominant assessment is that the Irish context, combined with

current policy implementation, prevents meaningful inclusion. This conclusion is supported by literature analysis and survey findings.

Among farmers, who are directly included in agri-schemes, the many reports of financial instability associated with agri-schemes suggests that tangible benefits are not being adequately delivered to farmers (Quality Matters, 2025). Along with this, Farmers' comments consistently reflect 'top-down' patterns, and a failure of the state to integrate their active voices into policy (ACT and Hometree, 2025; Kearney et al., 2025; Quality Matters, 2025). These are indications of low-quality inclusion (Oberthür et al., 2025; Otto, Oberthür and Schewe, 2025). Low-quality participatory process reinforces mistrust which, in turn, reduces the likelihood of ecological success (IPBES, 2022; Otto, Oberthür and Schewe, 2025).

Shared perspective is the dominant theme between farming and non-farming locals, reflected across reviewed literature (ACT and Hometree, 2025; Martin et al, 2025; Regan and Kenny, 2022; Quality Matters, 2025). Nonetheless, minor differences identified in survey findings and literature indicate that unique socio-group perspectives exist (ACT and Hometree, 2025; Martin et al, 2025; Regan and Kenny, 2022; Quality Matters, 2025). While small, the survey evidence supports this literature finding.

In this survey, gender was identified as one type of non-farming socio-group. Further identification of non-farming members was not possible in this context, based on limited demographic data. Which socio-groups comprise non-farmers will likely vary by region. The IPBES indicates that women and men differ in their ecological knowledge and stewardship (IPBES, 2022). If women are structurally excluded from planning, gender-specific ecological knowledge, which may be beneficial to ecosystem restoration, will be missed (IUCN, 2026).

Based on the literature review pertaining to gender, land inheritance and farming, it is clear that the perspectives of women are being underrepresented in the context of agri-scheme restoration. Not only are non-farming women excluded from agri-scheme restoration-participation, existing barriers also limit the voices of farming

females. Global underrepresentation of women in decision-making roles pertaining to conservation further intensifies this exclusion (UN Women, 2024).

Research explaining the interplay between structural barriers, social norms, and gender inequality was located. However, I did not find scholarship articulating how this interplay excludes women from the majority of agri-scheme restorations. In the context of Ireland's private land composition, this effectively excludes women from most restoration in Ireland. This is likely true for other socio-groups among non-farmers, as well. These are large research gaps.

The Advisory Committee's report recommends continuance of agri-scheme restorations (IAC, 2026). Given the current situation, this would not only fail to contribute to UN SDG 10 (Reducing Inequality) and SDG 5 (Gender Equality), it would actually increase inequality (Roche, MacNamara and Hurley, 2025).

More, calls to expand the time frames of agri-schemes are strong (ACT and Hometree, 2025; IAC, 2026; Kearney et al., 2025; Quality Matters, 2025). Increased duration, of a decade or longer, would provide much-needed economic stability to farmers (Quality Matters, 2025). Unfortunately, a side effect of this may mean cementing present gender inequalities into the future.

WaterLANDS' consideration of a community-wide deliberation offers hope to this situation (Bullock et al., 2024; Cosier, Ferrara Richards, 2023). This demonstrates that aspects of meaningful local inclusion may be possible in the context of agri-scheme restorations.

4.5 Limitations

As CAU borders Northern Ireland, inclusion of all locals would have been highly preferred. Similarly, in-person participatory mapping would have been an important alternative. Time limited these possibilities. In relation to data access, exploring possible ecological correlations via Collaborative Action for the Natural Network's CAU research, although I was unable to access this data (Interreg, 2023).

Endorsement by the European Commission and cost-accessibility prompted my use of PARTIMAP in this research (PARTIMAP, no date). The choice of their point function was based on use-accessibility but one participant noted this a barrier to mapping-choice.

While genders beyond binary female-male categories are identified in many cultures, such as Māhū in Hawaiian cultures, or Intersex in science (Ainsworth, 2015; Associated Press, 2023; Gladstone, 2025), only binary genders references were found in the IPBES (2022) and in Ireland's gender statistics (CSO, 2025).

4.6 Recommendations

Universities can transform conservation-related sciences by preparing future agents in cross-disciplinary programs (Martin, 2020; Moon et al., 2019). Along with combining skill sets, experience in facilitation could be pivotal, future stakeholder roles (Partners Training for Transformation, 2023).

Both locals and conservation agents can look for openings to enact participatory processes in current paradigms. Conservation agents can seek ways to identify potentially obscured values, such as by combining a value survey with more locally-attuned methods (IPBES, 2022); Locals and agents can upskill themselves in facilitations; Locals and agents can utilise power mapping or related tools to address power imbalance in restoration projects (Activists Handbook, 2024; Community Work Ireland, no date).

Chapter 5 CONCLUSION

Socio-cultural findings comparing selection ratio in WaterLANDS sites with remaining CAU area were primarily inconclusive. In exploring what values are important to locals, combined methods of a value survey along with comment analysis found strong intrinsic and instrumental values, and modest relational value. Strong evidence was found of proximity correlation between participant points and

Dúchas markers, and most subgroups indicated preference of commonage areas. Non-farmers and Females were found to prefer steeper slopes likely linked to mountain trails. While shared values among all groups were present, evidence from Non-farmers and Females suggested they hold unique perspectives, not found among Farmers.

Identification of structural exclusion of Non-farmers and Females in current agri-scheme restoration was primarily achieved through literature review, and is modestly supported in these findings. These socio-group exclusions work against UN sustainability goals 10 and 5, reducing social inequality and achieving gender equality. Along with failing to promote equity and diversity, this research has found that current agri-scheme restorations fall short of meaningful participatory processes. Exploring intrinsic values among farmers presents an opportunity to rebuild trust between farmers and conservation agents

As Ireland's history has shown, the manner in which a policy is implemented can cause serious harm (Heritage Council, 1999; Sargent and McSweeney, 2021). Conversely, by making agri-scheme deliberations the norm, meaningful, transformative change may be possible. The broadly shared perspectives identified among farming and non-farming communities, as well as both groups directly requesting more forums for exchange, suggest that a deliberation-norm may be well within reach (ACT and Hometre, 2025; Quality Matters, 2025).

Chapter 6 REFERENCES

ACT and Hometree (2025) *Community conversations synthesis report*.

Available at:

https://be1d489e-7aa0-4c71-a88c-5dc314c217f6.filesusr.com/ugd/9a85d8_25829a92f39e47babf007e425ed3f4c9.pdf (Accessed: date not recorded — please confirm).

Activist Handbook (2024) *Power mapping*. Available at:

<https://activisthandbook.org/strategy/workshops/power-mapping> (Accessed 3 August 2026).

Ainsworth, C. (2015) 'Sex redefined', *Nature*, 518(7539), pp. 288–291.

Associated Press (2023) 'Long heritage of Native Hawaiian gender-fluidity showcased', *Indian Country Today*, 27 June. Available at:

<https://ictnews.org/news/long-heritage-of-native-hawaiian-gender-fluidity-showcased/> (Accessed 28 July 2026).

Astor-Aguilera, M.A. and Harvey, G. (eds) (2018) *Rethinking relations and animism: personhood and materiality*. Abingdon, Oxon: Routledge.

Beirne, J.M. (2023) *Ireland: land theft, property relations, and Ireland's colonial regime*. Available at: <https://hdl.handle.net/10315/41786> (Accessed 5 July 2026).

Benjamini, Y. and Hochberg, Y. (1995) 'Controlling the false discovery rate: a practical and powerful approach to multiple testing', *Journal of the Royal Statistical Society Series B: Statistical Methodology*, 57(1), pp. 289–300.

Besag, J. and Diggle, P.J. (1977) 'Simple Monte Carlo tests for spatial pattern', *Applied Statistics*, 26(3), p. 327.

Blessing, J. (2025) 'What does gender equality have to do with nature and biodiversity?', *UNDP*. Available at: <https://www.undp.org/nature/blog/what-does-gender-equality-have-do-nature-and-biodiversity> (Accessed 6 July 2026).

Brawley-Chesworth, A., Marks, D. and Clarke, D. (2026) 'Adaptation isn't for farmers: narratives of injustice around climate adaptation in Irish agriculture', *Agriculture and Human Values*, 43(1), p. 43.

Brokensha, D., Warren, D.M. and Werner, O. (eds) (1980) *Indigenous knowledge systems and development*. Washington, D.C.: University Press of America.

Brown, E.N. (2016) 'Lecture 11: Monte Carlo and bootstrap methods' [Lecture], 9.07 Introduction to Statistics for Brain and Cognitive Sciences. MIT OpenCourseWare.

Bullock, C. (2025) *Email to Erin Bell*, 13 November.

Bullock, C. et al. (2024) *Report on deliberative process and stakeholder values* (D2.2). WaterLANDS. Available at: <https://cdn.sanity.io/files/34jdpbeg/production/058960fd088e3a0c1209c1e049f98f91e1a016dc.pdf> (Accessed 8 July 2026).

Bürkner, P.-C. (2017) 'brms: an R package for Bayesian multilevel models using Stan', *Journal of Statistical Software*, 80, pp. 1–28.

Bürkner, P.-C. and Vuorre, M. (2019) 'Ordinal regression models in psychology: a tutorial', *Advances in Methods and Practices in Psychological Science*, 2(1), pp. 77–101.

Central Statistics Office (2022) *Census of population 2022*. Available at: <https://www.cso.ie/en/statistics/population/censusofpopulation2022/> (Accessed 21 November 2025).

Central Statistics Office (2024) *Demographic profile of farm holders farm structure survey 2023*. Available at: <https://www.cso.ie/en/releasesandpublications/ep/p-fss/farmstructuresurvey2023/demographicprofileoffarmholders/> (Accessed 6 July 2026).

Central Statistics Office (2025a) *Arrivals from Ukraine in Ireland series 1*. Available at: <https://www.cso.ie/en/releasesandpublications/fp/p-aui/arrivalsfromukraineinirelandseries1/> (Accessed 5 December 2025).

Central Statistics Office (2025b) *Key findings Ireland's UN SDGs — goal 5 gender equality 2024*. Available at: <https://www.cso.ie/en/releasesandpublications/ep/p-sdg5/irelandsunsdgs-goal5genderequality2024/keyfindings/> (Accessed 6 July 2026).

Central Statistics Office (2025c) *Arrivals from Ukraine in Ireland series 17*. Available at:

<https://www.cso.ie/en/releasesandpublications/FP/p-aui/arrivalsfromukraineinirelandseries17/> (Accessed 5 December 2025).

Chamaillé-Jammes, S. (2019) 'A reformulation of the selection ratio shed light on resource selection functions and leads to a unified framework for habitat selection studies' [Preprint]. Available at: <https://doi.org/10.1101/565838> (Accessed 1 August 2026).

Chico, Goggins and Gallogly (2023) *Restoration management plan Irish action site*. WaterLANDS.

Community Work Ireland (no date) *Continuous practice development*. Available at: <https://www.cwi.ie/our-work/continuous-practice-development/> (Accessed 3 August 2026).

Conway, K. and O'Mullane, M. (2025) 'Hidden hardship: understanding the factors affecting women's mental health in agriculture in Ireland', *Journal of Public Health*.

Cosier, J., Ferrara, F. and Richards, C. (2023) *Strategy for community engagement at the action sites* (D5.3). WaterLANDS. Available at: <https://cdn.sanity.io/files/34jdpbeg/production/2c69c9d50f1106ed72b53469bd4b802b6519c02f.pdf> (Accessed 8 July 2026).

Crowley, P.H. (1992) 'Resampling methods for computation-intensive data analysis in ecology and evolution', *Annual Review of Ecology and Systematics*, 23(1), pp. 405–447.

Cuilcagh Ramblers (2001) *Cuilcagh Ramblers* [Facebook]. Available at: <https://www.facebook.com/cuilcagh.ramblers/> (Accessed 4 July 2026).

Curtin, M. (2021) 'A history of women's land rights in Ireland', *RTÉ Brainstorm*, 8 March. Available at: <https://www.rte.ie/brainstorm/2021/0308/1201597-women-land-rights-ownership-in-ireland/> (Accessed 6 July 2026).

Curtin, M. (2025) 'Unearthing the past: women and land ownership in Ireland', *Rural Women's Studies Association*, 26 March. Available at: <https://ruralwomensstudies.org/unearthing-the-past-women-and-land-ownership-in-ireland/> (Accessed 6 July 2026).

Curtin, M., Murphy, C., Woods, U. and Cross, C. (2024) 'Land is a huge integral part of our identity: patriarchy and the gender asset gap', *Sociologia Ruralis*, 64(4), pp. 685–708.

Curtin, M., Murphy, C., Woods, U. and Cross, C. (2025) 'The legacy of history: women and the ownership of land in Ireland', *Rural History*, 36(2), pp. 337–350.

Cycle Leitrim (2025) *Ultach Memorial*. Available at: <https://www.google.com/maps/place/Ultach+Memorial> (Accessed 8 June 2026).

De Smith, M., Goodchild, M. and Longley, P. (2025) *Geospatial analysis: a comprehensive guide*. 7th edn. Available at: https://www.spatialanalysisonline.com/HTML/index.html?introduction_and_terminology.htm (Accessed 3 June 2026).

Deeney, J. (2013) 'Legal advice, subdividing commonage land', *Agriland*. Available at: <https://www.agriland.ie/farming-news/legal-advice-subdividing-commonage-land/> (Accessed 15 June 2026).

Devine, B. (2025) 'Interview'. Interview by Erin Bell [Zoom], 4 December.

DHLGH (2025a) *Notice of newly designated Special Areas of Conservation (SACs) in Counties Cavan, Clare, Donegal, Galway, Kerry, Laois, Leitrim, Mayo, Offaly, Roscommon, Sligo*. Available at: <https://www.gov.ie/en/department-of-housing-local-government-and-heritage/publications/notice-of-newly-designated-special-areas-of-conservation-sacs> (Accessed 3 December 2025).

DHLGH (2025b) *Judgement issued by CJEU on case C-444/21 EU Commission v Ireland*. Available at: <https://www.gov.ie/en/department-of-housing-local-government-and-heritage/press-releases/judgement-issued-by-cjeu-on-case-c-44421-eu-commission-v-ireland/> (Accessed 4 December 2025).

Diamanti, van Santen and Duncan (2024) *Uncovering the effects of the Common Agricultural Policy (2023–2027) on women* (SWIFT Deliverable 5.3). Wageningen University and Research.

Díaz, S. et al. (2015) 'The IPBES Conceptual Framework — connecting nature and people', *Current Opinion in Environmental Sustainability*, 14, pp. 1–16.

Directorate-General for Energy (2024) *Report from the Commission to the European Parliament and the Council on the review of the regulation on the governance of the energy union and climate action*. Brussels: European Commission.

Downey, A. (2021) 'Bayesian and frequentist results are not the same, ever', *Probably Overthinking It*, 25 April. Available at: <https://www.allendowney.com/blog/2021/04/25/bayesian-and-frequentist-results-are-not-the-same-ever/> (Accessed 30 July 2026).

Dúchas (2026) *Places*. Available at: <https://www.duchas.ie/en/places> (Accessed 7 June 2026).

ESRI Ireland Content (2024) *Census 2022, CSO, Ireland by small area — feature service*. Available at: https://services6.arcgis.com/MmUrOQU5v1he9gfS/arcgis/rest/services/Census2022_CSO_Ireland_SAPS/FeatureServer (Accessed 5 December 2025).

European Commission (2026) *Women in farming in the EU: agriculture and rural development*. Available at: <https://agridata.ec.europa.eu/extensions/Geoportal/storymap-women-in-farming.html> (Accessed 27 July 2026).

European Life Commission (no date) *History of LIFE*. Available at: https://cinea.ec.europa.eu/programmes/life/history-life_en (Accessed 23 July 2026).

Flood, K. (2023) *The role of cultural ecosystem services and community-based conservation in the collaborative governance of Irish peatlands*. PhD thesis. University of Galway.

Flood, K., Mahon, M. and McDonagh, J. (2021) 'Assigning value to cultural ecosystem services: the significance of memory and imagination in the conservation of Irish peatlands', *Ecosystem Services*, 50, p. 101326.

Flood, K., Wilson, D. and Renou-Wilson, F. (2025) 'Evidence synthesis and knowledge integration for sustainable peatland management', *Land*, 14(7), p. 1397.

Food and Agriculture Organization of the United Nations (2025) *Agricultural land use*. Available at: <https://ourworldindata.org/grapher/agricultural-land?tab=chart&country=~IRL> (Accessed 17 June 2026).

Food and Agriculture Organization of the United Nations (2026) *Land area in square kilometres*. Available at: <https://ourworldindata.org/grapher/land-area-km?tab=chart&country=~IRL> (Accessed 17 June 2026).

Gladstone, L. (2025) 'History of Indigenous women', *Crash Course*, 14 October. Available at: <https://youtu.be/Dj8EjBQJD84> (Accessed 28 July 2026).

Goggins, G. (2026) *Email to Erin Bell*, 7 January.

Gould, R.K., Satterfield, T., Leong, K. and Fisk, J. (2025) 'The generations of cultural ecosystem services research', *Conservation Biology*, 39(5), p. e70065.

Griffin, J. (2026) 'We don't want to displace farming for nature restoration — minister', *Agriland*, 29 April. Available at: <https://www.agriland.ie/farming-news/we-dont-want-to-displace-farming-for-nature-restoration-minister/> (Accessed 15 July 2026).

Hall, J. (2019) 'Incorporating traditional ecological knowledge and cultural information into wetland protection, management, and restoration — Tulalip Reservation' [Webinar]. Washington, USA.

Harvey, H., Keen, J., Robinson, C., Roff, J. and Gross, T. (2018) 'Quantitative analysis of approaches to group marking'. arXiv. Available at: <https://doi.org/10.48550/ARXIV.1811.03420> (Accessed 1 August 2026).

Heritage Council (1999) *Impact of agriculture schemes and payments on aspects of Ireland's heritage*. Available at: https://www.heritagecouncil.ie/content/files/impact_agriculture_schemes_payments_irelands_heritage_1999_3mb.pdf (Accessed 3 July 2026).

Hiiker (2026) *Hike explorer*. Available at: <https://hiiker.app/explore> (Accessed 7 June 2026).

Himes, A. et al. (2024) 'Why nature matters: a systematic review of intrinsic, instrumental, and relational values', *BioScience*, 74(1), pp. 25–43.

Independent Advisory Committee (2025) *Committee*. Available at: <https://www.restorenature.ie/committee> (Accessed 1 July 2026).

Independent Advisory Committee (2026) *Independent Advisory Committee on Nature Restoration recommendations*. Available at: https://www.restorenature.ie/_files/ugd/9a85d8_79109345c92c4a58af2591d10db10ed0.pdf (Accessed 14 June 2026).

INHFA (2026) 'Farmer concerns around restoration plan outlined in survey', *News and Press*. Available at: <https://inhfa.ie/farmer-concerns-around-restoration-plan-outlined-in-survey/> (Accessed 14 July 2026).

Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (2022) *Methodological assessment of the diverse values and valuation of nature* (P. Balvanera et al. eds). Zenodo. Available at: <https://doi.org/10.5281/ZENODO.6522522> (Accessed 4 August 2026).

International Union for Conservation of Nature (2026) *How to ensure social outcomes in restoration* [Policy Brief]. Gland, Switzerland: IUCN.

Interreg (2023) *Collaborative action for the Natural Network*. Available at: <https://keep.eu/projects/20746/Collaborative-Action-for-th-EN/> (Accessed 3 August 2026).

Kearney, L. (2025) 'Interview'. Interview by Erin Bell [Zoom], 30 September.

Kearney, L., Bullock, C., McGuinness, S., Chico, G. and Goggin, G. (2025) *Irish Action Site Cuilcagh-Anierin Uplands SAC socio-economic study: results of interviews with farmers and wider stakeholders regarding attitudes to the peatland landscape, farming and restoration*.

Kim, H.-Y. (2017) 'Statistical notes for clinical researchers: chi-squared test and Fisher's exact test', *Restorative Dentistry & Endodontics*, 42(2), p. 152.

Krebs, C.J. (1989) *Ecological methodology*. New York: H. Collins.

Kruschke, J.K. (2021) 'Bayesian analysis reporting guidelines', *Nature Human Behaviour*, 5(10), pp. 1282–1291.

Land Development Agency (2026) *Public lands*. Available at: <https://lda.ie/public-lands/> (Accessed 4 August 2026). [Note: in-text citation currently reads 2022 — please confirm which year is correct.]

Lang, D. and Chien, G. (2018) *wordcloud2: create word cloud by 'htmlwidget'* (Version 0.2.1) [Computer software]. Available at: <https://cran.r-project.org/web/packages/wordcloud2/index.html> (Accessed 31 July 2026).

Leader, A., Kinsella, J. and O'Brien, R. (2024) 'Making sense of farmland biodiversity management: an evaluation of a farmland biodiversity management communication strategy with farmers', *Agriculture and Human Values*, 41(4), pp. 1647–1665.

Leitrim Experience (2021) 'The Ultachs' [Facebook]. Available at: <https://www.facebook.com/LeitrimExperience.ie> (Accessed 9 June 2026).

Lengieza, M.L., Aviste, R. and Richardson, M. (2023) 'The human–nature relationship as a tangible target for pro-environmental behaviour: guidance from interpersonal relationships', *Sustainability*, 15(16), p. 12175.

Lengieza, M.L., Aviste, R. and Swim, J.K. (2023) 'Nature as community: an overlooked predictor of pro-environmental intentions', *Journal of Environmental Psychology*, 91, p. 102127.

Lengieza, M.L. et al. (2025) 'A five-culture validation of the Environmental Value-Bases Scale: a measure of instrumental, intrinsic, and relational environmental values', *Sustainability*, 17(22), p. 10102.

Limpens, J., Bullock, C. and McGuinness, S. (2023) *Ecological and scalability plan for restoration at each action site* (D6.3). Available at: <https://cdn.sanity.io/files/34jdpbeg/production/a92800bab74b9a04398de7323adc8bd3d4d0d777.pdf> (Accessed 8 July 2026).

Mangiafico, S. (2026) 'Wilcoxon signed-rank test for two-sample paired data', *Summary and Analysis of Extension Program Evaluation in R*. New Brunswick, NJ: Rutgers Cooperative Extension. Available at: https://rcompanion.org/handbook/F_06.html (Accessed 30 July 2026).

Martin, L. et al. (2024) *Perceptions of climate change and policy among farmers and the public in Ireland*. ESRI.

Martin, V.Y. (2020) 'Four common problems in environmental social research undertaken by natural scientists', *BioScience*, 70(1), pp. 13–16.

Mattijssen, T.J.M. et al. (2020) 'Relational values of nature: leverage points for nature policy in Europe', *Ecosystems and People*, 16(1), pp. 402–410.

McGurk, E., Hynes, S., Manton, R., Thorne, F. and Clifford, E. (2019) 'Greenways, recreational access and landowner willingness to accept: a contingent valuation study of farmers in Ireland', *Journal of Environmental Planning and Management*, 62(13), pp. 2375–2392.

Moon, K. et al. (2019) 'Expanding the role of social science in conservation through an engagement with philosophy, methodology, and methods', *Methods in Ecology and Evolution*, 10(3), pp. 294–302.

Mountaineering Ireland (2026) *Access policy*. Available at: <https://www.mountaineering.ie/content/AccessPolicy/204> (Accessed 15 June 2026).

National Monuments Service (2025a) *National Monuments Service — archaeological survey of Ireland*. Available at: <https://data.gov.ie/dataset/national-monuments-service-archaeological-survey-of-ireland> (Accessed 9 June 2026).

National Monuments Service (2025b) 'Archaeological survey of Ireland dataset'. Available at: https://services-eu1.arcgis.com/HyjXgkV6KGMSF3jt/arcgis/rest/services/SMR_OpenData/FeatureServer (Accessed 7 June 2026).

National Parks & Wildlife Service (2016) *Site synopsis: Cuilcagh-Anierin Uplands SAC*. Available at: <https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY000584.pdf> (Accessed 1 December 2025).

National Parks & Wildlife Service (2017) *Designation process: peatland issues and land designation section*. Available at: <https://www.npws.ie/protected-sites/designation-process> (Accessed 4 December 2025).

National Parks & Wildlife Services, Perrin, P., Roch, J., Barron, S., Daly, O., Hodd, R., Muldoon, C. and Leyden, K. (2013) *Site report no. 13: Cuilcagh — Anierin Uplands cSAC (000584), Cos. Cavan and Leitrim — phase 3*. Available at: https://www.npws.ie/sites/default/files/publications/pdf/NSUH12_Cuilcagh_Anierin_Uplands_Report_01b_M.pdf (Accessed 1 December 2025).

National Research Council (2013) *Emerging understandings of group-related characteristics*. Washington, D.C.: National Academies Press.

Oberthür, S. et al. (2025) 'Reinforcing EU climate and democratic governance: enhancing public participation and deliberation', *GreenDeal-NET*, 29 May. Available at: <https://www.greendealnet.eu/Paper-EU-climate-democratic-governance> (Accessed 17 July 2026).

O'Brien, A. (2026) 'INHFA calls for extension of nature restoration plan consultation', *Agriland*, 10 June. Available at:

<https://www.agriland.ie/farming-news/inhfa-calls-for-extension-of-nature-restoration-plan-consultation/> (Accessed 14 July 2026).

O'Donnell, C. (2026) 'Nature Restoration Plan “a major concern despite assurances”', *Agriland*, 1 May. Available at: <https://www.agriland.ie/farming-news/nature-restoration-plan-a-major-concern-despite-assurances/> (Accessed 15 July 2026).

Okoye, K. and Hosseini, S. (2024) *R programming: statistical data analysis in research*. Singapore: Springer Nature.

O'Reilly, A. (2025) *The mental wellbeing of farmers in Ireland*. PhD thesis. National University of Ireland Maynooth.

O'Riordan, M., McDonagh, J. and Mahon, M. (2016) 'Local knowledge and environmentality in legitimacy discourses on Irish peatlands regulation', *Land Use Policy*, 59, pp. 423–433.

O'Sullivan, K. (2026) 'Watch: Groundbreakers — driving change for women farmers', *Agriland*. Available at: <https://www.agriland.ie/farming-news/groundbreakers-life-brings-barriers-and-thats-what-we-want-to-champion/> (Accessed 6 July 2026).

Otto, S., Oberthür, S. and Schewe, L. (2025) 'The EU's strategic dialogues — are they just “participation washing”?', *EUobserver*, 20 May. Available at: <https://euobserver.com/63989/the-eus-strategic-dialogues-are-they-just-participation-washing/> (Accessed 29 June 2026).

PARTIMAP (no date) *Map-based survey*. Prague: Heinrich Böll Foundation. Available at: <https://www.partimap.eu/en> (Accessed 3 August 2026).

Partners Training for Transformation (2023) *Creative facilitation*. Available at: <https://www.trainingfortransformation.ie/index.php/what-we-do/courses/creative-facilitation> (Accessed 3 August 2026).

Pascual, U. et al. (2023) 'Diverse values of nature for sustainability', *Nature*, 620(7975), pp. 813–823.

Pebesma, E. (2018) 'Simple features for R: standardized support for spatial vector data', *The R Journal*, 10(1), p. 439.

Post, K. (2024) *In kinship with the world: developing a novel instrument to assess human-nature relational values*. PhD thesis. Lesley University.

Price, J., Forstenhäusler, N., Graham, E., Osborn, T. and Warren, R. (2024) *Report on the observed climate, projected climate, and projected biodiversity changes for Cuilcagh-Anierin Uplands SAC under differing levels of warming*. Wallace Initiative.

Quality Matters (2025) *Drafting the Nature Restoration Plan: report from the Farming Leaders' Forum [NRP consultation]*. Available at:

https://www.restorenature.ie/_files/ugd/331b08_b5b63af3e1c4460484cf674ea3cbb6b.pdf (Accessed 26 June 2026).

R Core Team (2024) *R: a language and environment for statistical computing* (Version 4.4.1) [Computer software]. Vienna: R Foundation for Statistical Computing. Available at: <https://www.R-project.org/> (Accessed 30 July 2026).

Regan, Á. and Kenny, U. (2022) 'What do the public want to know about farming and why? Findings from a farmer-initiated public consultation exercise in Ireland', *Sustainability*, 29 April.

Roche, M., MacNamara, N. and Hurley, M. (2025) *Highlighting pathways to empower rural women to have sustainable and equitable livelihoods in farming (HER-SELF)* (DAFM Project 2022PSS127). Munster Technological University, Maynooth University and Teagasc. Available at: <https://www.maynoothuniversity.ie/sites/default/files/assets/document/HER-SELF%20summary%20report%20final%20online.pdf> (Accessed 28 July 2026).

Salter-Townshend, C. (2026) 'Nature & society need more ambitious nature restoration', *Irish Wildlife Trust*, 10 July. Available at: <https://iwt.ie/nrp-reaction/> (Accessed 15 July 2026).

Sangha, K.K. and Russell-Smith, J. (2017) 'Towards an Indigenous ecosystem services valuation framework: a North Australian example', *Conservation and Society*, 15(3), pp. 255–269.

Sargent, N. and McSweeney, E. (2021) 'Land grab: how agri-subsidies encourage Irish farmers to cut back on nature', *The Journal*, 11 October. Available at: <https://www.thejournal.ie/cash-cow-pt1-5565456-Oct2021/> (Accessed 6 July 2026).

Schmuck, P. and Schultz, W.P. (eds) (2002) *Psychology of sustainable development*. Boston, MA: Springer US.

Silge, J. and Robinson, D. (2016) 'tidytext: text mining and analysis using tidy data principles in R', *The Journal of Open Source Software*, 1(3), p. 37.

Smith, L.T. (2012) *Decolonizing methodologies: research and indigenous peoples*. 2nd edn. London: Zed.

Tailte Éireann (2025) *Land registry — glossary*. Available at: <https://tailte.ie/land-registry-glossary/> (Accessed 15 June 2026).

Tailte Éireann (2026) *Ireland's hub for Sustainable Development Goals*. Available at: <https://irelandsdg.geohive.ie/> (Accessed 11 July 2026).

UN Women (2024) 'Gender and biodiversity: a data brief', *UN Women Data Hub*, 20 October. Available at: <https://data.unwomen.org/publications/gender-and-biodiversity-data-brief> (Accessed 6 July 2026).

Van Rensburg, T.M., Murphy, E. and Rocks, P. (2009) 'Commonage land and farmer uptake of the rural environment protection scheme in Ireland', *Land Use Policy*, 26(2), pp. 345–355.

Van Riper, C.J. et al. (2017) 'Incorporating sociocultural phenomena into ecosystem-service valuation: the importance of critical pluralism', *BioScience*, 67(3), pp. 233–244.

Wainaina, P., Minang, P.A. and Muthee, K. (2023) 'Relational values within landscape restoration: a review', *Current Opinion in Environmental Sustainability*, 64, p. 101335.

Walsh, R. and Fox O'Mahony, L. (2018) 'Land law, property ideologies and the British–Irish relationship', *Common Law World Review*, 47(1), pp. 7–34.

Zafra-Calvo, N. et al. (2020) 'Plural valuation of nature for equity and sustainability: insights from the Global South', *Global Environmental Change*, 63, p. 102115.

Statement of Contributions

Claude (Haiku 4.5) October 2025 - January 2026

Claude (Sonnet 5.0) February 2026 - August 2026

During this period I used Claude for occasional reference searches.

Relevant sources were stored in Zotero but specific references and page correspondence is not known.

I no longer have links for all searches. Three such searches are provided below.

<https://claude.ai/share/b9168b7e-823f-49e8-bfb4-6295857e9512>

<https://claude.ai/share/cbdf0cc3-caa1-4d1d-be36-a241495ddfb8>

<https://claude.ai/share/876b1483-0525-4cc0-b0ca-e8a856bfc566>

For R based scripting I used Claude as a learning tool, describing what I needed, analyzing output, comparing scripts with external references, and then designing and writing my own script based on methods that I understood and had references for.

These sessions pertain to my statistical methods section, pp 20 - 24.

I no longer have links for these searches.

AI was not relied on for design or summary.

AI was not used for writing of this paper. Ideas and structure are my own..

Due to functioning issue of Zotero in Google Docs I used AI for a final citation check, comparing my in text work with my Zotero list.

During this I also checked for abbreviation use 4 Aug 2026

<https://claude.ai/share/8af28d77-9a61-4afd-a066-4fb840785491>

Acknowledgments

Elke Eichelmann. Whenever I enter a meeting stressed and confused, by the time I leave I understand the task at hand, and am filled with a sense of ease. Thank you for your insight, adaptability, patience, and kindness. What a gift you are, to our-student minds, and simply as an inspiring human in the world.

Sadhbh Burt Fitzgerald. Míle buíochas. From across the video and through email, Sadhbh you made me feel instantly welcome and laughing. thank you for weaving and binding and tying all the threads together.

Craig Bullock. Thank you for the generosity of your time, your feedback, helping to shape the survey and passing along research tips.

Barney Devine. What a pleasure to meet you and learn about your work. It's such a joy and wonder filled project you've created.

Laura Kearney. Your knowledge of the area helped me to actually see it in my mind. I can still pull up those mental photos, just from talking with you. Of course your writing has been invaluable. Thank you for taking the time.

Christine Mackey. I really appreciated talking with you. Your vantage point adds real texture in my from-a-far understanding.

Gary Goggins Thank you for getting the survey word out there, it made a big difference.

Shane Mc Guinness. Shane, many thanks for the job and starting me on the path.

Sadhbh Burt Fitzgerald

My father, Richard Bell. Your age-appropriate testing skills shed light on tech usability that I never would have realised on my own. Truly, I couldn't have done this without you.

To the survey participants, buíochas ó chroí.

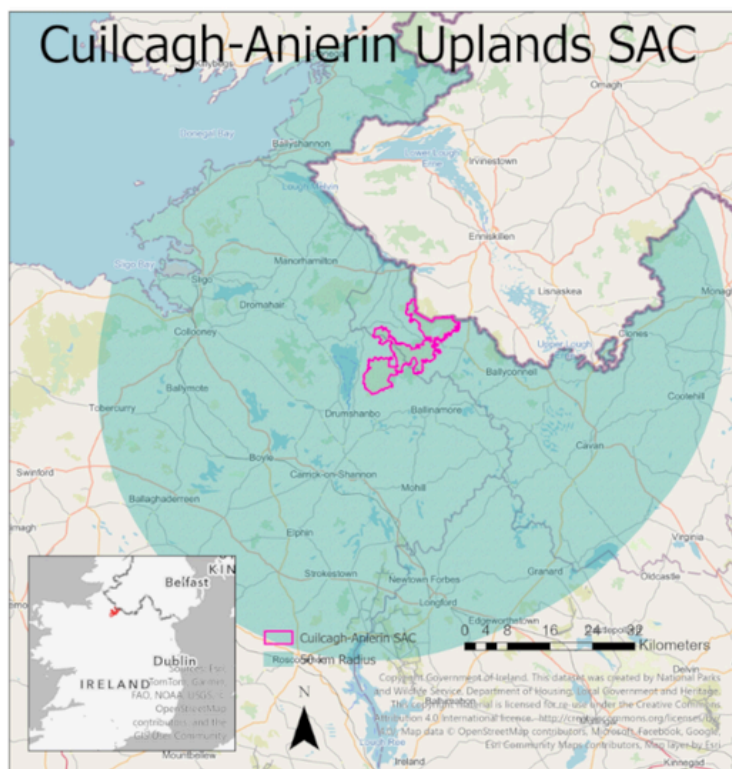
Appendix A

SURVEY FLYER AND LINK

Online Link

<https://www.partimap.eu/en/p/CuilcaghAnierin/0>

Invitation Flyer



Local Survey

Looking for participants who are:

- * 18 years or older
- * Residents of Ireland
- * Live within 50 km of Cuilcagh-Anierin SAC

About this Survey:
Seeking local perspectives on culturally and socially important areas within Cuilcagh-Anierin.



University College Dublin
An Coláiste Ollscoile, Baile Átha Cliath

Follow link or QR code to learn more
<https://www.partimap.eu/en/p/CuilcaghAnierin/0>

INFORMATION SHEET

Relational Values and Socio-Cultural Layers in Restoration Site Selection: A Case Study of WaterLANDS' site Cuilcagh-Anierin Uplands SAC

Invitation

Hello, my name is Erin Bell, I am a student conducting research to gain more insight into how locals relate to Cuilcagh-Anierin Uplands. The information below and consent form describe the study you are invited to take part in. If you have any questions or concerns, you are welcome to contact me:

erin.bell@ucdconnect.ie

Ms. Erin Bell - University College Dublin

School of Biology and Environmental Science

About this Research

I hope to learn more about particular areas of cultural or social importance, from the perspective of locals. Using response data, I will create a map that indicates locally selected areas. I will then compare these areas with the site selections made during recent restoration activities organized by WaterLANDS.

Why Have I Been Invited?

Adult residents living within 50 km of Cuilcagh-Anierin Uplands SAC are invited, with the hope of around 100 participants.

Taking Part - What do I need to do?

This online survey includes 4 map-based questions with an option to provide written comment, and around 30 multiple choice questions. You can contact me for support or accommodation needs.

If you decide to take part, this involves:

- approximately 15 minutes to complete
- you will need to click the 'SUBMIT' button at the end of the survey.

Do I have to Take Part?

No, this survey is voluntary.

Can I Withdraw?

Yes, you can withdraw. If you decide not to participate, no negative consequences will occur. If you change your mind, do not click the Submit button at the end and your responses will not be included.

Benefits

What are the benefits of my participation in this research: to me, to the researchers, and to any third parties involved? By participating in this survey, your responses may influence future landscape-related policies and practices. Your voice can help increase community-driven decisions. Additionally, you will be supporting me in the completion of my degree.

Survey Results

How will I find out what happens with this research study? Participants' anonymous results will be published within my thesis, made available through the UCD library, or you can contact me directly. All participants can also view summarised results at the following url: <https://erinchristinebell.com/cuilcagh-anierin/>.

Are There Risks?

No risks are expected associated with this survey.

Personal Information

What information about me will be used in this research study? No information which reveals your identity will be disclosed. Age range and gender are optional demographic questions in this survey. These questions, like all the survey questions can be skipped without negative consequence.

Anonymisation

How will my personal data be protected? Will it be kept confidential? If any identifying data is shared by you in the open comment portion of the map questions, all such data will be anonymised prior to inclusion in data storage, and thesis or presentation material. All the members of the Research Team have taken General Data Protection Regulation (GDPR) training at University College Dublin (or equivalent). *What are my rights?* If you are able to identify your responses through your open comments, up to the point of anonymisation you have the right to correct your responses or withdraw your consent after survey submission. If so, you are entitled to:

- request access to your response data and to receive a copy of it

- request inaccurate personal data be corrected or deleted
- request deletion of your data

How Will My Data Be Used?

Response data will be entered into a secure database, combined with other participant responses. Analysis of this data will provide greater understanding about local perspectives in restoration and/or conservation activities within Cuilcagh-Anierin Uplands.

Data Access & Protection

Who will have access to my personal data? What will happen to my personal data?

This data will be accessed by only myself, Erin Bell. This data will be stored in anonymised format in a UCD google drive, under the control of my academic advisor, Elke Eichelmann. This data will only be used for the above, named research.

How long will my data be retained by this project?

This data will be stored for a period of 5 years, after which time it will be destroyed. This time period allows for potential future access in the case that support is needed for the research findings.

Lawful Basis of Personal Data

UCD will rely on the legal bases of Article 6.1(a) consent, Article 6.1(e) 'public interest' and for data that are more sensitive on the condition in Article 9.2 (j) 'scientific research purposes' of the General Data Protection Regulation to process any personal data.

Complaint

You may contact myself, Erin Bell, with data questions. If satisfactory answers are not provided, you may lodge a complaint with UCD's Data Protection Officer ~ email: gdpr@ucd.ie.

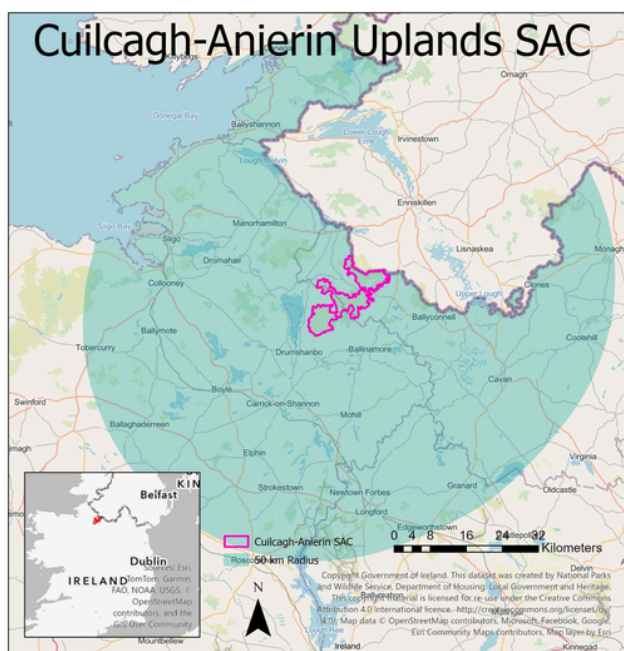
A Copy of Information and Consent Forms

can be found at the following url: <https://erinchristinebell.com/cuilcagh-anierin/>.

CONSENT SHEET

- I have read and understood the provided information about the survey and have had opportunity to ask questions.
- I understand that I don't have to take part in this study, I can opt out at any time, I don't have to give a reason for opting out, and I will receive no negative consequence for opting out.
- I give informed consent to take part in this research study having been fully informed of the risks, benefits and alternatives.
- I understand that procedures will be put in place to ensure that my data will be stored safely and securely to protect my identity and confidentiality.
- I understand that the findings of this study may be reported in summarised form at conferences and in journal publications, in a way that does not compromise my confidentiality.
- I understand that the anonymised data collected about me will need to be retained for potential future access to support the research findings.
- I understand where I can access a summary of the findings after the completion of the study.
- I understand that my survey responses will not be recorded unless I click on the final SUBMIT button.

SURVEY SCOPE



* Are you 18 years of age or older?

- ☒ Yes
- ☐ No

* Are you a resident of the Republic of Ireland?

- ☐ Yes
- ☐ No

* Do you live within approximately 50 km of Cuilcagh-Anierin Uplands Special Area of Conservation (SAC)

- ☐ Yes
- ☐ No

SURVEY

You and Cuilcagh-Anierin Uplands

Which term best describes your primary activity in Cuilcagh-Anierin Uplands?

- ☐ Farming
- ☐ Residence - Non-farming
- ☐ Recreation - Tourism
- ☐ Cultural Use (e.g. festival, foraging, turf use, etc)
- ☐ Work - Non-farming
- ☐ Other

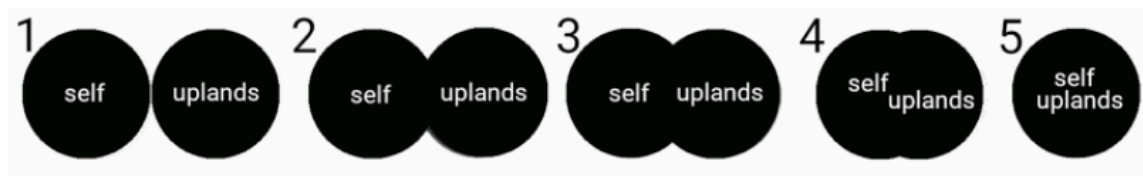
Approximately how many months per year do you spend time in Cuilcagh-Anierin Uplands?

- ☐ Less than 1 month
- ☐ 1 - 2 months
- ☐ 3 - 4 months
- ☐ 5 - 6 months
- ☐ Over 6 months

Including yourself, which option best describes the earliest generation of your family to arrive in this region?

- ☐ Yourself
- ☐ Parent(s)
- ☐ Grandparent(s)
- ☐ Great-grandparent(s)
- ☐ Great-great-grandparent(s) or earlier

Self-Uplands



Which image best describes your relationship with Cuilcagh-Anierin Uplands?

- ☐ Option #1
- ☐ Option #2
- ☐ Option #3
- ☐ Option #4
- ☐ Option #5

Map 1: Places of Connection

Consider areas within the upland,
boundary shown in *blue* on the map to the right.

**If you feel a strong sense of connection to a place(s) in this area,
follow the instructions to indicate 0 - 5 location(s).**

INSTRUCTIONS:

Below, there is a purple button.

To activate the marker tool, click the purple button.

When the tool is activated, you can click the map to place a marker.

Comment: After placing a marker on the map, a pop-up box will appear in the lower, left panel. You can comment on your marker in this box (e.g. *this is a trail that...*).

If you make a mistake, you can *delete* unwanted markers, below. To delete a marker, click the red trash-bin icon near the unwanted marker.

Adjust the Map:

Zoom in and out, or use *click-hold* to drag the map.

Click map once to create a place marker. COMMENT on your marker or EDIT markers in left-side panel.



Map 1: Places of Connection

Consider areas within the upland,
boundary shown in *blue* on the map to the right.

**If you feel a strong sense of connection to a place(s) in this area,
follow the instructions to indicate 0 - 5 location(s).**

INSTRUCTIONS:
Below, there is a purple button.
To activate the marker tool, click the purple button.
When the tool is activated, you can click the map to place a marker.

Comment: After placing a marker on the map, a pop-up box will appear in the lower, left panel. You can comment on your marker in this box (e.g. *this is a trail that...*).

If you make a mistake, you can *delete* unwanted markers, below. To delete a marker, click the red trash-bin icon near the unwanted marker.

Adjust the Map:
Zoom in and out, or use *click-hold* to drag the map.

Click map once to create a place marker. COMMENT on your marker or EDIT markers in left-side panel.

The map shows an upland area with a blue boundary. Place names visible on the map include: The Playbank, Glangevlin, Cullcagh, Benbrack, Bencroy, and Slieve Anierin. A purple button is located on the map near The Playbank.

Map 2: Cultural-Social Locations

Consider areas within the upland,
boundary shown in *blue* on the map to the right.

Indicate 0 - 5 locations that hold particular cultural or social importance (e.g. bilberry picking sites, traditional story locations, walking trails, rambling houses, etc.)

INSTRUCTIONS:

Below, there is a purple button.

To activate the marker tool, click the purple button.

When the tool is activated, you can click the map to place a marker.

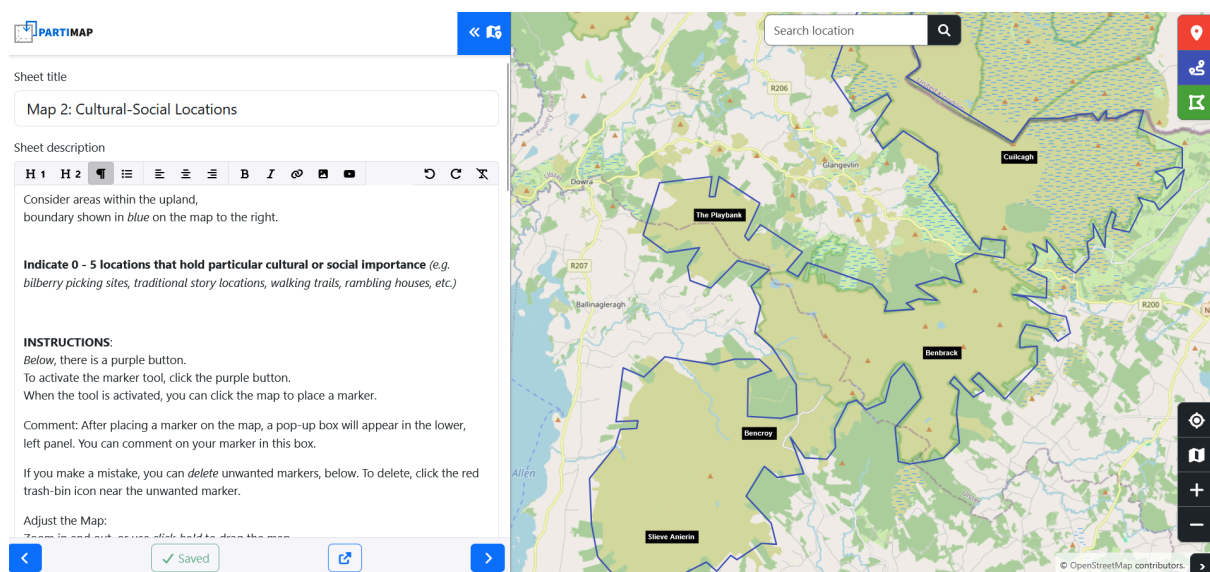
Comment: After placing a marker on the map, a pop-up box will appear in the lower, left panel. You can comment on your marker in this box.

If you make a mistake, you can *delete* unwanted markers, below. To delete, click the red trash-bin icon near the unwanted marker.

Adjust the Map:

Zoom in and out, or use *click-hold* to drag the map.

Click map once to create a place marker. COMMENT on your marker or EDIT markers in left-side panel.



Map 3: Landscape Decisions

Consider various forms of human-initiated landscape decisions (*e.g. preservation of current status, tourism development, rewilding, agricultural expansion, peatland restoration, recreational development, etc.*).

Comment on what you wish to occur in Cuilcagh-Anierin Uplands: **Indicate 0 - 5 area(s) of interest and comment what you desire for the selected area.**

INSTRUCTIONS:

Below, there is a purple button.

To activate the marker tool, click the yellow button.

When the tool is activated, you can click the map to place a marker.

Comment: After placing a marker on the map, a pop-up box will appear in the lower, left panel. You can comment on your marker in this box.

If you make a mistake, you can *delete* unwanted markers, below. To delete, click the red trash-bin icon near the unwanted marker.

Adjust the Map:

Zoom in and out, or use *click-hold* to drag the map.

Click map to begin and adjust shape. Double-click to end. COMMENT or EDIT area in left-side panel.



Map 3: Landscape Decisions

Consider various forms of human-initiated landscape decisions (*e.g. preservation of current status, tourism development, rewilding, agricultural expansion, peatland restoration, recreational development, etc.*).

Comment on what you wish to occur in Cuilcagh-Anierin Uplands: **Indicate 0 - 5 area(s) of interest and comment what you desire for the selected area.**

INSTRUCTIONS:
Below, there is a purple button.
To activate the marker tool, click the yellow button.
When the tool is activated, you can click the map to place a marker.

Comment: After placing a marker on the map, a pop-up box will appear in the lower, left panel. You can comment on your marker in this box.

If you make a mistake, you can *delete* unwanted markers, below. To delete, click the red trash-bin icon near the unwanted marker.

Adjust the Map:
Zoom in and out, or use *click-hold* to drag the map.

Click map to begin and adjust shape. Double-click to end. COMMENT or EDIT area in left-side panel.

© OpenStreetMap contributors

Map 4: Rating Sites

Last mapping question!

Below several locations labels are listed.

Rate *ONLY* the locations which hold some importance to yourself or the broader community.

After rating a site, comment on your rating in the pop-up box that will appear.

Markers on the map

Sweathouse

Cairn

Hut

Monument

Trail

 Cairn - Altcrook-Gowlan

 Cairn - Clogh

 Cairn - Cluster

 Cairn - Lacht an Phelim

 Hut - Trio

 Mullaghgarve Mass Rock

 Ultachs Memorial

 Sweathouse - Cornamucklagh North

 Sweathouse - Cortober

 Benbeg and Cuilcagh Walk

 Benbrack Mountain Loop

 Glangevlin to Slieve Anierin Mountain Walk

 The Playbank to Benbrack Mountain Trail

Last mapping question!

Below several locations labels are listed.

Rate **ONLY** the locations which hold some importance to yourself or the broader community.

After rating a site, comment on your rating in the pop-up box that will appear.

Markers on the map

Search...

- 📍 Cairn - Altrock-Gowlan
- 📍 Cairn - Clogh
- 📍 Cairn - Cluster
- 📍 Cairn - Lacht an Phelim
- 📍 Hut - Trio
- 📍 Mullanbane Mac Rock



Nature is important because it is inspirational.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Somewhat disagree
- ☐ Somewhat agree
- ☐ Agree
- ☐ Strongly agree

Ecosystems are important because they are part of our community, like neighbors.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Somewhat disagree
- ☐ Somewhat agree
- ☐ Agree
- ☐ Strongly agree

Plants and animals are important because they can teach people many lessons.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Somewhat disagree
- ☐ Somewhat agree
- ☐ Agree
- ☐ Strongly agree

Nature is important because of the relationships people form with it.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Somewhat disagree
- ☐ Somewhat agree
- ☐ Agree
- ☐ Strongly agree

Ecosystems are valuable because they are like family members.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Somewhat disagree
- ☐ Somewhat agree
- ☐ Agree
- ☐ Strongly agree

Nature is important because it strengthens our community.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Somewhat disagree
- ☐ Somewhat agree
- ☐ Agree
- ☐ Strongly agree

Nature is important because it is part of human spirituality.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Somewhat disagree
- ☐ Somewhat agree
- ☐ Agree
- ☐ Strongly agree

Nature is important because it is embedded in people's traditions.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Somewhat disagree
- ☐ Somewhat agree
- ☐ Agree
- ☐ Strongly agree

The environment has the right to flourish.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Somewhat disagree
- ☐ Somewhat agree
- ☐ Agree
- ☐ Strongly agree

Ecosystems have the right to exist.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Somewhat disagree
- ☐ Somewhat agree
- ☐ Agree
- ☐ Strongly agree

Nature is valuable for its own sake.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Somewhat disagree
- ☐ Somewhat agree
- ☐ Agree
- ☐ Strongly agree

Forests are important because they provide habitats for plants and animals.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Somewhat disagree
- ☐ Somewhat agree
- ☐ Agree
- ☐ Strongly agree

Ecosystems are valuable because they support healthy lives for plants and animals.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Somewhat disagree
- ☐ Somewhat agree
- ☐ Agree
- ☐ Strongly agree

Plants and animals are important because they are parts of a thriving ecosystem.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Somewhat disagree
- ☐ Somewhat agree
- ☐ Agree
- ☐ Strongly agree

Nature deserves to be healthy.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Somewhat disagree
- ☐ Somewhat agree
- ☐ Agree
- ☐ Strongly agree

Nature is important because it benefits people.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Somewhat disagree
- ☐ Somewhat agree
- ☐ Agree
- ☐ Strongly agree

Plants and animals are valuable because of the benefits they provide to people.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Somewhat disagree
- ☐ Somewhat agree
- ☐ Agree
- ☐ Strongly agree

Nature is important because it provides us with resources.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Somewhat disagree
- ☐ Somewhat agree
- ☐ Agree
- ☐ Strongly agree

The environment is important because it ensures human wellbeing.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Somewhat disagree
- ☐ Somewhat agree
- ☐ Agree
- ☐ Strongly agree

Nature is valuable because it improves our quality of life.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Somewhat disagree
- ☐ Somewhat agree
- ☐ Agree
- ☐ Strongly agree

Nature is important because it provides us with food and water.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Somewhat disagree
- ☐ Somewhat agree
- ☐ Agree
- ☐ Strongly agree

Ecosystems are valuable because they contribute to modern medicine.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Somewhat disagree
- ☐ Somewhat agree
- ☐ Agree
- ☐ Strongly agree

Biological processes in nature are valuable because they help clean water and air for people.

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Somewhat disagree
- ☐ Somewhat agree
- ☐ Agree
- ☐ Strongly agree



Demographics

Final 2 questions.

Be sure to **click the SUBMIT button** when you are done!

Select your age bracket:

- ☐ 18 - 30
- ☐ 31 - 45
- ☐ 46 - 59
- ☐ 60 - 75
- ☐ 76 or older

Gender:

- ☐ Female
- ☐ Male
- ☐ Other

Survey Conclusion - Open Comment. If there is anything you would like to add, do so below. Click SUBMIT to complete your survey.

