

Manx Uplands Steering Group

Issues and Opportunities



This document has been written by a steering group representing the following organizations: DEFA, MNH, MNFU, IOM Flockmasters, DED, WaSA, GLUG, DEFA shooting tenants, DEFA farming tenants, MBL/RSPB & MWT

Manx Uplands Steering Group

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Summary

- The Manx uplands are a multifunctional space that require sensitive management to deliver their many uses in a manner sustainable for future generations.
- Farming has been, and continues to be the principal driver in shaping the character of the uplands. In the past stocking rates and land usage have been influenced by agricultural subsidies that have now been replaced by the Countryside Care Scheme which gives farmers more freedom to manage their businesses.
- The majority of the uplands are in the ownership of Government and subject to leasing conditions. The uplands can therefore be protected and managed through good stewardship of Government and their tenants and stakeholders.
- The attraction of the uplands as a place of relaxation and recreation is as a direct result of the distinctive landscape and environment. However, maintaining this landscape has an associated cost linked primarily to agriculture and shooting interests, and the tools and labour needed to sustain these practices.
- The maintenance of heathland and grassland habitat is essential for upland biodiversity, whilst stone walls and sod hedges are both an important landscape feature and habitat. Peatlands contain irreplaceable archaeological records, huge amounts of stored carbon and are a globally important habitat.
- The uplands provide essential functions that have only recently been acknowledged as 'ecosystem services'. In the Isle of Man, these include the provision of drinking water and carbon storage. Whilst these functions are essentially 'free', if they ceased to work the associated costs would prove expensive (e.g. 1 tonne of CO₂ released from peat is estimated to cost £20. Management of reservoir catchments to ensure a steady and uncontaminated supply of water complements the requirements of healthy carbon sequestering peatlands which filter and slowly release rainwater.
- Erosion of drainage channels and the carving out of tracks by walkers, cyclists, horse riders and motorised off-road vehicles all take their toll and ultimately result in loss of stored carbon. However, the maintenance of tracks and rights of way is an important part of uplands conservation and promotes both local access and "eco-tourism".
- Forestry has arguably had the biggest impacts on the uplands in the last 60 years, both visually and on the environment. Current forestry practices are much more sympathetic to the uplands, but further thought is required on how to ensure that clearfell is managed in a way that can improve the condition of the uplands. This is particularly of relevance given the current plans for phytosanitary felling of larch.

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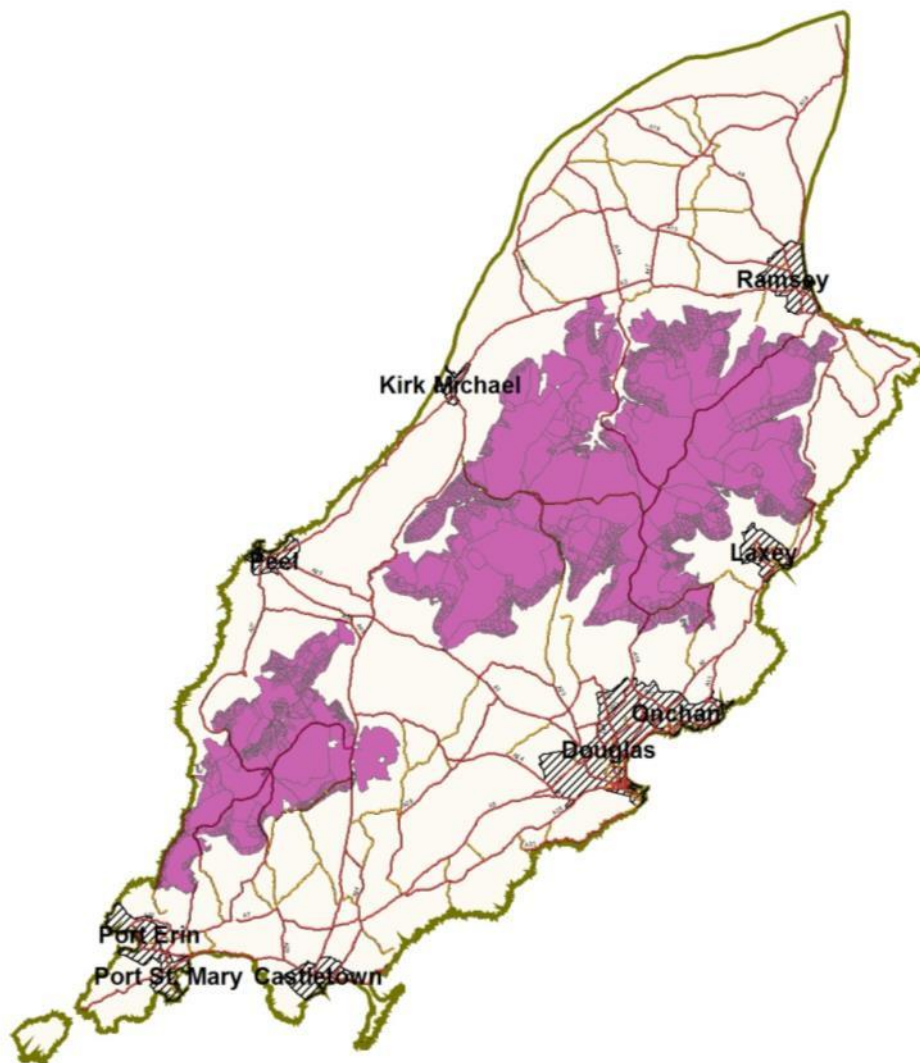
- Planting of native broadleaved trees on steep ground is a desirable management tool that sequesters carbon, slows runoff, prevents erosion and (via fencing) prevents livestock access to the streams that feed the reservoirs.
- Management of moorland for grouse plays a significant role in the landscape and habitat condition of the uplands. The effort put into grouse moor management goes largely unrewarded at present, in terms of shooting returns. Ensuring the continued management of the hills for grouse will have knock-on benefits for other ground nesting bird species and biodiversity in general.

Defining the Manx Uplands

In discussing aspects of the Manx Uplands, it is important to define the boundary of the area in question. This is not straightforward as there are differing definitions and understanding of the uplands. For the purposes of this piece of work, a broad definition has been used to ensure that all facets of upland management are included.

However, this does not preclude other definitions being used for future policy decisions for the uplands that are already in existence, or that are more easily defined and administered e.g. water catchments, "Above the mountain line", 250m above sea level.

The definition below includes all land above 200m, all areas of 'AML' defined land, all areas of heathland, woodland and water catchment contiguous with the 200m contour. The definition also includes areas of coastal heath, not marked on this map, but detailed on page 27.



Introduction

The hills and mountains of the Isle of Man are part of a cherished and iconic landscape that have inspired works of art, literature and music for centuries. Reference to the hills of Man can be found in the words of the National Anthem, the colours of Manx tartan and even the iconic TT 'Mountain course'.

The uplands may look wild and untamed, but they have been created by the actions of man over many thousands of years. Since Neolithic times, man has cleared woodland, drained wetland, fertilised soils and introduced livestock.

Today the uses of the uplands are dominated by agriculture, forestry, outdoor recreation and grouse management.

However, the uplands are also responsible for a number of less recognised, yet invaluable services:

- They gather and filter over 99% of our drinking water.
- Store millions of tonnes of carbon (est. 17.45 Mt CO₂ equivalent) in peat and soils.
- Are home to some rare and internationally important wildlife.

Less tangible but equally important is their cultural identity; the Island's history is interwoven into the very fabric of the hills, from the impressive hill fort of South Barrule (the mythical home of Manannan MacLir) and chambered grave on Meayll Hill, to the Norse names that adorn iconic landmarks such as Snaefell, Sartfell and Sloc.

This document has been written by a group of stakeholders who each recognise the importance of the uplands in their own professions.

Each section is written from the perspective of the people with the knowledge and skills in that area and has been reviewed and discussed by the rest of the Steering Group.

The purpose of this document is to provide background information, data and stakeholder input to help inform future Government policy on the Manx uplands.

Access and Recreation

Background

Much of the 28,000 acre DEFA estate is open to public ramblage (approx 20,000 acres) and over 90km of footpaths and rights of way (25% of all Manx footpaths) occur in the 'uplands' above 200metres. No firm figures currently exist for the usage of the uplands for recreation activities but conservative estimates of visitors to the DEFA estate are well over 0.5million per annum

In the UK it is known that the uplands attract more than 100million day visits a year where access to green space and nature is strongly linked to improvements in physical and mental health.

Current situation

Walking and mountain biking are increasingly popular activities in the Isle of Man, with access to the natural environment being a large motivator e.g. the End to End mountain bike race attracts over 1,500 riders and takes in some of the most scenic and toughest Public Rights of Way and greenways. The uplands contain a massive opportunity to increase the nation's health through encouraging people to get out and enjoy nature.

These recreational demands require the continual maintenance of infrastructure to prevent erosion. The use of motorised vehicles in the uplands is also popular, and has the potential to create further problems if not managed in a sustainable way. Inappropriate maintenance can also be an issue e.g. use of scalping as a surfacing material that cannot be cycled over.

In addition to general access by the public, many clubs use the uplands and rely on Department owned land for ease and low cost of access compared to private land.

Key Policy Drivers

Forestry Act 1984 and subordinate legislation, including Forestry General Byelaws

Forestry, Amenity and Lands Directorate's own recreational policies

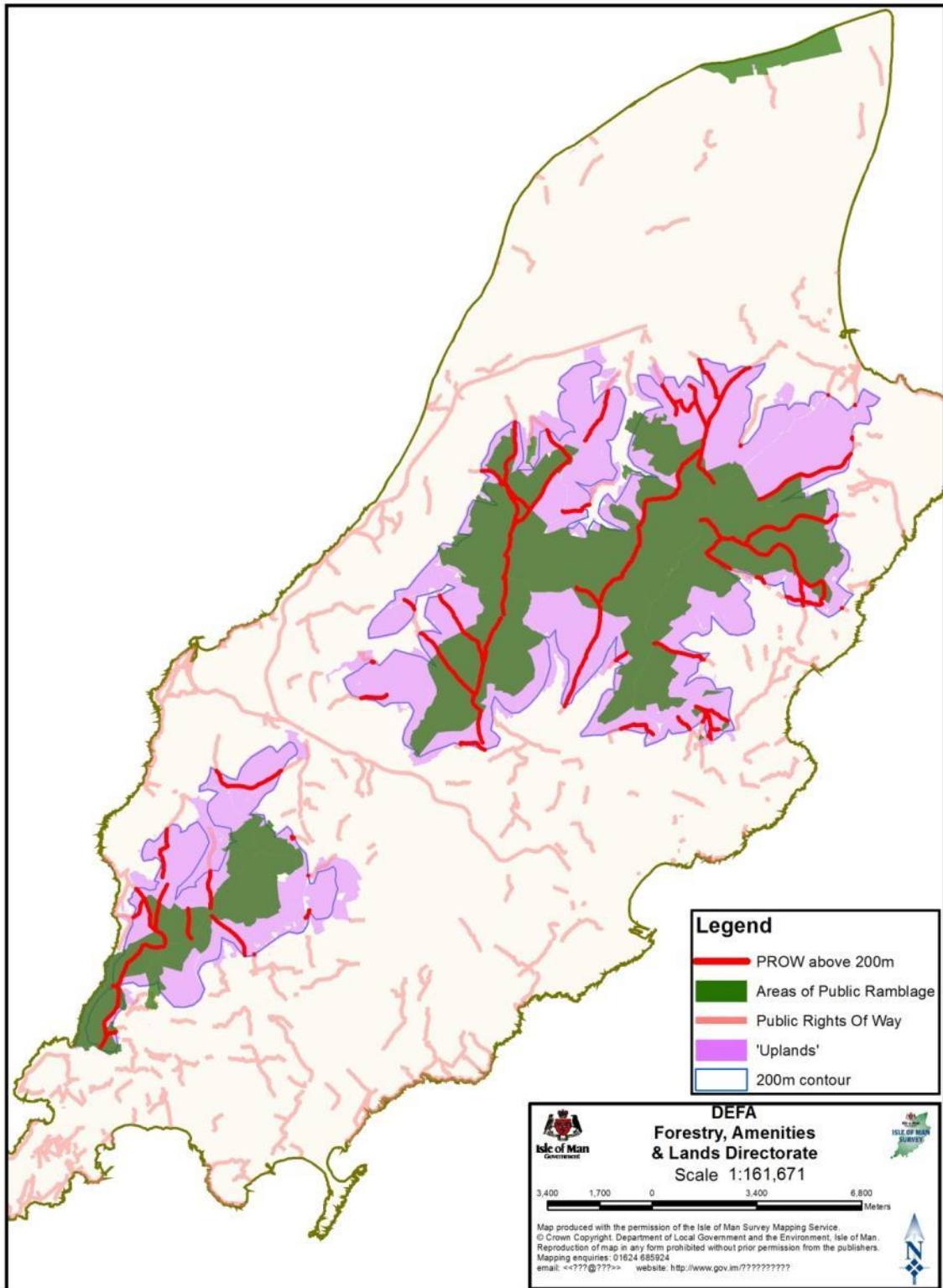
Highways Act and subordinate legislation including Greenway Roads Order.

Wildlife Act and associated legislation

CoMin Report 2006 - Practical Measures to Reduce Damage to Upland Areas by Vehicles

DTL General Leisure Strategy 2003

Public Rights of Way and Ramblage in the uplands



Areas of public ramblage and Public Rights of Way in the Manx uplands.



Nick Craig, winner of the End to End 2009 race on Cronk ny Arrey Laa permissive Mountain bike trail built and managed by DEFA

SWOT Analysis- Access and Recreation

Strengths

- Large area of land in government ownership
- Upland areas are easily accessible
- High utilisation of ramblage by the public, clubs and sports organisations for a diverse range of recreational activities
- Good network of PROWs and general appreciation of its recreational potential
- Permissive paths linking uplands to adjacent private land already exist
- Good working relationship between main stakeholders and interested parties including government departments and agencies, user groups, grazing and shooting tenants, Police Wildlife Officers, etc
- Existence and continuing growth of annual sporting calendar e.g. End to End, IoM Walking Festival, Fell Racing, inc. Manx Mountain Marathon.
- Established Wardening team which interfaces with public over recreational use of the uplands, education and enforcement of byelaws.

Weaknesses

- Damaging activities still occur on peatland e.g. off-piste motorcycling
- Lack of signage, interpretation, information material and clear access policies
- Many people lack knowledge and confidence in the countryside
- Under-representation by particular groups. Lack of data to promote an 'inclusive countryside'. Certain barriers to participation physical access, financial and lack of confidence
- Lack of practice areas for off road motorcycling
- Lack of joined-up government recreational policies
- Shooting and grazing tenancy agreements can prevent development of full recreational potential

Opportunities

- Increased education and awareness
- Creation of 'gateways' to the uplands
- Joining up of existing PROWs to create more circular walks.
- Expansion of recreational route network.
- Formalise existing non-designated routes if appropriate.
- Increase the number of permissive paths through cooperation with adjacent landowners
- More partnership work and create integrated access policies between main Government landowners i.e. DEFA, MNH, WASA, DoI. Identify and Integrate common strategic objectives promoting countryside recreation and healthy and active lifestyles e.g. Physical Activity Strategy, Tourism Strategy, WASA rec recreation policy, Education, Open Access policy for Cyclists (Mountain Bike Land Access Code), etc.
- Re-establish the government's Countryside Access Working Group
- Embrace technological improvements e.g. GPS and Smartphone for mapping, navigation, interpretation of wildlife and historical sites, and recreational activities such as geocaching, mountain biking, etc
- Potential for developing old properties and buildings for recreational uses
- Embrace the general growing interest in the outdoors and volunteer work parties to carry out practical tasks and maintenance of footpaths, tracks, repairs to dry stone walls, etc
- Review and standardisation of way-marking along recreational routes and PROWs
- Availability of land in the government land bank to create a site for off road motorcycle practice area to reduce the impact on other more sensitive areas

Threats

- Damage from excessive and/or illegal activities
- Conflicts between user groups
- Closure of existing routes from damage
- Climate change – wetter winters
- Reduction in government budgets required to carry out maintenance work and improvements along main recreational routes and PROWs.
- Possible sale of government assets, including land and buildings, to fund other government priorities.
- Restrictions on access and recreational use imposed by new ASSIs or other land designations

Agricultural Policy

Background

Agricultural policy in the Isle of Man has traditionally followed that of the EU Common Agricultural Policy, with the key aim of allowing farmers to trade at no disadvantage in the European single market. Headage payments were made on livestock and crops, with hill sheep subsidies paid at a maximum of 1 ewe per 2 acres (equivalent to £6/acre). A lamb premium was also payable which could increase the payment by another £6/acre. Under the Hill Sheep Subsidy Scheme 1990, higher densities of sheep could be carried-but with no additional payment. In addition a suckler cow premium (£40/cow) was paid on marginal land.

In 2008 the Countryside Care Scheme (CCS) was introduced to mirror the Single Farm Payment (SFP) Scheme adopted by the EU in 2005. The purpose of SFP and CCS is to remove the link between subsidies and production of specific crops- known as 'decoupling'. Unlike previous subsidies, farmers are no longer paid according to the amount of specific crops or animals produced, but against 'entitlements' claimable against 'eligible acres' of land. These entitlements were for the first five years of the scheme based on the historical farming activity and subsidy claims where as the following five years will see the historical amount graduate into an area payment. To participate in the CCS applicants must maintain eligible land in Good Environmental and Agricultural Condition (GAEC). Two land classifications 'above the mountain line' and 'below the mountain line' were created to stratify the value of area payments.

In addition, a pilot Agri-Environment scheme was launched in 2002 with approximately 30 farms signed up for 10 years in a whole-farm agreement designed to maintain and enhance the wildlife interest of the farm. The Scheme included large areas of the uplands.

Current situation

The transition from production linked payments to a single farm payment (Countryside Care Scheme) in 2008 has led to a period of turbulence for farmers as they have looked to understand the impact of the new scheme on the farm business. However the pending move to a flat rate area payment will lead to a period of relative stability where farm incomes will be assured. Arguably this move to a flat rate payment will likely see an increase in payment value towards more extensively managed farm holdings.

The value of the Scheme budget is depreciating as it is not linked to rises in inflation. In line with other Government cutbacks in spending, the value of the CCS budget is also set to be reduced by 8% over 3 years from 2013.

The move from production payments has also severed the tie with the local food chain and allowed producers to seek alternative markets via live export.

The change to single farm payment and the loss of the red meat derogation in 2012 is increasingly requiring local processors to become market focused to remain viable and to offer a competitive price to their producers.

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The current pilot Agri-Environment Scheme is being wound up in March 2014 with no successor as yet identified.

The challenge for agricultural policy going forward is to continue to secure a fair deal for farmers that will allow them to continue farming sustainably into the future. This can best be achieved by ensuring that agricultural payments demonstrate good value for money to taxpayers and other land users by paying for active and demonstrable positive land management. This issue is particularly poignant in the upland areas as these areas, on the whole will gain financially under the CCS.

Key Policy Drivers

Countryside Care Scheme- a voluntary Scheme that rewards farmers as an area payment to maintain the land in good agricultural and environmental condition.

EU Common Agricultural Policy-whilst not directly relevant to the Isle of Man we have historically been influenced by EU policy decisions.

Market prices- have a strong influence on the direction of agricultural practices and production.

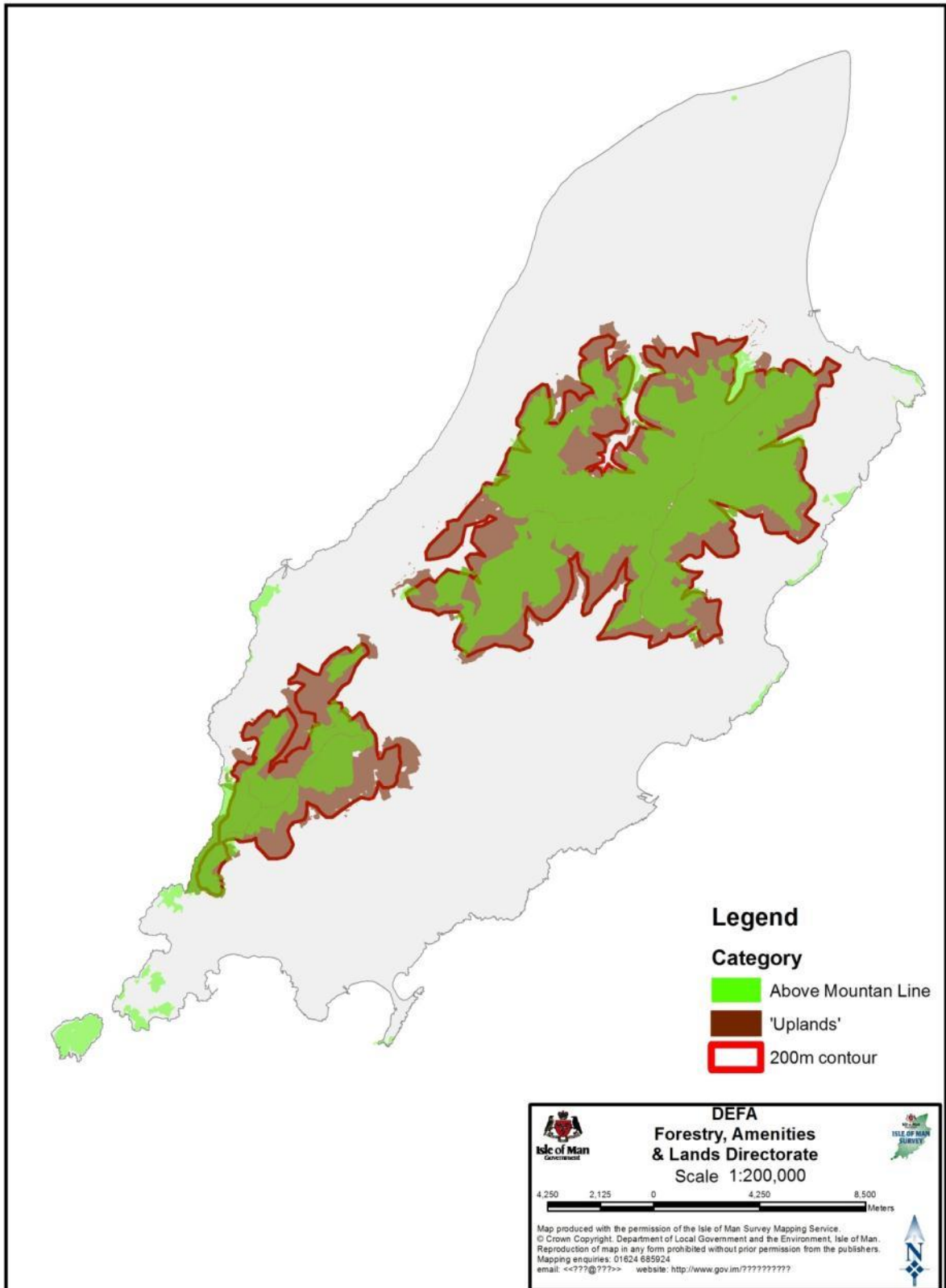
Agri-environment scheme

Environment and Infrastructure Committee Policies EI 2, 7 & 8

Legislation- including Heath Burning Act 2003; Agricultural Holdings Act, 1969; Agricultural Tenancies Act, 2008

2008 Policy Document 'Developing a Reliable, Sustainable Self Reliant Manx Agriculture'

AML land in the Countryside Care Scheme





In order to ensure farmers can continue farming sustainably into the future agricultural policy must demonstrate positive upland management.

SWOT Analysis- Agriculture policy

Strengths

Greater flexibility and speed than UK in setting agricultural policy (No direct CAP influence)

Upland farms are less isolated than UK equivalent.

Allows farming to be competitive with UK counterparts

Provides long term stability of income for farmers in a dynamic market

GAEC's are effective in maintaining upland habitat

2008 Tenancy Act has provided more flexibility for tenants and landlords

Hills are in good shape as a starting point for developing policy

The Manx public have a strong affinity for the 'hills'

Weaknesses

Continued reliance on subsidies for farm profitability

Lack of measurable value for money to public in current scheme

No successor to pilot agri-environment scheme

Opportunities

Securing payment by providing public goods/ecosystem services

Opportunity to amend outdated legislation or put desirable upland management into legislation

Develop a unified policy vision for the uplands with demonstrable/measurable outcomes

Scope of GAEC's could be enhanced to reflect current/aspirational positive management in uplands

Threats

Shrinking budget through inflation will reduce the influence of Government policy on agriculture and/or increase likelihood of farmers opting out of voluntary schemes.

Reductions in budget to fund shortfalls in other areas of Government could threaten agricultural budgets.

Other upland activities become more important than farming and reduce the influence of agricultural policy on upland management.

Archaeology and Cultural Heritage

Background

Every landscape is to a degree the result of human activity. This is manifested in numerous different ways: in patterns of settlement and land management, in layers of land-use through time, in structures of all ages, in artefacts, and less obviously in buried remains, modern vegetation patterns, ancient pollen, and the development of soils.

Every landscape thus has the potential to preserve and display uniquely the effects of the interplay of human activity and the environment, at a local level and sometimes on a global scale. There are many ways of assessing a landscape's significance, and not every landscape is equally valuable. When a landscape preserves a long record of human activity and association, perhaps combining this with great beauty and visual interest, however, such qualities can become iconic and can be representative of local and even national identity.

Landscapes continue to evolve, inevitably leading to the loss of cultural heritage. The effective, managed, conservation of landscape should include the gathering and synthesis of information, assessment of significance, protection of individual features of local and national importance, management and avoidance of damage through better understanding, and preservation through record of remains which are vulnerable to development.

Current situation

Upland landscapes can better preserve evidence for past human activities because they are often put to less intensive and damaging uses in the modern era. There is a tendency for less development and less agricultural activity, though afforestation can pose a significant threat.

The Manx uplands are no exception.

- Upland common land historically accounted for 30% of the Island's land surface
- Uplands contain around 5% of recorded archaeological features but many more have been observed
- Upland archaeological remains on the Isle of Man range in date from about 5,000 years ago to the present day. Palaeo-environmental evidence potentially dates back even further to the end of the Ice Age
- Upland archaeology includes a range of features: buried remains and artefacts, and upstanding earthworks and structures; prehistoric and medieval burials; permanent and seasonal settlements and dwellings of prehistoric, medieval and more recent date

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- Cultural remains in the uplands also include features not usually regarded as archaeology: peat deposits (for ancient environmental and botanical evidence); field systems; abandoned farmsteads (tholtans)

Key Policy Drivers

There is increasing recognition on a British Isles and European scale that uplands are a significant human landscape and cultural resource. These concerns are reflected in the European Convention on the Protection of the Archaeological Heritage ('Valletta Convention'), of which the Isle of Man is a signatory, and the European Landscape Convention ('Florence Convention'). The latter convention usefully states that landscape

- is a key element of individual and social well-being;
- contributes to the formation of local cultures and that it is a basic component of the European natural and cultural heritage; and
- is an important part of the quality of life for people everywhere.

The Florence Convention also helpfully provides an up-to-date definition of landscape as 'the result of the action and interaction of natural and/or human factors'. It also defines

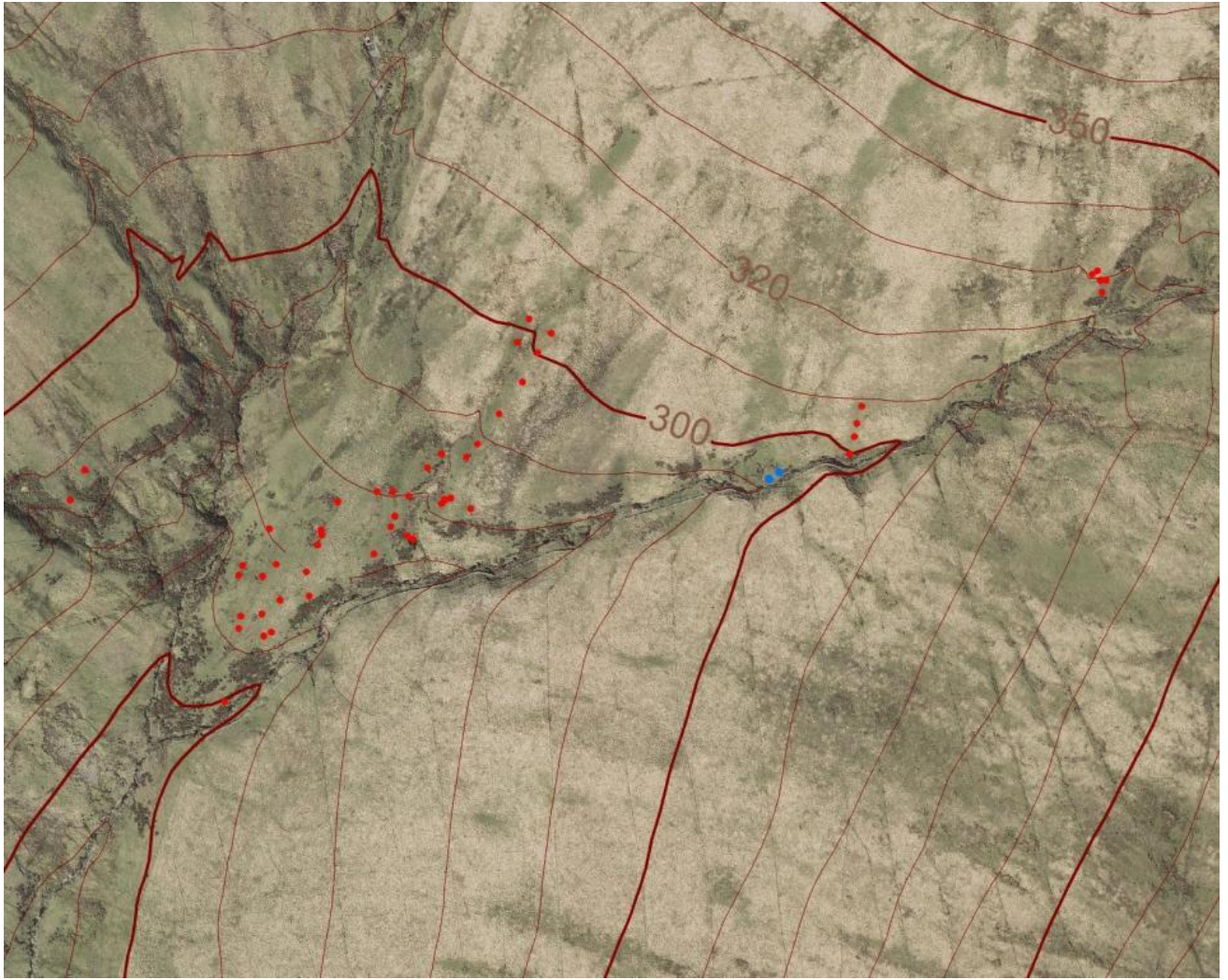
- 'landscape protection' as actions to conserve and maintain the significant or characteristic features of a landscape;
- 'landscape management' as an action ensuring the regular upkeep of a landscape, so as to guide and harmonise changes within; and
- 'landscape planning' as a strong forward-looking action to enhance, restore or create landscapes.

At a European and international scale the uplands have great archaeological and cultural potential and significance. The discovery in 1991 of 'Otzi', the 5,300 year-old body of a man mummified in ice at an altitude of 3,200m on the Austrian-Italian border demonstrates the capacity for even extreme upland landscapes to preserve and reveal evidence of the past, in ways which are still arousing new scientific investigations and public interest more than two decades later.

On the Isle of Man the uplands have the potential radically to change and improve our knowledge of palaeo-environmental development and past human activity. Proper understanding is however hampered by incomplete survey and recording, which in turn affects robust and effective protection and management. There is significant specialist / niche tourist potential to be gained from the promotion of the historic cultural assets of the uplands, but this may come at the risk of threats from new activities or concentration of existing activity if these are not managed effectively.



Medieval summer settlements or 'shielings', from which farm animals grazing commons were managed (herded, folded, milked and protected from predators and rustling) – just one class of feature in the Manx uplands, historically vital to the management of lowland farms where crops would have been simultaneously approaching harvest.



Re-survey in 2012 of medieval shieling site showing remains of shieling huts (red) and potential Viking Age or Medieval marginal farmstead (blue). Land-drainage ditches dug in the 1920s and 30s show up as near-parallel lines in the lower half of the photograph.



Competing landuses – incompletely surveyed shieling site, now partially obscured by modern (1980s) conifer plantation.



Competing landuses – a late Viking Age / Medieval farmstead adjacent to a green lane and conifer plantation; the field system associated with the farmstead is under threat of damage and erosion from the nearby track, having previously been compromised by the nearby conifer plantation.

SWOT Analysis- Archaeology and Cultural Heritage

Strengths

Uplands are a significant resource for cultural heritage

Upland archaeology generally in good condition

Many areas passively protected through Government ownership

Many areas actively protected by Government through laws, by-laws, policy and management

CCS generally discourages land improvements that might disturb archaeological remains

Weaknesses

Poor public perception / education regarding historical and cultural significance of uplands

Damaging activities can and still occur on uplands

Few or no incentives to restore damaged uplands

Location of archaeological remains of all types is under-recorded

Significance of archaeological and cultural remains poorly recognised or understood

Opportunities

Identification and recording of archaeological remains by survey

Palaeoenvironmental and archaeological investigation and research

Assessment of significance and formal protection for most valuable sites and areas

Active management

Promotion, interpretation and appreciation of cultural remains for upland users and the wider public

2014 is 'Island of Culture' celebration

Threats

Damage by third parties

Increasing recreation pressures

Potential landuse pressures

Wildfire

Climate change

Changes to agriculture policy

Renewed afforestation

Upland wind farms and associated infrastructure – access tracks, cable trenches

Changes to drainage or de-watering

Carbon

Background

Peat is a type of soil that contains predominantly dead organic matter. It forms under water-logged conditions from dead plant material and accumulates where rainfall is high and loss of water through evapotranspiration is low. Maintaining peatlands in good condition can reduce net carbon emissions as peatlands can sequester further carbon. Degraded peatlands, however, release their stored carbon as exposed peat decomposes.

Peatlands can be damaged through a range of land management practices such as draining, burning, overgrazing, pollution, afforestation, extraction, establishment of wind farms and access paths. Damage can range from a slow lowering of water levels which might not have an obvious effect for many years, to complete removal of the vegetative layer with bare peat subject to severe erosion.

Current situation

The Isle of Man uplands' peat reserves are a significant carbon store as demonstrated in the map below. There are other areas in the Isle of Man with extensive and deep peat deposits not included in this assessment including the lands surrounding Ballaugh Curragh, Lhen trench and the Central valley. However, the bulk of the carbon storage in the Isle of Man is unquestionably in the uplands.

From these (imprecise) figures it is conservatively estimated that the total amount of stored carbon in Isle of Man soils is **4.76 million tonnes**. This is equivalent to **17.45 million tonnes of CO₂**. The breakdown of carbon allocation between habitats is illustrated graphically in the Figure below, with the darker coloured tiles represent those habitats that are most carbon dense i.e. more carbon storage per unit area. Heath and acid grassland contain a high proportion of the Islands carbon reserves and are almost exclusively associated with the uplands. Conifer plantation can also be included in this category, being planted primarily on upland heath.

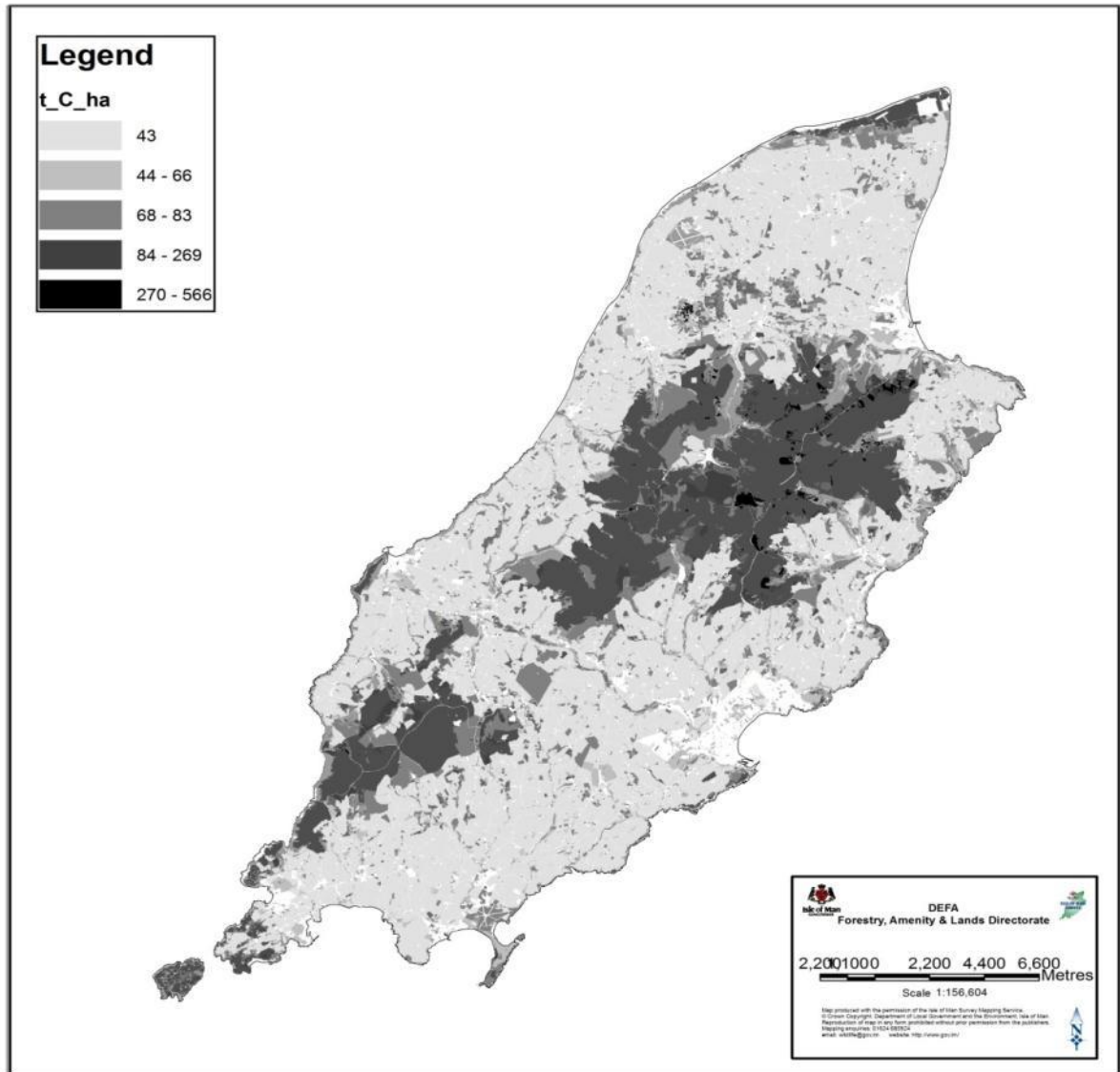
Turbary-cutting peat for fuel, was a common practice historically. The Department still maintains and licences one small turbary but has significantly increased the licence fee in recent years in recognition of the value of the peatland resource.

Key Policy Drivers

Globally, peatlands account for one third of the world's terrestrial carbon. The restoration of peatlands can re-establish peatland function and associated ecosystem services and secure the storage of carbon already held within the peat. It can also help peatlands adapt to climate change.

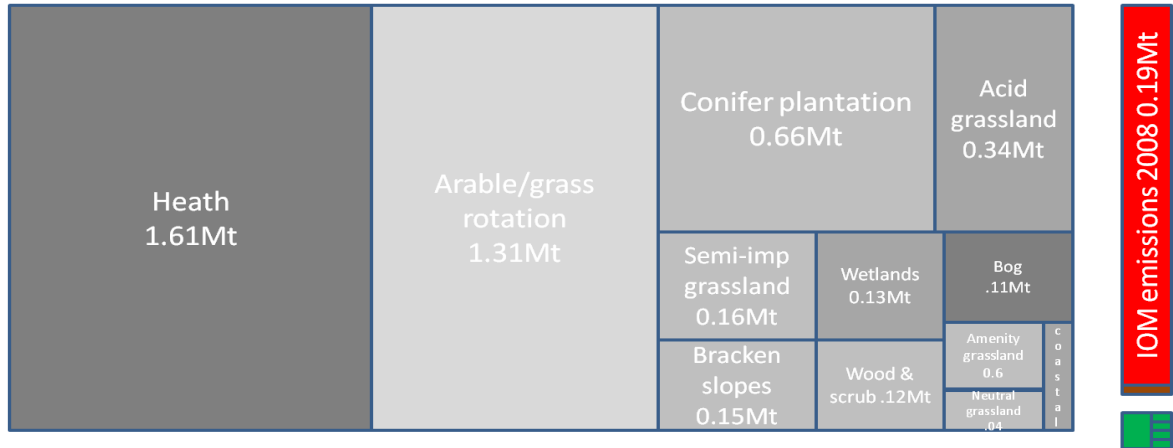
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Peatlands are currently attracting policy interest because of their potential to provide the ecosystem services described above, particularly their potential role in climate change mitigation- an increasing area of interest for the Isle of Man Government who are a signatory of the Kyoto Protocol and have targets to reduce carbon emissions.



An estimate of soil carbon stored in the Isle of Man derived using soil carbon figures from the 2008 UK Countryside Survey and the 1992 Isle of Man Phase 1 Habitat survey.

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Estimates of soil carbon storage by habitat in the Isle of Man with annual emissions (red) and sequestration (green).



Sphagnum moss: a keystone of healthy, carbon-sequestering peatland.



A 'peat pipe' formed in an abandoned peat cutting (turbary) where water drains quickly through (and erodes) deep peat deposits.

SWOT Analysis- Carbon

Strengths

Peatlands are a significant carbon store

Peatlands are generally in good condition

Current heathland management (burning and grazing) discourages wildfire

Many areas protected through Government ownership

CCS discourages land improvements

Weaknesses

Damaging activities still occur on peatland

No incentives to restore damaged peatlands

Location of peatland sources and sinks are unstudied in Manx peatlands.

Opportunities

Identification of peatland carbon sources and sinks

Potential to successfully restore degraded peatlands

Potential to get funding via carbon trading or corporate social responsibility

Heathland restoration opportunities may arise on conifer clearfell areas

Review of forestry policy following *P. ramorum* control measures

Threats

Damage by third parties

Increasing recreation pressures

Wildfire

Climate change

Changes to agriculture policy

Afforestation on peatland

Clearfell on peatland- largescale larch clearance imminent

Upland wind farms

Coastal Habitats

Background

Whilst not uplands in the true sense, coastal heathland share a number of attributes which merits its inclusion in an Uplands strategy. Like the uplands, much of coastal heathland is on peat, albeit typically drier and shallower on the uplands. The dominant vegetation is also recognizable with heathers dominating. The drier conditions generally favour bell heather *Erica cinerea* and western gorse *Ulex gallii* as companions to the ling *Calluna vulgaris*. Given the steep coastlines typical of much of the Isle of Man there is considerable overlap in areas of coastal and upland heath. Many areas of coastal heath are also classified as 'Above the Mountain Line' in the Countryside Care Scheme respect of the infertile soils and unproductive heathland vegetation.

Current situation

Coastal heathland contributes greatly to the scenic beauty of the Manx coast and occurs in many iconic coastal locations, such as the Calf or Man and Calf Sound, Sloc, Peel Hill, Point of Ayre and Maughold head.

Coastal heathland is maintained through livestock grazing. Suitable heathland areas are also managed through controlled burning and cutting which encourages fresh heather growth. These practices simulate the natural processes that would have occurred thousands of years ago i.e. grazing by wild herbivores and episodic fire events from lightning strikes.

Coastal areas are of importance for a different suite of species to the uplands. The associated grasslands are populated with bird's foot trefoil, spring squill, sea pink and other spring flowering species. Chough, wheatear and stonechats are a common sight through the summer months. However typical uplands species such as hen harrier, meadow pipit and skylark also frequent coastal heathland.

Key Policy Drivers

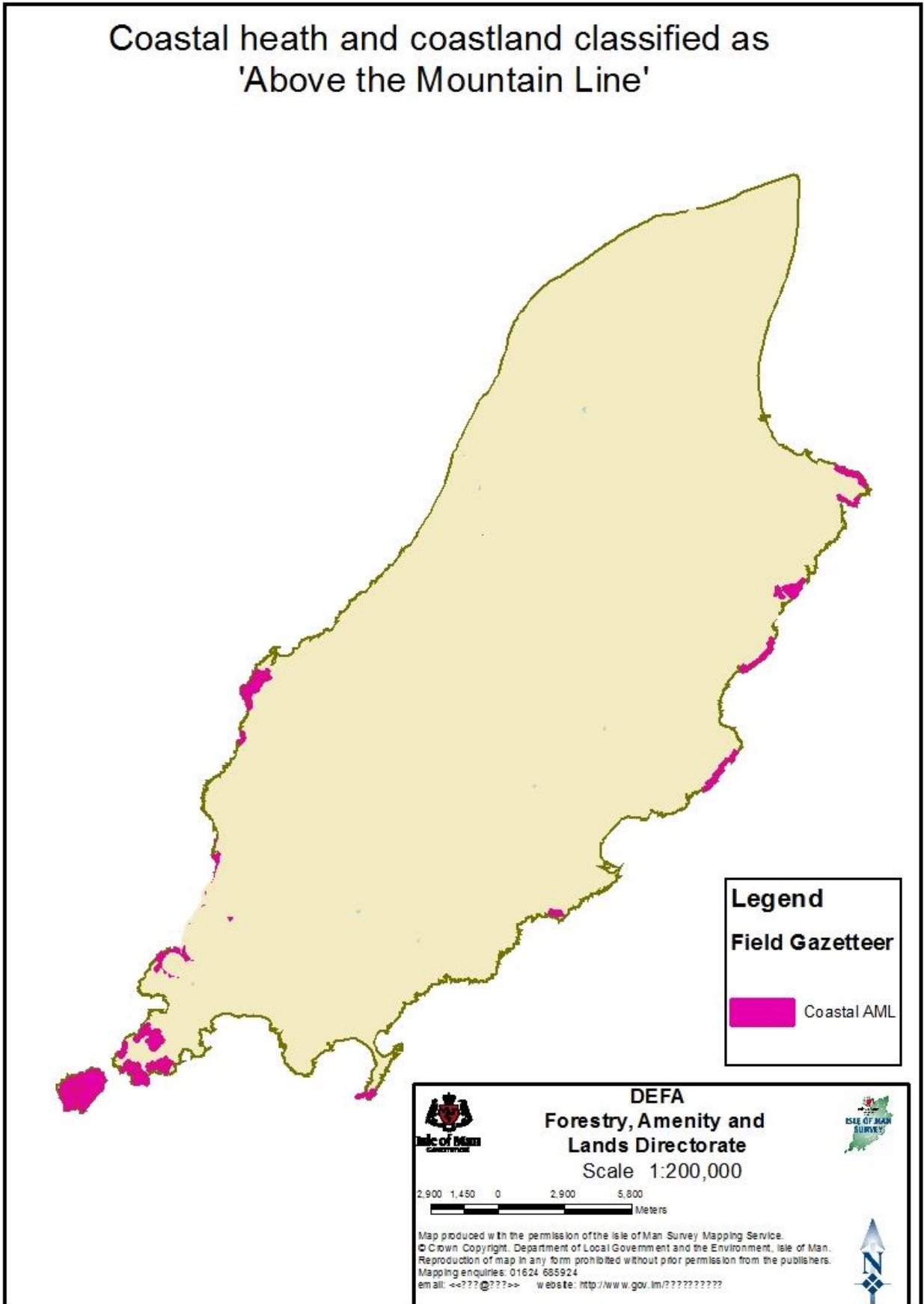
Countryside Care Scheme- encourages sensitive management of agricultural habitats

Wildlife Act- protects scheduled species from damage or disturbance

Heath Burning Act- protects registered heathland areas from damage by stipulating desirable management regimes.

Convention of Biological Diversity-Manx Biodiversity Strategy

Coastal heath and coastland classified as
'Above the Mountain Line'



SWOT Analysis- Coastal heathland

Strengths

Much habitat in good condition
Majority of habitat protected through CCS

Weaknesses

Some areas of habitat still being degraded or improved

Opportunities

Restoration of degraded areas of heathland habitat,

Threats

Wildfire
Undergrazing/Scrub encroachment
Erosion from improper recreation use
Loss of traditional management
Climate change
Land improvement
Windfarms

Forestry and upland woodland

Background

The first plantations in the Isle of Man were formed on the then Crown Lands commencing in 1883 when three plantations were established – Archallagen, South Barrule and Greeba. After two further plantations were established in 1906 afforestation progressed very slowly. Many of these early tree crops were removed during wartime fellings, with replanting commencing in 1946.

In 1949 the Crown lands were transferred to the Isle of Man government with the 1950s and 60s seeing the establishment of a number of plantation areas.

In 1962 the afforested area had reached 4,000 acres, 5,000 acres in 1977, but in 1985 a resolution was passed in Tynwald to double the area of productive plantation. By the 1990s the area of afforestation had reached about 6,000 acres, much of it in the uplands. For a number of reasons, including increasing recognition of the importance upland habitats, afforestation ceased in 1993.

Current situation

Tree cover currently stands at around 6.5%, with less than 1% comprising broadleaves. The policy review that resulted in the cessation of any further expansion of commercial forestry prompted the Department to rethink its role and to adopt a policy of restructuring the older plantations to increase the diversity of ages of crops and to introduce greater biodiversity. All restock sites are now assessed to allow conversion of areas where suitable to broadleaves but within main blocks coniferous replanting continues where appropriate. If appropriate, suitable areas will remain unplanted to encourage regeneration of heathland.

The appearance of a particularly virulent tree disease in recent years *Phytophthora ramorum* (first identified in 2010) has necessitated in large scale clearfells in a number of the Departments plantations. Recent survey information indicates it is likely the Island will lose a significant proportion, if not all, of its larch trees – some 20% of its overall coniferous crop.

The recent introduction of a number of biomass boiler units has created a demand for a renewable green woodchip resource which the department is well placed to meet.

Key Policy Drivers

A number of acts are in place to enable the department to administer the Forestry estate. These include –

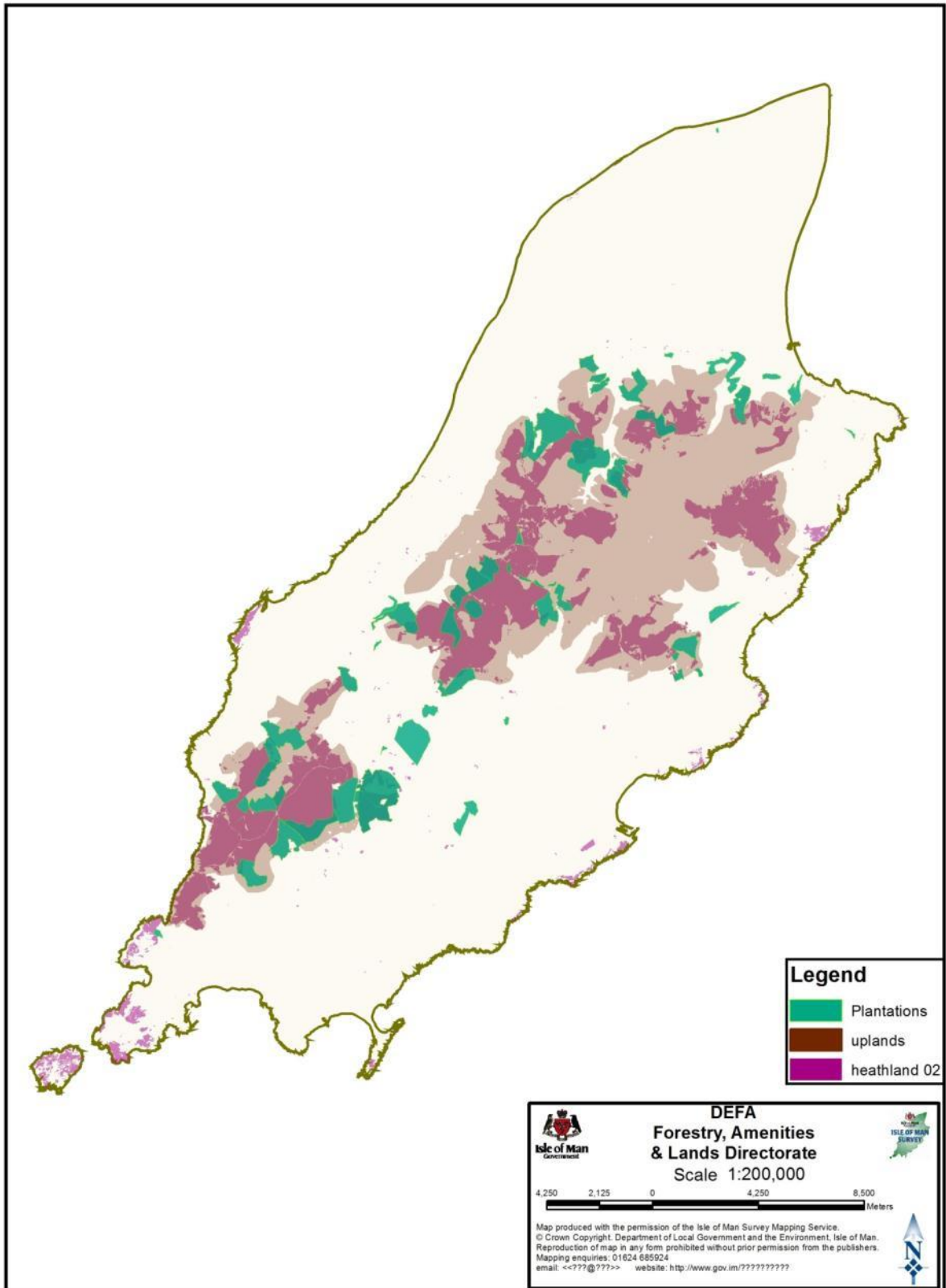
The Forestry Act 1984 within which there are Forestry (General) and Sulby Claddagh Byelaws legislation (both 2003).

Manx Uplands Steering Group

The Tree Preservation Act which seeks to protect the Islands tree population (all trees above a certain dimension must be licensed for removal.)

The Plant Health Act within which are a number of orders designed to protect the Islands tree population from pests and diseases. Specific orders pertain to Elm, Ash, Phytophthora ramorum and a number of conifer pests and diseases. Closely associated with the Plant Health Act is the Destructive insects and pests act of 1919 within which are orders pertaining to Dutch Elm Disease (1981/82)

Conifer plantations





Sartfell plantation: Commercial forestry on heathland



A steep gully with the remnants of Victorian tree planting at Glen Rushen

SWOT analysis Forestry and woodland

Strengths

Locally produced timber

Large Government owned estate

Widely used for access and recreation

Health benefits from public access and recreation

Weaknesses

Low tree cover-especially native broadleaves

Some inappropriate historical planting of conifers

Proximity to forestry can impact on other heathland management e.g. burning heathland

Opportunities

Gully planting of native broadleaves

Restoration of heathland on conifer clearfell sites

Restructuring of forest estate following *P. ramorum* felling

Recreation in plantations

Woodchip/Biofuel market

Threats

Disease-e.g. *P. ramorum*

Wildfire

Extreme weather events/climate change

Restrictions on new planting and replanting will reduce the area of commercial forestry

Shooting Tenancies

Background

Whilst not a significant economic influence on the uplands, the management of shooting moors has a role in shaping the ecology and landscape of the hills where most active management is aimed at increasing grouse numbers through encouraging growth of young heather. The Island's shooting syndicates pay a rent for the shooting rights of moorland areas yet also perform a potentially valuable ecological service by carrying out predator control (corvids and rodents) and managing heather through burning and flailing which, when done correctly, can enhance the quality and variety of habitats by rejuvenating old heather stands and creating a mosaic of varying age classes. DEFA staff also manage substantial areas of heather moorland via flailing. Managing stands of heather has the additional benefits of creating fire breaks and reducing fuel load, thus decreasing the incidence and damage caused by wildfires.

Current situation

There are fifteen shooting tenancies on an area totalling just over 15,500 acres. Traditionally, the main quarry for the shooting syndicates is red grouse. However, since a population crash at the end of the 1970's (probably as a result of a combination of factors, including habitat fragmentation, afforestation and predation) there is currently a self-enforced ban on hunting this species.

The most recent recorded high was 250 grouse in September 2010 (see map in **Figure x.1**).

The current situation with the shooting tenancies is unsustainable in the longer term due to the high age profile of the active tenants, the physical demands of the management tasks and the poor returns on game shooting.

Key Policy Drivers

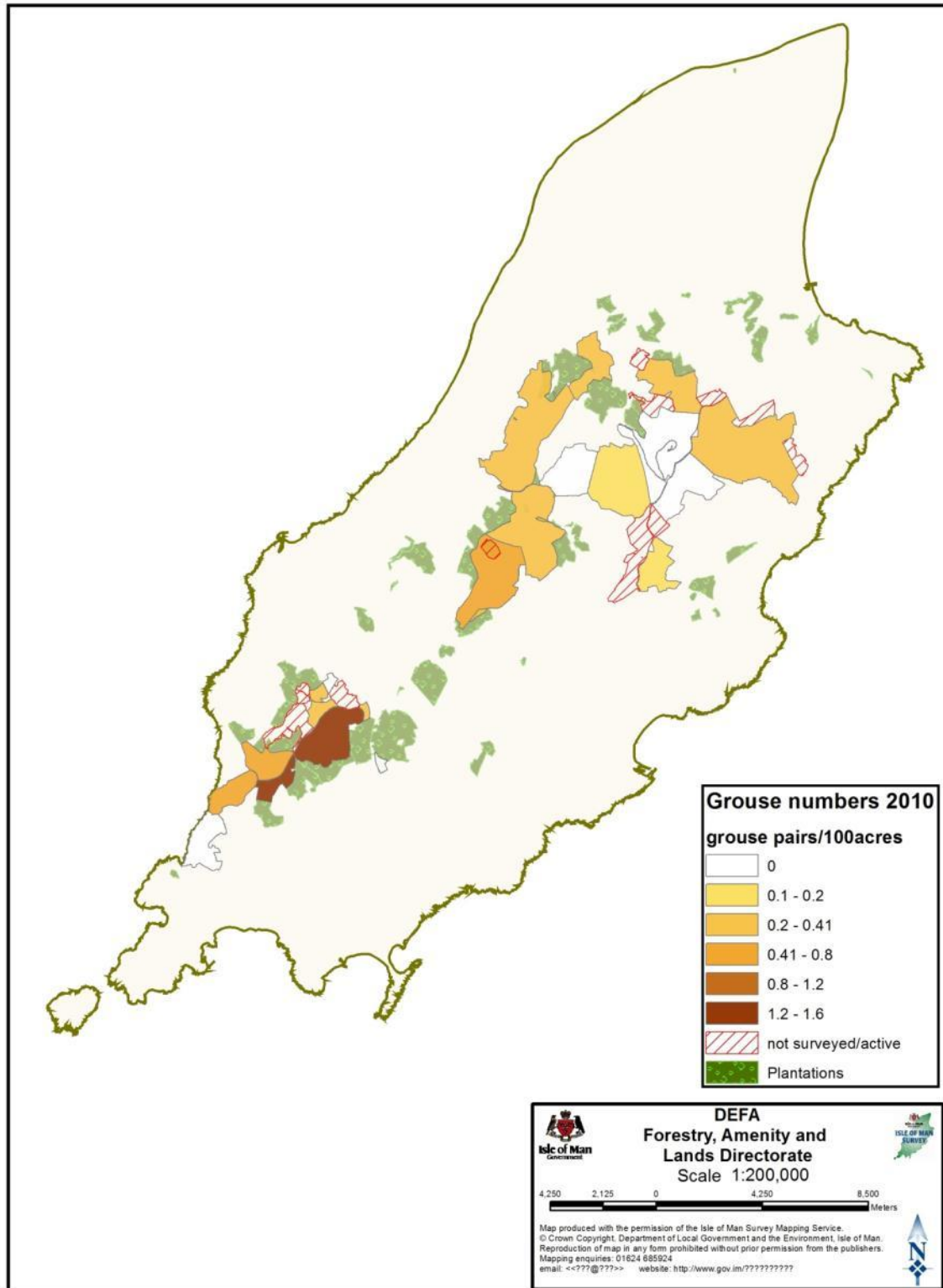
Game Act- details the quarry species and dates between which they can be hunted.

Heath burning code- heathland management is constrained between certain dates and other requirements.

Countryside Care Scheme- shooting tenants are partly responsible for maintaining heathland habitats in good agricultural condition as defined by the Scheme.

Wildlife Act-identifies species which are protected and/or cannot be disturbed during the nesting season.

Active shooting tenancies



A map of active shooting tenancies on the DEFA estate and estimated grouse densities based on 2010 figures.



Managed heather burning and red grouse

SWOT Analysis- Game tenancies

Strengths

Knowledgeable tenants
Good heathland management- has multiple benefits
Predator control
Support from DEFA Ranger

Weaknesses

Lack of succession-high age profile
Poor returns on game despite good management
Red grouse status low re conservation
Communication with Joint Control Room could be improved to prevent unnecessary fire brigade call out
Permitted burning dates are restrictive
Burning is expensive and time consuming

Opportunities

Increasing grouse numbers could increase interest in succession and managing tenancies
Heathland restoration following clearfell
Acknowledgement of grouse as an important native species
Training in burning and hill management skills
Better education of public to reduce calls to fire brigade

Threats

Wildfire
Extinction of grouse
Loss of traditional skills
Inappropriate afforestation
Over/undergrazing
Predation
Spread of disease from farmed birds

Tourism- Active market

Background

There are few places in the world that can offer the variety of cultural experiences, historic environments and natural landscapes to be found in such close proximity. Above all, the Island's reputation must be protected for the long term benefit of visitors and residents alike.

Tourism as a sector supports a range of employment and diversification opportunities. Events and images relating to the visitor economy contribute to the world's image of the Island.

The visitor economy needs to be tightly connected to wider economic priorities, and there needs to be recognition of the underpinning role that the visitor economy has throughout the life of the Island.

The Isle of Man Tourism Visitor Economy Strategy 2012 – 2015, highlights strategic aims and KPIs and within this, the Product Development Team is working to identify and develop new tourism opportunities, including the Active Market and Dark Skies initiatives.

Current Position

In recent months we have been involved in creating literature for the Active Market as follows:

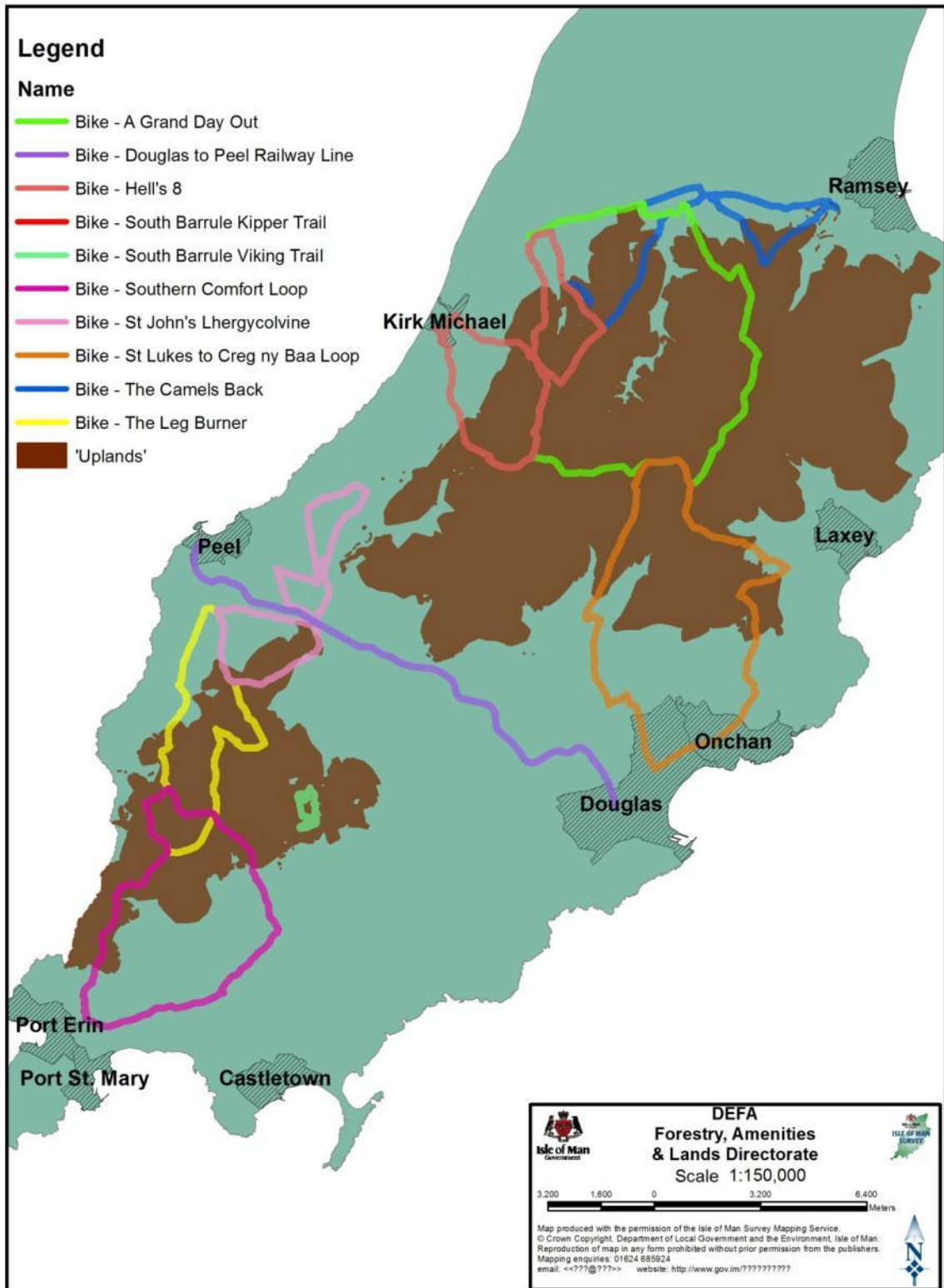
- Walking
- Mountain Biking
- Cycling
- Angling

All these areas feature on our website, with links to other stakeholders and we are working with various parties to build these areas into viable tourism business propositions. There are already Industry stakeholders setting up support businesses in these areas and we will continue to market the Island as an "Active Market" destination.

Key Policy Drivers

Policy Isle of Visitor Economy Strategy 2012-2015

Promoted mountain bike routes in the 'Uplands'





isle of adventure




Isle of Man

Mountain Biking Guide

8 complete self-guided routes

www.visitisleofman.com/mountainbiking




Isle of Man

Mountain Bike Routes


SOUTH BARRULE FOREST PARK

Southern Jewel

- This map gives an idea of the forest road and unmarked single track within the plantation which mountain bikers are permitted to explore. Riders should be aware that routes and surfaces can change in character and, as such, should be prepared for differing terrain (many are steep in places).
- Ride responsibly. Please respect that many routes are shared with other users - keep control of your bike and slow down when approaching horse riders, runners or walkers and try not to startle them.
- Please remember that plantations are working environments, with forestry operations taking place on a regular basis. Access may be restricted for tree felling work or during sporting events and visitors should follow safety signage at all times.



isle of exploration...
Follow these markers to bring you to the next plantation.
For more trail information visit: www.manxmtb.com



Literature and signage promoting mountain biking in the Manx uplands

SWOT analysis Tourism- 'Active market'

Strengths

- Active Market is an established tourism product.
- Scope to increase designated walking routes, cycling and mountain bike routes.
- Already work with stakeholders Graeme Watson and Shaun Gelling - DEFA.
- Extreme Active Sports already popular.
- Local events already created include – End to End, Walking Festival, Longest Day – Longest Ride and Manx Mountain Marathon.

Weaknesses

- Need clarity with regards to green lane activities. – GLUG.
- Need to improve infrastructure and signage to build tourism product.
- No data on upland usage

Opportunities

- Active Market is currently being developed further by Tourism, with new literature being produced for all areas and new Information and way marker signage being installed in four plantations
- Dark Skies product is also being developed as a tourism opportunity and some of these areas may be current accredited sites or those to be considered in the future
- The Islands natural environment is often mentioned in tourism surveys. Whilst not always the main motivator to travel to the Island, it enhances visitor experience
- Ape Mann Adventure Park – may expand in future or new locations
- Creation of Log Cabin type accommodation within outdoor recreational areas
- Dark Skies Locations
- Visitor survey to identify upland usage and market the IOM to the right demographic.
- Clear policies on access for bikes and motorcycles

Threats

- Restricted access to sites.
- Local infrastructure not in place.
- Lack of local companies to "package" active market breaks
- Accommodation providers to embrace requirements for visitors participating in this type of activity.
- Animal Disease – Foot and Mouth and Tree Disease can restrict access to the uplands

Upland Birds

Background

The Manx uplands are home to a number of important upland bird species – including short-eared owl, peregrine falcon, meadow pipit and over-wintering snipe. This synopsis will deal with three of the most iconic- the red grouse, hen harrier and curlew. They are all dependent on the managed mosaic of habitats in the uplands including heather, rough grassland and scrub to provide nesting and feeding habitat and therefore act as indicators of the health of the upland environment on which they depend.

Current situation

Hen Harrier

Hen harrier first colonised the Island in 1977, coinciding with an expansion in their range in the British Isles. 44 nesting pairs were recorded in 1998 and a high of 57 pairs in 2004, representing a healthy 7% of the UK and Isle of Man total. Hen harriers breed across the Manx uplands, with the majority in the Northern Hills, and winter across much of the Island. They nest in a variety of habitats – they have a preference for open heather but will also use early stage conifer plantations, clearings within mature plantations and rank stands of European gorse. Numbers dropped to 29 pairs in 2010 but the reasons are unclear. Further research is needed to understand the ecology of the hen harrier on the Island and the reasons for recent fluctuations in population to enable us to carry out conservation action for this species.

Curlew

Curlew is the main breeding wader recorded in the upland areas. Lapwing were widespread across the uplands and lowlands in 1997-81 but by the time of the Manx Bird Atlas (MBA, 1998-2002) the highest concentrations were recorded on the Northern Plain, and they now appear to be largely absent from the uplands. Snipe although recorded in upland and lowland areas in 1997-81 appear to have only ever been recorded at low densities. It is difficult to say if this is a true measure of rarity or due to the difficulty in recording breeding snipe however management targeted at breeding curlew in the uplands will also benefit snipe as the two have similar habitats requirements.

In the MBA curlew were recorded in half of the squares surveyed with breeding birds concentrated in the uplands and the Northern Plain. A re-survey of the Atlas began in 2006 and by 2012 60% of the Island had been re-surveyed. An increase in curlew abundance was recorded between the 1998-2002 Atlas period and 2012 but was not significant and doesn't show the differing fortunes between upland and lowland birds with curlew still relatively common at lowland sites but gone from many of their traditional upland breeding grounds. This decline in the uplands mimics the situation in the UK where curlew have persisted in areas due to being long-lived species but have undergone steep declines in recent years due to a range of factors including agricultural intensification, afforestation, disturbance and the increasing impact of predators on small, isolated populations. There is an urgent need for

Manx Uplands Steering Group

targeted conservation action for curlew to ensure that it is not lost as a breeding species in the Manx uplands.

Red grouse

Red grouse are the only year round resident of heather moorland in the Isle of Man.

Abundant in the late 17th century and therefore almost certainly native to the Isle of Man, red grouse were extinct by 1835 for reasons which remain unclear.

Reintroduced in Druidale in 1880 they were again well distributed through both the northern and southern hills by 1903 and remained plentiful until numbers fell sharply in the late 1970's and early 1980's. This crash can probably be attributed to a combination of factors including a succession of poor breeding seasons, loss of habitat to afforestation and agricultural improvement, and increased predation from the recovering peregrine population and the newly arrived hen harriers.

Numbers remain at a lower level and there has been some range contraction but grouse are still found over most of the Islands heather moorland despite further loss of habitat to tree planting. The spring population since 1990 has varied between about 35 and 65 pairs with a recent post-breeding high of around 250 birds in September 2010.

Breeding density is higher in the south than in the larger, but more sparsely populated central and northern hills. Clutch sizes and hatching success are generally good so overwinter losses of up to 65% would appear to continue to be the main limiting factor.

Almost all our grouse are found on managed ground with a mosaic of varying age classes of heather for feeding, nesting and shelter so for their future survival it is vital that the extent and quality of heather moorland is maintained.

Key Policy Drivers

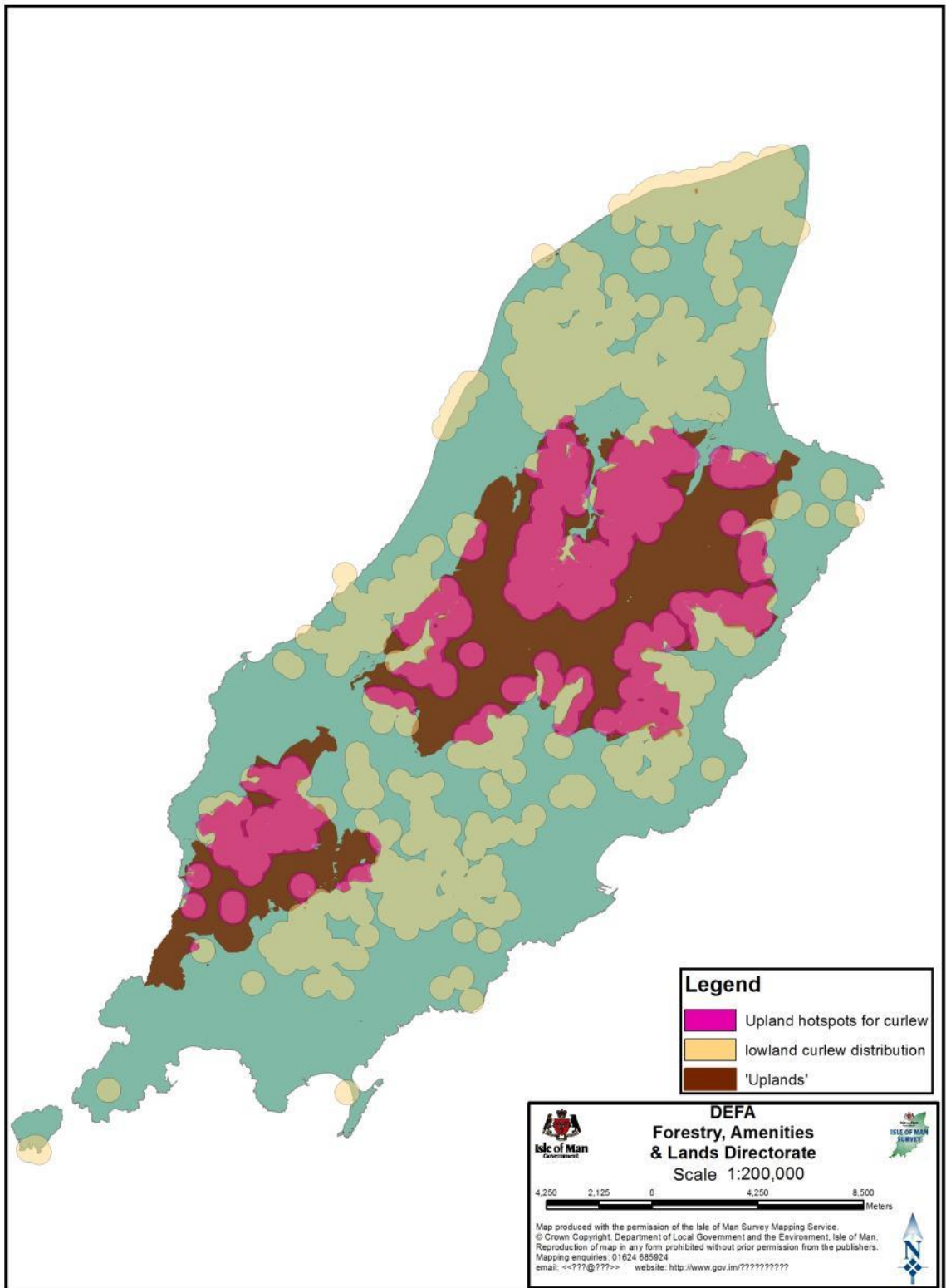
Convention on Biological Diversity (CBD)- Manx Biodiversity Strategy- likely Species Action Plans

Game Act, Wildlife Act, Heath Burning Act, Countryside Care Scheme

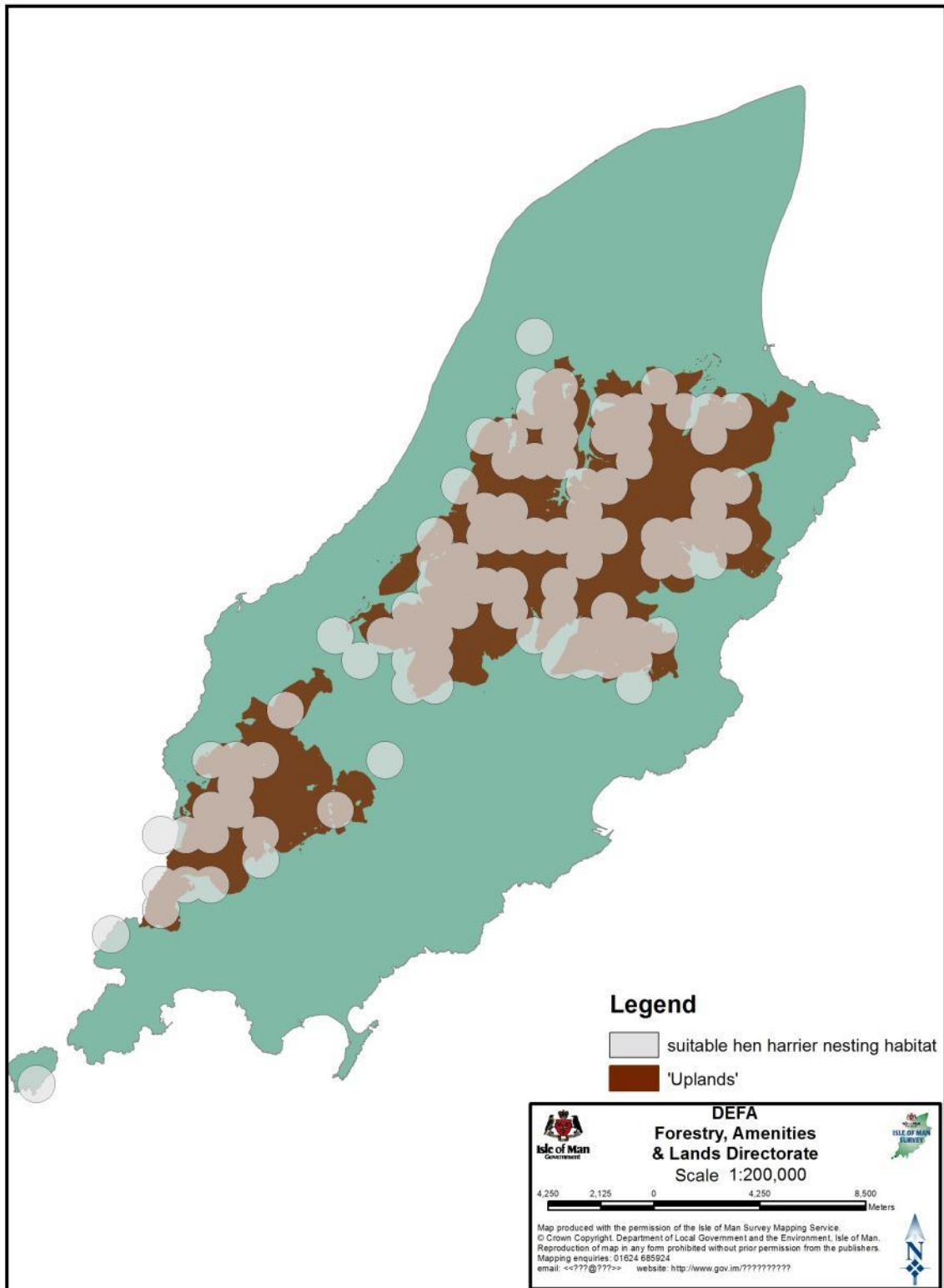


These 3 iconic upland bird species have had mixed fortunes over the last number of years.

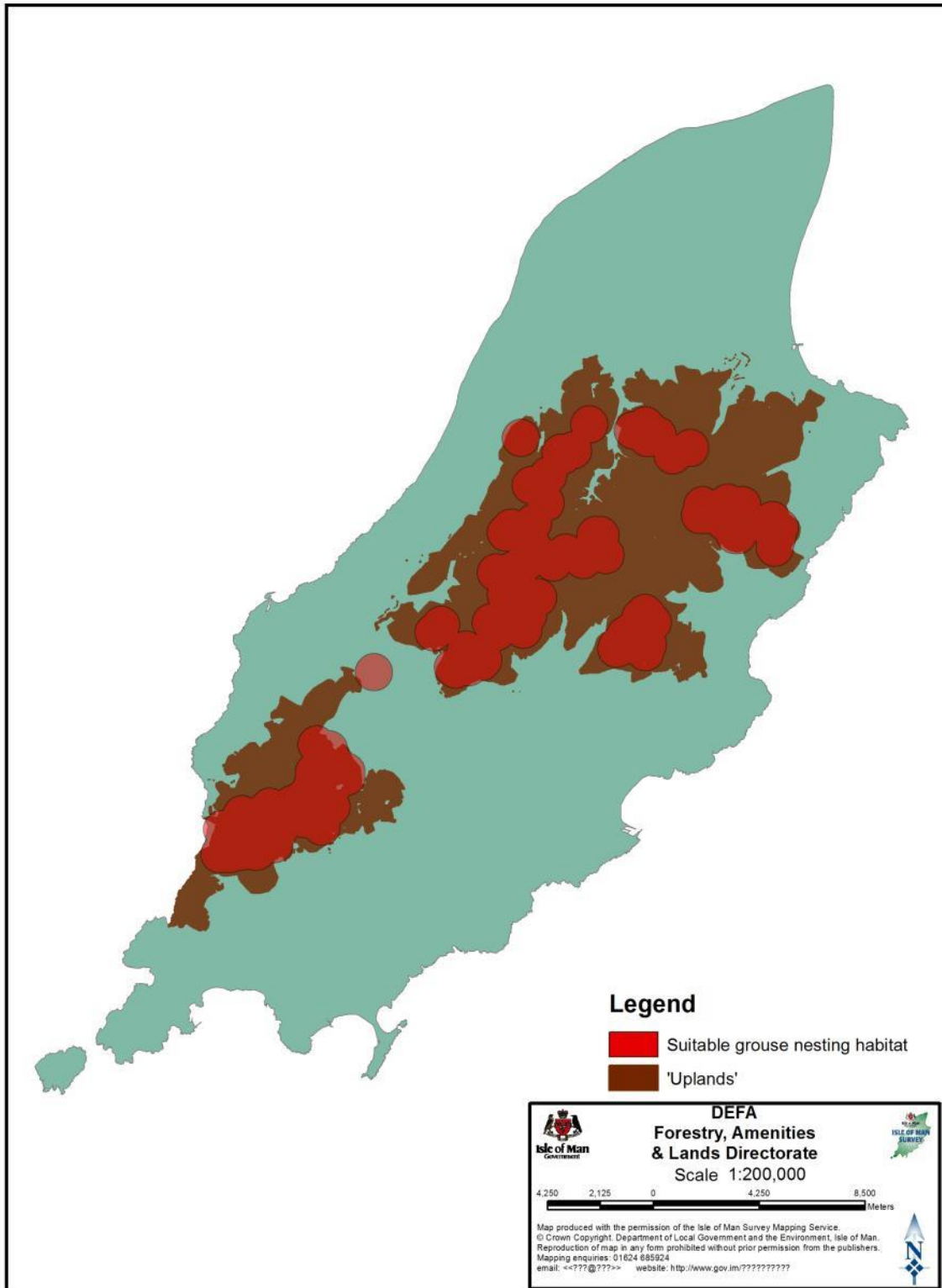
Areas of post-2000 curlew habitat from MBL data



**Areas of post-2000 hen harrier nesting habitat
from MBL data**



Areas of post-2000 red grouse records
from MBL data



SWOT Analysis- Upland birds

Strengths

Hen harrier

- Although hen harrier numbers are lower than 2004 peak there is still a good population

Hen harrier, curlew, red grouse

- Iconic upland birds (esp hh and rg) and indicators of health of the upland environment
- Many areas where the species nest/feed are in Government ownership and small number of landowners
- Forestry Ranger has regular contact with grazing/shooting tenants
- We have good data on these species
- Management for species is also good farming practice (rush cutting, heather burning/cutting)
- CCS discourages land improvements, could be used to target management

Weaknesses

Curlew, red grouse – negatively impacted on by forestry. Conifer clearfell is being replanted, there is no strategy for removal of conifers from failed areas and planting is still permitted on marginal land

Hen harrier, curlew, red grouse

-No new resource and A-E scheme coming to an end

-No resource for providing advice to landowners and monitoring

Hen harrier – forestry operations do not take account of nesting hen harrier

Opportunities

Hen harrier and red grouse – potential to research causes of population fluctuation/decline and determine conservation action needed

Curlew/red grouse – potential to target conifer clearfell and no new planting on marginal land, on or next to breeding/feeding sites

Hen harrier/curlew/red grouse

- target management through CCS, bid for resource for advisory/monitoring and use to show value of uplands (safeguard CCS, make case for AE funding)
- Island's signatory of CBD means there is Government commitment to restoring biodiversity
- Mechanisms to record public sightings

Threats

Hen harrier, curlew, red grouse

- afforestation on/close to nesting sites (hh benefit in early stages but once closed canopy becomes unsuitable)- needs clear policy on restocking clearfell

- increasing recreation pressure
- wildfire
- climate change
- changes to agricultural policy
- upland wind farms

Upland Farming

Background

The uplands we see today, whilst wild in appearance, have been shaped by the actions of man over thousands of years. This 'cultural landscape' consists of an intricate mix of terrestrial habitats including heath, blanket bog, woodland, acid grasslands and water courses.

People continue to make a living by farming in the uplands and in so doing have created the modern upland landscape. Hill farming has evolved over the last several hundred years with increases in stock, typically characterised by more sheep and less cattle the trend until recent years. Changes to farming practices have largely been driven by post-war support to produce food, but more recently the Countryside Care Scheme, which gives farmers an opportunity to diversify from production, has resulted in a reduction in sheep numbers.

Land managers, especially farmers, are critical to the future management of the uplands and are ideally placed to secure the sort of upland landscape and wider public benefits that society wants. The maintenance of livestock, both cattle and sheep, at appropriate stocking densities, represents one of the best means of maintaining habitats that are more diverse in structure and composition. Whilst food production will continue to be a key driver for many hill farmers, opportunities exist to deliver a wide range of other goods and services for society, such as protection of drinking water supplies and the conservation of sensitive soils, especially carbon-rich peat.

Current situation

The definition of hill farming in the Isle of Man differs from that in the UK and Ireland as, with the exception of one holding, all hill farmers have access to at least some lowland farmland.

The hill flock performs an important role in producing replacements cross-bred lambs for lowland flocks. However, the majority of lamb carcasses produced from the hill are small (i.e. light lambs) for which there is a very limited local market. These animals could be viewed as a by-product of good upland management. The current economic climate makes these lambs suited to export markets or for live export to UK abattoirs.

Upland farming is not profitable without subsidy. The move from headage payments to single farm payment (Countryside Care Scheme) in 2008 has led to a period of uncertainty for all farmers. However the impending move to a flat rate area payment will lead to a period of relative stability where farm incomes will be assured where base level farm incomes, independent of the market, will be assured. This change to subsidy payments has seen breeding female sheep numbers fall by 17%. Heavy stock losses during the recent snowfall of April 2013 will have reduced flock size further and may have affected the viability of a number of farming enterprises.

On a positive note, the events surrounding the snow publicised the difficult conditions that hill farmers operate under and elicited a massive public response in terms of physical and

Manx Uplands Steering Group

financial help as well as demonstrating a rare empathy and show of public support for farmers.

Key Policy Drivers

Countryside Care Scheme- a voluntary Scheme that pays farmers an area payment to maintain the land in good agricultural and environmental condition.

EU Common Agricultural Policy, whilst not directly relevant to the Isle of Man will influence neighbouring jurisdictions and ultimately has an effect on Manx agriculture

Agri-environment scheme

Heath burning code- heathland management is constrained between certain dates and other requirements.

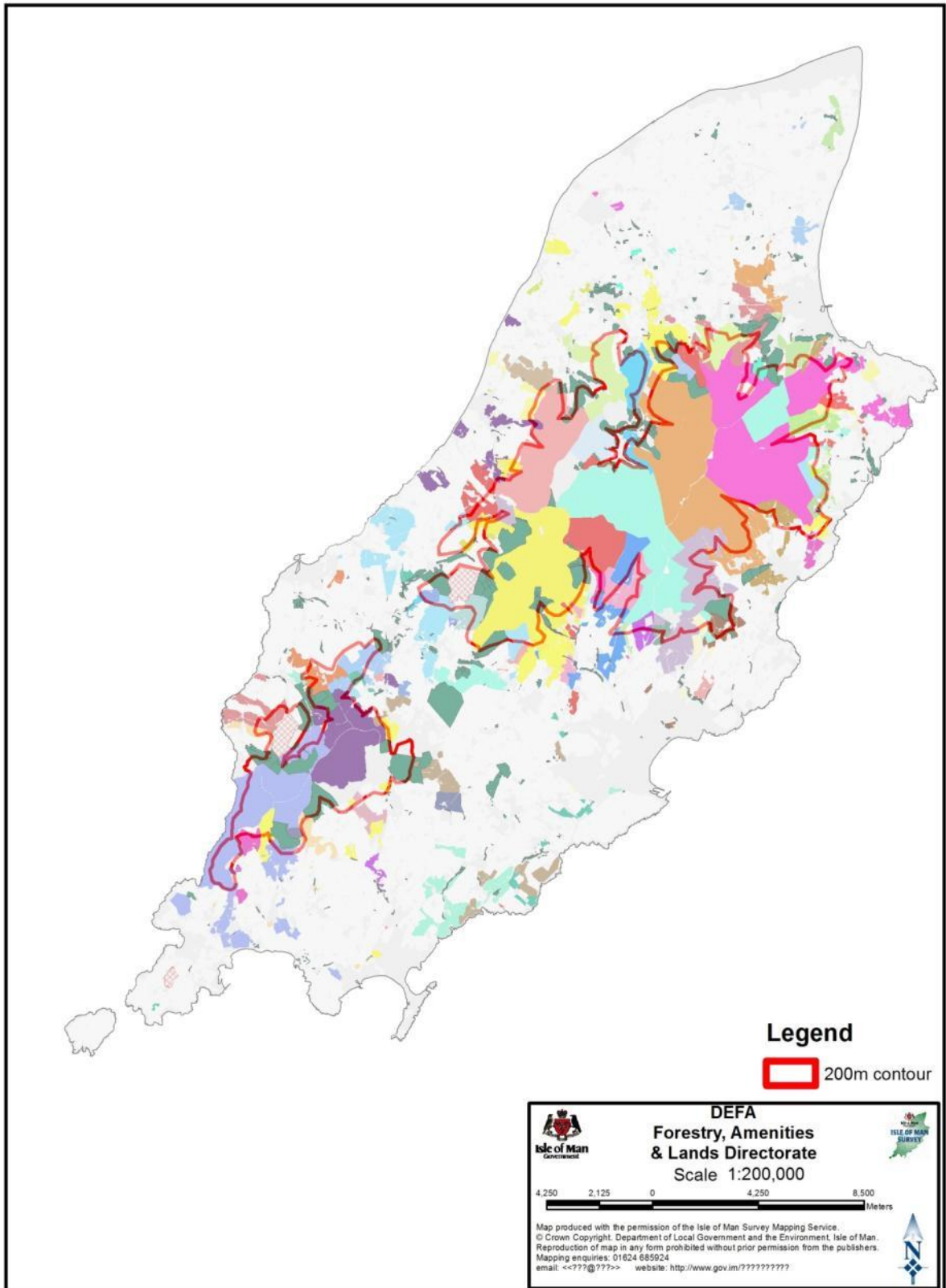


Extreme weather events of Spring 2013 resulted in major losses to the hill flock



Business as usual- gathering and shearing in July 2013, however the reduced flock numbers will impact on upland farming for years to come.

Agricultural businesses in the Manx Uplands
showing associated lowland holdings



SWOT Analysis- Upland farming

Strengths

Uplands are unique landscape shaped by farming

Knowledgeable and skilful farmers

Secure tenancies and good land management

Quality produce

Security of supply of replacements to lowland flocks

Hefted sheep know the hill re areas to shelter and forage.

Opportunities

Publicity/acknowledgement for providing public goods/ecosystem services

Payment for providing public goods/ecosystem services e.g. repair of degraded peatland

Training to expand land management skills e.g. drystone walling, heath burning, peatland restoration, bird habitat management etc

Improved price for hill lamb from improved marketing-using the spectacular imagery to promote the product and the sustainability message- hill lamb is low input/low carbon

Diversification of livestock in suitable areas

Collaborate with different user groups

Increase education and awareness of the value and uniqueness of upland habitats

Better promotion of the uplands as a tourist attraction

Better publicity of existing walks and uplands access

Weaknesses

Lack of succession-high age profile

No EU support for High Nature Value Farming or Less Favoured Areas

No profitability in hill sheep farming

The industry is too reliant on Government support

Hefted sheep are difficult to replace

Hill lamb not considered a premium product

Uncertainty surrounding future of upland agriculture affecting farmer morale- farmers vulnerable to external threats

Threats

Extremes of weather-snow, rain drought

Disease

Wildfire damaging hill grazing land

Loss of traditional skills and knowledge

Low viability of sheep farming will result in no succession.

Damage to the hill from third parties

Disturbance from recreational users can stress livestock and reduce productivity

Changes to the Countryside Care Scheme-increases in cross compliance

Pollution events e.g. nuclear

Reduction in agricultural support affecting viability of agricultural production

Upland Habitats

Background

Upland areas support some of the rarest and most vulnerable habitats in the world, namely blanket bog and temperate heather moorland. Both of which are important in a European context (they are protected in EU countries under the EU Habitats Directive). Countries within the British Isles contain a high proportion of the global blanket bog and heathland area and are therefore considered to have a special responsibility for the conservation of these habitats.

Current situation

Upland habitats on the Isle of Man are almost entirely semi-natural in origin, and contribute greatly to the wild appearance of the Manx landscape, which is often praised for its attractiveness. The uplands are not, however, wilderness in any sense, having received centuries of settlement, mining, quarrying and farming which have shaped the nature and extent of the habitats present. These include a range of mires, acid grasslands, heaths and streams. Native woodland is restricted to natural colonization of sheltered river valleys and flushes, and the more sheltered hillsides where gorse and bracken have been left ungrazed and native scrub has started to colonize it. Elsewhere, the tree cover is limited to plantations, mostly of conifers but with a more recent emphasis on mixed and broadleaved planting. There has also been widespread agricultural improvement, particularly on the lower fringes of the uplands which can provide productive fields if drained and limed. Such marginal areas, when not intensively managed are important habitats from breeding waders such as curlew.

Upland habitats are maintained through livestock grazing. Suitable heathland areas are also managed through controlled burning and cutting which encourages fresh heather growth, which is beneficial to sheep, red grouse and other upland herbivores. These practices simulate the natural processes that would have occurred in the uplands thousands of years ago i.e. grazing by wild herbivores and episodic fire events from lightning strikes.

Heathland (15,000 acres), bog (1,600 acres) and acid grassland (10,300 acres) habitats occur almost exclusively in the uplands and between them account for 20% of the Islands total land area (Figure x.1).

Key Policy Drivers

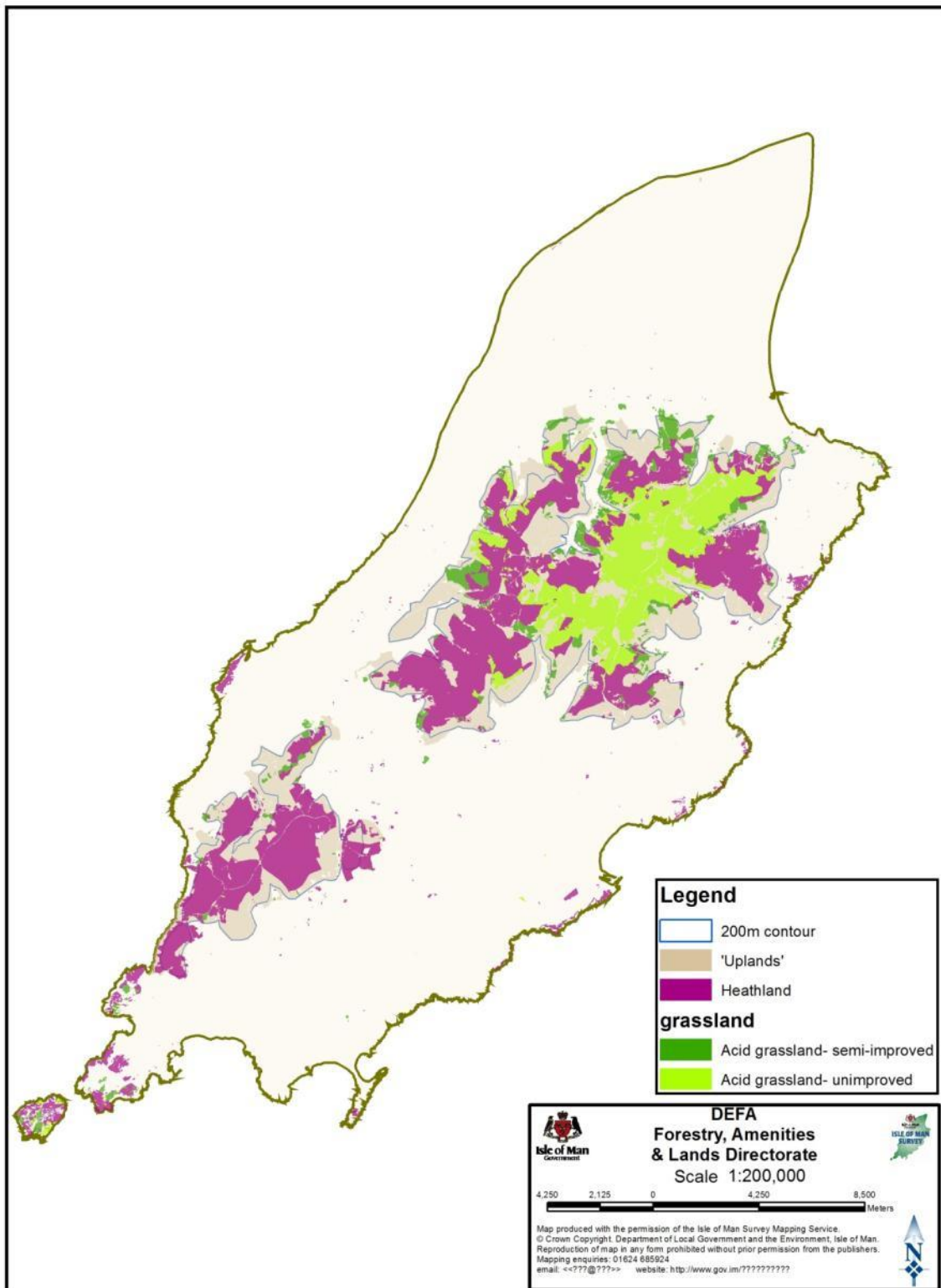
Countryside Care Scheme- encourages sensitive management of agricultural habitats

Wildlife Act- protects scheduled species from damage or disturbance

Heath Burning Act- protects registered heathland areas from damage by stipulating desirable management regimes.

Convention of Biological Diversity-Manx Biodiversity Strategy

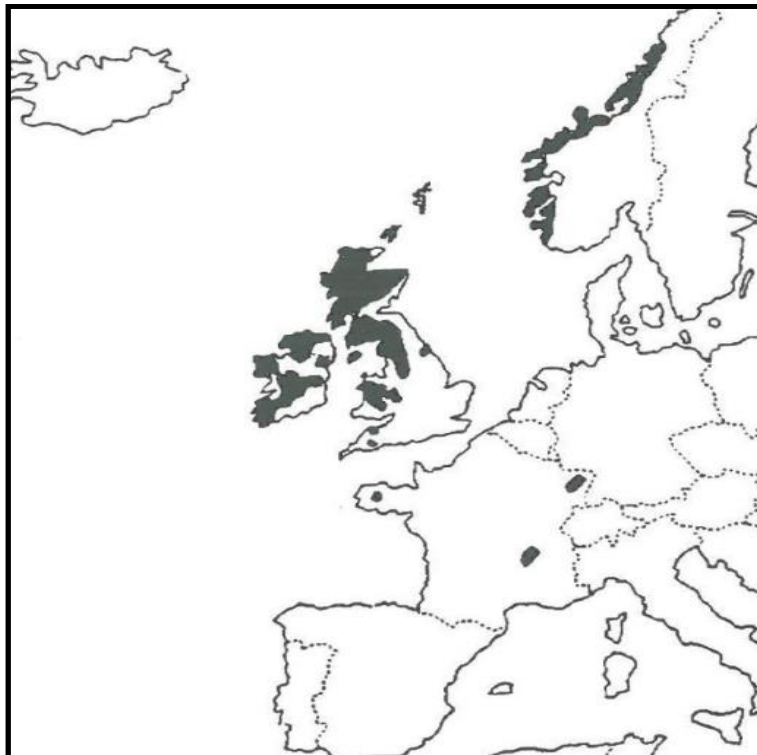
Heathland and acid grassland in the uplands



Areas of heathland and acid grassland habitats in the Manx uplands



Heathland in the Southern hills



European distribution of heather *Calluna vulgaris* dominated upland moorland (Thompson et al, 1995)

SWOT Analysis- Upland habitats

Strengths

Large area of land in Government ownership
Much habitat in good condition
Majority of habitat protected through CCS
Large blocks of heathland protected by ASSI

Weaknesses

Some areas of habitat still being degraded or improved
Some old areas of turbary in poor condition
Commercial forestry divides blocks of upland habitat

Opportunities

Training of traditional heathland management practices
Restoration of degraded areas of heathland habitat
Encourage heather regeneration on suitable areas e.g. clearfell

Threats

Wildfire
Overgrazing/Undergrazing
Erosion from improper recreation use
Loss of traditional management (Farming and shooting tenants)
Climate change
Land improvement/drainage
Windfarms

Upland Plants

Background

Upland areas support some of the rarest and most vulnerable habitats in the world. Specialist plants have evolved to tolerate the inhospitable conditions found on these high-altitude, acidic and waterlogged peatlands. Many of these species are rare and declining, or extinct due to changes in climate and land management in the last 100 years.

Current situation

Many specialist upland species are rare or have declined in recent decades. Such species can be sensitive to climate change as there is limited opportunity to migrate 'uphill' on our low hills to suitably cooler climate. Maintenance of existing populations of rare plants is a priority in upland management.

Iconic upland species such as juniper, viviparous sheep's fescue and mountain everlasting have become extinct. However current conditions may be suitable for their survival if a strategy for their reintroduction was thought to be a priority for upland management.

Notable upland plant species	Scientific name	Rarity
Viviparous sheeps fescue	<i>Festuca vivipara</i>	VR- presumed Extinct
Frog orchid	<i>Coleoglossum viride</i>	VR and local
Lesser twayblade	<i>Listera cordata</i>	VR- presumed extinct but recently rediscovered
Mountain everlasting	<i>Antennaria dioica</i>	VR at high altitude- presumed extinct
Heath cudweed	<i>Gnaphalium sylvaticum</i>	VR
Common cow wheat	<i>Melampyrum pratense</i>	N Barrule, S Barrule and Beinn y Phott
Dodder	<i>Cuscuta epithymum</i>	R Eary Cushlin
Cranberry	<i>Vaccinium oxycoccos</i>	VR- see map
Cowberry	<i>Vaccinium vitis-idaea</i>	R- see map
Least willow	<i>Salix herbacea</i>	VR-see map
Yellow saxifrage	<i>Saxifraga aizodes</i>	VR (Extinct?)
Grass of Parnassus	<i>Parnassia palustris</i>	Blaber river-Never confirmed
Mountain pansy	<i>Viola lutea</i>	VR last record 1883- perhaps extinct
Juniper	<i>Juniperus communis</i>	VR- extinct from uplands since 1947
Beech fern	<i>Phegopteris connectilis</i>	R
Parsley fern	<i>Cryprogramma crispa</i>	VR- scree slopes
Wilson's filmy fern	<i>Hymenophyllum wilsonii</i>	VR- one small stream
Alpine clubmoss	<i>Diphasiastrum alpinum</i>	VR (see map)
Stagshorn clubmoss	<i>Lycopodium clavatum</i>	Occasional/Declining (not in S hills) (see map)
Fir clubmoss	<i>Huperzia selago</i>	R (see map)

Key Policy Drivers

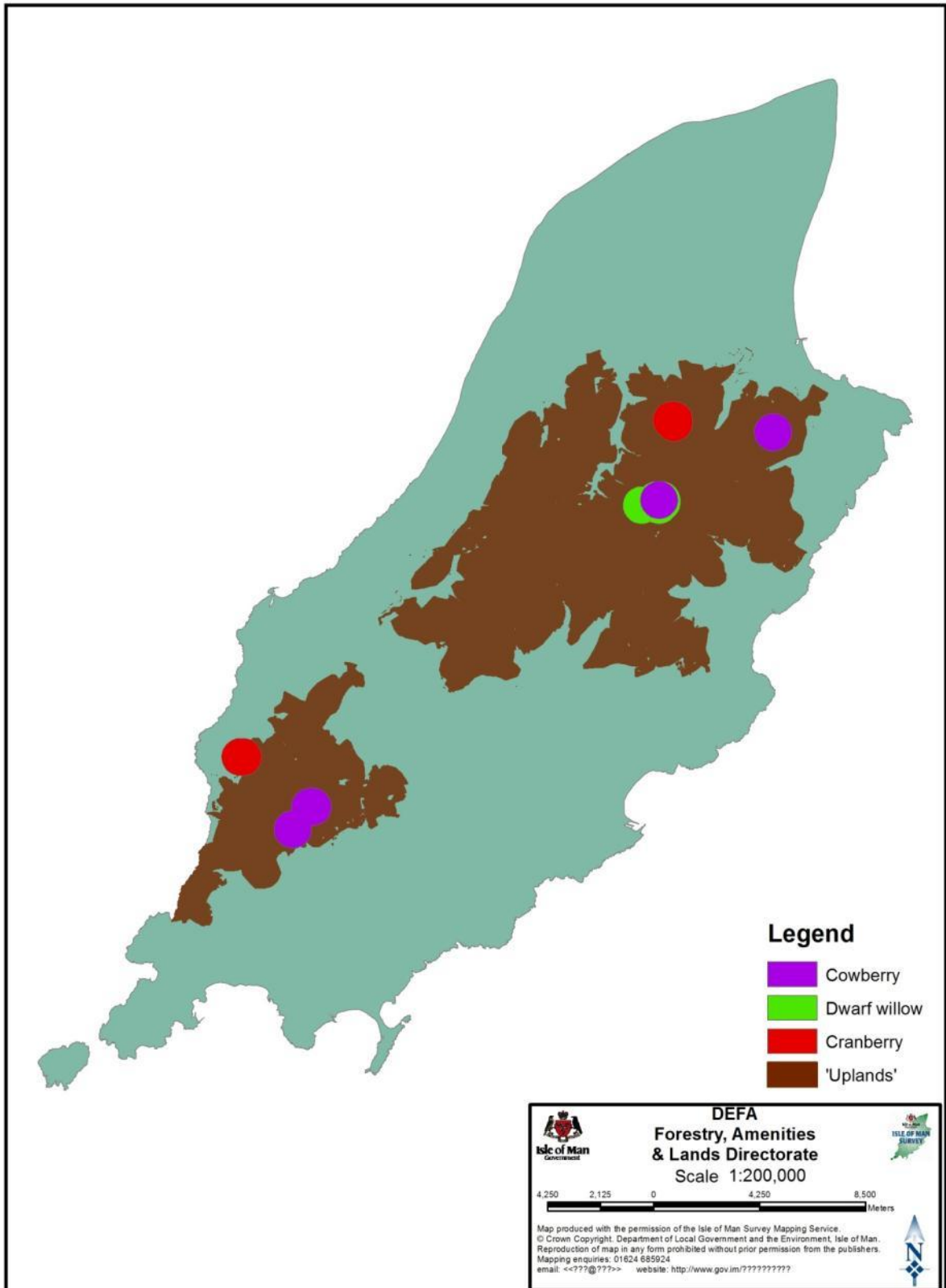
Countryside Care Scheme- encourages sensitive management of agricultural habitats

Wildlife Act- protects scheduled species from damage or disturbance

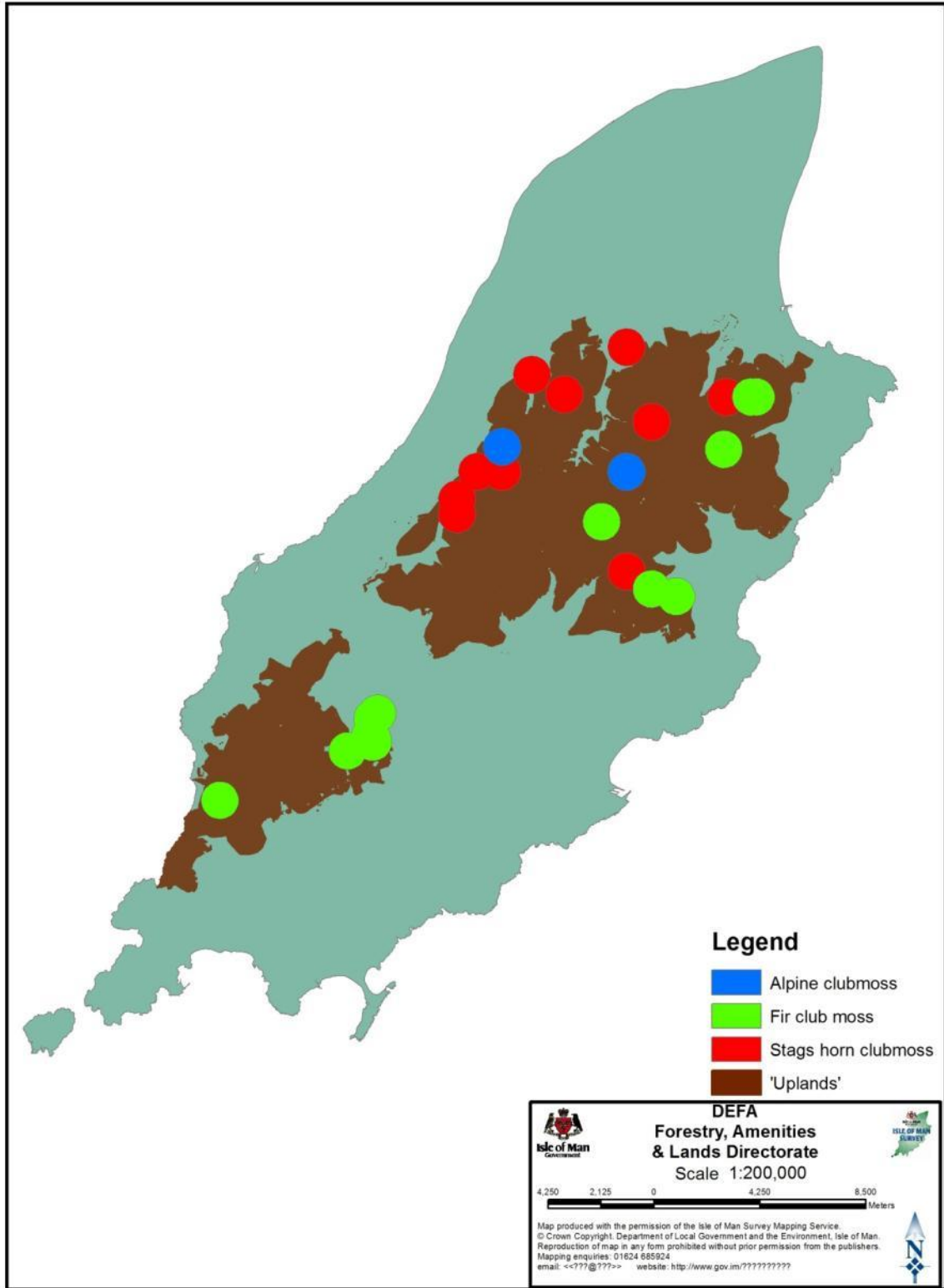
Heath Burning Act- protects registered heathland areas from damage by stipulating desirable management regimes.

Convention of Biological Diversity-Manx Biodiversity Strategy

Rare upland plants in the Isle of Man



**Known and historical location of club mosses
in the Isle of Man**





Lesser twayblade *Listera cordata*, recently rediscovered in the Southern hills.



Least willow *Salix herbacea*, only found on the summit of Snaefell.

SWOT Analysis- Upland plants

Strengths

Large area of land in Government ownership

CCS and ASSI areas prevent further habitat loss/degradation.

Populations of many surviving species are stable.

Weaknesses

Many species extinct- some still declining

Low hills sensitive to climate change- nowhere to ascend!

Difficult to manage small sites due to extensive nature of upland management

Opportunities

Management strategies to protect rare or threatened species

Re-establishment/reintroduction of rare or extinct species

Threats

Damage from illegal upland activities

Climate change

Wildfire

Overgrazing

Undergrazing

Water

Background

Water is a central element in all upland ecosystem processes - it is both an essential input and a critical output.

Upland management can have a significant effect on raw water quality and catchment drainage patterns (flooding), This can add to the costs of water provision and flood defence. Consistently good raw water quality should be recognised as a product of upland management. High annual precipitation is characteristic of upland ecosystems and is fundamental to maintaining the natural processes and distinctive biodiversity of moorlands. Peatlands in particular rely on water. When damaged by artificial drainage, peat extraction or building works, peatland ecosystems dry out, cease to function effectively and become more vulnerable to fire, overgrazing, climate change and atmospheric pollutants. Dry peat wastes away releasing carbon into the atmosphere and the surface water.

As 70% of UK drinking water originates from (often peat dominated) uplands, and without complex and expensive treatment systems, the condition of peatlands can have a direct impact on the public through the water that comes through our taps. The lack of effective upland land management can affect raw water quality (especially colour) and possibly downstream flooding, adding to the costs of water provision and flood defence.

Current situation

Each year the Isle of Man Water and Sewerage Authority collects, treats, stores and distributes over 9,500 million litres of water. Over 60,000 tests are carried out on around 15,000 water samples annually.

Over 99% of drinking water in the Isle of Man comes from surface water, the majority gathered in the uplands and being stored in the Sulby and Baldwin reservoirs. Until just a few years ago other sources included abstraction/impoundment of streams and rivers, such as Glen Rushen.

Raw water quality in the Isle of Man is considered to be consistent, in part due to the current management practices in the upland catchment. However, management of the entire catchment is not within the powers of the Water Authority and a reliance on neighbouring landowners, farming tenants and other upland users is required to maintain this situation

Key Policy Drivers

WASA Policies and Procedures

European standards for drinking water

Cost of water treatment chemicals and power

Cost of landfill for sludge

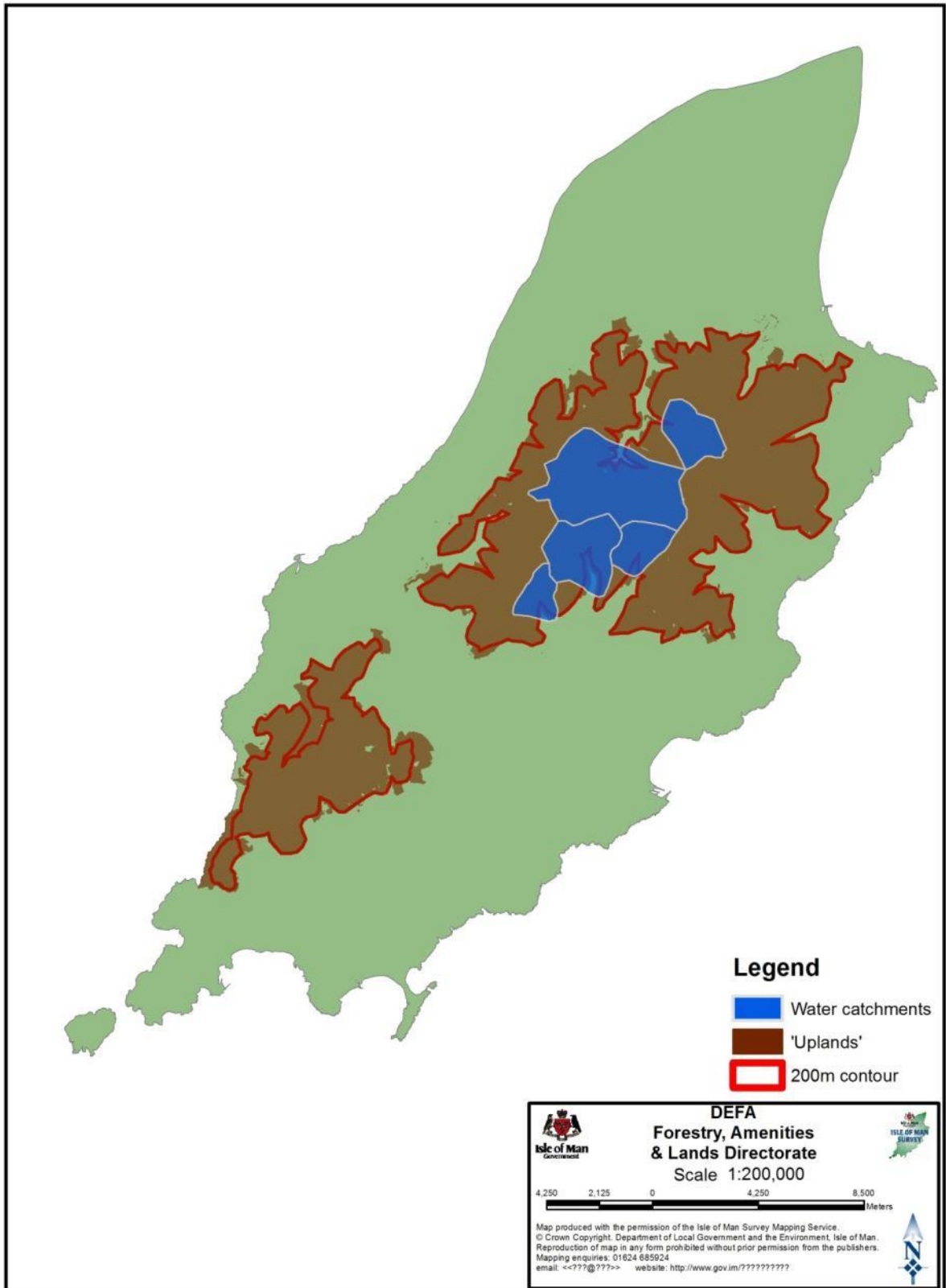
Code of good agricultural practice for the protection of water

Countryside Care Scheme- a voluntary Scheme that pays farmers an area payment to maintain the land in good agricultural and environmental condition.

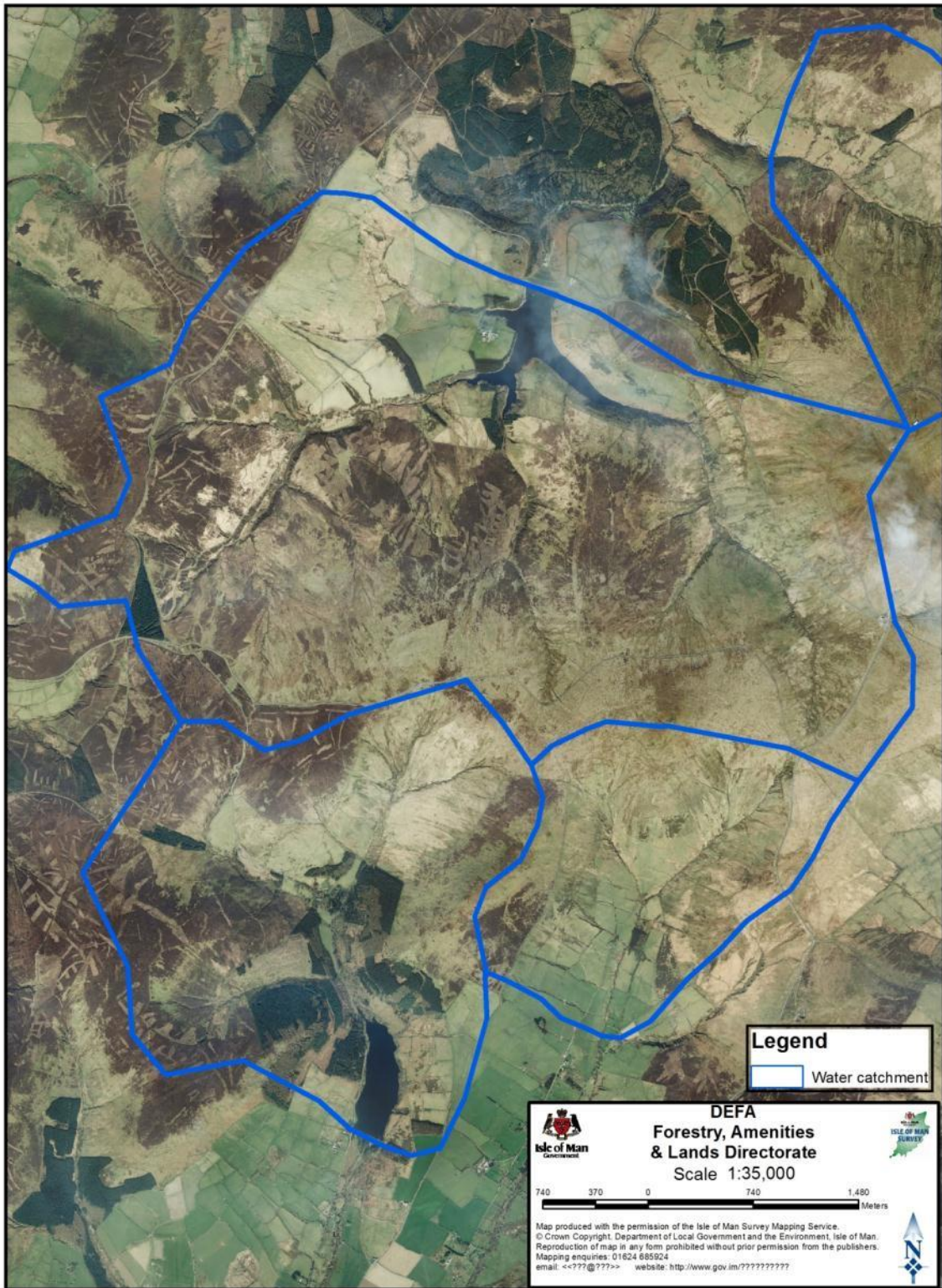
Agri-environment-protection of water courses

Heath burning code- heathland management is constrained between certain dates and other requirements.

Water catchments in the Manx uplands



Northern uplands water catchments





Landscape of the Sulby reservoir catchment.

SWOT Analysis-Water

Strengths

Consistently good raw water quality regardless of weather conditions

Healthy catchments and good biological activity

Plentiful water supply

Weaknesses

WASA does not control the entire catchment

Public take for granted the provision of clean water

Opportunities

Reduced treatment costs through better catchment management.

Reduced sludge load (waste product)

Reduced risk of water quality events and incidents through catchment management

Threats

Reduction in water quality colour/increase in Dissolved Organic Carbon from erosion caused by rapid drainage, wildfire, vehicle use, overgrazing.

Contamination of water supply from faecal coliforms and other parasitic organisms.

Conclusion

This document, written by upland stakeholders in conjunction with DEFA will form the evidence base for discussions by the Upland Steering Group chaired by Professor Jim McAdam.

The chairman will be tasked with compiling a report on behalf of the Steering Group and will refer to this document, other referenced evidence and the outcome of a number of fact-finding meetings when considering his recommendations.

Other information

During the course of 2013, the Steering group has compiled a number of valuable additional resources.

These are archived on the Government 'Manx Uplands Strategy' webpage which can be accessed at the following address:

<http://www.gov.im/about-the-government/departments/environment,-food-and-agriculture/forestry,-amenity-and-lands-directorate/manx-upland-strategy/>

or by searching for '**Manx Uplands Strategy**' on a search engine.

Resources currently include:

- An archive of uplands images on Flickr
- Links to other uplands projects
- Copies of News Releases and radio interviews on the project
- Documents associated with the project
- A copy of the 1995 MNCT uplands report