A Profile of Ireland's Uplands

AN ALL-ISLAND STUDY HIGHLIGHTING THEIR STRATEGIC IMPORTANCE

BRENDAN O'KEEFFE AND
CAROLINE CROWLEY

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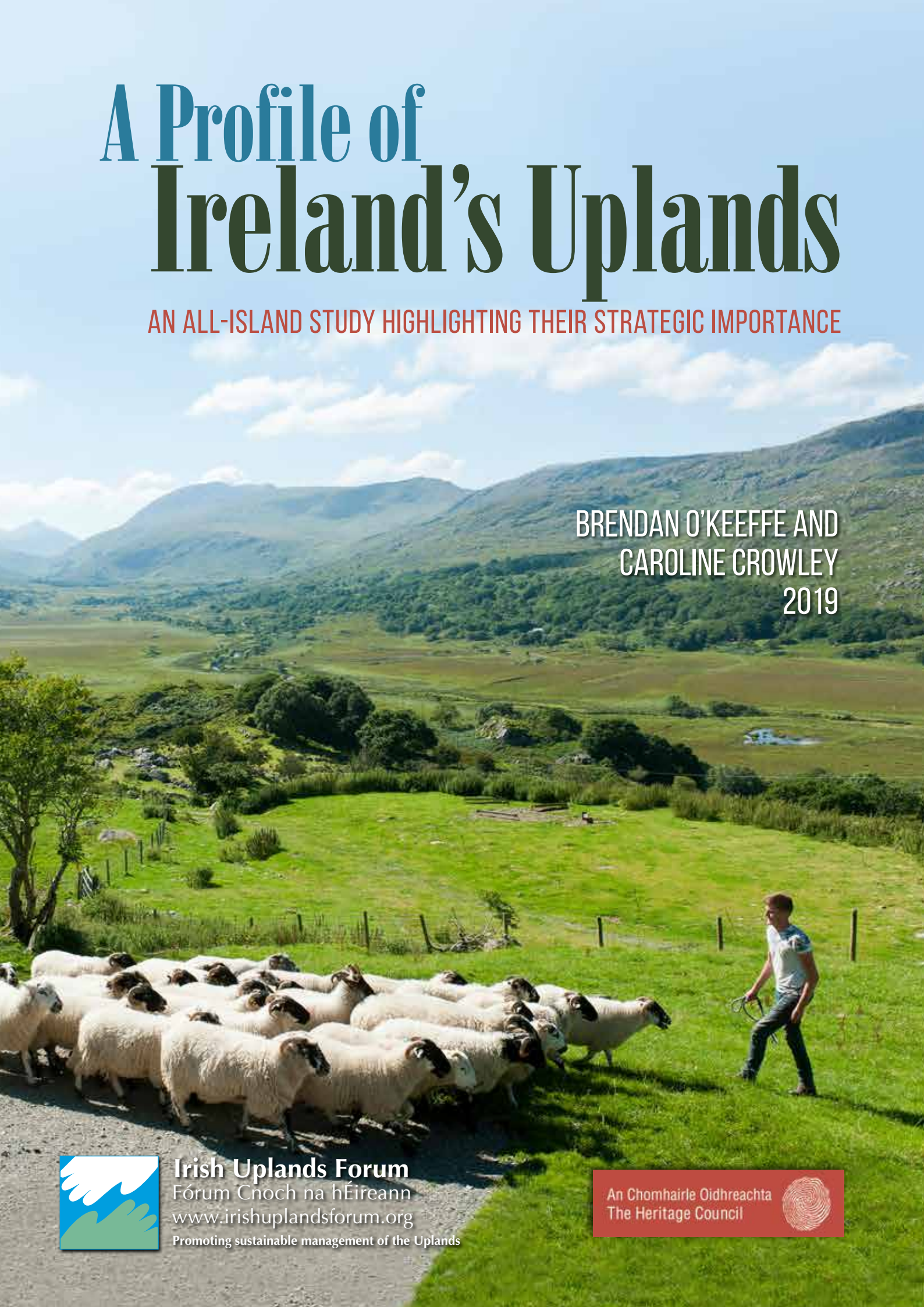

Irish Uplands Forum
Fórum Chnoch na hÉireann
www.irishuplandsforum.org
Promoting sustainable management of the Uplands

An Chomhairle Oidhreachta
The Heritage Council

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List of Acronyms

AEOS:	Agricultural Environmental Options Scheme
BFCP:	Burren Farming Conservation Programme
CAP:	Common Agriculture Policy
CDE:	Centre for Development and Environment
CLLD:	Community-Led Local Development
CSO:	Central Statistics Office
DAHG:	Department of Arts, Heritage and the Gaeltacht
DAS:	Disadvantaged Areas Scheme
DEHLG:	Department of Environment, Heritage and Local Government
EAFRD:	European Agricultural Fund for Rural Development
EAPN:	European Anti-Poverty Network
ED:	Electoral Division
EMFF:	European Maritime and Fisheries Fund
ERDF:	European Regional Development Fund
ESF:	European Social Fund
ESIF:	European Structural and Investment Funds
EU:	European Union
FADN:	Farm Accountancy Data Network
GAEC:	Good Agri-Environmental Condition
GDA:	Greater Dublin Area
GLAS:	Green, Low-Carbon Agri-environmental Scheme
HNV:	High Nature Value
ITI:	Integrated Territorial Investment
IUF:	Irish Uplands Forum
LAWPRO:	Local Authorities Water Programme
LEADER:	Liaison Entre Actions de Développement de l'Économie Rurale
LFA:	Less Favoured Areas
LFPR:	Labour Force Participation Rate
LLAES:	Locally Led Agri-Environment Schemes
MRI:	Mountain Research Initiative
NFS:	National Farm Survey
NI:	Northern Ireland
NUTS:	Nomenclature des unités territoriales statistiques (Nomenclature of Territorial Units for Statistics)
OECD:	Organisation for Economic Cooperation and Development
OSi:	Ordnance Survey of Ireland
QGIS:	Quantum Geographical Information Systems
RBAPS:	Blackstairs Results-Based Agri-environmental Payment Scheme
RDP:	Rural Development Programme
REPS:	Rural Environment Protection Scheme
RoI:	Republic of Ireland
SA:	Small Area
SUAS:	Sustainable Uplands Agri-environment Scheme
WUC:	Wicklow Upland Council

Foreword

Ireland's uplands have a distinctive landscape; they have been shaped by centuries of traditional and extensive farming activity and they contain some of the best-preserved examples of our archaeological heritage. For example, Croagh Patrick in County Mayo has a thousand-year tradition of pilgrims climbing it barefoot on Reek Sunday each year. Further north in the county, beneath a remote blanket bog, lie the Céide Fields - the most extensive Stone Age monument in the world, consisting of field systems, dwelling areas and megalithic tombs. The stone walled fields, extending over thousands of acres are almost 6,000 years old - the oldest known in the world. Today, the site is covered by a natural blanket bog with its own unique vegetation and wildlife.

Across the island, our extensively farmed uplands also contain huge expanses of semi-natural habitats of Natura quality and large areas of blanket bogs and wet heath, which are important carbon stores and sources of much of Ireland's clean drinking water. Uplands are also high quality places for passive and active recreation, which bring mental and physical health benefits to our citizens and visitors.

The Irish Uplands Forum (IUF) commissioned this all-island study in order to take an up-to-date stock of the physical, social and economic complexity of our uplands. The study uses a series of illustrative maps, based on a range of indicators derived from recent census of population data from both the Republic of Ireland and Northern Ireland. The study identifies 57 discrete upland ranges and helps us better understand the complexity of issues faced by these local communities.

The report identifies the uplands as the main provider of 'high nature value' farmlands that enhance biodiversity and provide mosaics of habitats. However, the ability of Ireland's uplands to deliver these vital ecosystem benefits is under severe threat from climate change, ageing populations and land abandonment. Maintaining vibrant upland communities is important for socio-economic and landscape conservation, as well as the maintenance of vital public goods and biodiversity resources. The IUF believes it is vital to link landscape conservation to community development, and that hill farming is the engine that not only produces quality, safe and traceable food, but also maintains our pristine hill and mountain landscapes and environments that attract millions of visitors to Ireland each year.

We call for an integrated response and actions from government to support the many upland community partnerships who are striving to develop and integrate sustainable tourism and recreational resources in harmony with traditional sustainable farming practices. The first step is to fully appreciate the issues affecting upland communities, how our landscape is managed and how its enormous benefits can be maintained for future generations.

Frank Nugent

Chair – Irish Uplands Forum

Chapter 1 A Profile of Ireland's Uplands: Main Findings / Executive Summary

Context and Dynamics – policy, economy and agriculture

Irish uplands are more rural than are uplands across the European Union (EU) as a whole. Yet, on this island, as across the EU, uplands are increasingly affected by urban polarisation, and are increasingly perceived as having a 'particular appeal'; many upland areas are attracting retirees, home-based workers and growing numbers of persons who seek to live in a more attractive environment. While the demographic and economic injections being experienced by some upland areas are welcome, the development trajectory of our uplands cannot simply be associated with, or sustained by, urban spill-overs or trickle-down effects. Instead, the development of uplands requires distinctive and integrated territorial approaches that are clearly supported by cohesion policy and are underpinned by participatory governance, as outlined in the most recent OECD policy pronouncement on rural development (OECD, 2018).

Uplands perform vital ecological services that are essential to the wellbeing of our wider society. These include water storage and flood attenuation. Uplands are also important natural habitats, and the preservation of upland landscapes is essential in maintaining and promoting biodiversity. Europe's uplands, and those on the island of Ireland in particular, are associated with high nature-value farmland. Uplands' abilities to deliver ecosystem services are, however, under threat from climate change and land abandonment. Maintaining vibrant upland farming communities is important, not just in socio-economic terms, but also in respect of conservation and biodiversity. Moreover, it is necessary to link landscape conservation to community development, as articulated in the European Landscape Convention, and to promote synergies between upland and lowland communities.

The linkages between uplands and lowlands are manifest in the multiple roles uplands play in supplying public goods to all. These include, inter alia, the provision of recreational spaces, and in Ireland, traditional hill-farming has been integral to the supply and maintenance of the landscapes, ecology and cultural heritage that attract visitors. Family farming and farmers' participation in walks' schemes are positively associated with keeping Ireland's countryside attractive and open. Maintaining the maximum number of family farms in Ireland's uplands has to be integral to public policy. The rollout of green infrastructure, and its embeddedness within spatial planning, as articulated in the National Planning Framework (2018) represent supportive mechanisms for the benefit of upland communities and visitors alike.

EU policies, and in particular the Common Agriculture Policy (CAP), impact significantly on Irish uplands. Recognising that technological interventions cannot alter the production capacity of uplands, EU legislation provides for particular supports to upland farmers, while EU cohesion policy strives to eliminate territorial inequalities across Europe. Ireland is progressively embracing the EU approach towards the alignment and enhanced coordination of policies in respect of spatial planning, and the rollout, over the coming years, of the Regional Economic and Spatial Strategies (RSES), under the aegis of the National Planning Framework (NPF), will have implications for upland communities. As EU and national policies move away from being reactive and compensatory, and become more focused on enabling places to better realise their development potential, responses need to be flexible and adaptable in light of the diversity of conditions in upland areas. At the same time, they need to highlight the benefit of collaborating across Europe's uplands. As this profile clearly illustrates: Ireland's uplands are diverse; yet they share common features, and inter-upland collaboration is an important ingredient in enabling their development. Governance arrangements must provide for local stakeholder inputs, based on decentralisation and Community-Led Local Development (CLLD), while

enabling inter-agency collaboration in tandem with inter-territorial and inter-jurisdictional collaboration. In the Irish context, in particular, there is an urgent need to increase the visibility of the uplands in spatial planning.

As well as being diverse, upland areas are dynamic. They are undergoing changes in terms of landscape, as evidenced, for example, by de-stocking and afforestation in the 1980s and 1990s and latterly by the construction of windfarms. Among the most significant economic and demographic changes is the reduction in the number of upland farmers. National Farm Survey data (RoI only) reveal that the number of Irish hill farms is declining at a faster rate than the number of farms overall. The consolidation of upland farms is associated with the expansion of improved pasture at the expense of more natural types of vegetation. Hill farms are more dependent on CAP payments than are other farms, and despite farmers' willingness to supply ecological services, payments that are associated with high nature-value farmland represent a shrinking proportion of farm subsidies. Thus, to date, public policy in this regard, has failed to converge with policy and public good imperatives in other areas, notably in ameliorating climate change and arresting biodiversity loss. Indeed, incentivising the supply of ecological services is consistent with sustainable tourism, thus promoting an alignment between hill farming and the broader rural economy.

While the need for an off-farm income has become greater across all types of farming households, this is particularly the case among upland farmers, thus underscoring the importance of local economic diversification. Relative to other farming and non-farming households, upland farming households tend to be older and less demographically viable. While these challenges cannot be denied or understated, they are not associated with shortcomings in the uplands, as much as with the shortcomings in respect of policy coherence and the absence of an uplands' policy and a comprehensive landscape character assessment. In this vacuum, the integrated approach, as advocated in the OECD New Rural Paradigm (OECD, 2018), offers a template for better policy coordination, the realisation of place-based development and greater stakeholder inputs and collaboration.

Sustaining upland farming and diversifying local economies are integral to the future of upland communities and to the maintenance of vital ecological services. Policy and practice interventions need to take account of the considerable diversity that pertains across Ireland's uplands, while also demonstrating sufficient flexibility to enable inter-territorial collaboration and joint initiatives. The fractured geography of the uplands, associated with administrative boundaries, underscores the importance of specific inter-territorial approaches, based on natural catchment areas. Interventions need to address demographics, particularly in western and northern uplands, and to ensure that sufficient infrastructure, particularly ICT connectivity, is in place to enable uplands to realise their potential. While lowlands will continue to depend on uplands for several environmental services, uplands cannot expect reciprocal economic exchange with lowlands, and they merit the requisite investments to enable them to develop endogenous resources.

Spatial Profile

This report provides a human geography profile of Ireland's uplands. It presents a series of maps and charts that portray the uplands based on a range of indicators derived from the Census of Population. The maps show each variable at Small Area (SA) level, while the charts (box and whisker plots) compare values across the upland types i.e., those with significant natural habitats and those without. The graphs also show the standing of the uplands relative to the Republic of Ireland (RoI) and Northern Ireland (NI). The profile is presented under the following headings:

i. Population Structure and Attributes
ii. Economic Status and Activity
iii. Household Structure, Housing Stock and Infrastructure
iv. Accessibility and Connectivity

Uplands were defined and profiled on the basis of townlands that are located at over 200 metres. In line with a methodology elaborated by the IUF and UCD, two classification schemes were applied. The first of these was used to identify townlands in which upland vegetation was dominant. As a result, a set of townlands, predominantly in the north and west of Ireland, was profiled (identified here as Upland Habitat Type 1). A second set of upland townlands, with predominantly lowland vegetation, and mainly located in the south and east, was profiled separately (identified here as Upland Habitat Type 2).

Population Structure and Attributes

Ireland's uplands, particularly those in the west, generally have an older age profile than do other parts of the island. Upland areas have a higher proportion of persons aged over sixty-five years. However, all upland area types, particularly in the RoI have proportions of persons aged thirty to sixty-four that are on a par with the all-island average. The greatest contrast between uplands and lowlands, as regards the age structure of the population, is in respect of persons aged twenty to twenty-nine years. Upland areas have notably lower proportions of these young adults, and this is especially the case in the north-west, south-west and midlands. A clear RoI-NI contrast is evident in respect of the presence of young adults; upland areas north of the border are consistently more likely to have more young adults (aged 20 to 29), teenagers and children. All NI uplands have a younger demographic than those in the RoI. Of the RoI uplands, those in Wicklow are the only set with an age profile approximating that of NI.

In cultural terms, RoI uplands (of both habitat types) have higher proportions of Irish speakers and are more ethnically diverse than those north of the border. The distribution of Irish speakers shows some association with Gaeltacht locations in the west. The proportion of non-Irish and non-UK nationals living in the uplands is almost twice as high in the RoI than in NI but it is still notably below the State average.

The dataset on educational attainment is only available at small-area level for the RoI. The figures show that the upland areas with the lowest levels of educational attainment are the Derryveagh and Bluestack Mountains, the Nephins, the Blackstairs and the Mullaghareirks. Meanwhile, the highest levels of educational attainment are in the Wicklow uplands and other uplands areas that are generally within fifty kilometres of large urban centres e.g., Cork (Nagles and Boggeraghs); Limerick (Slieve Berna and Slieve Felim); and Sligo (Ox and Dartry).

Economic Status and Activity

In the RoI, the overall level of participation in the workforce is broadly in line with the State average. Northern Ireland's uplands exhibit above-average levels of workforce participation – as measured by the proportion of the labour force 'at work'.

Within both jurisdictions, however, there are considerable variations. As with educational attainment, the highest values in respect of labour force participation are to be found in areas that are proximate to urban centres (Wicklow uplands, Nagles, Boggeraghs, Slieve Berna, Slieve Felim). There also appears to be a correlation with tourism activity, as participation rates are above average in the MacGillycuddy Reeks – close to Killarney, and in Connemara.

The uplands with the highest overall employment rates are those that are closest to the urban centres. These include the Wicklow uplands, Antrim Plateau and Glens, the eastern parts of the Sperrins and the uplands within 50km of Cork and Limerick, including the Boggeraghs, Nagles, Knockmealdowns, Slieve Berna, Silvermines and Slieve Felim. The spatial patterns also suggest an association with tourism, as employment rates are above average in the Burren, the Twelve Bens, Mweelrea and Sheefry Hills. Conversely, unemployment rates are highest across the Donegal uplands, the Nephins, Ox, North Leitrim Glens, and Cuilcaghs and to some extent in the MacGillycuddy Reeks and Wicklow uplands.

There are clear east–west and north–south differences in respect of the sectoral composition of the workforce. The primary sector (agriculture and the extractive industries) remains a significant source of employment in all uplands along the west coast from Sligo/Mayo to West Cork, with the highest values being in Mayo and Kerry. Farming is equally important in many southern uplands, albeit on a different scale. This is particularly the case in the Comeraghs, Knockmealdowns, Silvermines and Blackstairs. In contrast, primary sector activity is less significant in the uplands of counties Wicklow and Donegal and throughout Northern Ireland. Employment in the secondary sector (manufacturing and construction) is more significant in NI than in the RoI, with the highest values being in the Sperrins and the Mournes. The lowest values on the island are along the western seaboard. Employment in the tertiary or service sector is also more prominent north of the border – accounting for the majority of employment among those residing in the Antrim Plateau and Glens, the Sperrins and around Slieve Gullion. Service sector employment is also significant in the Cuilcaghs, but more so in County Fermanagh, than in either Cavan or Leitrim. Of the uplands in the RoI, those with the highest proportion of persons employed in service industries are the Dublin Mountains and the Derryveagh and Glendowan Mountains. The census data also record workers whose employment cannot be classified as being in one sector and those who are engaged in pluriactivity (i.e., those with a number of part-time jobs). The highest values in respect of employment as 'other' are consistently along the western seaboard – from West Donegal to West Cork (although excluding the Ox Mountains). 'Other' employment is also significant in the Wicklow uplands. The percentage of the population classified as 'retirees' is also highest in the west, most notably in the Derryveagh and Bluestack Mountains (Donegal); the Nephins, the Partrys, Sheefry Hills and Maumturk (Mayo – Connemara); and peninsular Cork and Kerry.

Household Structure, Housing Stock and Infrastructure

Across Irish uplands, one-person households are more prevalent in peripheral and western areas than in those that are closer to cities and large towns. One-person households account for more than one-third of all households across much of the MacGillycuddy Reeks, Maumturks, Sheefry Hills, Dartrys, Cuilcaghs and Bluestack Mountains. One-person households are least prevalent in the Sperrins, Antrim Plateau and Glens, Slieve Gullion as well as the Dublin and Wicklow Mountains. The number of persons per household is enumerated differently in the RoI and NI. Therefore, this profile uses 'number of

rooms' as a proxy indicator of household sizes. The census data reveal that smaller households (up to four rooms per house) are more prevalent across RoI uplands (with the exception of the Dublin Mountains and those adjacent to Cork and Limerick cities) than NI uplands. Larger houses are far more prevalent north of the border, particularly in Antrim and the Sperrins – with at least half of all houses having seven rooms or more. The only parts of the RoI with comparable levels of large houses are the Dublin Mountains and Slieve Berna.

The age of housing stock represents a useful indicator of economic and demographic vibrancy. The census data, in this respect, reveal that the upland areas with the oldest housing stock are the Mullaghareirks, Derrynasaggart and Caha Mountains – all in the south-west; the Silvermines; the Maumturks, the southern parts of the Cuilcagh Mountains and the Wicklow and Dublin Mountains outside of settlements. The geography of newer housing stock is associated with proximity to second-tier cities (Cork, Limerick and Derry), as evidenced by new housing construction in the Nagles and Boggeraghs (Cork), Slieve Berna (SE Clare) and Derryveagh, Glendowan and Cark Mountain (Donegal).

Upland and coastal areas are strongly associated with the presence of holiday homes. Data (available for RoI only) show that the highest concentrations of holiday homes are on the Corca Dhuibhne (Dingle) Peninsula and Connemara. Relative to all uplands, there are also above-average proportions of holiday homes in the Cuilcaghs and Dartrys, the Caha Mountains and in the uplands of Donegal. Vacant dwellings, other than holiday homes, are most prevalent in the MacGillycuddy Reeks, Caha and Sheehy Mountains, the Nephins and in the Darty and Cuilcagh Mountains.

Houses in Irish uplands (RoI data only) are less than half as likely as all other houses to have a mains water connection. The areas with the lowest levels of mains water connection are the Mweelrea Mountains and Sheefry Hills, the Caha and Derrynasaggart Mountains and the MacGillycuddy Reeks. The highest levels of connectivity are to be found in Corca Dhuibhne and across the Donegal uplands. Uplands across Donegal also stand out as having the highest proliferation of individual septic tanks. Meanwhile, houses in the Wicklow uplands, the Blackstairs, Slieve Marcy and the Castlecomer Plateau are the most likely to have 'other' sewerage treatment systems, including reed beds, bio-cycle tanks and composting toilets.

Upland areas along the Atlantic Seaboard, specifically those in Donegal, Sligo, Mayo, Galway and Kerry, as well as the Slieve Blooms have higher proportions of households that rely on turf / peat as their primary fuel source.

Accessibility and Connectivity

Generally, the closer an upland household is to a large urban centre, the more likely it is to have at least two cars. Thus, the uplands with the highest percentages of multiple car-owning households are the Wicklow uplands, the Antrim Plateau and Glens, the Sperrins, Slieve Berna, the Nagles, Knockmealdowns and the Comeraghs. Travel-to-work times (RoI data only) appear to be associated with intra-urban and peri-urban congestion rather than with distance from urban centres. While uplands in the north-west are at greatest distances from urban centres, there is less congestion in and around Derry-Letterkenny and Castlebar, Westport and Sligo than in and around Dublin and Cork, with the result that commuting times are shorter in the north-west than elsewhere. The areas with the longest travel-to-work times are in Leinster, namely the Wicklow uplands, Slieve Blooms and Blackstairs, and those in County Cork – Mullaghareirk, Derrynasaggart and Boggeragh Mountains in the west / north-west of the county and the Kilworth Hills in the north-east of the county.

Broadband penetration is notably lower in upland areas than it is across the State (RoI data only). The areas with the poorest levels of connectivity are the Cuilcagh Mountains; the Nephin, Partry, and

Maumturk Mountains; the Derryveagh Mountains and West Donegal uplands; the Slieve Blooms; the Silvermines; and the Mullaghareirks.

Observations

While the human geography of Ireland's uplands is very varied, there are clear spatial patterns. There are notable contrasts between Habitat Types 1 and 2. Upland areas that are classified as Habitat Type 1 (more upland habitats), which are more likely to be in the north and west, have a higher proportion of persons working in the primary sector, older housing stock and lower levels of connectivity. However, there are clear contrasts between those on either side of the NI-RoI border. Type 1 upland areas in the north have greater proportions of persons employed in manufacturing and services. They also have higher proportions of young adults and are generally better connected to urban centres.

Uplands that are classified as Habitat Type 2 are generally in the south and east of Ireland. Their profiles are strongly influenced by proximity to large urban centres, particularly Dublin, Cork and Limerick, and their demographic composition and economic activities are driven, to a significant extent, by urban overspill and urban-rural interfaces.

While uplands in NI share ecological characteristics with western uplands in the RoI, when it comes to their socio-economic profiles, they tend to be similar to more accessible RoI uplands in the south and east. It suggests that urban-rural interfaces with upland areas in NI may support stronger socio-economic outcomes than in the RoI.

Upland areas in RoI counties along or near the border, particularly those in the north-west (mainly Habitat Type 1) are influenced by and interface with Northern Ireland. Connectivity to Derry shapes the profile of the Derryveagh and Bluestack Mountains and were there to be any disruption to this connectivity, caused by Brexit, there could be adverse implications for the uplands. The spatial analysis presented here also shows the cross-border continuity, in respect of their profiles, of the Dartry and Cuilcagh Mountains across counties Fermanagh, Sligo, Cavan and Leitrim. Connectivity – both physical and social – is as significant as topography in enabling upland communities to share a common landscape and work collaboratively, and again Brexit could have a disruptive effect in this regard.

Chapter 2 Introduction to Uplands

This is the second human geography profile of Ireland's uplands, based largely on Census of Population data, commissioned by the Irish Uplands Forum (IUF). The previous iteration was based on the 2011 Census of Population and covered a number of selected upland ranges in the Republic of Ireland. It provided a useful baseline in capturing many of the uplands' features. Furthermore, the profile enabled the Forum and upland communities to take stock of assets and resources, and to identify issues that needed to be addressed. This current document builds on the previous profile. It expands the geographical coverage, as it includes uplands in Northern Ireland in addition to those in the Republic. Moreover, it expands the range of factors included, and it maps data in respect of forty variables. These data are presented at the smallest spatial unit at which census data are published, namely the Small Area (SA). Thus, this profile enables a fine-grained and micro-level analysis of the human geography dynamics of Ireland's uplands. The geographical analysis is enhanced through a series of box and whisker plots (graphs) that benchmark uplands against the corresponding values in both jurisdictions on the island of Ireland.

Members of the Irish Uplands Forum participated in the formulation of this profile and demonstrated ownership of the process from the outset. The Forum's 2018 AGM provided an opportunity to discuss the delineation of the uplands, and attendees agreed on the application of clearly defined natural science criteria. This approach has yielded two broad classifications of uplands that form the basis of analysis throughout this profile. In October 2018, the IUF organised a conference on the theme of 'Innovation and Partnership in the Uplands', at which a preliminary profile was presented, and at which delegates were enabled to discuss its significance for upland communities. Members of the IUF executive further reviewed the profile in December 2018, before giving feedback and advice to its authors.

This document is indicative of the IUF's commitment to evidence-based and data-driven decision-making and forward planning. It provides a useful overview of the status of our uplands, on a broad range of indicators, thus delivering a significant evidence base from which upland communities, local authorities and policymakers, among others, can draw on to enhance our uplands as living communities. The level of detail provided here provides upland communities and local stakeholders with hard data in respect of their own localities. Thus, the profile should be of use to actors at national, regional, local and community levels, and should appeal to a broad range of interests including farmers, other upland dwellers, outdoor enthusiasts, service providers, local development companies, planning authorities and policymakers, among others. The material presented here illustrates significant levels of interplay among several variables, thus pointing to the need for collaborative and partnership approach to valorising upland assets and promoting sustainable development.

This profile begins by situating Ireland's uplands in their wider international and policy contexts. It identifies the many significant economic and ecological roles they play, and the benefits they deliver for our wider society, including our densely populated lowland cities. Thus, our uplands are a significant national asset, and investment in sustaining them is in our collective interest. Notwithstanding their strategic importance and development potential, uplands face considerable challenges associated with economic restructuring, disjointed policies and peripherality from mainstream decision-making. Despite these challenges, our uplands are also engines of innovation and creativity. Having outlined their context and the range of factors that influence the human geography of Ireland's uplands, this document systematically profiles them, using Census of Population data, on a broad range of indicators. These are visualised and analysed throughout, and the presentation illustrates many of the distinctive features of upland areas, as well as the features that bind them together.

An Overview of Upland Characteristics and Policies

This chapter explores some of the recent literature from mountain studies, as well as data on Irish hill farming. It points to a number of recommendations for the IUF, namely:

- Explore the costs and benefits of membership in an international upland organisation such as Euromontana or UN's Mountain Partnership to share best practice in policy approaches for more integrated, coordinated and sustainable upland development.[1]
- Consult with Regional Planners (as recommended by Tubridy, 2013) and the Regional Assemblies to improve awareness and understanding of the special case of upland territories, to inform Regional Spatial and Economic Strategies, and to discuss the potential of Integrated Territorial Investments (ITIs).
- Consult with Local, Regional and National Government to educate and engage with lowland communities and officials on how to support upland communities to protect water supplies and mitigate flooding; collaborators include the Local Authorities Water Programme (LAWPRO)[2] and Community Wetlands Forum.[3]
- Advocate for European Structural and Investment Funds (ESIF), e.g. Interreg, to advance the development of flexible and adaptable planning frameworks for uplands areas across the Island of Ireland.
- Commission research into the conditions sought by teleworkers to relocate to a mountain region in Ireland.
- Highlight to Local, Regional and National Government the impacts that the decline in Irish hill farming will have on Green Infrastructure and vital human ecosystem services for all, and thus the need for partnership-based, locally led, agri-environment schemes in uplands in response.

Uplands at a Glance

Mountains cover 22% of land area around the world, and comprise 13% of its population (Mountain Partnership, 2016). Based on a delineation of uplands according to topography and altitude[4], 36% of Europe is mountainous (Price, 2010). Focusing in on the European Union (EU) member states within Europe, mountains make up 29% of the area of EU-27 and is home to 13% of its population (63m) (Price, 2010). In the RoI, mountain areas comprise **14%** of its land area and less than **3%** of its population (table 2-1). Comparable data for the UK are 25% and 2%, respectively.

The language used to describe mountains has tended to be negative, such as handicaps, remote, vulnerable, sparse. But upland studies are helping to change this by highlighting their distinctive cultures and green environments and re-orientating the focus instead to assets, opportunities and potential (Gløersen *et al.*, 2016). The next sections explore the challenges and the assets of upland areas more broadly, as well as how they specifically relate to Ireland.

[1] Mountain Partnership's vision is "a world in which sustainable mountain development receives greater public and private sector attention, commitment, engagement and investment" (Mountain Partnership, 2016). Euromontana's vision for mountain areas is that "mountains are territories with a future and opportunities for Europe" … "that mountains are distinctive areas of Europe, because of their altitude, their slopes, their population density, their challenges and their opportunities, and consequently should be addressed specifically" and it calls for "public and private investment in these areas. The return on investment might indeed be longer in these areas than in urban areas or lowlands, but the investment itself will undeniably be more sustainable" (source: https://www.euromontana.org/en/our-approche/our-vision-of-mountain-areas/, accessed 9.3.19).

[2] http://watersandcommunities.ie/community-water-officers/

[3] https://www.facebook.com/communitywetlandsforum/

[4] It included mountainous areas of >10km^2 that are either >300m or where <300m, exhibit strong local contrasts in relief. This helped to capture areas of marked topography in places like the Britain and Ireland (as an archipelago).

Table 2-1: Upland statistics

Indicator	Ireland	UK	EU-27	Europe
National area (km²)	70,177	244,722	4,231,683	6,672,759
Mountain area (km²)	10,096	60,689	1,247,773	2,409,601
Mountain area (%)	14	25	29	36
Upland population[5]	115,924	1,345,968	63,063,622	114,580,159
Upland population (%)	2.8	2.2	13	16.6
Upland population density (per km²)	11.5	22.2	50.3	47.6
Non-upland population density (per km²)	66.7	322	137.8	134.9
National population density (per km²)	58.7	247.7	112.5	103.4
Upland population density change, 1990-2005 (%)	12.7	3.7	No data	10.6
Non-upland population density change, 1990-2005 (%)	16.9	6.8	----	7.5
Upland economic density (income per km²)	375	614	----	----
Non-upland economic density (income per km²)	1,845	8,562	----	----
Upland accessibility (minutes)	165	153	----	----
Non-upland accessibility (minutes)	154	104	----	----

Adapted from Price (2010)

Populations and Economies

Irish, Scottish and Nordic uplands tend to have low population densities (Gløersen *et al.*, 2016). At 11.5 inhabitants per km^2, the population density of Irish uplands is just half that of the UK and less than one quarter that of the EU (table 2-1). Population characteristics are dynamic and population density in upland areas has been rising at a higher rate in the RoI than Europe, and nearly four times faster than the UK (table 2-1). Demographic trends between 2001 and 2011 show that uplands in the south and east of RoI were more likely to return increases in population, the western uplands were more likely to return decreases while there was little change in the uplands of NI (from map 3, Gløersen *et al.*, 2016: 22). This spatial pattern corresponds with what the authors call urban polarisation. Urban polarisation is the divergence in population trends in upland areas within commuting distance (rising populations) and beyond commuting distance (falling populations) of cities with >100,000 residents. Depopulation results from decreasing and ageing populations combined with falling birth rates and, for now, this trend seems to be more characteristic of Ireland's western uplands.

Accessibility is used to indicate urban influence in rural areas and it is important to population flows and economic development. The accessibility of upland areas varies widely but they are generally less accessible than lowland areas. As a result, mountain areas in Europe tend to be 'deep rural', characterised by both low accessibility[6] and low economic density.[7] On average, Ireland has the least accessible mountains (along with Cyprus, Greece, Portugal and Sweden) and at 94%, the proportion of Irish uplands classified as 'deep rural' is the third highest (after Finland and Sweden). Interestingly, 83% of areas *outside* the Irish uplands also fall into this category (Price, 2010).[8] For example, non-upland accessibility in the RoI is the same as upland accessibility in the UK (table 2-1). Therefore, accessibility is an issue that upland communities seem to share with many other rural areas in the RoI.

Turning next to upland economies, while primary production remains important across the EU's uplands[9] and there has been limited development of alternatives to traditional activities, the main employer is actually the tertiary sector (e.g. tourism, business and public services) (Price, 2010). Furthermore, Gløersen *et al.* (2016: 45) conclude that the thinking in upland development needs to move away from hard 'transport infrastructure fixation' that overly focuses on accessibility as the solution (apart from vital up-grades in ICT through Public Private Partnerships) towards 'softer' enterprise and innovation projects. For example, there is increasing migration into some EU mountain

[5] 2008 population data.
[6] Based on the average travel time calculations from each square kilometre in Europe to towns and cities of more than 25,000, 60,000, 100,000, 250,000, 500,000 and 750,000 inhabitants.
[7] Defined as income generated per km^2.
[8] See map 10.1 and table 10.2, pp.189-190.
[9] Farm employment is over-represented in Irish uplands and some Mediterranean and Eastern States (Gløersen *et al.*, 2016).

areas due to their appeal as attractive environments in which to live. Both amenity aspects and retirement are key reasons for people to move to the uplands. Given the right conditions, this appeal of uplands as desirable living environments can also attract mobile workers. That would help to enhance the demographic viability and thus future of upland communities.

Sustainable development in upland areas calls for research, diversification and quality niche products produced by companies that optimise upland assets such as forestry and High Nature Value farmland that are integrated into attractive places with excellent services (in Price, 2010). While upland industry is weakened by distance from development clusters, there is potential for particular kinds of development clusters to be established *within* upland areas such as wood-clusters (e.g. in Salzburg) or food-clusters (e.g. Slovenian Alps) and to drive value chains through cooperation, coordination and complementarity. But optimising the potential of upland assets requires addressing challenges posed by the distinctive territorial, socio-economic, demographic and environmental characteristics of upland areas, as well as the capacity demands of working as part of larger networks; this is why integrated and tailored solutions supported by cohesion policy are needed (Gløersen *et al.*, 2016). Cohesion policy is looked at in more detail below.

Land Cover

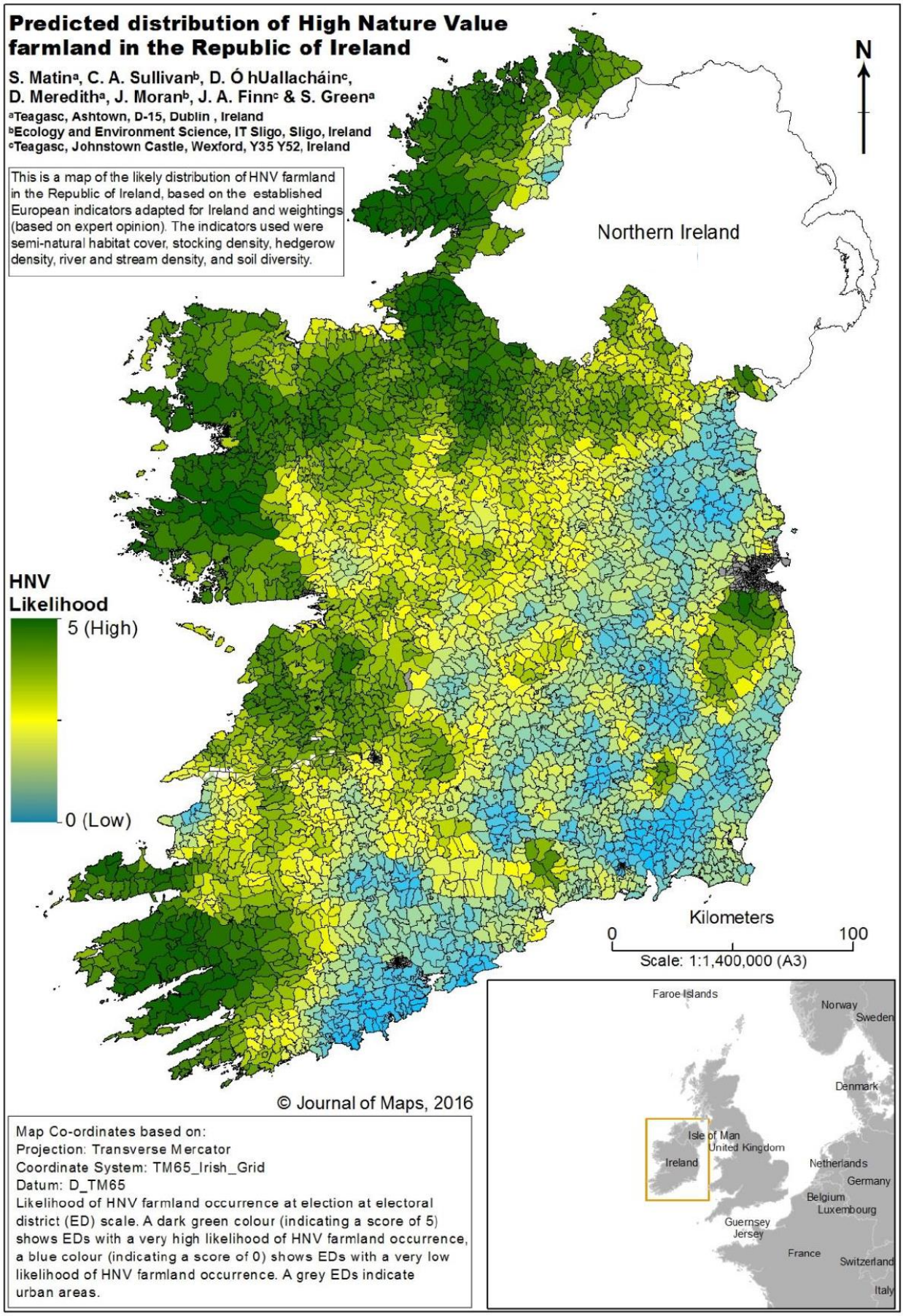
Price (2010) gives an overview of landcover in Europe's uplands areas and outlines that the typical landcover in the Irish uplands includes pasture and mosaic farmland, as well as natural grassland, heathland and sclerophyllous vegetation. Alongside the persistence of more natural ecosystems, such farmland indicates the longstanding influence of generally small-scale, extensive family farming in upland areas compared with lowland areas that tend to be farmed more intensively. Over half of Irish uplands (56%) is characterised by High Nature Value (HNV) farmland. HNV farmland occurs where farming is a major land use and is associated with a high level of biodiversity and/or species of conservation concern (figure 2-1 – Matin *et al.,* 2016: 375). In comparison, 33% of EU mountain area is HNV farmland, which in turn is twice the EU average across all land area. Thus, Irish uplands still have a high proportion of HNV farmland in a European context, and this is an important national asset.

Irish uplands have 16% of Europe's mountain wetlands (Price, 2010)[10] indicating their importance at European level too. The composition of Irish uplands is approximately as follows: 45% wetlands, 25% pasture and mosaic farmland, 20% forest and transitional woodland shrub, 10% natural grassland and heath, and 5% artificial surfaces, arable land, open space or water bodies (based on figure 7.2, Price, 2010: 115). This indicates the strong capacity of Irish uplands for such vital human ecosystem services as water storage and flood attenuation.

Thus, Irish uplands are rich areas for HNV farmland and wetlands and they offer important human ecosystem services. But they are undergoing significant land cover change, registering the second largest rate of annual change in land cover across the European Economic Area (EEA) between 1990 and 2000 of 0.69% and the largest between 2000 and 2006 at 0.65% (table 7.6, Price, 2010: 124). As for other European countries with high rates of change (Belgium, Czech Republic, Hungary, Portugal and Slovakia), the largest land cover flows over the two time periods (60% and 68%, respectively) relates to a combination of 'forest creation and management', 'afforestation and transition to forest' and (increasingly) 'recent felling and transition'. Other land-cover flows between 1990 and 2000 were 'changes of land cover due to natural and multiple causes' described as rotation between dry semi-natural and natural land-cover types, (of roughly 30% and 25%, respectively); 'agricultural internal conversion' (~10% and almost none, respectively), and ~2% 'withdrawal of farming, which grew to account for nearly 10% of the land-cover flow by the later period (figures 7.11 & 7.12, Price, 2010: 130). It is clear from these data that forestry and farming are key drivers of change in the landcover of uplands.

[10] Only third to Norway with 51% and Sweden with 18%.

Figure 2-1: Likelihood of High Nature Value Farmland occurrence at ED level



Biodiversity, Protected Areas and Link to Farming

Most European biodiversity hotspots are in mountain areas. But climate change poses a threat and many species extinctions are predicted because upland plants and other dependent species with limited mobility can only migrate upslope (Price, 2010). Natura 2000 sites are areas in the EU that are designated and protected under the Habitats and Birds directives. Such protected areas are part of the EU's Green Infrastructure (discussed later) and provide important human ecosystem services too (Gløersen *et al.*, 2016).

In Ireland, Natura 2000 sites comprise 6% of the RoI's area (4,484km^2), 42% of which (1,861km^2) is found in its uplands (table 9.1, Price, 2010: 166). Based on Price (2010), Ireland is one of the EU member states considered to have an over-representation of Natura 2000 sites in its uplands. This highlights the importance of uplands to the conservation of biodiversity nationally. Furthermore, one quarter of HNV farmland in Irish uplands is overlapped by Natura 2000 sites, which is twice the rate found in lowland areas (figure 9.12, Price, 2010: 178). This underscores the stronger relationship between hill farming and biodiversity conservation, compared with lowland farming. Map 2-1 shows the overlap of townlands with 50% plus upland habitat cover and Natura 2000 sites across Ireland.

Maintaining HNV farmland is important because it is more likely to support high levels of biodiversity and habitats of conservation interest and is also associated with other public goods including scenic landscapes, higher water quality and availability, soil integrity, flood resilience, and climate adaptability (Gløersen *et al.*, 2016; Moran and Sullivan, 2017; Price, 2010). It is essential to raise public and political awareness and understanding for the rich multifunctionality of upland farming because it is under such strong economic pressure (Gløersen *et al.*, 2016), including in Ireland where it is largely HNV farmland. At the end of this chapter, an in-depth look at Irish hill farming statistics in the first two decades of the millennium reveals the challenges it is facing, and the ways hill farmers are responding. Both show the need for a joined-up strategy for land management in the uplands.

Ecosystem Services

The EU's mountain areas comprise the greater share of Member States' natural and environmental assets (Price, 2010). Price listed the various human ecosystem services provided by EU upland areas and highlighted the rising importance of some (shown in bold below).

- Provisioning services: agriculture, **forestry**, natural ecosystems and rivers. Globally, mountain areas provide 60-80% of the freshwater required for domestic, agricultural and industrial needs and is home to one-quarter of terrestrial biodiversity (Mountain Partnership, 2016).
- Regulating services: for air quality, climate, **natural hazards** and **water flow**.[11] Integrated forestry planning and management are essential here.
- Cultural services: aesthetic landscapes, protected areas, **recreation**, religious/pilgrimage sites and **tourism** (for health and wellbeing). Globally, mountain areas include 60% of Biosphere Reserves, 30% of World Heritage Sites and account for 15-20% of all tourism (Mountain Partnership, 2016). The rising trend towards social farming in Ireland shows yet another dimension to upland farms, which can provide social services to people with disabilities such as care, health and wellbeing, empowerment and education (Crowley *et al.*, 2016).

Climate change affects water availability that will increase conflict between economic sectors and requires policies to address the uncertainty (Price, 2010). Uplands are described as 'water towers' (Messerli *et al.,* 2009) where the headwaters or sources of river systems are found (map 2-2). They are vital sources of fresh water in an era of climate change and those water supplies are more likely to be of 'high' or 'good' ecological status (and thus quality) (map 2-3) compared with downstream supplies

[11] Irish uplands have some of the lowest capacity for generation of hydropower in Europe (Price, 2010: 95).

(EPA, 2017).[12] Uplands are also the origin of floods, Europe's most common natural disaster, that impact populations from uplands to lowlands in various ways and are increasingly common due to changes in land-use and climate (Price, 2010).

Price (2010) argues that it is vital to optimise upland-lowland synergies because the list above shows not only how multifunctional upland ecosystems are but also how important they are to lowland populations further downstream, including our cities. This is an important message because it helps to make upland areas *politically* relevant to both public representatives and influential decision makers (most likely to live and work in those lowlands and cities). In fact, mountains are increasingly being recognised as a 'global common good' providing public goods to mountain and non-mountain people, especially in an era of climate change; therefore, upland assets have to be assessed and understood in terms of their value to regional, national and EU development and social needs more broadly (Gløersen *et al.*, 2016). For example, a national economic evaluation of the contribution by biodiversity and some ecosystem services to Irish society give them a conservative value of €2.6b in 2008, over €2b of which accrued to agriculture (excluding the value of food production), water quality and human welfare (DEHLG, 2008 in Comhar SDC, 2010). A similar evaluation of upland assets would help to increase awareness and understanding of the need for adopting a strategic approach to their sustainable conservation, management and planning into the future.

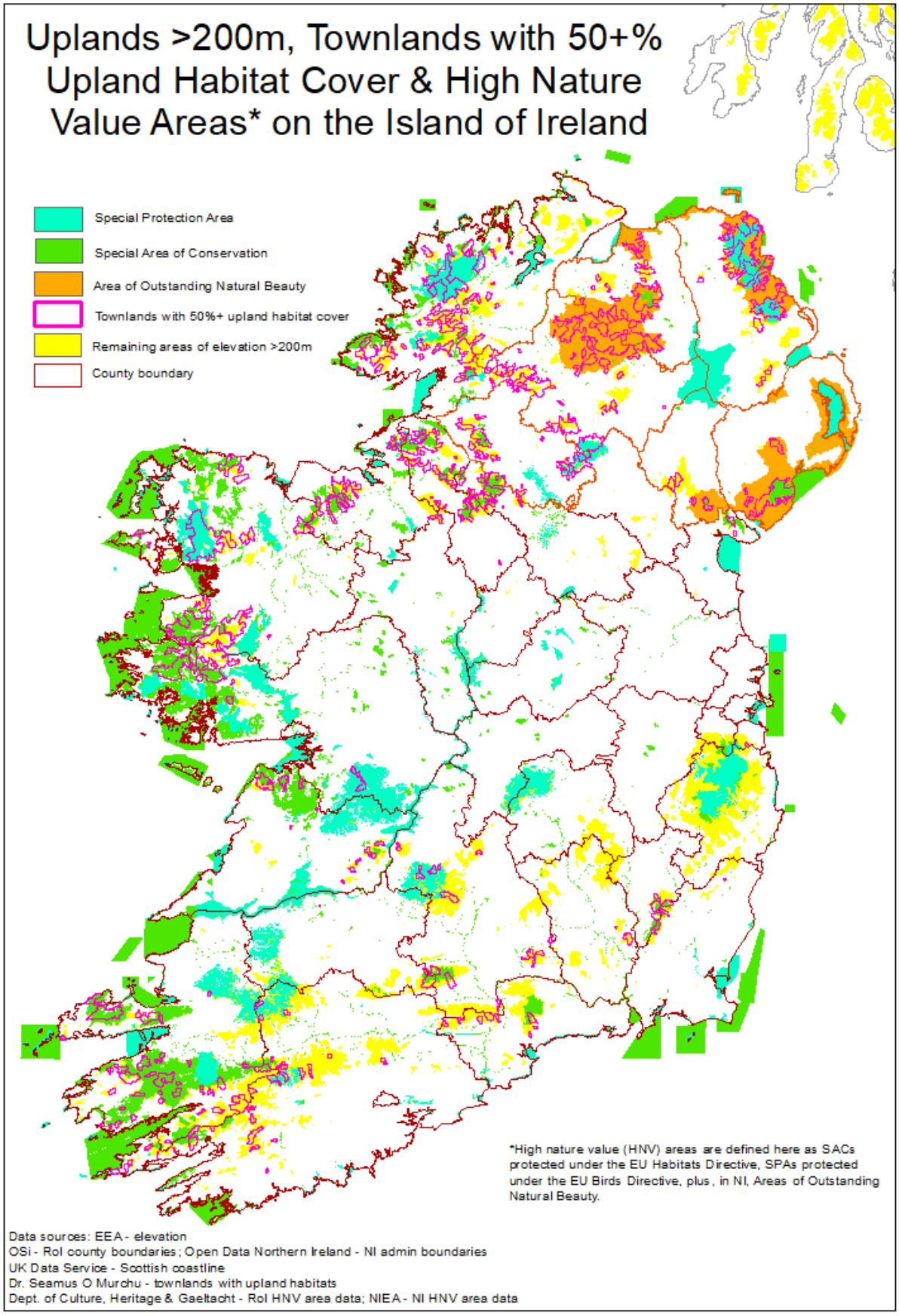
Landscapes

Landscape is everywhere. "As a reflection of European identity and diversity, the landscape is our living natural and cultural heritage, be it ordinary or outstanding, urban or rural, on land or in water" (DAHG, 2015: 6). Upland landscapes are some of the most iconic. In Ireland, they are often strongly associated with mythology and spirituality that highlights the longstanding regard for mountains and the place that they have in our imaginations and in our hearts. This deep relationship is exemplified by places of pilgrimage like Croagh Patrick.

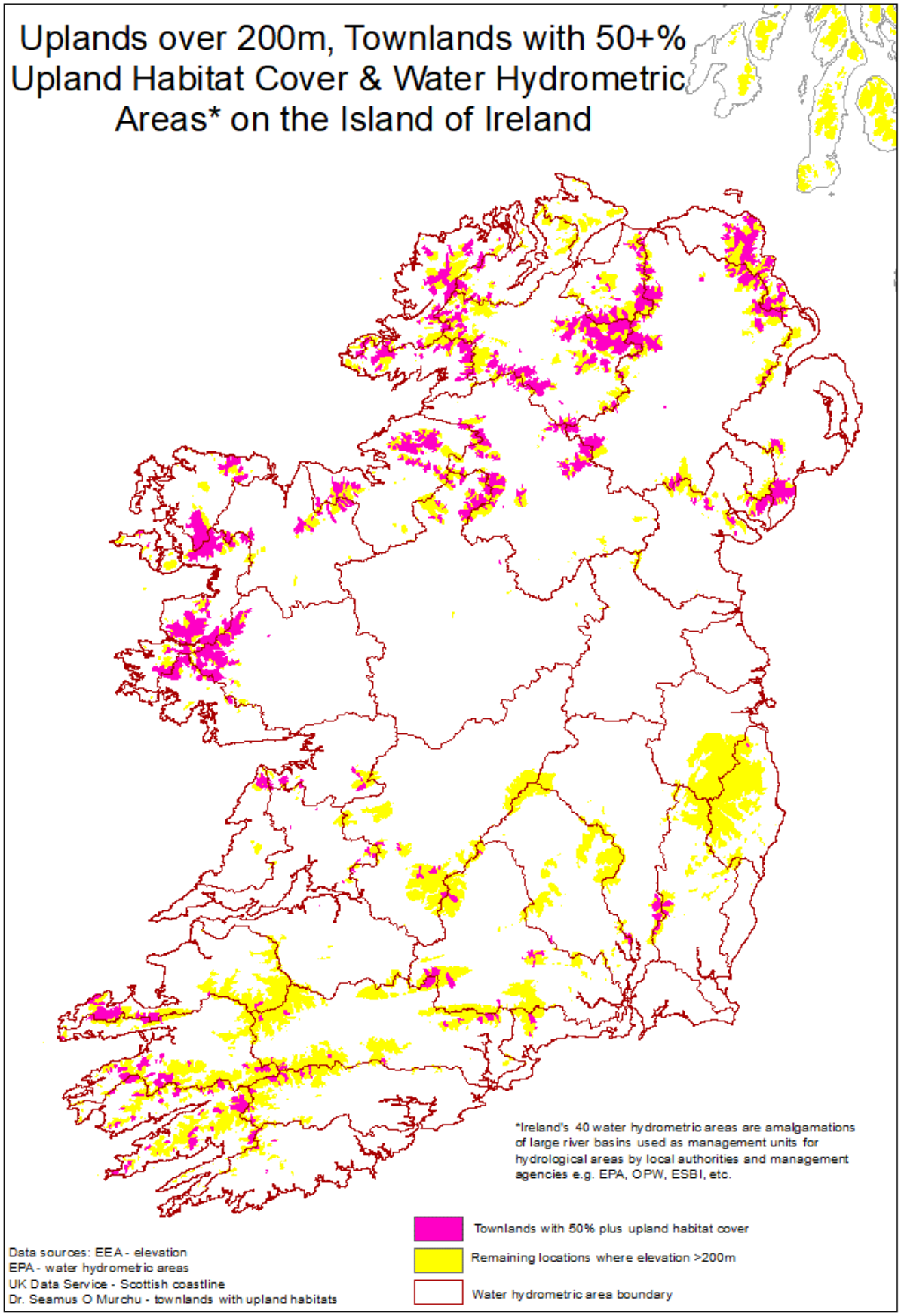
The National Landscape Strategy provides a policy framework that integrates the protection, management and planning of the landscape. It sets out its vision as follows: "Our landscape reflects and embodies our cultural values and our shared natural heritage and contributes to the well-being of our society, environment and economy. We have an obligation to ourselves and to future generations to promote its sustainable protection, management and planning" (DAHG, 2015: 8). The strategy recognises its synergies with Green Infrastructure strategies (discussed below). While it does not reference the uplands directly, it is valuable for helping to promote such concepts as multifunctionality, integration and an emphasis on future generations. IUF (2014) points out that it is also helpful to link landscape management to community development as set out in Article 1.a of the European Landscape Convention, which states: "'Landscape' means an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors" (Council of Europe, 2000: 2). A National Landscape Character Assessment needs to be carried out in order to identify and assess existing landscapes with regards to their "full range of values, services and benefits", to determine quality objectives for them, and to "maximise the involvement of … those who live, work and recreate in upland areas" in these processes (IUF, 2014: 5).

[12] EPA (2017). Water Quality in Ireland: 2010-2015. Johnstown Castle, Wexford: EPA. Appendix 1 shows a map of river water quality of all status levels.

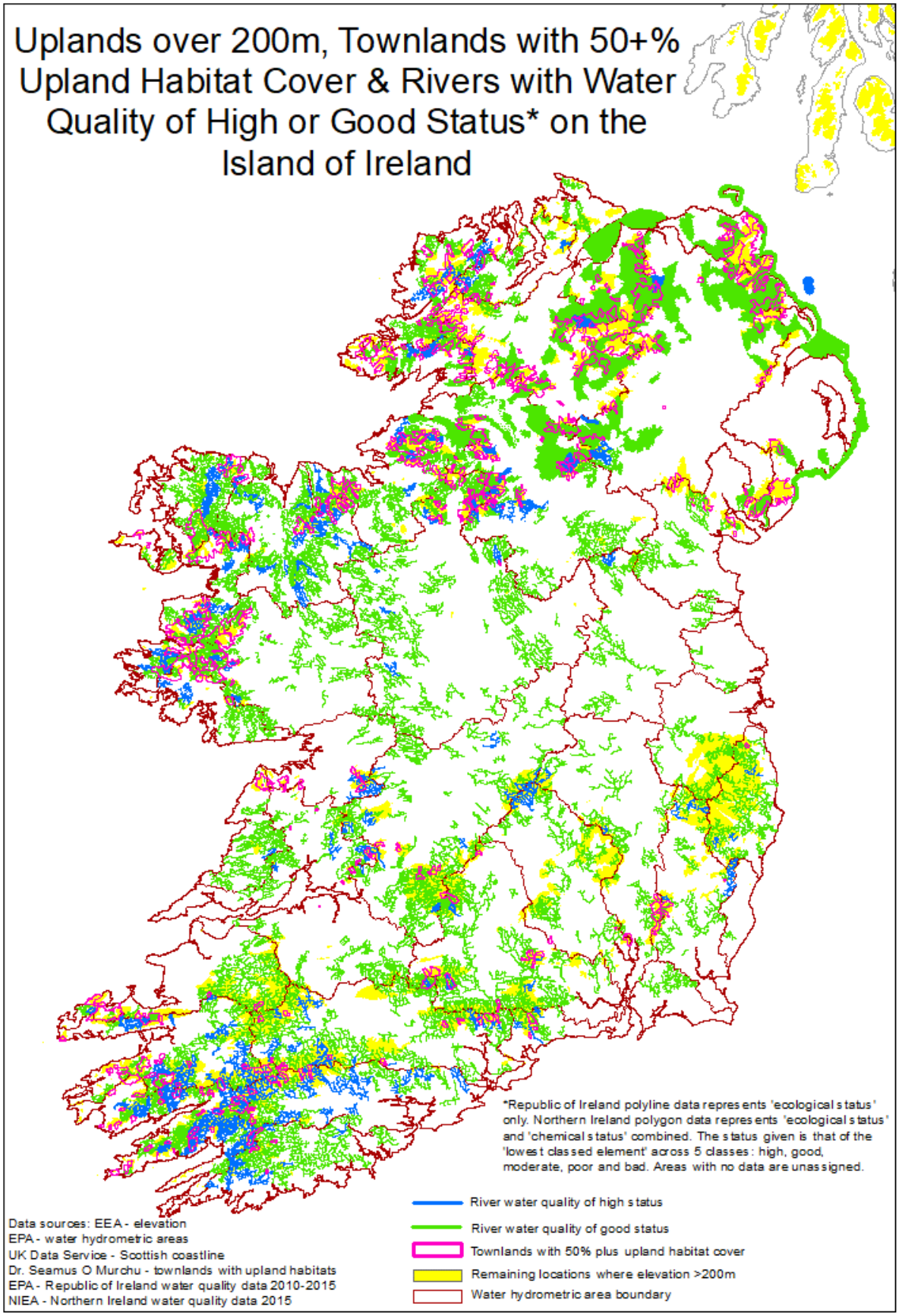
Map 2-1: Overlap of townlands with upland habitat and Natura 2000 sites



Map 2-2: Upland 'water towers' in Ireland



Map 2-3: Uplands with good status and high status water supplies



Recreation

The scenic landscapes and cultural heritage resulting from millennia of human habitation and management of uplands are valued as recreational and tourism assets (Price, 2010). In Ireland, the value of outdoor recreation and activity tourism from State-owned land alone was an estimated €1.5b in 2014, while every €1m invested in tourism directly supports an estimated 29 tourism jobs, not to mention all the jobs it supports indirectly, so it is a significant sector in terms of income generation and employment creation (Coillte, 2017). This has encouraged the development of new skills and expertise in Ireland, including mountain bike trail construction. In our increasingly urbanised, technologically connected and sedentary society, the attraction of 'wild' places and activity tourism that are more characteristic of upland areas is growing. As a result, *Comhairle na Tuaithe* (the Countryside Council) calls for improved alignment of public funding streams to support large-scale projects with significant potential such as inter-territorial trails (DEHLG, 2013). It also encourages reasonable access to the countryside and responsible use of its resources in ways that respect the rights and responsibilities of landowners and recreational users (see Box 2-1).

Box 2-1: Pilot Mountain Access Scheme

The Pilot Mountain Access Scheme, introduced under a previous Government in 2004, supports local arrangements for access and information, and it provides for communication between recreation and farming interests. In the elaboration of this scheme, it was envisaged that the government would indemnify farmers for any claims arising from recreational use of their land. It would mean that if a recreational user brought a claim for damages against a farmer, that the Government would support them. Although the pilot scheme has since stalled, key stakeholder groups remain committed to its vision and it is hoped that the process will be re-energised soon to progress securing access to Irish uplands.
Source: Tubridy (pers. comm.) and http://www.mountaineering.ie/_files/CNT_Mountain_Access_Project_April_2013.pdf, accessed 5/8/2019

Comhairle na Tuaithe has emphasised the inextricable relationship between traditional hill farming and the public goods that attract visitors, such as landscapes, ecology and cultural heritage (DEHLG, 2013). However, while an increasing awareness of public goods provided by hill farming reveals its important functional relationship with recreation too, the development of upland amenity and tourist services has happened in parallel with a decline of upland agriculture (Gløersen *et al.*, 2016). Economic pressures on traditional hill farming threaten its future (low incomes and difficulty accessing off-farm work) while changing practices (reduced grazing, increased afforestation) are leading to habitat and landscape change. Sustaining desirable hill farming practices requires adopting a strategic approach to ensure its future.

The positive influence of traditional, low-intensity hill farming on the recreational and tourism value of upland areas points to the value of integrating policy approaches across the agricultural, environmental, recreational and tourism sectors. **Joined-up policies** will be essential in order to sustain the types of hill farming that provide such public goods. Furthermore, Gløersen *et al.* (2016) consider that the right approach to sustainable mountain tourism is one that is both **participatory** and **community-based** e.g. having regard to traditional socio-cultural values, as is linking quality tourism with sustainable development (e.g. the 'Alpine Pearls' initiative with its focus on climate protection and nature conservation or European Destinations of Excellence – EDEN – that reward models of best practice). *Comhairle na Tuaithe* agrees with the need to adopt a **collaborative, inclusive** and **participatory approach** to cooperating with farmers who own and manage the land and has called for better coordination of agri-environmental schemes in the Rural Development Programme (RDP) with recreation and tourism objectives in the National Countryside Recreation Strategy. The RDP's Walk Scheme, in operation for a decade, has been effective in opening up access to private farmland and supporting farmers to maintain trails through their land that form part of National Waymarked Ways, Looped Walking Routes and Heritage Routes. The Council has called for that scheme to be expanded

to other areas and this is currently under review by the Department of Rural and Community Development.[13]

Focusing in on recreation, a number of government agencies and bodies (Bord na Móna, Coillte, IFI, NPWS and Waterways Ireland) have called for a **coordinated** and focused investment programme into outdoor recreation **resourced by a range of government funds** to support tourism, rural development and health and wellbeing on public lands in their 'Outdoor Recreation Plan for Public Lands and Waters in Ireland' (Coillte, 2017). Examples of collaborative, multi-stakeholder initiatives include the bike trail created in the Ballyhoura Mountains through a partnership of Coillte with Ballyhoura Development CLG (the Local Development Company), and Cork and Limerick County Councils. This plan recognises the impact that recreation and activity tourism is having on sensitive upland environments and the need to plan and manage such development into the future. Its strategic objectives include maintaining and expanding outdoor recreation infrastructure, facilities and services; developing standards in the sector including professional development of public staff; promoting the sector and building a culture of outdoor recreation and volunteering in Ireland; and maximising benefits to communities. The latter objectives in particular reveal the potential for **multi-stakeholder** and **community-based collaborations** around outdoor recreational development in upland areas. Under theme 7 of its operational programme – Volunteering and Communities – the Outdoor Recreation Plan outlines actions to **support engagement**, **build capacity** and **encourage partnerships** with communities and businesses to contribute to and benefit from outdoor recreation and activity tourism development.[14]

Recreation, together with the preceding themes of landcover, biodiversity and landscape are brought together through the concept of Green Infrastructure for the purpose of creating **a joined-up framework** for policy and planning purposes. Due to the increased participation in outdoor recreation, there is a need for investment in the management of recreation to address path erosion on privately owned land through *Comhairle na Tuaithe's* Mountain Access Project or other similar arrangement. Central government funding to local upland partnership groups, who take responsibility for the management of recreational activity, relationships and the physical infrastructure will help sustain the goodwill of host landowners.

Green Infrastructure

Green Infrastructure is "a strategically planned and managed network featuring areas with high quality biodiversity (uplands, wetlands, peatlands, rivers and coast), farmed and wooded lands and other green spaces that conserve ecosystem values which provide essential services to society" (Comhar SDC, 2010: 11). Comhar SDC (2010) has set out a pathway for creating a long-term framework for establishing Green Infrastructure approaches at national and local government level in Ireland to improve sustainable development in rural and urban areas in an era of climate change. Specifically, it aims to stem the fragmentation of ecological connectivity, enhance biodiversity and improve resilience and adaptation. The goal is to integrate biodiversity more strongly into spatial and sectoral planning, and to ensure that biodiversity is valued appropriately in policy and decision making. Green Infrastructure builds on the study of a National Ecological Network (comprised of core areas and connecting corridors) that looked at the relationship between biodiversity and national spatial planning in Ireland for the first time (Tubridy and Ó Riain, 2002).

Green Infrastructure is a straightforward combination of the ecological and spatial concepts of multi-functionality and connectivity. Such Green Infrastructure features strongly in upland areas. Spatial distributions of different elements of Green Infrastructure in Ireland reveal overlap "through western

[13] Source: https://www.independent.ie/business/farming/forestry-enviro/scheme-which-sees-farmers-paid-to-maintain-public-walks-to-be-extended-36616164.html, accessed 13.Jan.19.

[14] The Department of Rural and Community Development funds outdoor recreation and activity tourism through the Outdoor Recreation Infrastructure Scheme from small maintenance or promotion projects of €20,000 through to more strategic large-scale projects up to €0.5m.

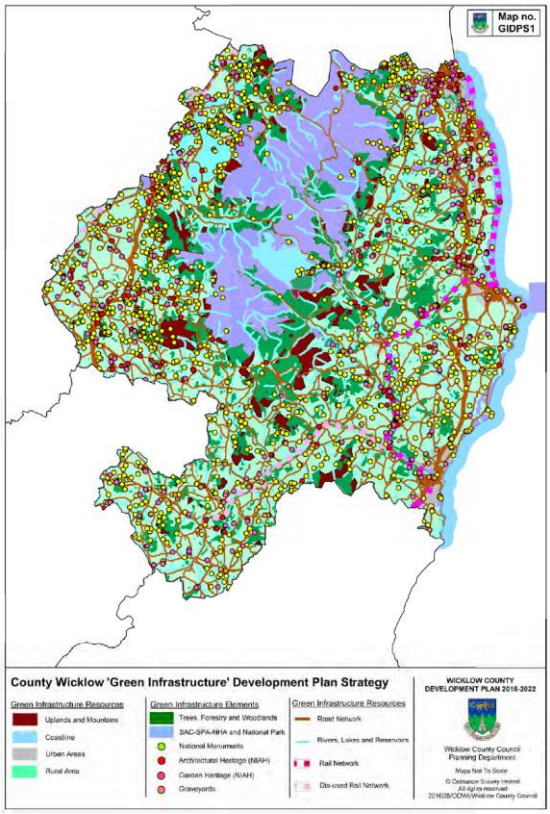
counties, **uplands**, coastal areas, and with the water network including riparian zones" which "provides widespread opportunities for connecting features" (Comhar SDC: 35). In fact, in the national classification used to designate land area in terms of an Ecological Network, where EcoNet Class 1 has the highest level of 'naturalness' out of five classes, the uplands comprise **core areas** (along with rivers, lakes and coastline) that are interconnected by corridors.

The National Planning Framework states that 'integrated planning for Green Infrastructure and ecosystem services will be incorporated into the preparation of statutory land use plans' such as regional and metropolitan strategies, and city and county development plans (National Policy Objective 58, Government of Ireland, 2018: 125). It goes on to say that it recognises the importance of considering 'the interrelationships between biodiversity, natural heritage, landscape and our green spaces'. For example, figure 2-2 shows the Green Infrastructure map in the County Wicklow Development Plan. It is being used by that local authority to help to ensure that a Green Infrastructure approach is included in spatial planning and development in County Wicklow. The map will also help to progress initiatives that improve connectivity throughout the county and add value e.g. by developing on-road cycling routes and expanding off-road trails in the Wicklow Mountains. The latter would happen through consultation with farmers in commonage areas and with Wicklow Mountain National Park and would ensure that access is aligned with conservation objectives of overlapping Natura 2000 sites. This shows the practical application of Green Infrastructure by local government and its value as a concept in spatial planning that can be up-scaled at regional and national level. Green Infrastructure may offer a useful framework to apply to an uplands' strategy for sustainable land use conservation, management and planning into the future.

EU Policy

The main EU policy areas impacting on uplands relate to agriculture, forestry, rural development, nature conservation, biodiversity, as well as regional and cohesion policy (Price, 2010). The first EU policy targeting upland areas was the designation of Less Favoured Areas (LFA) in 1975. It sought to address the challenge of farming in particular areas, including on mountainous terrain. Some 98% of uplands in Ireland and the UK are designated as LFAs (since 2013, referred to as 'Areas facing Natural or other specific Constraints' – ANCs) because they are 'areas with specific handicaps' and thus very poor farmland or 'areas with environmental restrictions' or 'areas in danger of abandonment of land use' (figure 2-3).[15] The persistence of such ANCs since they were first designated in the 1970s shows that these handicaps cannot be 'improved' through conventional agriculture, nor can they be overcome simply through compensatory payments to farmers (Gløersen *et al.*, 2016).

Figure 2-2: Green Infrastructure in County Wicklow



Source: Wicklow County Council, 2016: p. 22

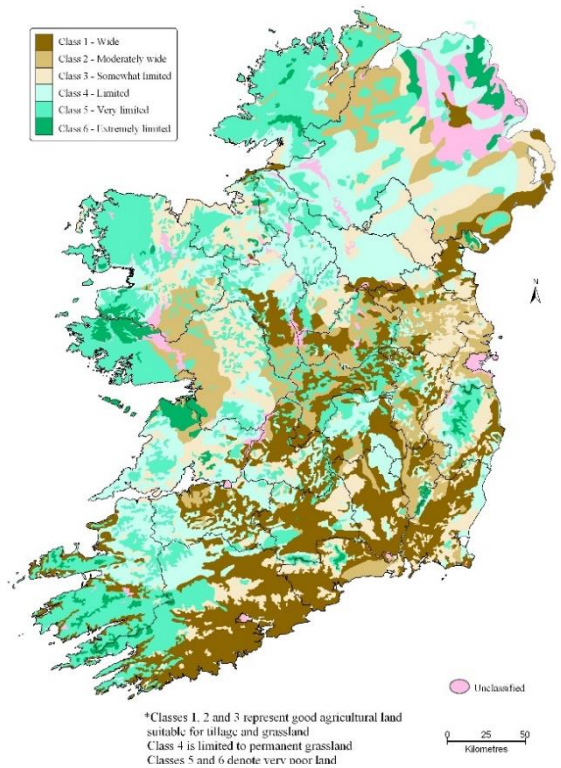
The most comprehensive EU recognition of uplands came with the addition of 'territorial' development to the social and economic dimensions of Cohesion Policy following the 2007

[15] There are just pockets in uplands in the east and south of the country that are not LFA, with the largest extent in the Dublin Mountains.

Treaty of Lisbon. Article 174 of the Treaty calls for "particular attention to be paid to [among others] … mountain regions" as "regions which suffer from severe and permanent natural or demographic handicaps".[16] Territorial Cohesion is defined as "the process of promoting a more cohesive and balanced territory, by: (i) supporting the reduction of socioeconomic territorial imbalances; (ii) promoting environmental sustainability; (iii) reinforcing and improving the territorial cooperation/governance processes; and (iv) reinforcing and establishing a more polycentric urban system" (Medieros, 2016: 24).

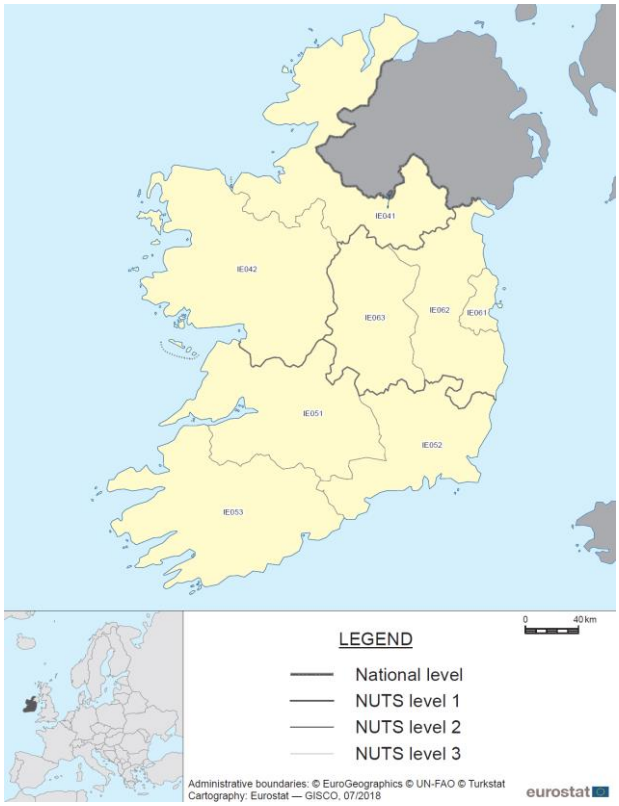
The 2014-2020 EU programming period sought to strengthen the coordination and coherence of regional development policies, including cohesion, rural development, and maritime and fisheries. This included common provisions for the five European Structural and Investment (ESI) funds, namely: Cohesion Fund[17]; European Agricultural Fund for Rural Development (EAFRD); European Maritime and Fisheries Fund (EMFF); European Regional Development Fund (ERDF) and; European Social Fund (ESF). These ESI funds support projects across EU regions with one-third of the EU budget going to cohesion policy measures focused on a range of 11 thematic objectives, including 'environment and resource efficiency' and 'climate change and risk prevention'. There has been an increasing emphasis on social inclusion, as well as a greater onus on projects to demonstrate results through measurable targets to improve accountability and secure ongoing funding support.[18]

Figure 2-3: Land use ranges



Source: Crowley *et al.* (2008)

Figure 2-4: EU regions (NUTS 2) in Ireland



Source: https://ec.europa.eu/eurostat/

Ireland has three EU regions (known as NUTS 2), as well as eight sub-regions (NUTS 3) (figure 2-4).[19] While less-developed regions are prioritised and while regional programmes focus structural funding

[16] Source: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A12012E%2FTXT, accessed 3.Jan.19.
[17] Cohesion funding is targeted at member states less developed than Ireland.
[18] Source: https://ec.europa.eu/regional_policy/en/faq/, accessed 11.Jan.19.
[19] NUTS stands for Nomenclature of Territorial Units for Statistics.

on particular regions, thematic programmes such as those related to the environment can encompass the entire country. National and regional authorities determine the selection criteria and committees, and ultimately decide which projects will be funded. The managing authorities in Ireland are the three Regional Assemblies. New Regional Spatial and Economic Strategies are being prepared in 2019 that will comprise spatial, economic and climate action strategies, and an investment framework. Those strategies will be implemented through regional operational programmes. In addition to those regional programmes, projects in Ireland are also funded through the cross-border, transnational and interregional co-operation programmes, such as ESPON, Interreg and North West Europe.[20] Such regional strategies and programmes show synergies with upland objectives such as reducing inequalities and optimising assets in mountainous areas.

Applying Cohesion Policy in Upland Areas

Gløersen *et al.* (2016) summarise upland economies as follows. There is increasing awareness of the multifunctionality and complexity of upland areas both across the EU and within member states. These are areas with a tradition of economic diversification. Upland areas that do not achieve enough economic diversification face youth emigration and depopulation. While asset-based development strategies and development of appropriate activities can be effective, upland communities and policy makers need to 'be nimble' and continuously evolve to maintain tourists and work to attract investment for innovation.

Teleworking (remote working) is one area of opportunity but depends on such factors as accessibility, social environment and the service offer in the uplands, as well as workers being able to avail of flexible working arrangements. Undoubtedly, there is a rising trend in independent professionals with a good deal of freedom in where they choose to locate but broadband access is essential and other important factors are the socio-cultural and living environment on offer, including recreational amenities and being within 1-2 hours of an urban centre, especially one with an airport. For example, technology clusters on the continent use proximity to mountain or winter sports to attract skilled workers and the Irish uplands have their own offerings of adventure sports such as mountain climbing and mountain running.

Other opportunities lie in primary production, tourism and commuters. Farming policy promotes integrated value-chains to enhance export-oriented economic activities through improving infrastructure and encouraging entrepreneurship, manufacturing innovation, along with targeted education and training programmes. The prevalence of protected areas and biodiversity in uplands generates local employment in terms of recreation and tourism (including hunting, hiking and fishing), as well as education and research. However, there are challenges to making tourism environmentally sustainable. Elsewhere, income generation from long-distance commuters, retirees and holiday home owners[21], what the authors call the 'residential economy', can be an important inflow of income to some upland economies.

In all cases, upland policies should consider the impact of interventions on public goods overall and not just their narrow economic benefits. Improving broadband access is important for economic development (including e-commerce), education (e.g. e-University) and governance. Alternative, innovative solutions are especially needed to provide services of general interest (SGIs) for sparse populations, where such SGIs are either not sufficiently profitable for the private sector or incur high costs for the public sector. The researchers call for a move away from thinking that seeks 'equal access' and instead advocate innovations customised to local needs and potentials. Examples include teleconferencing so that people can use public services that are based in urban centres from their

[20] For more detailed information on each programme, see: https://ec.europa.eu/regional_policy/en/atlas/programmes?search=1&keywords=&periodId=3&countryCode=IE&regionId=ALL&objectiveId=ALL&tObjectiveId=ALL, accessed 11.Jan.19.

[21] Some Swiss municipalities have set a limit to the proportion of second homes to protect against 'second housing sprawl' (Gløersen *et al.*, 2016).

upland homes and businesses; social enterprises to deliver retail or cultural services; on-demand transport services; and ICT to coordinate carpooling. But, again, these examples of innovation highlight the importance of broadband access.

Up to now, development strategies in EU uplands have tended to be reactive (compensating for handicaps), proactive (targeted at economic diversification and accessibility) or sustainable (focused on the environment and urban markets for it) (Gløersen *et al.*, 2016). In recognition of the diversity of upland areas throughout the EU, those authors call for frameworks of 'place-based policies' that help regional or national programmes to:

- Address development opportunities and challenges in mountainous areas, and
- Encourage cooperation between programmes that operate in particular mountain ranges.

They caution that upland planning frameworks must be *flexible* and *adaptable* in light of the diversity of conditions found between upland areas while at the same time they highlight the benefit of collaborating across EU's uplands in order to identify successful policy approaches (Box 2-2).

Box 2-2: Collaboration through the Mountain Partnership

Mountain Partnership is the United Nations' voluntary alliance of over 280 members across government, intergovernmental organisations, civil society and the private sector that collaborate on the goal of "improving the lives of mountain peoples and protecting mountain environments around the world" (Mountain Partnership, 2016: 3). Practical examples include an initiative to jointly develop a voluntary certification that creates a global mountain brand using value-chains and capacity development to recognise the uniqueness of upland produce and products [e.g. Connemara Hill lamb], or annual courses to educate officials working on upland development matters [e.g. by members and upland partnerships in IUF]. Mountain Partnership includes a number of UK-based NGOs and institutes.

See: http://www.fao.org/mountain-partnership/members, accessed 12.Jan.19.

Uplands – Hubs of Public Goods Provision Fragmented by Political Geography

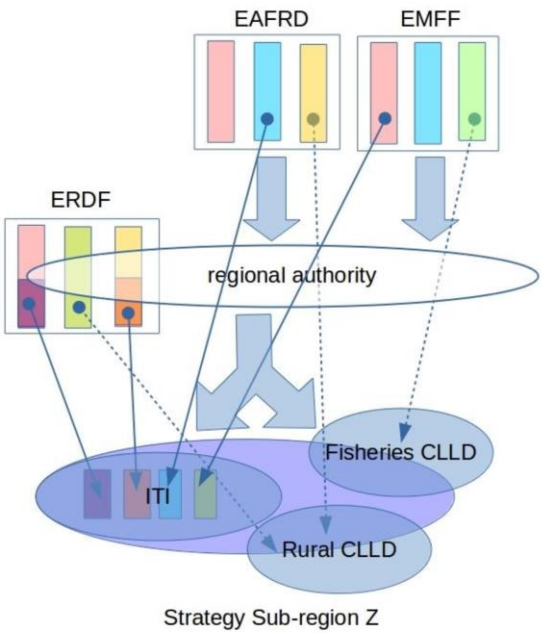
A focus on the uplands in isolation from their lowlands creates the illusion of 'sky islands'. In fact, as the headwaters of freshwater supplies to densely populated communities downstream, often at the intersection of multiple river catchments, and as hotspots of biodiversity, traditional farming practices and vernacular built heritage, the uplands constitute hubs of public goods provision within a network that spans the island of Ireland. Integrating upland development across its social, economic and ecological dimensions through place-based, inter-sectoral and multi-level policy coordination as sought by Gløersen *et al.* (2016) needs to be combined with developing relationships with key partners downstream: in particular, lowland communities that depend on uplands for water provisioning and flood regulating services. There are ongoing discussions regarding the governance required by such integrated multi-dimensional policy approaches and implementation at EU-level.

Governance challenges result from the fact that upland areas tend to extend across multiple NUTS 2 regions (Gløersen *et al.*, 2016) as well as counties. Tubridy (2013) found that the majority of local authority planners see inter-county collaboration as a priority, something that is evident in the Slieve Bloom uplands, for example. Gløersen *et al.* (2016) call for regional programmes that not only address the internal disparities of regional territories but are implemented in collaboration with neighbouring regions also. They give an example of a multi-regional programme in the Massif Central across six regions, where one region is coordinator and managing authority, while the objectives and actions are set by a multi-stakeholder committee. Gløersen *et al.* (2016) list a number of changes that have helped to advance the governance of integrated territorial development.

1. The establishment of a Common Strategic Framework to coordinate the various funding streams of the ESIF

2. the Community-Led Local Development (CLLD) approach of LEADER that exemplifies integrated, bottom-up, partnership-based strategies for territorial development, and
   the introduction of Integrated Territorial Investments (ITIs) that allow Member States to combine two or more priority axes of one or more Operational Programmes. ITIs appear to offer a mechanism through which a multi-dimensional and cross-sectoral upland territorial strategy might be designed, implemented and managed collaboratively across a range of regional, county and local stakeholders (figure 2-5). Along with funding, it offers "the option to develop specific and appropriate governance arrangements" (Gløersen *et al.*, 2016: 18) such as are vital for sustainable territorial development in places such as Ireland's uplands.

Figure 2-5: Use of Integrated Territorial Investment (ITI) in a territorial strategy for Sub-region Z



Source: European Commission, 2015: 49

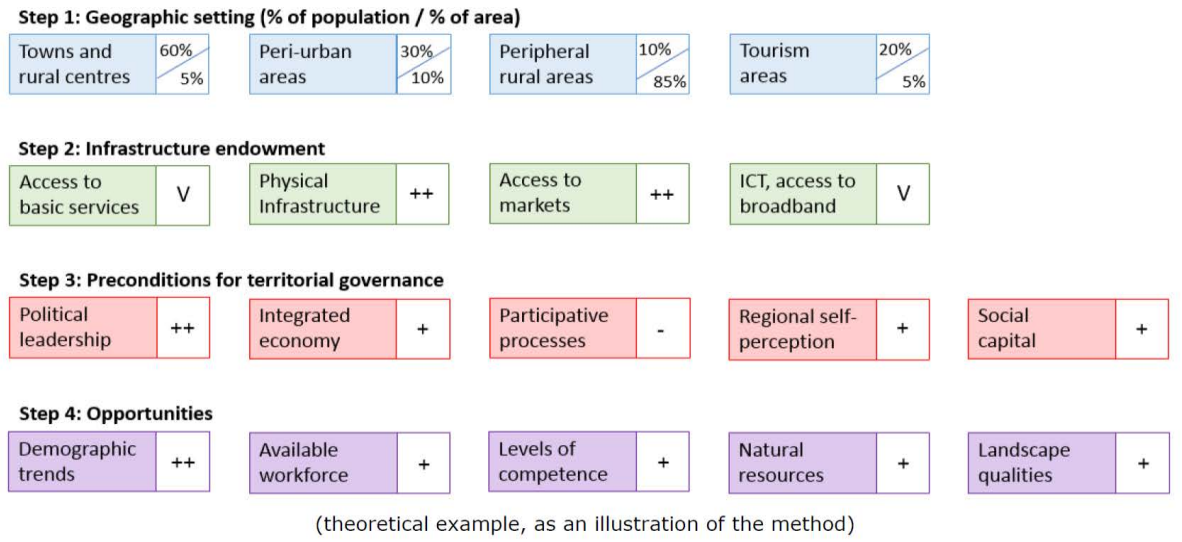
3. Member States can introduce Thematic Sub Programmes in their EAFRD programmes that, according to Regulation (EU) No 1305/2013, "should concern, among others, young farmers, small farms, mountain areas, the creation of short supply chains, women in rural areas and climate change mitigation and adaptation and biodiversity" (in Gløersen *et al.*, 2016: 18), all of which the researchers point out are very relevant to upland areas.
4. The increasing EU focus on thematic priorities such as renewables, innovation or SME support will help with securing ESI funding to develop asset-based strategies, promote employment and social inclusion, and invest in education, including in the uplands.

Framework for Place-based Policies in Upland Areas

Price (2010) characterised the natural and environmental assets of EU-27 across five classes ranging from 'very low' to 'very high' using a 10km^2 grid based on variables that included economic density and accessibility, presence of HNV farmland and proximity to natural areas. He found that the uplands of Ireland and UK combined have very high assets over a large proportion (59%) of their area compared to other member states (map 10.3, Price, 2010: 193). Beyond the uplands, assets are most likely to be 'average' in Ireland and 'average' or 'low' in the UK (ibid: 195).

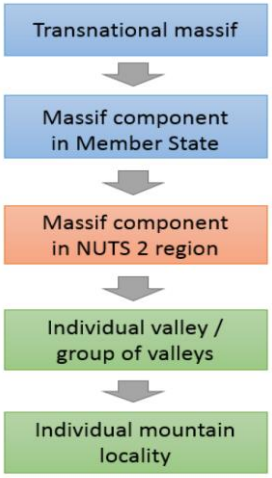
In order to consider more assets than just natural and environmental ones, Gløersen *et al.* (2016: 54) propose a framework for upland development strategies using a standardised stepwise characterisation process (figure 2-6) that can be applied iteratively at different scales from mountain ranges that cross international borders to uplands in a member state to those in a NUTS 2 region and so on (figure 2-7). The authors explain that this process would generate upland typologies that could be used to: (i) show the commonalities across upland areas; (ii) inform CLLD and ITI measures by helping to reveal upland challenges and opportunities, and (iii) encourage the kind of flexible multi-level governance and coordination required in mountains to encourage cooperation between programmes operating within them, especially between cohesion policy and agricultural policy.

Figure 2-6: Example of a stepwise characterisation of upland areas



(theoretical example, as an illustration of the method)

Figure 2-7: Characterisation of uplands



The authors describe the disparity that tends to occur between both the governance and implementation at the NUTS 2 level on the one hand, with the more appropriate scale of the upland territory on the other hand. This is why they would encourage member states to establish flexible governance arrangements that give sub-regional territories control over development programmes and strategies. The kind of actions needed throughout an upland area and their governance arrangements may differ according to the issue being addressed and its spatial scale, while large-scale issues may require actions that extend across mountain and non-mountain areas, including the lowlands.

Upland characterisation would be done in partnership with local stakeholders. For instance, upland dwellers can expect that collaboration, coordination and integration of upland development will be an inclusive process. It is vital that territorial development in upland areas includes the voice of local communities, not only because they "possess traditional knowledge and best practices in managing and enhancing the resilience of fragile mountain ecosystems" (Mountain Partnership, 2016: 7), but because they also have the biggest stake in upland futures.

National Uplands Policy and Spatial Planning

There is no national policy for the Irish uplands. The only mention of uplands in the National Planning Framework relates to the border region while there is one reference to mountainous areas in general as places with little or no light pollution (Government of Ireland, 2018). The Irish policy approach to upland areas has remained sectoral, with a focus on rural development, especially agriculture (Price, 2010). Tubridy (2013) has called for stronger collaboration between local authorities and the forestry sector in upland areas, and also recommends greater use of GI and HES approaches to assessing upland assets in order to improve the profile of upland spatial planning at county and regional levels.

Encouragingly, Gløersen *et al.* (2016: 9) has described the evolving EU policy approach to upland farming as "more integrated, cross-sectoral, and multi-level". It is hoped that Ireland will adopt this direction in its future approach too. This was set out in the Dungarvan Declaration from IUF's 2014 conference that states:

> "maintained by generations of farmers, Ireland's uplands provide a range of vital benefits to society including water supplies, recreation and biodiversity. They face many challenges, and responses need an integrated approach. The *'Who Cares for the Uplands'* conference calls on government to put in place a programme to support informed sustainable management of Ireland's uplands by locally based partnership groups" (IUF, 2014: p.3).

In terms of encouraging more integrated approaches to Irish upland spatial planning, the Wicklow Upland Council (WUC) is an effective community-based upland group working in partnership with the Local Authority and other bodies with regards to the Wicklow Mountains; it offers a model of good practice in public participation (Tubridy, 2013).

An early example of a spatial strategy for an Irish upland area is 'The Wicklow Uplands: A Management Strategy' (Tubridy and Daly, 1992). Through a comprehensive process that included extensive consultations with the public, local organisations, and user groups, and a survey of upland households, the strategy recommended many of the concepts being discussed and adopted currently. In light of poor economic viability in hill farming, its future was linked to EU support for environmentally friendly farming that was only emerging at that time under the Common Agricultural Policy (CAP). The Wicklow Mountains strategy recognised the importance of taking a partnership approach between farmers and conservation authorities in recognition of the benefits of traditional farming practices and their key role in public good provision more broadly. The need for improved forestry management practices was also highlighted. Urban-driven development pressures for housing and recreation pointed to the importance of adopting an integrated and participatory planning approach that would in turn increase local awareness and understanding of cultural and natural heritage designations to help secure public support for sustainable development. This would require sound governance with appropriate structures and mechanisms for planning and implementation. Nearly thirty years on, two things are striking about that strategy: the foresight of its recommendations and the persistence of such issues in upland areas. The fact that there has been so little progress with upland spatial planning in the interim underscores the political nature of challenges facing mountainous areas that seek collaborative, coordinated and multi-dimensional approaches to territorial development. It also points to the need for raising awareness of the importance of uplands as national assets. In the absence of political leadership, evidence shows that the required approach is being developed from the bottom-up, with place leadership by non-governmental organisations (NGOs) and local development companies modelling new approaches e.g. through Community-Led Local Development (CLLD) and Locally Led Agri-Environment Schemes (LLAES).

There are five upland habitat European Innovation Partnerships (EIPs) focused on the implementation of local approaches to hill farming in Irish uplands (table 2-2).[22] This model was pioneered in Ireland by the Burren Farming for Conservation Scheme (Tubridy, 2013).

Table 2-2: Upland habitat EIPs

Project	Overview	Location
Blackstairs Farming Futures	Sustainable farming project in the Blackstairs Mountains	Carlow, Wexford
Inishowen Upland Farmers Project	Improve the economic sustainability of farming HNV land through a range of innovative measures that also deliver on environmental sustainability	Inishowen, Donegal
North Connemara Locally Led Agri-environment Scheme	Ensure the long-term economic viability of hill farming in the Twelve Bens/Maumturks (TBM) area	Connemara, Galway
Sustainable Agricultural Plan for MacGillycuddy Reeks utilising Collective Farm Management Approach	Conservation and restoration of Upland Habitat in the MacGillycuddy Reeks	Cork, Kerry
Sustainable Uplands Agri-environment Scheme (SUAS)	Addressing the complex agricultural, environmental and socio-economic challenges associated with the land management of the Wicklow/Dublin uplands	Dublin, Wicklow

Focus on 'Blackstairs Farming Futures'

The Blackstairs Results-Based Agri-environmental Payment Scheme or RBAPS is one such LLAES recently funded by the Government through an EIP. The proposal for the scheme describes the

[22] https://www.agriculture.gov.ie/press/pressreleases/2017/december/title,113634,en.html, accessed 5.Jan.19.

rationale and outlines the actions to be taken as follows (Gallagher *et al.*, 2015). It was informed by a Biodiversity Audit and consultations with local farmers. The Blackstairs uplands of Carlow and Wexford comprise the headwaters of three catchments. Hill farming in the area is undergoing change with falling sheep populations and declining farm numbers, while the average farmer age is rising (trends that are characteristic of uplands nationwide).

The Blackstairs RBAPS is underpinned by the aim to maintain existing key upland habitats in good conservation status through appropriate levels of grazing and good burning management, improving conditions for upland bird species and achieving high status of water quality throughout its waterbodies. In designing this locally led scheme, the developers examined the commonage measure of the national Green, Low-Carbon Agri-environmental Scheme (GLAS) to ensure its actions differed in order to provide additionality and avoid double funding. It did this by designing a grazing regime and other management practices that aim to achieve favourable status for target habitats and species, and thus exceed the Good Agri-Environmental Condition (GAEC) and other standard eligibility criteria of Common Agricultural Policy (CAP) subsidies. It also prioritises farm plans on land with target habitats to run for five years modelled on that of the Burren Farming Conservation Programme (BFCP). The scheme includes a financial incentive for farmers who cooperate in order to encourage collective arrangements. The LLAES takes a co-design approach to the farm plans by combining the expertise of farmers and farm advisors and ensuring flexibility and adaptability for farmers to deliver outcomes in a way that suits their farm system. There are provisions for the plans to be updated annually by advisors who also monitor the LLAES targets. The scheme will reward farmers for managing their land to deliver optimal habitat conditions for target species. It will use a five-point scoring system of the BFCP and RBAPS to assess habitat condition; better characteristics accrue higher scores with performance thresholds to ensure sustainability combined with realistic ambition. Outcomes generate payments that are linked to the costs of delivery, such as the extra labour required for a higher level of shepherding in order to achieve more focused grazing. The inclusion of eradicating invasive alien species and controlling predators of target species, creating and maintaining access tracks, along with identifying and conserving archaeological and stone wall heritage, highlights the joined-up thinking that has gone into the design, while the idea of a 'shared herd' on commonage to overcome disease control regulations that prohibit mixing different herds shows innovation and cooperation. The managed burning programme element of the LLAES exemplifies public-private collaboration across Coillte, Fire Service, Forest Service, NPWS and Local Authorities. Ongoing review of the scheme among key stakeholders as well as evaluation of its benefits within the wider community will provide important information for this and future hill farming schemes.

A Profile of Hill Farming in the Republic of Ireland

This last section in the chapter examines some of the changes happening in hill farming in the RoI since the turn of the millennium. It presents a story of transformation in the nation's uplands. The evidence emphasises why alternative approaches such as the RBAPS described above are important interventions that can respond in locally appropriate ways to the higher rates of change happening in the hill farming sector in Ireland.

The National Farm Survey[23] (NFS) is conducted annually by Teagasc on a random and nationally representative sample of farms in the RoI. It excludes the smallest farms such as those less than 14 suckler cows or 6 dairy cows.[24] This profile uses NFS data to look at the changes in hill farms compared with all farms between 2003 and 2011, and between 2012 and 2017. These two time periods were chosen to (1) capture trends since the introduction of the Single Farm Payment in 2003 to decouple farm production from income support and (2) account for the 2012 change in NFS methodology when the minimum farm size threshold for inclusion in the survey sample was increased to €8,000 SO. Hill farms are those where the dominant soil type is class 5 or 6. In other words, they have very or

[23] Part of the EU's Farm Accountancy Data Network (FADN).
[24] See Dillon *et al.* (2017) for a profile of small farms of €8,000 SO or less conducted by Teagasc.

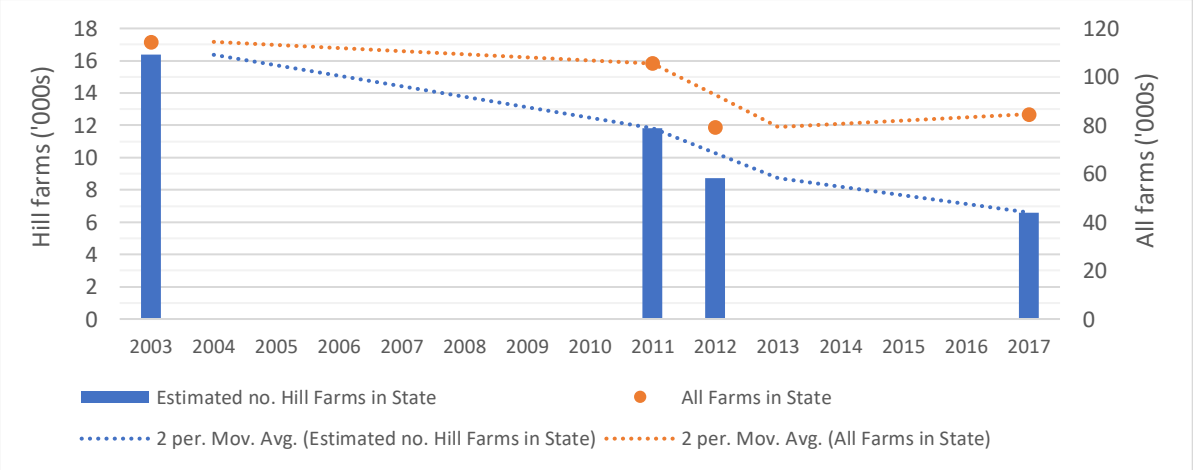
extremely limited soil potential and this affects their output. They are found predominantly in upland areas. Using NFS data for the number of farms in the State and the percentage of hill farms in the representative NFS sample, it is possible to track trends of change in the number of farms overall and through an approximation of the number of hill farms (table 2-3). When visualised in figure 2-8, these data indicate that there has been a higher rate of decline in the number of hill farms between 2003 and 2011, and between 2012 and 2017, compared with farms overall. By 2017, an estimated 6,600 active hill farms of at least €8,000 SO were operating in the Republic.

Table 2-3: Estimated hill farm population in the Republic based on NFS representative sample

	No. hill farms (% NFS sample)	Total farms in State represented by NFS[25]	Estimated hill farms in State
2003	127 (14.3%)	114,457 (excl. pig, poultry & farms <2ESUs)	16,367
2011	99 (11.2%)	105,535 (excl. pig, poultry & farms <€4,000 SO)	11,820
2012	90 (11.0%)	79,292 (excl. pig, poultry & farms <€8,000 SO)[26]	8,722
2017	64 (7.8)	84,599 (excl. pig, poultry & farms <€8,000 SO)	6,599

In 2003, the average hill farm was 37.4ha, smaller than the national average of 39.3ha (figure 2-9). But the situation had reversed dramatically by 2017 when the average size of a hill farm had reached 66.9ha[27], while nationally it was 47.1ha. Combined with the previous data on farm numbers, it reveals that a higher rate of farm consolidation is happening in upland areas, with fewer farm households running larger holdings. Reasons for hill farm consolidation are likely to include (1) a failure to attract farm successors due to the relatively poorer profitability of upland farming and (2) the greater distance on average from hill farms to off-farm job opportunities and to services of general interest that tend to be located in more urban areas.[28]

Figure 2-8: Trends in the number of hill farms and all farms in the Republic of Ireland between 2003 and 2017



While farms across the Republic are being consolidated into fewer, larger enterprises, farming systems are also in flux. There was an increase in the proportion of cattle farms both nationally and in the uplands (figure 2-10). While the intensity of livestock production or stocking density has remained static on farms nationally at 1.5 livestock units[29] per hectare, it has been declining on hill farms and

[25] ESU (economic size units) and SO (standard outputs) represent the average monetary value of agricultural output at farm-gate prices (excluding direct payments, VAT and other taxes). In 2003, 1 ESU was equivalent to €1,200 SO.

[26] Thus, approximately 18% of the total farm population is not represented by the NFS (Hennessey *et al.,* 2013).

[27] This is total area and comprises land owned plus land rented less land let.

[28] "Services of General Interest (SGI) refers to basic services which are essential to the lives of the majority of the general public and where the state has an obligation to ensure public standards (to defend the public interest). SGIs cover a broad range of activities linked to the big network industries like energy, telecommunications, transport and postal services, but also include vital services which form the heart of EU social protection systems: like education, health, housing, social and services, water and waste management" (EAPN: 2, 2007).

[29] Livestock units are calculated across all animals on a farm with a dairy cows being 1.0, suckler cow 0.9, heifer-in-calf 0.7, cattle ranging from 0.2 to 1.0 depending on age, lowland ewes/rams 0.2, hill ewes/rams and all goats 0.14, etc (Dillon *et al.*, 2018: 96).

stands at less than half that at 0.7 livestock units per hectare. This indicates a trend towards less intensive livestock farming in the uplands.

A look at farmland management shows that an expansion in improved pasture has accompanied the rise of cattle farming. Nationally and in the uplands, the proportion of rough grazing[30] and hay meadows on farms is declining while improved grassland increases. Although these more natural forms of vegetation still comprise nearly one-quarter of the forage area on hill farms (compared with less than 10% on the average Irish farm), it represents a decline from 2012 when they made up one-third of the forage area on hill farms. This signals that the expansion of improved pasture is happening at the expense of more natural types of vegetation (figure 2-11).

Family farm income is the total return to family labour, management and capital investment in the farm. What figure 2-12 shows is that not only are farming incomes lower on hill farms, they are growing at a slower rate too. By 2017, the average hill farm income was €17,043 compared to the national average of €31,411. Increased market returns due to the expansion of the dairy sector in lowland areas helps to explain this divergence.

Subsidies and direct payments are made to farmers through CAP schemes. Figure 2-12 shows that by 2017, hill farms remain more dependent on CAP schemes with subsidies making up ninety percent of their average family farm income. This indicates that the conventional agri-food industry and existing markets for farm outputs do not serve Irish hill farming well at all. For now, hill farming is being maintained by income supports. But how appropriate are income supports when it comes to hill farming? The two main area-based farm subsidies – Areas of Natural Constraint (ANCs)[31] and the Green Low-carbon Agriculture Scheme (GLAS)[32] – provide a useful set of indicators to try to answer that question. These schemes are part of the Rural Development Programme (RDP) in Pillar 2 of the CAP, which recognises the importance of the broader rural economy to the continuation of family farming. ANCs serve to ensure that farming continues in areas where conditions make it more challenging and less profitable, such as the uplands. GLAS encourages more environmentally sustainable practices and is important in areas with High Nature Value (HNV) farmland too, which is strongly associated with the uplands. Both schemes reward the provision of public goods by farm families with regards to landscapes, vernacular heritage, traditional farming practices and ecological services. As discussed earlier in the chapter, the potential for public goods provision is a particular strength of hill farms. This is because they are far less suitable for intensive agriculture compared to lowland areas where one is more likely to find larger field systems, higher stocking densities, and more mechanised farming systems such as dairying and tillage.

However, these two area-based payments comprise a shrinking proportion of farm subsidies (figure 2-13). This is happening despite the growing desirability of public goods provision in an era of climate change, biodiversity loss and the development of the rural tourism sector through Fáilte Ireland's flagship strategies of the Wild Atlantic Way, Ireland's Hidden Heartlands and Ireland's Ancient East. By 2017, they made up less than one-third of subsidies to the average hill farm and less than one-fifth to farms overall.

Therefore, approximately 70% of the subsidies that help to maintain hill farming in the Republic are designed to support conventional farm production. However, the faster rate of consolidation among hill farms and its relative unprofitability points to the unsustainability of conventional farming in upland areas under the current CAP regime and its Rural Development Programme. A particular strength of hill farming is its potential to deliver public goods for human ecological services, amenity and recreation. The RDP is the main policy mechanism through which to realise this potential under

[30] Rough grazing is grazed un-reclaimable bogland, grazed mountain, and grazed lowland with scrub or rock.

[31] Formerly known as Less Favoured Areas (LFAs) from 1975 and then the Disadvantaged Areas Scheme (DAS) up to 2018.

[32] Formerly known as the Rural Environment Protection Scheme (REPS) from 1994 to 2010 and AEOS (Agricultural Environmental Options Scheme) from 2010 to 2015.

the CAP, but the current subsidy trends are going in the wrong direction to achieve it. As Moran and Sullivan (2017) pointed out, there is currently not enough policy support for HNV farmland and the market for farm output does not reward the provision of ecosystem services. These are two factors that will need to be addressed by policymakers, farming representatives and upland advocates to help stem the decline in upland farming and redirect it towards more desirable outputs. Again, it points to the value of the emerging LLAES described earlier.

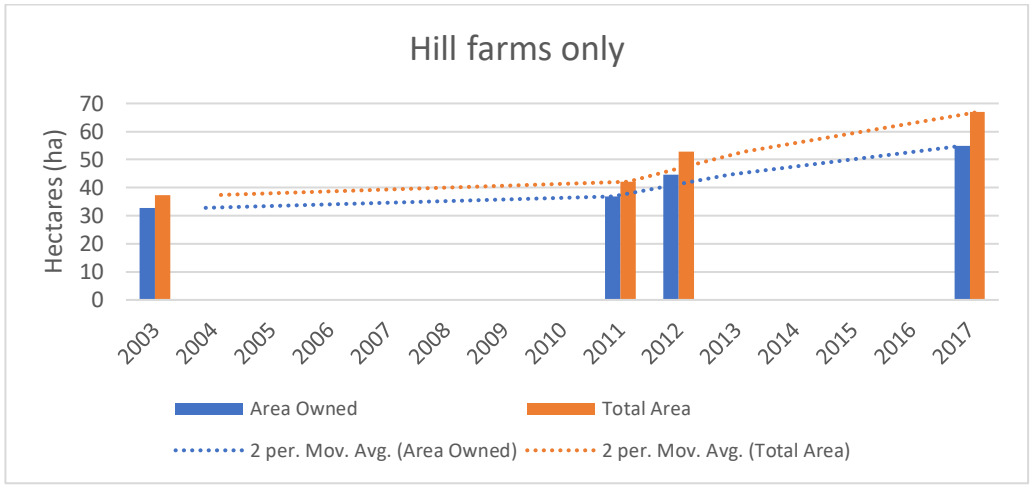
Other indicators of the importance of the broader rural economy and the RDP to hill farms is the growing share of very low-income hill farms, together with increasing proportions of hill farm holders and their spouses with off-farm jobs. By 2017, one-third of hill farms had a return of less than €5,000 (figure 2-14). Altogether, three-quarters of hill farms had a return of €20,000 or lower, well below the average industrial wage of over €37,500.[33] While supplementing family farm income is essential on most Irish farms, it is especially so in upland areas. By 2017, hill farmers (41%) were more likely than farmers in general (31%) to combine farming with an off-farm job and there had been a rise in off-farm employment among their spouses too (figure 2-15). The evidence is clear that, for now, hill farming is only sustainable through combining it with off-farm jobs. Furthermore, access to off-farm jobs is particularly challenging in some Western uplands.

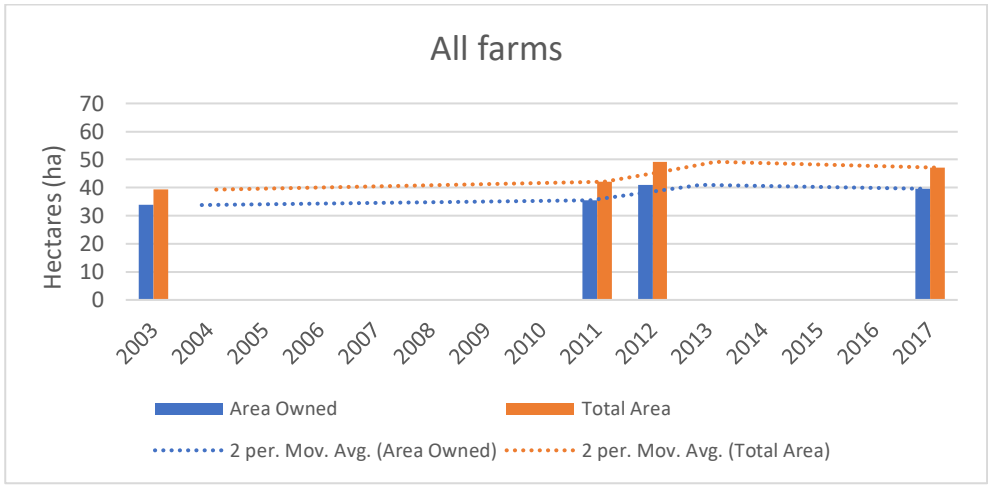
By 2017, one quarter of farm households were pensioners in all areas (figure 2-15). But, hill farmers were more likely to be older (figure 2-16) and either single or widowed (figure 2-17) suggesting weaker potential for farms to continue into the next generation.

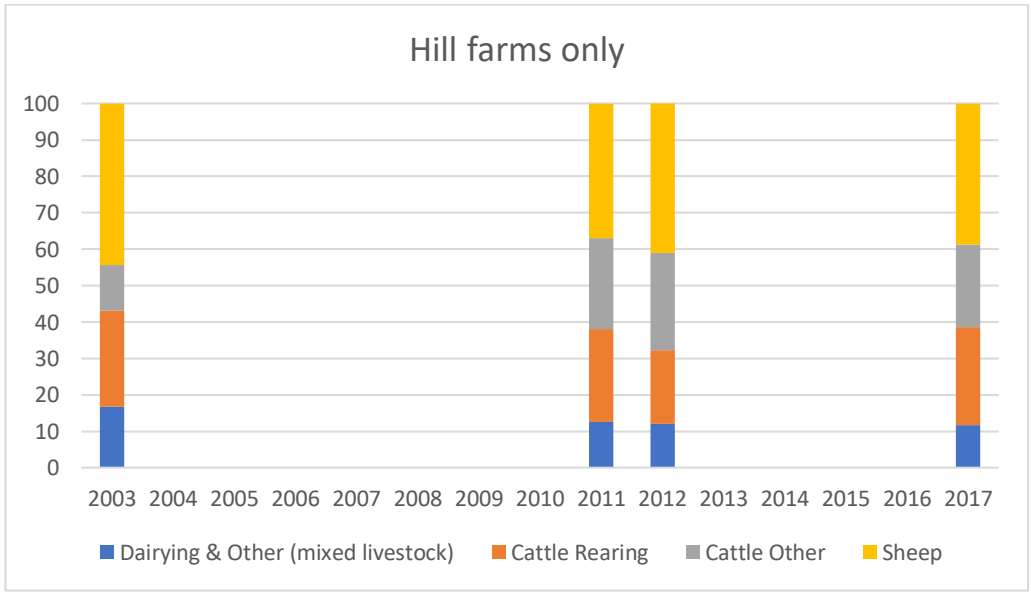
Demographically viable households are those with at least one member younger than 45 years. It is an indicator of the potential of a farm household to reproduce itself. Farm households are getting smaller and their demographic viability is in decline both nationally and in the uplands (figure 2-17). Hill farms have consistently lower levels of demographic viability. Combined with the finding above that hill farmers are more likely to be older, single or widowed, it paints a picture of an increasingly ageing and shrinking farming population in the uplands.

[33] Source: https://www.cso.ie/en/releasesandpublications/er/elca/earningsandlabourcostsannualdata2017/, accessed 17 Feb 2019.

Figure 2-9: Average farm size and area of land owned between 2003 and 2017







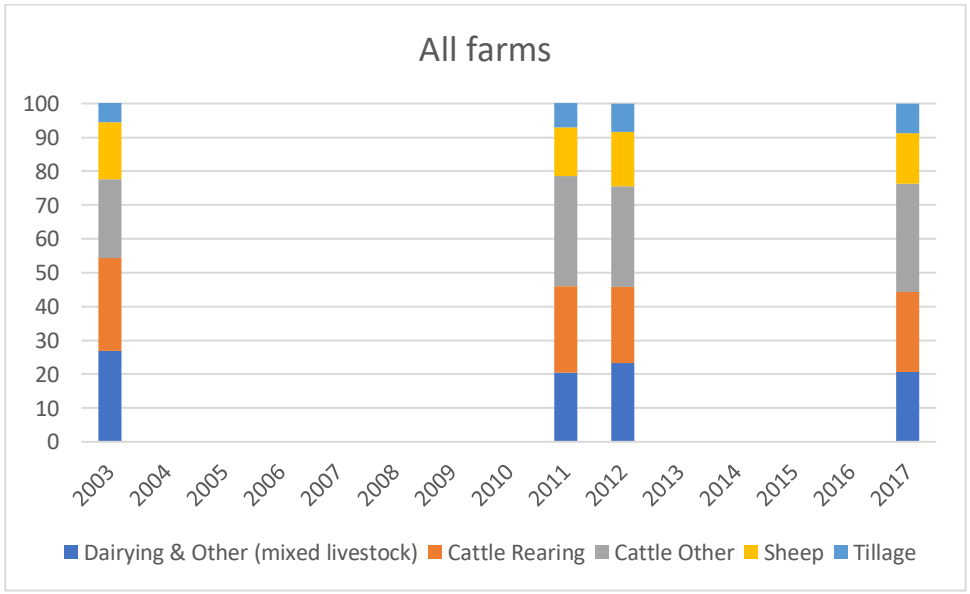
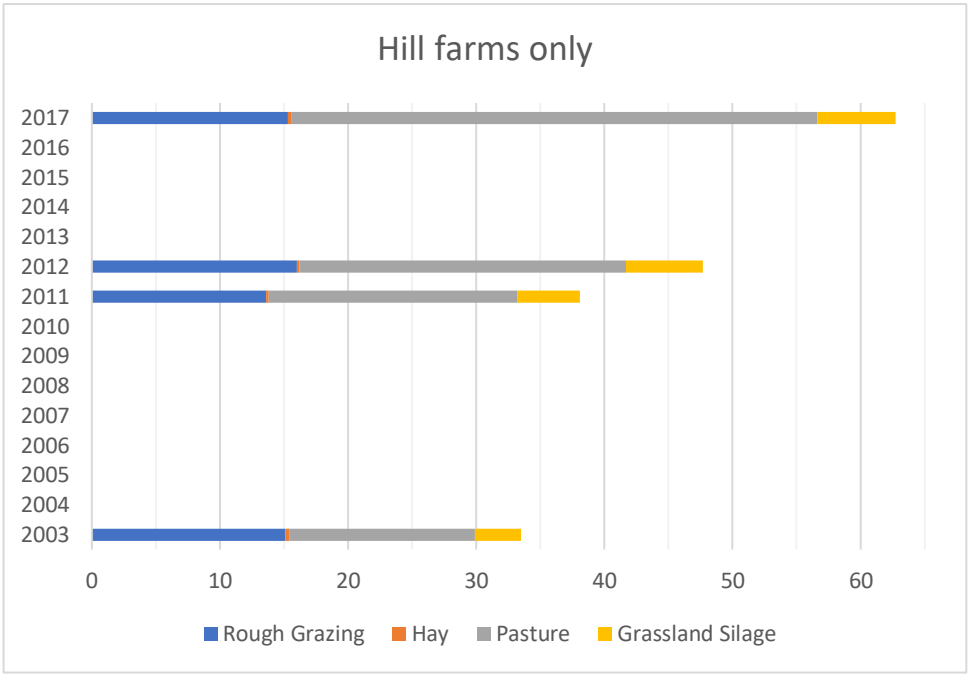


Figure 2-10: Composition of Farming Systems between 2003 and 2017

Figure 2-11: Average area of forage by type between 2003 and 2017



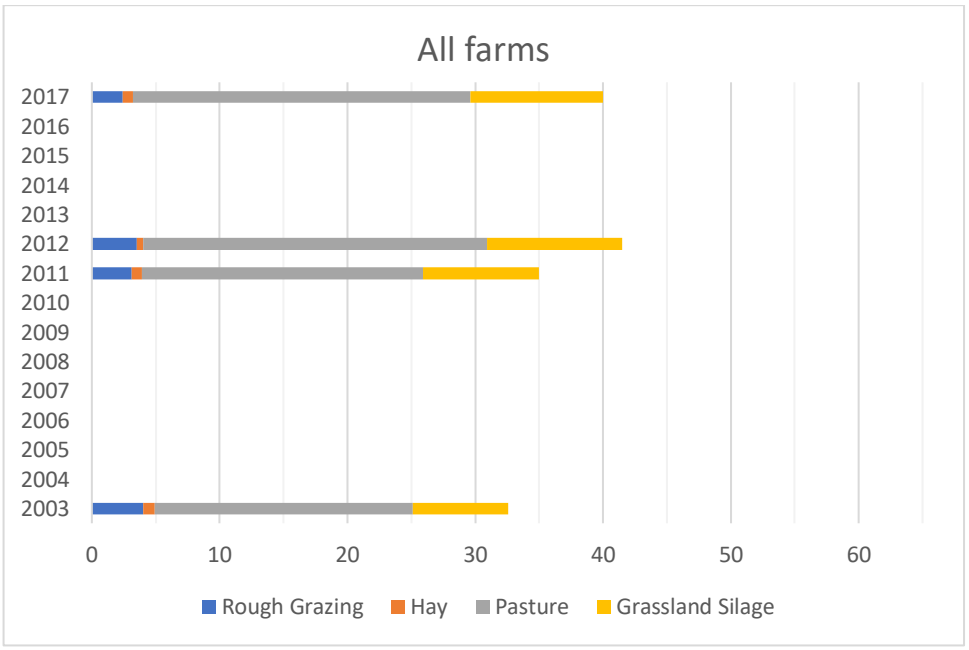
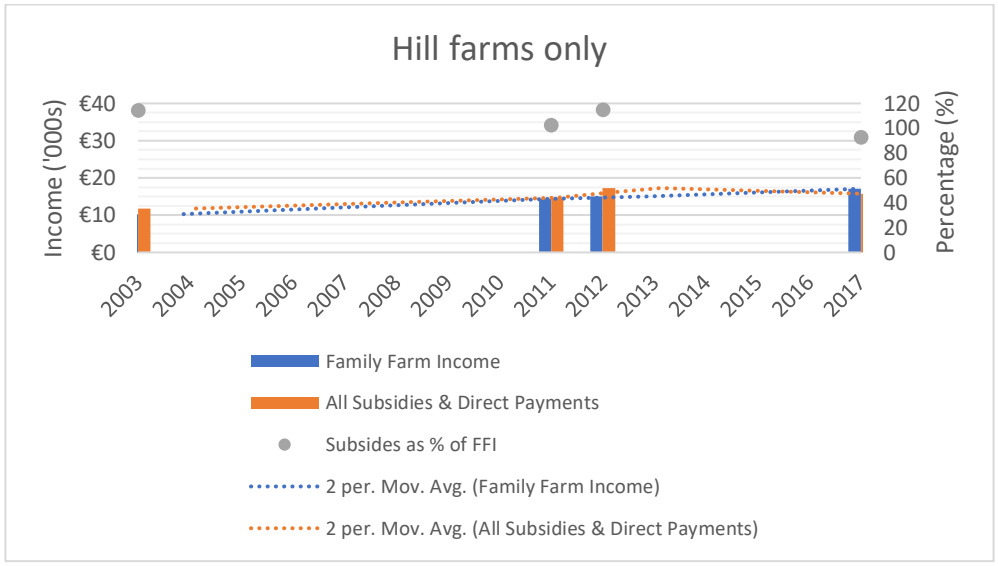
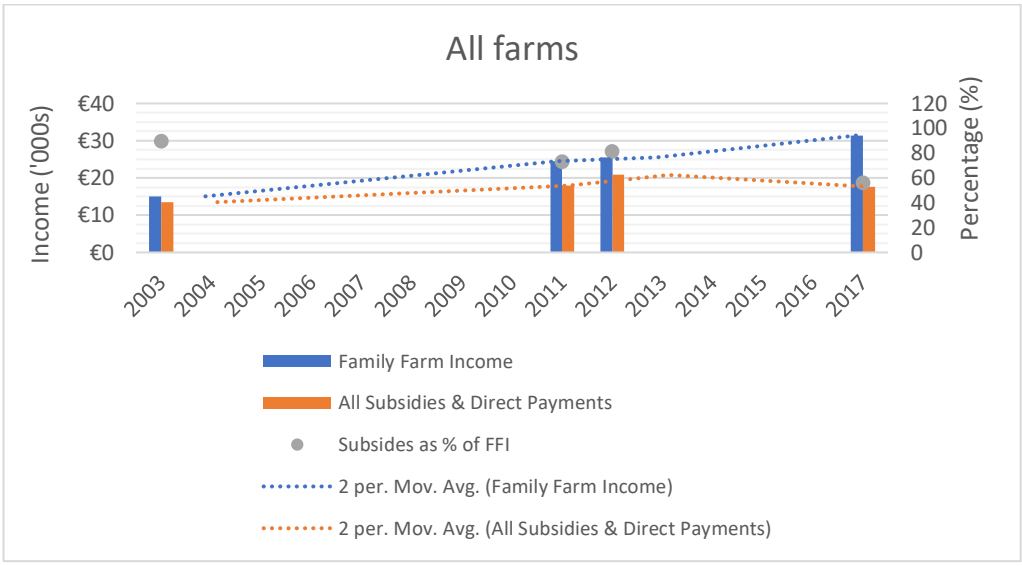
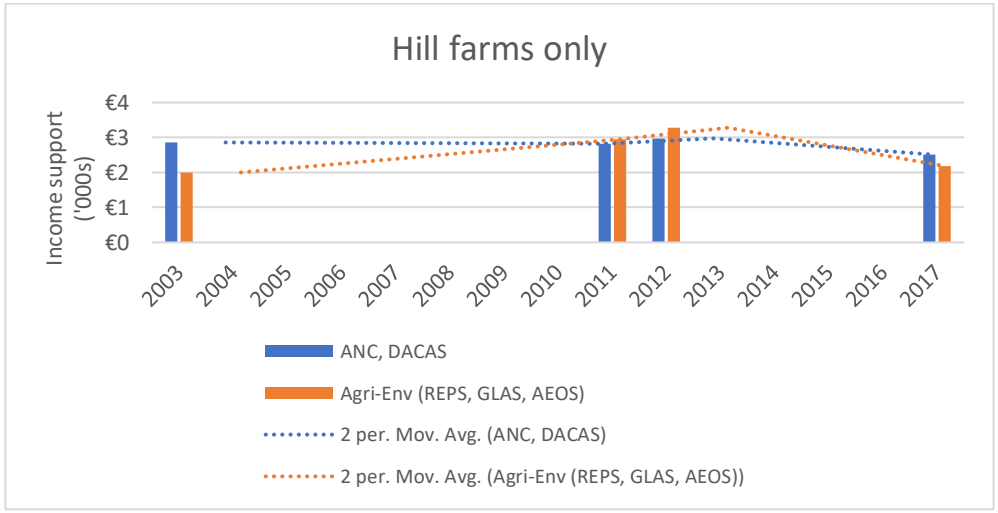


Figure 2-12: Family Farm Income and Supports between 2003 and 2017







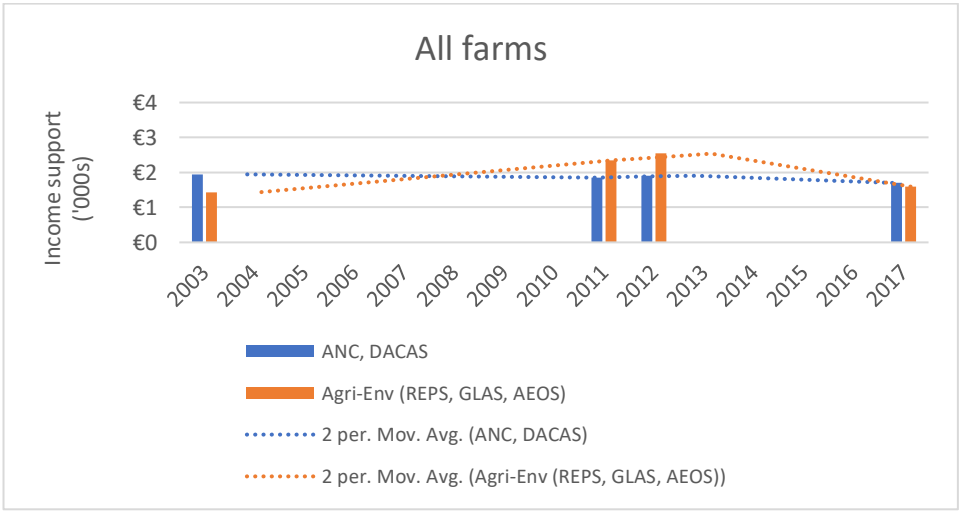
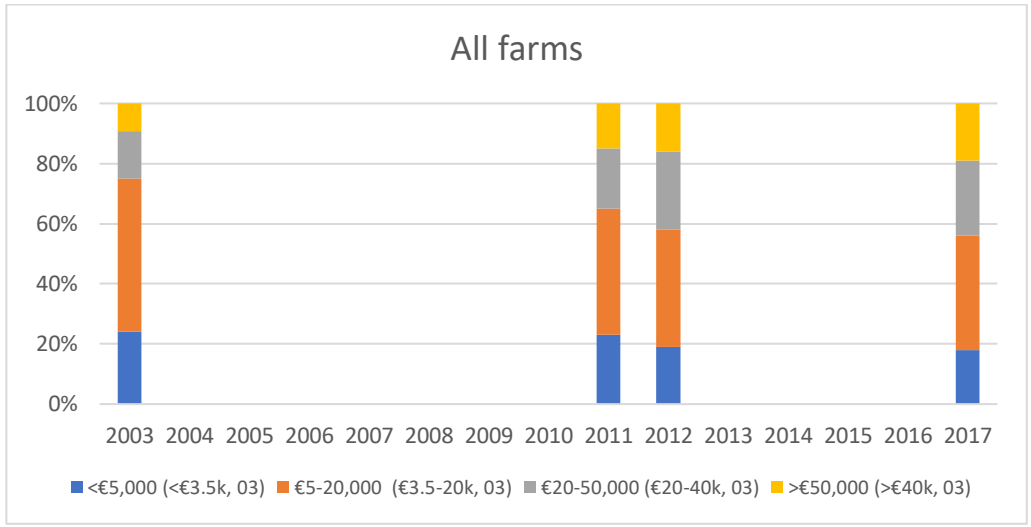
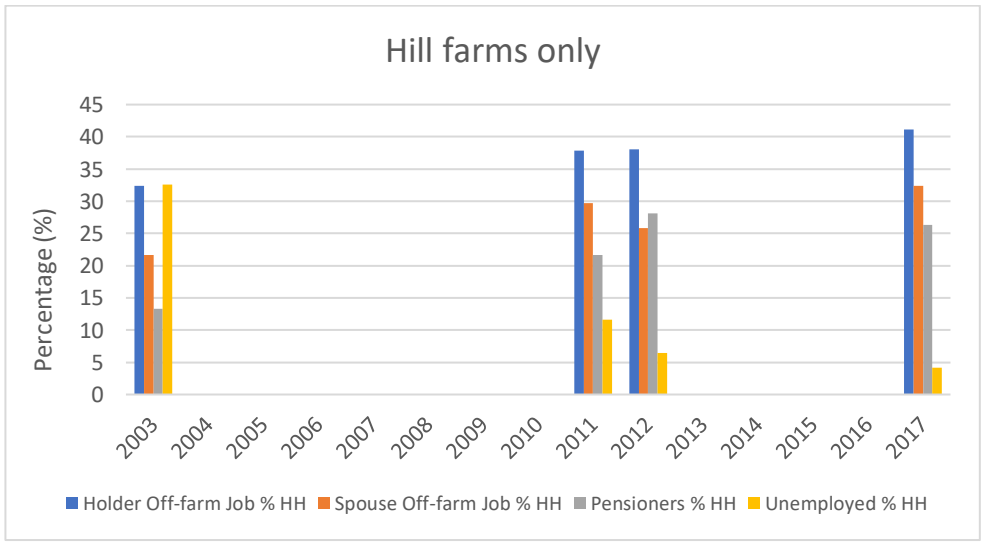


Figure 2-13: Natural Constraints and Agri-Environmental Income Supports as % of Total between 2003 and 2017

Figure 2-14: Farm households (%) classified by Farm Family Income between 2003 and 2017





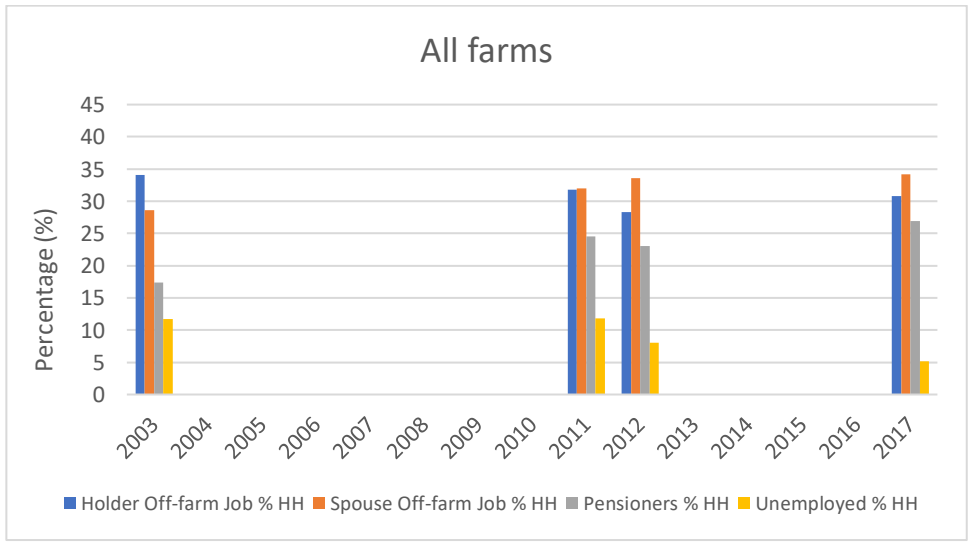
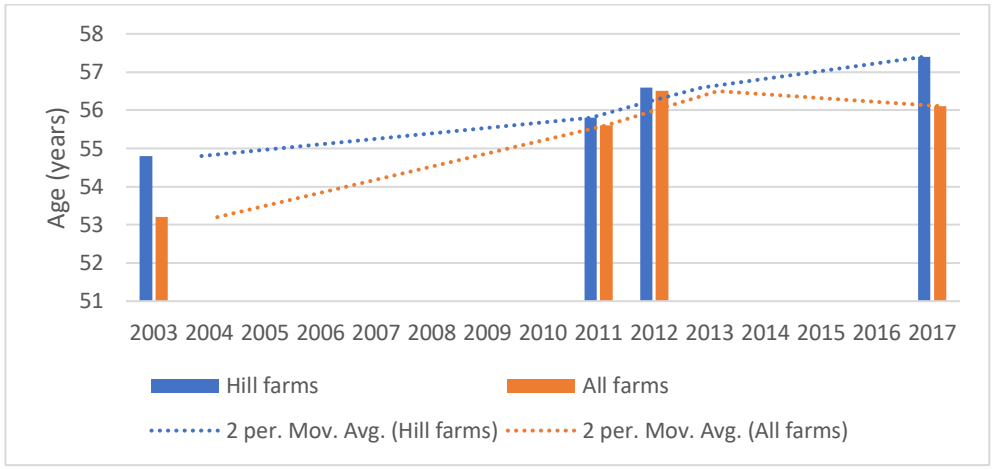
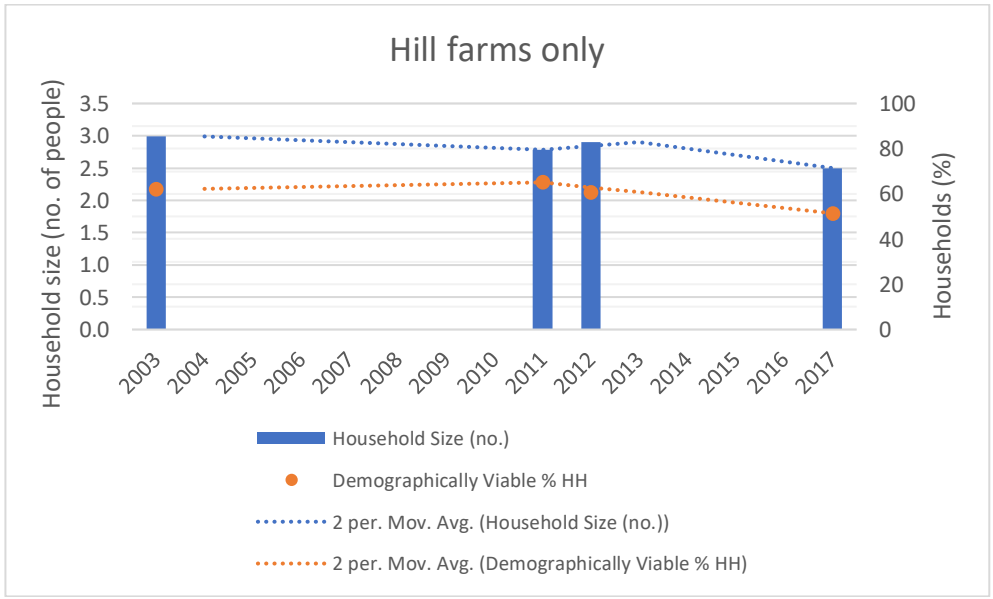


Figure 2-15: Farm Households (%) classified by Non-Farm Income between 2003 and 2017

Figure 2-16: Age of Farm Holder between 2003 and 2017





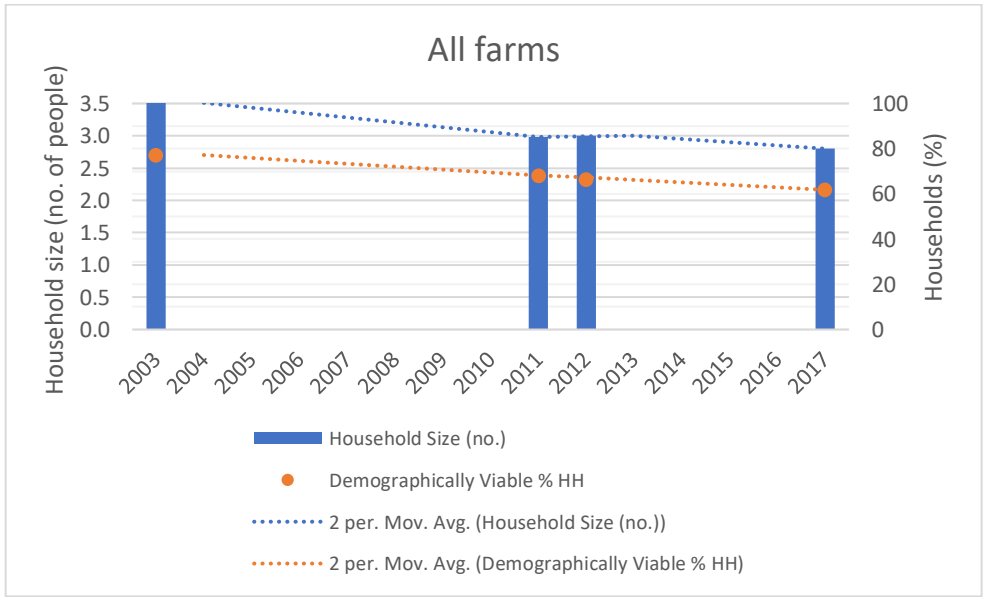
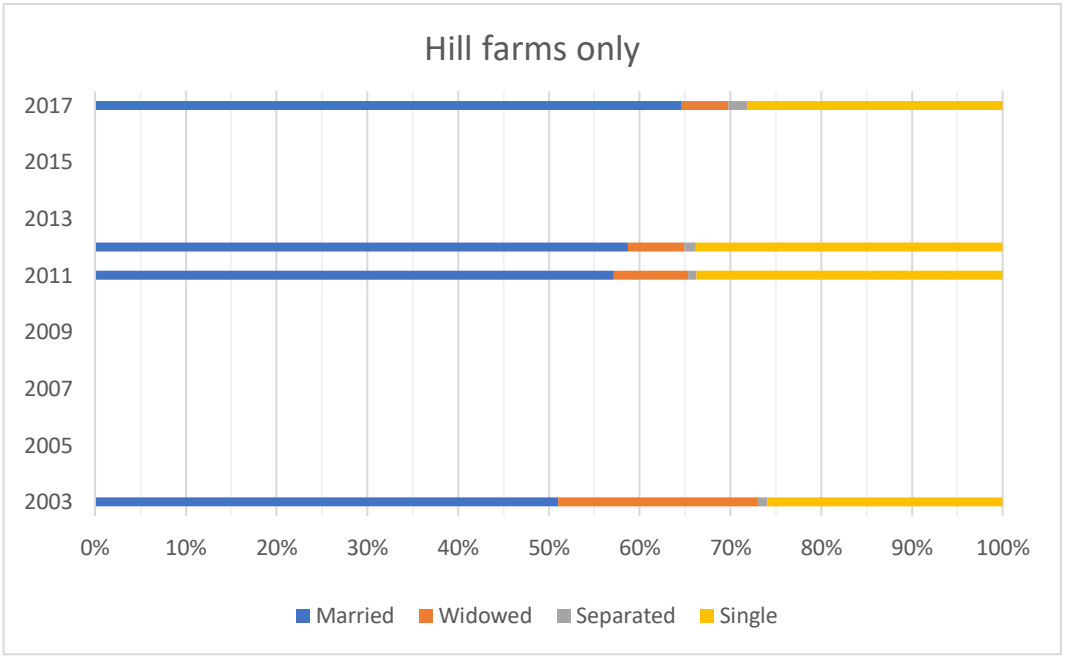
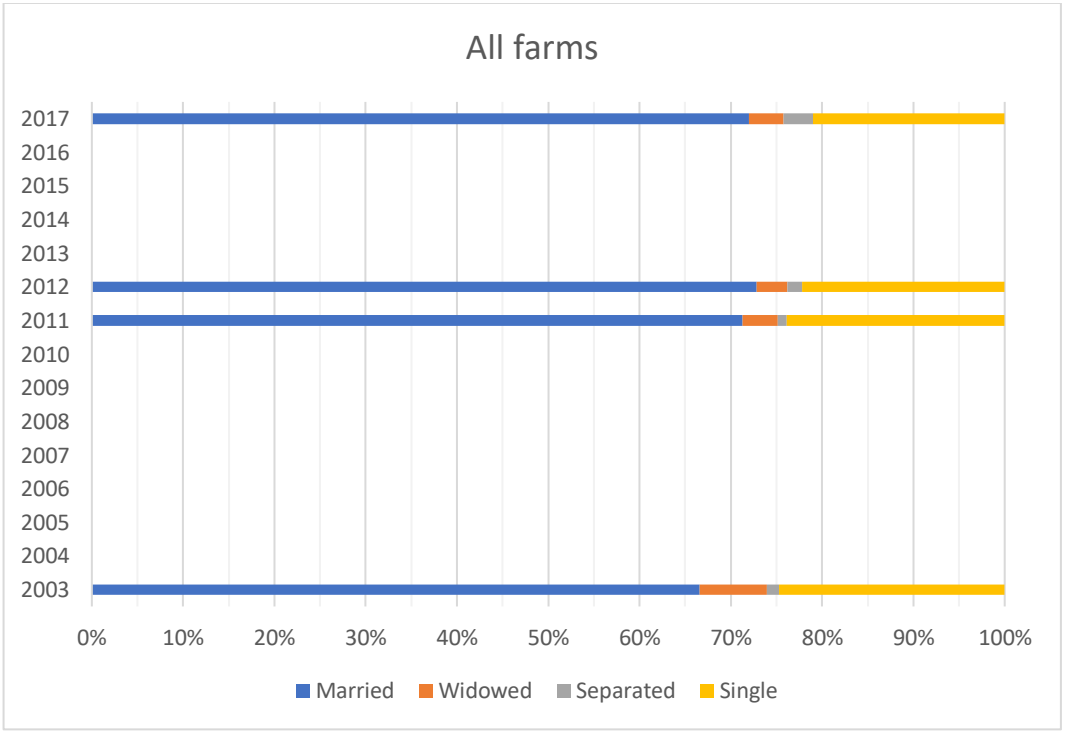


Figure 2-17: Farm Household Size and Demographic Viability between 2003 and 2017

Figure 2-18: Marital Status of Farm Holder between 2003 and 2017





Summary

Upland studies are helping to change the negative discourse about mountain areas to one of assets and potential. Urban polarisation is evident in uplands on the Island of Ireland as those within commuting distance of cities are more likely to have stable or increasing populations (south and east of RoI, and in NI), while those beyond commuting distance tend to have falling populations (western uplands). While primary production (farming and forestry) remains an important sector in upland economies, the largest employer is the services sector. Uplands are increasingly seen as attractive environments in which to live, given the opportunity to do so. The future of upland economies will depend on ICT up-grades and supports for enterprise and innovation. For example, potential lies in

place-based development clusters and integrated value chains. Cohesion policy is considered the appropriate vehicle through which to overcome the particular challenges of upland demographics and economies.

Mountain landcover is characterised by more natural ecosystems and by HNV farmland that is associated with traditional or extensive family farming practices. Irish uplands have an over-representation of Natura 2000 sites, making them important for the conservation of biodiversity too. The overlap of such upland sites with HNV farmland points to the multifunctionality of hill farming. The Irish uplands show a strong capacity to deliver important human ecosystem services, such as water storage and flood attenuation. However, the hill farm sector is under economic pressure and going through a period of structural and land management change, with mountain landcover undergoing significant rates of change, related to both forestry and farming practices.

Uplands have the larger share of Ireland's natural and environmental assets and are seen to be increasingly important at EU-level in terms of forestry, natural hazards, water flow, recreation and tourism. In an era of climate change and threatened water supplies, uplands are described as water towers and are associated with good or high-quality water, as well as the origin of floods. In these ways (and in spite of ageing demographics and weaker economies), upland areas can have significant influence on lowland populations. Consequently, recognising uplands as a 'global common good' and optimising the relationship between upland and lowland communities is in everyone's interest.

Some of Ireland's most iconic landscapes are associated with the uplands. Sustainable landscape protection, management and planning is recognised for its importance in maintaining cultural and natural heritage, and for supporting human well-being more broadly among both current and future generations.

Uplands represent valuable assets for recreation and tourism, and there is rising interest in activity tourism. Hill farming contributes public goods for recreation and tourism, so it is ironic that the farming sector is in decline as the leisure sector grows. Furthermore, as changes in hill farming are affecting upland habitats and mountain landscapes, it highlights the need for a more integrated response to uplands across such policy areas as agriculture, environment, recreation and tourism. Sustainable mountain tourism requires a community-based, inclusive and partnership approach among various stakeholders, especially farmers. There have also been calls for a more integrated approach to resourcing outdoor recreation on public lands to ensure its viability and sustainability. This highlights the value of not only an integrated approach across policy areas, but the importance of taking a multi-stakeholder and partnership approach too that builds the capacity of communities and businesses. It links back to the need for enterprise and innovation supports, as well as the role of Cohesion Policy.

Recreation, landscape, biodiversity and landcover come together in the concept of Green Infrastructure. Green Infrastructure is characteristic of the uplands, which are core areas in the nation's Ecological Network. The concept features increasingly in county, regional and national planning frameworks. To adopt a Green Infrastructure approach in sustainable planning and development is to enhance ecological connectivity, biodiversity, resilience and adaptation in an era of climate change, while recreational trails and agreed access offer added value.

Policies impacting on upland areas have evolved in the past decade from a narrow focus on sectoral policies (e.g. agriculture, forestry and nature conservation) and measures that serve to simply compensate for natural and demographic handicaps towards a wider ranging and more equitable approach to development pursued through Territorial Cohesion. Uplands are increasingly recognised as multifunctional and complex places, where economic diversification is key to their demographic future. There are opportunities in tourism and teleworking, with important factors being environmental sustainability, quality of life and access to an urban centre with an airport. Farming opportunities are associated with adding value, innovation and education (e.g. creating a mountain

brand), while the residential economy generates income from commuters, retirees and holiday homeowners. All of these highlight the importance of protecting the public goods for which the uplands are known, especially when considering economic diversification. Broadband is essential for upland communities and improved digital connectivity could help to drive innovative responses to service provision for their sparse populations. The concept of upland planning frameworks responds to the multifunctionality and complexity of uplands by advocating place-based policies, as well as collaboration across a range of sectors, and across the multi-level territories that they span (e.g. counties and regions). River catchments offer a geography through which to enhance relationships with urban communities downstream. The intersection of uplands with various levels of administrative and spatial units calls for adaptable governance arrangements, at the heart of which must be the voice of upland communities.

As yet, there is no national policy for Irish uplands; the focus remains sectoral. In light of calls for more place-based, inter-sectoral and inter-territorial policy approaches when it comes to the uplands, and recognition of the central role of local stakeholders, a good starting point for integrated development and sustainable management is the establishment of upland partnership groups (e.g. WUC). The next step is developing an upland spatial strategy in response to upland strengths and challenges that is informed by strong public participation. This approach is evident among recent upland farming schemes that seek to achieve more joined-up thinking and action amid an agricultural sector undergoing significant changes.

Consolidation of farm holdings (a trend towards fewer and larger farms) is happening at a faster rate in the Irish uplands. Likely reasons include the combination of unprofitable upland farming with longer commutes to off-farm jobs and public services resulting in fewer farm successors. At the same time, uplands are showing an expansion in improved pasture alongside a rise in the proportion of cattle farms and a decline in stocking density.

Farm incomes are lower and growing at a slower rate on hill farms. While the more profitable dairy sector expands in the lowlands, hill farms are almost entirely dependent on CAP subsidies instead of market returns. The data highlights the mismatch between upland farming and the conventional agri-food industry and its markets. Supports for conventional farming make up the majority of hill farm subsidies, even though the model is unsustainable in the uplands. At the same time, farming schemes that support public goods provision (both a strength of upland farming and an opportunity for it in this era of climate change and biodiversity loss) comprise a shrinking proportion of hill farm subsidies. This highlights that beyond academia and LLAES, there is a lack of recognition for the assets and opportunities associated with hill farming (and thus what stands to be lost without appropriately designed and funded supports to sustain it).

With three-quarters of hill farms earning 53% or less of the average industrial wage, and one-third earning less than €5,000, households are adapting to the lack of viability by extensifying production and combining farm work with another job. But the decline in the number of hill farms shows an exit from farming, and for some a move out of the uplands as farmland is sold and consolidated into fewer holdings. The remaining hill farmer population is more likely to be pensioners, single or widowed compared to those nationally, and living in smaller and less demographically viable households. These data on Irish hill farming in the 21st century tell of the struggle to continue farming in upland areas.

Chapter 3 Mapping Methodology

Step 1: Selection of Townlands with Upland Habitat

The IUF commissioned Dr Seamus Ó Murchú to identify townlands with upland habitat on the island of Ireland. The following describes the data and process he used to complete Step 1.

Data Sources

Using the QuantumGIS (QGIS) programme, Bing Aerial Satellite Imagery from 2012 was imported to aid identification of vegetation and land cover across the island of Ireland. Corine Land Cover Data for 2012 were used for comparison. Height was identified using OCM Landscape Layer and 30m Aster data. Townland boundaries were imported from OSNI open source basemap data[34] and OSI open source basemap data.[35]

Townland Selection Process

A list of mountain ranges was worked through one by one (figure 3-1),[36] first interpreting height data and then assessing land cover and settlement patterns. While assessments were visually based, an area measuring tool (km^2) was used where there were similar upland and lowland areas in a townland.

Townlands *above 200m* were identified and selected where:

1. >50% of the townland was above 200m.
2. >50% of the townland area was characterised by upland vegetation[37] together with evidence of grazing (e.g. sheep paths, enclosures, green patches of high plant fertility). If the area appeared overgrown with dense vegetation, it was ruled out e.g. Brackagh North, Tyrone.
3. These townlands either included the presence of some settlement (e.g. farms, one-off housing) or had no settlement (e.g. commonage).

It identified and selected **townlands *below 200m that adjoined upland townlands*** where:

4. >50% of the townland area was characterised by upland or heath[38] vegetation together with evidence of grazing (sheep paths, enclosures, green patches of high plant fertility)[39] e.g. Mullyfarmore, Co. Tyrone.[40]

It excluded **townlands *above 200m*** where:

5. >50% of the townland area appeared intensively farmed.[41]
6. >50% of the townland area appeared overgrown with dense vegetation and there was no evidence of agriculture or settlement.
7. >50% of the townland area was dominated by commercial forestry e.g. Crockacleaven, Co. Tyrone, Mullaghfad and Stralahan, Co. Fermanagh or Knocknasheega, Waterford (figure 3-2).

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[34] https://www.opendatani.gov.uk/dataset?q=boundaries

[35] https://www.townlands.ie/page/download/

[36] Dublin/Wicklow, Slieve Blooms and Comeragh Mountains already completed by Dr Mary Tubridy.

[37] Upland vegetation was characterised as heaths, scrubland, rocky slopes, blanket bog and those in Annex 1 in the Guidelines for a National Survey (https://www.npws.ie/sites/default/files/publications/pdf/IWM79.pdf).

[38] Heath defined as in Fossitt (2000) (https://www.npws.ie/sites/default/files/publications/pdf/A%20Guide%20to%20Habitats%20in%20Ireland%20-%20Fossitt.pdf)

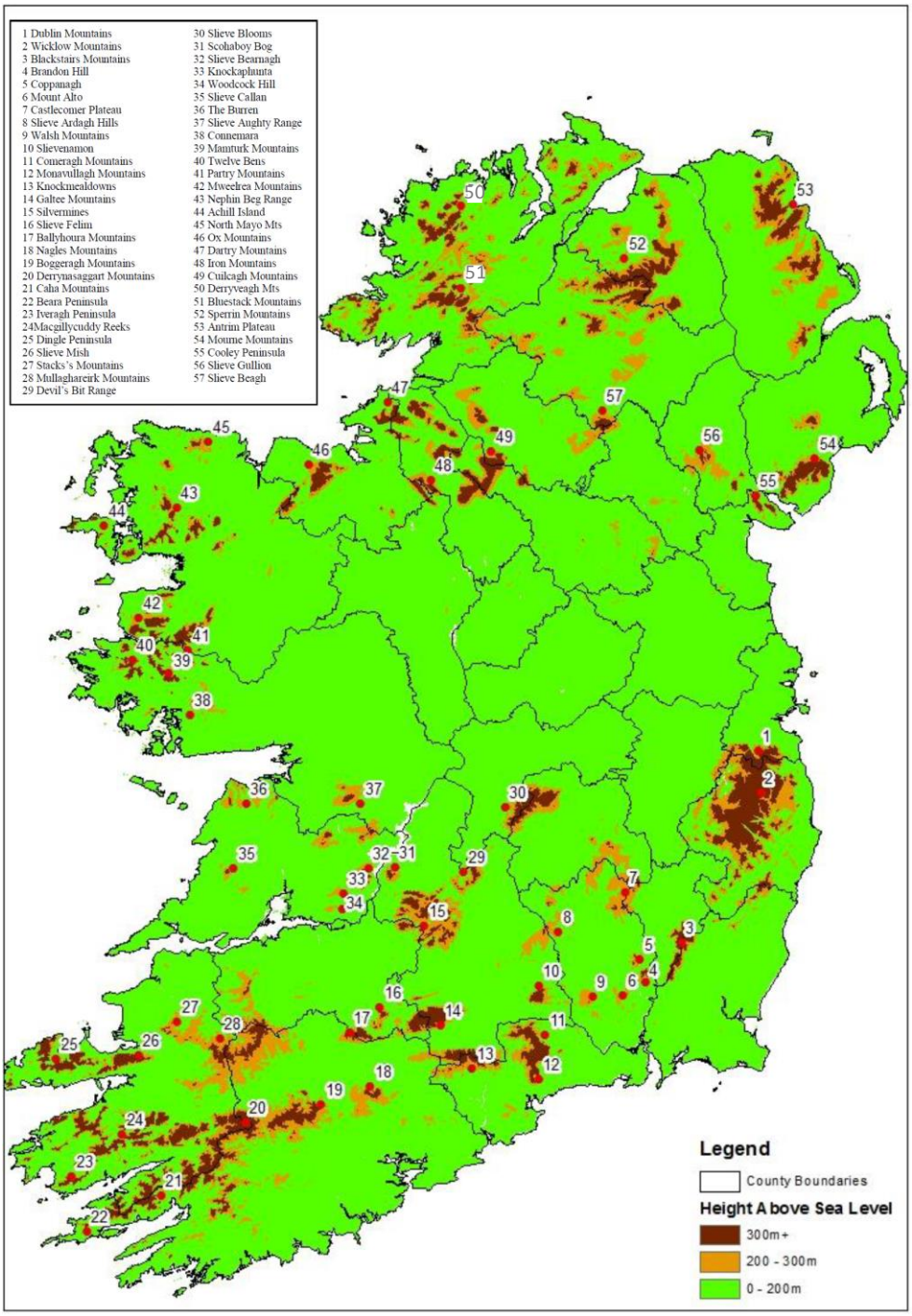
[39] An exception for the 'lowland townland with upland vegetation' rule was made in coastal areas in the Republic of Ireland (e.g. Connemara) and these were excluded.

[40] Fermanagh and Tyrone townlands have many large patches of upland-like vegetation in lowland areas, which does not dominate them.

[41] The North Mournes region have very large townlands most of which are intensively farmed or include villages/ towns. The upland portions are generally heavily overgrown and do not appear to be grazed. Very large farmyards were noted in Antrim and Down, compared to Fermanagh and Tyrone especially.

8. The upland area was dominated by windfarms e.g. Crigshane, Co. Tyrone/ Meenamullen, Co. Tyrone.
9. A nucleated settlement (e.g. village, town) or 'large amounts of one-off housing' was present e.g. Erganagh Glebe, Tyrone and Gortin, Tyrone.[42]
10. In the Republic of Ireland, they were located within a National Park area with no evidence of settlement or agriculture e.g. Glenveagh National Park.

Figure 3-1: Mountain ranges on the island of Ireland



Using this methodology, a number of large mountain range were ruled out entirely (table 3-1).

[42] If an area was densely populated with one-off houses such as Ballinalea in Dingle or Gortin in Tyrone, it was excluded as they were considered ribbon development comparable to linear settlements.

Table 3-1: Large ranges ruled out entirely

Upland range	Reason for exclusion
Castlecomer Plateau	All enclosed & forestry
Mount Alto	All enclosed & forestry
Slieve Ardagh Hills	All enclosed & forestry
Walsh Mountains	All enclosed
Comeragh Mountains	uplands dominated by forestry, some townlands include villages
Monavullagh Mountains	uplands dominated by forestry
Nagles Mountains	uplands dominated by forestry
Slieve Callan	uplands dominated by forestry
Slieve Felim	uplands dominated by forestry

Figure 3-2: Forestry in Stralahan townland, Fermanagh

There are other classifications of upland areas. An example used by the National Parks and Wildlife Service is shown in Appendix 2.

Observations in the Republic of Ireland

Large parts of the Derrynasaggart, Caha Mountains and MacGillycuddy Reeks ranges in Cork and Kerry were ruled out as in the satellite imagery, the uplands did not appear to be grazed and were overgrown with dense vegetation.

Observations in Northern Ireland

Farmyard sizes (i.e. size and number of sheds) are generally significantly bigger in the east compared with the west and in general the land appears to be much more intensively managed and often to a higher altitude. The patchiness of the vegetation is also more apparent in the western areas.

Based on this methodology, 714 townlands in the Republic of Ireland and 531 townlands in Northern Ireland were selected giving a total of 1,245 townlands on the island of Ireland dominated by upland and heath vegetation.

Step 2: Geocoding Townlands with Upland Habitat

The following steps were completed by research assistant Seán O'Keeffe and the authors using data for the 1,245 townlands identified with upland habitat from Step 1, namely: townland name, county and mountain range. In order to map the townlands of interest, each were manually identified and selected based on the (Ordnance Survey of Ireland) OSi's layer of 50,117 townlands in the RoI and OSNI's layer of 9,524 townlands in NI (table 3-2).

Table 3-2: Geocoding of townlands in Step 2

Number	Description
611	RoI townlands successfully identified based on their name and county
78	RoI townlands where (i) more than one townland in the county shared the townland name that had been identified with upland habitat and (ii) shared the same Electoral Division name. Of the 251 identified, those >200m were included in the dataset
23	RoI townlands where (i) more than one townland in the county shared the townland name identified with upland habitat and (ii) had not been assigned to an Electoral Division. Of the 45 identified, those >200m were included in the dataset.
2	RoI townlands where (i) townlands identified with upland habitat in the county shared the same name and (ii) had been assigned to *different* Electoral Divisions. At Step 2, only one townland of that name was found for the county and was therefore included in the dataset.
488	NI townlands identified based on their name and county
59	NI townlands where more than one townland in the county shared the townland name identified with upland habitat. Those >200m were included in the dataset.

This resulted in a total of 714 geocoded RoI townlands and 547 geocoded NI townlands that could now be visualised (shown in pink in map 3-1).

Step 3: Selection of Small Areas that include Townlands with Upland Habitat

The most local scale at which demographic and socio-economic variables are available from the Census of Population is at the level of the 'small area'. Small areas are larger administrative units than townlands and average about 120 households. Therefore, the next step was to identify and select small areas from which to analyse census data based on the following criteria:

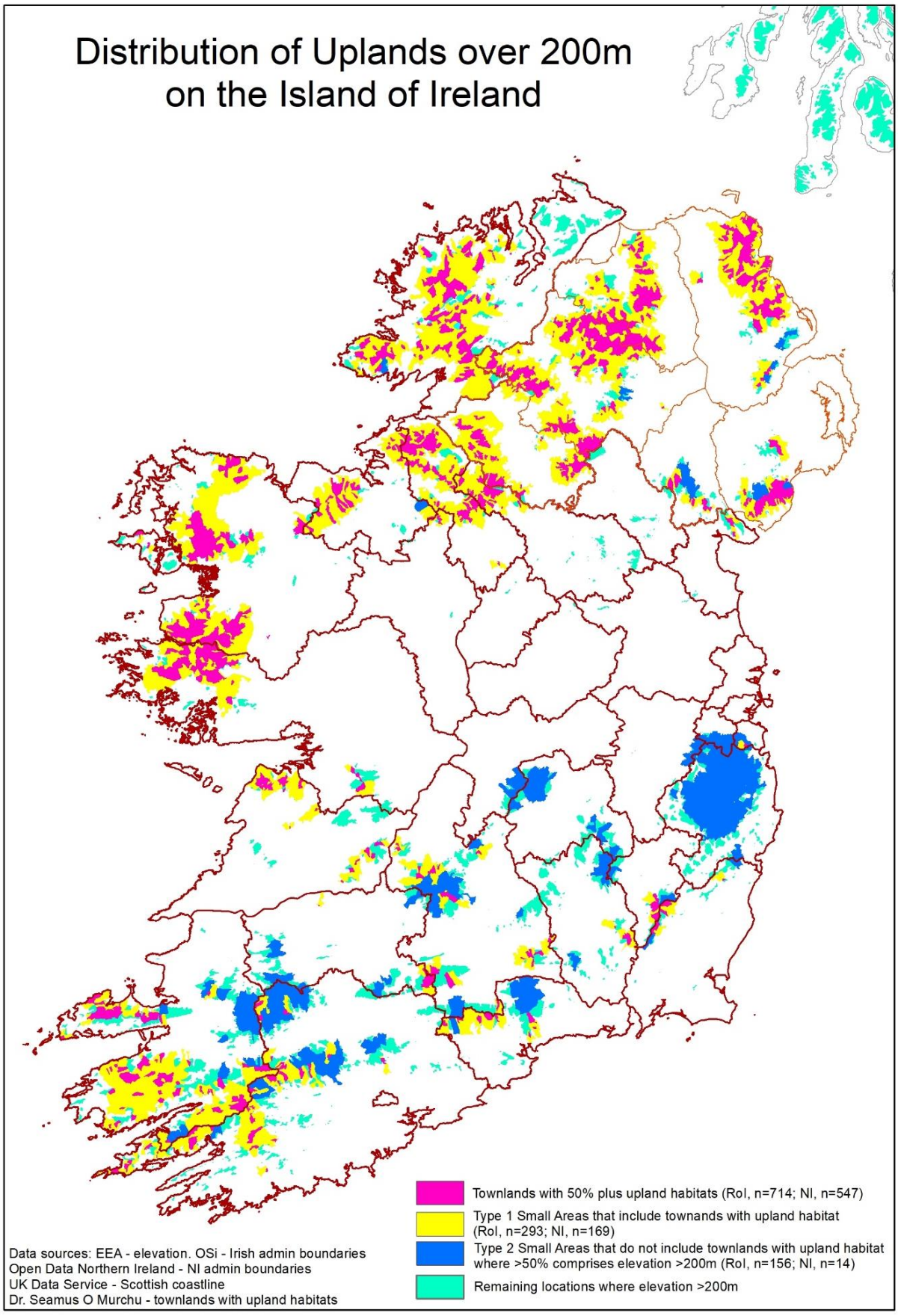
- Type 1 (T1): small areas that include at least one townland identified in Step 1 as having 50% or more upland habitat cover.
- Type 2 (T2): small areas without any townlands identified in Step 1, but where >50% of the territory is above 200m and a nucleated settlement is not present.

A total of 449 small areas were selected in the RoI (293 x Type 1 and 156 x Type 2), and 183 small areas in NI (169 x Type 1 and 14 x Type 2). Type 1 small areas are depicted in yellow and Type 2 are shown in blue in map 3-1. This allowed census data from rural small areas with upland habitat to be compared with other rural small areas that are predominantly upland.

Step 4: Selection of Census Variables and Identification of other useful Datasets

Small area level data were drawn from the most recent Census of Population in the RoI (2016) and NI (2011) and then used to calculate socio-economic variables of interest. Census data were visualised in choropleth maps using the quintiles classification scheme, i.e. five classes. The scheme ranks the data for each variable from its lowest to its highest value, with class breaks at the 20th, 40th, 60th and 80th percentiles. Each of the resulting five classes were visualised using a different colour, which allows the map reader to 'read' the story of the data's spatial pattern and begin to explore the reasons for it. To help with interpretation, each map is accompanied by box and whisker plots that compare data distributions for the variable in RoI, NI, all-island uplands, and for Type 1 and Type 2 uplands in both the RoI and NI.

Map 3-1: uplands on the Island of Ireland



Chapter 4 The uplands – a Human Geography Profile

This chapter presents a human geography profile of uplands on the island of Ireland. As outlined in the previous chapter, the data presented here are drawn from the Census of Population, as undertaken in both jurisdictions. The basic geographical unit, in all cases, is the Small Area (SA). In order to enable comparative analysis across upland types and across both jurisdictions, this chapter contains a series of box and whisker plots (see box 4-1). Plots are shown for T1 and T2 uplands, for all variables, against the corresponding values for both Northern Ireland (NI) and the Republic of Ireland (RoI).

Box 4-1: Interpreting box and whisker plots

Box and whisker plots reveal some key information about each variable. By ranking each indicator from its lowest to its highest value, it visualises the minimum and maximum data points as the endpoints of each 'whisker'. Meanwhile, the box and its midline display the inter-quartile range and the median, respectively, while the 'x' marks the mean value.

All variables are mapped at SA-level, with the data classified in quintiles. The class breaks, in all cases, are at the twenty, forty, sixty and eighty percentiles. This refined level of presentation provides an overview of patterns across the island, while also ensuring that local-level features are visible. Each map and graph is accompanied by a text that comments on the main spatial patterns.

This chapter begins with an examination of the uplands' population structure and attributes, including age structure, place of birth and educational attainment. This is followed by an exposition of the main economic features of the uplands, including labour force participation, unemployment and the sectoral composition of the workforce. The chapter then deals with household structure, housing stock and infrastructure. Variables mapped here include household composition, house size, the age of the housing stock, holiday homes, vacancy rates, water and wastewater connectivity and fuel sources. The final set of variables relate to accessibility and connectivity, and these cover car ownership, commuting and broadband penetration.

The chapter concludes with a dedicated presentation of human geography features in the Cooley and Inishowen uplands. These are dealt with separately, as the delineation of their SA boundaries and the application of criteria for T1 and T2 uplands did not provide for their classification in the same way as other uplands. Thus, they merit presentations in their own right.

Population Structure and Attributes

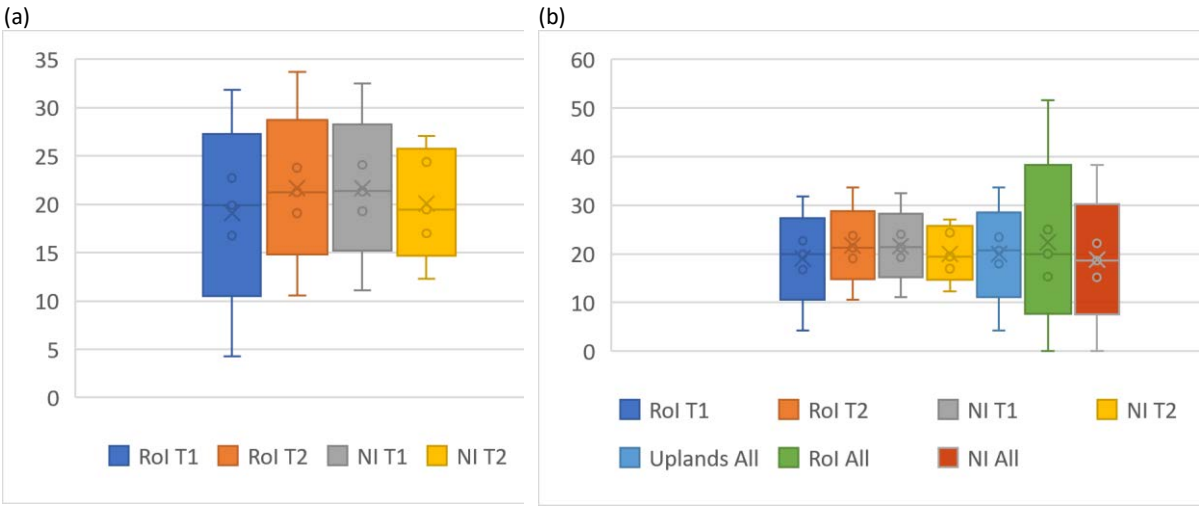
Children – Population aged up to Fourteen

Across Ireland's uplands, the proportion of children in the population aged up to 14 years (21.3%) is similar to that of the island as a whole. However, there are considerable variations across the uplands. Those with the highest proportions of children in the population are predominantly in Ulster, Leinster and Munster. Meanwhile, Connacht's uplands tend to have lower proportions of children.

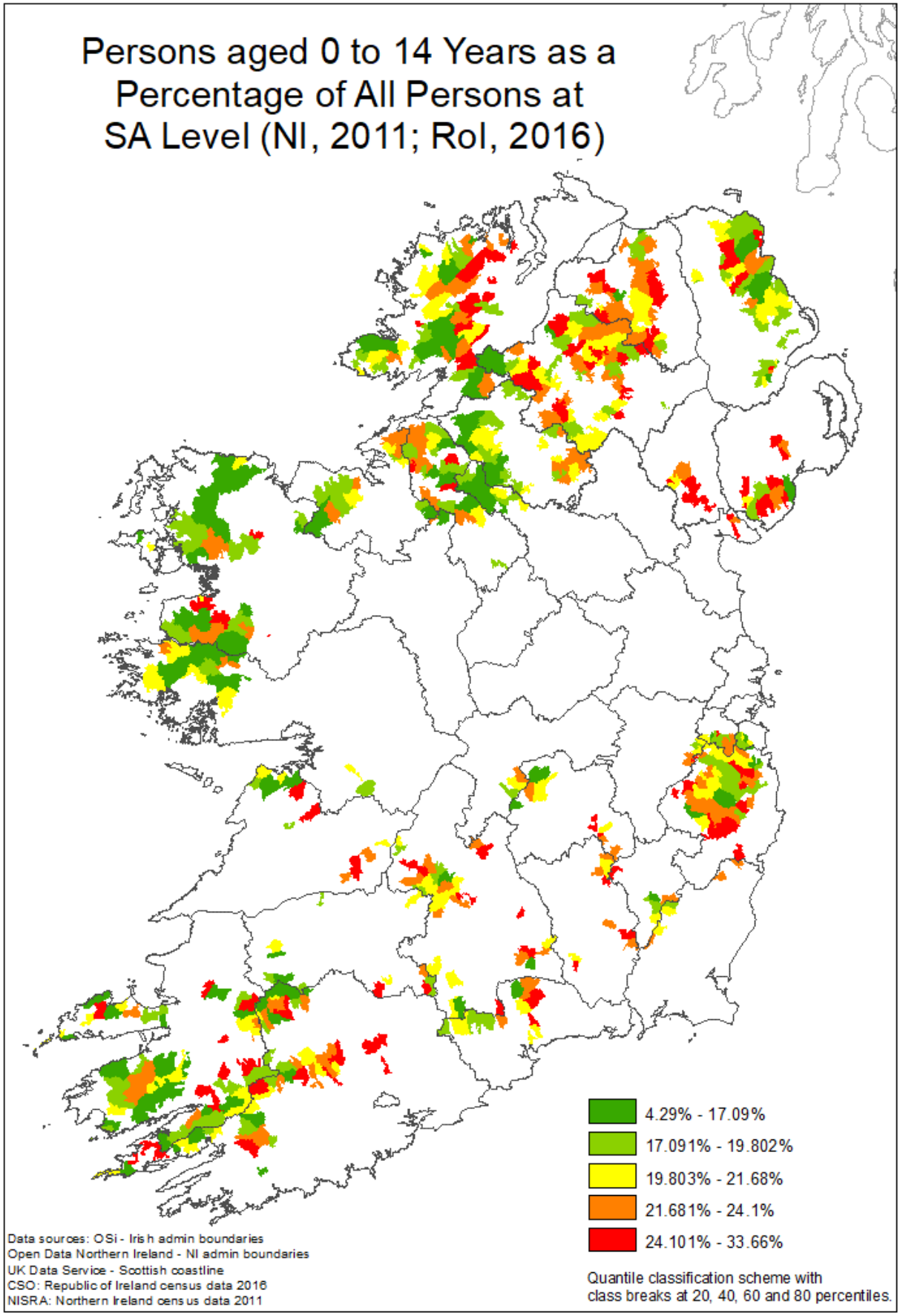
As map 4-1 shows, the ranges with the highest proportions of children, by SA, are those that are closest to Cork City – the Nagles and the Boggeraghs; and to Waterford City – eastern parts of the Comeraghs. Values are also high in South Leinster adjacent to Carlow – the Castlecomer Plateau and Killeshin Hills and the southern slopes of the Wicklow Mountains. The uplands with the most extensive ranges of SAs that have high proportions of children are in Ulster, and specifically the Sperrins and Slieve Gullion, and, to a lesser extent, the Mournes and the Derryveagh Mountains.

The spatial pattern, across the island, is one of higher proportions of children in the population in upland areas that are closest to second tier cities – specifically Cork, Limerick and Derry / Letterkenny. Values are higher here than in the uplands that adjoin Dublin. Meanwhile, the pattern around Belfast is variable – high in Slieve Croob, but mixed in the Antrim Plateau and Glens. The lowest values are predominantly in West Munster and Connacht, most notably in the MacGillycuddy Reeks, the Caha Mountains, the Dartrys, the Ox Mountains, the Nephins and across Connemara's uplands. Values are also low in the Cuilcagh Mountains.

Figure 4-1: Percentage of Population Aged 0 to 14 Years (a) in the uplands and (b) compared with RoI and NI



Map 4-1: Percentage of the population aged 0 to 14 years



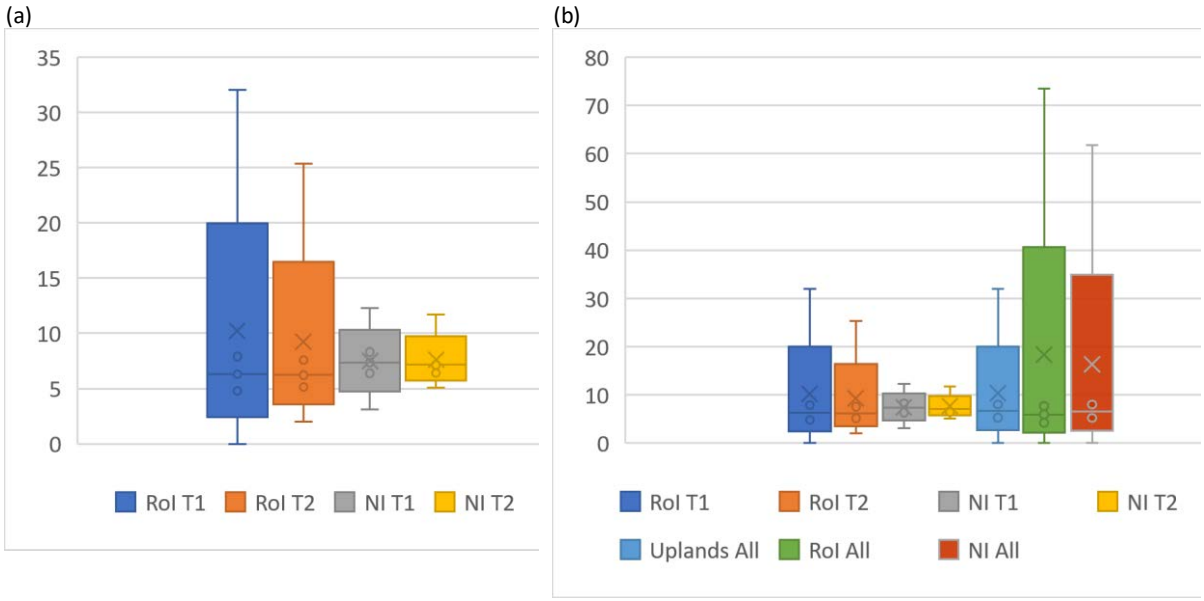
Older Teenagers – Population aged Fifteen to Nineteen

The uplands have a slightly higher percentage of persons aged 15–19 years than is the case across the jurisdiction in which they are located. The mean values in the RoI and NI are 6.4% and 6.97% respectively, while the mean for all upland areas is 7.06%. In general terms, the spatial analysis in respect of this cohort reveals a north-south contrast.

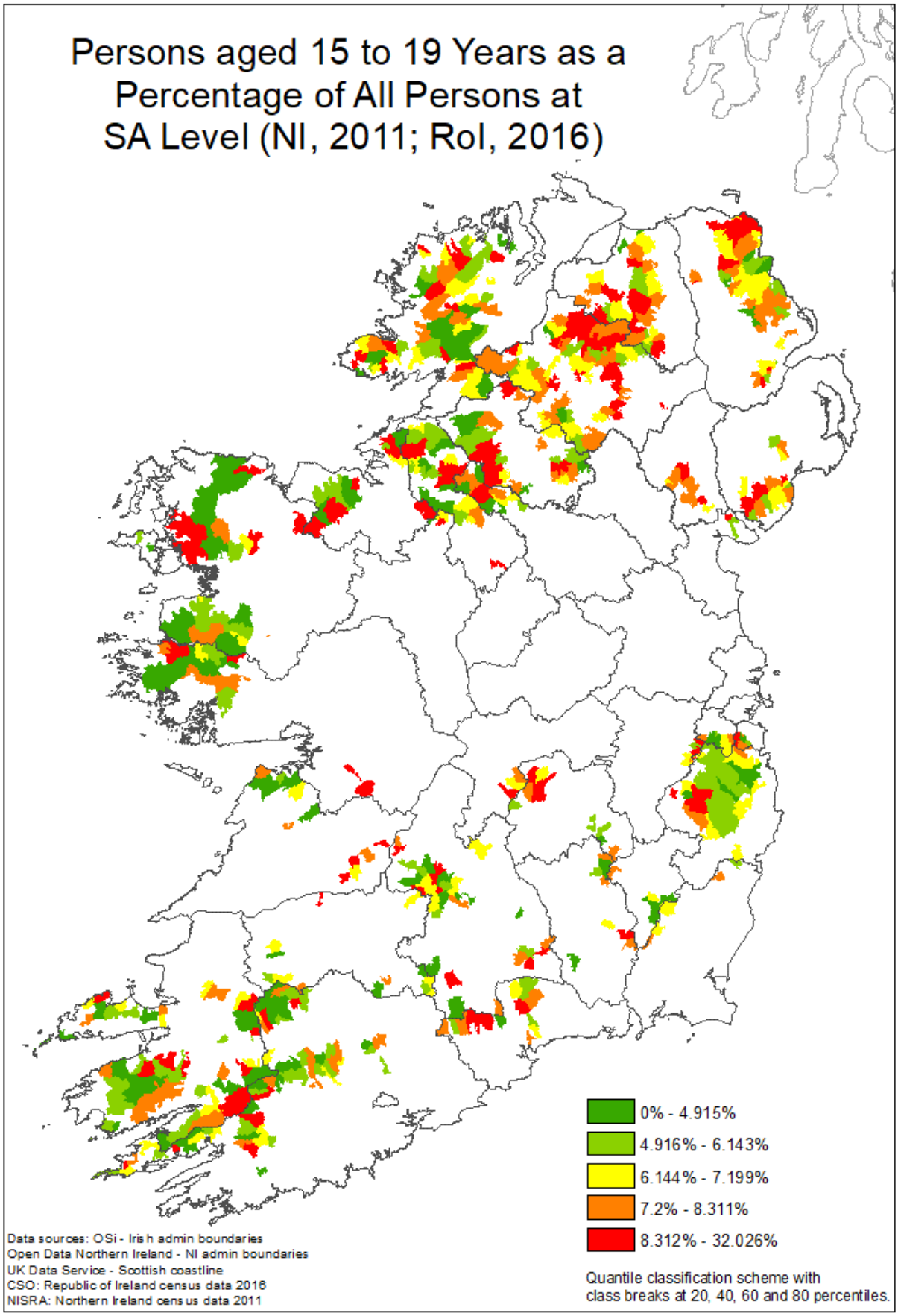
In Northern Ireland, the percentages of the population aged 15-19 years are as follows: 7.4% in Type 1 and 7.8% in Type 2 uplands. As map 4-2 shows, the greatest concentration of high values is in the Sperrins, Slieve Gullion and the North Antrim Glens. Values are above average in most of the Mournes and in the uplands of South Tyrone – from Brougher Mountain to Slieve Beagh.

In the RoI, values are generally lower than in NI, with the exception of the Slieve Blooms and Slieve Berna. Patterns are quite mixed within RoI uplands, as evidenced by the wide range of values across counties Donegal, Cavan, Leitrim, Cork and Kerry, and in the Silvermines. The Wicklow Mountains stand out as having low values in the centre, but above average values in the communities of Donard, Hollywood, Dunlavin and Stratford, which are on the western slopes. Intra-range contrasts are even more striking in the Ox Mountains and in the Nephins. Uplands in Connemara and South Mayo, most notably the Partry Mountains and Mweelrea, have the most extensive areas with low values on the island of Ireland. Values are also below average in the Blackstairs and in most of Corca Dhuibhne.

Figure 4-2: Percentage of Population Aged 15 to 19 Years (a) in the uplands and (b) compared with RoI and NI



Map 4-2: Percentage of the population aged 15 to 19 years



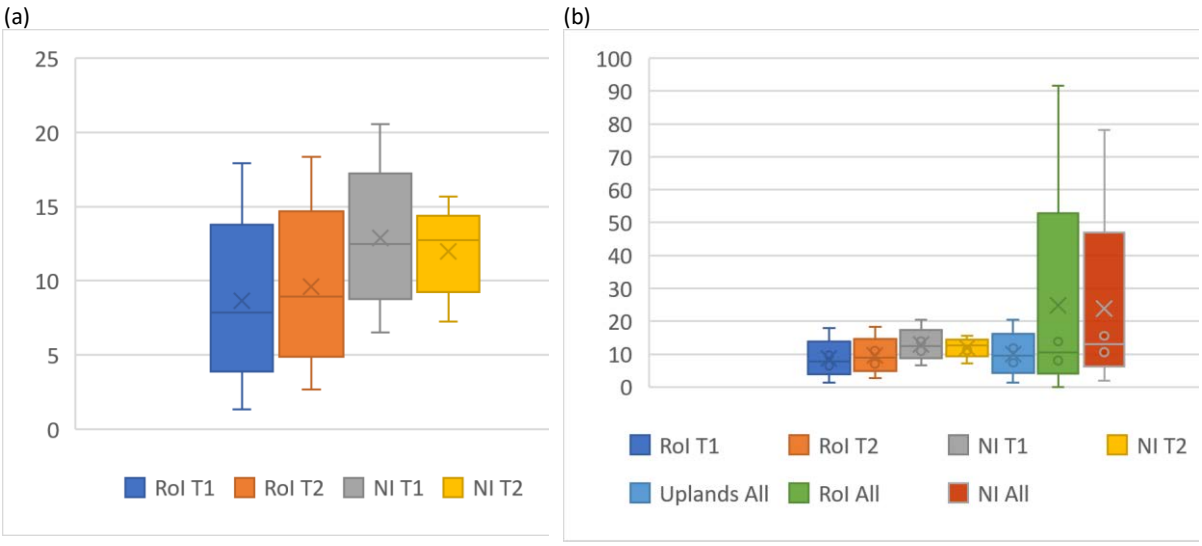
Young Adults – Population aged Twenty to Twenty-Nine

The spatial pattern in respect of this demographic is one of a clear north-south contrast; values are higher across NI than the RoI. In NI, the mean values for Type 1 and Type 2 uplands are 12.7% and 12.4% respectively, while the corresponding values in the RoI are 8.15% and 9.1%. The mean across all uplands is 10.5%.

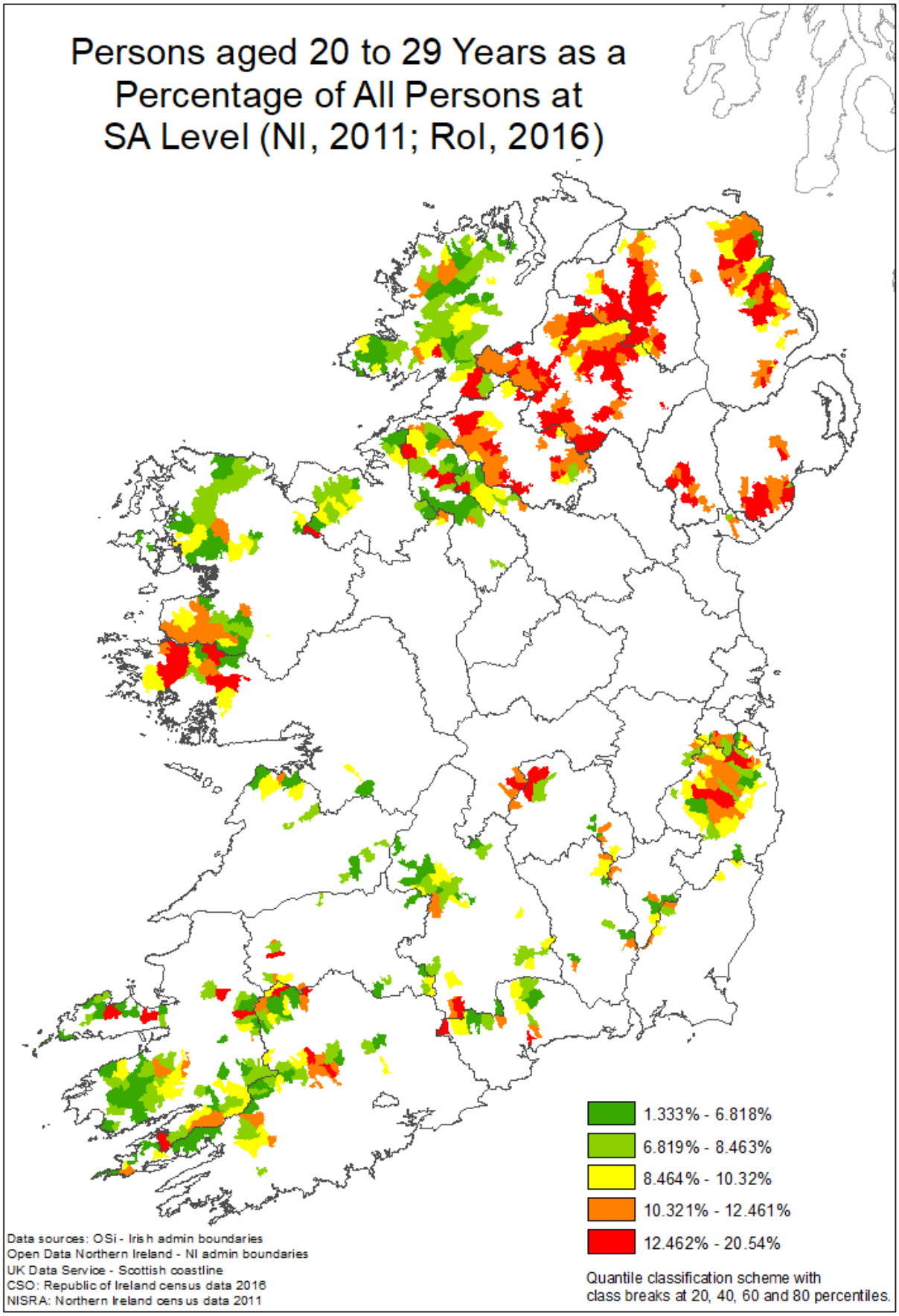
As map 4-3 shows, all of NI's uplands have values that are in excess of the all-island average. This is universally the case across the Sperrins and across most of the Mournes, the Antrim Plateau and Glens and Slieve Beagh. The NI-RoI contrast is very evident in the Cuilcagh Mountains, with upland communities in County Fermanagh recording higher proportions of young adults than is the case in their neighbouring communities in Cavan and Leitrim. The contrast is also evident in respect of the Tyrone uplands (high values) and Donegal uplands (low values).

Among RoI uplands, below-average values predominate. This is particularly the case in the more peripheral and western (Type 1) uplands, such as the MacGillycuddy Reeks, Brandon, Nephins, Slieve Ox, Derryveagh and Bluestack Mountains. In addition, low values are prevalent in the more connected uplands of Munster (predominantly Type 2 uplands), including Slieve Berna, Slieve Felim, the Silvermines, Ballyhouras, Blackstairs, Mullaghareirks, Knockmealdowns and Comeragh Mountains. Patterns are somewhat more mixed in the uplands that are closer to Galway, Cork and Dublin, namely in the Twelve Bens (Galway), the Boggeraghs (Cork), and the Dublin and Wicklow Mountains. The Slieve Blooms are the only range with a pattern that is similar to that found north of the border. Here values in excess of 13% predominate.

Figure 4-3: Percentage of Population Aged 20 to 29 Years (a) in the uplands and (b) compared with RoI and NI



Map 4-3: Percentage of the population aged 20 to 29 years



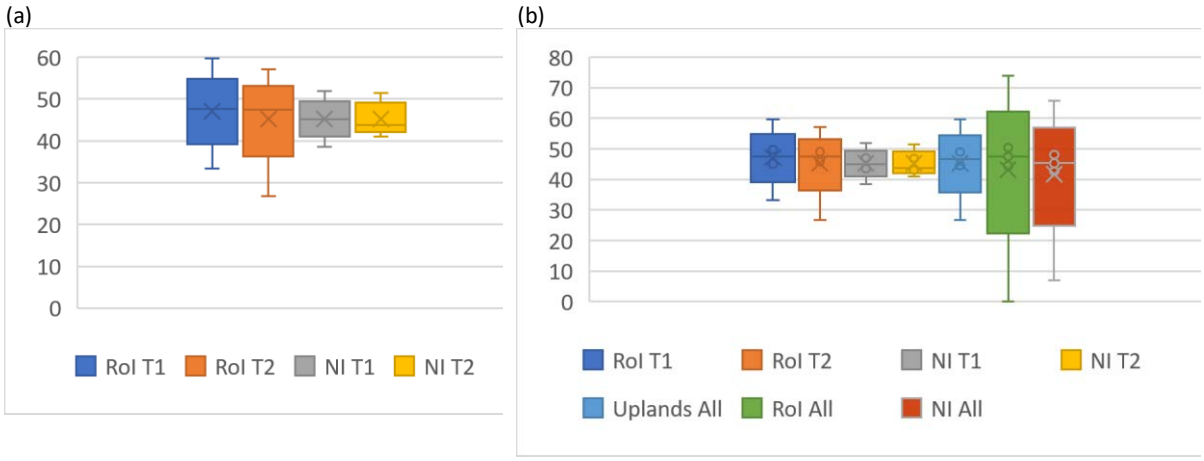
Adults – Population aged Thirty to Sixty-Four

The spatial pattern in respect of the cohort representing the vast bulk of the working-age population varies across Ireland's uplands. The highest values are in the Wicklow Mountains and in the Silvermines and Slieve Felim (map 4-4). These suggest an association with proximity to nearby urban centres. However, this association is not universally evident in respect of the Irish uplands, most notably those that are close to Derry / Letterkenny, Belfast and Waterford, as in these locations, values are not as high as is the case around Dublin, Limerick and Cork.

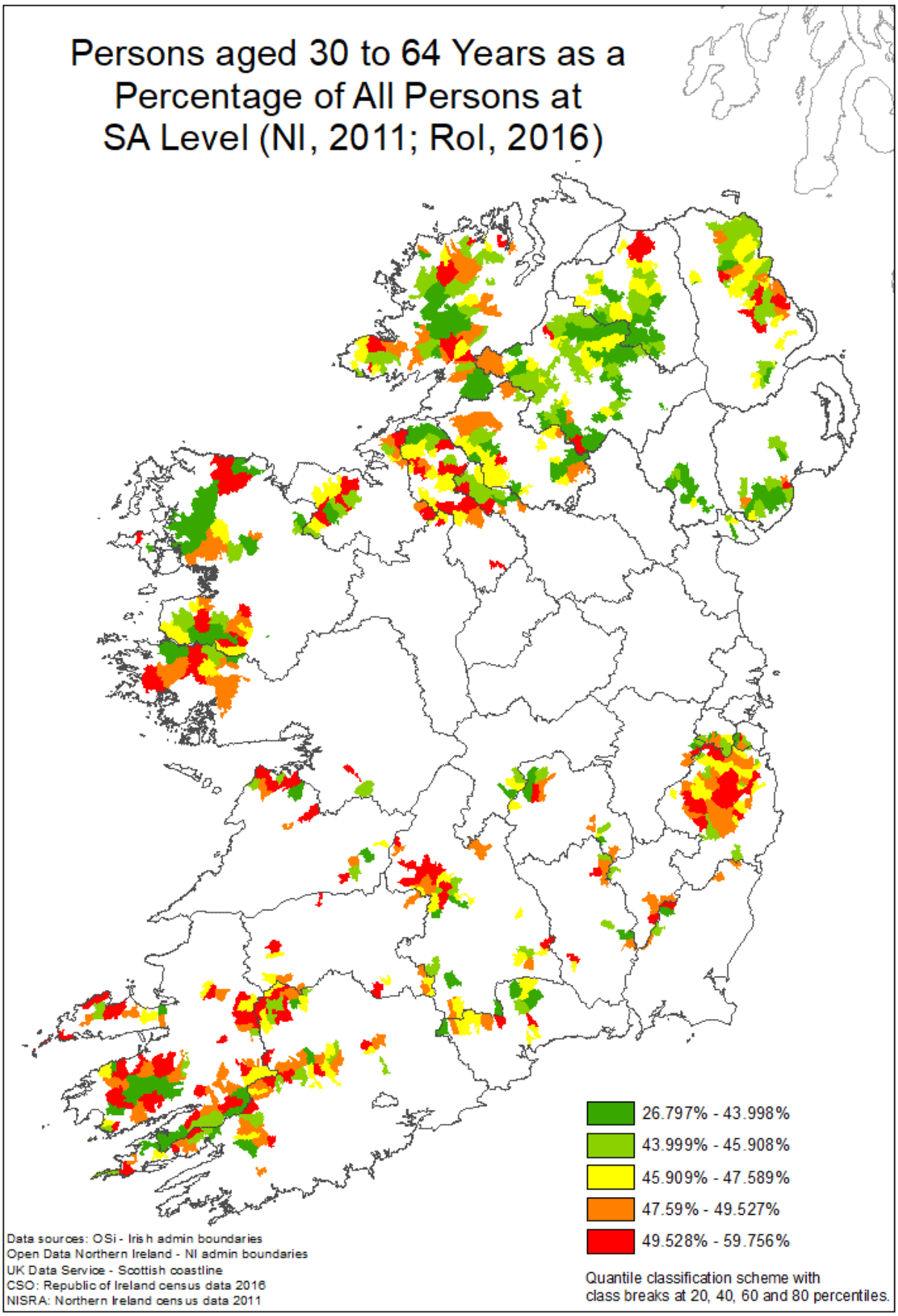
Other ranges with above-average values are the Mullaghareirks and the Cuilcagh Mountains, neither of which is under the immediate influence of a large urban centre, but both of which have significant local manufacturing employment, which is frequently combined with part-time farming. The varying pattern across Irish uplands, in respect of the proportion of persons aged thirty to sixty-four, suggest that localised factors play a significant role in shaping the population profile. The significance of localised factors, such as the functioning of the property market, the quality of farming land and the accessibility of local jobs and services appears to manifest itself in the uplands along the Cork-Kerry border. Across the Caha Mountains in County Kerry, values are highest closest to Kenmare town, while in County Cork – in the same range, the highest values are in the parts that are closest to Castletownbere. Immediately to the northeast of the Cahas, in the Sheehy and Derrynasaggart Mountains, values are highest in areas along the N22 (national primary route) – between Killarney and Macroom. Similarly, in the MacGillycuddy Reeks, to the west, the lowest values are in the interior of the Iveragh Peninsula, while the higher values are in the more accessible coastal locations (along the Ring of Kerry). Notable local contrasts are also evident in South Mayo and Connemara, with values being somewhat higher in the Partrys, Twelve Bens and the Maumturks and lower in the less accessible Mweelrea Mountains.

The lowest values on the island are predominantly in the NI uplands. This is partly associated with NI uplands having a higher proportion of children and young people than is generally the case across the island.

Figure 4-4: Percentage of the population aged 30 to 64 years (a) in the uplands and (b) compared with RoI and NI



Map 4-4: Percentage of the population aged 30 to 64 years



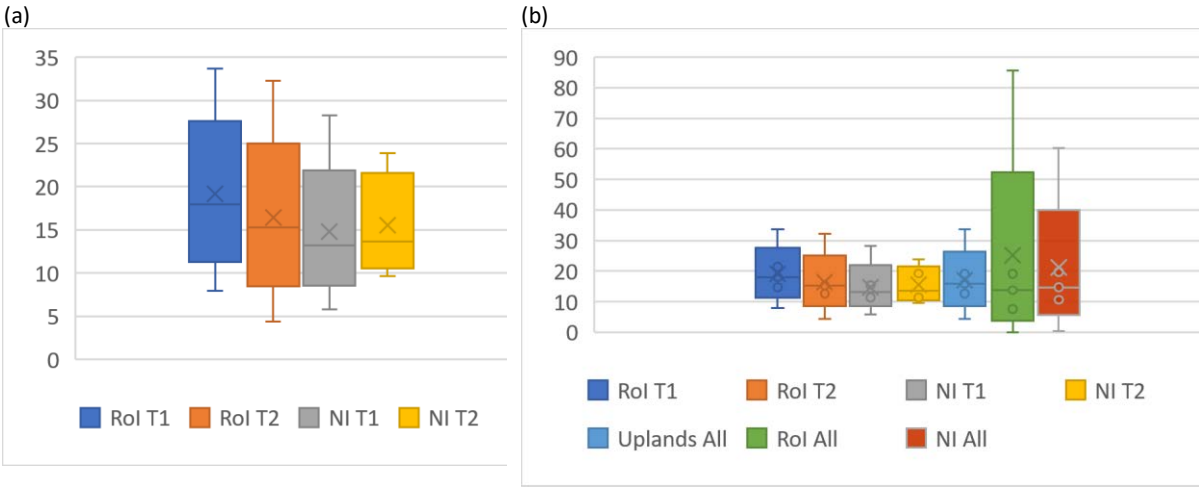
Older People – Population aged Sixty-Five and Older

The spatial pattern evident here is, in many ways, the opposite of that observed in respect of young people. Thus, the highest values are in the RoI, and especially in Type 1 uplands (with more upland vegetation). In these areas (RoI Type 1), 17.5% of the population is aged 65+ years, while the State average is 13.4%. The value for Type 2 uplands is 15.4%. The corresponding values in NI are 13.1% for Type 1 uplands and 14.3% for Type 2 uplands.

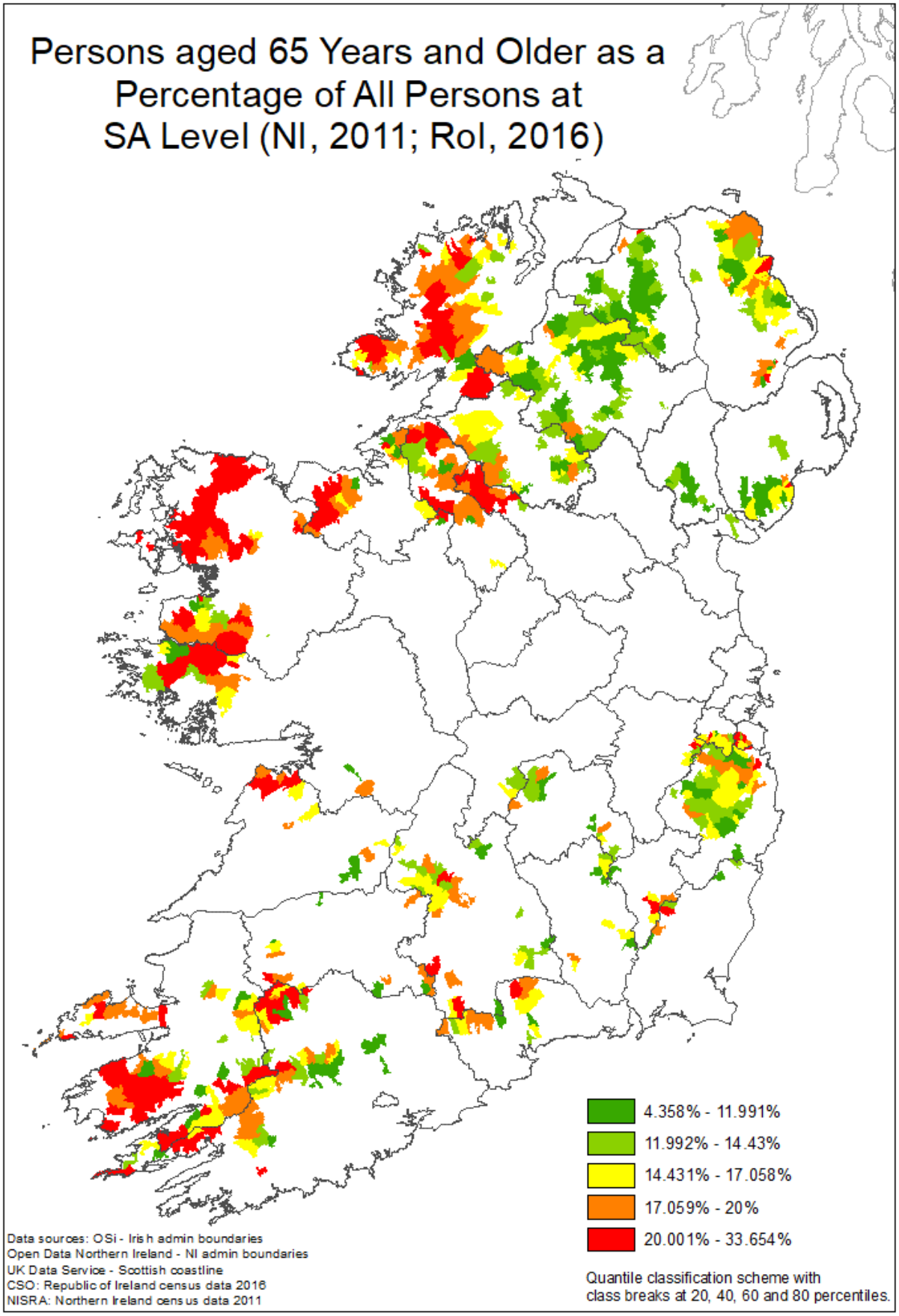
While map 4-5 illustrates the contrast between NI and the RoI, it is evident that the greatest contrast, on the island, is between RoI Type 1 uplands and all others. The ranges with the highest proportions of persons aged 65+ are those in County Mayo, namely the Nephins and the Partry Mountains. Indeed, Mayo has the oldest population of any county in Ireland. Values are also above average in the MacGillycuddy Reeks, Slieve Mish, the Galtees, the Burren, Slieve Ox, the Cuilcaghs, and across Donegal – particularly in the Bluestack Mountains. These areas generally have the oldest populations in Ireland, and have been adversely affected by depopulation and rural restructuring over recent decades. There are some areas in other uplands, such as the Dublin Mountains and locations in South Antrim, that also have an above-average percentage of persons aged 65+. In these cases however, the drivers are not youth out-migration or rural depopulation, but include the in-migration of retired and semi-retired professionals, the presence of retirement villages and a restricted property market.

The uplands with the lowest proportions of older people are the Sperrins, Slieve Gullion, the Mournes, the Wicklow Mountains, the Slieve Blooms and the Castlecomer Plateau – Killeshin Hills. While local factors are important in all cases, these ranges generally have better levels of connectivity than do Type 1 uplands. They are also associated with larger-scale and more intensive farming.

Figure 4-5: Percentage of the population aged 65 years and older (a) in the uplands and (b) compared with RoI and NI



Map 4-5: Percentage of the population aged 65 years and older

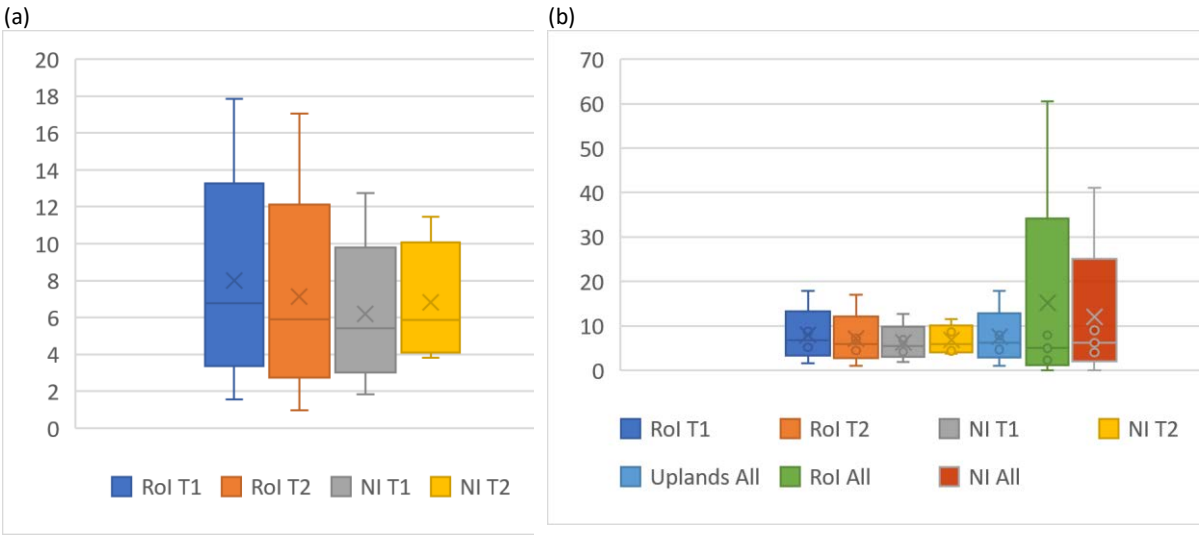


Elderly People – Population aged Seventy-Five and Older

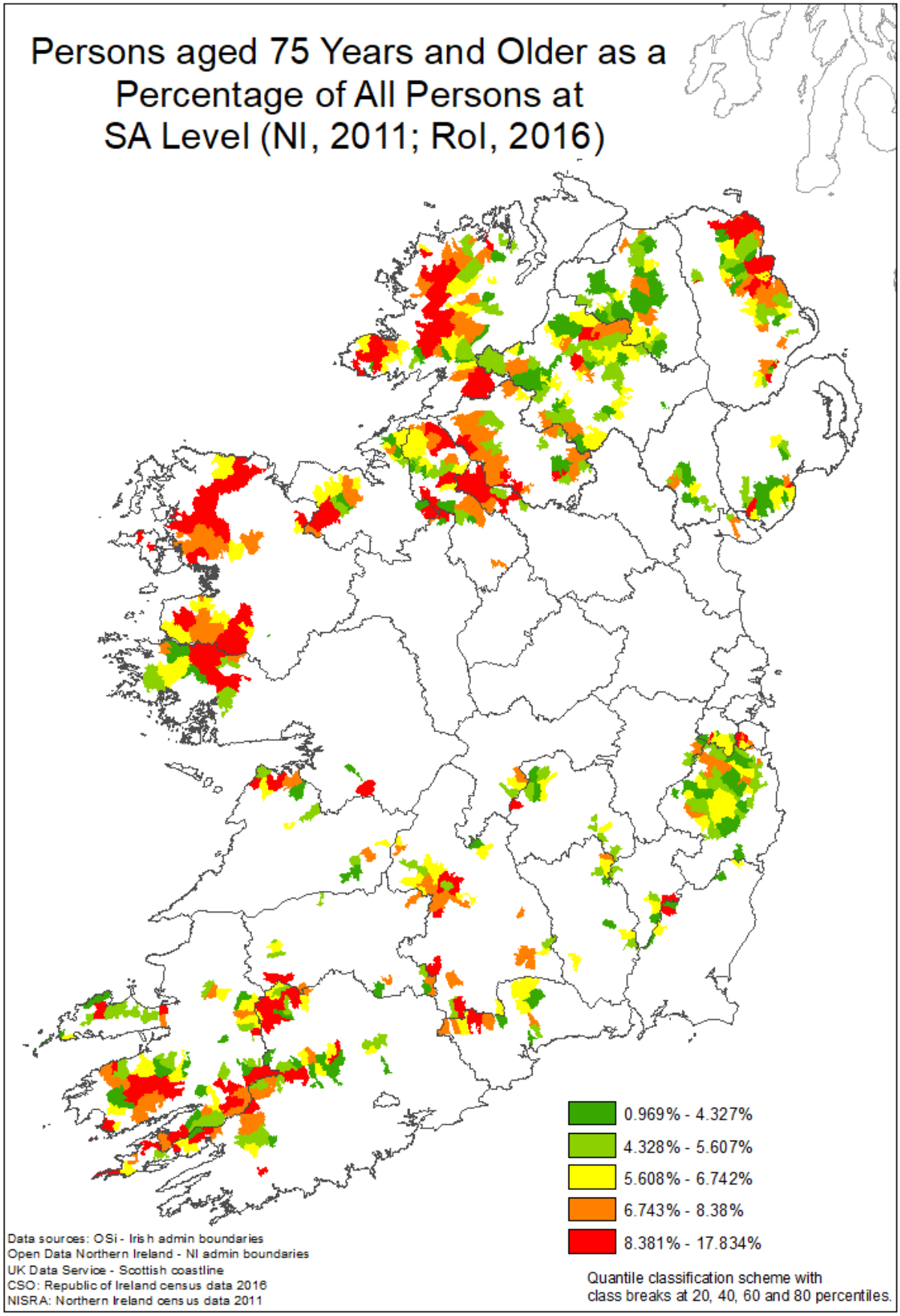
The graphs and maps presented here provide for a more fine-grained analysis of the data presented in respect of persons aged 65+. The graphs provide further confirmation of the older age profile of RoI Type 1 uplands and the younger age profile, in contrast, of NI Type 1 uplands.

Map 4-6 shows that the uplands with the lowest proportions of persons aged over 75 years are as follows: the Wicklow Mountains, the Slieve Blooms, the Sperrins, Slieve Gullion and the Mournes. The highest values are in Type 1 uplands in the west and northwest, most notably the Nephins, Partrys, Mweelrea Mountains and Sheefry Hills.

Figure 4-6: Percentage of the population aged 75 years and older (a) in the uplands and (b) compared with RoI and NI



Map 4-6: Percentage of the population aged 75 years and older



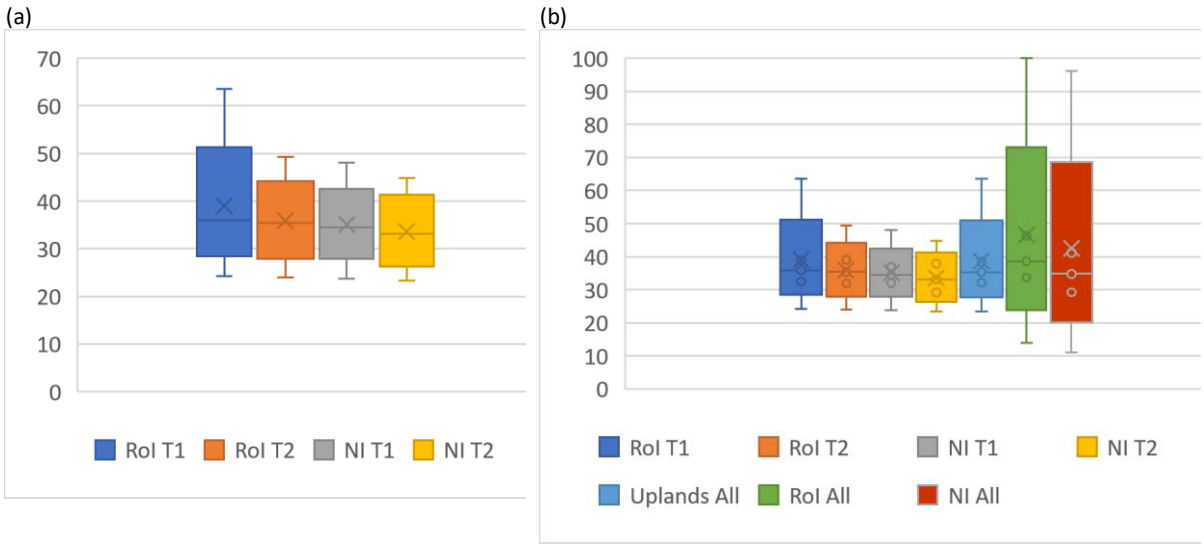
Single People

The data presented here relate to persons aged over 15/16 years, the objective being to deduce, to some extent, the demographic vitality of the population, based on a positive association between marriage and the likelihood of regeneration. The data reveal that uplands have proportionately fewer single people than does the island of Ireland as a whole, although the overall differences are not significant. Single people constitute 41.1% of the population (aged 16+) in the RoI and 36.1% of the population (aged 15+) in NI. The corresponding value for all uplands is 35.3%.

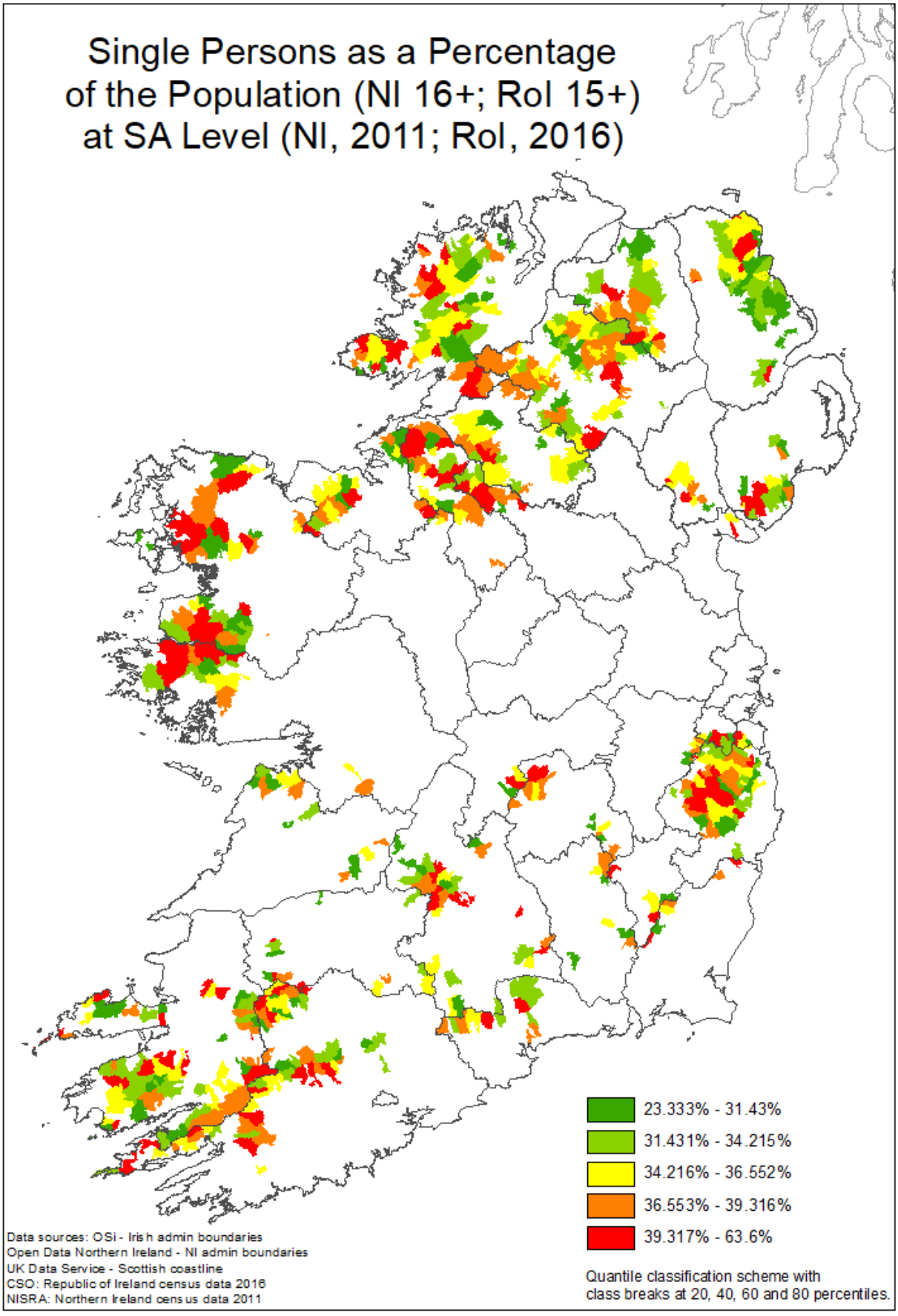
Across the uplands, patterns are generally very varied, as map 4-7 illustrates. There are however, some clusters of similar values that are worth highlighting. These include below-average values in the Antrim Plateau and the Partrys, and above-average values in the Slieve Blooms, the Twelve Bens and the Sheehy Mountains.

In some ranges, such as the Wicklow Mountains and the Silvermines / Slieve Felim, there appear to be higher values in the interior and more inaccessible areas, and lower values in the better-connected areas. However, this does not account for other local variabilities, such as those that are clearly in evidence in the Ox Mountains, Knockmealdowns and the MacGillycuddy Reeks, where no obvious spatial pattern pertains.

Figure 4-7: Percentage of the population who are single (a) in the uplands and (b) compared with RoI and NI



Map 4-7: Percentage of the population who are single



Ability to Speak Irish

There are distinctive geographies in respect of the distribution of persons with the ability to speak Irish; rates are significantly higher in the RoI (38.55%) than in NI (10.65%) and rates in the RoI uplands as a whole are higher than in the State. Across the island, the mean values are higher in Type 1 uplands: 47.8% in RoI and 16.66% in NI, than in Type 2 uplands: 42.2% in RoI and 15% in NI.

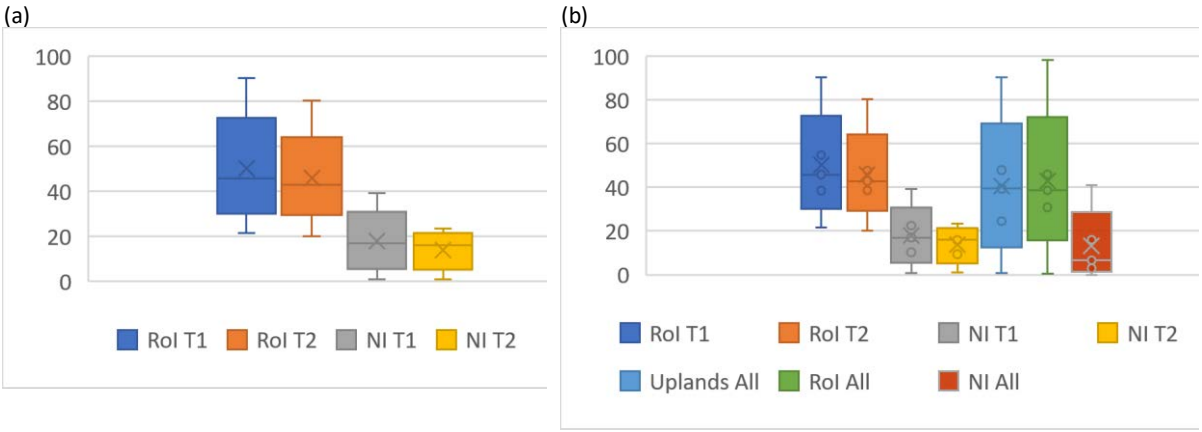
The highest values, as map 4-8 shows, are predominantly, but not exclusively, in designated Gaeltacht areas. These include:

- In Munster - Gaeltacht Mhúscraí in the Derrynasaggart and Sheehy Mountains; Gaeltacht Uíbh Ráthaigh in the Inny Valley; and Gaeltacht Corca Dhuibhne in Brandon and Slieve Mish and around Mount Eagle;
- In Connacht – parts of the Connemara and South Mayo (Tuar Mhic Éadaigh) Gaeltacht in the Partry and Maumturk Mountains; Achill Island
- In Ulster – Tír Chonaill: West of Killybegs; in the Bluestacks; and in West Donegal, notably in and around Taobh an Leithid, Grogan Mór, Errigal, Crocknafarragh, and Crocknahallin.

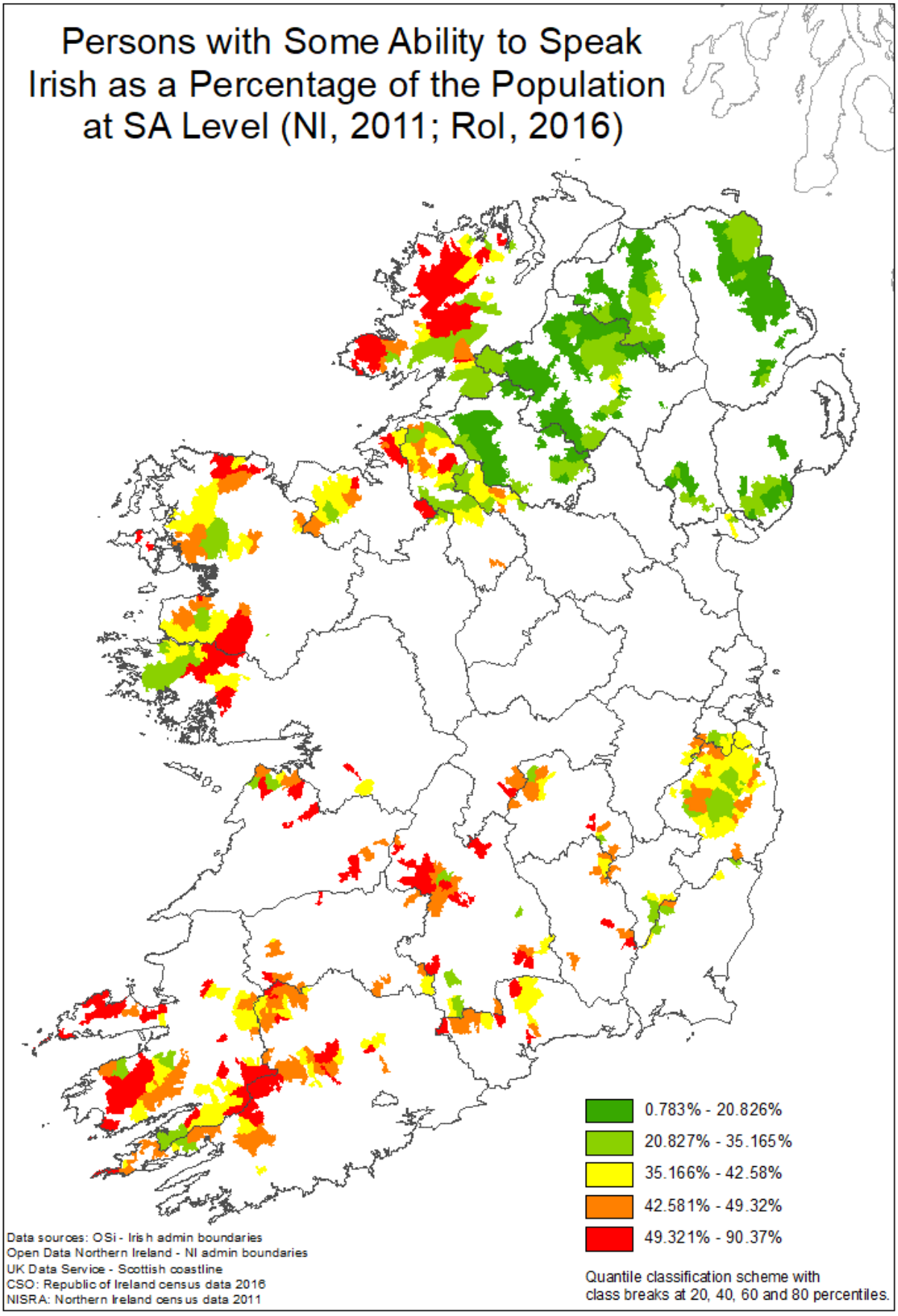
As the map also shows, there are high values in respect of the proportion of Irish speakers among the population in some non-Gaeltacht areas. Examples include the areas adjoining Gaeltacht Mhúscraí, including the Clydagh Valley, and uplands around Limerick City in the Slieve Felims, Silvermines and Slieve Berna. These three upland areas all have high levels of commuting to and from Limerick, including to the University and other educational institutions.

Of uplands areas in the RoI, those in Leinster generally have the lowest proportions of Irish speakers, with the lowest values being in the Wicklow and Dublin Mountains and the Blackstairs. The lowest values on the island are in NI. The distribution of Irish-speakers across NI is positively associated with the distribution of the nationalist population (Darmody and Daly, 2015), with higher values (>20% Irish speakers) being in Moyle and in the Glenelly Valley (Co. Tyrone) and around Benbradagh (Co. Derry) – partly associated with the endogenous Slaughtneil Gaeltacht.

Figure 4-8: Percentage of the population who speak Irish (a) in the uplands and (b) compared with RoI and NI



Map 4-8: Percentage of the population aged three years and older who can speak Irish



Persons Born in another Jurisdiction of Ireland and the UK

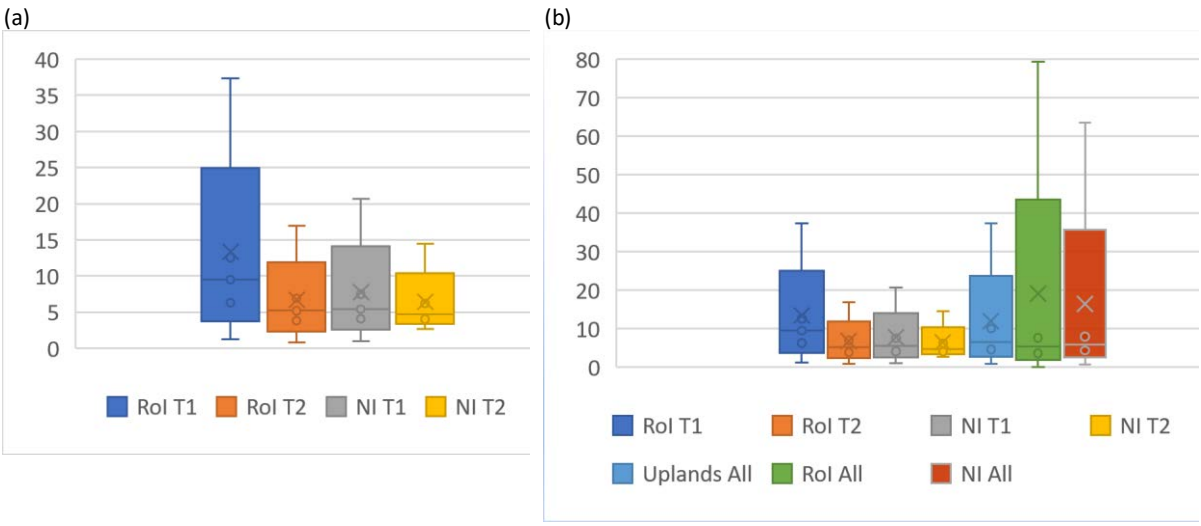
In RoI uplands, UK-born persons constitute 9.7% (Type 1) and 5.5% (Type 2) of the population, while the State average is 5.91%. In NI uplands, RoI-born persons represent 6.2% (Type 1) and 5.35% (Type 2) of the population, compared to 6.7% across all of NI. Thus, in both jurisdictions, Type 1 uplands attract higher percentages of persons on a cross-border and east-west basis.

Map 4-9 shows the significance of proximity to the now 'soft' and open NI-RoI border, with the highest values on the island being in the Dartry and Cuilcagh Mountains and around Meenbog Hill and Sturrin (West Tyrone) and Grousehall (SE Donegal). Values are also considerably above average around Slieve Beagh on the Monaghan-Fermanagh border and across the Donegal uplands, with the exception of those in the southwest of the county. Family and social ties are strong across these upland border communities. The map suggests however, that such connections are less significant in the Mournes and Slieve Gullion, despite their proximity to the RoI.

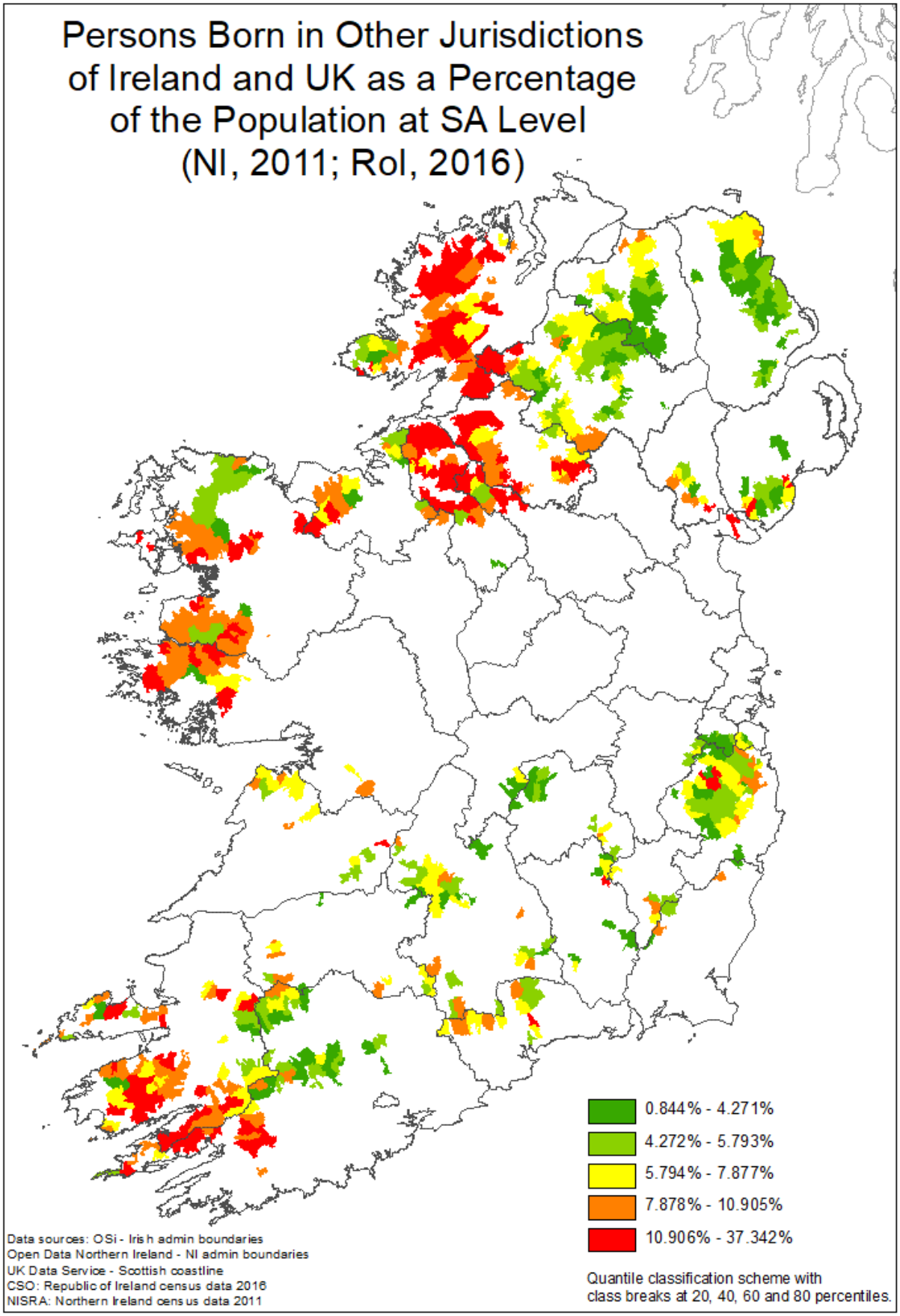
In addition to areas adjacent to the border from Monaghan to Donegal, values are above average in peninsular Kerry and Cork, notably in the MacGillycuddy Reeks, and in the Caha and Sheehy Mountains. These locations are associated with in-migration since the 1960s, whereby people moved from urban areas in the UK (as well as the Netherlands and Germany, in the main) in search of the 'rural idyll'. Latterly, such in-migration has become a feature of the uplands in Connemara and Mayo and in the North Leitrim Glens.

The lowest values on the island are across Ulster – further from the border – in the Sperrins and the Antrim Plateau, and in Leinster and Munster – further from Kerry and West Cork.

Figure 4-9: Percentage of the population born elsewhere in Ireland or the UK (a) in the uplands and (b) compared with RoI and NI



Map 4-9: Percentage of the population born elsewhere in Ireland or the UK



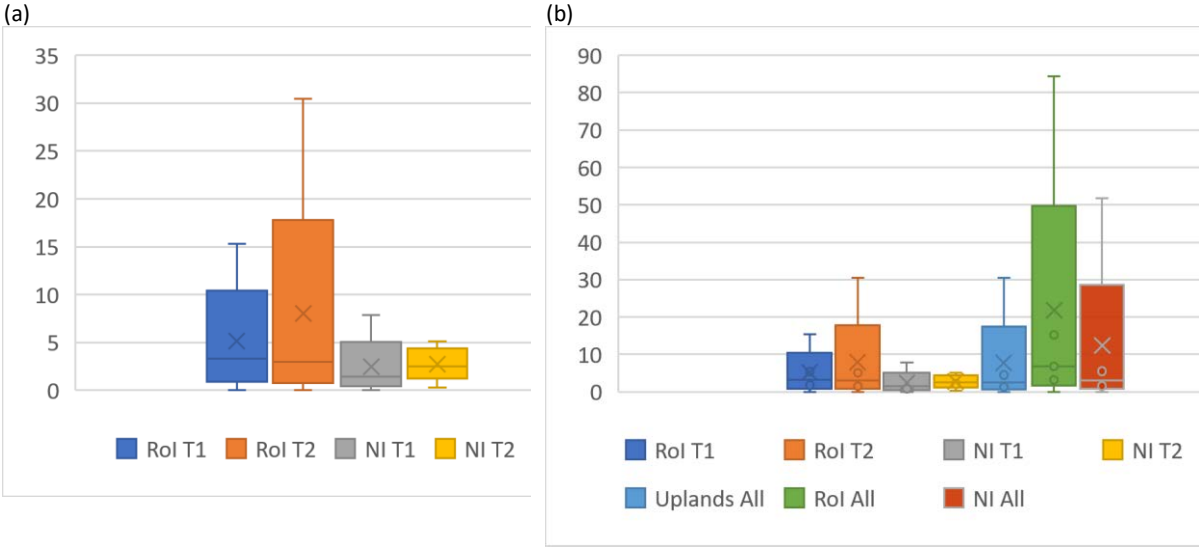
Persons Born Outside of Ireland and the UK

Over the past two decades, the RoI has become more ethnically diverse; almost 12% of the population is born outside of Ireland and the UK. NI continues to be more homogenous, and the corresponding proportion there is 4.5%. In-migration, to the island of Ireland, particularly from non-EU countries has been mainly to cities and to areas of more intensive industrial economic activity than is the case in Ireland's uplands. Persons born outside of Ireland and the UK constitute 3% of the population of the uplands. Values are higher in Type 2 uplands (4.5% in RoI and 2.6% in NI) than in Type 1 uplands (3.9% in RoI and 1.8% in NI).

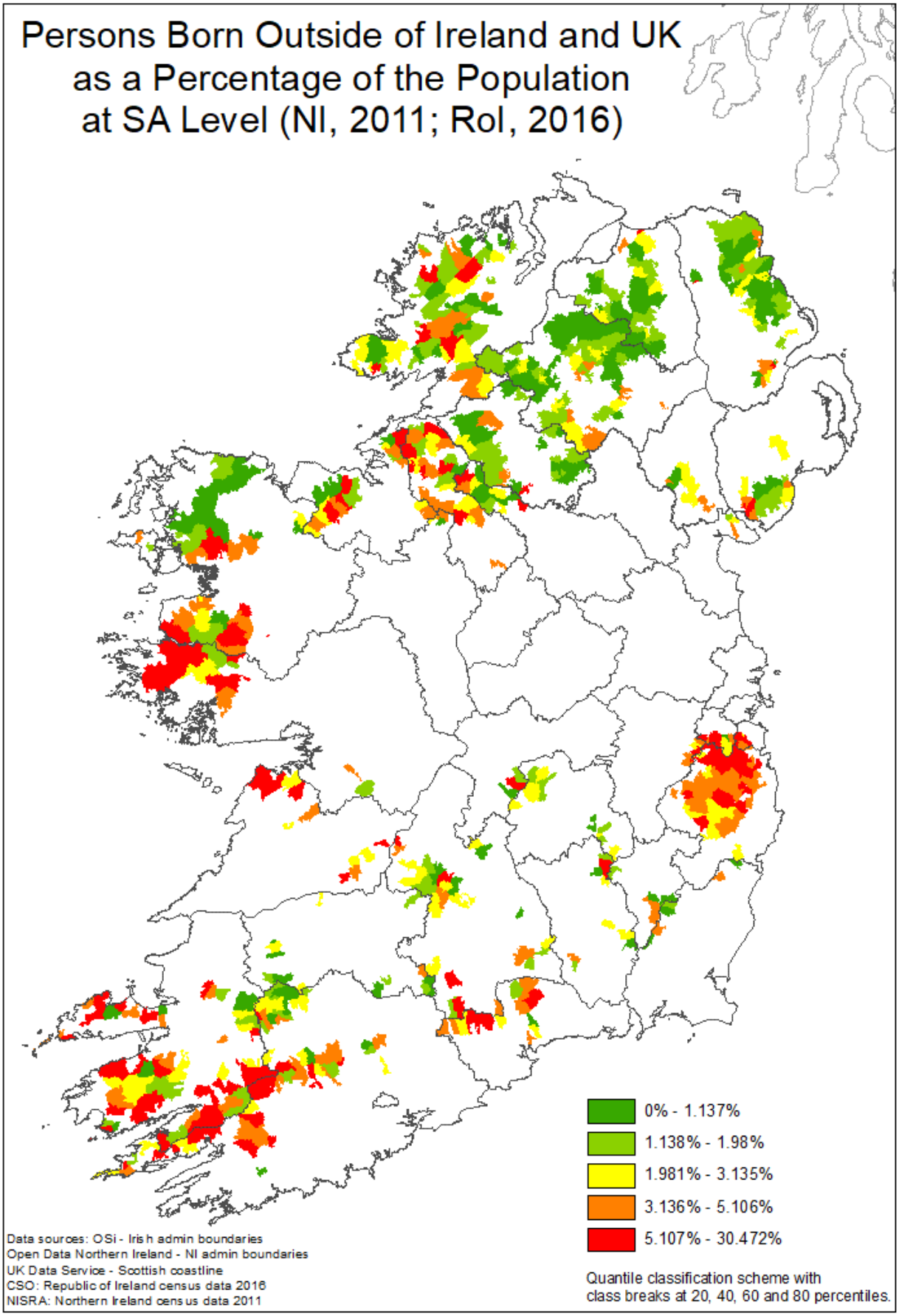
Across the uplands, the highest values (>5%) are in the Dublin and Wicklow Mountains, the Derrynasaggart and Caha Mountains on the Cork-Kerry border, the Burren, the Twelve Bens and the Partry Mountains (map 4-10). Values are also generally above average in the Knockmealdown and Comeragh Mountains and in Slieve Berna. There is considerable variety across the Ox Mountains, the Bluestack and Derryveagh Mountains and in the North Leitrim Glens, with some communities having large proportions of migrants, and other adjoining communities having very few. The lowest values in the RoI are in uplands north of Nephin Beg – on and around Slieve Fyagh, Benmore and Maumakeogh.

Across NI, values are notably lower than is the case south of the border. The only exceptions are the uplands immediately west of Belfast, including Legoniel, and the western end of the Mournes, around Rostrevor.

Figure 4-10: Percentage of the population born outside of Ireland and the UK (a) in the uplands and (b) compared with RoI and NI



Map 4-10: Percentage of the population born outside of Ireland and the UK



Educational Attainment – Low (RoI only)

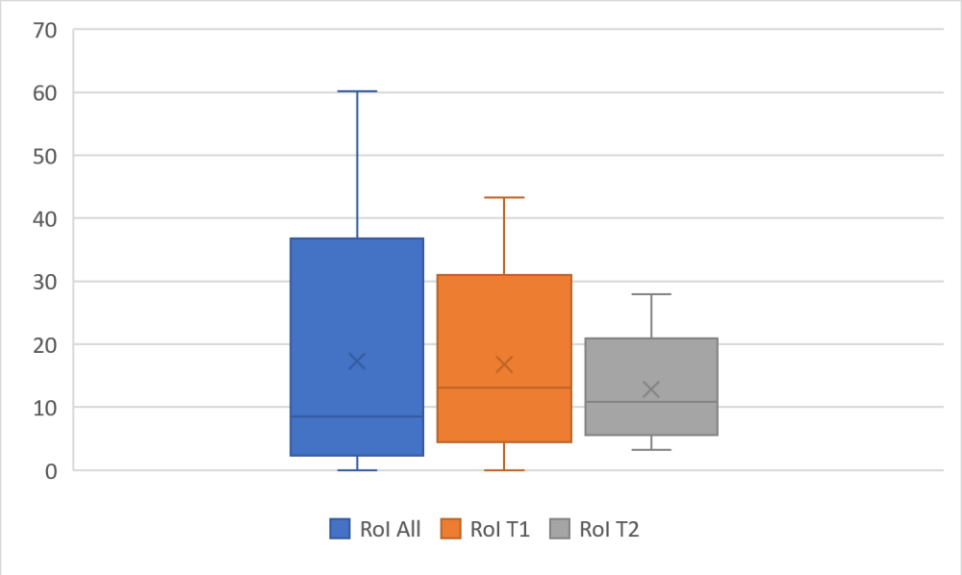
Low educational attainment, as measured by the percentage of the adult population (aged 15+) that has completed full-time education by age 15, is higher in the uplands than is the case nationally. Data for this variable are only available for the RoI. The cumulative figures are as follows: 14.1% in Type 1 uplands; 11.25% in Type 2 uplands and 10% in the State as a whole. These values are associated with age; younger people have had greater opportunities for educational progression, while older people are more likely to have left school earlier. Therefore, areas with older age profiles tend to have lower levels of educational attainment. This association accounts, in part at least, for the spatial patterns presented in map 4-11.

As the map shows, the upland areas with the lowest levels of educational attainment include the Nephins, the Cuilcagh Mountains and the Mullaghareirks, all three of which have an older age profile than Irish uplands in general. However, some uplands that have a younger age profile also record low levels of educational attainment, the most notable being the Blackstairs and the Slieve Blooms. This suggests that factors, other than age, are associated with educational disadvantage locally.

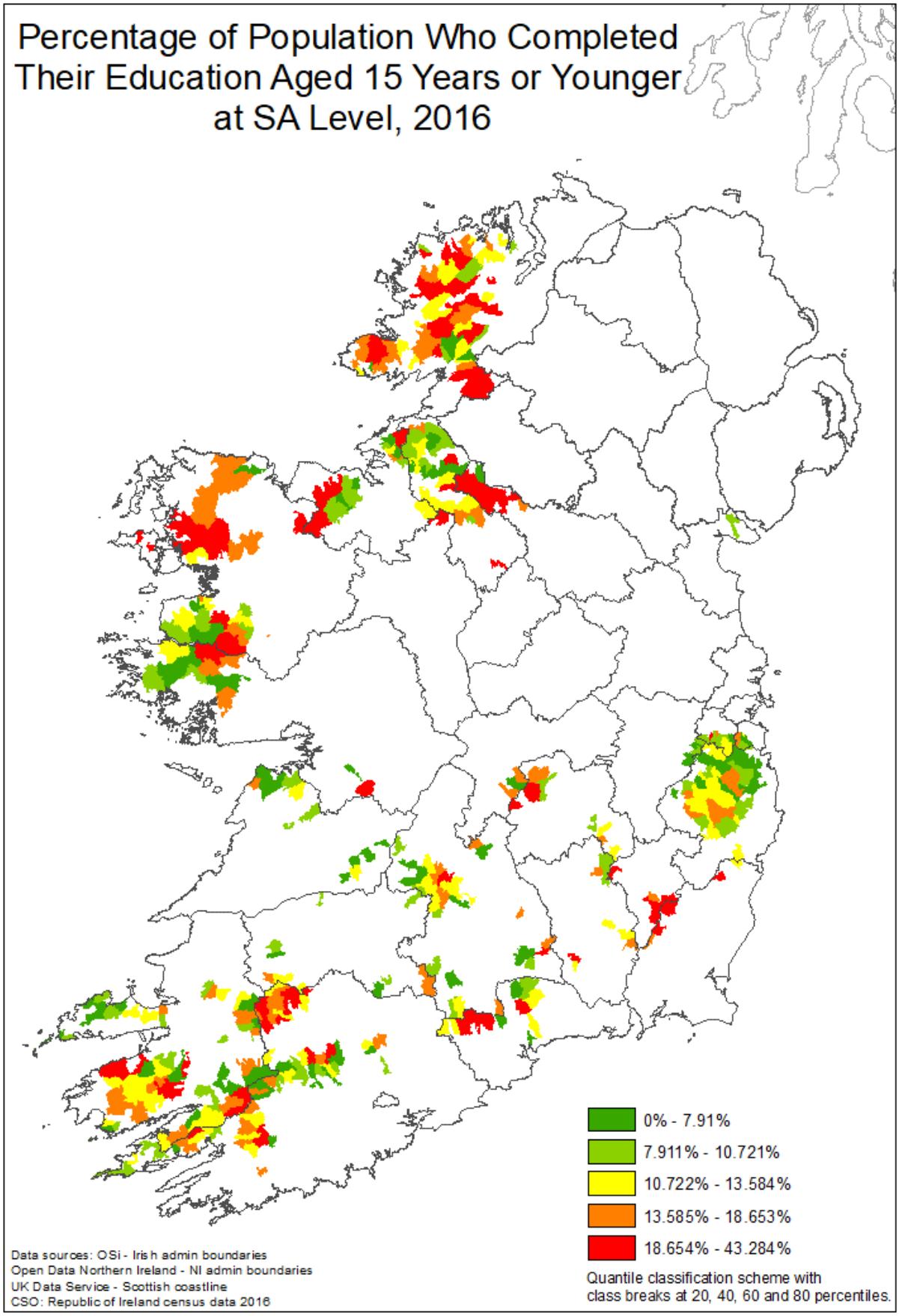
The map also reveals mixed patterns in the Donegal and Kerry uplands. In Donegal, low levels of educational attainment are prevalent across most of the uplands. In Kerry, values are generally above average in Iveragh, although not to the same extent as in Donegal, but are considerably lower in Corca Dhuibhne. Indeed, low educational attainment is less problematic in Gaeltacht areas in Munster and Connacht e.g., Derrynasaggart Mountains (Múscraí) and the Twelve Bens (Connemara) than in non-Gaeltacht areas.

Upland areas that are close to the main cities, particularly Dublin and Limerick, record the lowest levels of low educational attainment. The problem is also less prevalent in areas that have experienced higher levels of in-migration; these include the Burren and the North Leitrim Glens.

Figure 4-11: Percentage of the population who completed education aged 15 years or younger in the RoI and its uplands



Map 4-11: Percentage of the population who are early school leavers (RoI only)



Educational Attainment – High (RoI only)

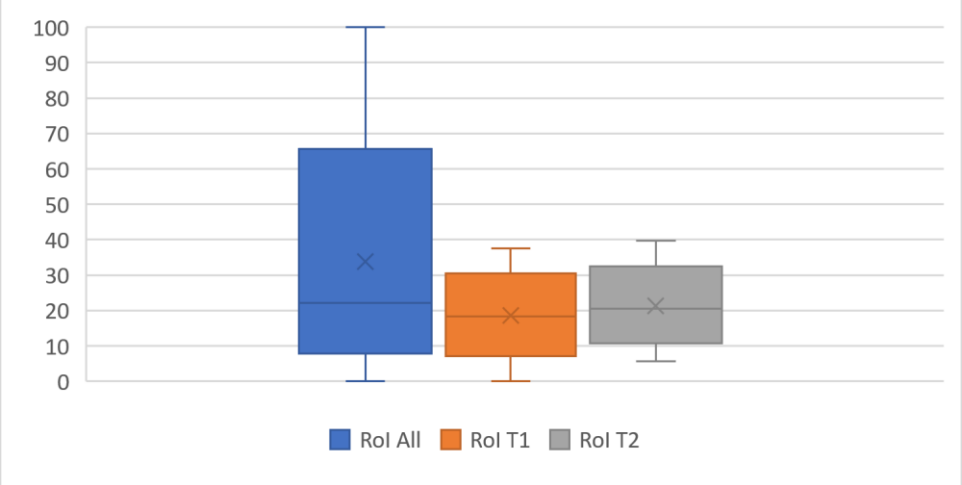
This profile uses 'percentage of persons who completed their education at aged 21 years and older' as the proxy indicator for higher educational attainment. The mean value across the RoI is 24.5%, while the corresponding values for Irish uplands are 19.4% in Type 1 and 21.2% in Type 2.

The spatial pattern, as shown on map 4-12, is the reverse of that shown in respect of the previous variable (low educational attainment). The areas with the highest levels of educational attainment are in the Dublin and Wicklow Mountains and those closest to Limerick - Slieve Berna and Slieve Felim, but not the Silvermines. Values are also above average in the uplands closest to Cork City, namely the Nagles and the Boggeragh Mountains. Thus, proximity to cities appears to be a driver of high levels of educational attainment. Gaeltacht status appears to be a driver in the case of the Twelve Bens, Brandon and the Derrynasaggarts, but not in the case of the Partry Mountains. Of the demographic variables covered in this profile, in-migration also appears to be a driver of high educational attainment, as for example, in the North Leitrim Glens, around Ben Bulben and in parts of the Ox Mountains.

Below-average values are generally, but not exclusively, in the areas with the oldest age profiles, including the Nephin Beg Range, MacGillycuddy Reeks and Mullaghareirks, as well as in the Cuilcagh Mountains. However, such values are also evident in the Slieve Blooms and Blackstairs Mountains, and across most of the Silvermines.

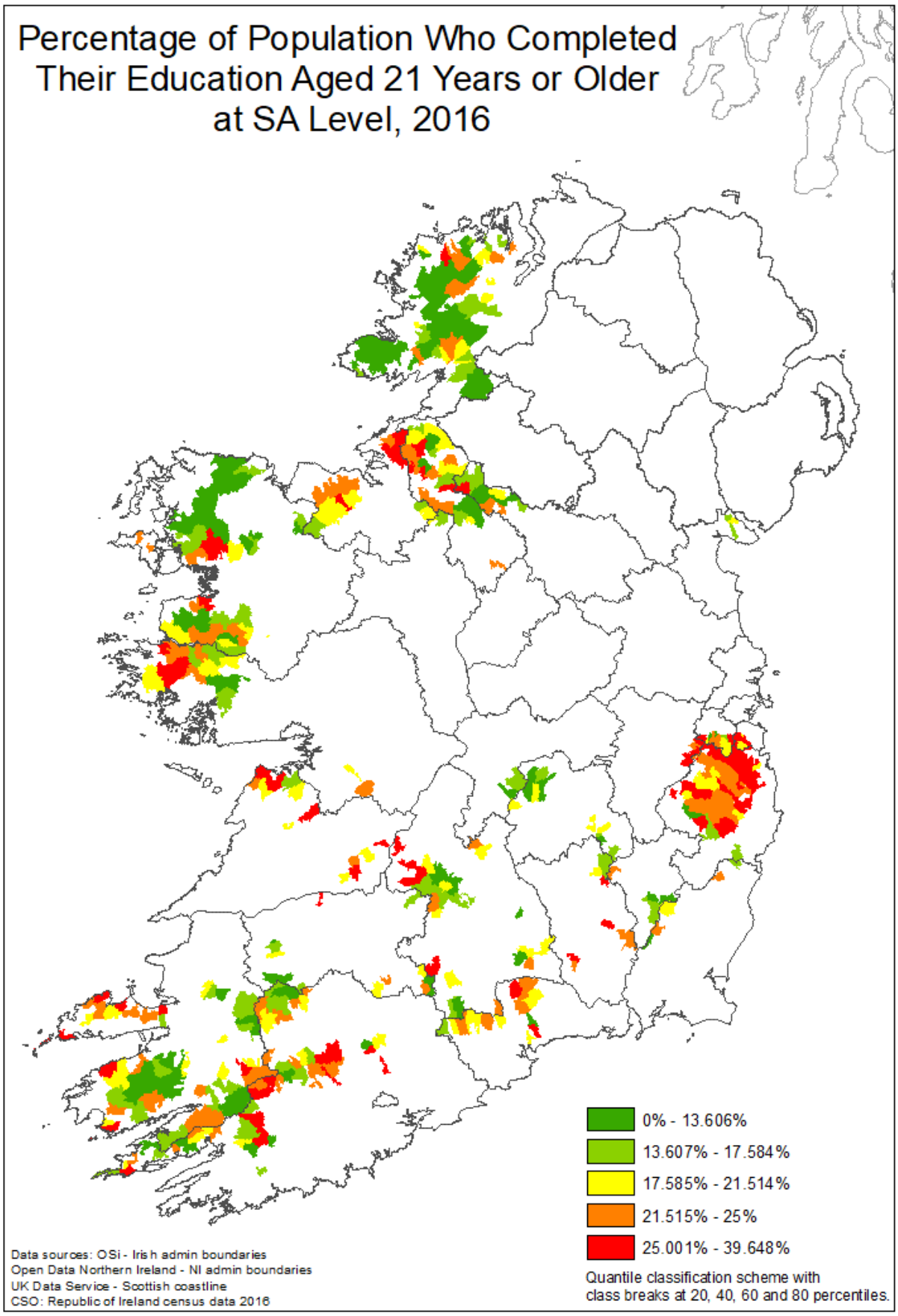
The lowest values in the State are in the Donegal uplands, regardless of age profile, and across both Gaeltacht and non-Gaeltacht parts. Indeed, among all local authority areas in the State, Donegal exhibits the highest level of deprivation on the Haase-Pratschke Index[43].

Figure 4-12: Percentage of the population who completed education aged 21 years or older in the RoI and its uplands



[43] This is a composite measure of affluence and deprivation, based on a series of demographic and socio-economic indicators. For methodological information and analysis see: Haase, T; Pratschke, J. and Gleeson, J. (2014). The 2011 All-Island HP Deprivation Index - Consistent Deprivation Measures for the Island of Ireland, based on the 2011 Census of Deprivation. Available at: http://trutzhaase.eu/wp/wp-content/uploads/2011-All-Island-HP-Deprivation-Index-05.pdf

Map 4-12: Percentage of the population with advanced qualifications (RoI only)

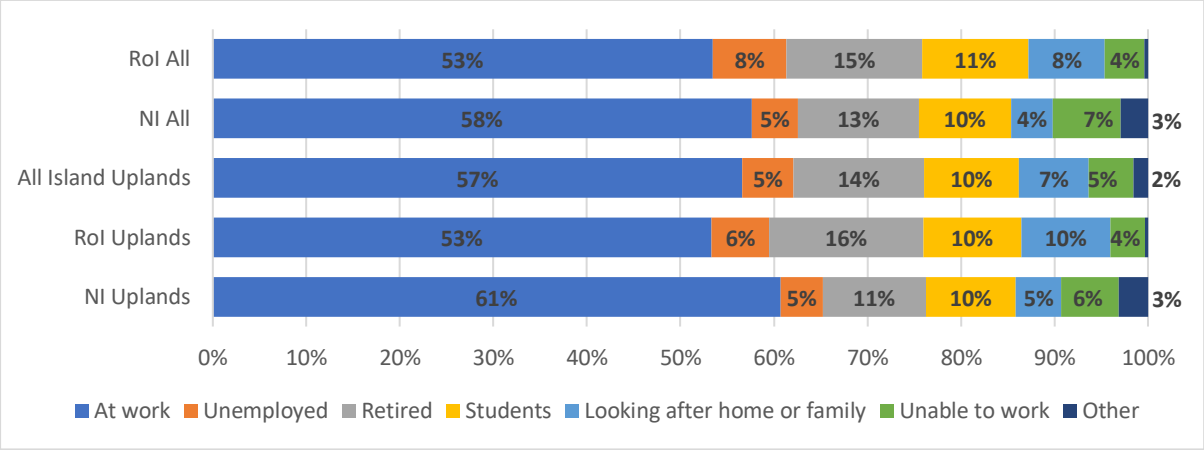


Economic Status and Activity

The following graph presents the breakdown, by principal economic status, of the resident population, at Small Area (SA) level, in both jurisdictions. The data presented here are affected by several factors, and caution should be exercised when making any comparisons. Firstly, the RoI data were captured after the State's exit from the IMF-EU bailout and at a time when the State's economy was beginning to grow. Meanwhile, the NI data were captured shortly (two years) into the recession, although, in relative terms, NI was less adversely affected than was the RoI. Secondly, the classification criteria are based on self-declaration, and the output figures do not compare directly with the data published by the social welfare agencies in either jurisdiction. In addition, social welfare provision and income support are less comprehensive in NI than in the RoI.

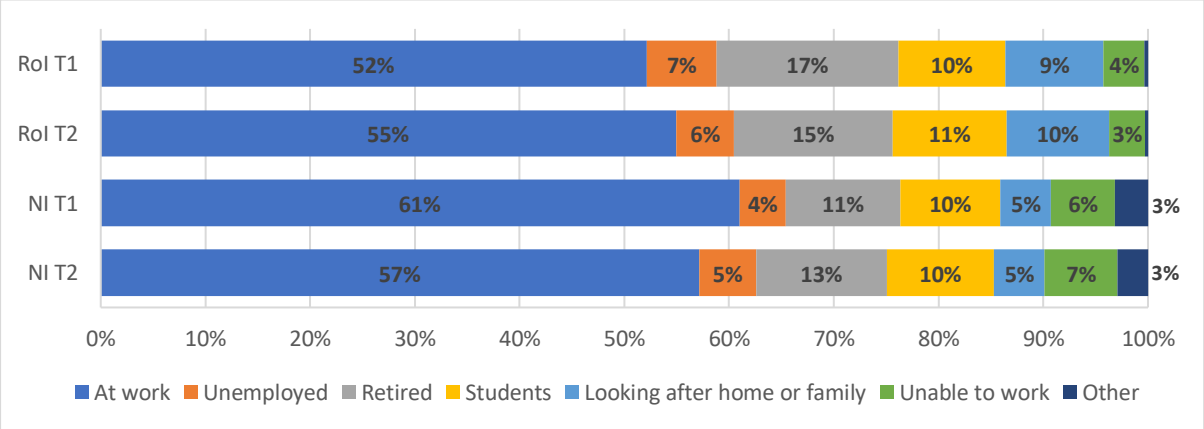
As figure 4-13 shows, the relative size of the working population is greater in NI than in the RoI, and is higher in the NI uplands than in RoI uplands and in NI as a whole. The data for RoI uplands are more reflective of the RoI as a whole.

Figure 4-13: Principal economic status of residents in the uplands, RoI and NI



As evidenced by the data presented in figure 4-14, T1 uplands in NI have the highest proportion of persons at work. This is consistent with their younger age profile than in the other upland types covered in this study. Most NI uplands also benefit from higher levels of connectivity to urban centres. The graph illustrates the contrast between north and south in respect of the proportion of persons looking after home or family; the level is twice as high in the RoI than in NI.

Figure 4-14: Principal economic status of residents in the uplands



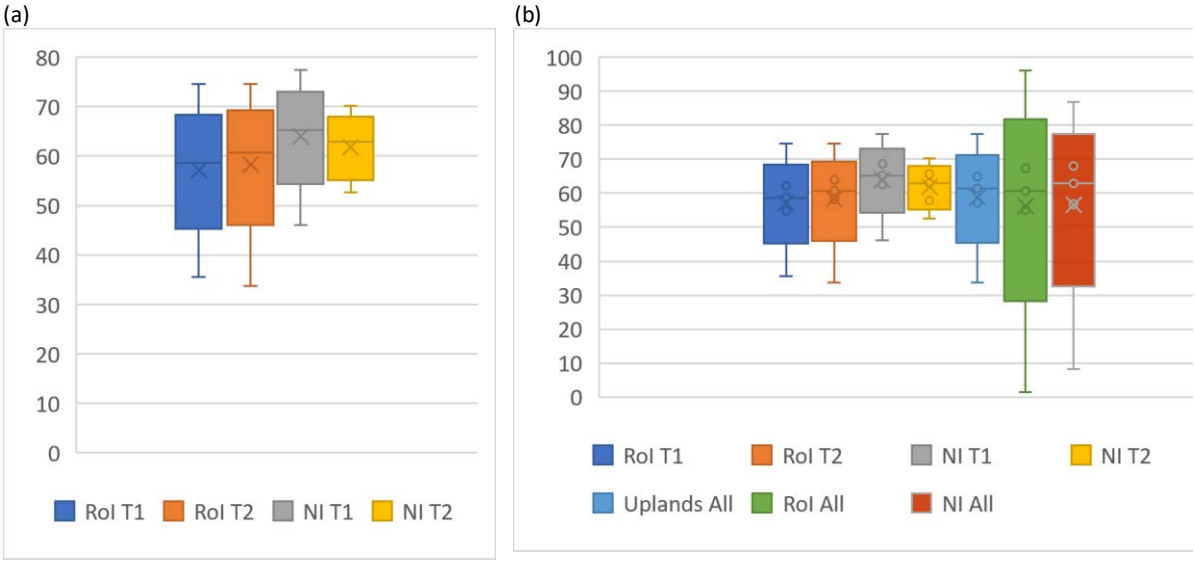
Labour Force Participation Rate

The labour force participation rate (LFPR) is the proportion of the population aged 15 years and older which is either working or looking for work. As indicated on the previous graph, the LFPR is generally higher in NI than in the RoI, and is lowest in RoI uplands. Within the RoI, Type 2 uplands record a slightly higher level of labour force participation (60.5%), relative to Type 1 uplands (58.8%). The corresponding values in NI are: 65.4% in Type 1 uplands and 62.6% in Type 2 uplands. There is less variation in values across NI than is the case in the RoI. Values are consistently above average in the Sperrins and Slieve Gullion and in the parts of the Dartry and Cuilcagh Mountains that extend into County Fermanagh. They are also above average in South Tyrone, but are somewhat lower in the Mournes, despite their relative proximity to the Dublin-Belfast economic corridor.

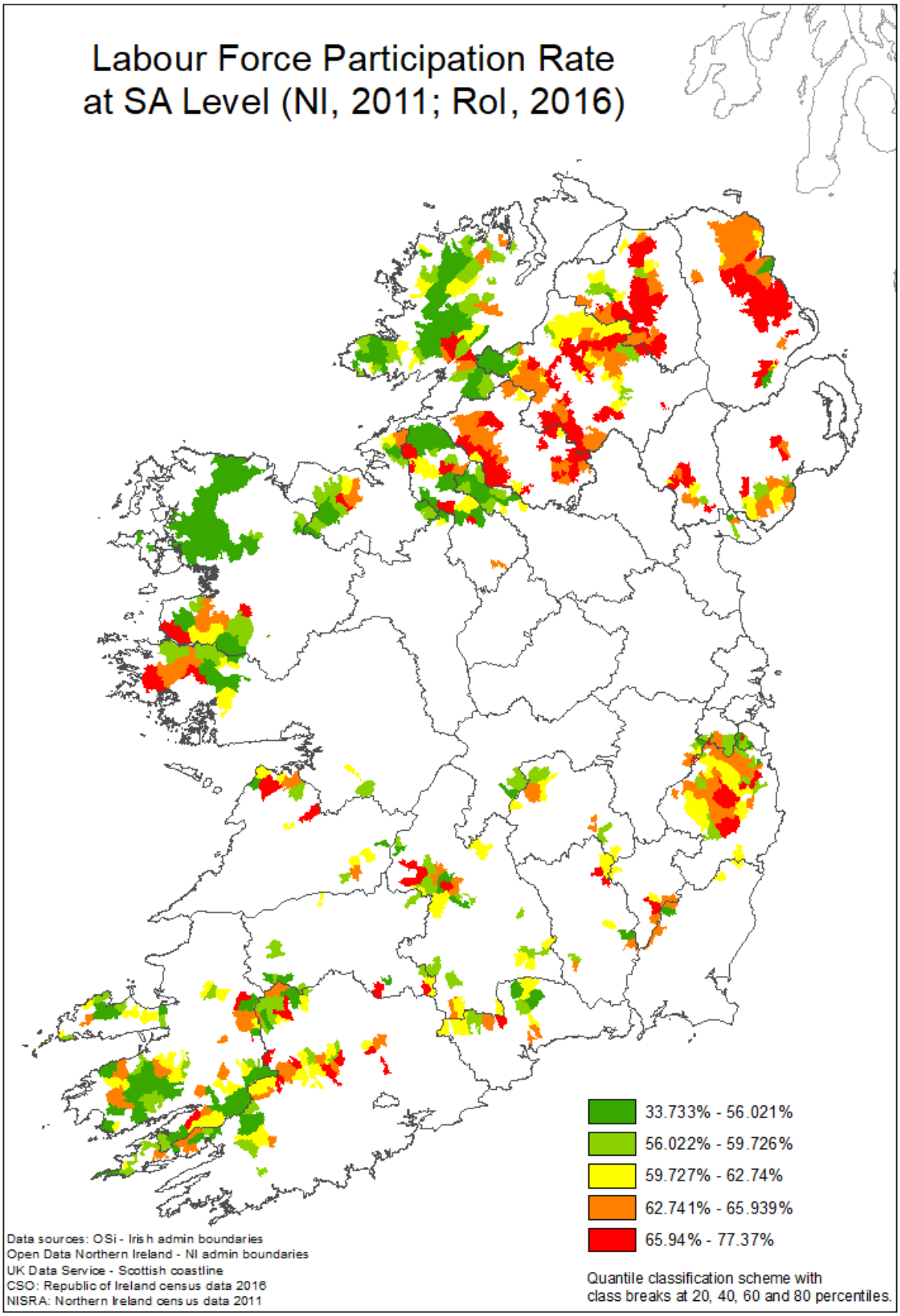
As map 4-13 shows, there is more internal variety across the RoI uplands. The highest values are in the Wicklow Mountains and in those that are within the Cork and Limerick commuter belts, namely the Nagles and Boggeraghs (Cork) and around Keeper Hill (Limerick commuter belt). Values are above average in the Blackstairs, Castlecomer Plateau, the Galtees and Knockmealdowns. Farming is generally more profitable in these, largely Type 2, upland areas, than is the case in the Type 1 areas across the north and west of Ireland. Thus, the scale and nature of farming may be drivers of labour force participation. Rural tourism may be a factor in driving up labour force participation in the Twelve Bens, the Burren and parts of Iveragh and Corca Dhuibhne. The influence of tourism, accessibility and connectivity may account for the variable patterns on the Beara Peninsula; labour force participation rates are highest in the areas that are closest to Kenmare and Castletownbere, and are lowest in the parts that are most remote e.g., Lauragh, Ardgroom and the Borlin Valley. Accessibility and connectivity factors may also account for the differences across the Ox Mountains, with the highest values being in the communities that are closest to Sligo Town.

The lowest values on the island are across the Mayo and Donegal uplands, with the greatest concentration being in the Nephins and the least accessible parts of the Bluestacks and Derryveagh Mountains. Values are also below average across much of the Dartry and Cuilcagh Mountain ranges, which may be associated with the rationalisation of a large local industry, since 2009, with Cavan and Leitrim having been more adversely affected than Fermanagh.

Figure 4-15: Labour force participation rate (a) in the uplands and (b) compared with RoI and NI



Map 4-13: Labour force participation rate



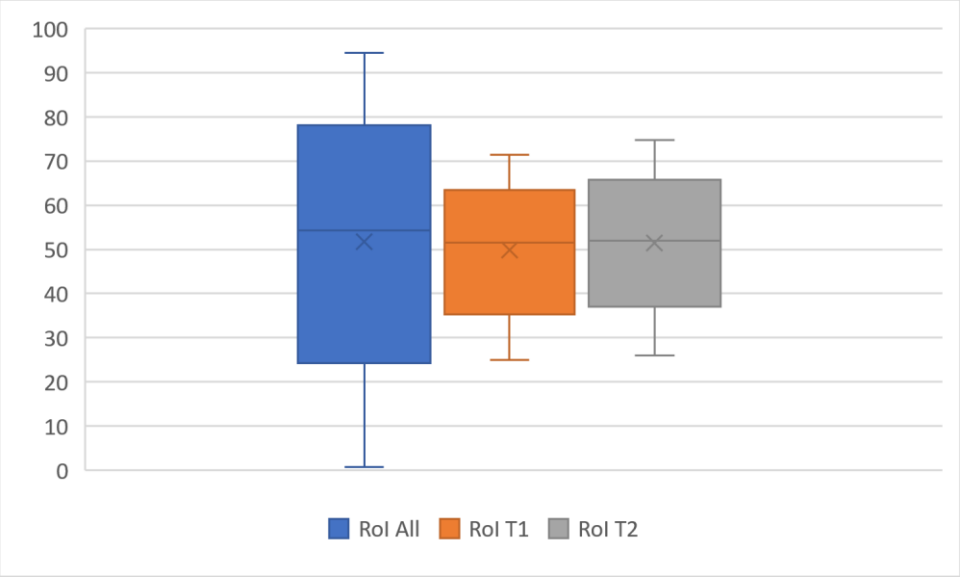
Female Participation in the Labour Force (RoI only)

The RoI Census of Population provides a gender breakdown of labour force composition for all sectors. The returns show that, as is the case in rural areas generally, the level of female participation in the labour force is lower in the uplands than in the State as a whole. The average rate for the State is 55.1%, while the corresponding values for Type 1 and Type 2 areas are 51.1% and 52.1% respectively.

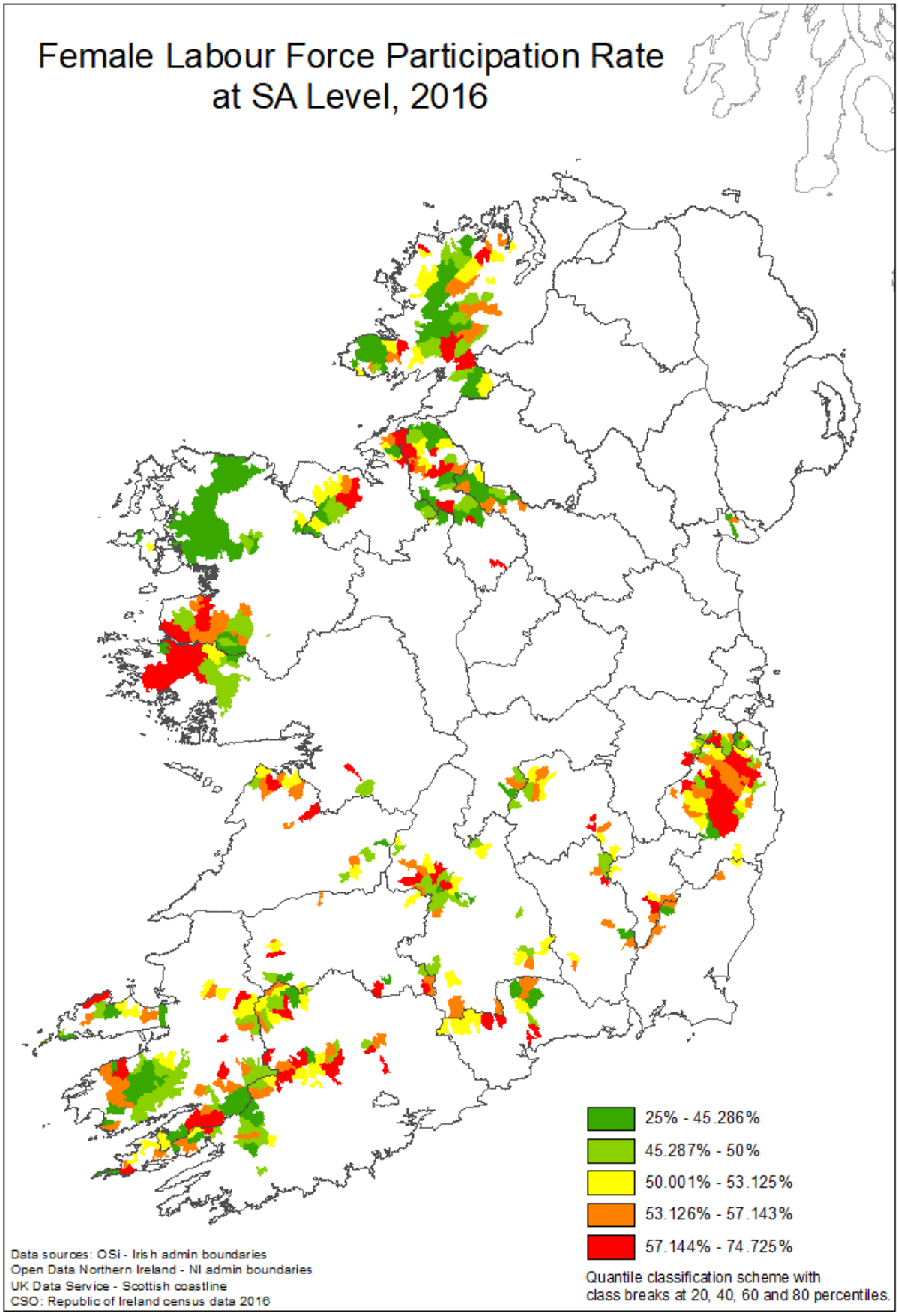
The highest values are, as map 4-14 shows, in upland areas that are reasonably well connected to urban areas. These include the Wicklow Mountains and those near Cork City (Nagles and Boggeraghs). In the Ox and Dartry Mountains, values are highest the closer one is to Sligo, while in Donegal, the higher values are in the east of the county – also indicating an urban influence (proximity to Derry or Letterkenny). High values also predominate in the Twelve Bens, Mweelrea and Sheefry Hills, which may be associated with tourism-related employment. A similar observation may be made in respect of the Caha Mountains, near Kenmare and parts of the MacGillycuddy Reeks.

Upland areas with intermediate values and a diverse range of values include the Blackstairs, the Silvermines, the Mullaghareirks, and the Knockmealdown and Comeragh Mountains. The latter are all Type 2 uplands, and while farming is more commercial there than in Type 1 uplands, the economic base is generally narrower, as service industries are less prevalent than is the case in in Type 1 uplands along the western seaboard. That said however, there are areas in the west in which levels of female participation in the labour force is very low. These include the Partry Mountains, western parts of the Ox Mountains and West Donegal. The entire Nephin Range has the lowest values in the State. This suggests that the need for economic diversification is greater in these areas than elsewhere.

Figure 4-16: Female labour force participation rate in the RoI and its uplands



Map 4-14: Female labour force participation rate (RoI only)



Male Participation in the Labour Force (RoI only)

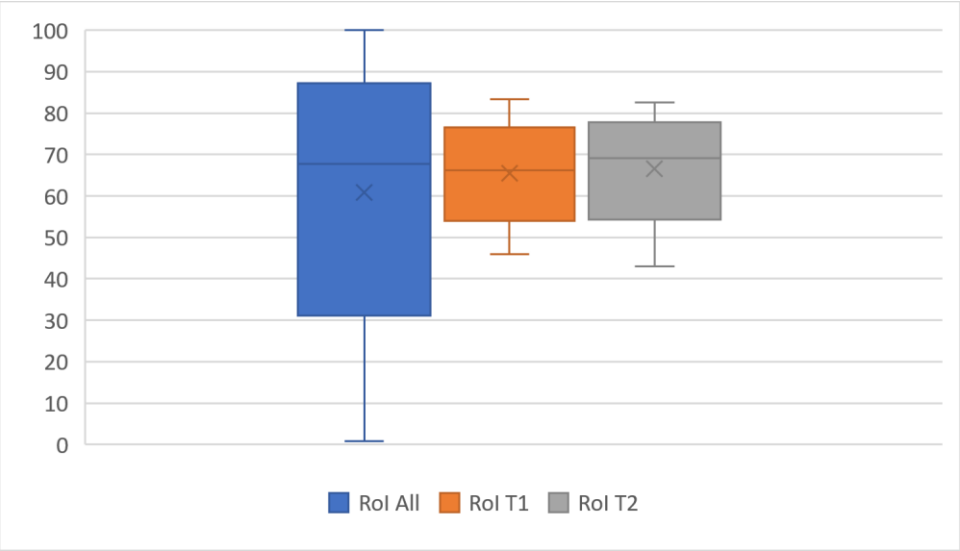
Male participation in the labour force shows a stronger rural-to-urban gradient than is the case for females – higher values are associated with proximity to urban areas. This is particularly the case for Type 2 uplands (mainly in Munster and Leinster).

As map 4-15 shows, the closer an area is to the major cities and to the inter-urban transport networks, the higher the level of male participation in the labour force. This is evidenced by the spatial patterns around Cork and Limerick cities; in both cases, there is a gradual decline in the rates as one moves further from the cities. In Cork's case, values are highest in the Nagles and Boggeraghs and in the parts of the Derrynasaggarts that adjoin the N22 (national primary route) but decline as one heads westwards across the Derrynasaggarts and Sheehy Mountains towards the Beara Peninsula. In Beara and Iveragh, the rates are highest the closer one is to Kenmare, Killarney and Killorglin, while the lowest rates are in the more rural parts of the MacGillycuddy Reeks, west of Glencar and north of Sneem. A large industrial employer on the Cork-Kerry border near Ballydesmond and proximity to Killarney account for above-average levels in the Mullaghareirks. Meanwhile, Corca Dhuibhne has lower levels of male labour force participation.

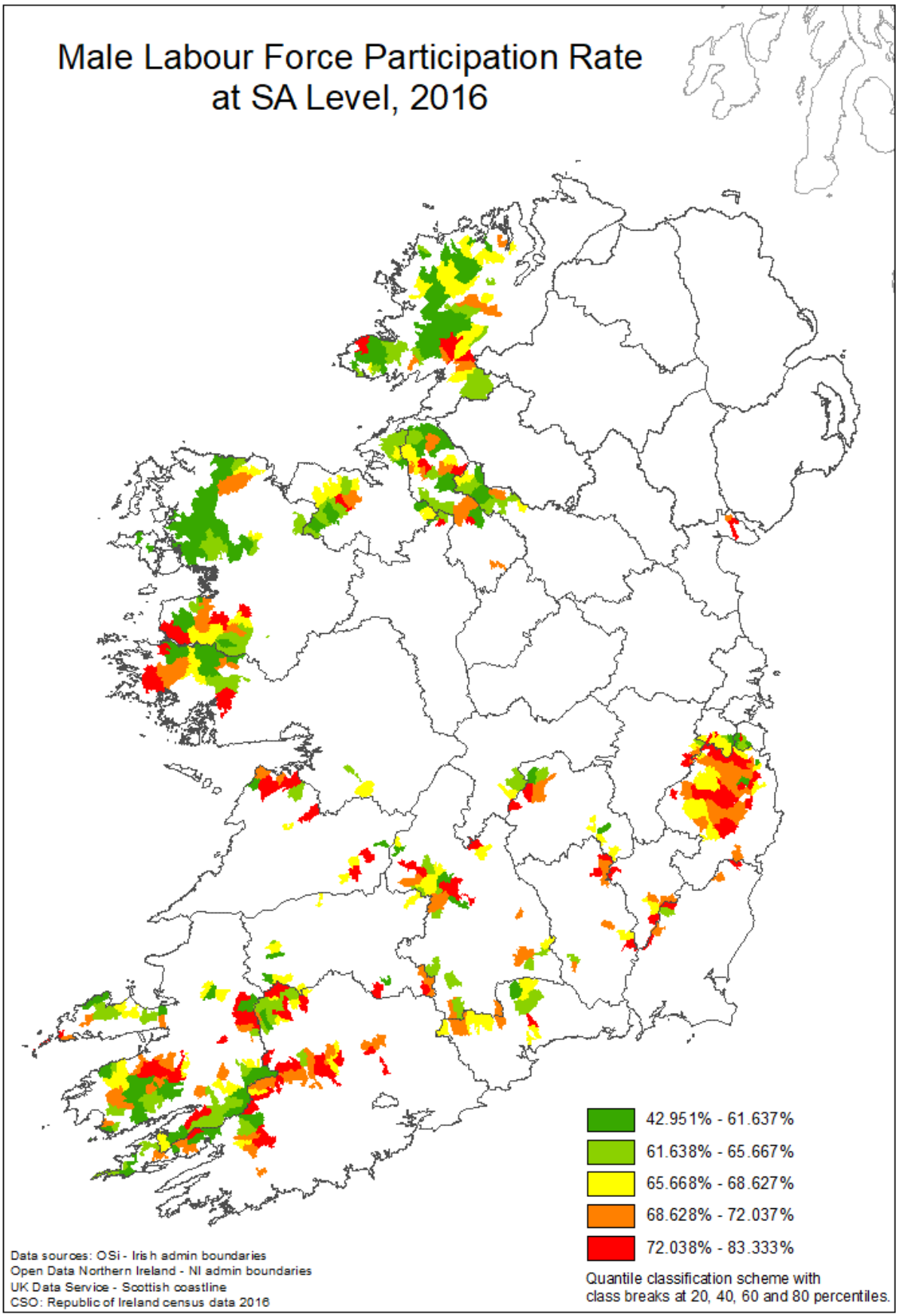
The impact of the Greater Dublin Area (GDA), as an employment hub, is evident throughout Leinster's uplands, with the Wicklow Mountains, Castlecomer Plateau – Killeshin Hills and most of the Blackstairs having among the highest levels in the State. Lower values on the immediate periphery of Dublin are associated with the presence of retirees and an older age profile.

Type 1 uplands, which are predominantly in Connacht and Ulster, have lower levels of male participation in the labour force. The lowest values in the State are in the Nephin Range, which also has the lowest values for females. This area, extending towards the Erris Peninsula has one of the highest deprivation scores, as measured on the Haase-Pratschke Index of Affluence and Deprivation, in the State. Similar observations may be made in respect of parts of the Ox Mountains and much of Donegal, west of the Barnesmore Gap. The pattern in South Mayo and Connemara is varied, suggesting strongly localised labour markets.

Figure 4-17: Male labour force participation rate in the RoI and its uplands



Map 4-15: Male labour force participation rate (RoI only)



Employment Rate

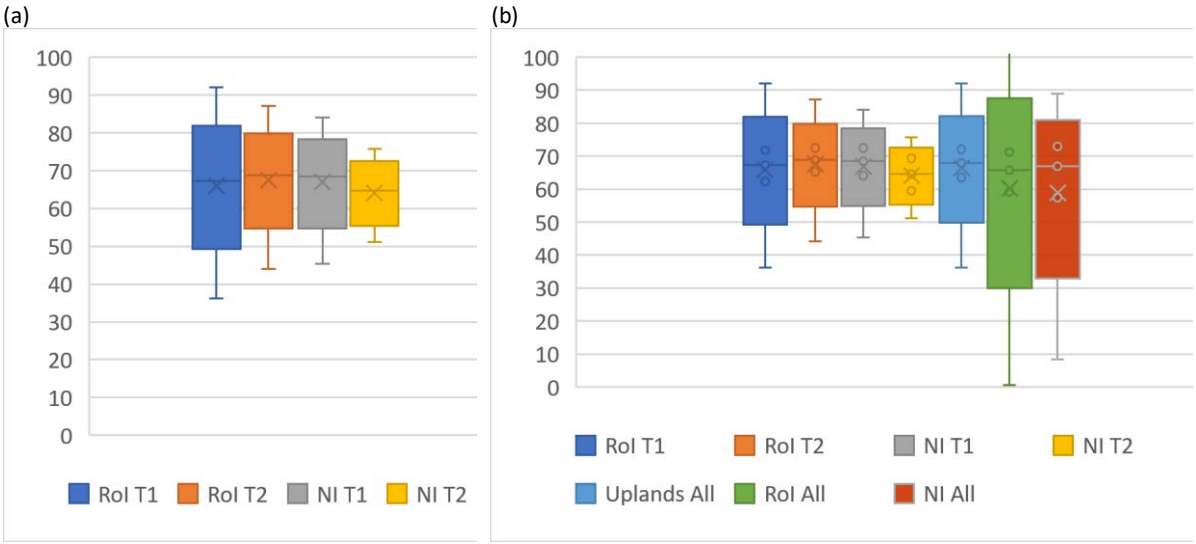
Map 4-16 showing the employment rate provides for a further distillation of the patterns presented in the two previous maps (on labour force participation rates), given the similarities between these variables. The data here also include NI. While the spatial pattern suggests an association between a high employment rate and relative proximity to large urban centres, this is not a linear or universal relationship, and in several uplands, the availability of rurally based employment, including in agriculture, is a determining factor. The influence of cities, as employment centres, is evident in the relationship between Belfast and high levels of employment among residents in the South Antrim Plateau, relative to the lower levels in the North Antrim Glens. A similar observation may be made in respect of Limerick and Cork, and to some extent in Sligo, as employment rates are highest among residents in the uplands that are closest to the cities and their environs. However, a reverse pattern is evident in the uplands of the Iveragh and Corca Dhuibhne Peninsulas, as the areas closest to Tralee and Killarney have lower employment rates than is the case further west along both peninsulas. This may be reflecting in part how older farmers in more isolated upland areas continue to farm beyond retirement age, while those in peri-urban areas are more likely to retire.

The influence of localised factors, such as tourism, may be observed in the Burren and in the Twelve Bens, as both uplands record above-average employment rates. Rates are also above average in the Type 2 uplands of Munster and Leinster, including the Galtees, Knockmealdowns and most of the Blackstairs. However, patterns are variable across the Wicklow Mountains, Slieve Blooms and the uplands of Carlow/Kilkenny.

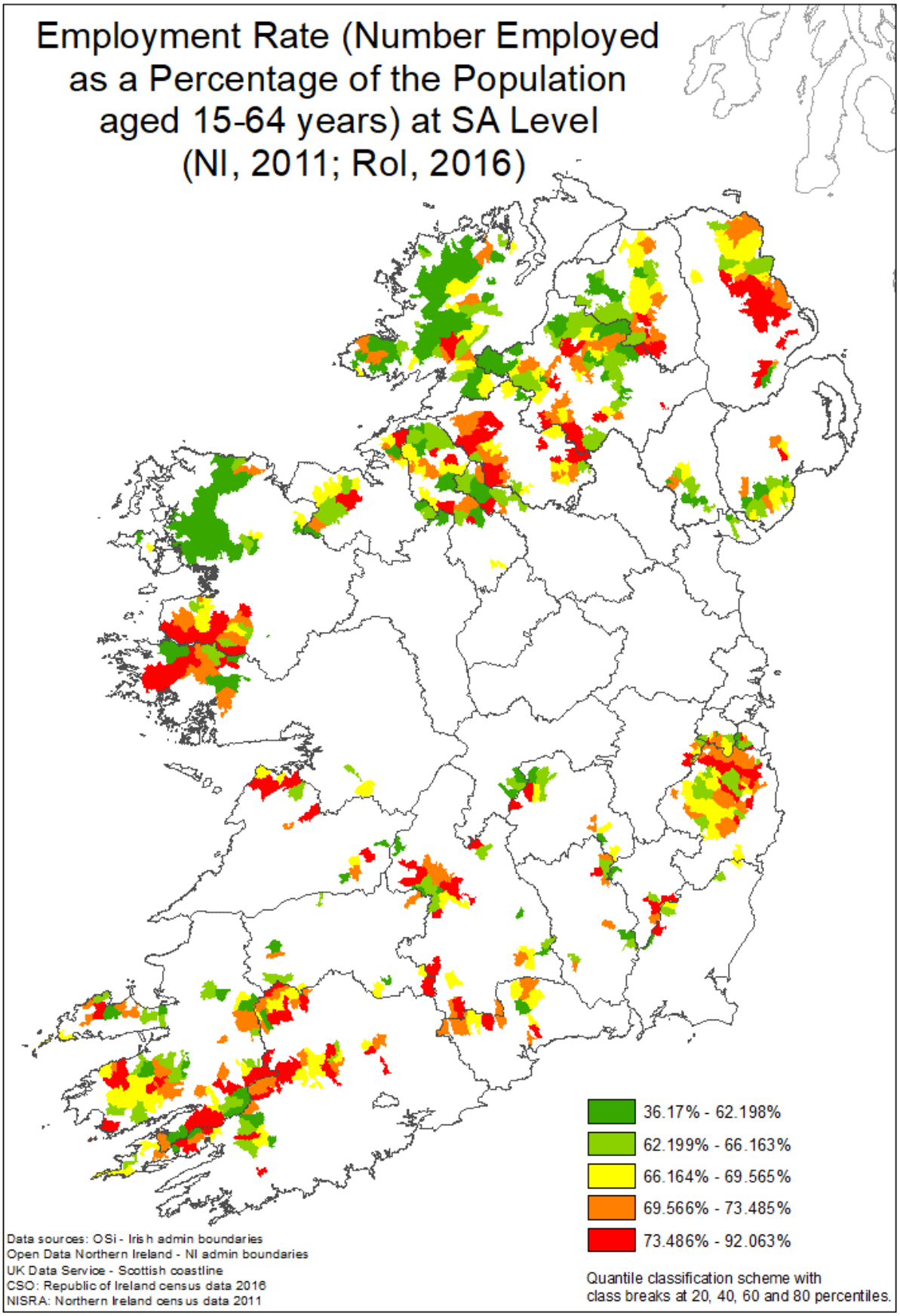
Employment rates are lower in Ulster, with the exception of South Antrim, than elsewhere on the island, with the lowest rates being across the Donegal uplands and in the Sperrins, west of the Glenshane Pass. In contrast, rates are higher in the Cuilcaghs, but more so in Fermanagh, than in either Leitrim or Cavan. The NI-RoI contrast here is associated with the activities of one large firm in particular.

The most extensive area with low employment levels, among its residents, is in County Mayo, and extends from the Nephin Beg range northwards to the coast at Belderrig.

Figure 4-18: Employment rate (a) in the uplands and (b) compared with RoI and NI



Map 4-16: Employment rate



Unemployment Rate

Due to their older age profiles and the greater propensity of youth out-migration, rural areas tend to have lower levels of unemployment than urban areas. The unemployment rate in the RoI is higher than in NI, due, in part, to the way in which it is computed. Thus, mean unemployment rates are as follows: 5.7% across all Irish uplands; 8.5% in the RoI as a whole; and 5% in NI as a whole.

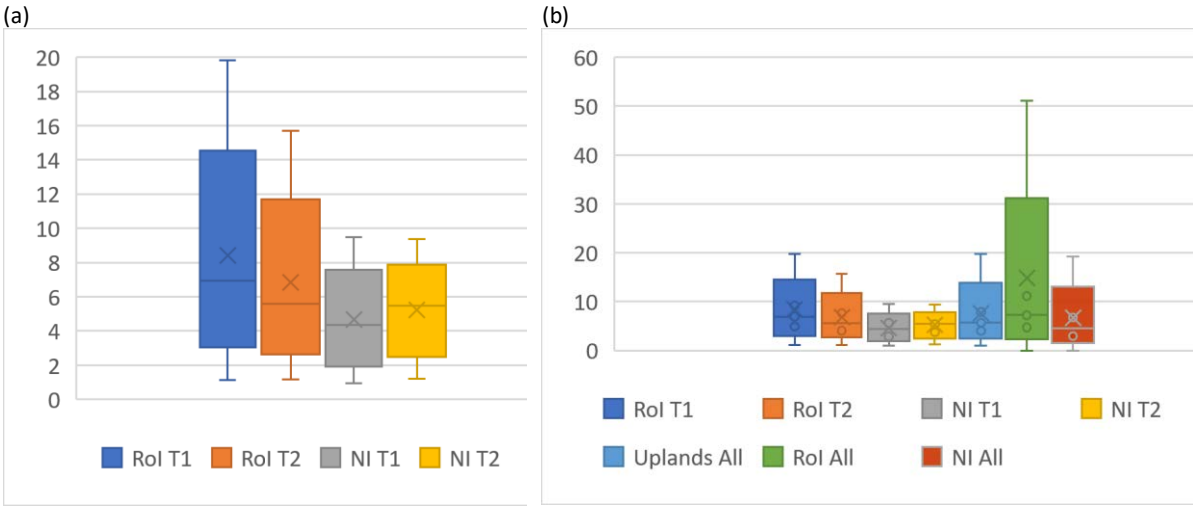
Map 4-17 illustrates the contrast between NI and RoI. It also shows considerable differences between Type 1 and Type 2 uplands within the RoI; Type 1 uplands, especially those in the northwest, record the highest levels of unemployment, while Type 2 uplands, mainly in the south and east, record the lowest values.

The upland areas with the highest rates of unemployment are the Derryveagh and Bluestack Mountains, the Dartrys, the Cuilcaghs (RoI side only), the Ox Mountains and the Nephins. The latter range, as already noted, also has the lowest rates of employment, thus suggesting that Mayo's uplands, followed by those in Donegal, are structurally weakest, in economic terms.

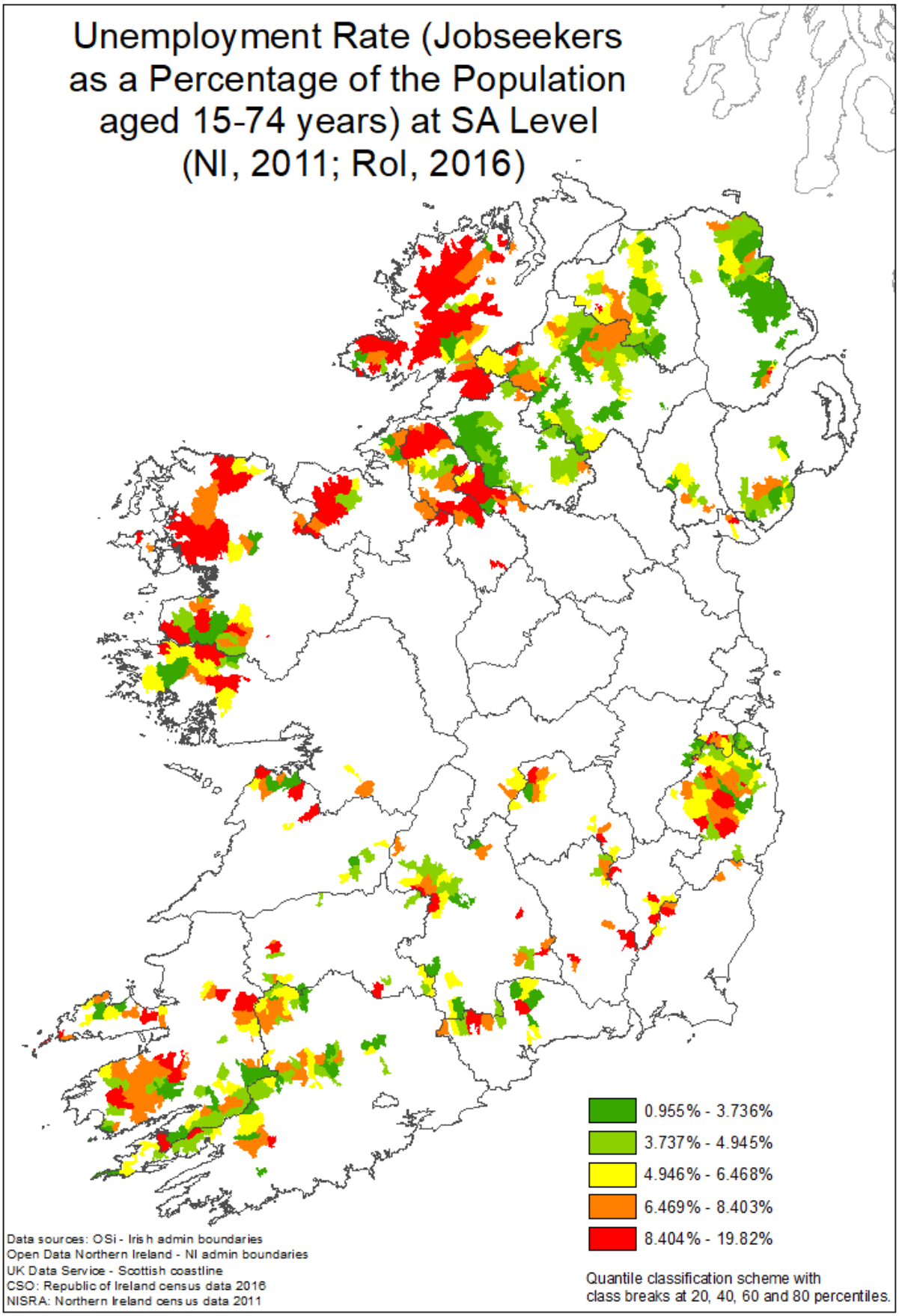
Patterns are variable across the uplands in South Mayo, Connemara, Corca Dhuibhne and Iveragh (all Type 1) and in the Mullaghareirks, Knockmealdowns and Comeraghs (all Type 2), indicating the significance of local variables including age profile, transport, connectivity and the extent of tourism activities. Proximity to metropolitan areas appears to be a determinant of the spatial patterns around Dublin, Cork and Limerick, with the lowest unemployment rates being in the uplands that are closest to the cities and to primary transport corridors e.g., the M7 Limerick-Nenagh motorway. The uplands of County Cork, with the exception of the Sheehy Mountains, along with the Galtees, record the lowest levels of unemployment in any contiguous upland areas in the State.

Despite their relative accessibility and Type 2 landscapes, the uplands along Carlow's borders record above-average levels of unemployment. This is the case in the Blackstairs, Killeshin Hills and in the uplands around Graiguenamangh and St Mullin's on the Kilkenny border – Brandon Hill, Saddle Hill and Ballinvarry.

Figure 4-19: Unemployment rate (a) in the uplands and (b) compared with RoI and NI



Map 4-17: Unemployment rate



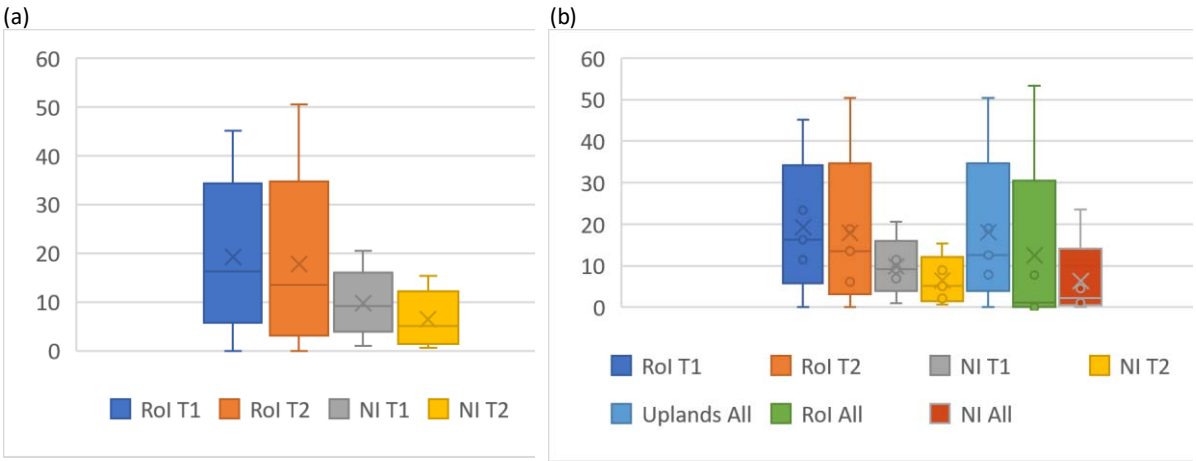
Primary Sector – Agriculture and Extractive Industries

The primary sector represents a significant source of employment across Irish uplands. It accounts for almost one in eight (12.2%) of the uplands' workforce, compared with 4.4% across the RoI and 3.7% in NI. In many Type 1 uplands along the western seaboard, from Mayo to West Cork, and in Type 2 uplands, across Munster, the primary sector provides over one-third of all jobs.

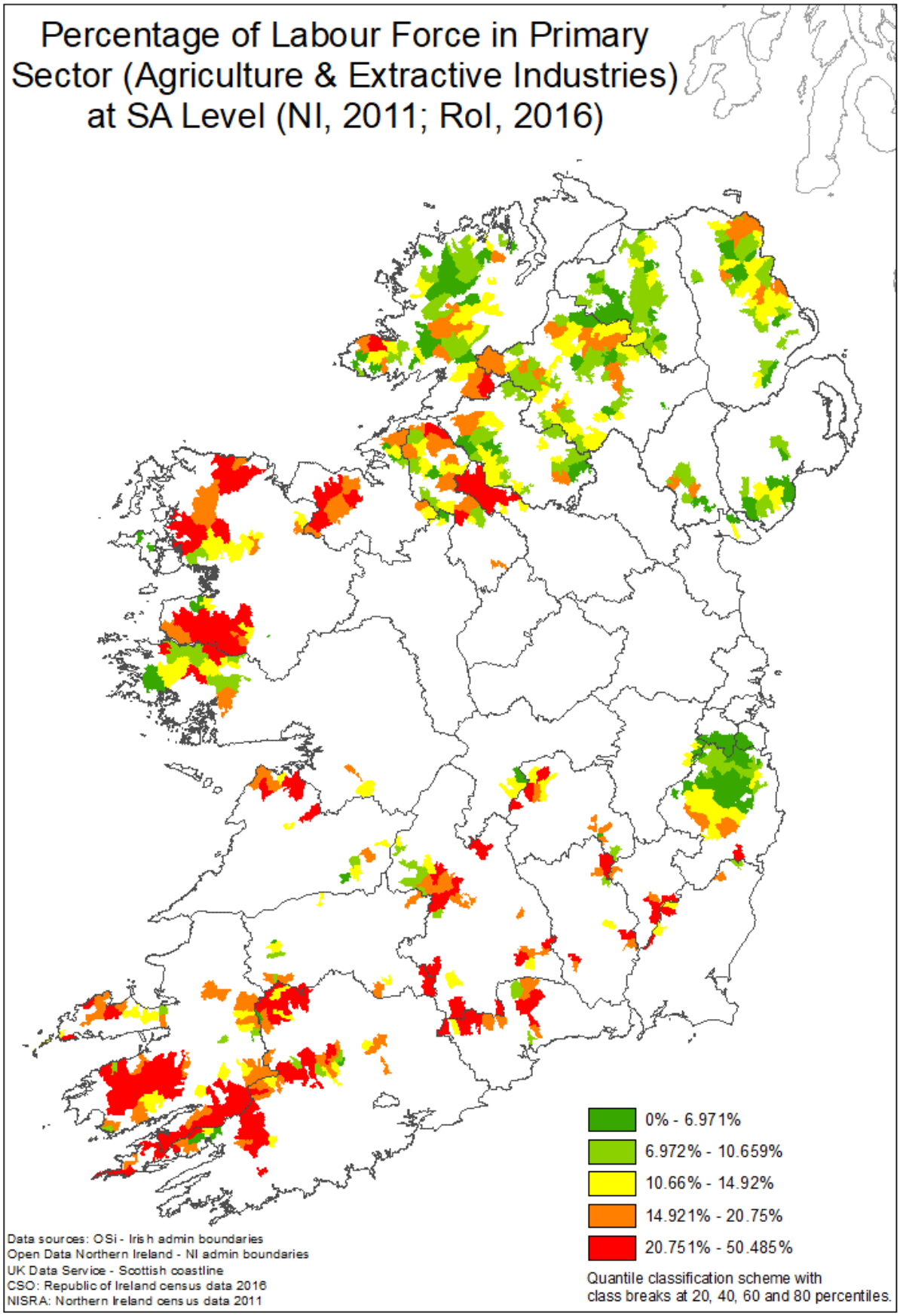
The most extensive upland areas with a high level of participation in the primary sector are in the Iveragh and Beara Peninsulas in County Kerry, the Sheehy Mountains, the Partry Mountains and Mweelrea and the Ox Mountains (map 4-18). These are predominantly Type 1 uplands. Here, systems are generally extensive, with a mix of cattle and sheep farming. The Burren, which has a distinctive and highly organised pastoral system, has a significant farming community. Values are also high in several Type 2 upland areas in Munster and Leinster, including the Knockmealdowns, Galtees, Silvermines, Castlecomer Plateau and the Blackstairs. Here, farming is generally more intensive than along the west coast, and systems include a mix of cattle rearing and dairying.

On the west coast, the areas with the lowest values in respect of primary sector employment are in the Connemara uplands, and the parts of the Nephins that are closest to Westport and Castlebar. In these areas, land is very marginal. Values are also below average in some of the North Leitrim Glens, as much of the land has been afforested. Values are generally low across the Donegal uplands, as is the case throughout Ulster, with the exception of the Cuilcagh Mountains - in the 'panhandle' of Cavan. Low values in Ulster, and in the Dublin and Wicklow Mountains, suggest a more industrial economic profile, and greater availability of public sector employment.

Figure 4-20: Percentage of labour force in primary sector (a) in the uplands and (b) compared with RoI and NI



Map 4-18: Percentage of labour force in primary sector



Farming Households (RoI only)

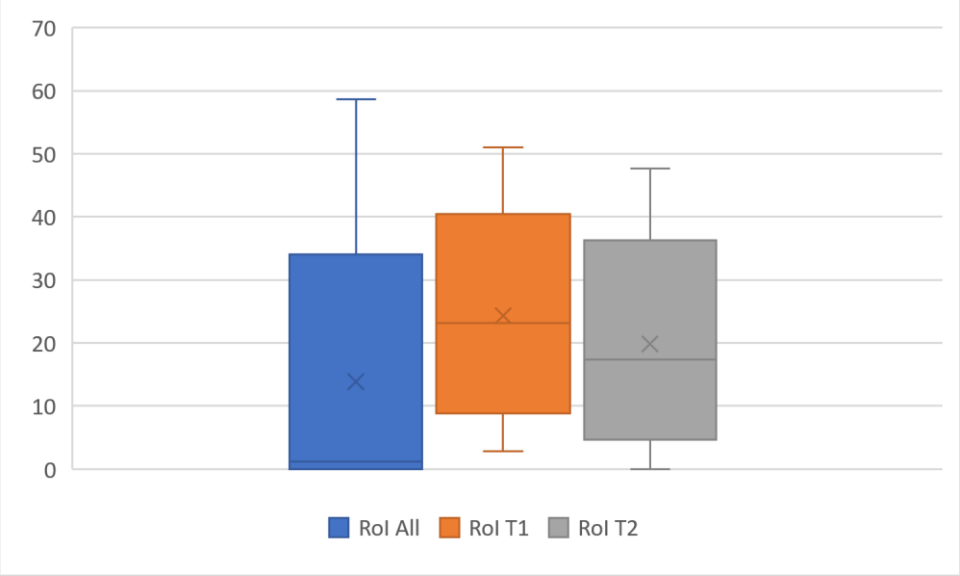
The spatial pattern in respect of households headed by a farmer is similar to that observed in respect of the primary sector. The highest values are in the Iveragh and Beara Peninsulas – the MacGillycuddy Reeks and Caha Mountains, the Sheehy Mountains, the Partrys, Mweelrea, Ox Mountains and in the Cuilcaghs – in County Cavan (map 4-19). These are predominantly Type 1 uplands.

Values are below average in Slieve Mish and Brandon (Corca Dhuibhne) and in the North Leitrim Glens – partly due to employment opportunities in tourism and manufacturing, and proximity to Tralee and Sligo, respectively.

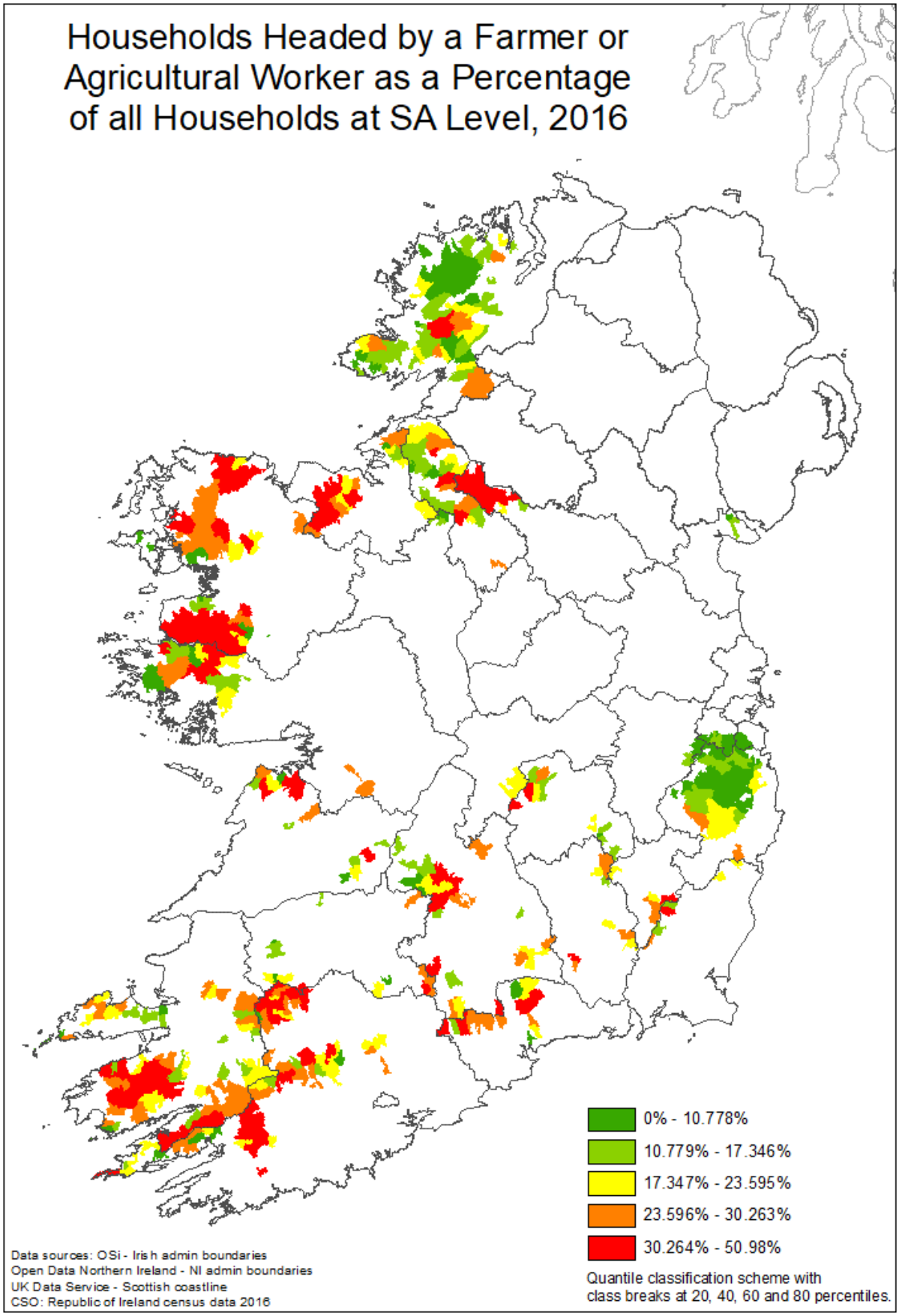
Among Type 2 uplands, the highest values are in the Mullaghareirks, Galtees and Knockmealdowns. Dairy farming remains significant in these upland areas, and in the adjoining valleys and lowlands. Dairying is also significant in the Silvermines, which have high values on their southern slopes – away from the Limerick–Nenagh corridor.

The lowest values in the State are in the Dublin and Wicklow Mountains (Type 2) and in the Derryveagh Mountains (Type 1), especially around Errigal. Here, and in South and Southwest Donegal, the availability of seasonal employment in tourism and industrial employment in Údarás na Gaeltachta-supported enterprises accounts, in part, for a higher propensity of part-time farming than is the case in other upland areas.

Figure 4-21: Percentage of households headed by a farmer or farm worker in the RoI and its uplands



Map 4-19: Percentage of households headed by a farmer or farm worker (RoI only)



Secondary Sector – Manufacturing and Construction

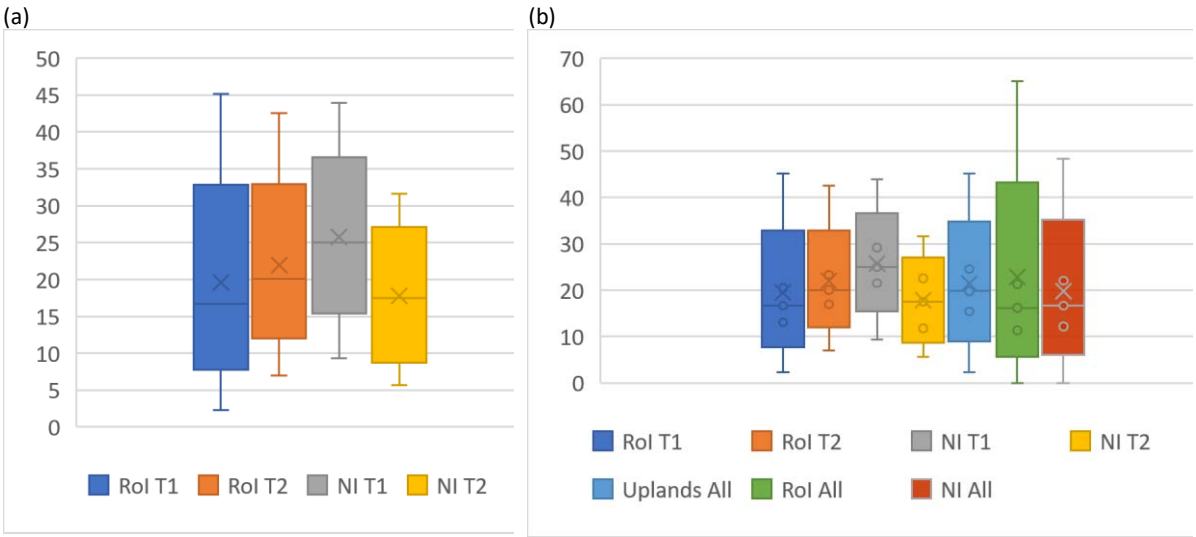
Secondary sector activities are more significant in Irish uplands than in the island as a whole. This is particularly the case in NI. In NI uplands, the proportion of the workforce employed in the secondary sector is as follows: 25.5% in Type 1; and 19.5% in Type 2 uplands. These data compare with 17.9% across NI as a whole. The corresponding figures for the RoI are: 17.4% in Type 1; 20.4% in Type 2 uplands; and 16.5% across the State.

The Sperrins stand out as the upland range with the most extensive area in which secondary sector employment accounts for at least one-in-four of all jobs (map 4-20). Similar values can be observed in the Mournes, Slieve Croob and the uplands of West and South Tyrone from Meenbog to Slieve Beagh – including all areas in between. Values are slightly lower, but are nonetheless significantly above the all-island average, in Slieve Gullion and in the Antrim Glens and Plateau, although less so in Moyle and in the outskirts of Belfast.

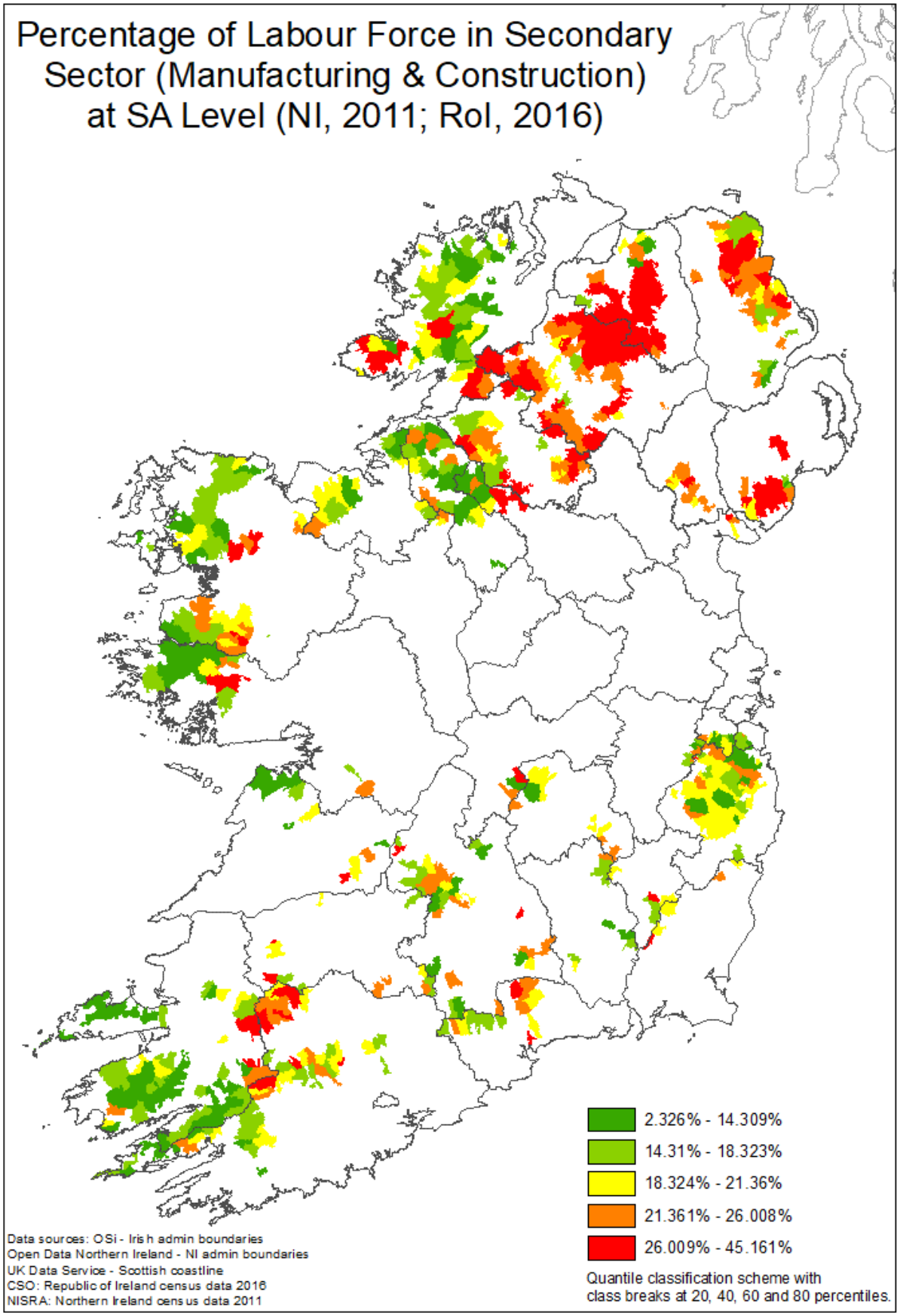
In the RoI, the Mullaghareirks stand out as having the most extensive area in which the secondary sector accounts for over one-fifth of all jobs. Values are also above average in the Clydagh Valley, and in Baile Bhuirne/Cúil Aodha, associated with Údarás na Gaeltachta industries. A similar observation may be made in respect of the uplands of South-West Donegal, west of Killybegs. There are also pockets of the Nephins and Partrys in which secondary sector employment is equally significant.

Intermediate and variable values predominate around metropolitan areas, while the lowest values are in peninsular Kerry, the Twelve Bens, Mweelrea and most of the Cuilcaghs, in the RoI. Values are also low in the Bluestack Mountains.

Figure 4-22: Percentage of labour force in secondary sector (a) in the uplands and (b) compared with RoI and NI



Map 4-20: Percentage of labour force in secondary sector



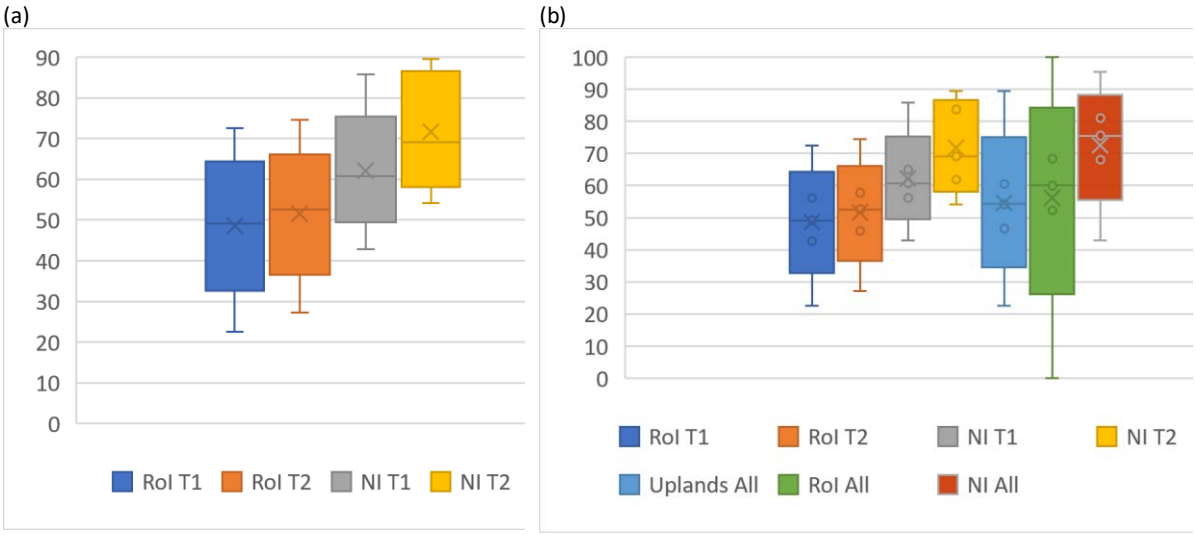
Tertiary Sector – Services

The tertiary sector is less significant in Irish uplands than in the island as a whole. Values are lower in the RoI than in NI. In NI uplands, the proportion of the workforce employed in the tertiary sector is 61.2% in Type 1 and 70% in Type 2 uplands, compared with 73.9% across NI as a whole. The corresponding figures for the RoI are 50.25% in Type 1, 53.2% in Type 2 uplands and 61.3% across the State.

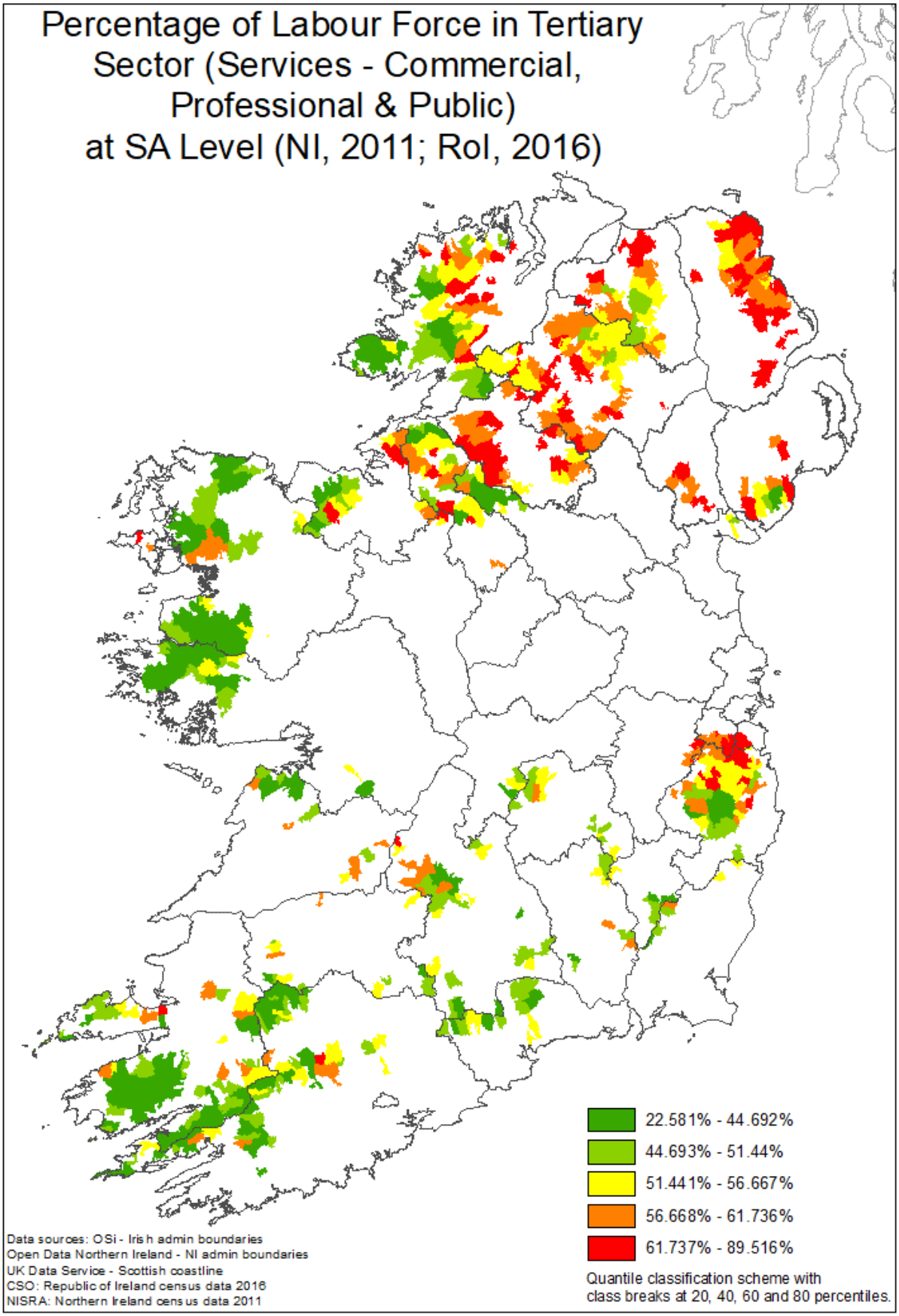
The Antrim Plateau and Glens and the Dublin Mountains stand out as the ranges in which the tertiary sector accounts for over 60% of all residents' jobs (map 4-21). This is associated with the roles of Dublin and Belfast as anchors of service-sector employment, particularly public-sector jobs. This is underscored by the high values in Slieve Croob and Legoniel. Elsewhere in NI, values are equally high in the Cuilcaghs (in County Fermanagh) and in Slieve Gullion. They are lower, however, in the Sperrins and in the Mournes, both of which have proportionately more workers in the secondary sector.

The more concentrated geography of service sector employment in the RoI, relative to NI, is, in part, associated with the more centralised location of government offices and public bodies and the narrower distribution of local government facilities and functions. The ranges with the lowest values in respect of service sector employment are the Partrys, Sheefry Hills, Twelve Bens, the Burren, MacGillycuddy Reeks, Cahas and Mullaghareirk Mountains. Values are slightly higher in Slieve Mish, and in the uplands near Limerick City, most notably Slieve Berna and around Keeper Hill.

Figure 4-23: Percentage of labour force in tertiary sector (a) in the uplands and (b) compared with RoI and NI



Map 4-21: Percentage of labour force in tertiary sector



Other Economic Activities

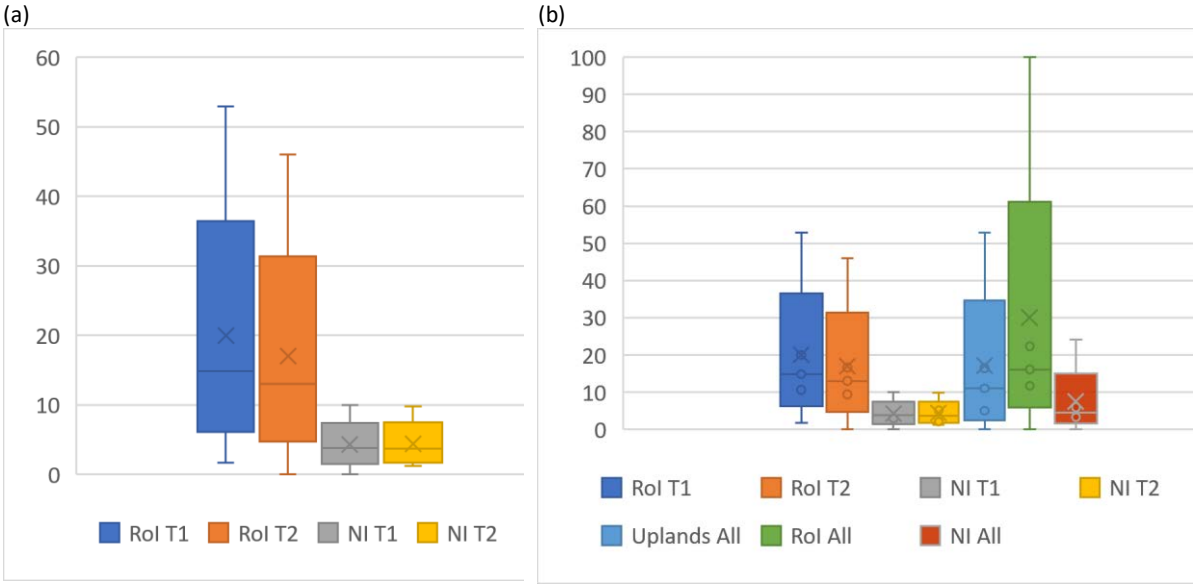
Persons working in jobs that cannot be classified as belonging to either the primary, secondary or tertiary sectors, and those who have a number of part-time and/or seasonal jobs represent 17.8% of the RoI workforce and 4.6% of the NI workforce. Values in the uplands tend to be slightly lower than is the case in their respective jurisdictions.

In the RoI, the highest values, in respect of the proportion of persons working in 'other services' (>18%), are predominantly in Type 1 uplands – extending along the west coast from Donegal to West Cork (map 4-22). Values are also above average in the Wicklow and Dublin Mountains (Type 2), but are otherwise lower throughout Leinster and the rest of Munster (outside Kerry and West Cork.) The upland ranges with the highest overall values are the Twelve Bens, Mweelrea, Sheefry Hills, Derryveagh and Bluestack Mountains, Brandon and Slieve Mish, the MacGillycuddy Reeks and the Caha Mountains. Values are also above average in the Burren and in most of the North Leitrim Glens. Across these uplands, many workers combine farming with seasonal and/or part-time employment in tourism, fishing and local services. These areas also host and attract craft workers and those engaged in specialist trades.

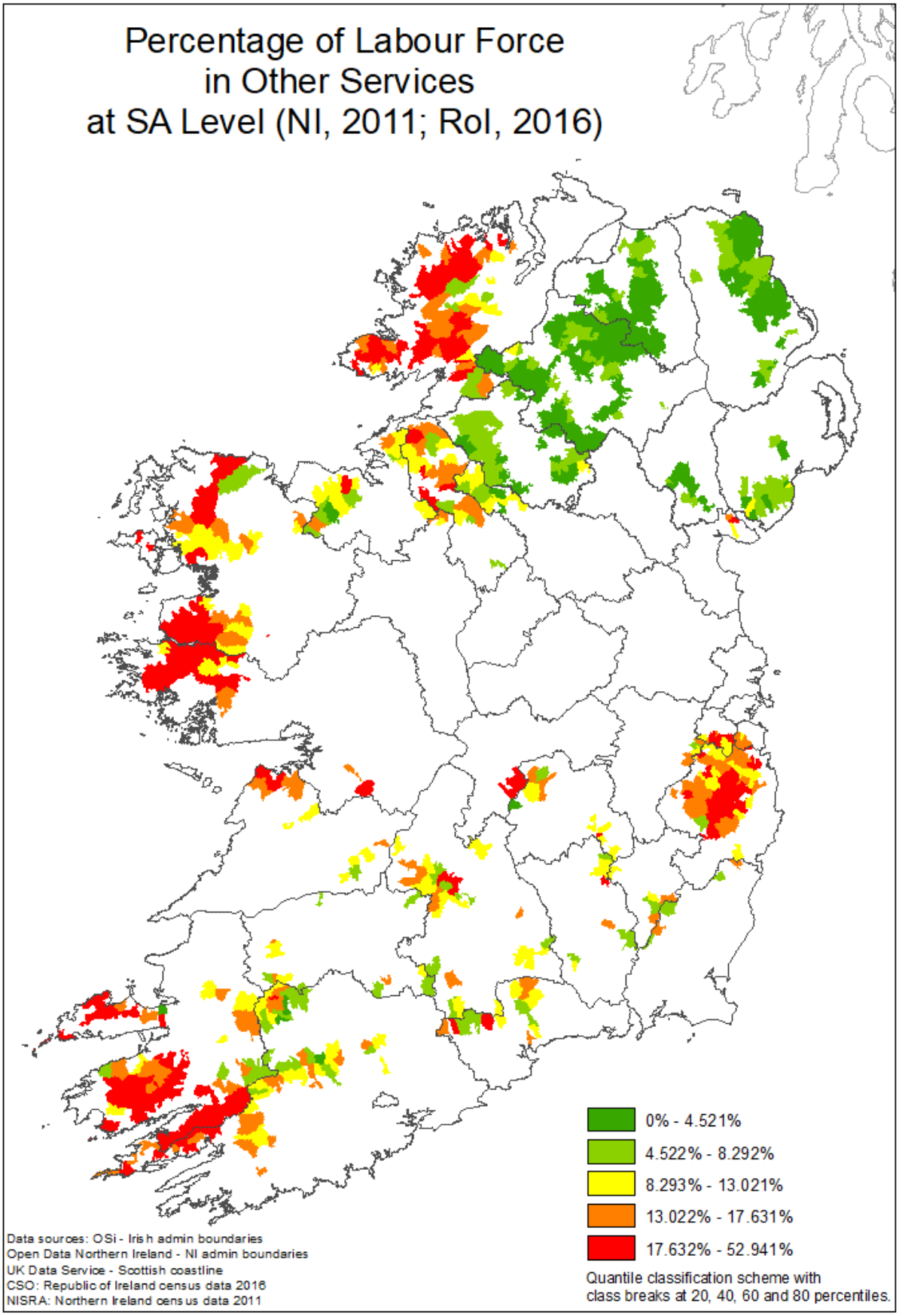
Intermediate and variable values can be observed in most Type 2 uplands, including the Slieve Blooms, Silvermines and Knockmealdowns, while below-average values predominate in County Cork (Mullaghareirks, Derrynasaggarts, Boggeraghs and Nagles); in Limerick (Galtees and Ballyhouras); and in Carlow-Kilkenny, including the Blackstairs.

Values are consistently low across NI, and are under 5% across all ranges with the exceptions of the Mournes and the Cuilcaghs in West Fermanagh.

Figure 4-24: Percentage of labour force in other services (a) in the uplands and (b) compared with RoI and NI



Map 4-22: Percentage of labour force in other services



Retirees

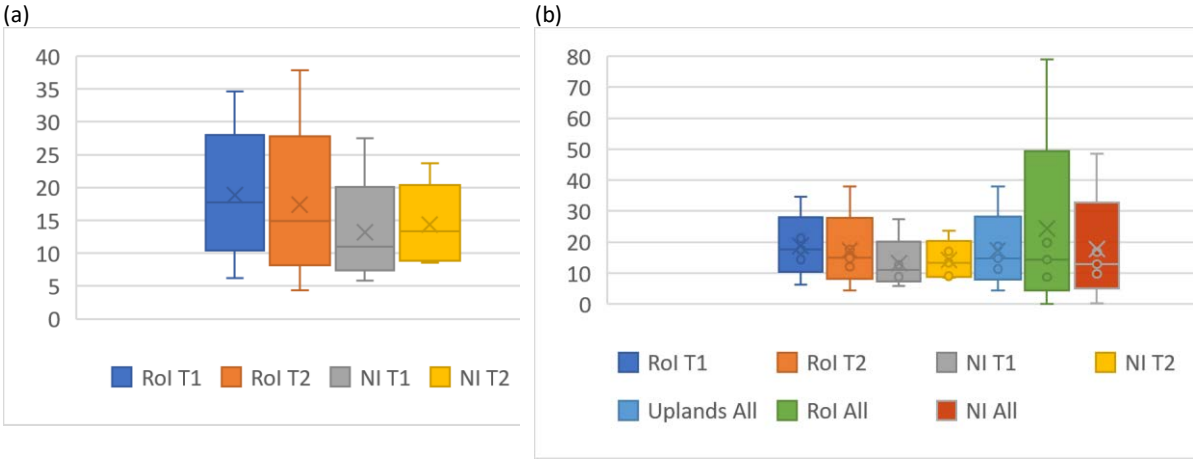
Due to ageing populations and the in-migration of persons aged 65+, uplands in the RoI generally have a higher proportion of retirees than does Ireland as a whole. The comparative mean values in respect of retirees as a percentage of the population in the RoI are as follows: 17.4% in Type 1 uplands, 15.1% in Type 2 uplands and 14.5% across the State. The reverse is the case in NI, with uplands there having proportionately fewer retirees than in NI as a whole. The corresponding values in NI are 10.9% in Type 1 uplands, 12.5% in Type 2 uplands and 12.9% across all of NI.

The spatial pattern presented in map 4-23 shows a positive correlation between retirees, as a proportion of the population, and proximity to the Atlantic seaboard. The upland ranges with the most extensive areas having above-average proportions of retirees are the Nephins, the Bluestack and Derryveagh Mountains, Brandon and Slieve Mish. Values are also above average in the MacGillycuddy Reeks, the Caha and Sheehy Mountains, most of the North Leitrim Glens, Ox Mountains and Mullaghareirks.

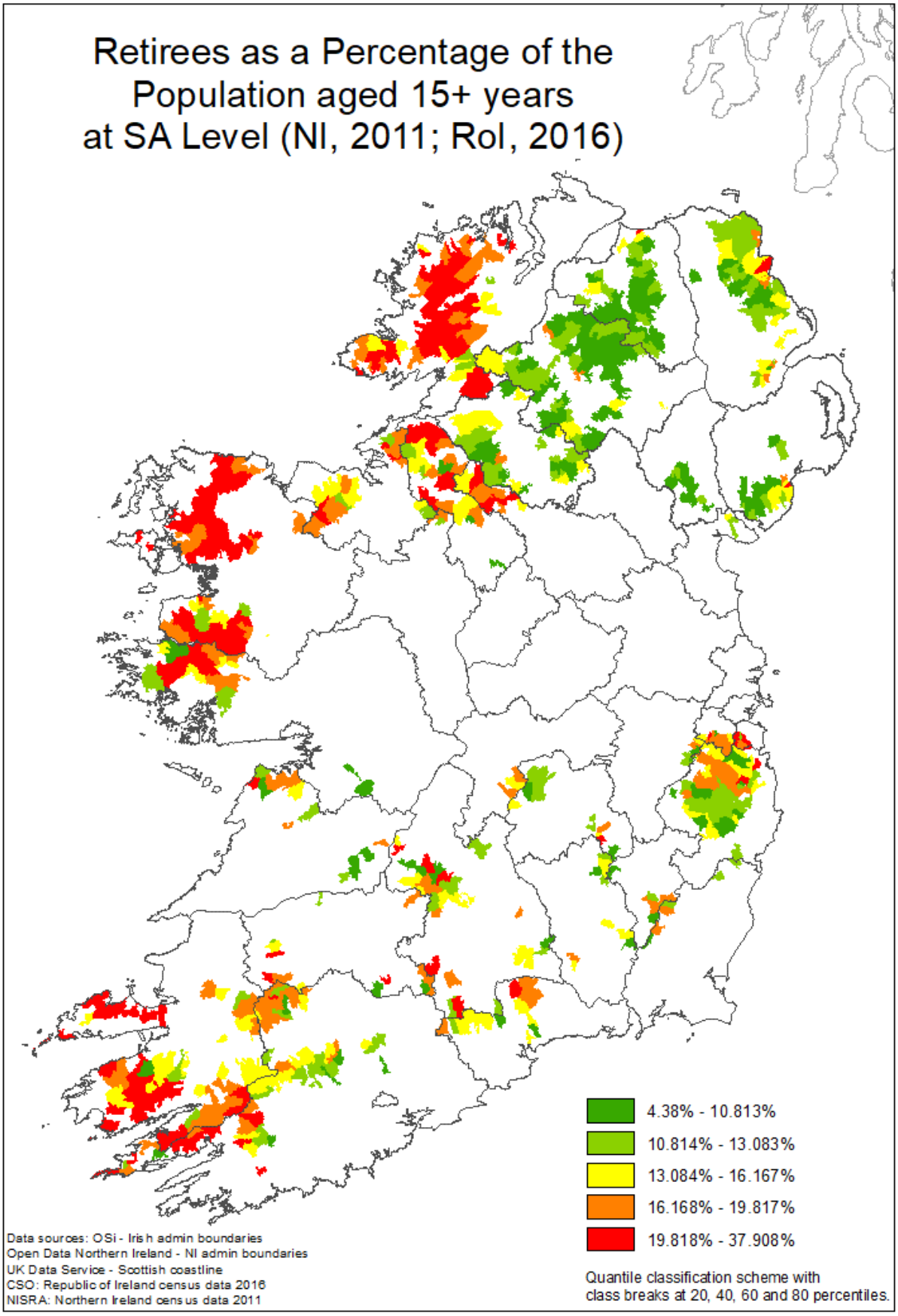
Across inland ranges, the highest values are in the Galtees, with intermediate values predominating in the Slieve Blooms, Silvermines and Blackstairs. Values are below average in County Cork from the Derrynasaggarts across to the Knockmealdowns on the Waterford border, as well as in the Castlecomer Plateau and Killeshin Hills. Low values predominate in the Wicklow Mountains, whereas the Dublin Mountains have, over recent decades, seen an increase in the number of retirees.

Lower values across NI, positively correlate *inter alia* with a younger age profile.

Figure 4-25: Percentage of population who are retirees (a) in the uplands and (b) compared with RoI and NI



Map 4-23: Percentage of population who are retired



Household Structure, Housing Stock and Infrastructure

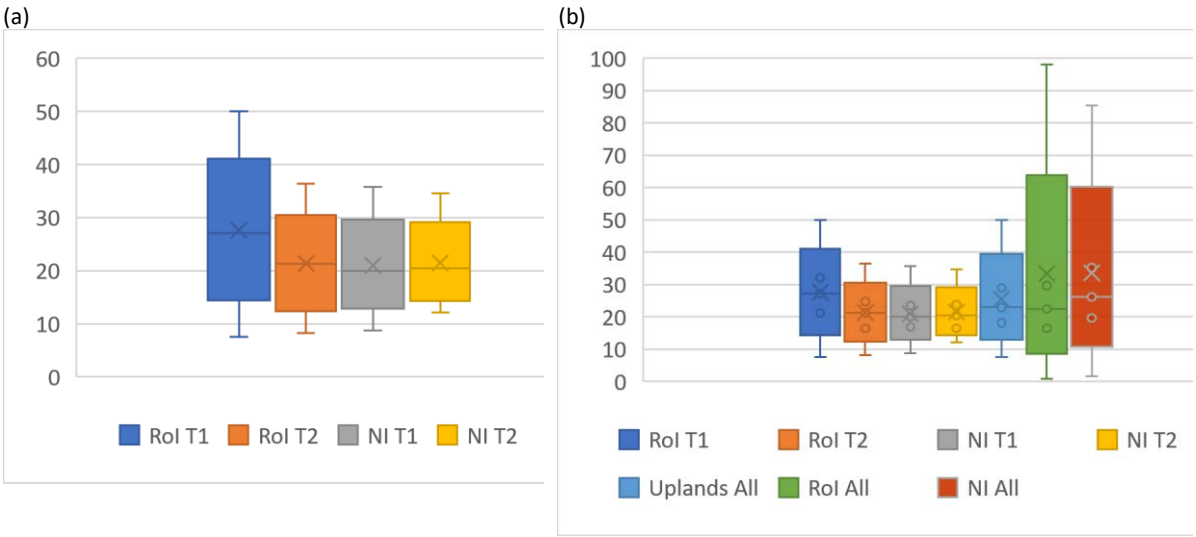
One-Person Households

One-person households generally correlate with an older age profile and lower levels of demographic vitality. Such households are, in relative terms, more prevalent across Type 1 uplands in the RoI than in the other geographies displayed in the following graph. In contrast, Type 2 uplands in the RoI and both sets of uplands in NI have proportionately fewer one-person households than in either the RoI or NI, as a whole.

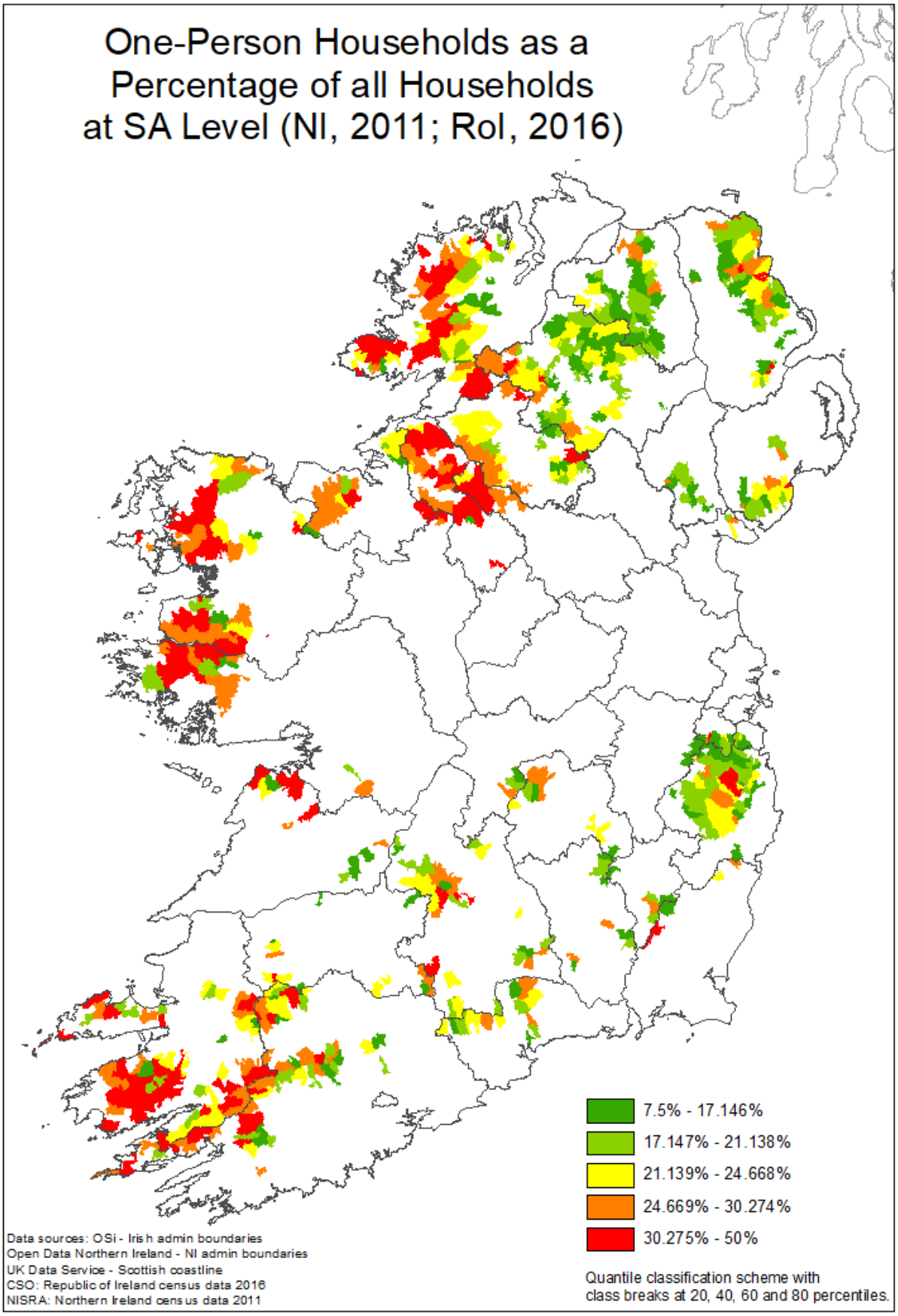
The uplands with the highest values for one-person households are the Dartry Mountains and North Leitrim Glens, the Cuilcagh Mountains the western parts of the Bluestack and Derryveagh Mountains, the Nephins, the Sheefry Hills, parts of the Maumturks (along the Galway-Mayo border), the MacGillycuddy Reeks and parts of the Derrynasaggart Mountains (map 4-24). As previous sections of this profile have highlighted, these upland ranges are more likely, than are others, to have an older age profile and a greater reliance on more traditional economic activities, including ageing bachelor farmers. The Mayo and Donegal uplands also have the highest levels of deprivation in the State.

One-person households are relatively less common in areas that are proximate to urban centres, as typified by the Nagles, Slieve Berna, Keeper Hill, the Killeshin Hills, most of the Blackstairs and Dublin Mountains. Values are below average across NI uplands, particularly the Sperrins and Slieve Gullion.

Figure 4-26: Percentage of one-person households (a) in the uplands and (b) compared with RoI and NI



Map 4-24: Percentage of one-person households



Smaller Houses – Dwellings with up to Four Rooms

Due to a higher proportion of apartments/flats and terraced houses, urban areas generally have smaller houses, on average, than do rural areas. This urban–rural difference accounts, in part, for the mean and median values that are presented in the following box and whisker plots. These show that, on average, Irish uplands have fewer small dwellings with up to four rooms (16%) than the RoI (27%) or NI (21%). Across rural areas, smaller dwellings are associated with single-person households and an older housing stock.

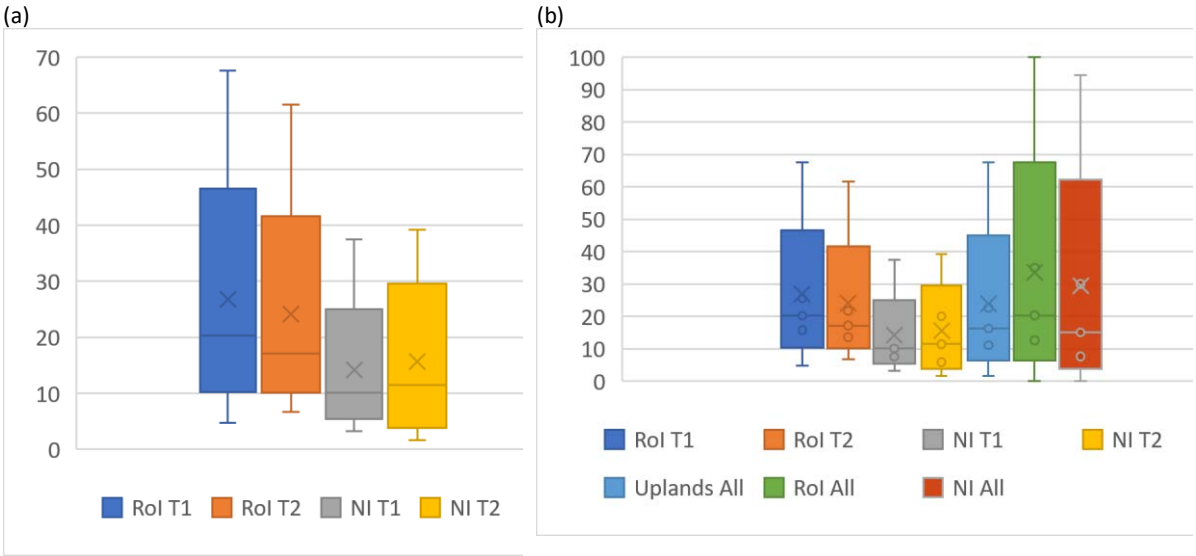
Map 4-25 portrays, in general terms, three broad categories in respect of the geography of smaller houses in upland areas. Type 1 uplands in the RoI have the highest proportion of smaller houses. Type 2 uplands in the RoI have intermediate proportions of smaller houses, with considerable intra-range variability. Uplands in NI (Types 1 and 2) are the least likely to have smaller dwellings.

Dwellings with up to four rooms account for over one-in-four of all dwellings across a majority of Type 1 uplands in the RoI, most notably in the Derryveagh and Bluestack Mountains, the Nephins, the North Leitrim Glens, Connemara and South Mayo and the MacGillycuddy Reeks. Values are also above average in the Caha and Mullaghareirk Mountains and in the Wicklow uplands, particularly in the southern part of the range.

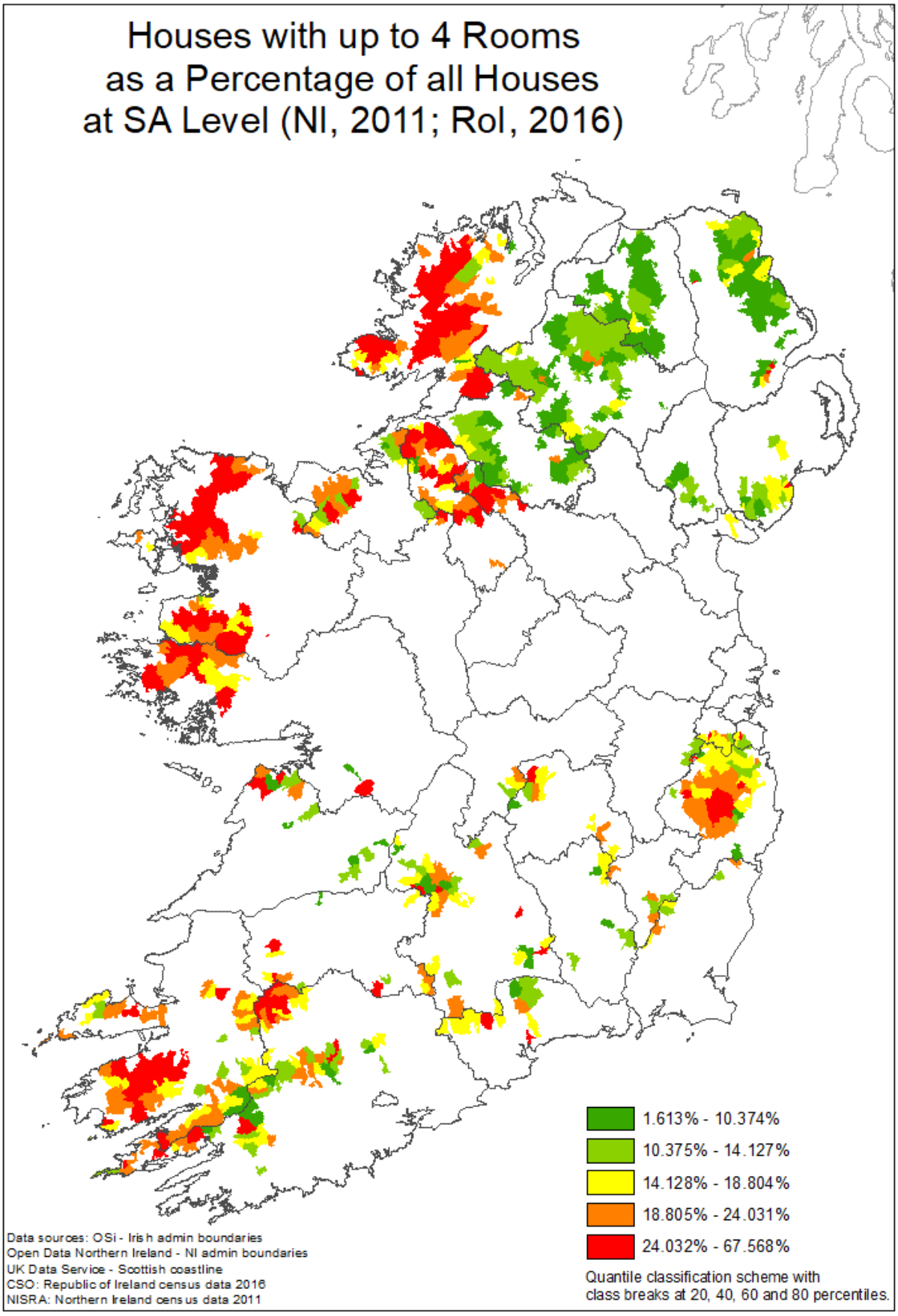
Type 2 uplands across Leinster and Munster display a relatively wide range of values; the majority of SAs record values that go from 12% to 20%, and there are no obvious clusters of either high or low values.

Values are consistently low (<10%) across NI uplands, with only a few pockets, namely in the east of the Mournes and around Legoniel, recording above-average values.

Figure 4-27: Percentage of houses with up to four rooms (a) in the uplands and (b) compared with RoI and NI



Map 4-25: Percentage of houses with up to four rooms



Larger Houses – Dwellings with Seven or More Rooms

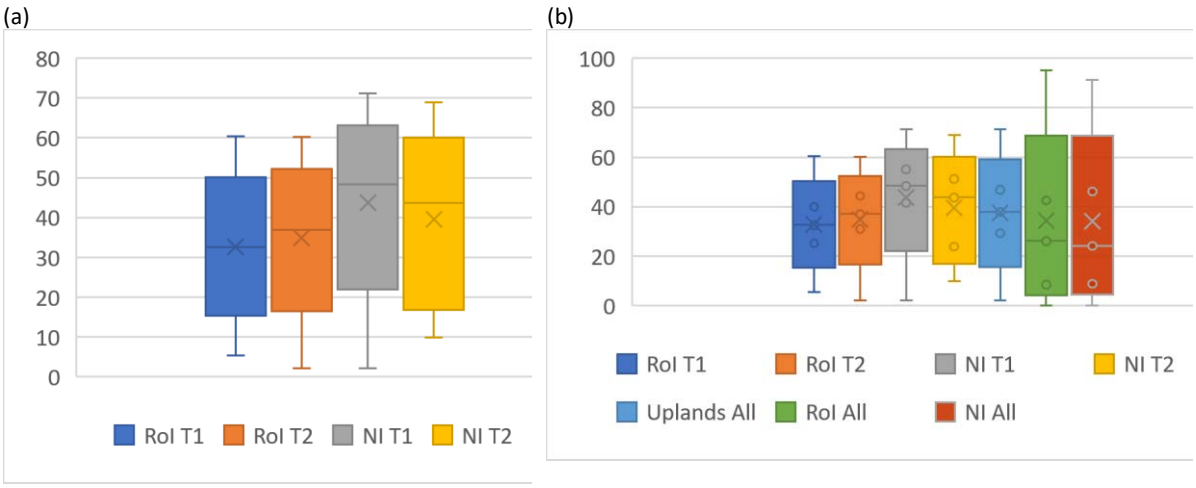
The spatial pattern presented here is the reverse of that shown in respect of the previous variable (smaller houses). As the box and whisker plots demonstrate, dwellings in NI uplands are more likely to have seven or more rooms than is the case in the RoI and in NI as a whole. Almost half (47.3%) of all dwellings in Type 1 uplands in NI have at least seven rooms.

In many NI uplands, between 50% and 70% of all dwellings have at least seven rooms. This is most evident in the Sperrins and throughout most of the Glens of Antrim and on the Antrim Plateau (map 4-26). Large houses also account for a smaller majority of dwellings in Slieve Gullion and between Fintona and Clogher (Co. Tyrone) and Tempo (Co. Fermanagh). Some parts of the Mournes, namely around Bryansford and Kilcoo, and the Dartrys in West Fermanagh, particularly around Ballintempo are less likely than are other NI uplands to have large houses.

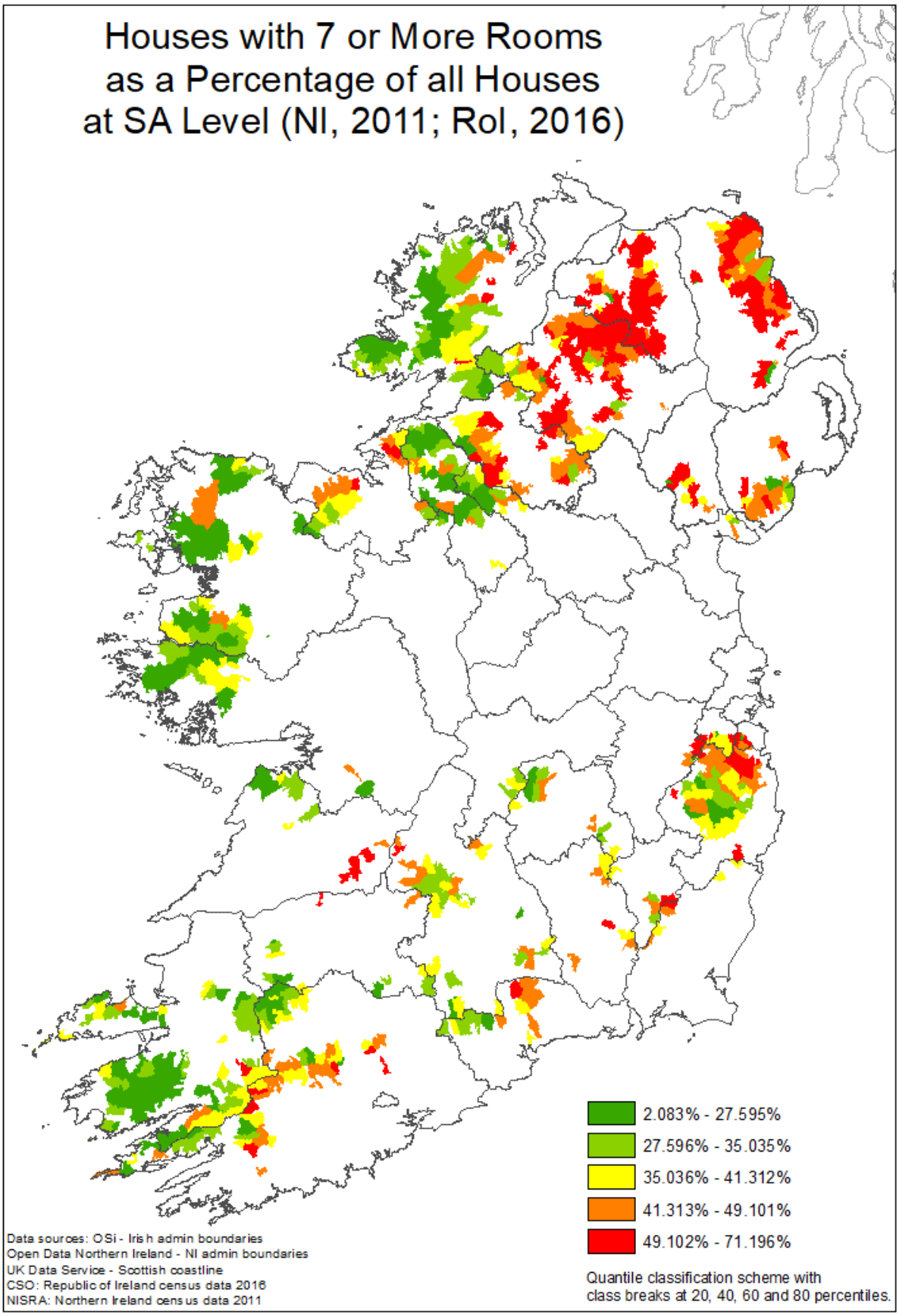
In the RoI, the greatest preponderance of large houses is in the metropolitan commuter belts, including the Dublin Mountains, the north of the Wicklow Mountains, Slieve Berna and parts of the Nagle, Derrynasaggart and Boggeragh Mountains. Type 2 uplands in the RoI are more likely, than are Type 1 uplands, to have large houses.

The lowest values (<27%) predominate in Type 1 uplands in western counties, although there are some notable intra-range differences. Low values predominate across most of the Donegal uplands, but values increase closer to Derry–Letterkenny. A similar rural-to-urban gradient in respect of larger house sizes is evident around Sligo. Values are low in most of the Nephins, the Twelve Bens, and MacGillycuddy Reeks and in the more remote parts of the Caha and Mullaghareirk Mountains.

Figure 4-28: Percentage of houses with up to seven or more rooms (a) in the uplands and (b) compared with RoI and NI



Map 4-26: Percentage of houses with seven or more rooms



Older Housing Stock (RoI only)

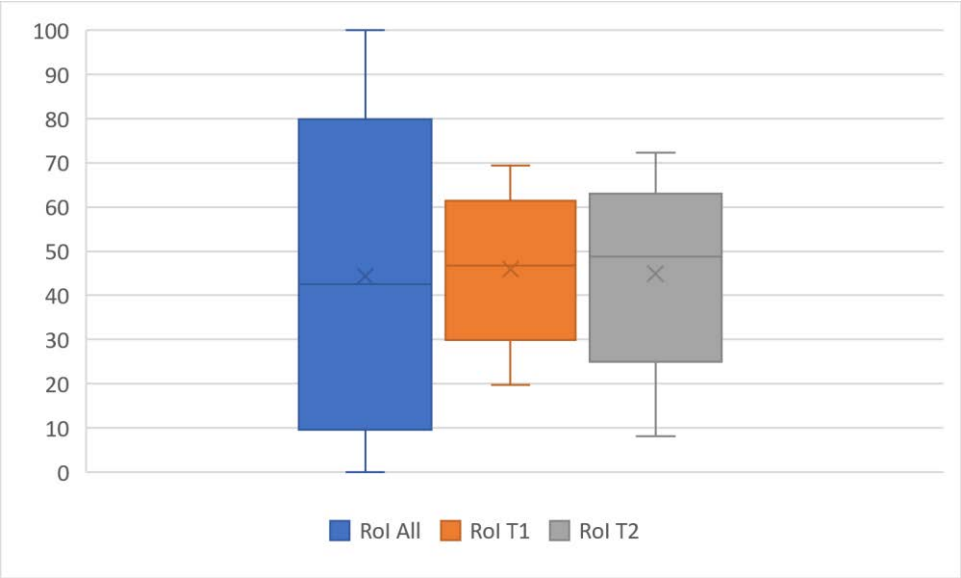
Due to anomalies between the NI and RoI Census of Population methodologies, data are presented here in respect of the RoI only. They show that uplands (both types) have an older housing stock than does the State. As the box and whisker plots indicate, over 46% of houses in the uplands and just over 41% of houses in the State were built before 1981. An older housing stock is one indicator of a low level of demographic vitality.

The ranges with the highest proportions of older houses are the Nephins – particularly its more remote parts, the Maumturks, the Silvermines, the Mullaghareirks and the Sheehy Mountains (map 4-27). The Caha Mountains exhibit a contrast between counties Cork and Kerry, with uplands on the Cork side of the county boundary being more likely to have an older housing stock. The MacGillycuddy Reeks and the Wicklow Mountains exhibit something of an urban-to-rural gradient in respect of increasing proportions of an older housing stock.

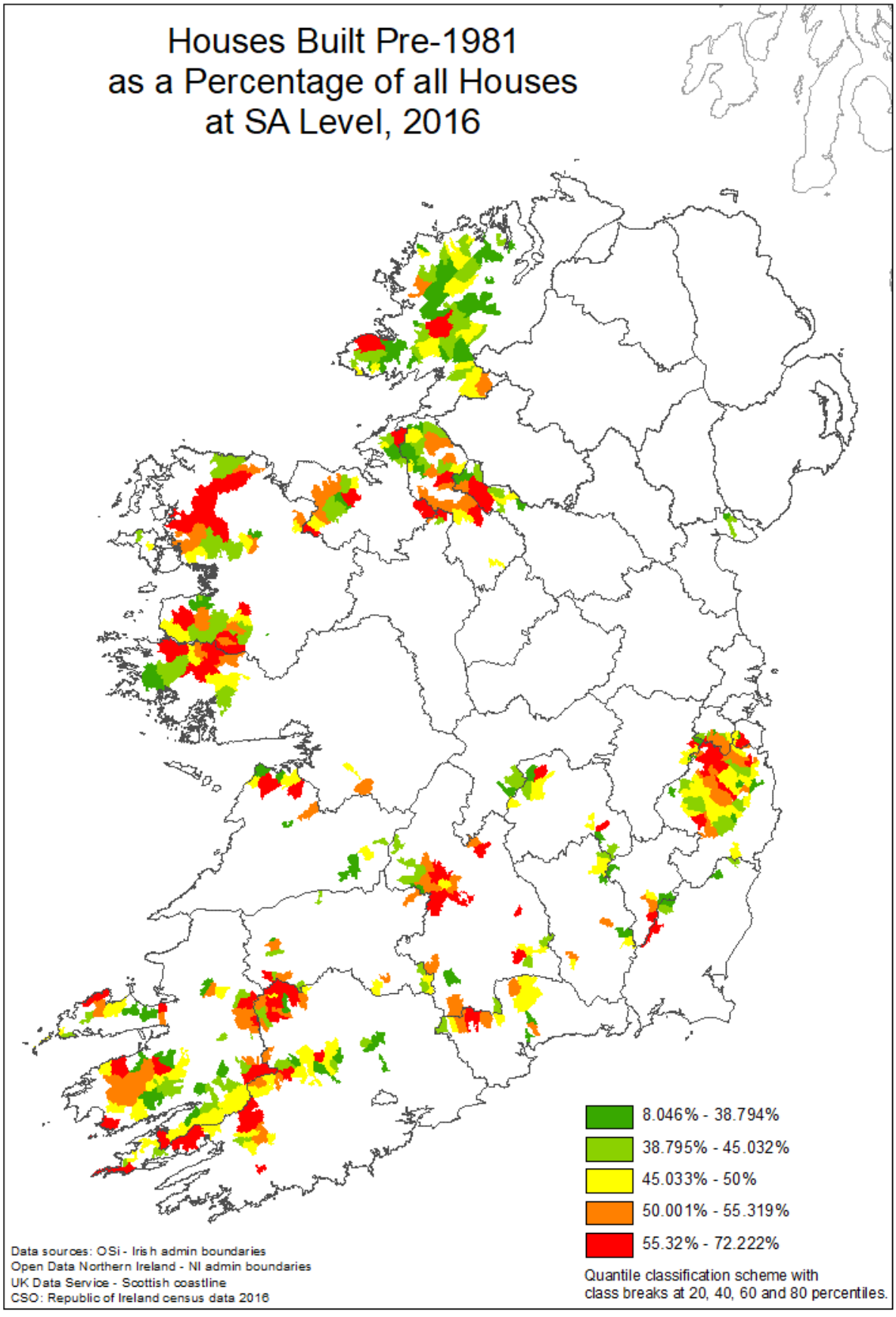
Patterns are variable across a number of uplands including the Partrys, Sheefry Hills, and Twelve Bens as well as in the Ox Mountains and North Leitrim Glens. Variable patterns can also be observed in several Type 2 uplands including the Knockmealdowns and Blackstairs Mountains.

The uplands with the lowest proportions of older housing stock are generally those that are closest to the second-tier cities: Cork, Limerick and Derry–Letterkenny. Despite their demographic and economic weaknesses, Donegal's uplands have a relatively low level of older housing stock.

Figure 4-29: Percentage of houses built pre-1981 in the RoI and its uplands



Map 4-27: Percentage of houses built pre-1981 (RoI only)



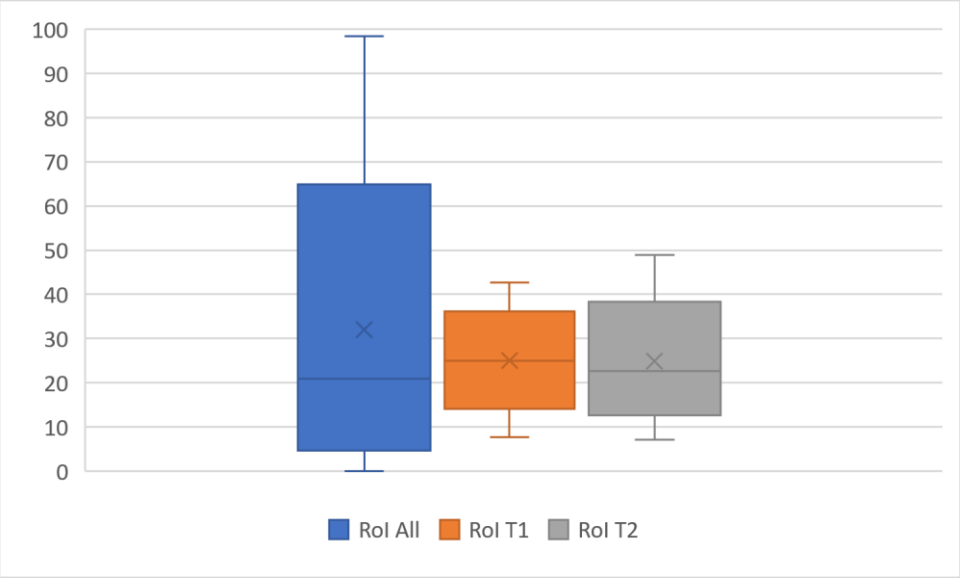
'Medium Age' Housing Stock (RoI only)

Houses constructed between 1981 and 2001 account for 24.3% of those in the State, and 25.2% and 23.21% of those in Type 1 and Type 2 uplands, respectively. While there is little overall difference between the State and the uplands as a whole, there are considerable differences across upland ranges, with values ranging from under 15% in most of the Sheehy, Derrynasaggart and Boggeragh Mountains to over 25% across the Donegal uplands.

The period between 1981 and 2001 included the recessionary years of the 1980s and the considerable upturn in building output that characterised much of the 1990s. There was an expansion in holiday home building during this extended period. Moreover, counties in the Upper Shannon Catchment, including Leitrim, Sligo and parts of Cavan were included in a tax incentive scheme to encourage the building of homes for owner occupation and as rental properties. This scheme may account for the above-average values, as shown on map 4-28 in respect of the Ox Mountains, parts of the Cuilcagh Mountains and the area around Ben Bulben. Meanwhile, holiday home development may account for the above-average levels of house construction, during this period, across the Donegal uplands, as well as in Slieve Mish, the Caha Mountains and in parts of Iveragh, Connemara, the Nephins and the Wicklow Mountains. Construction in the Wicklow uplands and in the Slieve Blooms was also driven, in part, by the expanding Dublin commuter belt.

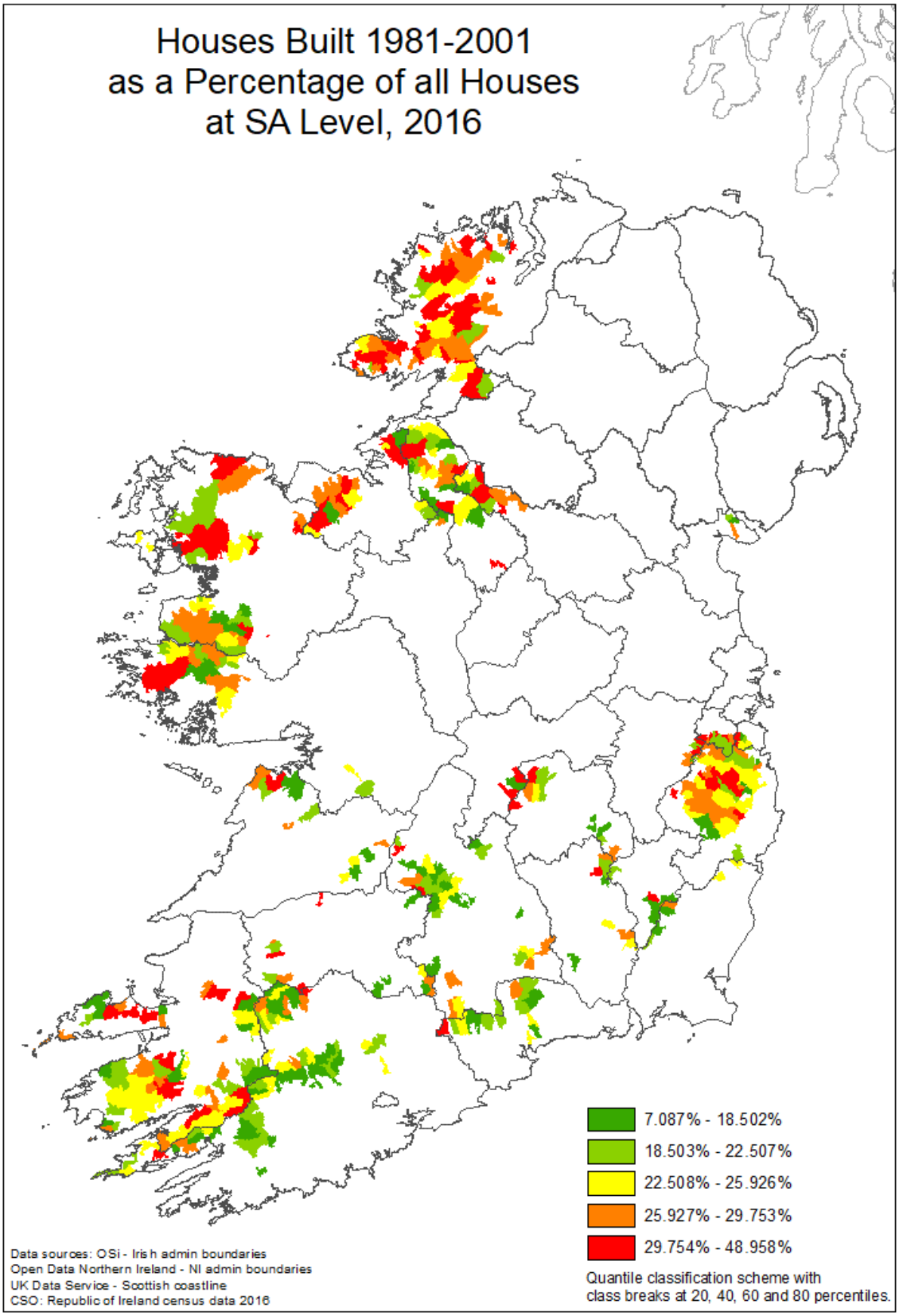
During this period, the ranges with the lowest levels of house construction were generally Type 2 uplands in dairy-farming areas of Munster and Leinster. These include the uplands of County Cork, from the Derrynasaggarts eastwards, the Ballyhouras, the Comeraghs, the Silvermines and the Blackstairs Mountains. These areas were classified in the rural typology, based on Census 1996, either as 'strong agricultural areas' or 'agricultural areas adjusting to restrictions on output[44].'

Figure 4-30: Percentage of houses built 1981 to 2001 in the RoI and its uplands



[44] Walsh, J.A. (2007) *People and Place: A Census Atlas of the Republic of Ireland. People and Place: A Census Atlas of the Republic of Ireland.* Maynooth: NIRSA.

Map 4-28: Percentage of houses built 1981 to 2001 (RoI only)



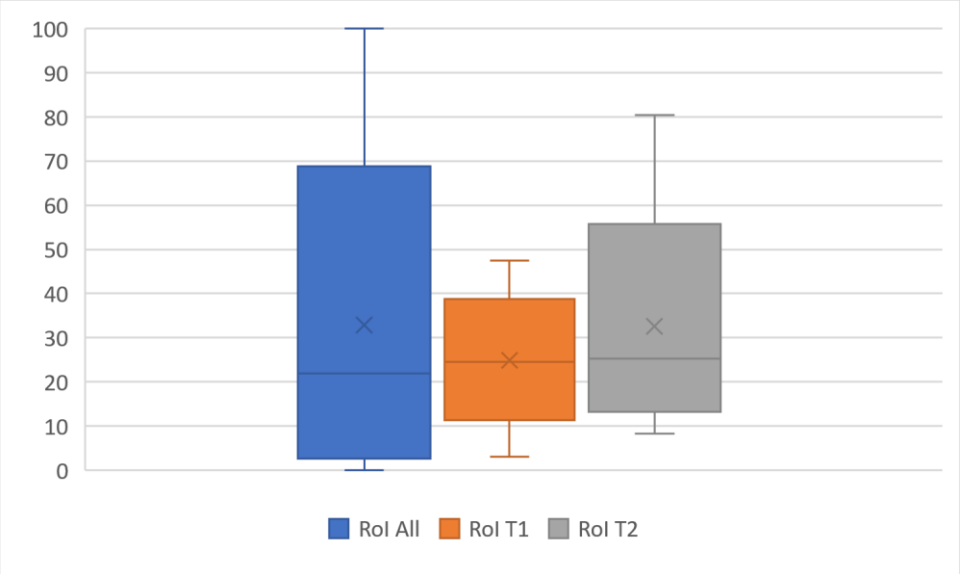
Newer Housing Stock (RoI only)

As the box and whisker plots illustrate, there is little difference between upland types (1 and 2), and between uplands as a whole and the State in respect of the mean and median values for house construction since 2001. There is, however, considerable variation across the uplands, particularly across Type 2 uplands. This may be associated with local authorities enforcement of Department of Environment, Heritage and Local Government (2005) Rural Housing Guidelines, which had sought to curb the number of 'non-locals' receiving planning permission for rural houses (Gkartzios and Schuckmisth, 2015). In 2017, the EU declared this practice to be discriminatory, and the Oireachtas Library and Research Service (2017: 5) acknowledged that "discriminatory measures framed around family connections to an area are likely to be found to breach EU law, as the purposes they are intended to achieve (such as preserving rural characteristics etc.) can usually be attained without such discrimination".

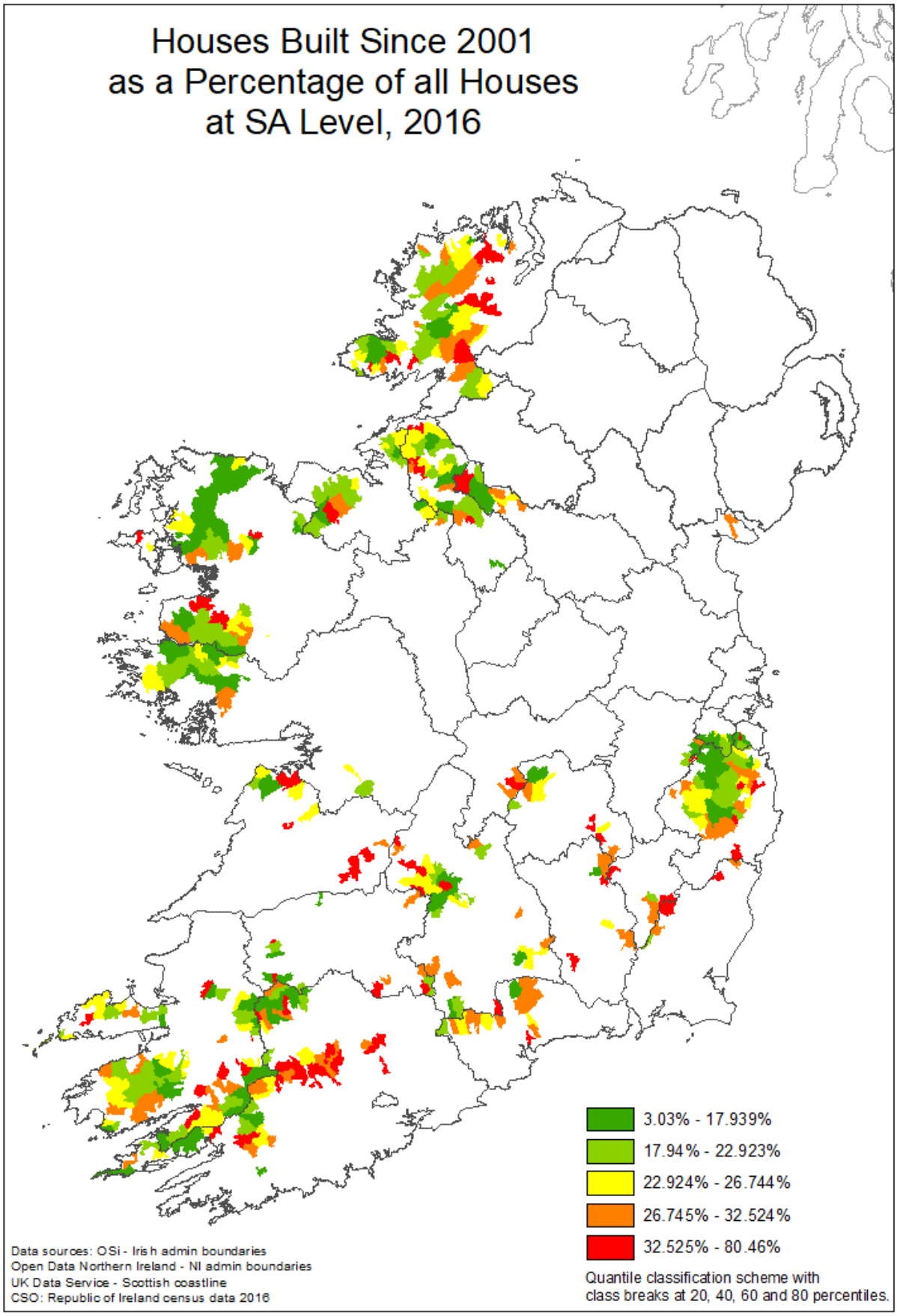
The pattern of house-building in the uplands since 2001 is associated with urban-generated pressures; the highest values are in the metropolitan commuter belts. As map 4-29 shows, the areas with the highest rates (>33%) are in the uplands that are closest to Derry–Letterkenny (eastern parts of the Bluestacks); Limerick–Shannon (Slieve Berna and around Keeper Hill); and Cork (Boggeraghs, Nagles and Ballyhouras – also affected by Limerick). In Leinster, the highest values are not in the Wicklow and Dublin Mountains, due to building control measures exercised there, but are in the second tier of commuter counties outside of the Greater Dublin Area (GDA), extending from Louth to Offaly to Wexford. This outward expansion of the GDA commuter belt accounts, in large part, for the above-average values that pertain in the Cooleys, Slieve Blooms, Castlecomer Plateau – Killeshin Hills, and, to some extent, in the Blackstairs.

The lowest values in respect of house construction, since 2001, are in the Nephins, Twelve Bens and Mullaghareirks and in the more rural parts of the Ox, Cuilcagh, Caha and Sheehy Mountains and the Inny, Bridia and Caragh Valleys (in Iveragh). The urban-to-rural gradient in respect of levels of new house construction in these uplands and in the Silvermines and across the Donegal uplands add to the evidence of growing gaps – economically, socially and demographically - between peripheral upland areas and better connected and more accessible rural areas.

Figure 4-31: Percentage of houses built since 2001 in the RoI and its uplands



Map 4-29: Percentage of houses built since 2001 (RoI only)



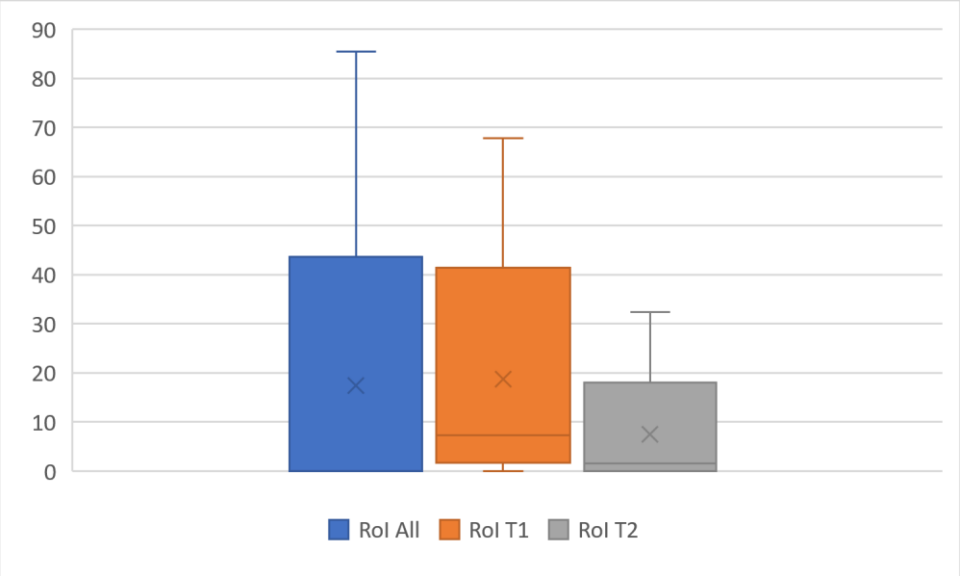
Unoccupied Holiday Homes (RoI only)

Unoccupied holiday homes, as a percentage of the total housing stock, are far more prevalent in Type 1 upland areas along the Atlantic seaboard than in other parts of Ireland generally. They account for almost 13% of all houses in Type 1 uplands, compared with 3.1% of houses across the State.

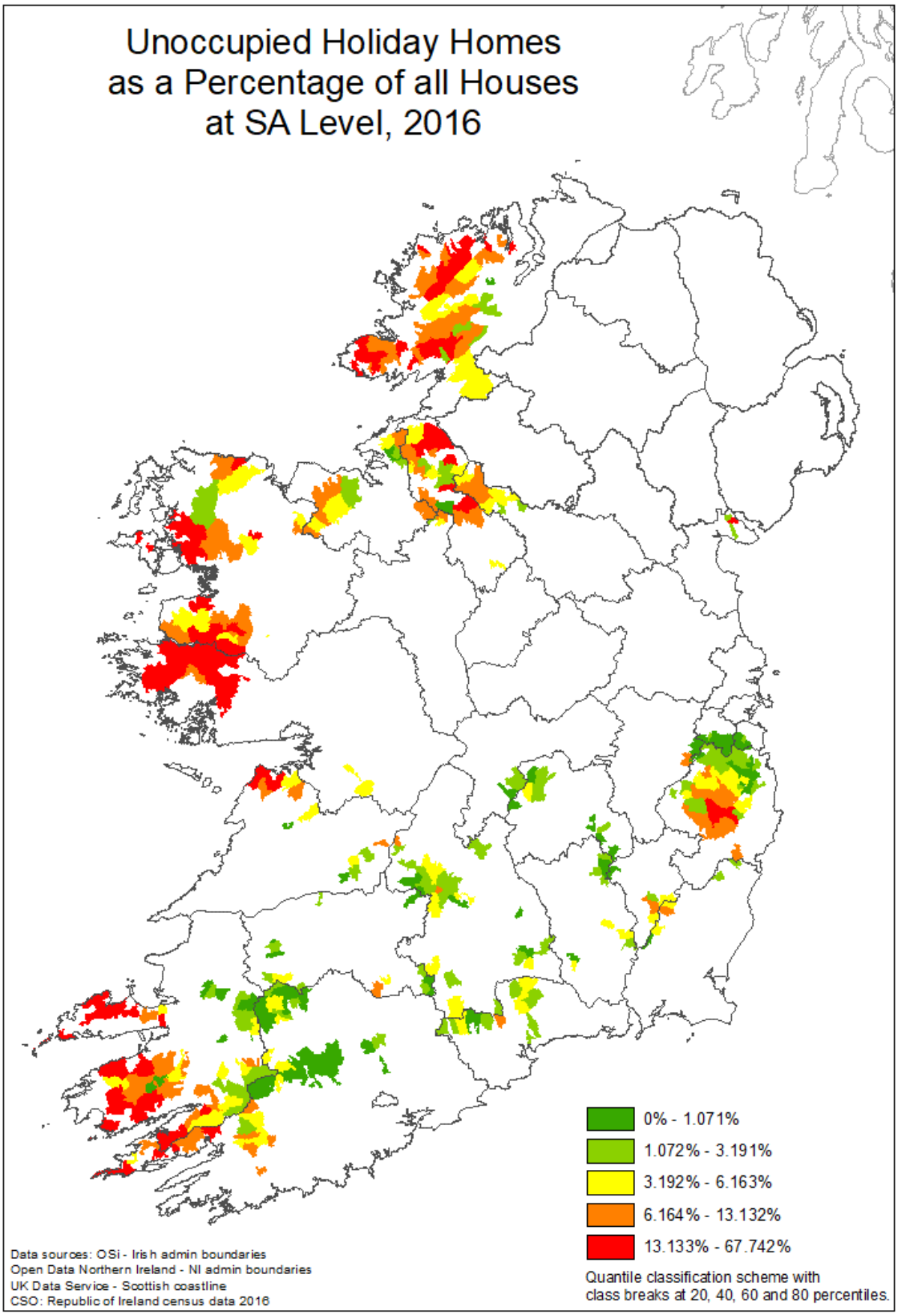
As map 4-30 shows, unoccupied holiday homes are most prevalent in Connemara (in the Twelve Bens and Maumturk Mountains); in peninsular Kerry (the parts of the Reeks that are closest to the coast – particularly the Glenbeigh Horseshoe and from Sneem to Cahersiveen); in the Burren; in the western parts of the Nephins and on Achill Island; and across the Donegal uplands, particularly in Gaeltacht areas. Values are also above average in the Dartrys in the vicinity of Lough Melvin and in the Cuilcaghs nearest to Lough Allen. The Dublin and Wicklow Mountains display a dichotomous pattern with low values in the north and high values in the south. This pattern is consistent in both absolute and relative terms (see appendix 3 for a map of the dot distribution of unoccupied holiday homes).

Holiday homes are much less prevalent in inland uplands across Munster and Leinster. Among Type 2 uplands, the Blackstairs is the only range with an above-average composite value. There is also a notable cluster of holiday homes in the Ballyhouras and in the uplands around Lough Derg on the Lower Shannon.

Figure 4-32: Percentage of houses that are unoccupied holiday homes in the RoI and its uplands



Map 4-30: Percentage of houses that are unoccupied holiday homes (RoI only)



Vacant Dwellings (RoI only)

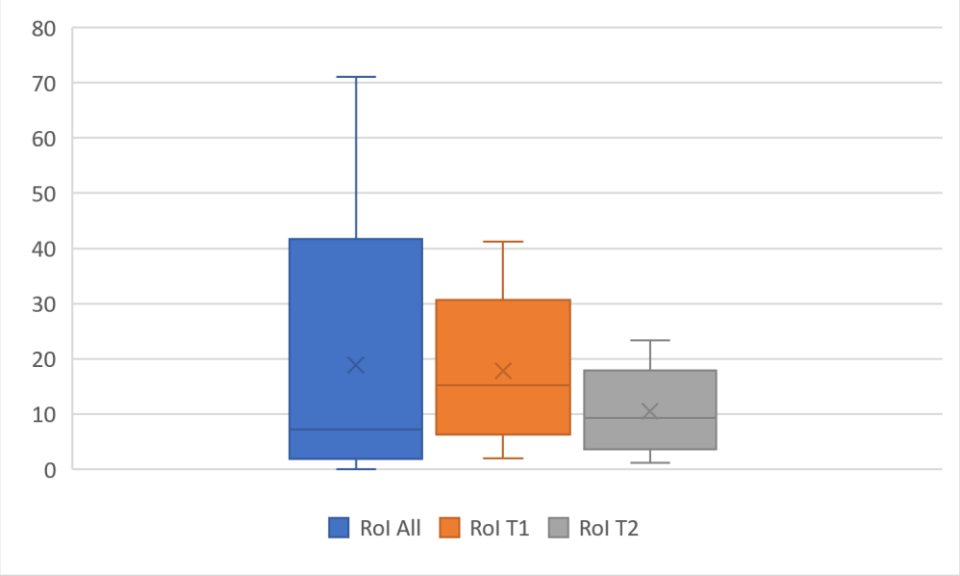
Vacant dwellings, other than holiday homes, include abandoned, derelict and semi-derelict homesteads and unfinished buildings. These are more prevalent in the uplands, particularly Type 1, than across the State as a whole. As the box and whisker plot shows, the mean values are 15.6% in Type 1 uplands, 9.7% in Type 2 uplands and 9.15% across the State.

The upland ranges with the most extensive areas in which vacant dwellings constitute over one-fifth of all dwellings are: the Nephins, the Cuilcaghs, the Dartrys, the Partry Mountains, Sheefry Hills, the MacGillycuddy Reeks and the Caha and Sheehy Mountains (map 4-31). Values are also high in the more remote parts of the Donegal uplands and the Silvermines, and across the Ox Mountains. In all these areas, vacant dwellings are associated with out-migration, land abandonment and scrub encroachment.

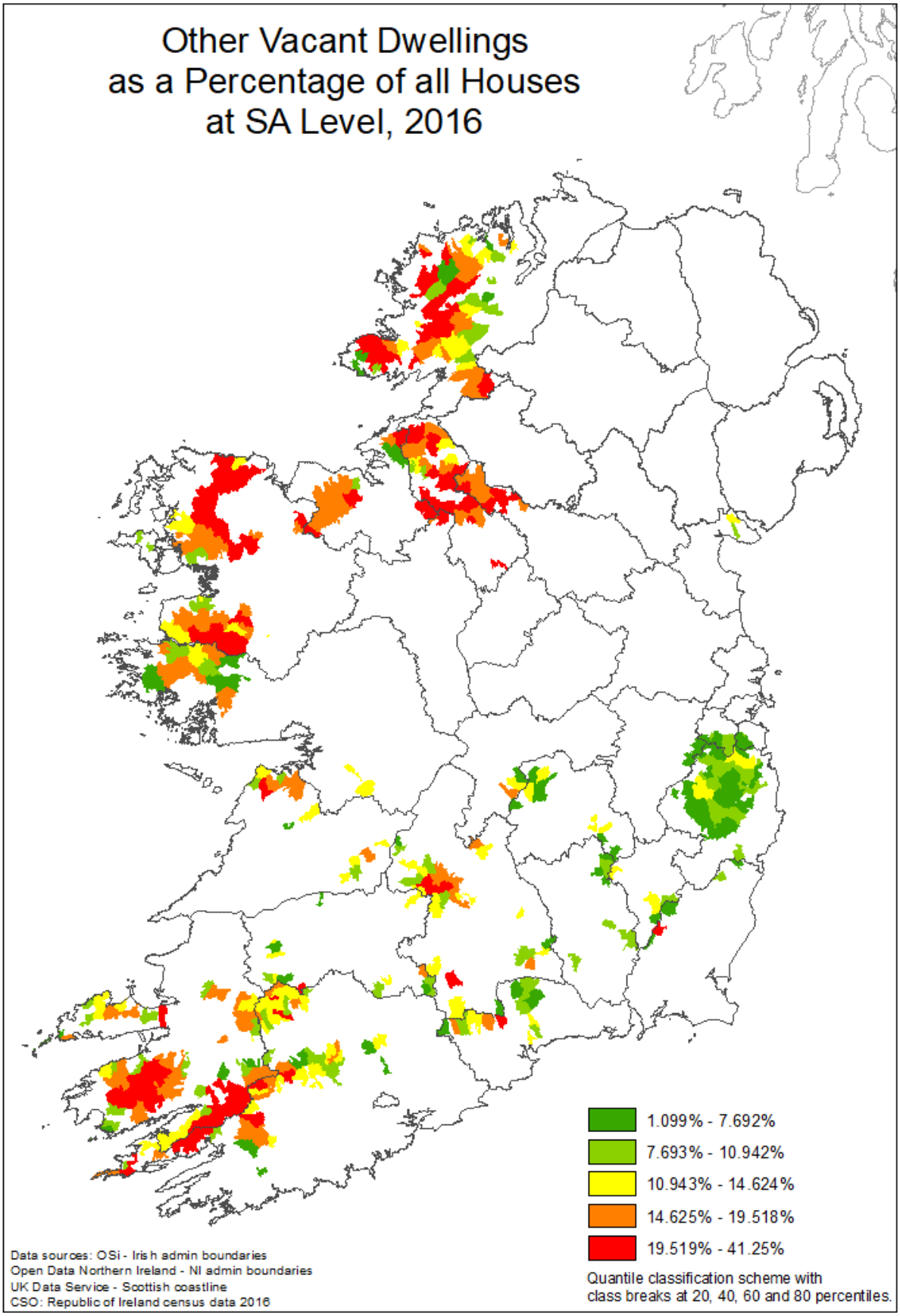
There are variable values in several upland ranges, including the Mullaghareirks, Galtees, Knockmealdowns and the Burren, suggesting that local factors, including topography and connectivity are relevant.

The ranges with the lowest values are the Comeragh Mountains and those that are in the extended commuter belt around the GDA, namely the Dublin and Wicklow Mountains, the Slieve Blooms, the Castlecomer Plateau and, to a lesser extent, the Blackstairs.

Figure 4-33: Percentage of houses that are vacant dwellings in the RoI and its uplands



Map 4-31: Percentage of houses that are vacant dwellings (RoI only)



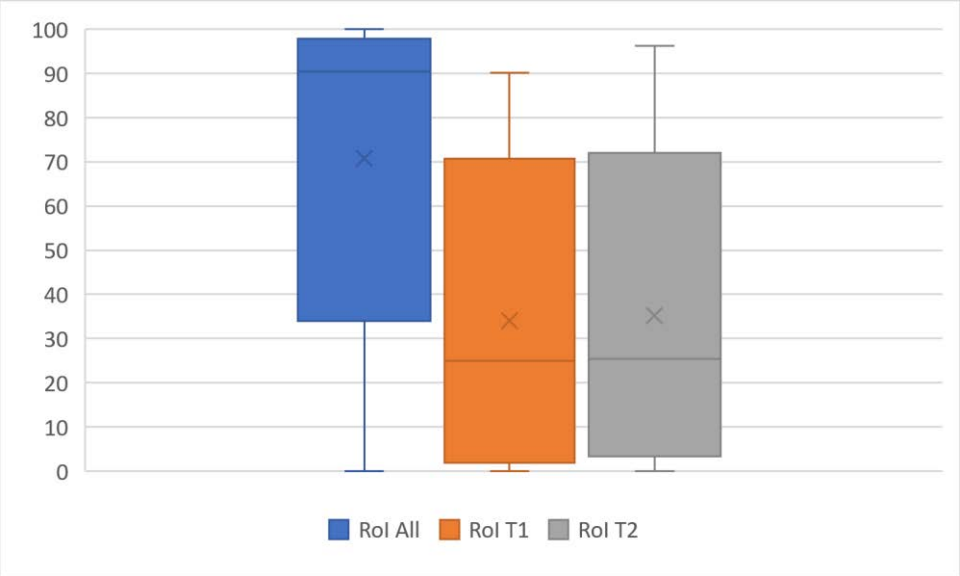
Public Mains Water (RoI only)

The majority of households in Irish uplands rely on private wells or on group schemes for their water supply. As the box and whisker plot illustrates, just under one-third of upland households have a connection to a public water supply. This compares with almost 77% across the State.

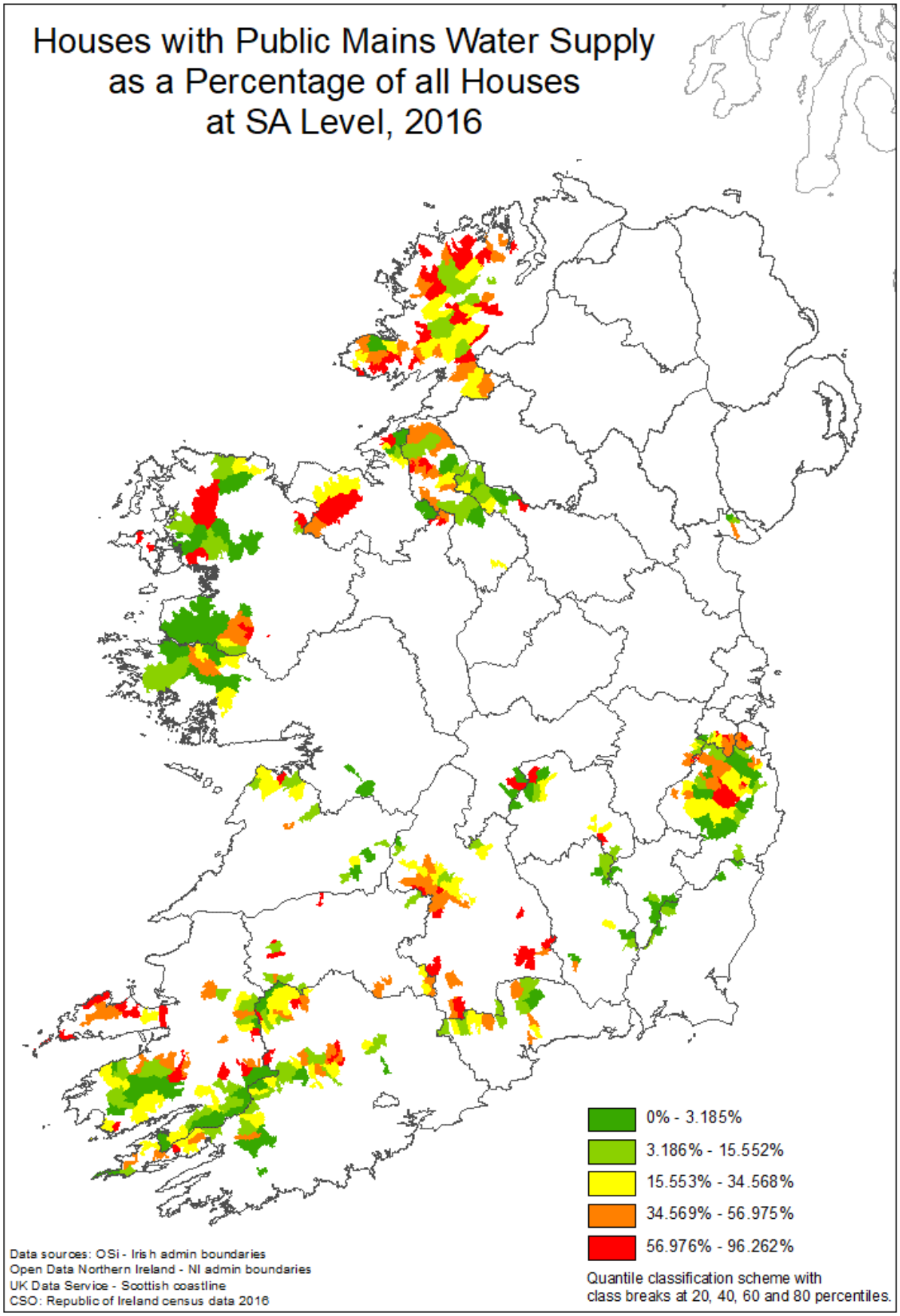
As map 4-32 shows, values differ considerably across upland ranges in respect of the proportion of households with a connection to a public water mains. Proximity to urban centres and to reservoirs as well as topography and population density are among the factors that affect connectivity levels. Local authority policies and resources are also relevant. The ranges with the highest levels of connectivity are the Ox Mountains, the Galtees and the uplands of Southeast Tipperary, including Slievenamon. Values are above average (>33%) on the Corca Dhuibhne Peninsula and in the Silvermines. They are also above average in most parts of the Donegal uplands, although there is considerable local variability across County Donegal.

The lowest values (<5%) are in Mweelrea and the Sheefry Hills, the Blackstairs and the Castlecomer Plateau. Low values also predominate in the Cuilcagh Mountains, the Slieve Blooms, the southern parts of the Wicklow Mountains, the Sheehy Mountains and in the Caha Mountains – more so in Kerry than in Cork.

Figure 4-34: Percentage of houses with public mains water supply in the RoI and its uplands



Map 4-32: Percentage of houses with public mains water supply (RoI only)



Septic Tank Connections (RoI only)

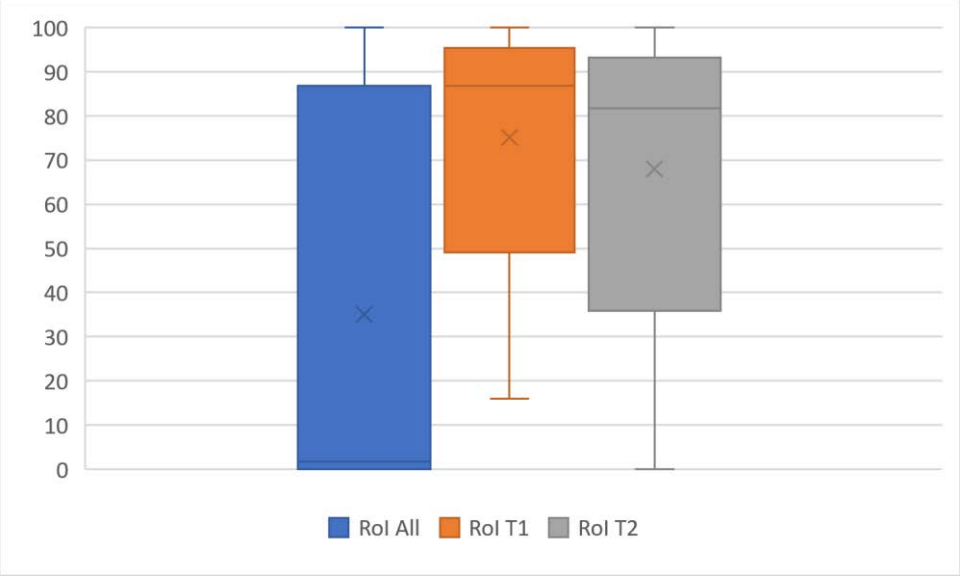
The vast majority of houses in the uplands have an individual septic tank. In Type 1 uplands, 83.4% of houses have a septic tank, while in Type 2 uplands the corresponding value is 73.7%. This compares with 25.8% across the State as a whole.

The highest values (>90% of households having a septic tank) pertain in the Nephins – north of Nephin Beg and in the Bluestack and Derryveagh Mountains (map 4-33). In contrast, the lowest values (<75%) are more likely to be in the Dublin and Wicklow Mountains and in the Castlecomer Plateau. Other ranges with low and below-average values include the Twelve Bens, the Galtees, the Ballyhouras, Brandon, the Nagles and Boggeraghs and Slieve Berna. Most of the Silvermines exhibits below-average values, while in the Slieve Blooms, septic tank connections are more prevalent in County Laois than in County Offaly.

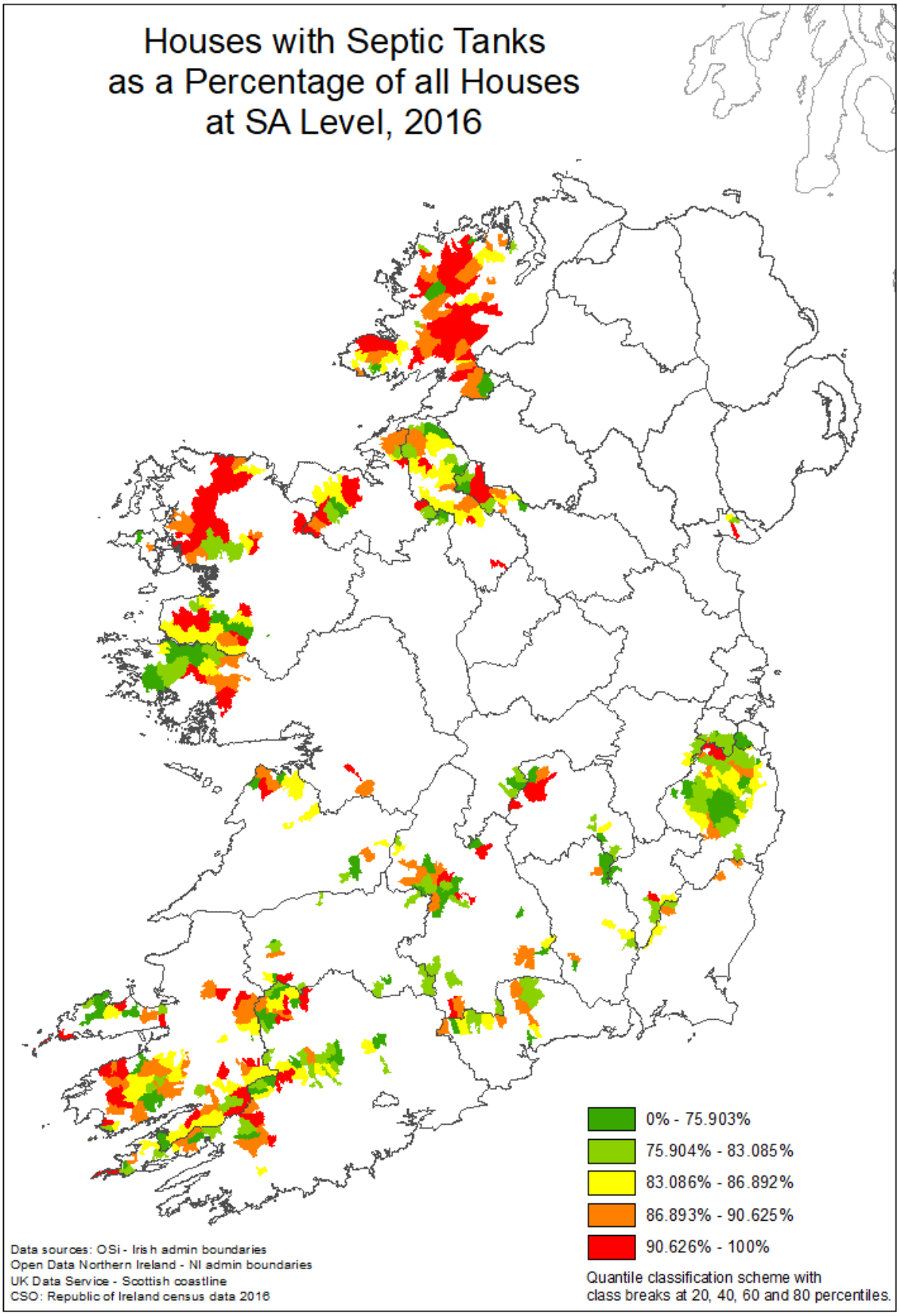
In the South-West, values are generally above average in the MacGillycuddy Reeks, notably in the Inny and Fertha Valleys; in the Stacks Mountains; and in the Mullaghareirks – more so on the Kerry side of the county boundary, namely around Mount Eagle. Values are also above average in the Sheehy Mountains; they are higher east of the Cousane Gap, and lower in the Mealagh Valley.

In the Southeast, values are variable across the Knockmealdowns, Comeraghs and Blackstairs Mountains.

Figure 4-35: Percentage of houses with septic tanks in the RoI and its uplands



Map 4-33: Percentage of houses with septic tanks (RoI only)



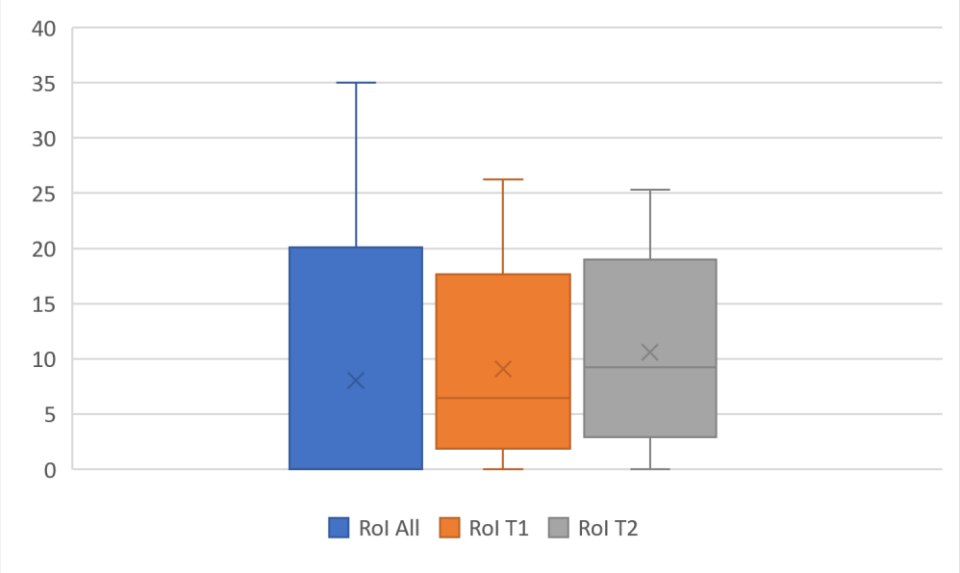
Other Private Sewage Treatment Facilities (RoI only)

Environmental imperatives, advancing technologies, changing public attitudes and increased legislative enforcement all serve to promote a transition from septic tanks towards the use of other means of private sewage treatment. These generally take the form of bio-cycle tanks, but also include reed-bed systems and compost toilets, among other ecological approaches. These systems are, as the box and whisker plot indicates, more prevalent in the uplands than across the State as a whole. The mean value in respect of the proportion of households with another private sewage treatment facility stands at 7% in Type 1 uplands and 9.25% in Type 2 uplands, while the State average is just 3%.

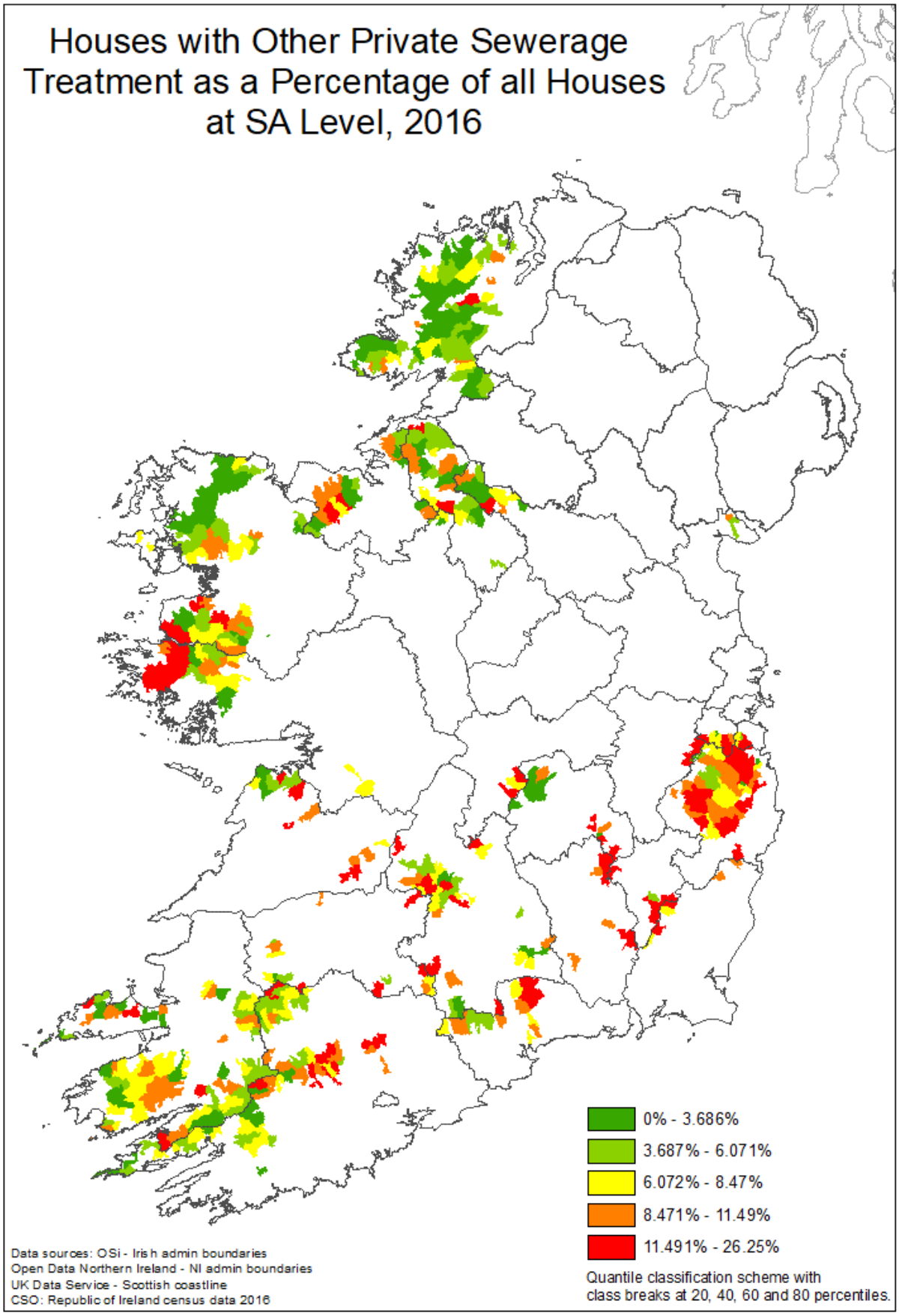
The spatial pattern in respect of the propensity of other sewage treatment facilities correlates, to a large extent, with houses constructed since 2001 (map 4-34). The highest values are in the Dublin and Wicklow Mountains and in the uplands that are in the metropolitan commuter belts. High values also predominate in the Twelve Bens and in the Comeragh Mountains.

In contrast, the lowest values are in the Nephins and across the Donegal uplands.

Figure 4-36: Percentage of houses with other private sewerage treatment in the RoI and its uplands



Map 4-34: Percentage of houses with other private sewerage treatment (RoI only)

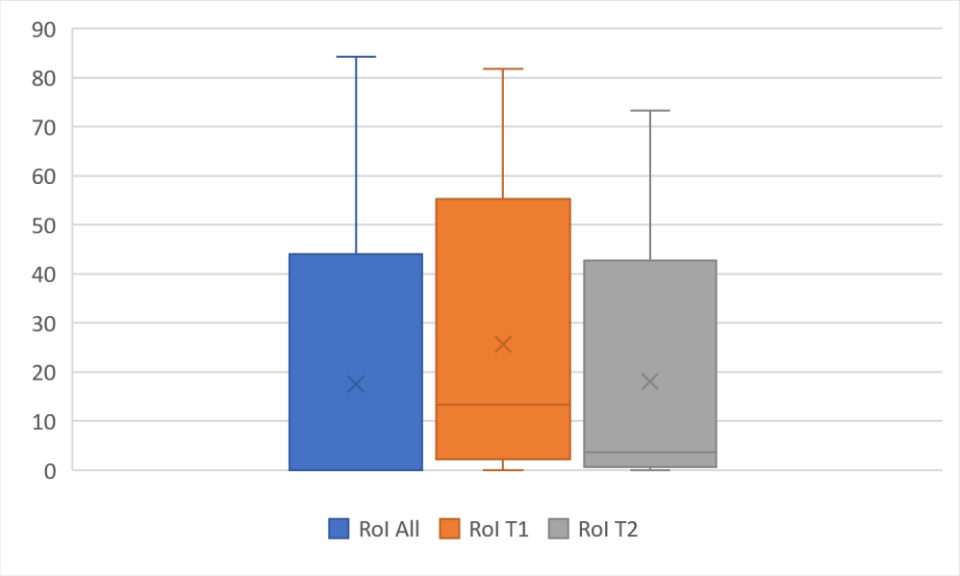


Peat/Turf as the Main Source of Fuel (RoI only)

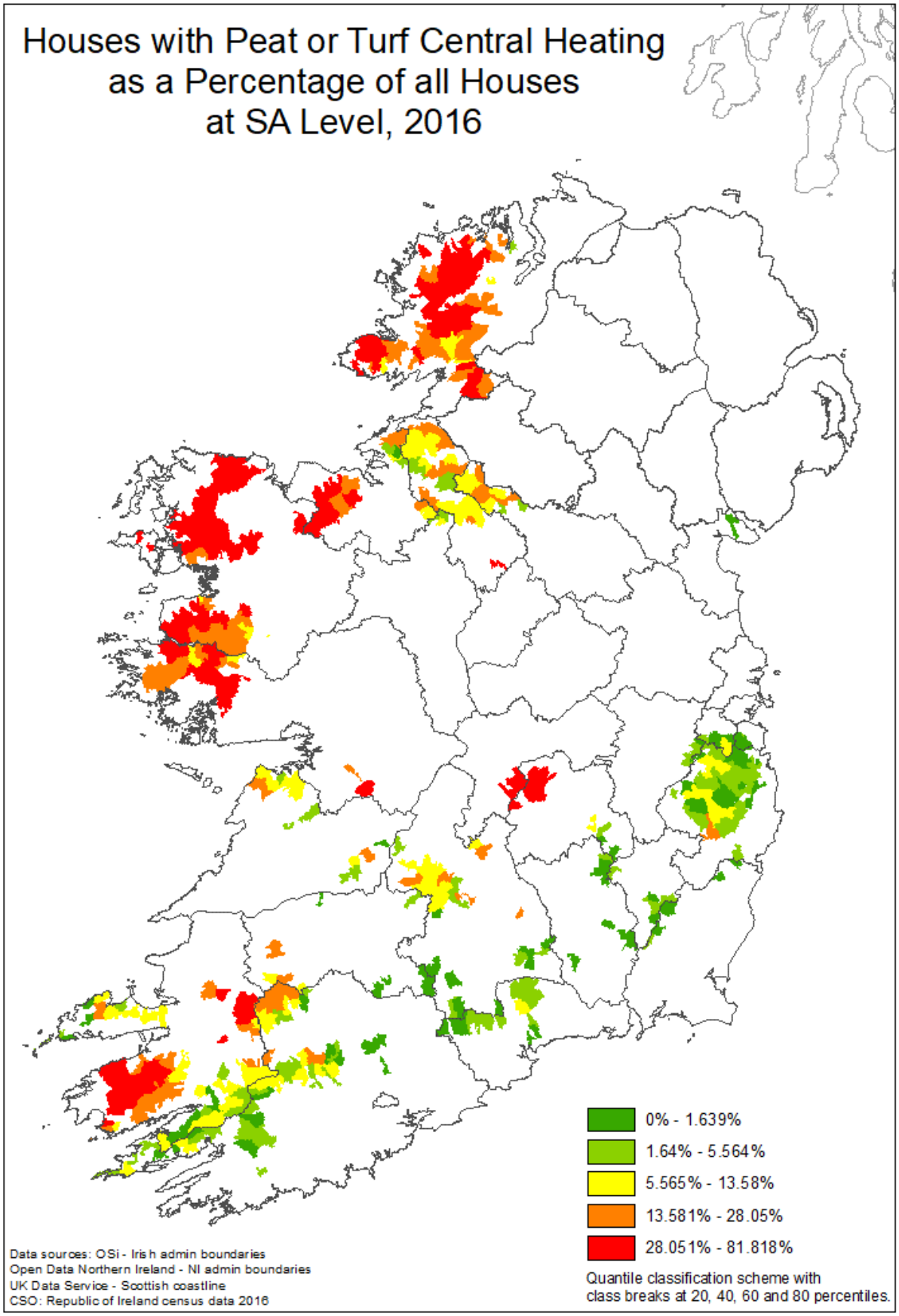
The transition to a low-carbon economy and society in an era of climate change present opportunities and challenges for upland communities. Opportunities exist, and are already being seized, in respect of more ecological food production and the circular economy. Challenges exist however in terms of reducing the ecological footprint of homes with regard to heating and transport. The transition away from peat/turf, which is one of the most potent sources of greenhouse gases, is important for the sustainability of rural areas in general, and upland areas in particular. As the following box and whisker plot illustrates, upland households, particularly those in Type 1 uplands, have a greater reliance on peat/turf than do other households.

Map 4-35 shows that the persistent dependence on peat/turf is most prevalent in the Nephins, Ox Mountains, all Donegal uplands, Mweelrea, the Sheefry Hills, Maumturk Mountains, MacGillycuddy Reeks, Slive Aughty, the Mullaghareirks (in the Kerry part) and the Slieve Blooms. Bogs in these areas are generally family-owned, and turf cutting is small scale, unlike the intensive and industrial peat extraction undertaken by Bord na Móna in the Midlands. Therefore, the transition away from turf to alternative and ecological sources of fuel ought to be accompanied by insulation and retrofitting of homes and community buildings.

Figure 4-37: Percentage of houses with peat or turf central heating in the RoI and its uplands



Map 4-35: Percentage of houses with peat or turf central heating (RoI only)



Accessibility and Connectivity

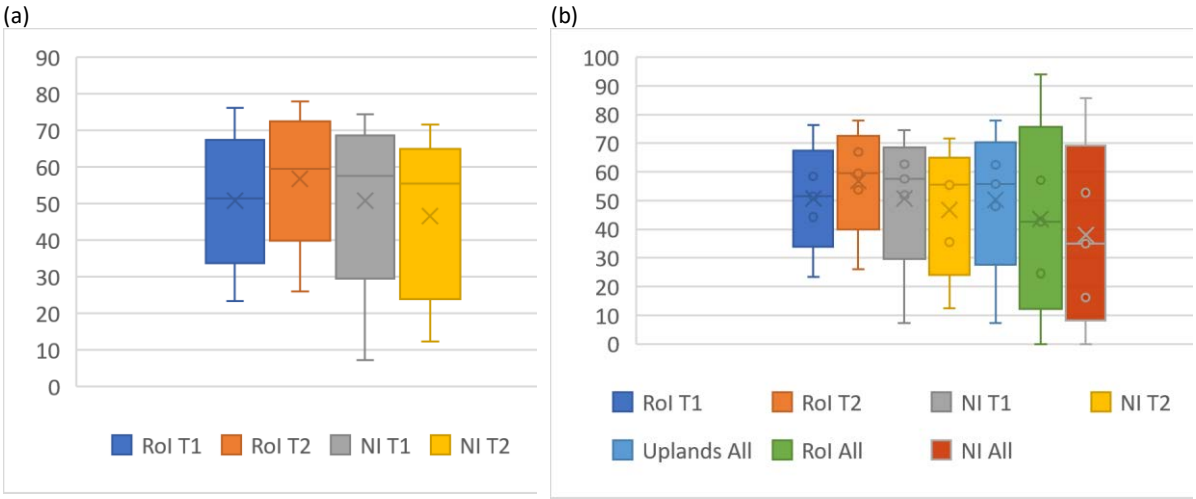
Car Ownership

While rates of car ownership are, by necessity (due to distances involved and fewer public transport connections), higher in rural areas than in urban areas, there is very considerable variety across the uplands.

As map 4-36 shows, the uplands with the highest levels of car ownership – when computed as those with two or more cars – are more likely to be in the metropolitan commuter belts than in other areas. Thus, connectivity by road/motorway, rather than isolation, is among the correlates with car ownership. Other facters include household size and age profile, with larger households and those with a younger age profile being more likely to own two or more cars. The most extensive areas with high values in respect of multiple car ownership are the Dublin and Wicklow Mountains, the Antrim Plateau and the Sperrins along the A6 from Derry to Belfast. High values also pertain on the fringes of the Dublin commuter belt, including in the Blackstairs Mountains and the Castlecomer Plateau and Killeshin Hills. Similarly high values characterise the uplands of the Cork and Limerick commuter belts, namely the Nagles and Boggeraghs, and Slieve Bernagh. Values are also notably above average in the Knockmealdown and Commeragh Mountains. This may be associated with Waterford being the only county in Munster not to have a functioning railway track[45].

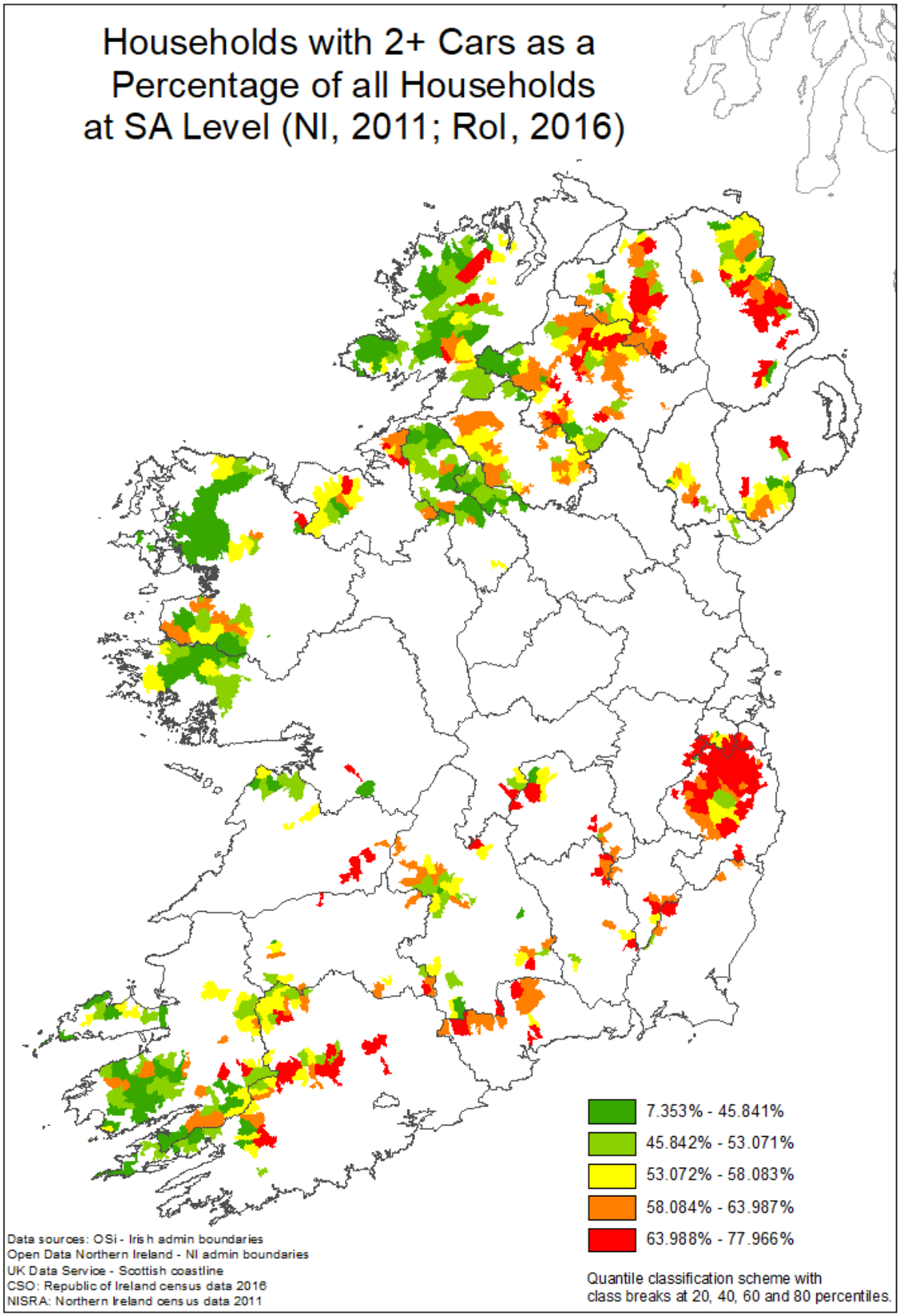
Despite the complete absence of rail connections and limited bus services outside the main towns, the uplands of Donegal, the North Leitrim Glens, and the Cuilcaghs have below-average percentages of households with two or more cars. While smaller household size can account for similarly low values in the Nephins, it does not fully account for the spatial patterns in counties Donegal, Leitrim and Cavan and in West Tyrone. Thus, the data may be pointing to above-average levels of isolation in these upland communities. Values are also below average in the Burren, and in the Twelve Bens and Maumturk Mountains, although they have proportionately more young people (aged 20 to 29) than do the neighbouring uplands in South Mayo.

Figure 4-38: Percentage of households with two or more cars (a) in the uplands and (b) compared with RoI and NI



[45] Plunkett Station in Waterford City is on the northern bank of the River Suir, and the adjoining lands are contested by Waterford and Kilkenny. The Waterford to Dungarvan railway closed in the 1960s, and is now a greenway.

Map 4-36: Percentage of households with two or more cars



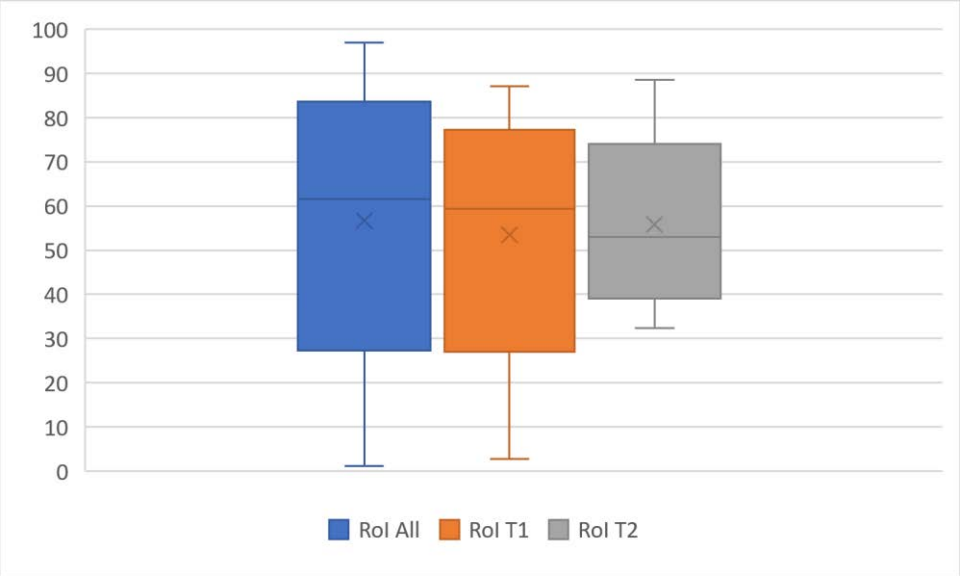
Short Commutes (RoI only)

The spatial pattern in respect of short-distance commuting, which is defined here as commuting for under thirty minutes, is in many respects the reverse of that shown in map 4-36 (for multiple car ownership). While the highest values in respect of multiple car ownership are in the metropolitan commuter belts, these same uplands, most notably the Wicklow Mountains, have the lowest percentages of persons with short commuting times.

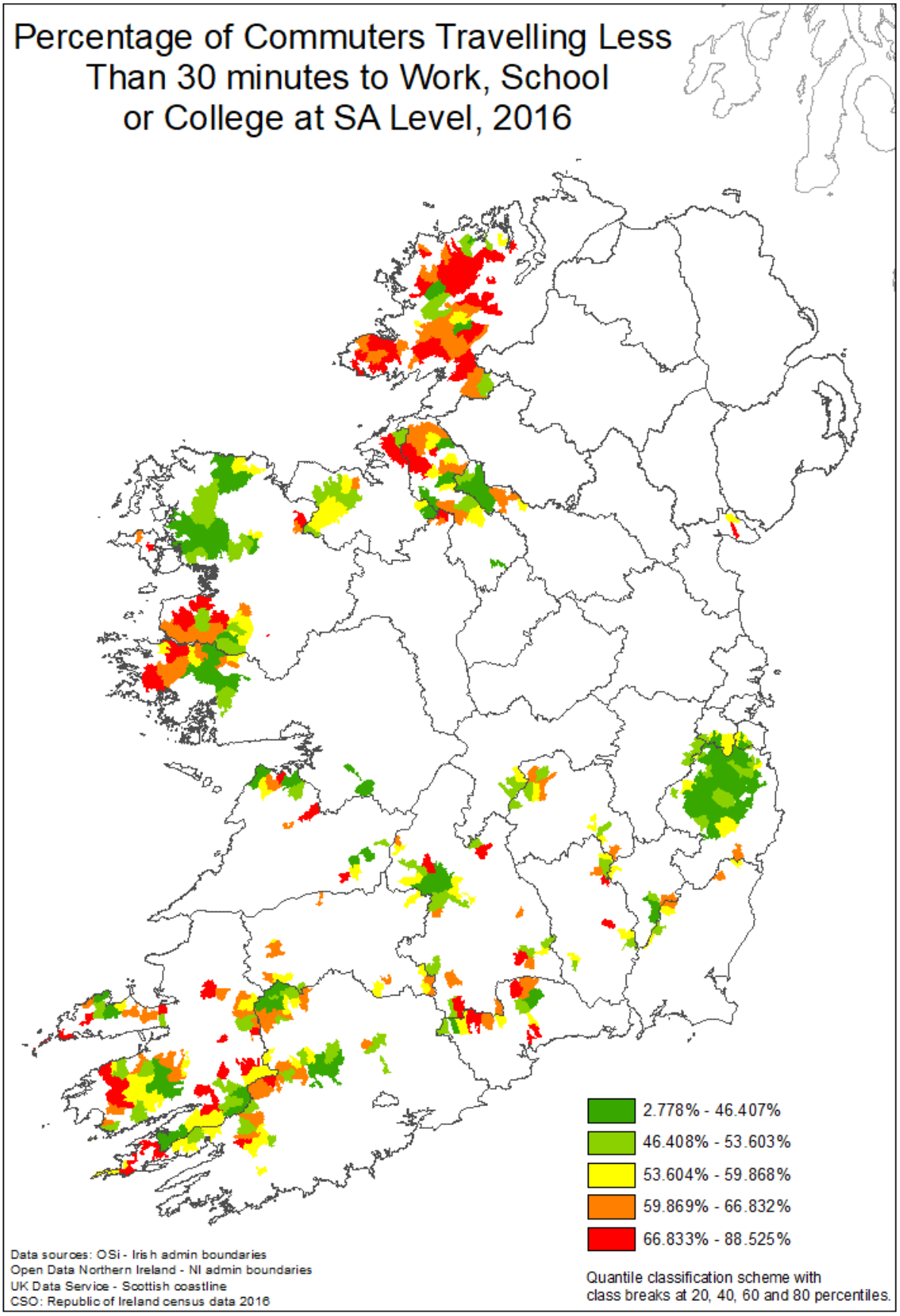
There are several anomalies, however, in respect of any relationship between car ownership and travel-to-work times. The Nephins and the Cuilcaghs (particularly in Cavan) have low levels of multiple car ownership and low levels of short-distance commuting. These apparent anomalies may be associated with low numbers of persons commuting, relative to the numbers working at home and on farms.

Map 4-37 points up the significance of a number of towns that provide services accessed by upland communities. These include Sligo, Killala, Louisburgh, Westport, Leenane, Clifden, Daingean Uí Chúis/Dingle, Castleisland, Cahersiveen, Waterville, Kenmare, Castletownbere, Gort and Clonmel. The map shows the predominance of short-distance commuting in the upland areas that adjoin these towns.

Figure 4-39: Percentage of workers and students with short commutes in the RoI and its uplands



Map 4-37: Percentage of workers and students with short commutes (RoI only)



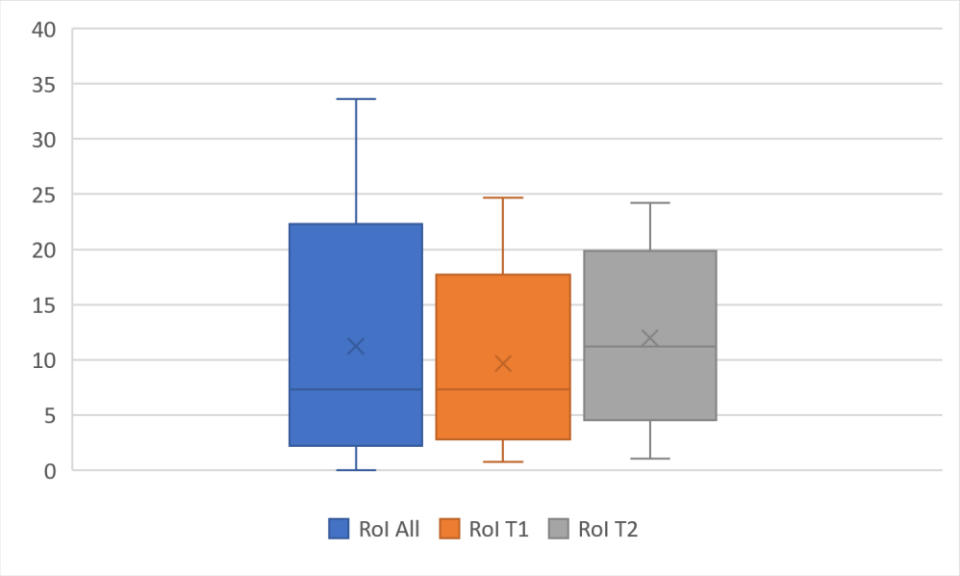
Long Commutes (RoI only)

The spatial pattern in respect of long-distance commuting (defined here as having a commuting time of >1 hour) is very much influenced by the metropolitan zones, with the highest values being in the Dublin, Cork and Galway commuter belts (map 4-38). The Dublin commuter belt has come to extend over most of Leinster, while that of Cork extends westwards to the county bounds and northwards to the Ballyhouras, Galtees and Knockmealdowns. Long-distance commuting to Galway is a feature of life in the Maumturks, the Burren and Slieve Aughty.

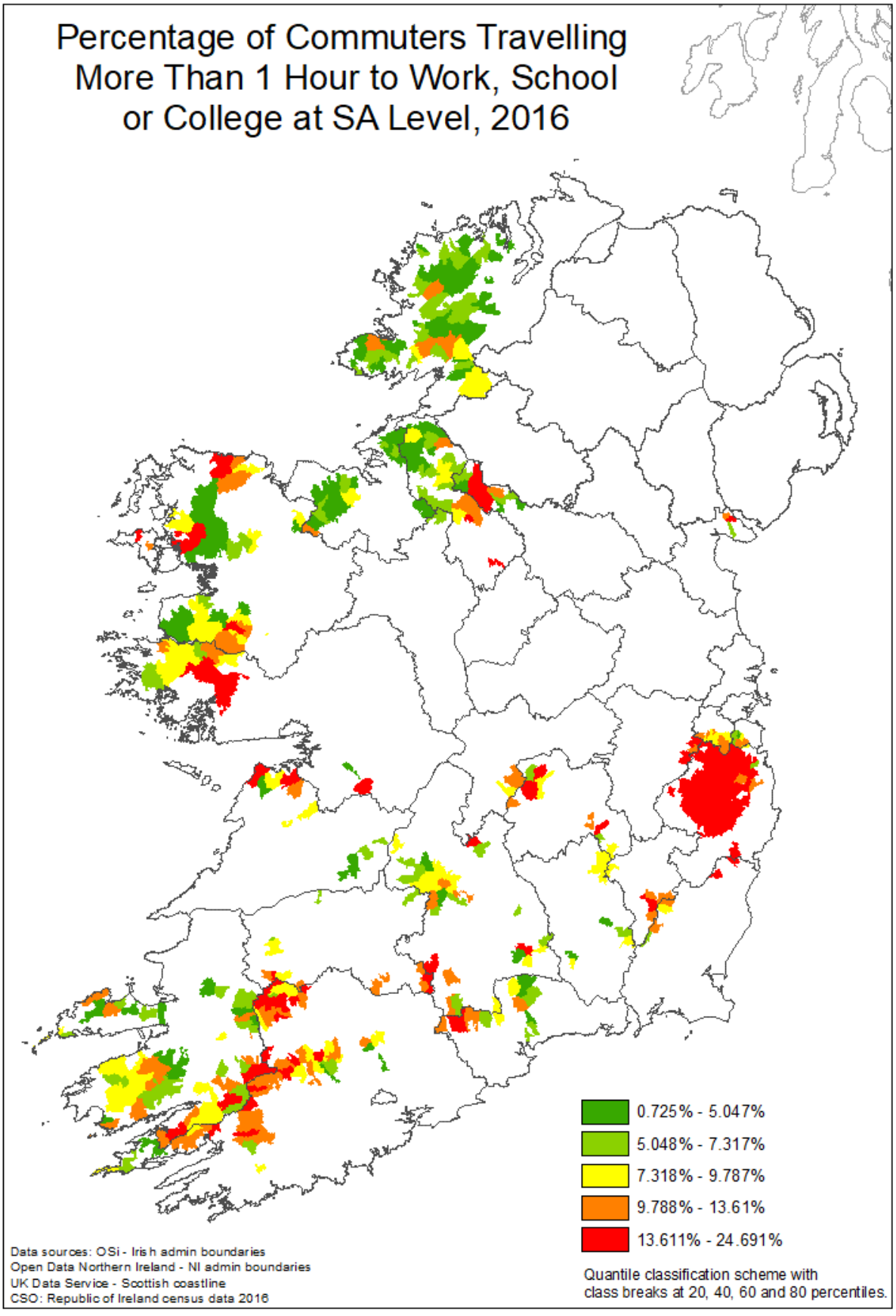
Travel-to-work times appear to be shorter in the uplands adjacent to Limerick–Shannon and to Waterford. In Kerry, proximity to Tralee, Killarney and Ballydesmond is associated with short-distance commuting.

The uplands with the lowest proportions of long-distance commuters are the Derryveagh Mountains, and parts of the Bluestacks. Values here are associated, in part, with relative ease-of-travel to Letterkenny and to the availability of employment in Gaeltacht industries. Low values also pertain in the Dartry and Ox Mountains, associated, in part, with congestion-free connectivity to Sligo and Ballina.

Figure 4-40: Percentage of workers and students with long commutes in the RoI and its uplands



Map 4-38: Percentage of workers and students with long commutes (RoI only)

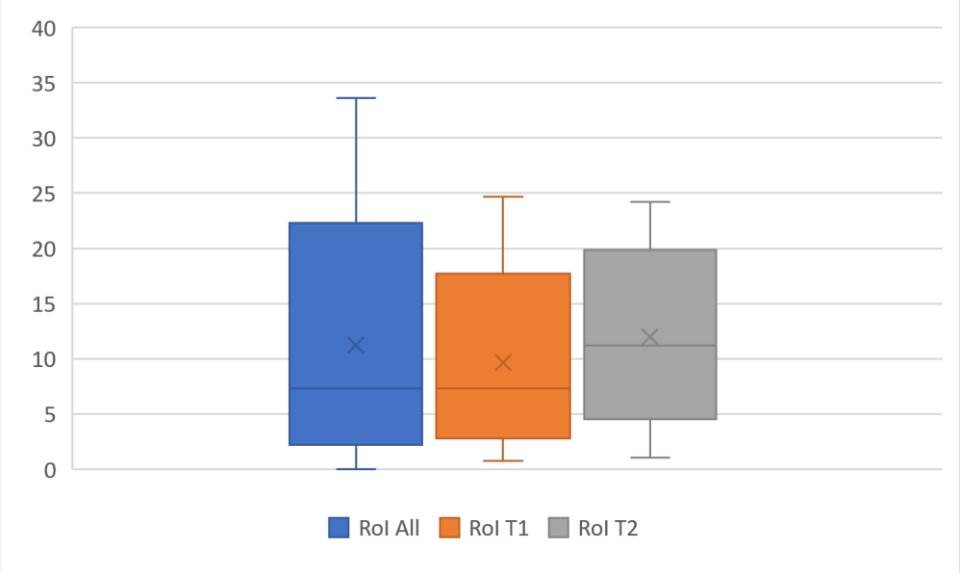


Broadband Connectivity (RoI only)

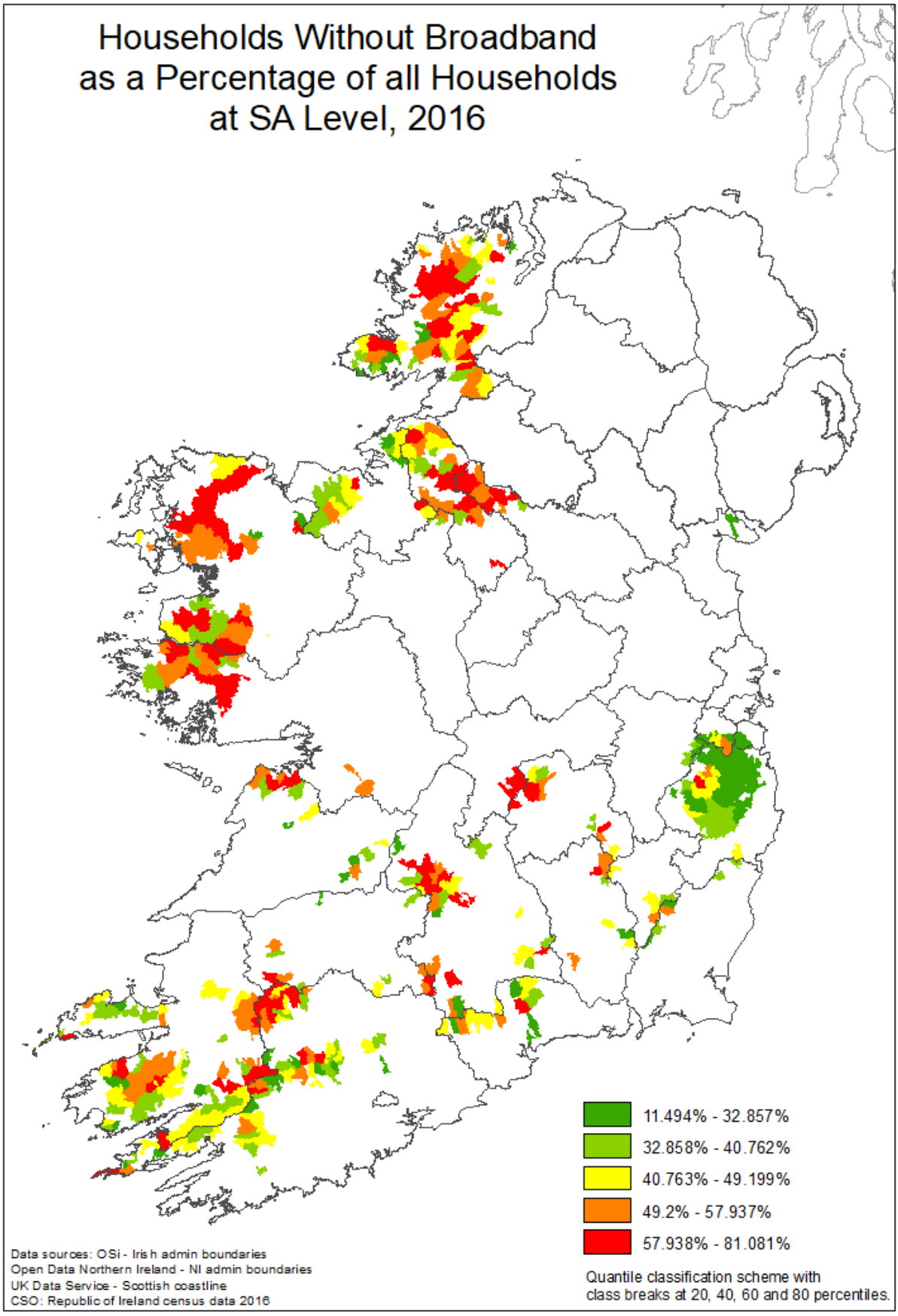
The rollout of broadband, particularly in the RoI, has been characterised by uneven geographies. While there has been some progress since the Census of Population was conducted in 2016, the spatial patterns presented here remain largely indicative of the current situation. As of April 2016, just over one quarter of households in the State (26.2%) lacked a broadband connection. The corresponding values in uplands were notably higher: 45.6% in Type 1 uplands and 39.5% in Type 2 uplands. This has implications for upland residents having to engage with an increasingly digital economy and society.

As map 4-39 demonstrates, extensive areas of poor connectivity persisted (and still persist). These include the Derryveagh Mountains, the Cuilcaghs, the Nephins, the Maumturks, the Partrys, the Slieve Blooms, the Silvermines and the Mullaghareirk Mountains. In contrast, the best connectivity is in the Dublin and Wicklow Mountains, although areas south of the Poulaphuca reservoir have lagged behind other parts in respect of acquiring connectivity. Connectivity is also more extensive in the uplands that are relatively close to Limerick and Cork cities. In Sligo and in Kerry, connectivity levels are generally better than in other western counties.

Figure 4-41: Percentage of households without broadband in the RoI and its uplands



Map 4-39: Percentage of households without broadband (RoI only)



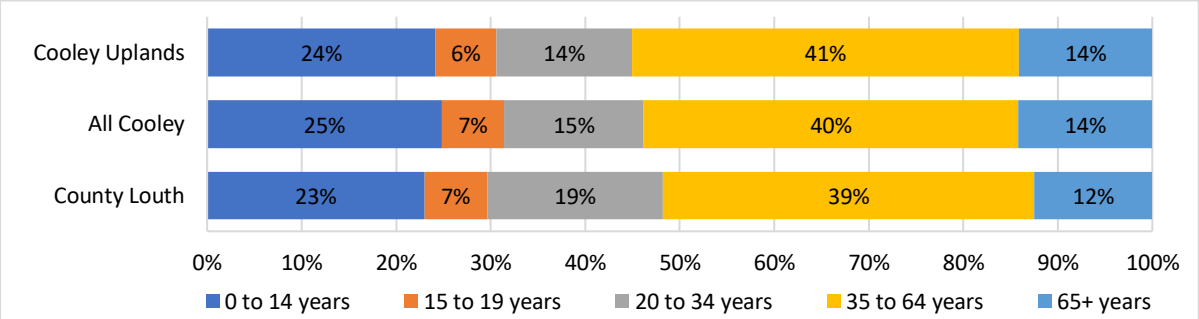
Uplands not specifically covered by the methodology for the delineation of upland geographies

Due to mismatches between the administrative boundaries associated with EDs and SAs and the natural contours of the landscape, two significant upland areas have not been sufficiently covered in the profile of Irish uplands presented thusfar. These are the Cooley Mountains and the Inishowen Peninsula. These two sets of uplands are dealt with here.

The Cooley Mountains

The Cooley Peninsula[46], in County Louth, has a total population of 10,612. Of these, twenty-two percent (n=2,320) live in the uplands. The age composition of the population is broadly similar in the Cooley uplands, the Cooley Peninsula and County Louth as a whole; although, as the following graph shows, the Cooley Peninsula (including the uplands) has proportionately more children and persons aged over 65 than is the case in County Louth as a whole. As is the case in much of rural Ireland, the Cooley Peninsula and uplands have, relative to Ireland as a whole, a smaller proportion of persons aged 20 to 34 years.

Figure 4-42: Age composition (by selected cohorts) of the population of the Cooley uplands in comparative context, 2016



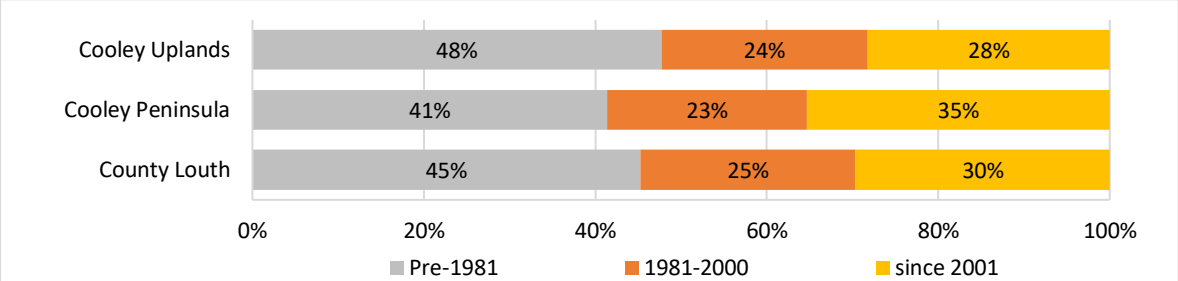
A larger proportion of the resident population of Cooley Peninsula and uplands was born in the UK (22.5% and 20.6%) respectively, than is the case in County Louth as a whole (8.6%), and this figure is also above the State average (5.9%). However, UK nationals account for just over 2% of the population of the Cooley uplands and Peninsula. This indicates that most of those born in the UK are originally from NI, rather than Britain, and reveals the significance of the area's proximity to counties Armagh and Down. The area's population is less ethnically diverse than is the case in County Louth as a whole. In the Cooley uplands, the vast majority of the population is an Irish national (96%), and the proportion of persons with a nationality other than UK or Irish stands at under 2%. Less than 4% of the population speaks a language other than Irish or English at home, and among these, French is the most widely spoken language. Just under 40% of the area's population can speak Irish. This is in line with the average for the RoI.

Married couples with children account for the single largest household type in the Cooley uplands; they constitute forty percent of all households. This is notably higher than the corresponding figure for County Louth as a whole (32%). One-person households account for one-fifth (20%) of all households, which is less than the county average (23%). The Cooley uplands have a lower proportion of households headed by a lone parent than is the case across County Louth as a whole; the respective figures are 8% and 12%.

[46] For demographic purposes, the Cooley Peninsula is defined here as comprising the following Electoral Divisions (EDs): Ballymascanlan, Carlingford, Drummullagh, Greenore, Jenkinstown, Rathcor and Ravensdale.

Houses / bungalows (detached, semi-detached and terraced) account for the predominant type of dwelling in the Cooley uplands (98% of all dwellings). This is above the County Louth average (92%) and that of the peninsula as a whole (96%). The Cooley uplands have an older housing stock than the Cooley Peninsula and County Louth, as illustrated in the following graph:

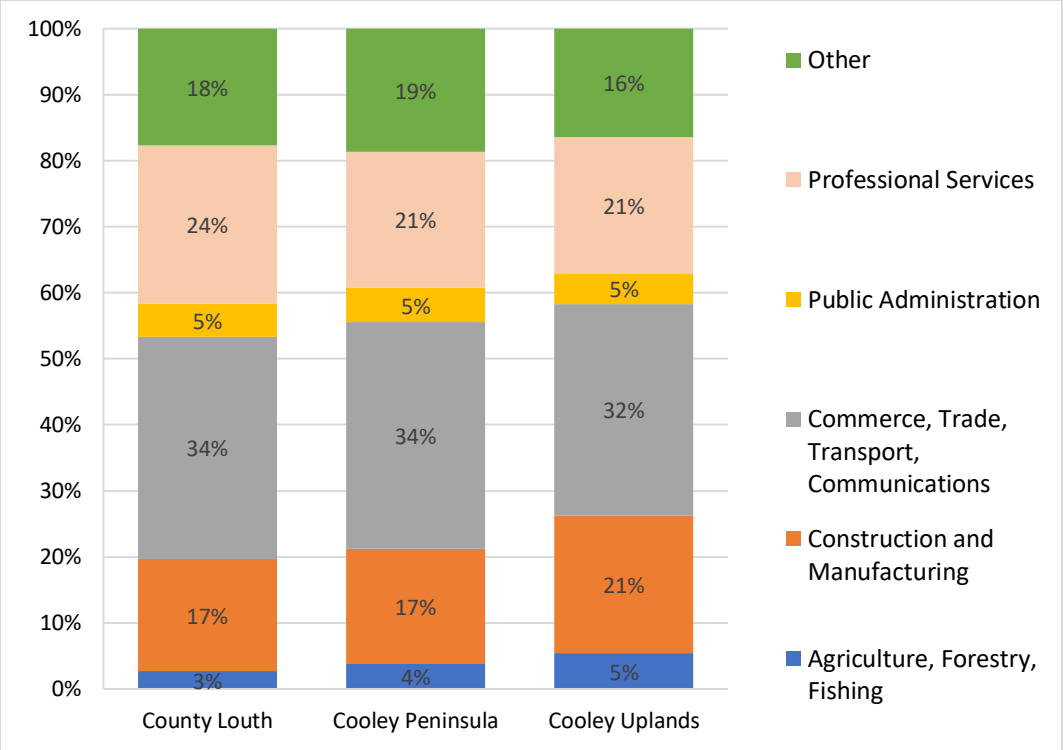
Figure 4-43: Proportion of dwellings, in the Cooley uplands, by period of construction, 2016



The vast majority (90%) of dwellings in the Cooley uplands are privately owned, of which most (55%) are owned outright, with the remainder (45%) being mortgaged. On the peninsula, as a whole, owner-occupied houses represent a smaller proportion (82%) of the housing stock, while the corresponding figure for County Louth is 72%. The Cooley uplands and Cooley Peninsula have lower proportions of households renting from Louth County Council (1% and 5% respectively) than is the case in County Louth as a whole (10%). In the Cooley uplands, the proportion of houses in the private rental sector is less than half that in County Louth (7% relative to 16%). Houses are larger (as measured by number of rooms) in the Cooley uplands; over four-in-ten (43%) houses have seven rooms or more, while one-in-seven has four rooms or fewer. In County Louth, just over a quarter (27%) of houses have seven rooms or more, while a similar portion (24%) have four rooms or fewer. The vast majority (80%) of households, in the uplands and on the peninsula as a whole, use oil as their primary source of heating. The corresponding figure in County Louth is just over half this (46%), with the same proportion (46%) of households, in the county, using natural gas. Fewer than one-in-seven (14%) houses in the Cooley uplands and less than half (47%) of those on the peninsula, as a whole, are connected to the public water mains. Almost three-quarters (74%) of houses in the Cooley uplands rely on their own private well. Practically all households (98%) in the Cooley uplands have their own wastewater treatment system (85% have septic tanks and 13% have another treatment system). A tenth of houses in the Cooley uplands, as is the case across County Louth, is classified as 'unoccupied/vacant', with holiday homes constituting a further 4%. The proportion of holiday homes is less than half that in the peninsula as a whole (10%). The townlands immediately south of Omeath (Ballinteskin, Ballyonan and Corrakit) stand out in terms of the number of holiday homes; almost a quarter (22%) of all houses there are classified as 'unoccupied holiday homes'.

The labour force participation rate is higher in the Cooley uplands (58%) than in County Louth as a whole. As the following graph shows, employment in the primary and secondary sectors is more important in the Cooley uplands than in the county.

Figure 4-44: Sectoral composition of the labour force, in the Cooley uplands, in comparative context, 2016



Car ownership is more prevalent in the Cooley uplands than in County Louth overall; well over half (57%) of all households have at least two cars, compared to 38% across the county. As is the case across Ireland's uplands, levels of broadband connectivity are below average. Over a quarter (26%) of households in the Cooley uplands do not have a broadband connection, compared to one-fifth (20%) in County Louth.

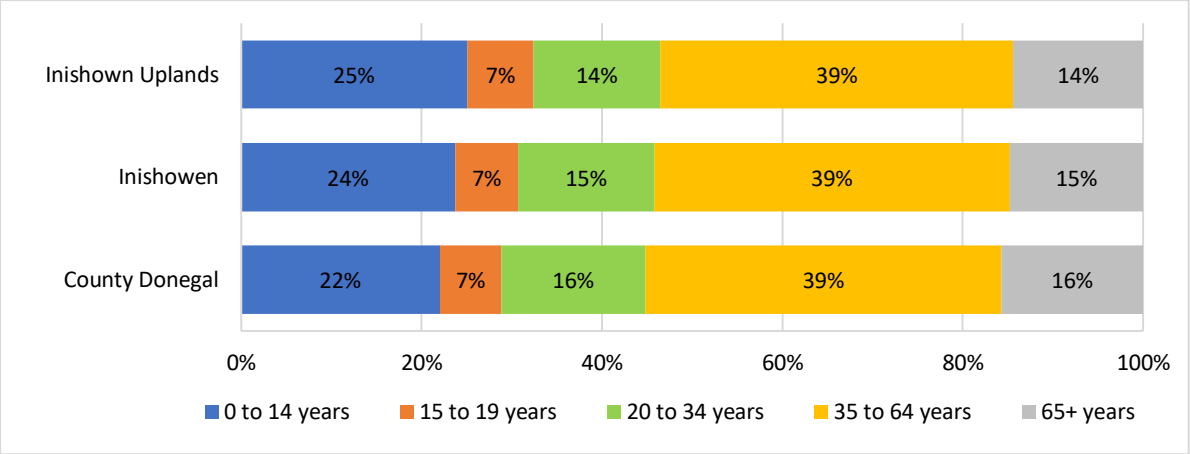
As this profile shows, the Cooley uplands share many characteristics with uplands across Ireland. Relative to the island of Ireland, they have higher proportions of persons employed in the primary and secondary sectors; lower levels of broadband connectivity; higher levels of car ownership; and above-average levels of home ownership. They are similar to T2 uplands in the RoI and uplands in NI generally in respect of the age composition of the population, and they have a younger age profile than T1 uplands. Their location, and specifically their relative proximity to Newry–Dundalk and the Dublin–Belfast Corridor, implies that they are under considerable urban influence, similar to that experienced by the Mountains of Mourne, but less than that experienced by the Wicklow Mountains or the uplands of South Antrim.

Inishowen

The Inishowen Peninsula contains Ireland's most northerly uplands. The peninsula, which is bounded on the west by Lough Swilly and on the east by Lough Foyle, is an area of outstanding natural beauty. The south of the peninsula is strongly influenced by proximity to Derry and Letterkenny, and towns such as Burnfort, Muff and Newtowncunningham are within the functional urban area of the North-West Growth Partnership, as identified in *Ireland 2040* (the National Planning Framework). The peninsula becomes progressively more rural as one moves northward towards Malin Head – Ireland's most northerly point. The Inishowen Peninsula[47] has a total population of 35,185, of whom eleven percent (n=4,020) live in the uplands.

The age profile of the population in Inishowen's uplands is somewhat younger than that of County Donegal, as a whole, and is more in line with the age profile found in T2 uplands across Ireland.

Figure 4-45: Age composition (by selected cohorts) of the population of the Inishowen uplands in comparative context, 2016



Like the Cooley Peninsula, Inishowen has a higher proportion of UK-born persons among its resident population than is the case across the State. This is associated with proximity to Northern Ireland. The Census of Population data reveal that almost a quarter (23%) of the population was born in the UK. However, as seen with the Cooley Uplands, only a small proportion (3%) of the resident population is a UK national, thus indicating that the majority of persons classified as 'UK born' come from nearby Northern Ireland, rather than Britain, and identify as Irish nationals. UK-born persons constitute over one-third of the population in several parts of the south of the Inishowen uplands[48], including Eskaheen, Scalp Mountain, Drumskellan and Ture as well as the townlands north and west of Quigley's point. Persons born outside Ireland and the UK represent a very small proportion (1.5%) of the population of the Inishowen uplands, while the corresponding figure for County Donegal, as a whole, is 4%. The proportion of the population with the ability to speak Irish (27%) is considerably below the State average (40%).

Married couples with children account for the single largest household type in the Inishowen uplands; they constitute 41% of all households. This is notably higher than the corresponding figure for County Donegal as a whole (32%). One-person households account for just under a quarter (23%) of all

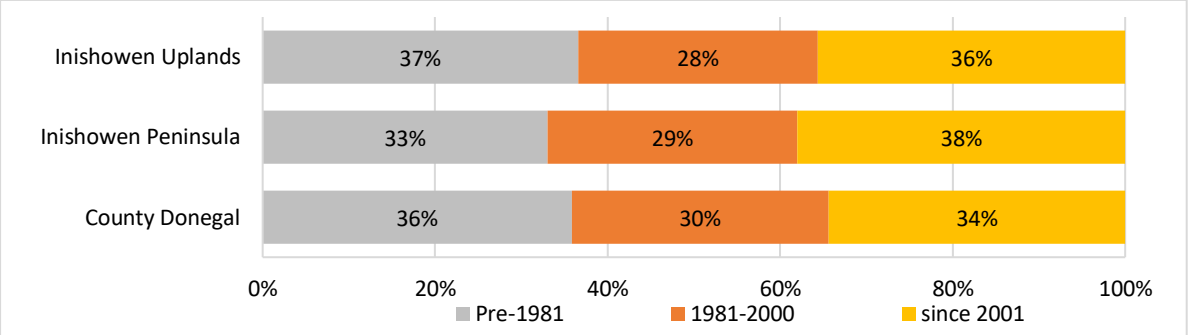
[47] For demographic purposes, the Cooley Peninsula is defined here as comprising the following Electoral Divisions (EDs): Ardmalin, Ballyliffin, Birdstown, Buncrana Rural, Buncrana Urban, Burt, Carndonagh, Carthage, Castlecary, Culdaff, Desertegny, Dunaff, Fahan, Glennagannon, Gleneely, Glentogher, Greencastle, Illies, Inch Island, Kilderry, Malin, Mintiaghs, Moville, Redcastle, Straid, Three Trees, Turmone and Whitecastle.

[48] The corresponding SAs are: SA2017_057093001, SA2017_057143003, SA2017_057149003 and SA2017_057149001.

households, which is less than the county average (27%). The third-most prevalent type of household is that of married couples without children. These represent almost one-fifth (18%) of all households, and are made up of pre-family households and so-called 'empty nesters'. The Inishowen uplands have a lower proportion of households headed by a lone parent than is the case across County Donegal as a whole; the respective figures are 8% and 12%.

Houses/bungalows (detached, semi-detached and terraced) account for the predominant housing type in the Inishowen uplands (99.3% of all dwellings). This is above the County Donegal average (96%) and that of the peninsula as a whole (97%). There is only one residential flat/apartment in the Inishowen uplands, and there are eight households residing in temporary dwellings (caravans/mobile homes). The Inishowen uplands have a housing stock that is similar in age to that of County Donegal, while the Inishowen Peninsula, as a whole, has a newer housing stock. This suggests that, over recent decades, housebuilding has been more prevalent in Inishowen's lowlands and areas of proximity to Derry than in the adjoining uplands.

Figure 4-46: Proportion of dwellings, in the Inishowen uplands, by period of construction, 2016



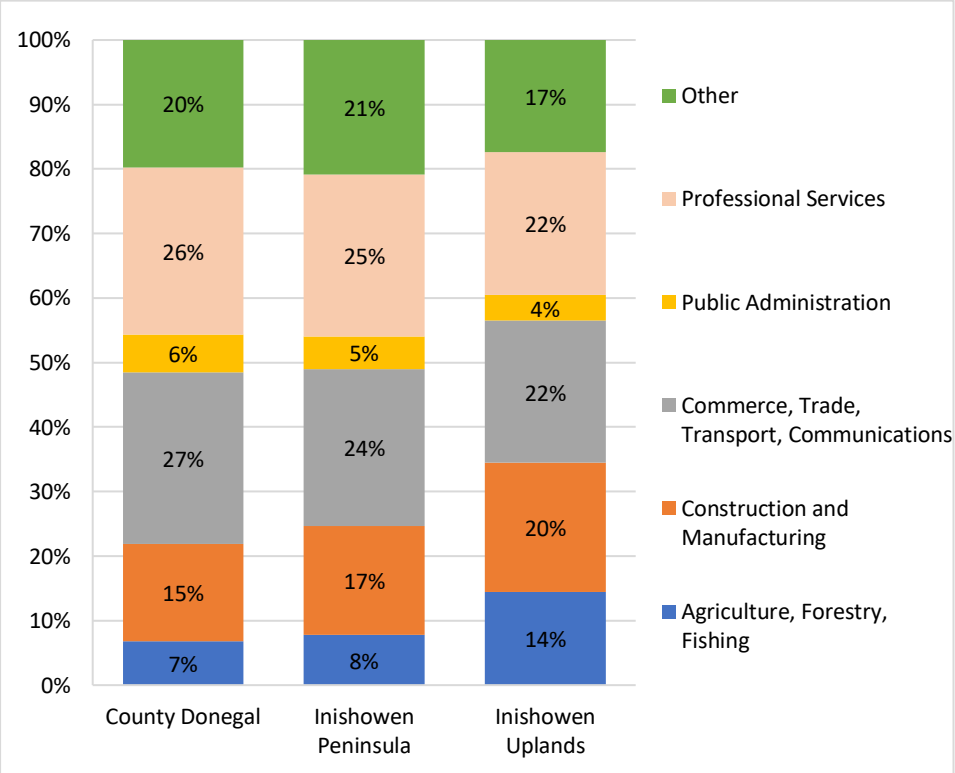
The vast majority (91%) of dwellings in the Inishowen uplands are privately owned, of which almost two-thirds (64%) are owned outright, with the remainder (36%) being mortgaged. On the Inishowen Peninsula, owner-occupied houses represent a smaller proportion (78%) of the housing stock, while the corresponding figure for County Donegal is 75%. The Inishowen uplands and Inishowen Peninsula have lower proportions of households renting from the local authority (2% and 5% respectively) than is the case in County Donegal as a whole (9%). In the Inishowen uplands, the proportion of houses in the private rental sector is less than half that in County Donegal (5% relative to 13%). Houses are larger (as measured by number of rooms) in the Inishowen uplands; almost four-in-ten (37%) of houses have seven or more rooms, while just over one-in-five (22%) has four rooms or fewer. In County Donegal, just under a third (31%) of houses has seven or more rooms, while a quarter have four rooms or fewer. Just under half (48%) of households in the Inishowen uplands use oil as their primary source of heating. This is lower than the corresponding figures for the Inishowen Peninsula (61%) and County Donegal (66%). Peat is the second most widely used fuel source in the Inishowen uplands; it is used in over a quarter (29%) of all households, with coal being the primary fuel source in one-sixth of homes. The level of reliance on peat is almost twice the Inishowen Peninsula average.

Less than half of houses (44%) in the Inishowen uplands are connected to the public water mains. While this is below the average for the Inishowen Peninsula (74%) and County Donegal (79%), it is higher than in comparable uplands, such as the Cooleys. Over a quarter (27%) of houses in the Inishowen uplands rely on their own private well, while a similar proportion (29%) participates in a group water scheme. The vast majority of households (96%), in the Inishowen uplands, have their own wastewater treatment system (89% have septic tanks and 7% have another treatment system).

One-in-seven dwellings in the Inishowen uplands, as is the case across County Donegal, is classified as 'unoccupied/vacant' with holiday homes constituting a further 9%. In Inishowen, the proportion of holiday homes is slightly higher (12%), but there are considerable variations across the peninsula. In some communities, holiday homes represent over a quarter of all dwellings. This is the case in Ardmalin, Ballyliffin, Culdaff and Greencastle.

County Donegal has the lowest rate of labour force participation of any local authority area in Ireland. Less than half (47%) of the labour force is classified as being 'at work'. This is six percentage points below the State average. The situation in the Inishowen uplands is the same as in County Donegal, thus contrasting with most other uplands; Irish uplands generally have above-average proportions of persons classified as 'at work'. As the following graph shows, employment in the primary and secondary sectors is more important in the Inishowen uplands than in the county overall.

Figure 4-47: Sectoral composition of the labour force, in the Inishowen uplands, in comparative context, 2016



As is the case in most of Ireland's uplands, car ownership levels are above average. Almost half of all households (47%) have at least two cars, while the corresponding figure for both the Inishowen Peninsula and County Donegal is 39%. The proportion of households, in the Inishowen uplands, with a broadband connection is six percentage points below the County Donegal average (58% relative to 64%).

Their relatively gentle topography and proximity to an increasingly significant urban axis (Derry–Letterkenny) confer on the Inishowen uplands a set of demographic and socio-economic characteristics that distinguish them from the more extensive upland ranges in County Donegal. Relative to the uplands of west and south Donegal, the Inishowen uplands have a stronger agricultural base and a younger age profile. While they have distinguishing features, they also have much in common with other parts of rural Donegal, including a low level of participation in the workforce and

a relatively high level of dependence on traditional economic activities. These structural weaknesses are most prevalent in the more rural and peripheral parts of the uplands, where, unlike in West Donegal, the absence of Gaeltacht status and a smaller tourism industry are among the factors that delimit economic diversification. As with the Cooley Mountains and other uplands along the RoI–NI border, cross-border flows are significant in shaping the profile of Inishowen. Thus, any re-imposition of a hard border on the island of Ireland would surely pose significant challenges for the Inishowen uplands.

Chapter 5 Conclusions

The previous profile of Ireland's (RoI) uplands, commissioned by the Irish Uplands Forum, noted the geographical diversity of Ireland's uplands. At the same time, it identified commonalities in respect of the issues they faced, including ecological pressures, demographic weaknesses and a contraction in upland farming. When the current and previous profiles are read together, it is evident that trends identified in 2011 have generally become more intense. Thus, the evidence emerging from two consecutive censuses is that there is a need for enhanced policy and practice interventions to sustain activities, particularly farming, in Ireland's uplands. The extension of the analysis to include NI uplands, as presented in the current profile, indicates the importance of public service provision and enhanced connectivity in enabling upland areas to diversify their economic bases and grow their populations. As this document illustrates, uplands in Northern Ireland emerge as being more dynamic and vibrant than those in the Republic. South of the border, proximity to urban centres, notably Dublin, Cork and Limerick, emerges as a significant determinant of the profile of several upland communities. Thus, while traditional economic activities and tourism continue to be significant drivers of the rural economy, urban–rural interfacing is increasingly significant. Uplands provide urban areas with a valuable range of public goods, while the urban economy increasingly shapes the dynamics of rural communities. The data presented here suggest that, depending on local circumstances and their physical geography, upland communities have variable experiences in respect of their economic strength and social vitality. Several upland communities, particularly those in the northwest and southwest emerge as having persistent structural weaknesses that merit attention.

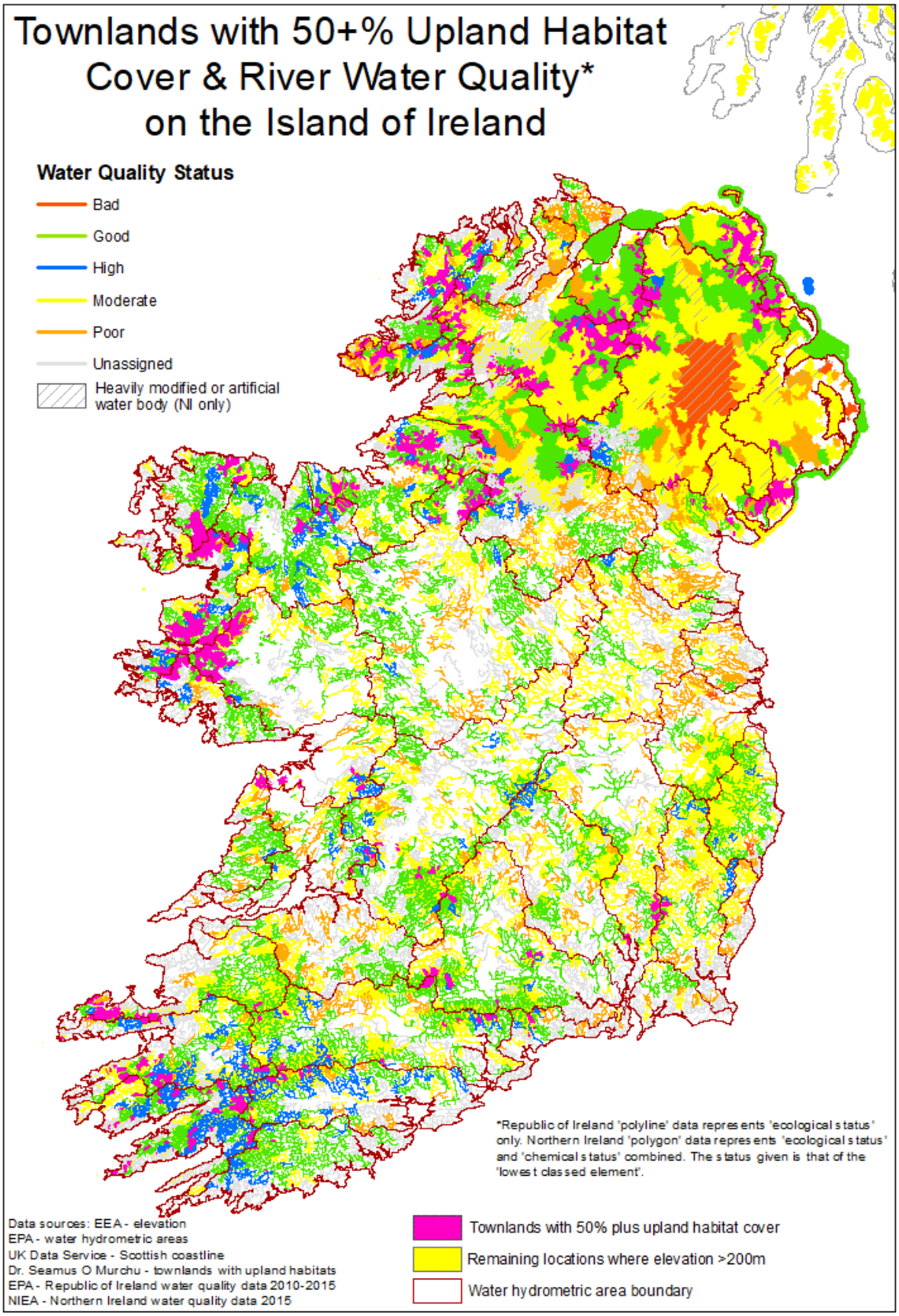
The longitudinal view that emerges from both profiles also underscores the appropriateness of geographically diversified and bespoke interventions, so that stakeholders can harness place-specific assets and enhance communities' capacities to realise the potential of their locales, in line with the OECD policy pronouncements articulated in *Rural 3.0*. The linkages between variables, as indicated by the spatial patterns that emerge from this profile, further underscore the merits of place-based and collaborative approaches to enabling upland communities to chart their development trajectories. Thus, the endogenous approaches such as those that underpin LEADER and Community-Led Local Development are particularly significant for the future development of Ireland's uplands.

As is evident throughout this profile, the geography of Ireland's uplands is characterised by fuzzy and flexible boundaries, such that inter-upland collaboration and collective action with adjoining lowland areas are integral to sustaining upland futures. The on-going rollout of tourism and recreational infrastructure, in the form of waymarked ways, greenways and pilot mountain access areas represents a visualisation of the value of upland spaces and places and the merits associated with working across traditional institutional and geographical boundaries. Such approaches need to be deepened, accelerated and extended to the totality of issues and opportunities associated with Ireland's uplands. These need to be rooted in place, and adapted to local circumstances, and they must engage local stakeholders throughout. Clarity and certainty in relation to recreational access can be a significant enabler of rural tourism.

This profile provides a comprehensive baseline of the position of Ireland's uplands at a given point in time. It offers actors a tool with which they can identify needs and opportunities, and against which they can monitor and track progress over the coming years. The analysis that accompanies the maps and graphs presented here enhances our understanding of the processes that shape and influence the dynamics of upland places and spaces. Stakeholders are encouraged to use this profile, as a living document, to avail of it in planning for and delivering on the sustainable development of our uplands, and to use it to help highlight to the broader public why they are truly national treasures for all.

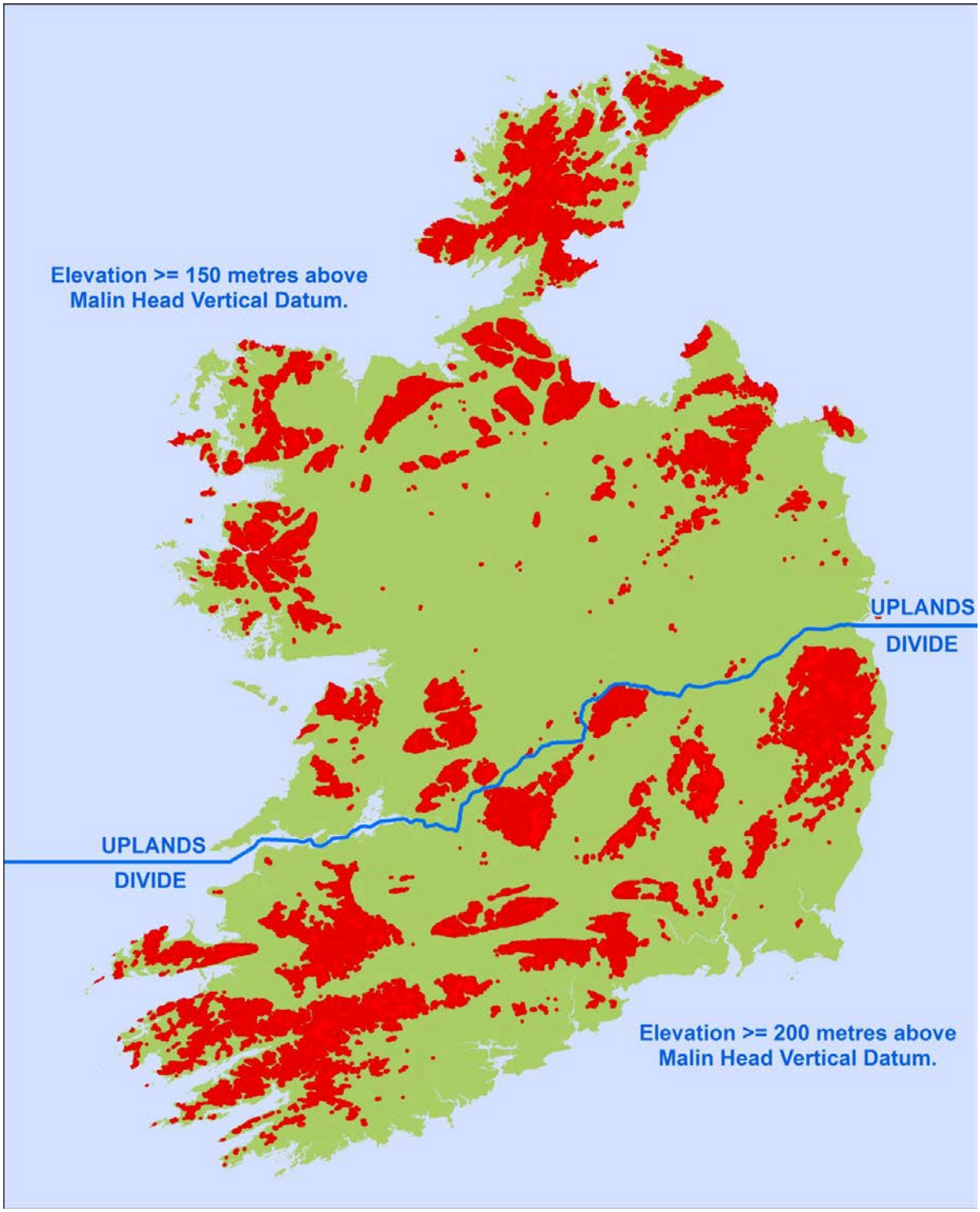
Appendices and References

Appendix 1: Upland areas, upland habitat and water quality in Ireland.



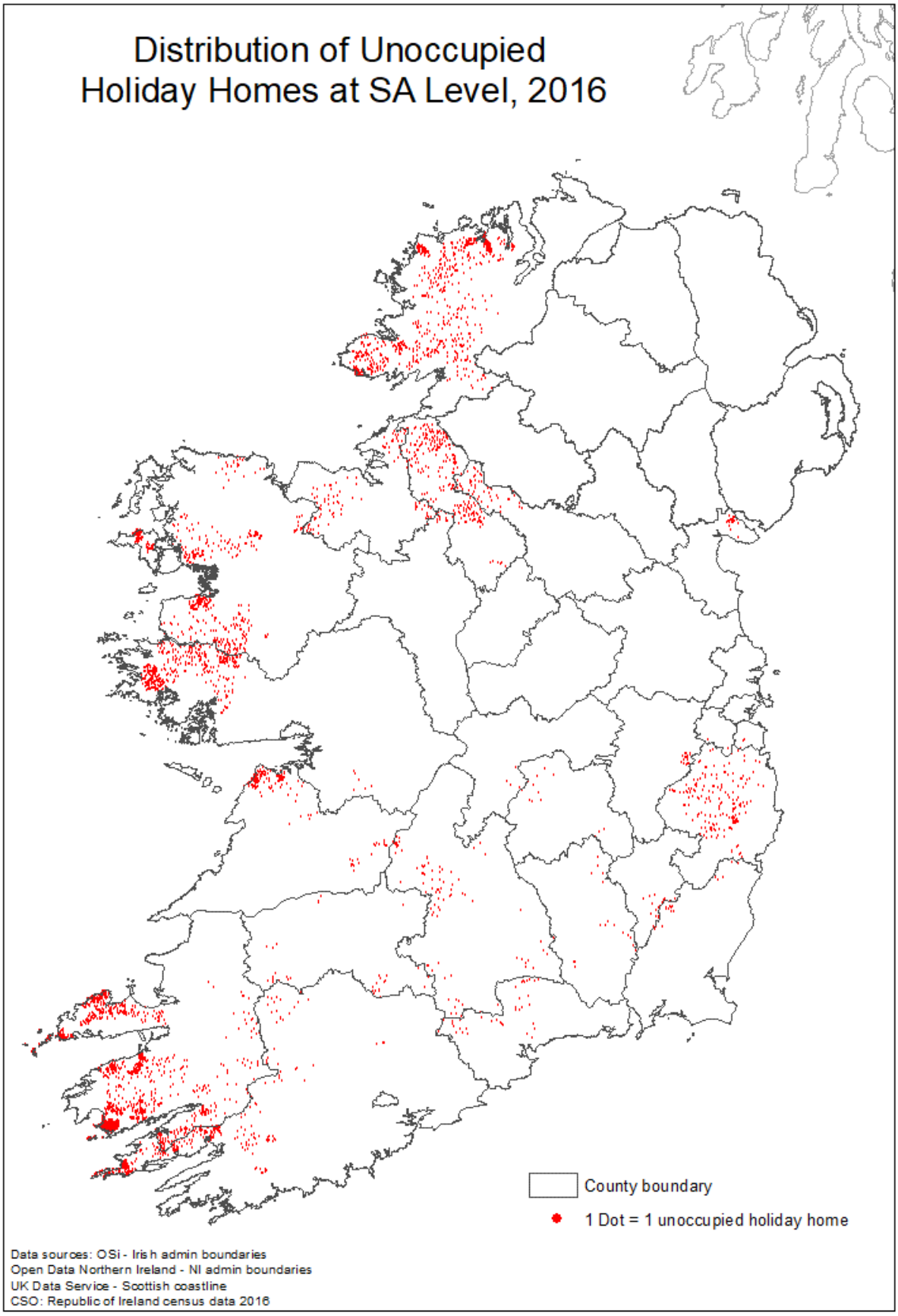
Appendix 2: Upland areas for agri-environmental schemes in the Republic of Ireland

For the purpose of the Green Low-carbon Agri-environment Scheme (GLAS), uplands were broadly defined in a targeting exercise by the National Parks and Wildlife Service as land at or above 150m in the north and west of the country, and at or above 200m in the south and east.[49]



[49] Dr. James Moran, GMIT, personal communication, 4 December, 2018.

Appendix 3: Dot distribution map of holiday homes in the uplands



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