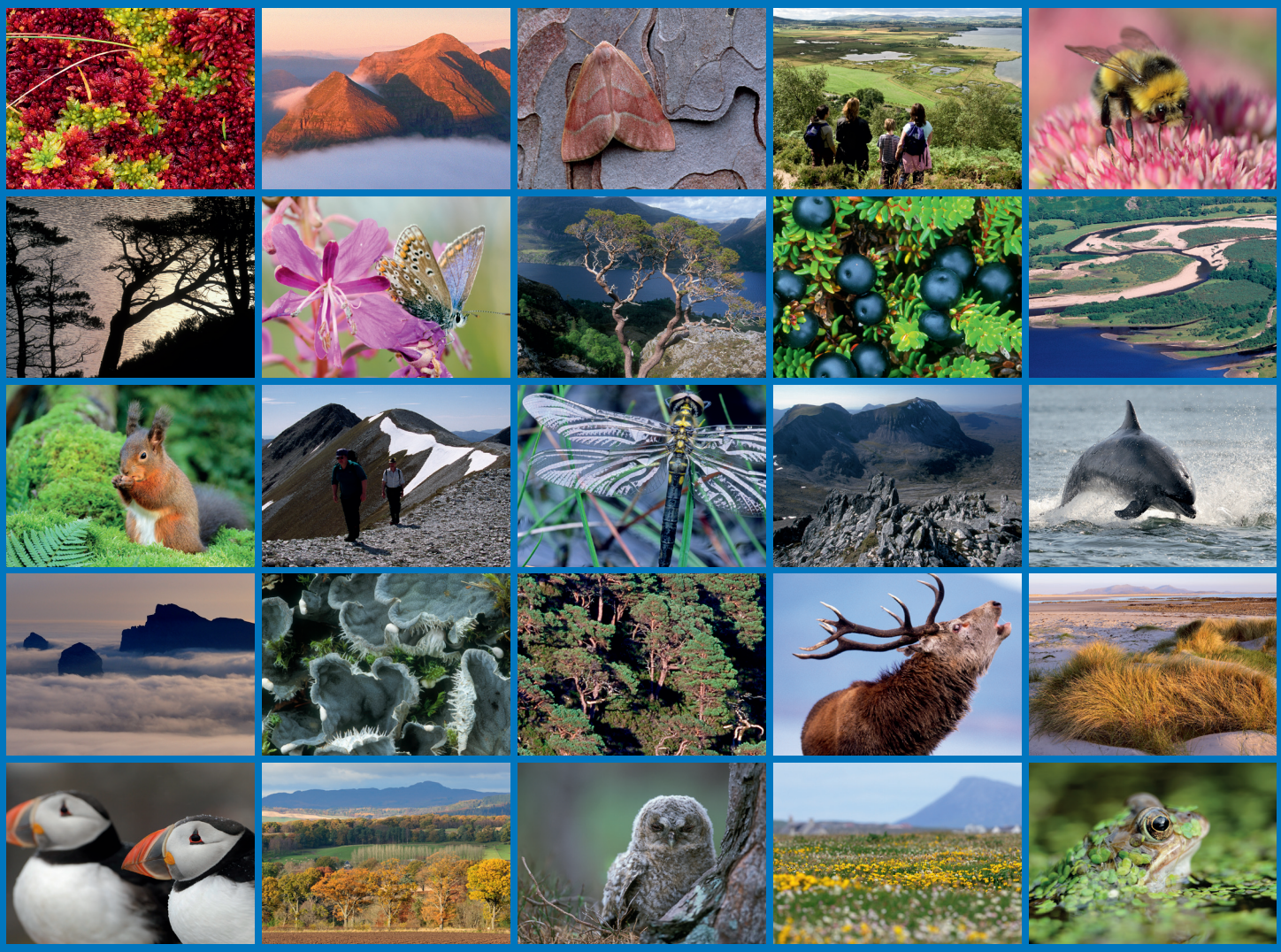
Research Report No. 1230

Ecosystem Services and Gaelic: a Scoping Exercise



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RESEARCH REPORT

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This report should be quoted as:

Maclean, R. (MacIlleathain, Ruairidh). 2021. Ecosystem Services and Gaelic: a Scoping Exercise. *NatureScot Research Report No. 1230.*

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Summary

Ecosystem Services and Gaelic: a Scoping Exercise

Research Report No. 1230
Project No: NS77397
Contractor: Roddy Maclean (Ruairidh MacIlleathain)
Year of publication: 2021

Keywords

Ecosystem services; Gaelic; provisioning; regulating; supporting; culture; aesthetic; place-names; toponyms

Background

This report is a scoping exercise to ascertain the potential for identifying:

1. and highlighting how an understanding of Scotland's Gaelic language and heritage might inform a wider appreciation of Ecosystem Services nationally;

2. geographical locations, toponymical evidence and sources of Gaelic environmental and cultural information which specify historical appreciation and provision of Ecosystem Services; and

3. information which relates to the historic Gaelic understanding of Ecosystem Services to current and future use of land, freshwater and maritime resources.

The scoping exercise identifies avenues that might profitably be explored in further research, and includes sources of relevant information. In particular, it looks at old and modern maps, historical documents, poems and songs, oral tradition, literature and other media, and research projects and papers which provide information about Ecosystem Services and how they relate to Scotland's Gaelic heritage. Some specific examples are provided of the type of information that would inform the final project.

Main Findings

The Gaelic heritage of Scotland, despite being largely ignored by authorities and academics concerned with land and marine management, has much to offer those who seek to analyse how Scottish ecosystems might, and do, provide services to the population of the country and beyond. The Gaelic language, and its attendant culture and heritage give a unique and informative window on the landscape and natural ecosystems, and human interactions with

both, in the Scottish Highlands, over a very long period, and therefore possess relevance for the Scottish people's collective view of their land and its management, now and in the future. In this scoping report, the author explores Gaelic toponymy, literature and oral tradition, as they impinge upon Ecosystem Services, and makes twenty recommendations for future, detailed research on these issues.

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1. INTRODUCTION

1.1 Purpose of the Study

This study is a scoping exercise to examine the opportunities for benefiting from a full-scale assessment of the potential for the Gaelic language, culture and heritage to make a positive contribution to a fuller understanding of ecosystem services in Scotland and how they might contribute to the well-being of the Scottish population.

1.2 Definitions

- **Ecosystem services** are the many and varied benefits accruing to human beings, individually and collectively, from properly functioning ecosystems, and from a balanced and sustainable natural environment.

- An **ecosystem** is a community of living organisms, along with the non-biotic components of their environment, interacting as a system.

1.3 The Gaelic Language

Scottish Gaelic (*Gàidhlig na h-Alba*) is a founding language of the kingdom of Scotland (Alba), with a history of use in Scotland since around the 4th century AD. It is a Celtic tongue, sharing a common origin with Irish and Manx Gaelic. At one time the language of the Scottish monarchs and royal court, it is likely to have been the majority language of the people of Scotland for several centuries, following the demise of Pictish, and probably maintained that status until around the mid-15th century. From around the 13th century, while Gaelic strengthened in the north and west of the country following the loss of Norse sovereignty, it weakened in the south and east, being replaced by Scots and, ultimately, English.

Gaelic, however, remained the dominant language in the Highlands and in the islands of the west (*A' Ghàidhealtachd*) until the 18th century and beyond, and including for some time, the south-west of Scotland i.e. Galloway and southern Ayrshire. The only local government areas of Scotland which have arguably no history of Gaelic communities or Gaelic-speakers are Orkney and Shetland, but the heritage is weak in the south-east and the Borders. Large parts of Scotland, however, boast a Gaelic strand to their place-name heritage, and across most of the Highlands and Islands, it is the dominant language, both in terms of landscape and cultural heritage.

1.4 The Gàidhealtachd

While this study will consider the national Gaelic heritage, there will inevitably be a concentration on the link between the language, and the land and people of the *Gàidhealtachd* (literally 'the realm of the Gael', but generally referred to as 'The Highlands' or 'Highlands and Islands' in English). This is because of the historical strength of the language in this region over many centuries. In this report, the Gàidhealtachd will be referred to both in its Gaelic guise (but without italics) and as the 'Highlands' for the purposes of brevity. It is important to note that the Highlands

are much bigger than the area under the control of the eponymous Highland Council. The traditional Gàidhealtachd stretches from Kintyre, Arran, Bute, Loch Lomond and the Highland parts of Perthshire, Angus, Aberdeenshire and Moray through Argyll and the Central, Northern and Western Highlands, to the Outer Hebrides (Western Isles), and includes all of the Inner Hebrides and the islands in the Firth of Clyde.

1.5 **Gaelic Today**

The 20th century witnessed a dramatic decline in the language's fortunes, and in the 2011 national census only 1.1% of the Scottish population aged over three years reported being able to speak Gaelic – a total of some 57,000. However, a total of some 87,000 people recorded some Gaelic language ability, including reading, writing and understanding. The language was initially excluded from the public education system under the Education (Scotland) Act of 1872, and its place in public life has since that time been peripheral at best. Thus, up to now, it has barely been considered as having anything positive to offer in terms of our understanding of ecosystems and ecosystem services. Gaelic is not taught or considered at university level as part of courses in ecology or natural science, or even physical geography.

However, there has been a shift in public attitudes towards the language in recent times, with a greater degree of positivity emerging. Gaelic Medium Education started in 1985 and is now a successful component within Scotland's diverse education mix. The success of BBC ALBA, the Gaelic television service, which commenced in 2008, has added to the sense that the language does have something to offer wider society, and there is a growing appreciation within the outdoor industry and fraternity, and within society in general, that increased knowledge of Gaelic can lead to a better individual and societal understanding of Scotland's landscape and natural heritage. These developments have encouraged the posing of the question – do the Gaelic language and its heritage offer anything positive for the understanding of ecosystem services as they pertain to Scotland? This report is an attempt to answer that question, and to assess whether a fuller and more complete study of the issue would be worthwhile.

1.6 **Gaelic and Ecosystem Services**

The Gaelic language and heritage, and how they pertain to Ecosystem Services will be considered below under the following headings:

Place-Names & Landscape

Literature & song

Tradition & Folklore

2. ECOSYSTEM SERVICES AND HUMAN WELL-BEING

At the core of the concept of Ecosystem Services is the role of ecosystems in facilitating and promoting human well-being. This does not mean that natural ecosystems, and the organisms within them, do not have intrinsic value beyond their function in relation to human well-being. Indeed, it can be argued that they do, but those attributes are not the focus of the current report.

While an understanding of human dependence on healthy ecosystems has been in existence for decades, and arguably among many of the world's peoples for centuries or even millennia, it reached a new level of popular acceptance in the global community in the early years of the current century, following the publication of the Millennium Ecosystem Assessment (MA) by the United Nations, whose objective was to 'assess the consequences of ecosystem change for human well-being and to establish the scientific basis for actions needed to enhance the conservation and sustainable use of ecosystems and their contributions to human well-being'.[1]

Ecosystem services, as defined in the MA, include

- ***provisioning services*** such as food, water, timber, fuel, fibre and medicine;
- ***regulating services*** that affect climate, flood, disease, waste, and water quality;
- ***cultural services*** that provide recreational, aesthetic, and spiritual benefits;
- ***supporting services*** such as soil formation, photosynthesis and nutrient cycling.

The ecosystems involved are wide and varied, ranging from undisturbed wilderness to intensively managed systems, such as those under agriculture or urban development. However much a human society is able to deal with environmental change through technology or culture, it is still dependent at a fundamental level on the flow of ecosystem services. Indeed, humans are an integral part of ecosystems and cannot be considered as isolated from them.

Human well-being is considered by the MA to have multiple constituents, including

- ***the basic material for a good life***, such as secure and adequate livelihoods, enough food at all times, shelter, clothing, and access to goods;
- ***health***, including feeling well and having a healthy physical environment, such as clean air and access to clean water;
- ***good social relations***, including social cohesion, mutual respect, and the ability to help others and provide for children;
- ***security***, including secure access to natural and other resources, personal safety, and security from natural and human-made disasters;
- ***freedom of choice and action***, including the opportunity to achieve what an individual values doing and being.

The MA points out that *freedom of choice and action* is 'influenced by other constituents of well-being (as well as by other factors, notably education) and is also

[1] See http://www.millenniumassessment.org/

a precondition for achieving other components of well-being, particularly with respect to equity and fairness.'

The structure of this report will follow the categorisations for Gaelic and Ecosystem Service outlined above i.e. **Place-Names & Landscape, Literature & Song, Tradition & Folklore.** At a sub-category level, it will also consider, in an informal manner, the MA categorisations i.e. ***provisioning services***, ***regulating services***, ***cultural services*** and ***supporting services.***

3. GAELIC PLACE-NAMES / LANDSCAPE AND ECOSYSTEM SERVICES

The relationship between toponymy and Ecosystem Services is complex and multi-faceted. It is also a two-way relationship. While the application of language to the Scottish landscape has modified how we perceive that landscape, so has the landscape itself modified the language. Gaelic has well over a hundred generic terms for hill, mountain or elevated place, to which might be added around fifty words for bogs of various types. Some of its topographical vocabulary is distinct from its sister language, Irish Gaelic, with the change brought about by a different environmental milieu, among other factors.

The whole relationship between toponymy, nature and environment, in a Scottish Gaelic context, is worthy of much further and more detailed research, and will be the subject of major recommendations of this scoping report. It should also be noted, as will be stated elsewhere in this report, that toponymy as a knowledge set cannot be considered entirely separately from literature, tradition and story if we are to make full sense of it. The separation of toponymy from those other spheres of knowledge is made here only for clarity.

This section is divided into sub-sections as follows (with page numbers):

3.1 **Place-Names and Provisioning Services**

These will be considered under six categories – food, water, timber, fuel, fibre and medicine.

3.1.1 Place-Names and Food

There are six major ways in which ecosystem services provide access to food for humans – through **agriculture, aquaculture, fishing, hunting, foraging** and **other**. We shall consider each in turn.

3.1.1.1 Agriculture

Gaelic Scotland has a long history of agriculture (*àiteachas*), with Gaelic-speakers being involved in farming and crofting to the present day. The word *àiteachas* derives from *àite* 'place', with the sense that agricultural life, perhaps as compared to that of a hunter-gatherer society, makes a strong connection to the cultivation of, and adherence to, one particular locality.

In the landscape, there are terms indicating **settlements and places, land divisions, transhumance, crop husbandry** and **animal husbandry**, all with an agricultural dimension. In some cases, they can demonstrate the longevity of agricultural systems, if early place-name evidence can be found. The most important of these terms are as follows:

Settlements & Places

- ***Baile*** 'farm, steading, hamlet, village, town'. This is the most frequent and instructive of Gaelic settlement generics, being indicative of a well-settled population[2] which, in earlier times, would have sustained themselves to some degree, perhaps almost entirely, through agriculture. There are many hundreds of examples, often in anglicised form (as Bal-, Balla-, Balle-, Bally- and Bella-), and they are to be found in most parts of Scotland, the main exceptions being Orkney and Shetland, where they are absent (and where the toponymic heritage is almost entirely Norse). They are also infrequent in the far NW where the Norse had a major influence on settlement names. They are most frequent in areas of the country most suited to arable farming, and are therefore less well represented in mountainous parts of the Highlands. Examples in SE Scotland include Balerno, Balgreen, Ballencrieff and Balgone. Examples in Fife include Balmerino, Balmalcolm, Balmain and Balmule. Most *Baile* names do not appear to have a specific that indicates the agricultural unit's provisioning service level, but this area would benefit from further research.

- ***Achadh*** 'field, settlement'. This word has a similar geographical distribution to *Baile,* but it is potentially more important for the current study, as it represents land with a potential for supporting arable crops.[3] The rider to that is that places with *Achadh* names often became permanently settled, so that it became a secondary expression of settlement, as much as of agriculture per se. Many *Achadh* names have been shortened to *Ach* in Gaelic, and anglicised to *Ach-* or *Auch-*. Examples are *Achadh na h-Innseig* 'the field of the small meadow', Mull NM498289; Achnaba 'the field of the cow', Loch Fyneside NR903858; Achnaluachrach 'the field of the rushes', E Sutherland NC674099; Auchinleck 'the field of the slabs', E Ayrshire NS558217; and Auchnaclach 'the field of the stones', Aberdeenshire NJ453448.

Recommendation

A detailed examination of Baile and Achadh place-names be undertaken to obtain further information about longevity of farming in particular locations, and about the provisioning services connected to those places. The study could be profitably extended to Norse and Scots farm names in the areas where speakers of those

[2] Nicolaisean (1976) p.133

[3] Nicolaisean (1976) p.141

languages left a clear linguistic indication of their involvement in agriculture. This is ***Minor Recommendation 4.***

- ***Goirtean*** 'small enclosure for growing crops or fruit trees'. In some cases, the enclosure might have been surrounded by a sheltering wall, and thus have been quite productive. The element can be shortened to *Gort-* or *Gart-* in place-names, or be represented by the anglicised form Gorstan. Examples include Gorstan 'enclosure' Ross-shire NH386627; *Goirtean a' Chladaich* 'the enclosure of (on) the shore', Loch Linnhe NN058707; Gartcosh 'the enclosure of the hollow', Lanarkshire NS697681; Gartnavel 'the enclosure of the apple trees', Glasgow NS554679, Gartsherrie 'the enclosure of the foal', Coatbridge NS727662.

- ***Dail*** *'field, haugh, dell'.* This word is an indicator of agricultural practice on flat land, sometimes by a river – and therefore of productivity, whether arable or pastoral. Sometimes *Dail* names became adopted as farm names, so it is also a secondary settlement name (and often anglicised) e.g. *Dail* 'field', Loch Etive NN059390; Dalnabo 'the haugh of the cows', Perthshire NN979522 and Dalnaw 'the haugh of the ford', Galloway NX322769. There is a considerable number of *Dail* place-names in the old Gàidhealtachd of Galloway.

- ***Fas, Fasadh*** 'stance, station, level place'. This should not be confused with the (accented) *Fàsach* 'wilderness, barren place'. Some *Fas* names can be indicative of droving activity; for example, Professor Watson describes *fas* as a 'stance, a nice level spot such as a drover would choose as a night's quarters for his charge'.[4] These names, and others possibly connected to droving, can help to provide evidence for pastoral productivity in the Highlands. Examples include *Fas na Cloiche* 'the stance of the stone', Argyll NN023481 and Faschapple 'horse stance', The Aird NH562416.

Land Divisions

- ***Croit*** *'croft'.* This term is not as common on the landscape as might be expected. It is a loanword into Gaelic from English, and does not have an ancient history of usage. It is not a particularly useful toponymic element for current purposes.

- ***Ceathramh*** 'quarterland'. An agricultural division. These are usually anglicised Kerrow or Kerry on maps e.g. Kerrow Farm, Strathglass NH330303, Kerrycroy, Bute 'hard quarterland' NS102611. There is a large number of *Ceathramh* sites, and detailed analysis is likely to uncover more. Márkus, in his in-depth study of Bute, found eight *Ceathramh* names on that one small island.[5]

- ***Còig*** 'fifth'. Another land division with an agricultural aspect. There are five examples in Strathdearn (the famous 'five-fifths of Strathdearn) e.g. *Còig nan Sgàlan* 'the fifth of the huts' NH730184. A derivative form *Còigeach* 'fifth part' (Coigach in English) is found as an area designation near Ullapool in W Ross.

[4] Watson (1926) p. 498
[5] Márkus (2012)

- ***Dabhach, Doch*** ‘davoch’. This is an old Pictish land division, probably based on productivity rather than land area. Examples include Davochbeg ‘small davoch’, E Sutherland NC723016 and Dochfour ‘the davoch of the pasture’, Inverness NH604391.

Transhumance

- ***Àirigh*** ‘shieling’. This is the classic landscape term connected to the transhumance that was pivotal, for many centuries, to the way of life of the Highland people. Some people would decamp from the *baile* ‘village’ to the shieling in the early summer – for some six to twelve weeks – taking the animals with them, relieving the grazing pressure on the inbye land, and using the seasonal plant resources of higher and wilder places to manufacture dairy products and give the beasts condition. The importance of the *àirigh* to the traditional culture and identity of the Gaelic people cannot be overstated. It is highly likely that there are many shieling sites never recorded on our maps and/or which have faded from local memory and conscience. This is demonstrated by the study by John Randall in the small area of Pàirc in SE Lewis, where he discovered over fifty probable shieling locations.[6] Examples of *àirighean* in other parts of the Gàidhealtachd include *Àirigh a’ Bhreac Laoigh* ‘the shielding of the speckled calf’, Mull NM 422224; *Àirigh Sheileach* ‘willow shieling’, Knapdale NR767708; *An Àirigh Fhraoich* ‘the heather shieling’, Torridon NG939536.

- ***Ruigh(e)***. Also meaning a slope, this is a common shieling term in the Central and E Highlands. Examples include *Ruigh Geal* ‘white shieling’, Mar Forest NO008820 and *Allt Ruighe Ghiuthas* ‘the burn of the shieling of pines’, Perthshire NN514440.

- ***Imrich*** ‘migration, flitting’. Where this word appears in the landscape, it indicates a route taken by people and livestock between village and shieling, and can add to our understanding of the extent of transhumance, and the relation between village and shieling e.g. *Allt na h-Imrich* ‘the burn of the migration’, Glen Affric NH222263; *Bealach na h-Imriche* ‘the pass of the migration’, Trossachs NN484110.

- ***Bainne*** ‘milk’. There are many place-names containing *bainne*, mostly in the genitive singular form *bhainne*. These are generally connected to transhumance, and the production of dairy products at the shieling, and their distribution (along with *ìm* and *càise* below) helps to demonstrate how widespread the practice was, and how the Highland environment, outside the settlements, had a large role in the provision of food. Examples are *Cnoc a’ Bhainne* ‘the hill of the milk’, Assynt NC152272; *Meall a’ Bhainne* ‘the hill of the milk’, W Ross NG750831 and *Lag a’ Bhainne* ‘the hollow of the milk’, mid-Argyll NM978061.

[6] Randall (2017)

- ***Ìm*** 'butter'. Like *bainne*, the *ìm* names (genitive *ime*) concern the manufacture of dairy products as part of a transhumant lifestyle. Examples include *Allt Eas an Ime* 'the burn of the waterfall of the butter', Mull NM520303; *Beinn Ime* 'butter mountain', Cowal NN254084 and *Leac an Ime* 'the flat rock of the butter', W Ross NG988955.

- ***Càise*** 'cheese'. The same comments apply here as to *bainne* and *ìm* above. Examples are *Allt a' Chàise* 'the burn of the cheese', N Perthshire NN815736; *Creag a' Chàise* 'the crag of the cheese', Arran NR941492 and *Gleann a' Chàise* 'the glen of the cheese', Kerrera NM801273. Another word that means cheese is *càbag* 'a kebbock, whole round cheese' e.g. in *Beinn nan Càbag* 'the mountain of the cheeses', Mid Ross NH353668; *Coire na Cabaig* 'the corrie of the cheese', Lochaber NN296744.

- ***Fiodhan*** 'cheese press'. The presence of this word in the landscape is likely to commemorate the use of cheese presses as part of a native dairy industry, whether for domestic purposes or export beyond the community or family group. *Meall an Fhiodhain* 'the hill of the cheese press' is in the Trossachs NN531245, in an area with a significant density of old shielings. Of *Lag an Fhiodhain* NM945361 on Loch Etive-side, the OS Name Book says this: *The word Fhiodhain means a cheese vat, and there is a tradition regarding this hollow which tells that a witch who resides or resided in Coire Cruachan, resorted to this place each morning to press the amount of cheese necessary for her daily consumption, and hence the name, hollow of the cheese press.*[7] This name is not connected to a shieling site, but to a farm known as Achnaba 'the field of the cow', the name of which might be significant. It is also not far distant from the site of Ardchattan Priory, founded 1230, and which would have needed a supply of dairy products on a regular basis.

Recommendation

An interdisciplinary study take place, to include toponymy, with the aim of assessing the productivity, in terms of cattle and dairy products, of shieling locations across the Gàidhealtachd at the height of the practice of Highland transhumance. This is ***Major Recommendation 9.***

Crop Husbandry

- ***Ceapach*** 'tilled plot'. Where this word appears in the landscape, it indicates that the land was being worked for crops or vegetables. There are several examples of the word in its anglicised form Keppoch in the landscape e.g. in Knapdale NR712635 and Arisaig NM655867, and sometimes in an unlikely (steep, hilly) place e.g. on Loch Duich-side at NG900242. In Gaelic form it tends to be in the genitive e.g. *Creag na Ceapaich* 'the rocky hill of the tillage plot', of which there are several.

- ***Gart*** *'cornfield or enclosure'.* This is a toponymic element that indicates intensive arable production, particularly of cereal crops. Examples include Gart 'cornfield', Trossachs NN641065; Gartavaich 'the cornfield of the byre', Kintyre

[7] Scotland's Places (OS1/2/1/78)

NR858589 and *Lochan Lòn a' Ghairt* 'the lochan of the damp meadow of the cornfield', S Morar SM801857. The last named is in a rugged place that is uninhabited, and indicates a greater agricultural productivity in the landscape in past times than is the case today.

- ***Arbhar*** 'corn'. This word appears in the landscape in its genitive form *arbhair* and is a strong indicator of cereal husbandry, sometimes in places where no agriculture beyond sheep grazing has been practised for some time. Examples are *Lùb an Arbhair* 'the (stream) bend of the corn', Morven NM720470 and *Cnoc an Arbhair* 'the hill of the corn', N Sutherland NC668576. Specific cereal names also appear in the landscape e.g. *eòrna* 'barley', *coirce* 'oats' and *seagal* 'rye' but these are infrequent, and probably best considered along with *arbhar* as an indicator of cereal husbandry.

Animal Husbandry

- ***Bò, Bà*** 'cow'. An instructive example is *Bad nam Bò* 'the place of the cows' in Caithness NC989520. This is in the middle of the Flow Country, which is often viewed today as a wilderness; however, place-names back up the archaeological evidence of old shieling sites and the historical record, demonstrating that people had an intimate knowledge of this landscape and would take their cattle there annually (*Bad nam Bò* is midway between two areas of extensive bog with numerous dubh-lochans, in an area that would have required accurate navigation and close control of livestock movement). This highlights an aspect of our modern understanding of Ecosystem Services; it might be today that the Flow Country (*Dùthaich nam Boglaichean*) is of prime importance in its provision of *regulating, cultural* and *supporting* services, notably its contribution to combating climate change (via carbon storage) and supporting aesthetic and spiritual well-being (through its wilderness values), but historically it also had an important function in *provisioning* services by contributing to the food supply (although the additional cultural importance of transhumance to our ancestors' well-being cannot be overlooked). Other examples of Bò names are *Beinn nam Bò* 'the mountain of the cows', N Sutherland NC786586, *Càrn nam Bò-àirigh* 'the hill of the shieling cattle', C Highlands NH753305 and *Bealach na Bà* 'the pass of the cow' (collective) NG779415, the last being a droving route for cattle out of Applecross (W Ross).

- ***Tarbh*** 'bull'. There are many bull names on the landscape, reflecting the cultural and economic importance of bulls (and cattle) to the Gaels historically. Examples are *Allt an Tairbh* 'the burn of the bull', Glenorchy NN251363 and *Mòinteach nan Tarbh* 'the peatland of the bulls', Skye NG134484. One has to be careful, however, that there is no folkloric dimension to the toponym, including the mythical *tarbh-uisge* 'water-bull'.

- ***Crodh*** 'cattle'. This collective singular word, which is always found in the landscape in its genitive form as *cruidh* or *a' chruidh*, indicates that cattle were being take in numbers into the vicinity of the toponym. Examples are *Meall Cruidh* 'cattle hill', Loch Etive NN129415; *Coire a' Chruidh* 'the corrie of the

cattle', Skye NG472187 and *Loch Àirigh a' Chruidh* 'the loch of the shieling of the cattle', Scarba NM700037.

- ***Sprèidh*** 'cattle, livestock'. This word is not common in the landscape but it can usefully indicate the historical practice of livestock-raising in 'wild' landscapes favoured by hillwalkers today e.g. *Rubha na Sprèidhe* 'the point of the cattle' N of Glen Cannich NH164356 and *Cnap Coire na Sprèidhe*, 'the lump of the corrie of the cattle', high in the Cairngorms NJ013048.

- ***Laogh*** 'calf'. This is an indicator of bovine husbandry, with the attendant health warning that the word can also be used for the young of the red deer. There is a very large number of place-names containing *laogh* e.g. *Coire nan Laogh* 'the corrie of the calves', Mid Ross-shire NH161610, *Meall nan Laogh* 'the hill of the calves', Harris NG232980 and *Allt an Laoigh* 'the burn of the calf', Mull NM486224.

- ***Gamhainn*** genitive *Gamhna* 'stirk'. This word demonstrates close association between humans and livestock. There is a well-known Gaelic calendar-marking saying: *Air Oidhche Shamhna theirear 'gamhna' ris na laoigh* 'at Halloween the calves become recognised as stirks'. Examples include *Tòrr nan Gamhainn* 'the hill of the stirks', N Morar NM757943 and *Cnoc na Gamhna* 'the hill of the stirk(s)', E Sutherland NC780036.

- ***Buaile*** 'fold, usually for cattle, sometimes for sheep'. The *buaile* is beloved of the bard in Gaelic poetry, particularly love songs, but is also a noted toponymic element. It is a clear indicator of livestock raising, particularly of cattle. Examples include *Buaile an Fharaidh* 'the fold of the ladder', Skye NG331301; *Buaile nam Bodach* 'the fold of the old men', Barra NF714014 and Loch na Buaile Duibhe 'the loch of the black fold', Lewis NB413182.

- ***Crò*** 'fold or pen for livestock, often sheep, sometimes round in shape and made of wattles'. This word also occurs in Norse place-names; MacBain considered it to be borrowed from Gaelic.[8] He further noted that *crò na muice* can mean 'pig-sty'. Examples include *Crò na Bà Glaise* 'the pen of the grey cow', Mull NM343186; *Allt Crò nan Gobhar* 'the burn of the pen of the goats', Harris NG084913 and *Sròn a' Chrò* 'the hill-shoulder of the pen', Perthshire NN903733.

- ***Caora*** 'sheep'. This element is usually in its genitive plural form *nan caorach* e.g. *Tòrr nan Caorach* 'the hill of the sheep', Arran NR874408 and *Beinn nan Caorach* 'the hill of the sheep', Scalpay, Skye NG620289.

- ***Molt, mult*** 'wedder, wether sheep'. Examples include *Cruach nam Mult* 'the hill of the wedders', Argyll NN167055 and *Camas nam Mult* 'the bay of the wedders', Skye NG703138.

- ***Uan*** 'lamb'. This appears on the landscape in the forms *nan uan* 'of the lambs' and *an uain* 'of the lamb' e.g. *Blàr nan Uan* 'the moor of the lambs', Mull

[8] MacBain (1911) p.108.

NM6242405 and *Càrn Ruigh an Uain* 'the hill of the shieling of the lamb', Strathspey NJ065379. It is a clear indicator of animal husbandry.

- ***Fang, Faing*** 'sheep-pen, fank'. This is a borrowing into Gaelic from Scots and appears to have had a shorter historical use than *buaile* or *crò*. It is fairly specific to sheep, and is still used in Gaelic for places where sheep are gathered for dipping, shearing etc. Landscape examples include *Allt nam Fang* 'the burn of the fanks', Lochaber NN264694 and *Rubha na Faing* 'the point of the fank', Mull NM707297. *Gualann na Faing* 'the shoulder of the fank' in Perthshire NN897286 is situated above a 'sheep pen' (marked on the map), demonstrating how toponymy can back up other cartographic evidence, although it might be argued that it adds little to our understanding of sheep rearing in that landscape (because of the existence of other evidence). However, in some instances, *fang* names occur in places where the human population has diminished dramatically in recent generations; they can give us added evidence about the spread of sheep in the Gàidhealtachd, particularly in the 19th and early 20th centuries.

- **Mainnir** (also ***banair***). *Mainnir* is an animal fold, often on the hillside. MacBain says it can apply to a goat pen,[9] and Armstrong gives it as a 'fold for cattle'.[10] *Banair* is an enclosure where sheep are milked. The two words, because of their similar function and pronunciation in lenited form, are sometimes confused. They are not common in the landscape, but include the interesting example of Achvaneran *Ach a' Mhainnirein* 'the field of the small sheep-milking fold', Strathnairn NH678342.[11] A dialectal variant – genitive singular form *màrrach* – is found in Gairloch e.g. *Glac na Màrrach* 'the hollow of the fold' NG799629.[12] There is also an example of the symbolic use of *mainnir* connected to hunting on a steep mountain on Mull – *Mainnir nam Fiadh* 'the pen of the deer' NM672357.

- ***Làirig*** 'pass'. While *làirig* can mean a moor or hill, it often refers to a pass, sometimes quite long and not particularly steep (compared, for example, to a bealach). Therefore, *làirigean* can be passes through which drovers would take cattle. Examples of *làirigean* are the *Làirig Ghrù* 'pass of Drùidh' through the Cairngorms NH965026, *An Làirig Leacach* 'the slabby pass' in Lochaber NN283734, and twin passes connecting Glen Coe to Glen Etive – *Làirig Èilde* 'hind pass' NN170539 and *Làirig Gartain* 'pass of (the) small enclosure' NN189535.

- ***Cluain*** 'meadow, pasture'. This is an indicator of animal husbandry, and can be instructive in a place like Knoydart where we find *Doire nan Cluainean* 'the copse of the meadows' NN982969, where there are no longer trees or developed pastures, and *Druim na Cluain-àirighe* 'the ridge of the pasture-shieling' NG751037, in a landscape where people are largely absent today.

[9] MacBain (1911) p. 239
[10] Armstrong (1825) p. 373
[11] Cumming (1982)
[12] Wentworth (2003) p. 276

- ***Innis*** ‘meadow, pasture often riverine’. This is an indicator of cattle grazing and is often anglicised as Inch e.g. Inch Farm, Fife NO533037, Inchrory ‘Rory’s haugh’, Moray NJ179080 and North Inch, Perth NO116245. *Innis* is also an archaic Gaelic word for island (e.g. most of the islands of Loch Lomond), with no overt connection to agricultural productivity.

- ***Each*** ‘horse’. Although there does not appear to be much of a history of eating horse flesh among the Gaels, horses were an important part of the agricultural and economic systems in Gaelic Scotland before the invention and general availability of the internal combustion engine, and continued to be used for deer stalking (to the present day). Horse toponyms can therefore be strong indicators of economic activity. Examples include *Bealach nan Each* ‘the pass of the horses’, Ardnamurchan NM516680 and *Creag an Eich* ‘the crag of the horse’, W Ross NH052831. Other elements that refer to horses in place-names are *marc* ‘horse’*, capall ‘*mare, work horse’, *làir* ‘mare’*, gearran* ‘pony, gelding, *searrach ‘*foal’ and *caiplich* (horse place). In the E Highlands, the loss of horses from upland agricultural units, commandeered for the war effort during World War I, had a significant impact on the viability of farms, even where manpower was available following the armistice in 1918.

Recommendation

Further research be conducted into horse toponyms, and local history, to elucidate further the role of the horse in traditional life in the Gàidhealtachd, and its function within Ecosystem Services. This is ***Minor Recommendation 9.***

- ***Muc*** ‘pig’. The large number of *muc* toponyms indicate that pigs had a bigger place in the Highland economy in the past than they do today. It is likely that references to the animals in the plural i.e. *nam muc,* away from the coast, do represent domestic swine. Examples are *Coire nam Muc* ‘the corrie of the pigs’, Mull NM617412 and *Gleann nam Muc* ‘the glen of the pigs’ Jura NR668992. On the coast, they might occasionally refer to the *muc-mhara* ‘whale’. *Eilean nam Muc* ‘The Isle of Muck’ is said to be ‘the island of the pigs’, but there is a strong suspicion that it is really ‘the island of the whales’, marine cetaceans often being seen in those waters to this day. There is also a word of caution about the singular form *na muice* ‘of the pig’ as they might represent the famous boar in the legend of Diarmad and Gràinne, which is sometimes designated as a *muc*, and which has a presence in several localities across the Highlands.

- ***Gobhar, meann*** ‘goat, kid goat’. Goats are an important biotic element in the Gaelic landscape although, being feral animals, it is not clear how often goat toponyms refer to livestock that were under a degree of human control. There are many place-names with *a’ ghobhair* or *na goibhre* ‘of the goat’ (the word being masculine or feminine) and *nan gobhar* ‘of the goats’. *Meann*, genitive *minn*, ‘kid’ might be a more significant indicator of goat-rearing, and there are many place-names containing this element e.g. *Gleann nam Meann* ‘the glen of the kids’, Trossachs NN523125 and *Cruach nam Meann* ‘the hill of the kids’, W Lochaber NM667718. A cautionary note is that *meann* can also refer to the young of the roe deer. Another ‘goat-word’ with a definite reference to husbandry is *èireannach* ‘castrated (wedder) goat’ – however this is virtually identical to the word for an Irish person, so it must be treated cautiously!

3.1.1.2 Aquaculture

In contrast to land-based agriculture, aquaculture has been a slow starter as a contributor to food production in the Gàidhealtachd. Little freshwater aquaculture is practised even today, and most is marine production of fish (mostly salmon) and shellfish (mostly mussels). The place-name elements that might feasibly be connected to fish- or shellfish-husbandry are more realistically discussed under Fishing (below).

3.1.1.3 Fishing

We shall consider fishing, and its contribution to food production, under two headings – **freshwater fishing** and **marine fishing**. Marine fishing is taken to include shellfish foraging and seal hunting, as they are indicators of marine productivity.

Freshwater Fishing

- ***Iasgach*** 'fishing'. This, applied to freshwater lochs, is an indicator of quality fishing e.g. *Loch an Iasgaich* 'the loch of the fishing', Skye NG673142 and *Lochan an Iasgaich* 'the small loch of the fishing', Assynt NC152248.

- ***Iasgair*** 'fisher'. This term, connected to freshwater lochs, is certainly an indicator of piscine productivity, although the actual *iasgair* might be an osprey! That is the case with *Loch an Iasgair* 'the loch of the osprey', W Ross NG921844.

- ***Bradan*** 'salmon'. This element is less common than might be expected, given the reported abundance of salmon in Highland rivers, and their capture by netting, fly-fishing, damming streams or even spearing.[13] An example is *Eas a' Bhradain* 'the waterfall of the salmon', Skye NG632264, but at the level of the OS 1:25000 maps, there are few toponyms with this element in them.

- ***Breac*** 'trout'. Dialectally, this word can mean 'salmon' but in most landscape instances, it refers to the native brown trout. This species was abundant and heavily fished in past times, according to accounts like that of Osgood Mackenzie.[14] Trout were so numerous in the burns and rivers around the Fionn Loch in W Ross that they were even caught by spearing under bog-fir torchlight in October and November. The same was true in Strathdearn.[15] Thus, landscape examples like *Loch nam Breac* 'the loch of the trout' in N Sutherland NC826479 and Kintyre NR795483, and *Allt nam Breac* 'the burn of the trout', Assynt NC246244, might well represent places where piscine protein made a significant contribution to local dietary intake. A close scrutiny of *breac* names is important, however, to ensure that the element is not an adjective ('speckled') and that the name suggests a positive contribution to ecosystem productivity, unlike *Loch an Aon Bhric* 'the loch of the one trout' NC550460 in N Sutherland!

[13] Grant (1980) p. 43
[14] Mackenzie (1921) pp.133-7
[15] NSA (1845) Vol XIV p.103

Recommendation
Research be undertaken into breac *toponyms, comparing them to bedrock type and other physical indicators of ecosystem productivity, to see if there is a correlation between physical factors and* breac *place-names. This is* ***Minor Recommendation 8.***

Marine Fishing

- ***Iasgach*** 'fishing'. As with freshwater lochs, this word is an indicator of good fishing locations along the shoreline of the country as well. Examples include *Eileanan Iasgaich* 'fishing islands', S Uist NF786186 and *Rubha an Iasgaich* 'the point of the fishing', Skye NG553024.

- ***Maorach*** 'shellfish'. These names are not common. *Bruach na(m) Maorach* 'the bank of the shellfish' in Ardnamurchan NM641677 is above extended sand and mudflats, and would therefore indicate good fishing for e.g. cockles and razor fish. *Rubha na Tràighe-maoraich* 'the point of the shellfish beach' in the Ross of Mull NM361242 appears to have a more varied shoreline and therefore probably a greater variety of molluscs.

- Specific shellfish names are generally infrequent, with the exception of ***faochag*** 'winkle', of which there are a few examples on the west coast. This species was heavily harvested, and there are many places where *faochagan* are gathered to this day, both commercially and for domestic consumption. Examples of relevant place-names include *Port nam Faochag* 'the harbour of the winkles' on Little Colonsay NM375364 and *Geodha nam Faochag* 'the geo of the winkles' on Wiay, Skye NG292358. It is also worth noting *Òb nam Feusgan* 'the bay of the mussels', Rona NG617600, and *Rubha Àird nan Eisirean* 'the point of the promontory of the oysters', Mull NM530388. *Bàirnich* 'limpets' occasionally receive a mention e.g. *Rubha nam Bàirneach* 'the point of the limpets', Lewis NB550318 – but many shellfish-eaters do not rate them highly!

- ***Ròn*** 'seal'. In some regards, this is probably the most significant toponymic element in terms of marking marine productivity. Seals as predators require a productive ecosystem to support them, and there are many places, particularly along the W coast, named for seals (without differentiating between species) – presumably because they were observed there, and likely hunted there as well. Examples are *Loch an Ròin* 'the sea-loch of the seal', NW Sutherland NC196541, *Sgeir an Ròin* 'the skerry of the seal', Kintyre NR687451, *Carraig nan Ròn* 'the rock of the seals', Loch Long NS220934 and *Port nan Ròn* 'the harbour of the seals', Mull NM319186. Martin Martin's book about island life three centuries ago has many accounts of seals,[16] and these marine mammals are the subject of many stories and legends of the west coast.

[16] See Robson (2003).

3.1.1.4 Hunting *(Sealg)*

There is a long history of hunting terrestrial mammalian and avian prey in the Highlands, and managing the country for such. Hunting will be considered under the following categories – **red deer, roe deer, hares, grouse** and **others**.

Red Deer

- ***Fiadh, Fèidh*** 'red deer'. From a traditional Gaelic cultural perspective, the red deer were the wild equivalent of cattle – both species being fundamental to the identity and way of life of the Highland people, and central to the legendary tales of the Fianna. In Gaelic, the same terminology applies to both species – *agh* 'heifer or hind', *laogh* 'calf or fawn'. Because of that, toponyms with *agh (pl. aighean)* or *laogh* have to be considered carefully before being assigned to deer or cattle. With *fiadh* we have no such problem, and examples abound e.g. *Gleann nam Fiadh* 'the glen of the deer (pl.)', Glen Affric NH164259 and *Cnoc an Fhèidh* 'the hill of the deer (sing.)', Arran NS013251.

- ***Eilid, Èildean*** 'hind, hinds'. Unlike *agh*, this word refers exclusively to deer, usually the red deer. Examples include *Tom nan Èildean* 'the hillock of the hinds', Morvern NM605570 and *Druim nan Eilid*, 'the ridge of the hinds', Trossachs NN657131.

- ***Mang*** 'yearling fawn'. There are at least two examples of *Coire nam Mang* 'the corrie of the fawns', presumably places where the fawns were to be found at a certain time of year. Both are in N Sutherland – one at NC276420 and another at NC419330.

- ***Sealg, seilg*** 'hunting'. There are many examples of this element in the landscape e.g. *Srath na Sealga* 'the strath of the hunting', W Ross NH075797 and *Loch na Seilg* 'the loch of the hunting', N Sutherland NC493510. In most cases they recall hunting of red deer. The derivative *sealgair* 'hunter' is uncommon on maps – an example (*Tom an t-Sealgair* 'the hillock of the hunter') is to be found in Lewis at NB389405.

- ***Eilrig*** 'deer trap'. This word is remarkably widespread across Scotland's landscape, sometimes in the anglicised form Elrick, and it recalls the great hunts of past times, when large herds of deer, often numbering hundreds, were driven off the hill with dogs and forced into an enclosure or restricted space – the *eilrig* – where they could be shot with bows and arrows. It was not a sport as might be generally practised today, but it was a means of sourcing animal protein for the people, as well as supplying the other parts of a deer's carcase that were useful. And – being a communal activity where success depended on all parties playing their allocated role – it probably made a positive contribution to social cohesion, and therefore contributed significantly to well-being. Examples of place-names are *Meall na h-Eilrig* 'the hill of the deer trap', Perthshire NN975716, *Tom na h-Eilrig* 'the hillock of the deer trap', Aberdeenshire NO182966 and *Elrick* 'deer trap', Moray NJ420258.

  Charles Fergusson in an 1895 paper about Strathardle in Perthshire mentions a royal hunt held for James VI in August 1582 'amongst the hills of Athole and Strathardle. There was a great gathering of clansmen beforehand, as usual, to

gather in the deer etc. from the surrounding districts. The great meeting-place, to which all the deer were driven to, was at the hill of Elrick [NO076668], on Dirnanean Moor, which hill, as its name indicates, had been for ages before one of the noted hunting-places of Athole.' He goes on to say that as 'proof of what a hunting country Strathardle must have been in olden times, I may mention that my late uncle, Robert Forbes (than whom none better knew these hills), told me that he knew twelve elrigs in the district above Kirkmichael'.[17]

The *eilrig* (also *èileag*) toponyms are useful in examining the past productivity of landscapes in terms of wildlife that were hunted to an extensive degree, and they would benefit from further research. Allied naming elements which might also be beneficial are ***tional*** 'gathering' e.g. *Meall Tionail* 'gathering hill' NN390378, near *Coire a' Cheathaich* where the poet Duncan Bàn MacIntyre tells of big deer hunts taking place, and ***conbhair*** 'dog handler' e.g. *Sgùrr nan Conbhairean* 'the peak of the dog handlers' Affric Forest NH129139.

Roe Deer

- ***Earb(a), Earbaichean*** 'roe deer'. Although this species does not rival the dominance of the red deer in the history and economy of the Gàidhealtachd, it has the advantage of arguably referencing a healthier ecology with more woodland, the red deer having adapted more completely to tracts of treeless landscape. Place-names that give us evidence of the presence of roe deer include *Bad na h-Earba* 'the thicket of the roe deer', C Sutherland NC757247 (a treeless landscape today), and *Càrn nan Earb* 'the hill of the roe deer', W of Loch Ness NH300195. The element boc can refer to the buck of roe deer or goats. In places like *Sròn nam Boc* 'the mountain-end of the bucks', Morvern NM716513, where there is substantial native woodland, the name might well refer to deer.

Recommendation:
Roe deer toponyms in Scotland be made part of an inter-disciplinary research project to evaluate their relationship to past and present tree cover, and habitat considered suitable for roe deer in the modern era. This is ***Minor Recommendation 6.***

Hare

- ***Maigheach*** 'hare'. It is difficult to determine how frequently the Gaels of old would eat hares, although we do know of it happening in the Central Highlands. However, there were folkloric beliefs connecting hares to humans that might have prevented that happening in a widespread manner. Regardless of that, the presence of hares in the landscape refers a productivity that is worth noting. Examples of *maigheach* names are *Meall nam Maigheach* 'the hill of the hares' in Perthshire NN556495 and *Coire nam Maigheach* 'the corrie of the hares' in E Sutherland NC951238.

- ***Geàrr*** 'hare'. This is another term for the hare, and it is found in a number of place names e.g. *Creag nan Geàrr* 'the rocky hill of the hares', E Sutherland NC956244. The rabbit has several Gaelic names – *coinean, coineanach,*

[17] Fergusson (1895) p. 264

rabaid – but it had such a late arrival in parts of the Highlands, particularly the north, and was so poorly adapted to the mountainous boggy character of much of the country, that it hardly features in the Gaelic landscape.

Grouse

- ***Cearc(-fhraoich)*** 'red grouse'. There is a large number of '*cearc*' names across the more mountainous parts of the Highlands which must refer to the female red grouse (*cearc* means 'hen' but the domestic variety was unlikely to be found in those environs). Examples include *Coire nan Cearc* 'the corrie of the grouse (pl.)', Lochaber NM933848 and *Coire na Circe* 'the corrie of the grouse (sing.)', Mull NM673367. The word *coileach* 'cockerel, male of the red grouse, male of the black grouse' also appears in the landscape, and while it is unclear which species a name like *Gleann a' Choilich* or *Creag nan Coileach* belongs to, what is clear is that it is referencing an ecology that is supporting avian wildlife.

Others

Other avian species were hunted for flesh or eggs in Gaelic Scotland, particularly in the Western Isles and the St Kilda archipelago. It may be that some references to a particular species – notably **faoileag** 'seagull' and **sgarbh** 'cormorant', both of which are common in the Gaelic landscape – indicate that the birds and/or their eggs were harvested in those localities, but a close examination of each toponym would be required to elucidate that possibility. The **sùlaire** 'gannet' is still legally harvested on *Sùla Sgeir* N of Lewis, the name of which likely originates in Norse, rather than Gaelic (as do other similar places e.g. Sula Skerry, Skye and Sule Skerry, Orkney). Sula names probably indicate, not only the presence of the adult gannets in their nesting colonies, but the harvesting there of the *guga* 'young gannet', another Gaelic bird-name which describes its call, and which has made its way into English.

In comparison with the above three species, which breed in Scotland, much of our goose population is migratory, and would have been hunted for adult meat, rather than eggs or chicks. The generic terms for goose are **gèadh** and **geòidh**, as in *Loch nan Gèadh* 'the loch of the geese', Kintyre NR813533, and *Loch a' Gheòidh* 'the loch of the goose (collective)', Jura NR660953. There are several references to geese in the Gaelic landscape.

3.1.1.5 Foraging

While the word *rùrachd* – and its English equivalent 'foraging' – can be considered relatively modern in their application, the concept of gathering wild food is as old as humanity. There are certain aspects of the Gaelic landscape that can assist an understanding of food foraging as an ecosystem service, and they will be discussed under the headings – **fruit, herbs** and **seaweeds.**

Fruit

- ***Dearc, dearcag*** 'berry'. This word often refers to the blaeberry (bilberry), but not exclusively. *Dearcag* is the diminutive. Examples are *Beinn nan Dearcag* 'the mountain of the berries', Mull NM428535 and *Tòrr nan Dearc* 'the hill of the berries', Arran N983341. *Braoileag* (genitive *Braoileig*) is another word with a similar meaning, although in some places it refers to the cowberry (lingonberry). *Braoileag* names are not common in the landscape. An example (in a very remote place) is *Ruigh na Braoileig* 'the slope of the berry', Lochaber NN287725.

- ***Cnàimhseag*** *'bearberry' [or perhaps 'cranberry']. Cnàimhseag* or dialectally *Craiseag or Croiseag* names are not common, but where they occur, they are instructive with regard to foraging uncommon berries – if one can be certain that the word is not just being used as a generic for 'edible berry'. Examples are *Beinn nan Cnàimhseag* 'the mountain of the bearberries', Assynt NC273177 and *Cnoc nan Croiseag* 'the hill of the berries', Strathnairn NH670306.

- ***Calltainn, Call, Coll*** *'hazel'.* Hazelnuts have formed a significant food resource in the Scottish environment for thousands of years. *Calltainn* (modern term) is not only notable for its nuts, but it was used in other ways as well (see later in this report). *Allt nan Calltuinn* (old spelling) 'the burn of the hazels' is in Kintyre at NR718334. An account of an unmapped name – *Place Calltuinn* (Dornoch Firth) tells of 'an extensive grove of hazel trees, where hundreds of bushels of nuts must have been annually gathered … by custom and usage the nuts were common property'.[18] This same account also talks of harvesting *mucaigean* (wild-rose hips) and 'lots of other raw stuff'. An older form of the hazel tree's name in Gaelic is *Call* – found in the odd place-name e.g. Badcall 'clump of hazels' in NW Sutherland and W Ross. These elements, and others possibly connected to the hazel tree (e.g. *cnò* 'nut', *slat* 'rod', *gual* '[char]coal') might benefit from more research at a larger scale on old estate maps and records to determine the nature and extent of potential food provision from this resource.

- ***Oighreag*** *'cloudberry'.* This is a fruit that seems to have been more widely foraged in the past than today – which might be an indicator of climate and environmental change, as much as changes in human lifestyle (it is still commonly foraged in Scandinavia). *Meall nan Oighreag* 'the hill of the cloudberries' is in Strathyre at NN578190 and *Càrn Oighreag* 'cloudberry hill' is in Aberdeenshire at NJ239070.

Herbs

- ***Lus, Luibh*** 'plant, herb'. Place-names with these elements might represent the presence of useful herbs, such as provide food or medicines. They would benefit from further research. Examples include *Abhainn Lusa* 'river of herbs', Skye NG698242 and *Allt nan Luibhean* 'the burn of the herbs', Lochaber NN404916.

[18] Newton 1998 p.187.

- ***Biolaireach*** 'abounding in watercress'. *Biolair* 'watercress' was used a lot by the Gaels. While rare in place-names on OS maps, research at the level of estate maps etc. might elucidate further evidence of foraging of this species. *Lòn Biolaireach* 'meadow abounding in watercress' is on Mull at NM504437. The biolair was particularly beloved of the *Cailleach*, the female protector of the mountains and their deer (see section 5.3.2).

- ***Sgeallag*** *'wild mustard'.* This is an element worthy of further research. It exists in the landscape, for example, at *Loch na Sgeallaig* in Lochaber. An old account tells us of four families in Clunes on the Aird, W of Inverness, who, at a time of famine, 'subsisted for two years on the herbs they could collect in summer, and gathered the seed of the wild mustard, with which their fields abounded, and ground it into meal, so as to afford them a scanty subsistence in winter'.[19] These people would almost certainly have been Gaelic-speakers, according to the same account. In the NSA, there is a (critical) account of farming practices in Ardersier, E of Inverness, in which weeds were allowed to thrive in the fields which, however, then became 'productive in nettles, wild spinach, wild mustard, and mugwort, of which weeds the poor people made a wholesome and savoury mess, on which they mostly subsisted during the summer'.[20]

Seaweeds

- ***Duileasg*** 'dulse'. Seaweeds were, and to some degree still are, used as food by the Gaels. For example, the NSA tells us that the people of Ardersier considered laver a delicacy and harvested it on the Black Scalp.[21] The Gaelic for the species is *slòcan*, but this is not preserved in toponyms, at least at the level of OS maps. Similarly, while the *carraigean* (carragheen) was, and still is, harvested as a foodstuff, it is rarely encountered on maps or charts (although *carraig* 'rock' – of the type where the alga grows – is relatively common). An example of a *carraigean* toponym is to be found off the coast of Mull at *Sgeir a' Charraigein* 'the skerry of the carragheen' NM458388. The only relatively common indication of seaweed-foraging is the element *duilisg* 'of dulse' (the English 'dulse' possibly originated from the Gaelic *duileasg*). Examples are *Camas Geodhachan an Duilisg* 'the bay of the geos of the dulse', Lewis NB042383 and *Eilean an Duilisg* 'the island of the dulse', Mull NM385248. These must be named for foraging, as dulse is relatively cryptic, being 'hidden' among other, larger seaweed species.

3.1.1.6 Other *(Eile)*

The manufacture of whisky in remoter parts of the Highlands became commonplace following the introduction of taxes on the product in 1644, and further taxes on imported liquor in the 18th century. By the 1820s, as many as 14,000 illicit stills were

[19] OSA (1792) Vol IV p.121-2
[20] NSA (1845) Vol XIV p. 475
[21] NSA(1845) Vol XIV p. 467

being confiscated by the authorities every year.[22] The process of making whisky, of course, requires water, fuel and barley, so it has implications for a consideration of Ecosystem Services, particularly if the barley were being sourced locally. While sites of illegal stills may still be identified by those with local knowledge, they are generally not marked on the landscape – the activity was, after all, illegal! This is an area worthy of further research but, for the present purposes, it is worth noting that one might search for the element ***poit-dhubh*** [shortened to ***poit(e)***] 'illegal whisky still' on maps (with the health warning that it might also mean 'pot', perhaps referring to a landscape feature). Possible examples are *Coire na Poite* 'the corrie of the pot', Forest of Mar NO004948 and *Lag nam Poiteachan* 'the hollow of the pots', Strathyre NN562184.

Illegal distillers tended to use smokeless fuels such as ***aiteann*** 'juniper' and ***droigheann*** 'blackthorn', so any research on illegal whisky manufacture ought to consider such resource toponyms. Consideration might also be given to other toponyms which might be linked to the illegality of the industry, such as *Tom Dà Choimhead* 'hillock of two views' in Strathspey NJ002101, where a weather eye could be kept open for the approach of excisemen, adjacent to a site of an old still.

3.1.2 Place-Names and Water

In most parts of the Gàidhealtachd, a source of water is never far away, and toponyms that highlight sources of water provision are not nearly as common as those that indicate the provision of food. Names with *abhainn* 'river', *allt* 'burn', *sruth* 'stream', *caochan* 'streamlet', *fèith* 'bog stream', *feadan* 'small tributary stream', *eas* 'waterfall' – and the ubiquitous *loch* and *lochan* – can be viewed simply as landscape descriptors, rather than specifically as markers of water provision (although they are extremely common). However, we can make the assumption that *fuaran*, *tobar* and *tiobar (tiobairt)* toponyms are all named from the fact that water was collected there – and some of these places were of great practical and sometimes spiritual importance. Further research on the specific relationship of individual wells/springs to particular diseases, and the possibility of that relationship reflecting an aspect of water quality, would be of benefit.

- ***Fuaran*** 'spring', sometimes 'well'. This element is very common in the landscape. Examples are *Sgùrr an Fhuarain* 'the peak of the spring', Lochaber NN180642 and *Coire nam Fuaran* 'the corrie of the springs', Mull NM516339.

- ***Tobar*** 'well', sometimes 'spring'. Examples include *Tobar Aiseig* 'the well of Ashaig', Skye NG687242, *Tobar na Curra* 'the spring of the heron', Skye NG454687, *Leac an Tobair* 'the rocky slope of the spring', Arran NR958440. Some *tobraichean* 'wells' and *fuarain* were well-known and heavily frequented for the healing properties of their water, or for the cleanliness of their water at times when diseases like cholera took hold.

- ***Tiobar, Tiobairt*** 'well'. These elements are not as common as tobar, and have a more southerly distribution. They represent a well which has been constructed and regularly used by humans. Examples are *Àird an Tiobairt* 'the promontory of the well', Morvern NM643552 and *Port an Tiobairt* 'the harbour

[22] Scotch Whisky Association https://www.scotch-whisky.org.uk/discover/story-of-scotch/

of the well', Jura NR707991 – the latter presumably being a place where mariners would replenish their water supplies.

3.1.3 Place-Names and Timber

The commonest Gaelic words for wood and timber – *fiodh* and *fiodhrach* – are poorly represented in the landscape and, at least at the scale of modern popular OS maps, tell us little about timber provision in the past. Instead, we are advised to look for words that represent trees in general – **craobh** and **crann** – collections of trees – **coille, doire, bad** and **preas** – and species of tree that were valued for their timber, the most notable of which are **darach** 'oak', **giuthas** 'pine', **beith(e)** 'birch' and **iubhar** 'yew'. A word worth researching further is *cabar* which can stand for a pole or roofing timber – but also, confusingly, deer antlers. Similarly, the places called *Cabrach* 'tree place' would benefit from further elucidation of the human activities which took place there.

3.1.3.1 Trees in General

- ***Craobh*** 'tree'. *Cnoc nan Craobh* 'the hill of the trees' in Kintyre NR734457 (recently reforested) and *Leac nan Craobh* 'the shelf of the trees', Skye NG573200 – which has lost its trees.

- ***Crann*** *'tree'. Allt Goirtean nan Crann* 'the burn of the enclosure of the trees' is on Mull at NM611398 (and it runs through a modern forestry enclosure!) The adjective *crannach* 'abounding in trees' is found in the toponym *Creag Chrannach* 'the tree-covered rocky hill' NN585463 in Glen Lyon – which, again, has been planted with forest in modern times. Potentially, *crann*, although largely obsolete as a vernacular for 'tree', gives us more information than *craobh* about the provision of tall, straight trees – the word became the standard for 'mast' on a ship. More research on *crann* toponyms, and what they can tell us about timber procurement, would be of benefit.

3.1.3.2 Collections of Trees

- ***Coille*** 'wood, forest'. There is a large number of place-names with this element e.g. *Allt Cùl na Coille* 'the burn behind the wood', Perthshire NO072574 and *Coille Dhubh* 'dark wood', W Ross NG873451 – the latter earning its descriptor by being north-facing.

- ***Doire*** 'copse'. This is also an extremely common element in our landscape. Examples include *Allt Doire nan Sòbhrachan* 'the burn of the copse of the primroses', Mid-Argyll NM952065 and *Doire Driseach* 'brambly copse', Morvern NN009698.

- ***Bad*** 'thicket'. This element, while common in our landscape, comes with a health warning, in that it developed locally into a general place-name i.e. 'spot'. Further research on the relation between *bad* and timber or other woodland ecoservices would be of benefit. Examples of toponyms with *bad* include *Loch Bad an Fhèidh* 'the burn of the thicket of the deer', W Ross NG794534 and *Bad Dearg* 'red thicket', Trossachs NN473006.

- ***Preas*** ‘thicket’. *Cnoc Preas a’ Mhadaidh* ‘the hill of the thicket of the fox/wolf’ in Caithness NC984488 is in country that was without trees until controversial planting of plantation forest in recent times. *Preas nan Sgiathanach* ‘the thicket of the Skyemen’ is in E Sutherland at NC686095.

3.1.3.3 Species of Tree

- ***Darach*** ‘oak’. It would be an interesting exercise to map the numerous *darach* names in the Highlands and compare them to the current distribution of the species. It is found in the forms *darach, daraich, dharach* and *dharaich*, depending on the structure of the name. Examples include *Creag Dharach* ‘rocky hill of oak’, W Ross NG924314 and *Camas Daraich* ‘bay of oak’, Skye NM567997.

- ***Giuthas*** ‘pine’. This species has apparently suffered massive loss in Scotland since ancient times. Places where it once grew, and which might therefore be suitable for reafforestation (taking into account peat depth and other changed environmental factors) are indicated in the Gaelic toponymy. For example, *Leirg nan Giubhas* (old spelling) ‘the slope of the pine trees’ in Glen Strae NN192330 is today without native woodland; similarly, *Creag a’ Ghiuthais* ‘the rocky hill of the pine’ S of Lochindorb NH947318. *Ceann a’ Ghiuthsaich*, the village of Kingussie ‘the end of the pine forest’ stands where a great *giùthsach* ‘pine forest’ once stretched to the north, of which (much-celebrated) remnant patches are to be found today in Badenoch and Strathspey.

- ***Beith(e)*** ‘birch’ This word can also appear in the lenited form *bheithe*. Examples include *Bealach Beithe* ‘birch pass’, Ben Alder NN509721 and *Caochan Bheithe* ‘birch streamlet’, Cairngorms NJ074104. The derivative word *beitheach* ‘birch wood, (place) full of birches’ also appears in the landscape e.g. *Àird Beitheach* ‘promontory of birches’, Loch Sunart NM736605. Its diminutive form is *beitheachan* ‘small birch wood’, an example of which occurs in a steading in Strathnairn called Achnabechan *Ach nam Beitheachan* ‘the field of the small birch woods’ NH677314.

- ***Iubhar*** ‘yew’. The yew tree is named in a significant number of toponyms, which is not surprising, given its historical importance as the preferred wood for bow-makers, and its character of being an archetypal tree of praise in literature. Examples are *Loch Iubhair* ‘yew loch’, Perthshire NN424268 and *Creag an Iubhair* ‘yew crag’, Argyll NR950996. The Gaelic original for the ferry terminal of Craignure on Mull NM718371 is *Creag an Iubhair*.

Toponymic evidence for woodland in the Upper Dee

Dr David Hetherington, an Ecology Advisor at the Cairngorms National Park Authority, has analysed toponymic evidence for past tree cover in the upper reaches of the Dee catchment in the Eastern Highlands, locating a large number of tree-related names (mostly Gaelic or Gaelic modified by Scots) in areas currently outwith the forested parts of the region, which push evidence of past woodland into zones of higher altitude, or which name species no longer present at the site of the toponym.[23] Examples include *Fèith Seileach* 'bog-stream of willows' NO147809 and *Clais Ghiuthais* 'pine ravine' NO276894. Hetherington's purpose is to demonstrate that the currently treeless nature of upland zones of the Cairngorms National Park represents a relatively modern ecology; this can help to validate a policy of reafforestation with native species. In terms of the application of knowledge of the Gaelic landscape to Ecosystem Services, this work is ground-breaking and could, and indeed should, be repeated in many locations across the Highlands where an understanding of past ecologies would be useful in framing current land management policy and strategy. Where OS and other published maps provide insufficient evidence of woodland toponyms, unpublished estate maps and papers, and users of the landscape who have traditional knowledge of place-names, such as gamekeepers, ghillies, foresters, farmers and crofters, can be valuable sources of information.

Recommendation

A major study, on the level of a PhD research thesis, be undertaken into woodland and tree toponyms across the Gàidhealtachd,[24] and co-ordinated with other evidence, to attempt to map the historical presence of woodland of various types. This could be extended to include the whole of Scotland, and toponyms in languages other than Gaelic. This is ***Major Recommendation 2.***

3.1.4 Place-Names and Fuel

Fuel to be found in the native Highland environment, which might be referenced on the landscape, is of three types – **wood, peat** and **coal (charcoal).** For wood availability, see **3.1.3.2 Collections of trees**. For peat and charcoal, see below. There is also a general word for fuel – **connadh.**

- ***Mòine*** 'peat, peatland'. This is the default word for peat, and indicates a peaty place, although not necessarily confirming that peat extraction would take place there. Examples include *Càrn na Mòine* 'the hill of the peat', Aberdeenshire NO061877 and *Mòine nan Each* 'the peatland of the horses', Trossachs NN501138.

- ***Poll*** 'peat-cutting place'. While this is the most common word used in the Gàidhealtachd for a place where peat is harvested, its presence in the landscape is fraught with difficulties of interpretation. Where it occurs with a

[23] David Hetherington (unpublished)

[24] This could also include woodland understory species such as bramble and berry bushes - the presence of which may be related to changes in herbivore browsing pressure over the last millennium. Cloudberry, for example, is now rare in Scotland except in snowbeds but e.g. in SW Norway is widespread in woodland (Kate Holl, pers. comm.)

further descriptor e.g. *Cruach Mòine-phuill* 'peat bank hill' in Argyll NR980859, we have certainty, but *poll* on its own commonly means mud, and in the NW Highlands, a hollow, pool or sea inlet.

- ***Gual*** 'coal'. The full expression for charcoal is *gual-fiodha* but on the landscape it usually appears as only *guail* or *ghuail* (genitive form) e.g. *Rubha Guail* 'point of coal' on Skye NG733155, from which charcoal was exported. The peat at *Meall a' Ghuail* 'hill of coal' near Dingwall was of such high quality that charcoal was made from it.

- ***Connadh*** 'fuel'. Examples are *Allt a' Chonnaidh* 'the burn of the fuel (probably wood)' NM660251 and *Bealach a' Chonnaidh* 'the pass of the fuel' in the Trossachs NN518165, through which peat was presumably transported, by creels or on horseback, to a nearby village. The type of fuel would probably have to be interpreted in relation to habitat at the site of each toponym. In the case of a short verse from Loch Ness-side, connected to the legendary heroine Deirdre (Deardail), the word means 'firewood' NH526239:

  Dùn Deardail theirte riut, Dùn as àirde sa choille,
  Gheibhte siud ann ad aodann, Cnothan, caorann is connadh
  Dùn Dearduil you are called, highest dùn in the wood, yonder is to be found on your slopes, hazelnuts, rowan and firewood[25]

3.1.5 Place-Names and Fibre

The main fibres which one might expect to be found in Highland place-names are *lìon* 'flax' and *clòimh* 'wool'. The difficulty with *lìon* is that it also means 'net' and can appear in this guise in place-names, particularly in association with water bodies and the coast. *Clòimh* and *clò* 'cloth, tweed' are virtually absent from the landscape, despite being important as domestic and commercial products for a long time. Thus, it is not suggested that the Gaelic landscape has much to offer this field of research.

3.1.6 Place-Names and Medicine

This will be dealt with under the headings – **physicians, healing** and **resources**. Further consideration of herbal cures will be dealt with under Tradition (Section 5).

3.1.6.1 Physicians

- ***Lighiche*** 'physician, doctor'. There are very few examples of such names, one being *Meall Lighiche* 'physician hill' in Lorn NN095527. The reason for the appellation here is not clear.

[25] Charles Robertson in King (2019) p. 234

3.1.6.2 Healing

- ***Slànaich, Slànachadh*** ‘healing’. Waters of burns and springs in various places were and are thought to have healing properties. These are not always named on OS maps at the Landranger or Explorer level. An example is *Allt na Slànaich* ‘the burn of the healing’ in Strathdearn NH748343.

- ***Slàinte*** ‘health’. An example is *Tobar na Slàinte* ‘the well of the health i.e. healing’ on Skye at NG456688. Detailed maps at local level are likely to proffer further examples of this type of toponym. A number of healing wells, with various names, are identified by James Mackinlay in his 1893 publication ‘Folklore of Scottish Lochs and Springs’ (Chapter VI). Names such as *Tobar na h-Òige* ‘the well of youth’, *An Tobar Naomh* ‘the holy well’ and *Tobar Churadain* ‘St Curatan’s well’ might all represent places where healing took place because of the perceived quality or ‘holiness’ of the water.

3.1.6.3 Resources

There is no doubt that Scottish healers – both professional (like the Beaton physicians) and amateur (like many women at a local level) used the resources around them for the creation of healing potions, tinctures, poultices etc. Outside medic gardens and the like, wild plants would be picked and used e.g. *slàn-lus* ‘healing plant’ (ribwort plantain or greater plantain) and *lus chasgadh na fala* ‘anti-haemorrhaging plant’ (yarrow), but these are not named on the landscape. See Section 5. One sought-after animal, used in healing, is the leech, and it is very occasionally named on the landscape. See below.

- ***Deala, Geala*** ‘leech’. *Loch na Geala* ‘the loch of the leech’ in Torridon at NG890680.

3.2 **Place-Names and Regulating Services**

Regulating services are considered to include climate, flood, disease, waste and water quality. It is not seen that the Gaelic landscape can add very much to our understanding of these issues. The exception to that might be water quality as seen in toponyms on large scale maps and local estate maps. Analysis of descriptors such *uisge glan* or *fionn-uisge* ‘clean, clear water’ might be useful.

3.3 **Place-Names and Cultural Services**

Cultural services are those that provide **recreational, aesthetic**, and **spiritual** benefits. These are discussed below.

3.3.1 Place-Names and Recreational Benefits

The Gàidhealtachd of Scotland is often seen today as a 'playground' or 'paradise' for outdoor pursuits, and there is no doubt that a greater understanding of the Gaelic environment in which those pursuits are carried out can enhance the quality of the recreational experience. We might consider recreational benefits under **mountain-based recreation, forest-based recreation** and **water-based recreation**.

3.3.1.1 Mountain-Based Recreation

There are well over a hundred generic terms in Gaelic for mountain, hill or elevated land, and a consideration of those terms can add to a better appreciation and sense of belonging in the environment in which one might work and play. For a list, see **Associated Document**. Below is a selection of generic terms that might most encourage the adventurous hillwalker or climber.

- **Aonach** mountain usually with summit ridge and steep sides
- **Beinn** mountain, high hill (originally an animal's horn)
- **Càrn** the default for mountain in the Central Highlands
- **Creachann** exposed mountain summit or plateau with little vegetation
- **Druim** ridge
- **Leitir** broad slope, usually above water
- **Mòinteach** mossy place, peatland, extensive moor
- **Sàil** steep end, spur or shoulder of mountain
- **Sgùrr** high, sharp-pointed mountain
- **Spidean** pinnacle

In addition, other landscape generics associated with the mountains, like *coire* (anglicised as 'corrie'), *toll* 'deep corrie', *diollaid* 'saddle' and *bealach* 'pass' can help to inform and enhance the experience of being in the hills.

Recommendation
A major study, on the level of a PhD research thesis, be undertaken into mountain and hill toponyms across the Gàidhealtachd, and co-ordinated with other evidence, including altitude, aspect, geology, geomorphological history, dialect, region and land-use, in order to attempt to understand more fully the subtle differences between generics and the reason for their choice. This would benefit, not only the Gaelic community, but many participants and players in Scotland's burgeoning, and economically important, outdoor recreation industry. This is ***Major Recommendation 1.***

3.3.1.2 Forest-Based Recreation

The main way in which a knowledge of the Gaelic landscape can add to forest-based recreation is through a better understanding of historic tree cover (see Section 3.1.3 above), and the species present. However, there are two other toponymic elements which are worth bearing in mind – ***slat*** 'rod' and ***bata*** 'stick'.

- ***Slat*** 'rod'. The famous saying in Gaelic – *slat à coille, bradan à linne, fiadh à fireach – trì 'mèirlean' às nach do ghabh Gàidheal riamh nàire* ('a rod from a wood, a salmon from a pool and a deer from rough ground – three 'thefts'

which never shamed a Gael') – sums up the Gaelic view of the use of the natural resources of the Highlands, and we shall return to it at the conclusion of this report. In the days before rods of bamboo could be bought at a local gardening shop, woods with hazel trees and decent understorey, or stands of willow would have been prized for providing useful rods and sticks. Examples of toponyms are *Allt na Slaite* 'the burn of the rod', Glen Ey, Cairngorms NO110852 and *Druim nan Slat* 'the ridge of the rods' Rannoch Moor NN342470. In both of these locations, there are few or no native trees today, but it is notable in the latter case that the adjacent corrie to the south of the toponym is *Coire Seilich* 'willow corrie'. *Slatach* means 'place of rods, sticks' e.g. *Sàil na Slataich* 'the steep spur of the stick place' in Assynt NC308310.

- ***Bata*** 'stick'. Examples are Achnabat 'the field of the sticks' N Sutherland NC663627 and a place of the same name near Loch Ness NH598301.

Another aspect of how trees of cultural significance might inspire modern users of the environment is the existence of some with Gaelic names which are recalled in toponyms and oral tradition, even if the trees are no longer extant. Examples are *A' Chraobh Thillidh* 'the returning tree' in *Gleann Eanaich*, Rothiemurchus, where local people would send out their cattle to graze on the hills, while they themselves would return to the village. On the other side of the Cairngorms is *Coire Craobh an Òir* NO027944, the corrie in which 'the tree of gold' was once used as an aide-memoire for the burial of a stash of treasure which – according to tradition – has never been recovered! One special tree that does still exist, and in a wonderfully remote and rugged location, is *Craobh Iubhair Beinn a' Bhacaidh* 'the yew tree of Beinn a' Bhacaidh' on Loch Ness-side NH425122, from which the Frasers of Stratherrick took sprigs before leaving their strath to fight for the Jacobites at Culloden. The yew is the badge of the Frasers of Lovat of which the Stratherrick clan is a branch.

3.3.1.3 Water-Based Recreation

The indications on the Gaelic landscape of potential water-based recreation (beyond fishing) mostly concern the use of boats, the only mentions of swimming being connected to the movement of cattle on a drove route, such as Colintraive, *Caol an t-Snàimh* 'the narrows of the swimming', Kyles of Bute NS028743. The following terms for boat or ferry are to be found on maps of the Highlands – **bàta, aiseag, coit.** In addition, **port** 'harbour', **acarsaid** 'anchorage' and **laim(h)rig** 'landing' indicate the use of a location for boats.

- **Bàta** 'boat' e.g. *Port Bàta na Luinge* 'the harbour for the boat of (that ferries to) the ship', Ulva NM414413. However, names with *bàta* are few and far between.

- **Aiseag** 'ferry' e.g. *Leac an Aiseig* 'the rocky slope of the ferry(ing)', Knoydart NG893062.

- ***Coit*** 'small boat, ferry' e.g.*Loch na Coit* 'the loch of the boat', N Sutherland NC661613.

- ***Port*** 'harbour, landing place' e.g. *Port Uamh nan Calman* 'the harbour of the cave of the doves' on Jura NR588766.

- **Acarsaid** ‘anchorage’ e.g. *Acarsaid an Dùin* ‘the anchorage of the broch’, Tiree NM085473.

- ***Laimrig, Laimhrig*** ‘landing place’ e.g. *Laimhrig*, Rum NM418967.

3.3.2 Place-Names and Aesthetic Benefits

There are certain descriptors that indicate that those who named the landscape did so with a love for the aesthetic haracteristics of the place. These, however, are more likely to be seen in literature than in toponymy. On the maps, the landscape descriptors of this nature, few as they are, can be considered in three categories – **beauty, ruggedness** and **remoteness.** Further, the possible presence of **rare or iconic species** on the landscape will be considered here.

3.3.2.1 Place-Names and Beauty

The only obvious such descriptor that appears on the map is *bòidheach* ‘beautiful’. Lochaline in Argyll is *Loch Àlainn* ‘beautiful loch’, but it is thought that the second element might be a rationalisation of an earlier, and different, term.[26]

- ***Bòidheach*** ‘beautiful’ e.g. *Coire Bòidheach* ‘beautiful corrie’ in Aberdeenshire NO235843.

3.3.2.2 Place-Names and Ruggedness

Much of the attraction of the Highlands is their legendary ruggedness. Gaelic nouns and adjectives which indicate such values, and which appear on the landscape, include **garbh, garbhlach, càrnach, sgòrach, fireach** and **fiaclach**. These can all be considered to make a place attractive to aficionados of the outdoors.

- ***Garbh*** ‘rough, rugged’. This is a very common descriptor which is attractive to those seeking a place of rough and wild character e.g. *Bealach Garbh* ‘rough pass’, Harris NB165031.

- **Garbhlach** ‘rugged country’ e.g. *Coire Garbhlach* ‘rugged corrie’ in the Cairngorms NN877945.

- **Càrnach** ‘rocky place’ e.g. *An Càrnach* ‘the rocky place’ on Skye NG559201.

- ***Sgòrach*** ‘rocky place’ e.g. *Sgòrach Breac* ‘speckled rocky place’, Skye NG651132.

- ***Fireach*** ‘rough ground, sometimes barren’ e.g. *Am Fireach* ‘the high rough place’, Perthshire NN744527.

[26] Taylor (2011) p. 110.

- ***Fiaclach*** ‘toothed, jagged’ e.g. *Càrn Fiaclach* ‘toothed hill’, Cairngorms NJ170066.

3.3.2.3 Place-Names and Remoteness

Much of the attraction of many parts of the Highlands concerns their legendary wildness, remoteness and distance from habitation, particularly in comparison to the rest of Britain. Nouns and adjectives found on maps, which indicate such values, include **fiadhaich, dìthreabh, fàsach** and **iomallach**.

- ***Fiadhaich*** ‘wild’ e.g. *Teanga Fiadhaich* ‘wild tongue (of land)’, Mid-Ross NG990492.

- ***Dìthreabh*** ‘wilderness, uncultivated land’. This is uncommon on OS maps, but there is the example of *Srath an Dìthreibh* (and other allied *Dìthreibh* names) in a remote location in N Sutherland NC529447, which the OS interprets as ‘the desert valley’.[27] On a larger scale, the Gaelic name for mid-Sutherland, where the population is tiny, is *Dìthreabh Chat* ‘wilderness of cats i.e. Sutherland’.

- ***Fàsach*** ‘wilderness’ e.g. *Am Fasach* ‘the wild place’ in Islay NR351659.

- ***Iomallach*** ‘remote, marginal’ e.g. *Eilean Iomallach* ‘remote island’, Coll NM156509

3.3.2.4 Place-Names and Rare & Iconic Species

The presence of rare and iconic species in our landscape terminology, as proof of their existence within a native ecology, can be of great inspiration to a modern population, highlighting the aesthetic aspects of ecosystem services in an age that has experienced a great deal of loss of habitat and threat to species such as the Scottish wildcat. This is an area that would benefit from further research, such as the type of analysis undertaken for **white-tailed eagles and golden eagles** by Richard J. Evans *et al.* (2012) in which they looked at place-names containing ‘eagle’ throughout Britain, in all landscape languages. Further employing an examination of each locality in relation to proximity to water (which favours the white-tailed or sea eagle) and altitude, the authors postulated which of the two species might have been named in each toponym (the Gaelic *iolaire* on its own e.g. the common *Creag na h-Iolaire* ‘the crag of the eagle’ does not distinguish between the species). The significance of this research is that it demonstrates a much wider distribution of both species in Britain in earlier centuries, which impinges upon our perception of their potential distribution in the years ahead.[28]

The **osprey** has been dealt with earlier in this report. What is significant about the *iasgair* toponyms is their possible presence in places where ospreys do not nest today.

[27] Scotland’s Places (OS1/33/13/59)
[28] Evans *et al.* (2012).

Dr David Hetherington of the Cairngorms National Park Authority has looked at place-name evidence of lost iconic species in the Scottish Highlands – the elk, bear, crane, reindeer, alpine blue sow-thistle and lynx. There are at least five Gaelic toponyms that carry a reference to a *mathan* or *math-ghamhainn* 'bear', all of which beg further scrutiny, but in general place-name analysis of the Gaelic landscape adds little to our understanding of past distribution of the above species. Any (unlikely) reference to reindeer would be lost within the large number of 'red deer' toponyms, and the crane '*corra-mhonaidh*' is indistinguishable from the heron '*corra-ghritheach*' in place-names which generally carry only the first element of the compound i.e. '*corra*' (most are likely to refer to the heron, not the crane).[29] The elk and crane are referenced in traditional stories from the Gàidhealtachd, the first regarding a meeting between Oisean and St Patrick, and the latter in relation to St Columba on Iona, demonstrating a historical familiarity with the species, although in both instances the stories might have an Irish origin.

Another iconic species which has now returned to Scotland, through both legal and illegal release, is the **European beaver**. This animal has several names in Gaelic, including *dobhar-chù* (which it shares with the otter), *beathadach* and the modern loanword *bìobhair*, but it does not appear on the Gaelic landscape of Scotland, although it is to be found in a few place-names in Nova Scotia, Canada, e.g. *Còbh a' Bhìobhair* (Beaver Cove).

Like the beaver, the **capercaillie** – the largest native member of the grouse family – has been reintroduced to Scotland following its earlier extinction here. It is not named in the landscape, at least at the level of OS maps (or it cannot be distinguished from *capall* names referring to horses), but it is significant that the English name for the species is a modified loanword from the Gaelic *capall-coille* 'forest-horse', so named for the noise (like horses' hooves) that the aggressive cock-bird makes along with its threat-display. Another bird whose English name comes from a Gaelic original is the **ptarmigan**, from *tàrmachan* 'the murmuring one'. As with the capercaillie, it is the call of this mountain grouse that gives it its appellation. However, unlike the capercaillie, the *tàrmachan* – which surely deserves a special status in the affections of hill-lovers as the grouse of high places – is named several times in the landscape. Examples are *Creag an Tàrmachain* 'the rocky hill of the ptarmigan (singular, collective)', Strathspey NJ152309 and *Meall nan Tàrmachan* 'the rounded hill of the ptarmigan (plural)', Trossachs NN357185.

The **wildcat** '*cat fiadhaich*' is an iconic element in our native fauna, and has strong connections to people and landscape. The people of the NE Highlands had the wildcat as their totem, giving rise to the Gaelic name for E Sutherland – *Cataibh* 'among the cats'. The Duke of Sutherland still has the title *Morair Chat*, literally 'lord of cats', and Caithness 'cat cape' derives from the Norse interpretation of this ancient Celtic heritage. The clans Mackintosh and MacGillivray have the wildcat as a symbol in their coats of arms. There are many place-names which bear a reference to the wildcat, showing this species' widespread historical presence, and undoubtedly its importance to the Gael. Examples are *Lochan nan Cat* 'the lochan of the cats', Glen Lyon NN486449 and *Creag a' Chait* 'the crag of the cat' Skye NG487386. An exercise which mapped wildcat toponyms and compared them to environmental parameters would be of benefit. The current poor state of the wildcat population, both numerically

[29] Hetherington (unpublished)

and genetically, is of extreme worry because of its almost unique status as an indigenous mammalian predator.

Recommendation
A detailed examination be made of toponyms likely to reference the Scottish wildcat, with the aim of seeing if we can learn more about their historic spread, and the habitats in which they were located. This is ***Minor Recommendation 7.***

The wolf is another iconic species whose presence in our place-names is problematical. Although there are many old Gaelic names for the species, it appears that the only likely candidate for appearance in modern toponyms is *madadh* 'wild dog'. However, at a generic level, the wolf *madadh-allaidh* 'fierce wild dog' is indistinguishable from the fox *madadh-ruadh* 'russet wild dog' because both are generally given on the landscape as *a' mhadaidh* (genitive singular) or *nam madadh* (genitive plural). *Meall nam Madadh* in E Ross NH337893 is 'perhaps wolf's hill' according to Professor Watson[30], and the OS Name Book claims that *Creag a' Mhadaidh* S of Braemar is 'Craig of the Wolf'.[31]

Further research on *madadh* names and others that might relate to wolves would be of great benefit for our understanding of the Highland ecosystems' ability to support such iconic top-level predators. For example, in an 1889 paper about the heritage of Strathardle in Perthshire, Charles Fergusson tells us that the 'wolves of Ben Bhuirich [NN997700] at the head of Glen Fernate were reckoned the largest and most ferocious of all, and Colonel Robertson, in his "Historical Proofs of the Highlanders", says that that mountain took its name from the roaring of its wolves'.[32] Significantly, the corrie on the mountain's eastern side is *Coire nam Madadh*. This introduces the possibility that other *bùirich* names might refer to the howling of wolves rather than the roaring of stags or cattle, as has been the common interpretation.

Fergusson further tells us of *Clais a' Chapaill* 'the mare's ravine' on Kindrogan Hill nearby, which got its name by an expensive mare being 'killed and partly devoured by wolves in this ravine'. The carcase was drawn close to a circular pit long used by wolf hunters. Two 'renowned hunters lay in wait, and shot the two wolves when they returned to feed … The wolves' cubs were afterwards found in the deep cairn on *Creag [a]' Mhadaidh* [NO054599] – the Wolf's Rock – near Loch Curran, which got its name from being a famous breeding-place for wolves, as it still is for foxes.'

Research on the Gaelic terminology for wolf-traps (separate from *madadh*) might prove fruitful, as there are accounts of these pit-traps being numerous, and of many still being in existence (although no longer employed for their original purpose) in the Central Highlands in 1845.[33]

Recommendation
An investigation be made of Gaelic toponyms across the Gàidhealtachd which are likely to refer to the wolf, and comparison made of this data with historical records and accounts of the wolf in those parts of the country. This would help to inform the debate (currently at a low level) about the possible reintroduction of this iconic predator species to the Scottish Highlands. This is ***Major Recommendation 6.***

[30] Watson (1904) p. 15
[31] Scotland's Places (OS1/1/20/43)
[32] Fergusson (1889) p. 291
[33] NSA (1845) Vol XIV p.102

The **red squirrel** '*feòrag (ruadh)*' has become, through its loss from much of the country's south and east, a shy icon for the Highlands, so much so that it is sometimes colloquially referred to in Gaelic as the *feòrag Ghàidhealach* 'the Gaelic squirrel' with the less praiseworthy (introduced) grey squirrel being the *feòrag ghlas* or *feòrag Ghallta* 'grey or Lowland in character'. *Innis nam Feòrag* in Ardnamurchan (NM617606), for example, is 'the sheltered valley of the squirrels'.[34] The presence of this species within the toponymy of the area also tells a tale of the woodland resources which must have existed, permitting the survival of a squirrel population. However, *feòrag* can sometimes mean other squirrel-like animals and, in the case of *Glac nam Feòrag*, also in Argyll (NM983634), there is disagreement over the meaning, with the OS telling us it represents 'the weasels hollow'[35] whereas the derived *Allt Glac nam Feòrag* means 'burn of the squirrel hollow'.[36]

The salmon, as an iconic species, will be dealt with elsewhere, as it is the subject of attention in literature and folklore, but it is worth considering here the position of the **Arctic charr**, an iconic cold water-loving salmonid, with a northerly distribution, that is considered to be an 'ice-age relic' in Scotland, and which is sensitive to environmental change, including global warming.[37] It was much caught and celebrated as a species and food resource in past times, such as in Loch Moy in the Central Highlands.[38]

The charr is variously known as the *deara-bhreac, breac-dearg* and *tàrr-dheargan,* with the names meaning 'red trout' or 'red-belly'. It is known in the Staffin area of Skye (where it occurs in Loch Mealt) as *geadas*, which was detailed earlier as being more commonly applied to the pike, and Dwelly's dictionary gives *tarragheal,* but as this means 'white belly', there must be a question mark attached to it, the species' red belly being one of its distinctive features. The only one of the above examples, which is found on maps, is *breac dearg*. There are at least three lochs called *Loch nam Breac Dearga* 'the loch of the Arctic charr (plural)' – one in W Ross at NH145457, and two others W of Loch Ness at NH452224 and NH473345. It would be advantageous to know the status of the species in all three of these lochs.

The contribution of the Arctic charr to the economy of the Highlands is limited to this point in time, but examinations have been made of the potential for harvesting the species (e.g. by netting), as occurs in Norway. And, given their iconic status and shy nature (which increases their appeal!), there could be opportunities for developing the species for angling tourism in Scotland.[39]

3.3.2.5 Place-Names and Spiritual Benefits

There is a strong heritage of place-names connected to spiritual matters, mostly Christian, but with echoes here and there of an older religion. Most of the common toponym elements are connected to saints, clerics and the churches – **naomh, sagart, ministear, manach, clèireach, cill** and **eaglais**. A large number of individual saints are also named in the landscape, the most notable of which are **The Virgin**

[34] Scotland's Places (OS1/2/62/11)
[35] Scotland's Places (OS1/2/42/63)
[36] Scotland's Places (OS1/2/42/62)
[37] Maitland *et al.* (2007)
[38] NSA Vol XIV pp.102-3
[39] Maitland & Campbell (1992) p.140

Mary, Columba and **Bride**. The relationship of landscape terminology to modern religion and spiritual tradition would benefit from further research.

- ***Naomh*** ‘saint, holy’ e.g. *Eilean an Naoimh* ‘the isle of the saint’ in Applecross NG701411.

- ***Sagart*** ‘priest’ e.g. *Cadha an t-Sagairt* ‘the pass of the priest’ in Caithness ND073270.

- ***Ministear*** ‘minister’ e.g. *Cnoc a’ Mhinisteir* ‘the hill of the minister’ in Kintyre NR769477.

- ***Manach*** ‘monk’ e.g. *Beinn a’ Mhanaich* ‘the mountain of the monk’ in Argyll NS268947.

- ***Clèireach*** ‘cleric’ e.g. *Fèith nan Clèireach* ‘the bog of the clerics’ in W Ross NH235789.

- ***Cill*** ‘church, cell’ e.g. *Bàgh na Cille* ‘the bay of the church’ in Argyll NM769001.

- ***Eaglais*** ‘church’ e.g. *Beinn na h-Eaglaise* ‘the mountain of the church’ N of Arnisdale NG853119.

- ***Moire, Muire*** ‘The Virgin Mary, St Mary’ e.g. Kilmuir, *Cill Mhoire* ‘Mary’s church’, E Ross NH757732.

- ***Calum Cille*** ‘St Columba’ e.g. *Eilean Chaluim Chille* ‘Columba’s Island’, Lewis NB383211.

- ***Brìghde*** ‘St Bride, Brigid’ e.g. *Cill(e) Bhrìghde* ‘Bride’s church’, Coll NM194548.

3.4 **Place-Names and Supporting Services**

Supporting services include **soil formation, photosynthesis** and **nutrient cycling**. The Gaelic landscape does not inform us greatly about these aspects of Ecosystem Services. However, the following terms are of note – **todhar, solas** and **grian.**

- ***Todhar*** *'field manured by penning cattle in it'.* An example is *Todhar Dubh* 'black dung field' Mull NM413518. However, *todhar* can also represent a bleaching place or a place where seaweed is collected.

- ***Solas*** 'light, sun'. An example is *Cnoc an t-Solais* 'the hill of the light', Lewis NB476406. Resolis on the Black Isle NH675655 is *Ruigh Solais* 'slope of light', referring to the SE slope on fertile ground which receives good sunlight and is therefore favourable for growing.

- ***Grian*** 'sun'. This generally appears in two forms. In the genitive form *grèine* 'of sun', it indicates a place renowned for its sunlight. Examples are *Beinn na Grèine* 'sunny hill' on Skye NG459416 and Tornagrain *Tòrr na Grèine* 'sunny hillock' near Inverness NH769499. It also appears as *grianan* 'sunny hillock, sunny spot, place for drying (e.g. peats)'. There are many examples of this toponym e.g. *An Grianan* in Glen Lyon NN480429 and *Grianan Mòr* and *Grianan Beag* 'large and small sunny hill', Jura NR638958 and NR641963. There should be a note of warning as regards *grianan*, however. It might in some cases represent a hill named for folkloric reasons, such as the *grianain* connected to the heroine, Deirdre.

4. LITERATURE & SONG AND ECOSYSTEM SERVICES

In this section, we shall look at how Gaelic literature and song might add to our understanding of Ecosystem Services. Oral tradition and legend will be dealt with in Section 5. However, as stated earlier, it is important to note that there is a body of knowledge within the Gaelic world that encompasses all of the material in Sections 3, 4 and 5. In Gaelic tradition, knowledge of place-names, oral tradition and song and literature (particularly poetry) are not considered to be in separate 'baskets'. There is a continuum of knowledge and application across that entire field of endeavour, and their division within this report is merely for convenience and clarity.

As this is a scoping exercise, it is impossible to go into minute detail about the extensive body of Gaelic song and literature. We shall instead consider some of the most famous exponents of the art and/or their most famous works (in addition to that famous composer *gun urra* 'anon'!), plus analyses by prominent academics, as examples of how a deeper study might further illuminate the relationship between Gaelic literature and Ecosystem Services.

Section 4 is divided into the following sub-sections (with page numbers):

4.1 Dr Michael Newton: Warriors of the Word

A summary of Newton, Michael 'Warriors of the Word: The World of the Scottish Highlanders' Birlinn 2009.

Dr Michael Newton is an American academic, and prominent analyst of the historical and cultural life of the Scottish Gael. In this influential book, he places the Gaels of the Highlands within a global context of peoples who have strong links to their lands which are supported by their mythology, cosmology, religion, language and artforms, including literature. The book attempts, in the author's own words (p.5), to 'help to bridge the chasm that yawns between academic discourse and the wider world', and to bring the academics' understanding of the Gaelic heritage of Scotland to a broader audience, including a modern (bilingual) Gaelic readership.

Newton busts the myth that Gaelic, both Irish and Scottish, had no ancient literature and goes on to explain the long history of composition and writing, particularly in what might be termed Classical Gaelic. As regards the earliest writing system, ogam, and its tree symbolism of which 'much ado has been made' (p.101) – the tree alphabet being much celebrated in art and music in recent years – he points out that ogam originally 'used names other than those of trees, although the arboreal metaphor did dominate … later'; moreover the system was largely obsolete by the High Middle Ages. Thus, the tree alphabet of the Gaels (which was probably only a tool of a literate elite) is an unreliable expression of the view that ordinary people had of trees and forest ecosystems.

The Palaeolithic world view is summarised by the author, and three of his points are as follows: nature is regarded as a benevolent mother figure, nature is conceived as a living and sacred system, and the sacred can be manifest in many forms. He goes on to point out, although the Gaels participated in the agricultural revolution that tended to put barriers between humans and the sense of nature as 'wild', that 'many of the general features of the Palaeolithic worldview regarding nature and humankind's relationship to it survived to a surprising degree [among the Gaels]'. He quotes from Maria Tymoczko who refers to early Gaelic nature poetry as suggesting an outlook 'which did not rigidly demarcate human beings from the rest of the natural order'.

In his PhD thesis, Newton points out the significant number of words in Gaelic that have a double meaning, referring to both a tree or part thereof on one hand, and a human or part thereof on the other. These include *crann, craobh, faillean, fiùbhaidh, fiùran, fleasgach, gasan, gallan, geug*, *sonn, meur, dos* and *slat.*[40] If the language and its vocabulary open a window into a people's view of the universal order, then this surely reinforces Tymoczko's point about the Gaels of Ireland and Scotland. A Scottish example is to be seen in a praise poem to Iain Molach MacKenzie of Applecross in around 1685, where the clan chief 'becomes' the highest tree in the forest:

A' chraobh thu b' àirde anns a' choille
Thar gach preas bha thu soilleir
A' cumail dìon air an doire
Le d' sgèimh ghuirm fo bhlàth dhuilleag;

You were the highest tree in the forest, visible above every bush, protecting the grove with your verdant beauty of blooming foliage;

As late as the 19th century, the Skye bardess *Màiri Mhòr nan Òran*, who lived for years in Inverness, was employing arboreal metaphor in her praise song for the Inverness MP, Charles Fraser-MacIntosh:

'S nuair chrìochnaicheadh a chùrsa leis
Cha b' ann mar chraoibh gun ùbhlan e
Oir dh'fhàgadh measan cùbhraidh leis
Bheir ùrachadh sa ghleann dhuinn

And when he had run his race, he was not like a tree without apples, for he left fragrant fruits which will bring us renewal in the glen.

Kennings were at one time heavily employed in Gaelic poetry, particularly where praise or dispraise of an individual was concerned, with native species of plant or animal used to convey the person's qualities, good or bad. Examples of animal kennings used to praise a person were the salmon, the deer, the peregrine falcon and the golden eagle. On the other hand, being likened to an eel, a buzzard or a frog was an insult. With trees, the praiseworthy species include the oak and apple, while the aspen and alder, for example, bear decidedly negative associations.

This literary kenning has its counterparts in idiom, proverb and oral tradition. There is, for example, the simile *cho cruaidh ris an darach* 'as hard as the oak' and the

[40] Newton (1998) pp. 22-31

proverb *cha tàinig isean glan riamh à nead a' chlamhain* 'a clean chick never came from the buzzard's nest', the latter being used in a negative commentary on, say, a family. The aspen in Gaelic is the *craobh-chrithinn* 'shaking tree', its quivering leaves (a characteristic recognised in many cultures) being the result of the crucifixion cross being constructed from aspen wood – at least in oral tradition.

The famous 1724 praise poem to Alasdair of Glengarry by *Sìleas na Ceapaich* uses a lot of nature and landscape imagery, including the three following verses, the last of which highlights the tree species of high degree and contrasts them with those of low reputation:

Bu tu 'n lasair dhearg gan losgadh,
Bu tu sgoltadh iad gu 'n sàiltibh,
Bu tu curaidh cur a' chatha,
Bu tu 'n laoch gun athadh làimhe;
Bu tu 'm bradan anns an fhìor-uisg,
Fìr-eun air an eunlaith as àirde,
Bu tu 'n leòmhann thar gach beathach,
Bu tu damh leathann na cràice.

You were a red torch to burn them, you would cleave them to the heels, you were a hero for waging battle, you were a champion whose arm never flinched. You were the salmon in freshwater, the eagle in the highest flock, you were the lion above all beasts, you were the stout antlered stag.

Bu tu 'n loch nach fhaoidte thaomadh,
Bu tu tobar fialaidh na slàinte,
Bu tu Beinn Nibheis thar gach aonach,
Bu tu chreag nach fhaoidte theàrnadh;
Bu tu clach uachdair a' chaisteil,
Bu tu leac leathann na sràide,
Bu tu leug lòghmhor nam buadhan,
Bu tu clach uasal an fhàinne.

You were an undrainable loch, you were the liberal fount of health, you were Ben Nevis above every mountain, you were an unscalable crag. You were the topstone of the castle, you were the broad flagstone of the street, you were a priceless gem, you were the jewel in the ring.

Bu tu 'n t-iubhar anns a' choillidh
Bu tu 'n darach daingeann làidir,
Bu tu 'n cuileann, bu tu 'n droighinn,
Bu tu 'n t-abhall molach blàthmhor;
Cha robh do dhàimh ris a' chritheann
No do dhligheadh ris an fheàrna;
Cha robh bheag annad dhen leamhan;
Bu tu leannan nam ban àlainn.

You were the yew in the forest, you were the strong, steadfast oak, you were the holly and blackthorn, you were the apple-tree, rough-barked, covered with blooms; you had no kinship with the aspen, nor bonds with the alder; you had nothing of the lime-tree in you, you were the darling of the beautiful women.

Another example, where the beloved yew attains prominence, is the anonymously composed late 16th century love-song *Craobh an Iubhair* 'The Yew Tree' from Islay, in which a woman praises MacAoidh, her lover, calling him alternately a yew tree or an apple tree. *Ma thèid thu dhan choille iùbhraich, aithnich fhèin a' chraobh as liùmsa, a' chraobh as mìlse 's a buige ùbhlan* … writes the author – 'if you go to the wood of yew trees, my own tree you will discover, the tree of the sweetest and softest apples.'

The converse of such praise poetry is dispraise verse, a classic example of which is James MacIntyre's polemic about Dr Samuel Johnson, following the Englishman's (ignorant) criticism of the Gaelic language and people. MacIntyre makes heavy use of nature kenning, which would have been clearly understood by his readership. Here is a verse from the poem '*Òran don Ollamh MacIain*'. It would probably be the subject of legal action on the part of the injured party were it to be published today!

Cha bu tu 'n droigheann no 'n cuileann
No an t-iubhar fulannach làidir,
Chan eil mìr annad dhen darach
No de sheileach dearg nam blàran;
Tha 'chuid as motha dhìot de chritheann,
Ìnean sgithich 's làmhan feàrna –
Tha do cheann gu lèir de leamhan,
Gu h-àraidh do theanga 's do chàirein.

You'd not be the blackthorn or the holly, or the tough enduring yew, there's not a bit in you of the oak or the red willow of the plains; most of you is aspen with hawthorn nails and alder hands – your whole head is made of elm, especially your tongue and gums.

The tree metaphor in Gaelic poetry goes much further than this. It is employed to commentate on families and whole clans – indeed, in Jacobite poetry on Scotland itself – and is not unrelated in some cases, to the choice of a tree species as a clan badge. Even in the 20th century, some poets, such as the famed Sorley Maclean, continued to use the metaphor. He calls the post-Culloden Highlands *craobh sheargte an ànraidh* 'the shrivelled tree of misfortune'. And a similar metaphor is employed by the bard, Murdo MacFarlane, in his famous rallying call to the Gaels – *Cànan nan Gàidheal*.

Cha b' e sneachda 's an reothadh o thuath,
Cha b' e an crannadh geur fuar on ear,
Cha b' e an t-uisge 's an gailleann on iar,
Ach an galar a bhlian on deas,
Blàth, duilleach, stoc agus freumh,
Cànan mo threubh is mo shluaigh

It wasn't the snow or the frost from the north, or the bitter cold withering from the east, or the rain and the storm from the west, but the disease that blasted from the south, bloom, foliage, trunk and root, the language of my tribe and people

In his PhD thesis, Newton asks, and answers, the question – if much of the Gaelic verse, with which we are familiar, originated in the islands, where tree cover varies from occasional to scant to non-existent, is the use of arboreal imagery a valid and understood metaphor with strong meaning for the writer, or is he/she merely

employing clichés and conventions which would be meaningful solely to those living in a locale where woodland is abundant? The answer is that most of the poetry that employs such parallels between trees and humans was written by mainland poets who were well acquainted with woodland. This perhaps frames a response to queries by English-speakers who wonder about the heritage of Gaelic Scotland (including the tree alphabet), when they are familiar with Gaelic as a spoken vernacular being so connected in the modern era to the largely treeless islands of the west.[41]

An interesting comparison can be made between the poetry of Uist native John MacCodrum and that of Alasdair mac Mhaighstir Alasdair, a mainlander; the latter uses much more tree imagery and metaphor than the man from the treeless island. Perhaps the fact that Duncan Bàn MacIntyre, a mainlander with phenomenal powers of observation and knowledge of native species, only occasionally uses arboreal imagery in his own poetry is perhaps an indication that there was a lot of personal choice involved and that poets who employed tree metaphors were not prisoners to a cliched form of commentary on the human character.

In his PhD thesis, Newton gives examples of fruit – such as apples, pears and blaeberries – which are employed in Gaelic poetry as similes for qualities of beauty in humans.[42] He also looks at the Gaelic view of health and happiness, which are part of human well-being, as defined by the MA, pointing out the importance of the Gaelic word *slàinte* 'health' as being derived from a root word meaning 'wholeness', signifying an underlying holistic concept of wellness. He writes that 'the art of healing has deep roots in the Celtic world in general and in the prehistory of the British Isles more specifically', and he points out how knowledge of cures, shared across Europe, became mixed in with early Christianity and healing miracles performed by saints and others.

He also makes the point that the church was unable to retain a monopoly on medical practices, and that 'the traditional healing lore of the lower orders of the Scottish Gàidhealtachd, including "wise women" who performed cures, survived well, given that witchcraft persecution was minimal in the Highlands and did not threaten its practice as it did in so many other parts of Europe.' Even when the professional Gaelic physicians, who had a long and distinguished history, disappeared, local healers were able to use herbal cures to effect treatments.

Newton claims that some of the legendary strength and resilience of Highlanders could be attributed to a positive mental and emotional outlook, 'starting from the self-esteem inculcated since youth'. The role of music, singing and dancing in promoting this positivity was not to be overlooked. One might also look to the Gaels' relationship to their environment, and their place in it, as making a positive contribution in that regard. This is an area worthy of further inter-disciplinary research.

Recommendation

Research be undertaken into the role that the Gaelic language and culture, and the relationship that these afford with the Highland landscape, have in promoting self-esteem, health and well-being in the Scottish population, particularly teenagers and young adults. This is ***Major Recommendation 7.***

[41] There would most likely have been more tree cover in earlier times, but it could be precisely this lack of tree cover which could exaggerate their importance in the landscape (Kate Holl, pers. comm.)
[42] Newton (1998) pp. 35-6

An aspect of traditional societies is that very often the people do not mark a hard border between the 'natural' and the 'supernatural', and Michael Newton points out that, although there is a modern Gaelic word for 'supernatural' i.e. *os-nàdarra*, that it is in effect a translation of an English concept. In traditional usage, these phenomena were referred to as *ana-ghnàthaichte*, meaning 'unusual' or 'extraordinary' – but not carrying the sense that they were without the bounds of nature. In traditional usage, links would be made to an avian denizen of the Gàidhealtachd – the *fitheach* 'raven'. *Tha fios fithich aige* 'he has raven's knowledge' means somebody has supernatural understanding. Supernatural that is also natural.

The *Cailleach*, an archaic female figure associated with the landscape, and which has much to offer a modern interpretation of the connection of female symbolism to the Highland environment, is summarised by Newton in his (book) chapter on 'Belief Systems and Cosmology', but this will be dealt with in Section 5 under Folklore and Tradition.

Gaelic song is famous around the world, its influence stretching far beyond the community of people who speak the language on a daily basis. Songs (and poetry, which was commonly written to be sung) in praise of the environment will be dealt with elsewhere in this report, but Newton points to an important aspect of Gaelic song that is often overlooked – mimicry of the sounds of nature and, most particularly, birds. A song imitating the swan, with choral vocables – *guidh ég ì, guidh ég ó* – was first documented in Argyll in the 18th century.

A collection of rhymes and games produced in the 1960s, and based entirely on oral tradition, contains bird song given a (Gaelic) human identity, with a number of native species being included – the robin, skylark, oystercatcher, crow, corncrake, dove, cuckoo, lapwing, wren, heron, thrush, blackbacked gull, raven, blackcock, swan, blackbird and red grouse. For example, the crow says to her young, '*Is greannach sibh, is greannach sibh, 's cha b' annasach, cha b' annasach*' (you're grumpy and it's not unusual).[43]

This aspect of the Gaelic heritage, and its relation to the environment, is worthy of further research, because of its ability to inspire inter-disciplinary creativity in a Scottish context, and to bring people closer to an understanding of rhythms and sounds that underlie the natural world, and our reaction to them. It has already inspired artists, such as the Finnish-English vocalist, musician and artist Hanna Tuulikki.[44]

An academic who has studied this phenomenon is Dr John Purser. He has also looked at the tradition of hand bells, which are sometimes named on the landscape – such as at *Tom nan Clag* 'the knoll of the bells' NS366916 on Inchtavannach, Loch Lomond, where the monks would once summon people to prayer[45] – and the earliest 'musical instruments' in the Highlands – the ringing stones or 'rock gongs' – which are sometimes linked to toponyms and oral tradition, and which represent another aspect of connection between the Gaels and their landscape.[46]

Newton's narrative also gives a summary of the 'Human Ecology' of the Gaels, but that will be dealt with elsewhere in this report. His work is fundamental to an

[43] Anon (1964) p.12
[44] See https://baltic.art/whats-on/hanna-tuulikki
[45] Scotland's Places (OS1/9/12/4)
[46] Purser (undated).

understanding of how the Gaelic language and culture might influence our modern appreciation of Ecosystem Services in the Scottish Gàidhealtachd, and it is envisaged that further academic exploration of that topic would build upon many of the foundations he has put in place. We shall meet him again in Section 5, when we consider Gaelic traditions and the recognition of trees as a resource.

4.2 **Carmina Gadelica**

Carmina Gadelica, Alexander Carmichael's six-volume collection of charms, incantations, prayers, songs and traditions from Gaelic Scotland, put together in the mid to late 19th century (some of it edited after his lifetime), is a classic of Celtic culture and heritage that has achieved international fame.[47] That is not to say that there are no questions about its universal authenticity – it appears that Carmichael, a native Gaelic-speaker from Lismore, who collected a lot of material while working as an exciseman in the Western Isles, did some judicious editing to add coherence to some of his material. Nevertheless, at its core, it is a celebration of traditional knowledge maintained orally within the community over hundreds of years, which is fundamentally Christian, but which arguably demonstrates an ancient and underlying belief system coloured by the pagan roots of the Celtic peoples.

MacInnes (2006) summarizes the contents and impact of Carmina Gadelica and characterises it as a 'treasure-trove of oral literature'.[48] Its application to Ecosystem Services is necessarily limited, but worthy of further exploration in terms of its characterisation of various animal species and in its undoubted potential benefit for Cultural Services. The ongoing project to catalogue and investigate Carmichael's notes, held in the Carmichael Watson collection in the University of Edinburgh Library, might reveal further material of interest, and should be included in a fuller investigation of the cultural, aesthetic and spiritual aspects of Ecosystem Services.[49]

4.3 **The Gaelic Vocabulary for 'Wilderness'**

An exploration of how 'wilderness' is viewed through the eyes of the Gael is made by the late Dr. John MacInnes in a Gaelic essay *Am Fàsach ann an Dùthchas nan Gàidheal* in *Dùthchas nan Gàidheal: Selected Essays of John MacInnes.*[50] Ecosystem Services can be viewed, in a modern Scottish Highland context, as strongly veering towards the provision of an aesthetic, wild-land experience which is available in very few places in Western Europe, and it is worth exploring what Gaelic, as an indigenous language, might teach us about 'wild' landscapes.

There is no one Gaelic word that is directly equivalent to the English 'wilderness' which, of course, has itself definitions varying from the negative 'a neglected, abandoned or inhospitable region' to the positive 'a place where humans are visitors, and where untrammelled nature reigns supreme'. Neither extreme is wholly applicable in a Scottish Highland context.

Fàsach is the most commonly applied Gaelic equivalent to 'wilderness'. It is a place empty of houses, people or cultivation, but does not deny the possibility of foraging

[47] Carmichael (1900).
[48] MacInnes (2006) p. 492-500
[49] Carmichael (undated).
[50] MacInnes (2006) p. 492-500.

or grazing. It is used as a translation of the English 'desert', but MacInnes says it is not properly equivalent (because of the sense of 'desolation' connected to the English word). *Fiadh*, which stands for the red deer, is the root element for words connected to 'wild' – the deer is the 'wild one' and the hare *geàrr-fhiadh* is literally 'short wild one'. Significantly, both species (along with the seal) commonly transmogrify into humans in Gaelic oral tradition, perhaps representing a crossover between humans and 'the wild'. *Fiadhaich* is 'wild' (adjective) – and often today used to describe wild land, and *fiadhair(e)* represents land that was once cultivated or tended, but that has gone back to the wild or, as MacInnes writes, '*a tha nise air a dhol am fiadh*'.

Fàsach is not common in place-names, but *fireach* is more commonly met with. It means a rugged place in the hills, and is necessarily remote from habitation. It would not be used of a place next to a village, however rugged.

Frìth is a fascinating word, having found its way from an English original, meaning 'hunting forest', into both Welsh 'upland grazings' and Gaelic 'deer forest'. MacInnes thinks it likely that it came into Gaelic in around the 11th to 12th Centuries, when the English language started to find its way into the Scottish royal court. It is found in place-names, but is most commonly met with in old literature about hunting and the environment. A *frìth* is generally a wild, open place (with no trees) where red deer might be hunted.

MacInnes admits to being puzzled about the origin of the word *aonach*, which can apply to a high mountain (particularly with a ridge), but also a moor, or high, uncultivated place, because it can also mean a market, meeting or assembly, and even a flat plain with a stony base behind the shore. It is exceedingly common in literature, in expressions like *muigh san aonach* 'out in the mountains', and there is a very large number of records of the word's use on the DASG website's *Corpas na Gàidhlig.*[51] *Aonach* is a word that would benefit from close historical analysis of the type being conducted for the creation of a Gaelic historical dictionary. The present author's suspicion is that the commonality of the various meanings is *aonaich, aonachadh* 'coming together', as in people gathering, or two faces of a mountain meeting to form a ridge line. If his suspicions are correct, it would add a new dimension to the experience of the snow sports enthusiasts who gather on the *Aonach Mòr* near Fort William!

MacInnes examines other Gaelic words which can stand for 'wilderness' – for example, *monadh* 'upland, hill, mountain range' which has an origin in Pictish, *dìseart* 'deserted place' which originates in Latin, and *dìthreabh*, a word of Gaelic heritage which stems from roots meaning 'unploughed'.

But perhaps MacInnes' most important point is that searching for a mirror-image of English language concepts like 'wilderness', within the Gaelic conceptual and landscape framework of the Highlands, is a somewhat futile exercise. Rather, we should seek to look for cultural and spiritual markers that reference the 'wild' from a Gaelic perspective, irrespective of the cultural mores connected to the English language.

An obvious and important example is the 'Cailleach', dealt with elsewhere in this report, which MacInnes invites us to view as a *comharradh … air dà nàdar an fhiadh bheathaich – gnàthaichte agus ana-ghnàthaichte* 'a symbol … of the dual nature of the wild animal – the natural and supernatural'. Another is *A' Ghlas Ghaibhleann* – a

[51] See https://dasg.ac.uk/corpus/

supernatural ‘cow’ whose *Leapannan* ‘beds’ appear in the landscape across the Gàidhealtachd, but who is particularly strongly remembered on Skye. At times of famine or other disasters, she would appear from the wilds to help the people.

Stories of seals abound in the Gaelic tradition of the western seaboard and islands (perhaps owing something to the Norse heritage). The seal is special, as in many tales, it sheds its skin and becomes a woman who, however, one day returns to the watery wild by adorning herself once more in her old covering. There is, in these stories, and others like *Màiri agus an Ròn* (Mary and the Seal), not only a strong connection between humans and the wild through transmogrification, but a sense that there is also a barrier between the human world and the wild, which can only be crossed by certain people at certain times, and sometimes in just the one direction – or with an accompanying punishment if the return journey is made. Just as in Oisean’s journey into the Other World of *Tìr nan Òg* (in which he becomes old and blind on return to his original world), it is not a general gateway to another realm which can be crossed and recrossed at will by anybody. The wild is still the wild.

Other species come out of the sea and spend time on land – notably the *maighdeann-mhara* ‘mermaid’, a creature of many cultures, and the *crodh-mara* ‘sea cattle’, much more a unique Gaelic phenomenon, which has been reported from several locations, including Skye and Uist. The latter, emerging onto a strand on a moonlit night, might be captured by throwing black soil (a symbol of the land) over them, preventing their return to the watery deep.

Finally, MacInnes reveals an aspect of Gaelic heritage that is perhaps too little-known today – that our ancestors believed that each person had a *co-choisiche* – a fellow-walker or *doppelgänger* – who was their like but also, in a sense, their mirror-image – the unnatural to their natural – that, in their existence, even if at a distance and being sometimes unpleasant or riotous, made an individual complete. A person would most commonly perceive their *co-choisiche* when in the contemplative and imaginative quiet of the wilderness.

4.4 **Medieval Gaelic Poetry**

The best source of Medieval Gaelic poetry, for a general readership, is *Duanaire na Sracaire: Songbook of the Pillagers* edited by Wilson McLeod and Meg Bateman (Birlinn 2007), which gives a good selection of writings, some of which impinge on the present consideration of Ecosystem Services. In this section, we shall consider some prime examples of *bàrdachd* from the Medieval period (pre-1600).

Meallach Liom Bheith i n-Ucht Oiléin ‘Delightful to be on the Breast of an Island’ appears to date from the 12th century, and is one of a number of poems from this period which are placed in the mouth of Calum Cille (St Columba) who lived six centuries previously. It highlights an important aspect of ancient Gaelic tradition, common to Ireland and Scotland, which is that of the simple Christian cleric who seeks a spiritual proximity to God by secluding himself in a stone cell on a rocky, lonely and otherwise uninhabited island (the ruins of such cells can still be seen in a number of locations, including *Eileach an Naoimh* in the *Garbh-Eileacha* ‘Garvellachs’ near Mull). Collectively, the practice of self-isolation for spiritual purposes is known as *A’ Mhairtireachd Gheal* ‘the white martyrdom’, in comparison to the *Mairtireachd Dhearg* ‘red martyrdom’ which involved warfare and blood. Despite the overt attachment to a Christian God, and its possible connection to the practice of

establishing Christian desert settlements in the Middle East, there is likely to also be a flavour of ancient pagan practice to be found here, and it is an aspect of 'Celtic' Christianity that is not without appeal to those of an agnostic nature in our modern world. It is clearly an aspect of Gaelic heritage that lends itself to further scrutiny in the light of its application to Ecosystem Services, particularly cultural services.

Recommendation
A study be made of the Gaelic writings, tradition and heritage associated with 'white martyrdom', in order to present, to a modern audience, a Christian practice which placed the natural environment and remoteness at the centre of spiritual well-being. This is ***Minor Recommendation 2.***

In this poem, *Meallach Liom Bheith i n-Ucht Oiléin*, the unidentified poet (most likely male) says how delightful it would be to be on the rocky clifftop of an island, which he interestingly feminises – whether because an older word for 'island' – *innis* – is feminine (the poem employs the more modern word *oiléan* – today's Scottish Gaelic *eilean* – which is masculine) – or because he is making a statement about gender in connection to nature. The sea, as it happens, is also feminine. In that lonely place he could ponder the calm of the ocean, her heavy billows and eternal surging, the call of her wondrous seabirds – which are a cry of gladness – and her whales, which are the greatest of all wonders. It is also an early record of food foraging as, in among all the time spent reading and in contemplation of the Almighty and his gifts, the self-exiled monk would spend a while pulling the edible seaweed *duileasg* 'dulse' from the rocks, and in fishing.

Another anonymous work of around the same period is *Arann na n-Aiged n-Imda* 'Arran's Hunting', sometimes known in modern Gaelic as *Moladh Arann* '[in] praise of Arran'. Arran, sometimes called 'Scotland in miniature' and praised for its beauty, was for many centuries an overwhelmingly Gaelic-speaking island, with the loss of its unique dialect occurring in the late 20th century. What is interesting about this poem is that the description of the island's attractions is made in a manner to which modern citizens, some eight centuries later, can relate. The author names individual species, and the delights – whether that be in a real sense or due to poetic and cultural convention – in the island's natural richness.

The poet writes of Arran of the many red deer, with frisky hinds on her mountains, fawns bleating, ripe blaeberries in her thickets, acorns on her oaks, brambles and sloes on her blackthorn trees, nuts on her hazel trees, grass and heather on her hillsides, trout in her rivers and gulls flying around her cliffs. And again, the island is notably feminine! But it is not an *elysium* to be enjoyed only by those whose life on earth was complete. Indeed, the poet makes the point of calling Arran an island where warriors are nourished, where pigs are raised, where there are hunting dogs and dwellings, and where long galleys sail past. It is a place where humans belong.

Two other remarkable poems of the same period are placed in the mouth of Deirdre – one of the most famous and tragic figures in all of Gaelic literature and tradition. Betrothed to the King of Ulster, rather against her will, she flees with the hero Naois and his two brothers to Scotland, where they reside happily and in peace. The place most strongly connected to the Deirdre legend is Glen Etive in Argyll, but the tale is also located on Loch Ness-side and in Glen Nevis, and versions were recorded in several locations, including in manuscript form from Glen Massan in Argyll. Deirdre

loves Scotland and does not want to return to Ireland, where she fears (correctly) that the King will double-cross them, despite his protestations to the contrary.

In the first song, *Gleann Measach Iasgach Linneach* 'Fruitful Glen with Pools and Fishes', we see a very strong presentation of nature and environment through series of adjectives (in a manner which would be very difficult and unnatural in English), and in this it predicts a popular aspect of nature poetry which arguably reaches its zenith in the 18th century. One verse will suffice as an example:

> **Gleann na seabhac, súlghorm, séitreach,**
> **gleann iomlán do gach cnuasach,**
> **gleann na mbeann sleasach, bpéacach,**
> **gleann sméarach, áirneach, ubhlach.**
>
> *glen of hawks, blue-eyed, crying, glen abundant in every harvest, glen of the terraced, speckled hillsides, glen with brambles, sloes and apples.*

In the poem, Deirdre remembers her beautiful Scottish glen, although that recall is painful to her. It is a place of cuckoos, thrushes, blackbirds, roe deer, badgers, sleek flat-nosed otters, goats, swans and salmon. It has yew trees, cover for its foxes, oak woods below bare headlands and rowans with scarlet berries. Not only that, but the glen boasts fine wheat crops, and neat women who are 'pearled and lovely'.

The second 'Deirdre' poem is *Ionmhain Tír an Tír-Úd Thoir* 'A Dear Land', in which Deirdre has unhappily returned to Ireland (only because of her love for Naois), and in which she looks back on her beloved Scotland ('with her wonders'). In this work, we see a noted feature of traditional Gaelic literature – the use of toponyms to establish one's connection to, and love for, the land, and the sense of one's 'seeing' a landscape to which one is attached, but separated from. This is an aspect of toponymy and understanding of landscape which is little appreciated outside the traditional Gaelic-speaking communities of the Highlands and Islands or Gaelic academia and, of course, it has a relevance to the Cultural Services aspect of Ecosystem Services. Such a strong and manifest connection to place can arguably have a positive influence on the self-esteem, and therefore mental health and well-being, of the people of the Gàidhealtachd (including those who have come to live in the region), and it should be promoted more widely within education and public life.

Both Glen Etive (where she 'built [her] first dwelling') and Glen Massan ('tall its wild garlic, bright its grasses') are mentioned in this poem, as is Glendaruel where Deirdre could hear the sweet voices of cuckoos on its bending branches, and Gleann Laoigh 'calf glen', where she would feast upon fish, venison and badger fat (which presumably tastes better than it sounds!)

One of the most significant Gaelic poems ever written, particularly in the context of connection to the natural world, is *Òran na Comhachaig* 'The Song of the Owl', composed by *Dòmhnall mac Fhionnlaigh nan Dàn* (Donald son of Finlay of the poems) around the end of the 16th century. It is such a significant work that there has even been a book written about it (Menzies 2012). Dòmhnall was a hunter, as well as poet and, according to tradition, had an uneasy relationship with the Cailleach of *Beinn a' Bhric* in his territory in the wild lands on the border of Brae Lochaber and Rannoch. He is buried in the ancient cemetery of *Cille Choirill* in Glen Spean.

As in the previous 'Deirdre' poem, *Òran na Comhachaig* boasts many place-names, containing thirty examples, twenty of which can still be recognised in the landscape today; this aspect of the work has been analysed by John Murray (2017). The poem

starts with the author engaging in conversation with an owl, whose great age makes her a fount of wisdom, and much of it concerns a celebration of wildlife in the context of the hunt, and an expression of a love of place. Much of the author's love is centred on *Creag Ghuanach* (also given as *Creag Uanach*) at the southern end of Loch Treig, far from the shellfish shore (ironically, from which Dòmhnall's ancestors had hailed), round whose slopes would be 'sweet-voiced' the eagle, swan and cuckoo, but 'seven times sweeter the bleating made by the fawn, dappled, spotted'. Menzies (p.34) characterises *Creag Ghuanach* as a 'topographical nucleus and then as a life force, a heart from which spring refreshment and energy to sustain both human and animal kind'.

Much of *Òran na Comhachaig* concerns the attraction of hunting the red deer in the hills (with bow and arrow), particularly in autumn, and the praise of the old 'heroic' lifestyle of the Gaels. To some extent it challenges a modern perception of hunting as being in contradistinction to love of land and nature, and clearly presents the Gàidhealtachd as a land of riches, in terms of its provision of wild land and mammalian prey, and in terms of what it offers the human physical and mental condition.

4.5 **Gaelic Poetry of the 18th Century**

This is arguably the century during which most Gaelic poetry appears which has a bearing on the issues being explored in this report. It was written at a time when the Gaels had more self-confidence and more control over the land than was the case later, although even then, that was starting to erode. A useful text, providing an anthology of 18th century poetry in Gaelic, is *An Lasair* edited by Ronald Black (Birlinn 2001).

Three poets stand out in terms of their observations of land and nature during the 18th century, of whom the master is unquestionably *Donnchadh Bàn Mac an t-Saoir* (Duncan Ban MacIntyre). The other two are the Gaelic scholar, *Eòghann MacLachlainn* (Ewen MacLachlan), and one of the finest poets ever to write in the Gaelic language – *Alasdair mac Mhaighstir Alasdair* (Alexander MacDonald).

MacLachlainn, a native of Coruanan in Lochaber, was a palaeographer and lexicographer, who translated most of the Iliad into Gaelic, and he was also the author of many songs and poems, of which one, *Gur Gile mo Leannan*, became very popular.[52] One of the interesting commentaries in his poem *An t-Earrach* 'The Spring' is on the goats and their young to be found in numbers on the crags. The editor, Ronald Black, points out that in 1798, the year of the poem's publication, there were estimated to be 800 goats in Moidart and 1,500 in Arisaig and South Morar, and that Sir John Sinclair, in his summary of the Statistical Accounts of the 1790s, observed that goats had previously outnumbered sheep in the Highlands. Goats were gradually eliminated from the Highland economy, a process that began in the mid-18th century. While mentioning the mountains, *An t-Earrach* is overwhelmingly a celebration of the agricultural productivity of the Gàidhealtachd, where the scent of vernal grass, watercress, primroses and clover are sweeter than *fìon na Frainge* (the wine of France), and where the spring calves run about in the fields.

[52] Black (2001) p. 518

Alasdair mac Mhaighstir Alasdair was a Moidart-born poet of undoubted stature who composed a deal of nature poetry in the years 1725-45, before his literary attention was commandeered by the ill-fated Jacobite cause.[53] Arguably, his greatest nature composition is *Allt an t-Siùcair* 'The Sugar Burn', written of a stream adjacent to his smallholding when he was a teacher in Ardnamurchan – a song that is still well-known and popularly sung today. In this work, the bard 'treats the wee burn as if it were the mightiest river in the world [and] uncovers a miniature microcosm of teeming life'.[54] A small sample will suffice – and notice once again the practice of nature poets employing strings of adjectives. They in a sense represent a literary angle on the old Gaelic proverb *togar càrn mòr de chlachan beaga* 'a big cairn is built of small stones'. As each adjective is added, a picture is built that becomes greater than the sum of its individual parts. The translation is given as a guide, and has no poetic merit.

An coire brocach, taobh-ghorm, torcach, faoilidh, blàth;
an coire lonach, naosgach, cearcach, craobhach, gràidh;
gu bainneach, bailceach, braonach, breacach, laoghach, blàr,
an sultmhor mart is caora, 's is torach laoimsgir bàrr.
An coire 'm bi na caoraich nan caogada le 'n àl;
le 'n reamhrad gabhail faoisgneadh, an craicinn mhaoth-gheal, thlàth;
b' e sud am biadh 's an t-aodach, nad fhaoin-ghleann is a'd àird;
an coire luideach, gaolach, 's e làn de mhaoine gràis.

The green-sided corrie has badgers and boars and is hospitable and warm. The marshy corrie has snipes, hens, trees and has benevolence. It is milky, showery, dewy, full of trout, calves and white spotted cows, plump beasts and sheep which are fruitful and extremely prodigious. The corrie is where the sheep are in their fifties with their offspring. Their fatness grows up and their skin is light-white and mellow. That was their food and clothing in your lonely glen and on your highpoint. The corrie is ragged, beloved and full of the wealth of grace.

The use of the word *gaolach* in the poem is interesting, for it means not only 'beloved of' but 'loving of', and it is in a sense a commentary on the indigenous love of land as expressed by the Gaels – the land is not only cherished by humans, but it returns that love to the very humans who esteem it. Perhaps we should use the word *gaolach* more frequently in our lives, not only towards friends and family, but towards the canvases on which we sew the tapestries of our lives, and which we sometimes take too much for granted. We will meet an expression of that two-way relationship between humans and land again in Gilleasbuig MacIain's 19th century poem.

Despite Alasdair mac Mhaighstir Alasdair's undoubted literary genius, Donnchadh (Duncan) Bàn is considered by most Gaels to be the finest of our poets on the subject of raw nature. Born in Druimliaghairt in Glenorchy in 1724, he became a forester for the Earl of Breadalbane in *Coire Cheathaich* and on *Beinn Dòbhrain*, both subjects of what are arguably his greatest works. A full collection of his poetry is available, with translation in, for example, Calder (1912), and there is an informative summary of his nature poems in Murray (2017).

As with *Dòmhnall mac Fhionnlaigh nan Dàn* (the 16th century composer of *Òran na Comhachaig*), Donnchadh viewed the hunting of deer as a noble and heroic practice, connected to the Fianna tradition that was central to the Gaelic identity in both

[53] Gillies (2005) p. 232
[54] Gillies (2005) p. 233

Scotland and Ireland. In *Beinn Dòbhrain*, he provides a powerful praise-song for that wild denizen of the mountains, the *fiadh* (red deer). The poem has 550 lines organised in 8 movements which parallel the structure of *ceòl mòr* (‘great music’), the classical music of the Highland pipes, and is truly a *magnum opus*, particularly for a poet who remained unable to write his own work on paper. Murray has traced the poem’s journey, in the guise of deer moving across the landscape, and has produced a ‘songline’ for it.

If *Beinn Dòbhrain* celebrates in a sense the fecundity of the Highland landscape with respect to the maintenance of a healthy deer population (which, by Donnchadh’s time, was hardly threatened by the few remaining wolves), then the twin poems of *Coire a’ Cheathaich* ‘The Misty Corrie’ and *Cumha Choire a’ Cheathaich* ‘Lament for the Misty Corrie’ provide a fuller picture of the wonderful and celebrated beauty of the natural environment of the glens and hills, but also the threat arising to it from mismanagement, particularly overgrazing. In terms of appreciating Ecosystem Services, all students of Highland environmental management should know and study this pair of poems.

Coire a’ Cheathaich is in upper *Gleann Lòchaidh* on the borderlands of Argyll and Perthshire, and Donnchadh knew it intimately. His poem of the same name is arguably the most lyrical in Gaelic, extolling the virtues of an upland ecosystem in balance, and one which invited people to spend time, not just in the hunt, but in the search for the beauties of nature. One verse will suffice (although many could be chosen!), and it show the writer’s keen botanical knowledge:

Tha trusgan faoilidh air cruit an aonaich
Chuir sult is aoibh air gach taobh ad chom,
Mìn-fheur chaorach is barra bhraonan,
'S gach lus a dh'fhaodadh bhith 'n aodann thom,
Mun choir' as aoigheil' a tha ra fhaotainn,
A chunna' daoine an taobh seo 'n Fhraing;
Mur dèan e caochladh, b' e 'n t-aighear saoghalt'
Do ghillean aotrom bhith daonnan ann.

the inviting alpine lady’s-mantle on the ridge of the hill puts comeliness and cheer on each side of your bosom, sheep’s fescue grass and tormentil, and every plant that could be on the face of knolls, round the friendliest corrie that can be found, which men have seen this side of France; unless it changes, it would be worldly bliss for merry lads to be always there.

Unfortunately for Donnchadh, and indeed for all of us, *rinn e caochladh* ‘it did change’ and in *Cumha Choire a’ Cheathaich* (a song/poem which is often sung still today), the poet laments the changes in land-management which he sees upon a return to the corrie many years later. He writes of *an coire laghach, gaolach, a dhol a-nise air faondradh* ‘the nice beloved [and loving] corrie [which] has now gone to ruination’, and he decries the loss of trees and deer, and the pollution of the streams. The present author visited *Coire a’ Cheathaich* some years ago, taking with him Donnchadh’s poems, and found that the only part of the corrie which could sustain the bard’s effusive praise in his first poem was the *Creag Mhòr* NN391360, described as having a ‘gorgeous coat’ and which to this day, in its verticality, which prevents access to sheep and deer, remains a veritable alpine garden. It is rich in its botanical

complexity, and stands in stark contrast to the base of the corrie which is overgrazed and treeless. To this point in time, it appears land-managers have learned little from Donnchadh's remonstrations. In terms of our view of Ecosystem Services in the future, we would do well to better understand the heritage of this master wordsmith and keen observer of the Highland environment.

Recommendation

A project be established in which some of the iconic places in Gaelic literature, particularly those representing upland ecosystems with high values for remoteness, such as Beinn Dòbhrain*,* Coire a' Cheathaich *and* Allt an t-Siùcair *are analysed for their botanical and zoological diversity and environmental health in the current era, in the light of the descriptions made of them by Gaels in the past. This would provide extra tools in promoting management regimes that seek to defend and enhance biological diversity, and would put a Gaelic slant on the argument for 'rewilding', an intellectual standpoint that has, to this point in time, been largely based on anglophone perspectives and which has given little credence to a Gaelic view of Scotland or a Welsh language perspective of the Welsh environment. There might well be an opportunity for Welsh and Scottish researchers to co-operate in such a project. This is* ***Major Recommendation 3.***

4.6 Gaelic Poetry of the 19th Century

Although Donnchadh Bàn is generally considered an 18th century poet, his last major work was composed in 1802, on his final return from his home in Edinburgh to his native country. *Cead Deireannach nam Beann* 'Last Leave-taking of the Bens' is a celebration of Beinn Dòbhrain, where he reminisces on the wonderful happy times he spent *air mullach nam beann àrda, chuidich e gu fàs mi, 's e rinn dhomh slàint' is fallaineachd* 'on the summits of the high mountains, that helped me to grow and gave me health and vitality'. That statement in itself is a valuable observation on the virtues of the demanding physical work he did as a forester and gamekeeper – it prolonged his life, in his own opinion (indeed it made it worth living!), and only age was finally slowing him down. In his poetic farewell, he calls the hills 'wonderful', with 'precious' meadows and 'abundant wilds' (*fàsaichean lìonmhor*) and he leaves them with the classic Gaelic farewell of *mo mhìle beannachd* – my thousand goodbyes / blessings – *beannachd* stands for both.

There we shall say our own *beannachd* to *Donnchadh Bàn* and enter the 19th century proper, the most miserable of times in the history of the Gaelic people in both Scotland and Ireland, when the 18th century loss of power following the unsuccessful Jacobite rebellions, the retributions of the Hanoverian government and the start of emigration to far-flung corners of the Empire, was compounded by the disasters of clearance, famine and massive outward movements of population. This dislocation from place, lack of tenure of home and land, and dearth of economic opportunity in the homeland leaves the Gaelic literature of the 19th century presenting a degree of uncertainty and lack of confidence, reflective of the dynamics of the community that is not there before *Bliadhna Theàrlaich* (1745-6), or even in its belligerent aftermath. It is during this period that Gaelic literature and song arguably gains its reputation, at least within the anglophone community, for unsurpassed melancholy.

However, set against that is a concomitant rise in the level of Gaelic literacy in the population, following the completion of the Gaelic Bible in 1801 (the New Testament had been published in 1767), the teaching of Gaelic writing in the schools run by the Society in Scotland for Promoting Christian Knowledge from 1825 onwards, and the use of the language in literary spheres in other parts of the Empire, most notably Canada. Professor Donald Meek has edited a useful and informative anthology of 19th century Gaelic poetry under the title *Caran an t-Saoghail / The Wiles of the World* (Meek 2003)

Eòghann MacColla (Evan MacColl 1808-98), from Loch Fyneside in Argyll, is perhaps best remembered for writing the 'anthem' *Suaicheantas na h-Alba* which was translated into English as 'The Thistle of Scotland', but he was a fine poet and included observations on nature in his work. *Moladh Abhainn Ruaile* 'In Praise of the River Ruel' is a celebration of the river. He demonstrates a dislike of the hunting by which bullets would be put in a grouse or 'in the chest of an eagle'.

Màiri Mhòr nan Òran (Mary MacPherson), like MacColla, was capable of writing poems that had the appeal of an anthem although, in her case, it was of Gaelic Scotland rather than the nation in general. She makes fine observations of nature on Skye in her poem *Nuair a Bha mi Òg* 'When I was Young', reminiscing on her journey across hill and glen in her youth. Leaving her island for the mainland, her tears were flowing as she contemplated a place *far nach fhaic mi cluaran no neòinean guanach, no fraoch no luachair air bruaich no lòn* 'where I shall see no thistle or giddy daisy, or heather or rushes on bank or meadow'. In *Eilean a' Cheò* 'The Isle of the Mist', she gives a commentary on the calendar and how it related to the production of foodstuffs and the productivity of the land. There was fishing in May, dairy products in the summer, potatoes and meat at Martinmas.

Maighstir Ailein (Father Allan MacDonald 1859-1905) made his fame on the island of Eriskay, where he was parish priest, and where he collected folklore and vocabulary from the community, which was virtually entirely Gaelic-speaking. In his poem *Eilean na h-Òige* 'Island of Youth', which was written at the close of the century, he extols the virtues of the island and its people, and makes commentary on its place within a productive maritime ecosystem. His opening verse is beautifully rhythmic, admitting the island's physical shortcomings but expressing his love for it regardless:

Ged a gheibhinn-sa mo thagha,
B' e mo rogha dhen Eòrpa,
Àite tuinidh 'n cois na tuinne,
An Eilean grinn na h-Òige;
Lom e dhuilleach, lom e mhuran,
Lom e churachd eòrna;
Air a luimead, gura lurach
Leams' a h-uile fòd dheth

If I should get my choice, in all of Europe my choice would be a home beside the ocean in the attractive Isle of Youth. Bare of foliage it might be and bare of marram grass, with little barley sown. Despite its bareness, each single sod of it is lovely to me.

A native of Islay, *Uilleam MacDhunlèibhe* (William Livingstone 1808-70) championed the Gaelic people and their language in his poems, some of which reach epic

proportions. In *Fios chun a' Bhàird* 'A Message for the Poet', he delivers a powerful polemic on the state of his island, following the tragedy of the clearances. Beautiful it might be, but the unnecessary loss of population where 'the sheep has laid its townships waste' is a cause for mourning. In this poem he enunciates a commonly held view among the Gaels and their descendants – that the clearance of people off the land was an injustice that had no justification on ecological or moral grounds, and it stands as a good example of 19th century Gaelic poetry that places the Clearances at the centre of popular experience, with some of the output coming from bards who had made their way to the New World.

Another poet (of many) who displays a disdain for sheep – which caused the clearing of many families and communities – and the Lowland shepherds who had been imported into the Highlands to look after them, was Iain MacLachlainn (Dr John MacLachan 1804-74) from Morvern). In his poem *Och! Och! Mar tha mi* 'Alas my Plight' he is dismissive of the English language which is not only spoken by the shepherds, but even by the sheep themselves, and he is bereft at the loss of the native music of birds in the trees or cattle on the moor. The once magnificent hollows and shielings overgrown with mosses betray a land which has been taken from the indigenous inhabitants.

A poem of a similar bent, which is exceedingly bitter about the loss of the Gaelic language in the context of place and toponym is *Ochan nan Och! An Caochladh Truagh* 'Woe is me! The Awful Change' (*caochladh* is a cleverly employed word here, as it also stands for 'death'). This was written by Gilleasbuig Maclain, and appeared in the periodical *An Gàidheal* (Vol II 1874). Maclain bemoans the day when the people living in the Gàidhealtachd will no longer be able to understand or pronounce the place names of their own country (and how close have we come to that in some parts of the Highlands today?)

> **Gach creag is sliabh, gach stùc is càrn,**
> **Gach lag is cnoc, is slios, is learg,**
> **Gach glaic is tulaich, eas is allt,**
> **Bidh iad gu dall is aineolach!**
>
> *Every crag and moor, every peak and hill, every hollow and hillock, and side and slope, every defile and knoll, waterfall and burn, [people] will be blind and ignorant.*

In the poem, written in the immediate aftermath of the destructive 1872 Education (Scotland) Act, Maclain claims that, not only is he angry at the new educational situation (Gaelic was effectively thrown out of Scottish education at that point), but that the very mountains themselves will be filled with sadness that their beautiful names will no longer be on the tongues of the people.

> **Gach creag is stac, gach sgòr is stùc,**
> **Togaidh am fonn le co-sheirm ciùil,**
> **Gu tiamhaidh trom, le mulad is tùrs,**
> **Chionn cainnt na dùthch' nach maireann i.**
>
> *Every crag and stack, every peak and top, they will raise harmony of terrible melancholy, with extreme grief and sadness, since the speech of the homeland is no more.*

It might be deemed difficult to place *Ochan nan Och* within the context of an analysis of Ecosystem Services in the modern era, but it delivers a message that would be

understood and shared by indigenous peoples throughout the world, as they suffer language loss and the concomitant weakening or dissolution of the cultural and spiritual bonds that have tied their community so strongly, and so lovingly, to their native landscape. That viewpoint – including of Gaels in their Scottish homeland – must surely be considered when the aesthetics and spiritual aspects of Cultural Services are under the microscope.

4.7 **Gaelic Poetry of the 20th Century**

The 20th century was a time of great change in Gaeldom, when many communities were faced with the extinction of the language, loss of community, economic hardship, war and emigration to other parts of the Scotland, or the world. There was a vast amount of poetry written, as continues to be the case in the 21st century, but there is little which impinges upon the themes being explored in this report.

The greatest Gaelic bard of the century was Somhairle MacGill-Eain (Sorley Maclean 1911-96) of Raasay, and his poem Hallaig is a masterpiece of allusion and symbolism, in which the native trees and woods 'become' the people and communities of the past. But much of the poetry of the period that deals, usually obliquely, with nature, and sometimes the hard labour of winning peats, cutting seaweed and picking shellfish, says little of nature's bounty – and, of course, there was arguably little bounty for ordinary people, with the environment in the hands of landlords, often absentees. Crofters could no longer be evicted (although those rights did not extend to those without crofting tenure), but the resources were firmly in the hands of landed classes who, unlike previous centuries, were usually incomers with little or no connection to the place or people.

It will be interesting to see, in the fullness of time, whether the significant move towards community land ownership, particularly in the Western Isles, will be reflected in the literature of the people, if it will demonstrate an upturn in community and individual confidence in their identity and self-worth, and whether the people of those communities will continue to use Gaelic as their principal vehicle of expression.

5. TRADITION & FOLKLORE AND ECOSYSTEM SERVICES

This section is divided into the following sub-sections (with page numbers):

5.1 **Traditions of Woods and Trees**

In a landscape which, in many parts, is today lacking in native woodlands, it is interesting to see what we might learn from oral tradition about the Gaels' view of their ancient forests, and of their native trees.

5.1.1 The Sacred Tree

Michael Newton looked at the issue of the *bile* 'sacred tree' in detail for his PhD thesis on 'The Tree in Scottish Gaelic Literature and Tradition' (University of Edinburgh 1998), and his work is summarised in 'Warriors of the Word'.[55] In Ireland five 'aboriginal' *bilean* 'sacred trees' are identified in early Gaelic poetry, and the concept of the *bile* was developed as a Gaelic equivalent to the divine *axis mundi* 'world pillar'. Irish kings were often inaugurated at the site of a *bile*; in Scotland the *ceann-cinnidh* 'clan chief' in later centuries became connected to the tree, whose kennings became important in what John MacInnes called 'the panegyric code' in Gaelic poetry.[56]

There are some place-names in the Gàidhealtachd containing the element *bile*, which has been generally interpreted by the OS as 'edge' or 'lip'. It would be interesting to examine each such toponym to see if any might, in actual fact, refer to a sacred tree. One such example is Balavil (sometimes frankified as Belleville) near Kingussie, to which *Seumas Bàn*, James 'Ossian' MacPherson retired. It is *Baile a' Bhile* 'the

[55] Newton (2009) p. 237-42
[56] MacInnes (2006) pp. 284-5

township of the sacred tree'.[57] Another place-name, not listed by the OS, is *Sputan a' Bhile* in Applecross NG717419, which is a spout of water, once adorned with a metal spoon attached by a chain, coming from *An Tobar Naomh* 'the holy well'. The spout's name means 'the little spout of the holy tree'.[58] Adjacent to it, perhaps reflecting a shadowy recollection of the ancient tree tradition, were planted the 'four trees of Applecross' (with some new saplings recently replanted, following the death by senescence of the original trees). There is also a tradition of the well and spout being connected to the nearby ancient monastery established by St Maolrubha in the 7th century AD.

Newton points out that a number of trees that were sacred in pre-Christian times were geographically close to a place-name containing the early Celtic term *nemeton* 'sacred site' or a derivative. The most notable of these is the ancient yew at Fortingall, Perthshire, which is near the nemeton name 'Duneaves' and the traditional centre of Scotland. Many sites connected to saints had sacred trees, and often these were yews, such as Columba's yew on the island of Bernera off the SW coast of Lismore.[59] Even the great Protestant reformer, John Knox, is reputed to have preached his early sermons within the shade of an ancient yew (which survives to this day) at Ormiston in E Lothian.

Some of these trees offered shelter and protection. It is said that a thousand people could shelter under Columba's tree on Bernera. The great saint also cursed anybody that might destroy the tree. At Leitir Fura in Sleat, Skye, there was, according to oral tradition, a massive oak tree called *Fura Mhòr* that could shelter fifty cattle. Interestingly, *fura* in Old Norse meant 'pine tree', although tradition suggests the tree in question was an oak. It not only gave its name to the village, but was seen as the pivotal point of the community's existence, its own *axis mundi*, protective of the people. When some lads killed the tree with fire, they and their families are said to have been ordered from the village, never to return. The protection, in essence, had to be two-way, and perhaps there is a message there for us in our modern world.

The *bile* also appears to have developed into the *craobh-shìdhe* or *crann-sìdhe* 'tree of peace or the Otherworld', an organ of protection and a kenning for rulers who are peacemakers and who can boast a connection to the Otherworld. It appears as a symbol of divine protection in poetry as late as 1663, in which the great Lochaber bard, Iain Lom MacDonald, invests his hopes for (rough) justice, following the assassination of the young chief of the MacDonalds of Keppoch (Lochaber).

[57] Black (2001) p. 514
[58] See http://www.applecrossplacenames.org.uk/placename/?pdb=3274
[59] Newton (2009) p. 238

5.1.2 The Tree as a Resource in Gaelic Tradition

This section draws heavily on Chapter 3 of Michael Newton's PhD thesis (Newton 1998 p.130-194) which demonstrates just how much people were using the resources of the trees and forests in traditional Gaelic society.

Hazelnut gathering was common and is celebrated in much traditional song. Indeed, taking one's sweetheart into the *coille-chnò* 'the nut wood' to gather nuts was definitely a romantic act. However, in Gaelic tradition, it is not just the nuts that are consumed. The top of the tree i.e. the young foliage, features in several traditional tales of the Fianna, where the women are found to have excellent condition from eating (unknown to the menfolk) *bàrr a' challtainn air a bhruich* 'boiled tops of the hazel', although variants of the story say *agus iad ag òl an t-sùigh* 'that they drank the juice' (rather than eating the greenery, perhaps). The beneficial value of the boiled juice of foliage is also recognised in the proverb *uisge donn na duillich, tha e ro mhath do na fearaibh òg* 'the brown water of foliage is excellent for young men'. Birch foliage was also used for feeding sheep and goats.

Apples were also highly regarded, and the tree was one of the blessed trees in tradition. Apples and hazelnuts were ritual foods at the great pre-winter festival of Samhain (Hallowe'en). Although apples were cultivated, wild apples (*ùbhlan fiadhaich*) were also foraged, and the apple appears in proverbs such as *bidh an t-ubhal as fheàrr air a' mheangan as àirde* 'the best apple is on the highest branch' which, while an observation on the growth habit of the species, is employed widely as a human metaphor. It appears that acorns were also eaten, perhaps made into a type of bread as in other cultures, and it might be that their usefulness as foodstuffs, at least in part, afforded the status of noble tree to the hazel, apple and oak.

Tree sap was widely consumed in the Gàidhealtachd. There was a tradition of feeding an infant ash sap as their first taste of the world outside the womb, perhaps ritually connecting them to a symbol of life (the ash also appears in stories connecting humans and Christianity with the 'pagan' otherworld of the little people). Birch sap was widely extracted and used to make an alcoholic drink that was considered to be good for longevity. Distilled spirits were made from rowan and elder berries, the latter being drunk warm.

Crannogs are human-constructed islands in lochs and firths, often seen today as piles of stones, but originally built as wooden structures, as the Gaelic original *crannag* (Irish *crannóg*) reveals. Scotland has one of the highest concentrations of crannogs in the world, dating from Neolithic times until as late as 1580 (when one was constructed in Loch Lochy), and their existence is evidence for an abundance of trees, notably alder and oak for the posts and floors and hazel for the partitions, at least somewhere in the vicinity of the water body (from which they could be floated to the crannog's location).

The early Celts made considerable use of wood in constructing their dwellings on land as well, and this continued to some degree in the well-timbered parts of the Gàidhealtachd, particularly the Central and Eastern Highlands. In the less wooded parts of the West, the roofing timbers (built upon stone walls) became very important and would be carried to a new home site during the Clearances (this was why the burning of a home during the Clearances was considered such a doubly heinous crime, because it left the evacuees without the opportunity of building another home. The current author was shown (by the late Ruairidh MacNèill of Gometra and Salen,

an area of wooded land in W Mull which had been traditionally allocated to the folk of Tiree, an unwooded island, so that they could procure roofing timbers for their dwellings. This demonstrated the advantage of a clan chief or landowner possessing territory on the mainland or Inner Hebrides in addition to further flung islands which possessed no woodland. This was an ancient tradition, as Adomnan reveals in the 7th century, with an account of oak trees for the Iona monastery being towed from the River Shiel.

Recommendation

A study be undertaken of the access to, and use of, forest resources by communities dwelling in places without trees, particularly in the islands of the west, and the protection of their rights to access those resources – and the maintenance of the integrity of those areas of woodland. How many exist today as woodland because of their protection for this very purpose? This study would include toponymic research, and information from Gaelic literature and oral tradition. This is ***Minor Recommendation 5.***

Another important use of wood, in this case the Scots pine, was the fir candle, called a *spiolag* in Perthshire, which was employed from ancient times into the modern era. Resinous wood from a tree, or bog-pine, would be dried above the fire, and could be lit to provide light. In the well-wooded Glen Moriston, a Gaelic saying highlights the fact that dogs would not eat the candles, since they were made of wood, not tallow.

Wood was also used for weaponry. In tales of the Fianna, Oscar pulls an oak tree from the ground to belabour his enemies, and spears and *camain* (shinty sticks) might be made on the spot from a tree. Bows and arrows, widely used in the Gàidhealtachd before the advent of firearms, were made of wood, and tradition tells of particular woods planted with ash or yews to supply wood of the correct type for making bows. Wood in such weaponry was often praised, and this practice continued with guns, where the stocks were made of wood.

The manufacture of boats from wood was an extremely important aspect of Ecosystem Services in past time, and there is much evidence in Gaelic tradition for this. The connection between wood and vessel was so strong that the name of the species e.g. *darach* ‘oak’ or *iùbhrach* ‘yew’ was sometimes employed as a metaphor for ‘boat’. Much of the timber for building naval ships like the Great Michael for King James IV was reported to have come from Lochaber and other parts of the Gàidhealtachd (as well as Fife and Norway). Certainly, the Gaelic saying *tha sin mar a bhith a’ toirt fiodhrach a Loch Abar* ‘that’s like taking timber to Lochaber,’ as an equivalent to the English ‘coals to Newcastle,’ is an assertion of the area’s fecundity as regards forest resources

People were keenly aware of the ecology of the native tree species, and the habitat and situation in which each grew. There are various versions of the following verse:

Seileach nan allt
Calltainn nan creag
Feàrna an lòin
’S beithe nan eas;
Uinnseann an dubhair,
Darach na grèine
Leamhan a’ bhruthaich

Is iubhar an lèana.

The willow of the streams, the hazel of the crags, the alder of the bogs and the birch of the waterfalls; the ash of the shade and the oak of the sun, the elm of the slope and the yew of the meadow.

It is suggested that the yew of the meadow is prescribed as distinct from the yew of the graveyard.

The *feàrna* ‘alder’ is considered an ignoble tree in Gaelic tradition, and there are sayings connected to its being used when other timbers were not available. In Argyll tradition, after St Moluag wins the ‘race’ for the isle of Lismore, the defeated Columba curses him with the imprecation *Feàrna mar chonnadh dhuibh!* ‘May you have alder for your fuel!’ In response, Moluag (the primary saint of the Liosaich) made the alder burn better in Lismore than any other place, which it still does, according to tradition. Interestingly, the alder still grows in the bay (Port Moluaig) where the saint is said to have come ashore.

The preferred wood for burning was oak, with hazel and ash being considered adequate even when still green, and it was generally considered propitious to fell timber during the period of the moon’s waning.

Michael Newton points out that we have scant evidence of the former (Celtic) legal system in Scotland, although there are considerable records of such old laws in Ireland, and how they relate to the use of forest resources, such as not cutting down fruit-bearing trees or noble trees. This is an area that would benefit from further study, particularly as it applied to the Lordship of the Isles, as well as to Scotland more widely.

Recommendation
A study be made of ancient Celtic law systems, and legal management of clan lands in Scotland, and how this impinged upon use and management of natural resources, including woods and trees. This is ***Minor Recommendation 3.***

As the feudal system developed in Scotland, with the creation of royal forests that were conserved for hunting and other practices, the loanword *forsair* for ‘forester’ came into Gaelic. Axes were widely used for felling trees and, in river systems like the Spey and Tay, trees were floated down the river, a practice that was to become famous among the lumberjacks of Canada. In Strathspey, lochans were dammed so that a flush of water could be released in order to float pine logs down the Spey. A popular account of this practice in Scotland, and what it tells us about the productivity of our forest ecosystems, would make a welcome contribution to our understanding of the use of those habitats and their history.

As we saw earlier in a consideration of toponyms, orchards and enclosures were used for planting and growing trees, particularly fruit trees. On an estate level, timber species were planted, and this increasingly included non-native trees such as the useful larch, which was introduced into Scotland from the Tyrol. And in places, the newly vigorous capitalist system began to make inroads into the native woods of places like Letterewe in W Ross, where the pine forests fuelled an iron-smelting industry from 1607 to 1671.

Research on the attitude of local people to such use of what might have been considered a common resource would be of great benefit to our understanding of the place of such enterprises in the old Gàidhealtachd, particularly considering the loss

of so much woodland at that time, with the profits going to the landowner and developers. We know that the people of Glen Lyon in Perthshire were very unhappy at the decision of their laird, Duncan Campbell, to sell his woods, so much so that they burned down a sawmill and commemorated their 'victory' in Gaelic song.[60] Further arson in Strathspey was celebrated in Gaelic song, and a poem from Lochaber tells of the people's unhappiness at the mismanagement of a forfeited estate after the collapse of the Jacobite rebellion. A whole song from Morvern in about 1845 laments the loss of trees – *ged 's lom an-diugh do dhoireachan* 'although today your groves are few', says the poet.

From the mid-19th century, some poets make the loss of trees a metaphor for the driving out of the indigenous people, an idea which still has currency. The current author made a radio programme in the 1990s with the late Finlay MacRae, a Gaelic-speaking forester, who pioneered the conservation of forest in Glen Affric and who made that very connection – that the loss of forest was paralleled by the loss of Gaelic in those glens – and that a major conservation effort was required to return health – and trees and people – to those places. As victims in two ways, the Gaels' opinions about the loss of trees in the Highlands is of great importance, but they are little considered by most commentators on the issue. As Newton himself points out (p.164), Gaelic sources deserve 'greater attention and respect in [a] balanced approach to writing the history of the Highlands.'

Recommendation

A study be made, and published, about the historical reaction of Scotland's Gaels to the loss of their forests (from literature and oral tradition). This would help to inform the debate about rewilding of the environment, and to build bridges between the 'traditional' Gaelic and Highland community on one hand, and non-Gaelic speaking supporters of rewilding on the other. This is ***Major Recommendation 4.***

Trees, and parts thereof, were employed in many rituals, whether to do with festivals like Samhain or practices like milking a cow. They were even used in divination as with the *cnò Shamhna* 'hazelnut of Hallow'en', with pairs of nuts being used to work out the future suitability of a boy and girl as spouses, and apples which were used, in front of a mirror, to predict who a future sweetheart might be. There were also rituals of burning wood at New Year, and Hogmanay was seen as a time when new life would come into the forest. The proverb *Oidhche Challainn, bu mhath le cuileann is calltainn a bhith a' bualadh a chèile* 'On Hogmanay, it would be good for holly and hazel to be striking each other', meaning that a windy Hogmanay would presage a good year ahead.

Juniper was burned in rituals, houses were decked with rowan, holly was hung and, later in the season, the weather was foretold by the appearance of leaves on birch, ash and oak trees. The rowan was viewed as a powerful protector against evil, as were the juniper and pine candles. Walking sticks of the *fiodhag* 'bird cherry' prevented the walker being lost in the mist. Newton discusses the magical role of trees in various ancient protective and purification rituals recorded in the Gàidhealtachd by Martin Martin and others. He also considers ancient pan-Gaelic lore in which the *iubhar* 'yew tree' is viewed as the ultimate tree of age and reverence. This is replaced by the *darach* 'oak' in modern Scottish vernacular versions, which might be because of the prevalence of oak, compared to the yew, in the Scottish

[60] Newton (1998) p.160

environment. If true, this demonstrates the modification of tradition in response to the environment.

In his conclusion, Newton tackles the issue of relative indifference to woodland that is evident in modern Gaelic culture. While this might stem in part from the shift of the Gaelic geographical epicentre to the islands of the west, he concludes that it is a result of a reaction to 'the exploitation of wood resources by institutions from outwith the Gàidhealtachd'. It is clear from his research that, to the Gaels of old, trees and woods were of enormous economic, cultural and spiritual importance. One of the challenges for the modern Gaelic community is, by celebrating these old links, beliefs, customs and practices, to place the tree once more in its position as *axis mundi* of the Gaels.

In the light of the valuable research discussed above, it is now time to address native Scottish plants, other than tree species, in a similar way.

Recommendation

A major research study, at the level of a PhD thesis, take place in which Gaelic literature and tradition is minutely examined for evidence about foraging and other use of non-tree plant species and fungi. Dr Michael Newton has already done this for trees (see his PhD thesis), but much might be learned about herbs, shrubs, grasses, sedges, ferns (and their allies), bryophytes, lichens and algae (particularly seaweeds) in terms of their traditional role in Ecosystem Services. The big 'missing element' in Gaelic tradition – identification, naming and use of fungi – would be of particular interest, if such can be ascertained. To this point in time, evidence gathered on fungi has been scanty. This is ***Major Recommendation 5.***

5.1.3 Woods and Trees in Traditional Heroic Legends

Traditional Gaelic legends, most particularly those of the Fianna, demonstrate a much greater familiarity with trees than might be expected from the environment in which Gaels have lived in the W Highlands and Islands in recent times. When the baby *Fionn mac Cumhail* is spirited away to safety from his enemies, he goes to live inside a tree house that is specially made for him. This is in the middle of a great forest, where strangers rarely go. The river in which he gains his knowledge from the salmon is surrounded by trees, most notably the hazel trees of knowledge. Storyteller George MacPherson from Skye can point out hazel nuts of knowledge, which are recognised by purple spots. These are ultimately the source of Fionn's legendary wisdom.[61] The young Fionn is reputed to have escaped from his enemies by running through a great forest, at the end of which he throws the legs of his stepmother (whom Fionn was carrying over his shoulders, and whose body was broken up by his careless rapidity) into a loch now named for the incident – *Loch Lurgainn* 'loch of [the] shank'. While some versions give this forest in Ireland – as 'the great wood of Ulster' – it has also been (re)located in the Highlands, notably at Loch Lurgainn in W Ross. If taken literally, the tradition, still known in Achiltibuie, would seem to suggest that Coigach boasted a great forest, much bigger than any of the woods there today, but a literal interpretation of the tale is probably unwise.

[61] George MacPherson (pers.comm.)

In the tale of how Bran (Fionn's dog) was found, a wooden ship is made rapidly from the forest, in this case by the *saor* 'joiner' knocking his axe on the stump of an alder tree. The rapid building of a wooden birlinn is a theme in many traditional stories.

In a version of the Deirdre legend from Ardnamurchan, the stone fort on *An Tòrr* at Shielfoot, is set fire to by the King of Morvern, whose forces continue to feed the fire for three days and nights, using wood to be found in the vicinity. There was clearly a substantial amount of wood available, if we can accept there is veracity in the story.

In other legends, like *Dòmhnall Ruadh agus an Claigeann* 'red-haired Donald and the skull', a great forest is at the centre of the story. The forest also appears in legends from Skye, such as one about The Priest of Pabbay, in which it represents the home of the people of the Otherworld, the *sìthichean* (often referred to as 'fairies').

5.1.4 The Loss of Forest Resources

While the existence of a great Caledonian Forest covering the Highlands has been treated with increasing amounts of scientific scepticism, Gaelic tradition causes us to check that scepticism slightly, for there are substantial and continued references to great forests in the region; in the Central Highlands it was called *A' Choille Mhòr* 'the great forest', and it extended even to Skye.[62]

Fire is blamed for the destruction of much of this forest, sometimes caused by malicious clans, but more often by the *Lochlannaich* or Vikings. The Vikings may have used fire during their period of conquest, and such tales might be an elaboration of a folk memory. The story of *Dubh a' Ghiuthais*, a traditional tale told in places as far apart as Badenoch and Wester Ross, highlights the Gaels' sense of injustice, almost outrage, at the loss of the ancient Scottish forests, particularly pine forests. *Dubh a' Ghiùthais* 'the black one of the pine' (whose name is always given in Gaelic), was reputedly a daughter of the King of Lochlann who had been schooled in the black arts and was able to fly, and who was sent to Scotland to destroy its forests with fire. As she flew above the burning woods, she became blackened and thus earned her name. She was finally defeated by the guile of a crofter who gathered herds of animals and caused them to create great noise by separating the young from the adults.

There is a lot of symbolism in this tale but, for current purposes, it would perhaps suffice to point out how the Gaels in their oral tradition regularly blame an 'other' for the destruction of their forests. Perhaps it is too painful to contemplate that they might have done a lot of it themselves! Lochlann, while often translated as 'Scandinavia', is to many storytellers a region of the imagination, sometimes located under the sea – where the people have different values and ways of doing, and who represent the archetypal opposite to the Gael. The crux of such tales is that the loss of the forests, by whatever agency, is viewed by Gaelic tradition in a highly negative light.

[62] Newton (1998) pp. 234-8

5.2 **Traditions of Rivers and Lochs**

5.2.1 Wild Swimming

While it might be considered that the undoubted attraction of Scotland's thousands of lochs and rivers to those interested in the social, spiritual and health benefits of wild swimming might be a modern phenomenon, Gaelic tradition affords examples of swimming in ancient times that can inform our understanding of the practice today, particularly in this Year of Coasts and Waters, 2021. The tale of *Lugne Mocuman*, the first (and only?) swimmer to encounter the (Loch) Ness Monster at close quarters, was recorded in Latin, and appears in Adomnan's *Vita Sancti Columbae*, but he, like his leader, Calum Cille (St Columba) was a Gael. His task was to bring a boat across the River Ness to allow his party to continue their journey to meet the King of the Picts in Inverness. The story hangs on Columba's ordering the monster, who was threatening the swimmer, to return to the depths of the river, to the amazement of the pagan Picts who witnessed the power of the Christian God!

The motif of a brave naked swimmer obtaining a prized possession at the far end of his swim, and facing an enemy in the process, is reprised in the great pan-Gaelic tale of *Fraoch*, originally part of the Ulster Cycle, which has been reimagined in several Scottish contexts, including Loch Awe (and *Eilean Fraoich*), Loch Freuchaidh i.e. *Fraochaidh* (Perthshire) and, in a maritime setting, off the coast of the Ross of Mull. The hero, Fraoch's, quest is to bring back the rowan berries growing on a tree on the island which is guarded by a monster, dragon or snake (depending on the storyteller's version), so that he can earn the love of the woman he desires (who is the daughter of the woman who sent him on the quest and who is herself in love with Fraoch!) The rowan berries may be significant, as oral tradition endows this tree with magical properties. Unlike *Lugne Mocumin*, however, Fraoch's quest brings about his death. Fraoch's full name is *Fraoch Mac Fiodhach* 'heather, son of woody', which suggests that he himself had a strong connection to the botanical world.[63]

Given the above, it is perhaps no surprise that, among the physical feats performed, and celebrated, by the Fianna – the greatest of all the Gaelic warriors – swimming is considered to be one of the three most important, along with running and jumping. Before he attains the leadership of the Fianna, the young *Fionn mac Cumhail* learns to swim. Having been isolated from society, he is unaware that the way he learned the skill, by being held down and immersed, when put into practice by himself, causes the death of some young boys he encounters swimming in a loch. His identity is revealed (the group he has encountered were enemies of his father), and he and his female protector – an aunt or mother-figure – have to flee for their lives. Again, swimming is associated with destruction and danger, but it is of note that it was widely practised, according to the great legends.

5.2.2 The Salmon of Knowledge

Bradan an Eòlais 'the salmon of knowledge' is one of the great icons of Gaelic tradition, being the fish whose flesh contains secret knowledge obtained from *cnothan an eòlais* 'the hazelnuts of knowledge' eaten in the pool in the river where *Arca Dubh* the fisherman plied his trade. Against Arca's instruction, the young Fionn touches the salmon while cooking it, puts his hot finger in his mouth and touches a tooth, which

[63] Newton (1998) p. 76

becomes the famous *deud-fios* ‘tooth of knowledge’. Fionn only has to put his finger *fo a dheud-fios* ‘under his tooth of knowledge’, and he can see and understand things that evade other people. In a Perthshire version of the legend, the power is so great that even the *deud-fios* in the decapitated head of Fionn can give up its knowledge to the Fianna one last time, so that they know where to find their leader’s killer. In the case of the young Fionn, the truth is revealed to him that Arca killed Fionn’s father, whose death can now be rightfully avenged.

While the story likely originates in Ireland (one Scottish version tells that the King of Ireland wishes the Fianna dead), it fits well into a Scottish context, given the acknowledged place of the salmon in our ecology, which has likely been enhanced because of the traditional value of the salmon, and salmon angling, to the landed and monied classes.

The place of the hazel in the story is critical, and could be used more to enhance the argument for protecting and growing more hazel woods in Scotland. It is a tree of great cultural importance. This is an aspect of conservation that has been underplayed and under-resourced in Scotland – that we should have conservation aims that include the protection and enhancement of habitats, places and species that are Gaelic and/or Scottish cultural icons. The salmon and hazel are clearly in that category. See **Minor Recommendation 1** (p.83).

5.2.3 The Each-uisge and Tarbh-uisge

Many parts of the Gàidhealtachd boast the traditions of both the *each-uisge* ‘water-horse’ and *tarbh-uisge* ‘water-bull’, the former being more common than the latter. The *each-uisge* is often identified with the non-Gaelic kelpie, but some folklorists consider them to be different creatures. The *each-uisge* is an evil killer, particularly of children, whereas the *tarbh-uisge* simply helps himself to the local cows at night, and produces offspring with short ears, which are termed *corc-chluasach* ‘knife-eared’ in Gaelic. The connection between place and these semi-supernatural creatures is another point of cultural contact between people and locality. It is possible that tales of the *each-uisge*, in particular, were employed to keep children away from dangerous places at night.

There are many tales of other supernatural creatures associated with freshwater, ranging from generic ‘beasts’ to the *ùruisgean*, which were at one time numerous in Perthshire and the Trossachs (so much so that they are actually named on the landscape), and which interacted strongly with humans – in an annoying, but not threatening, way.

5.2.4 Niall Mòr nam Breac

In the story of *Niall Mòr nam Breac* ‘big Neil of the trout’, from Strath Ericht in Perthshire, the hero of the tale is a Jacobite soldier who flees from the Culloden Battlefield. He is a great angler and comes from an angling family, one of his ancestors having done service to the king and been given fishing rights on the Ericht as his reward, with the added benefit of all the trees within casting distance of the water being removed to aid the sport. Except it wasn’t just sport. *Niall Mòr* lived in a hollow under rocks next to the river, out of sight of any government soldiers that might be looking for rebels, and he was so good at fishing, that not only did he keep himself

in food by catching river trout, but he was able to feed other fugitives who were hiding nearby. The story carries a clear message about the productivity of a natural river system.

5.3 **Traditions of Hills and Mountains**

5.3.1 The Cailleach

While the influence of the Cailleach can be felt across the landscape, it is in the high lonely mountains that she is at her most potent. She is alternatively and concurrently a pre-Christian goddess, guardian of cattle and red deer, a murdering protector of her estate, wielder of elemental forces and a deity of winter. For many women, in particular, in the modern era, the concept of the Cailleach and her presence in the wildest parts of the Highlands, in both oral tradition, and also in toponyms, informs their sense of belonging to a landscape which, despite its overt rugged masculinity, runs, arguably, to the beat of a feminine heart. She is at the core of the Cultural Services that form part of the Ecosystem Services being addressed in this report.

The tradition of the Cailleach is well summarised by Michael Newton.[64] She belongs to the Indo-European tradition of the Great Mother, a spiritual matriarch from whom other pagan goddesses developed. Among her characteristics are that she creates and dominates her landscape, and that she has extraordinary links to wild nature. Many mountains ranges and islands were said to have been her creations, including the hills of Ross-shire, the Hebrides and Ailsa Craig. She would wash her clothes in the giant whirlpool of *Coire Bhreacain*, and would cover the mountains with snow when she lifted her plaid.

There are many places across the Highlands named for the Cailleach, including burns, lochs, promontories, harbours, skerries and, of course, hills and mountains. Five mountains between Islay and Skye carry the name *Beinn na Caillich*. In some cases, the original connection to the supernatural Cailleach has been lost, and the eponymous woman (*cailleach* in modern parlance most commonly means 'old woman') has become a folkloric figure, such as a Scandinavian princess or Gràinne, the wife of Fionn mac Cumhail, but it is likely that, in each case, the name originated in the tradition of the pagan mother-goddess, if we can call her that.

Newton also notes that she carries slightly different names in different parts of the Gàidhealtachd – *Cailleach Bheathrach* in the Braes of Mar, *Cailleach Beinne Bhric* in the Central Highlands, *Cailleach Beinn a' Ghlotha* at Ben-y-Ghloe in Perthshire, *Cailleach Bheur* in Mull, *Cailleach a' Chràthaich* in Glen Moriston, and others besides.

On Mull, there is the tradition of the *Cailleach Bheur* who bathes every century in the waters of *Loch Bà* to renew her youth, but whose magic is dependent on her not meeting a bird or beast of the field before immersing herself in the loch in the early morning. On the final occasion, a barking dog belonging to a shepherd interrupts the process, and the Cailleach drops dead from old age. The dog symbolises the domestication of the landscape, and it might be significant, in the light of the connection between cattle and the Indo-European Mother Goddess, that the name of the loch is 'loch of (the) cow'.

[64] Newton (2009) pp. 227-231

There is an extremely large number of mountains called *Beinn Bhreac* or the derivative, *Beinn a' Bhric*. While *breac* 'speckled' is a well-represented hill descriptor, it is probably more commonly combined with the element *beinn* than would be expected. This connection would benefit from further research, because such toponyms are sometimes connected with the tradition of the Cailleach. There is a well-known song, still regularly sung – *Cailleach Beinn a' Bhric, Hó Ró* – about a Cailleach 'of the high spring' who loves the *biolair* 'watercress' and who looks after her deer, making sure they go nowhere near 'the black shellfish of the shore'. It is connected to several localities, but surely none more than *Beinn a' Bhric* in Lochaber NN318642 where, near the summit, there is a spring called *Fuaran Cailleach Beinn a' Bhric*. In oral tradition, this Cailleach agreed a pact with the famous 16th century hunter and bard, *Dòmhnall Mac Fhionnlaigh nan Dàn* (the author of the poem *Òran na Comhachaig* 'the song of the owl'), which allowed him to hunt among her deer, whom she milked, but on the condition that he did not touch her favoured white hind. The *eilid bhàn* 'white hind' appears numerous times in oral tradition, perhaps most notably as the animal form taken by Gràinne after she had been metamorphosed from her human form.

The Cailleach was once celebrated in the Gàidhealtachd in a dance-drama known as *Cailleach an Dùdain* 'the hag of the mill-dust', which Newton maintains represents the same Cailleach as appears in the landscape, and a Gaelic version of a dance-drama found 'in every folk culture in Europe [and which] ritually enacts the death and rebirth of the solar year and symbolises the cycles of fertility upon which agricultural efforts were dependent.' There are numerous accounts of variants of this dance across the Gàidhealtachd from Perthshire to the Western Isles, through the 18th and 19th centuries, and the likelihood is that it represents an extremely old folk tradition.

5.3.2 Sìthichean and Other Supernatural Beings

The *sìthichean*, often called 'fairies' in English, although the translation is inaccurate in a Gaelic context, are often connected with hillocks, particularly of a conical shape, referred to as (singular) *sìth*, diminutive *sìthean* – hence their inclusion in this category, although the widespread occurrence of these archetypes of the Otherworld means they are to be found across the Gàidhealtachd from seashore to the mountains. *Sìth Chailleann* Schiehallion 'the fairy mountain of the Caledonians' in Perthshire is a well-known example.

The *sìthichean* are met with, even in the ancient Fianna tales, for example in the legend of Oscar's death at *Cath Gabhra* 'the battle of Gavra', where he meets with a *bean-shìthe* 'fairy woman' washing her clothes in a stream (a common motif); the woman correctly predicts his victory but also his death. The relationship with humans is a tricky one, and the *sìthichean* are seen as being inordinately fond of music and dance (generally a positive characteristic), but running their lives on a timescale that is different from humans, hence the stories of people spending a night in a fairy hill, only to find that many years have elapsed in the 'real' world. One wonders whether some individuals blamed a convenient 'disappearance' for a period of time on being beguiled into the fairy world for a night! And, in an interesting Scottish variant of the tale of Oisean and *Tìr nan Òg*, George MacPherson's Skye version has him taken into the Otherworld by the Fairy Queen.

In some cases, male individuals who have broadly human form but are seen as belonging to the Otherworld are referred to as *gille* 'lad', as in the *Gille Dubh Locha Dring* near Gairloch, who was very much a tree-creature and forest dweller. But, certainly, the connection between the wingless Gaelic *sìthiche* and his or her *sìthean* (referred to as a *cathair* 'seat' in the toponymy of W Ross) sets it apart from the English 'fairy' that bears wings and inhabits sheltered dells. For a broad appreciation of Gaelic traditions of the *sìthichean* and other supernatural beings, *The Gaelic Otherworld,* a collection of John Gregorson Campbell's writings on superstition, witchcraft and second sight, skilfully edited and annotated by Ronald Black, is a good resource.[65]

The records of locations connected to the *sìthichean* are so numerous and widespread, that a proper and detailed consideration of their identification and 'interaction' with humans is beyond the scope of this report. In general, what one might say about the *sìthichean* is that they represent another point of connection between the indigenous people and their environment. In that sense, knowledge of 'fairy' locations (true ones, not those invented by the modern tourist industry!) can inform our understanding of how Ecosystem Services can contribute to our cultural well-being and sense of belonging to the landscape we live in. Those who own the stories 'own' the landscape, at least in a cultural sense, regardless of what the law says about 'ownership'.

5.4 **Traditions of Sea and Shore**

5.4.1 Traditions of Shellfish Gathering

In 2018, the current author, working with mollusc expert, Professor Stewart Angus, created a modern Gaelic vocabulary for 85 species of marine mollusc, including recommended species names. The project involved a literature search and interviews with Gaelic-speaking informants in, or belonging to, the W Isles, Skye and Raasay.[66]

The informants unanimously agreed that previous generations of island dwellers had a much more intimate knowledge of the seashore than the current generation, and that they harvested shellfish to a significantly greater degree. However, much can still be learned from what has been handed down from earlier times, including a significant number of shellfish-related proverbs and sayings that the current author has collected. A few examples are given below:

Is cruaidh an t-Earrach anns an cunntar na faochagan *it's a hard spring when the winkles can be counted*

As t-Earrach, nuair a bhios a' chaora caol, bidh am maorach reamhar *in Spring, when the sheep are lean, the shellfish are fat*

Cha bhuain cas luath maorach *a quick foot won't harvest shellfish* i.e. don't rush the job you're doing

Dèan maorach fhad 's a tha an tràigh ann *gather shellfish while the tide is out* i.e. strike while the iron is hot

[65] Black (2005)
[66] See https://scotlandsnature.blog/2018/06/04/ainmean-gaidhlig-air-na-maoraich-gaelic-names-for-marine-molluscs/ and https://www.nature.scot/gaelic-names-marine-molluscs

Na iarr an tràigh ri muir-làn, 's am maorach a-staigh agad *don't go to the shore at high tide when you have shellfish at home.* Don't look for what you can't get when you already have it.

The sayings (and there are many more of them) show how much shellfish were being collected – for food and other purposes (the current author has also collected information on unique or particular uses of shellfish among the Gaels). That is not to say there wasn't a degree of ambivalence about collecting marine molluscs. In the influential tales of the Fianna, giving up the hunting of the deer and taking up the gathering of shellfish was viewed as a marker of degradation and loss of status, and in later centuries, shellfish were often classified (with a degree of negativity) as food to stave off famine in the spring when other food supplies were running out (see the first two sayings above), and likewise, in the days of the Clearances when people were evicted to live, for a period of time, on the seashore. Nevertheless, it is clear that in normal years, people were still using various species of coastal shellfish, gathered, mostly in winter and spring, both on the rocky shore (particularly mussels, winkles and limpets) and sandy shore (most notably cockles and razorfish). The following is a saying about the most common species eaten by the Gaels of old:

> **Muirsgian, mùsgan,**
> **Faochag, bàirneach,**
> **Eisir bheòil dhuinn,**
> **Eachan, creachann,**
> **Feusgan, coilleag:**
> **Maorach traghad**
> **A dh'fhaodar ithe**
> **Gun a bhith sgàthach**
> *Razorfish, gaper shell, Winkle, limpet, Brown-mouthed oyster, Oyster shell, scallop, Mussel, cockle: Seashore shellfish that can be eaten without being fearful*[67]

The tradition of shellfish-gathering dates back to the Mesolithic era, when humans first inhabited Scotland. Modern food foragers who harvest marine molluscs are part of a long and continuous tradition and, of course, such animals lend themselves to being harvested quietly and without machinery, and to be managed in a sustainable manner, so there are a lot of positives connected to them (as long as they are avoided in the summer months). In terms of Ecosystem Services, particularly in such a maritime country as Scotland, the harvesting of shellfish can be an important component in natural food provision.

NatureScot could contribute in a positive way to making information available to the general populace on mollusc terminology by upgrading the Gaelic part of their website so that information gathered in this project is easily accessible. Currently, the final list of species names (agreed following the public consultation) no longer appears to be hosted on the website. [NB The same applies to another NatureScot-led project in which the current author was involved – to create and standardise Gaelic terminology for the ferns and their allies. A general upgrade of Gaelic information on the website is sorely needed.]

[67] Anon (1964) p. 25

Recommendation
That NatureScot upgrade the Gaelic components of their website and social media interaction with the population as a matter of some urgency. This should include a review and upgrade of the Dictionary of Gaelic Nature Words, notably to include the results of the NatureScot-led project to standardise mollusc species names and terminology. This is ***Minor Recommendation 10.***

5.4.2 Traditions of Seaweed Gathering

The current author used to write a Gaelic column for the Inverness Courier called *Am Peursa* 'the signal pole'. The name was suggested to the previous, and original, columnist by the late Fred MacAulay of N Uist, a Gaelic broadcaster and scholar. The signal poles in question were well-known in Uist, on the W side of the island chain, and they had a specific function. A person appointed to the role of *peursair* would have the important task of keeping an eye open for a large *brùchd* 'casting ashore' of seaweed after a storm. As soon as the *brùchd* appeared, he would throw a pile of weed over the *peursa* which would be seen by people in the nearby village(s). They would then drop everything and go to the shore to bring the seaweed onto dry land so that it would not be washed away by the next high tide.

Carmina Gadelica (Vol IV p.32) gives the following religious incantation that celebrates the maritime bounty represented by a *brùchd* of seaweed:

Thàine ʾs gun tàine feamainn,
Thaine ʾs gun taine brùchd,
Thàine buidheag ʾs thàine liadhag,
Thàine biadh mun iadh an stùc.

Thainig Mìcheal mìl na conail,
Thainig Brighde bhìth na ciùin,
Thainig aʾ Mhàthair mhin Mhoire,
ʾS thainig Connan àigh an iùil. [Padraig]

Come and come is seaweed, Come and come is the casting of the weed,
Come is yellow weed [knotted wrack], come is tangle, Come is food around the rock.

Come is mild Michael of the rosary, Come is living Bride of meekness,
Come is the mild Mother Mary, And come is glorious Connan of guidance. [Patrick]

This celebration of the *brùchd* demonstrates the importance of seaweed to the economy and life of people in places like the W Isles. It was vital as a fertiliser, maintaining the condition and productivity of the soil on the machair (although it was equally important for the more organic soils in the east of the island chain). The use of seaweed for fertilising the soil, for crofters and farmers, and kitchen gardeners, has continued to the present day, and there remains a strong tradition of seaweed gathering in Scotland in general. In Gaelic there is a special word for a raft of seaweed, cut (traditionally by sickle) at low tide within a circle made on the beach of floating rope – a *maois.* The *maois* is allowed to float with the flood tide, and at high tide is pulled onto the high part of the shore to deposit a large amount of seaweed, which is then carted away for use on fields etc.

At one time, there was an extremely large kelp industry, based around brown marine algae, commonly *stamh* (*Laminaria spp*), which were burned in pits close to the shore, and then exported, to be used in the production of potassium chloride and potassium sulphate. This was an extremely profitable industry for landlords, and provided a modest income for thousands of crofters[68] – a clear example of an important Ecosystem Service which might point a way to possible future use of seaweed, although there is a danger that industrial harvesting with modern machinery would be damaging to the environment. The experience of the Gaels as kelp labourers was mixed to say the least, and the work of harvesting and burning kelp was not highly regarded in Gaelic tradition and literature.

When the current author was developing his Gaelic environment course *Àrainneachd, Cànan is Dualchas*, in which he introduces students to marine algae found on the coast of Skye, he researched traditional gathering and use of seaweeds in the Gàidhealtachd, which included speaking to authorities like the late Ceit Ann Huna in N Uist who was extremely knowledgeable, and an informant for publications like *Flora Celtica.*[69]

Many crofters still use *feamainn-chìrean* 'cow tang, channelled wrack' to feed to their cattle, particularly at the time of calving, to improve their condition and to give their coats a sheen. It is also boiled up with oats to feed to calves. Less common today is the harvesting of seaweed for human consumption, although dulse and carragheen are still commonly used (see section 3.1.1.5). There is a traditional rhyme that gives the favourite edible seaweed in each season:

> **Cairgean earraich,**
> **Duileasg samhraidh,**
> **Gruaigean foghair,**
> **Stamh geamhraidh.**[70]
> *Carragheen of spring, dulse of summer,*
> *badderlocks of autumn, tangle of winter*

The rhyme fails to mention several species of seaweed regularly used by Scotland's Gaels as food viz. sea lettuce, gutweed, the 'buttons' of thongweed, the spore fronds of badderlocks, sloke (laver), sugar kelp, oarweed and most likely also the pepper dulse. A tea was also made from the bladder wrack. There is a strong tradition of eating seaweeds in the Scottish Gàidhealtachd, and it would be good to see that reprised, and strengthened, in the years ahead, for reasons of health, connection to local environment and sustainability.

In addition to the use of seaweeds, communities close to beaches where the eelgrass grows, for long used this material as insulation or stuffing, and maerl, washed up on 'coral beaches' in many localities was used as a fertiliser on acidic ground.

5.4.3 Evidence in Martin Martin's Account

Skyeman, and Gaelic-speaker, Martin Martin wrote a valuable account of life in the Western Islands of Scotland (first published in 1703), which was reissued with

[68] For a summary of the kelp industry, see Milliken & Bridgewater (2004) pp. 260-2
[69] See Milliken & Bridgewater (2004) pp. 49-54
[70] Anon (1964) p. 25

informative notes by Lewis writer Michael Robson in 2003.[71] It is a goldmine of information about traditional life and practices in the maritime Gàidhealtachd, and thus has much to tell us about Ecosystem Services, particularly as they relate to marine and coastal ecosystems.

Martin informs us of the species of fish being caught, in both sea and freshwater, the abundance of seals and otters, the presence of the now-rare pearl mussel and much more. His ability to communicate with the people in their own language makes this a more valuable account of Hebridean life than that written by many other travellers, who encountered a language barrier.

Martin makes comment on the trees and woods on the island, which is a valuable record for these places just over three centuries ago. He records the occurrence of maerl (see above), and gives accounts of numbers of deer, some of which would repair to the coast to eat seaweed during the stormy winter months. He has accounts of two species of eagle, one which feeds largely on fawns, sheep and lambs, and other on deer, and he discusses how the people fished for sandeels, and the abundance of lobsters. There are also accounts of animals such as the 'mertrick' and 'os sepia' which challenge immediate interpretation.

There is a vast amount of information in Martin's account (of which the above is but a taste), which would benefit from modern analysis by a multidisciplinary team, in order to evaluate how accurate he was, elucidate and identify the species he refers to, separating the mythical from the 'real', and to compare the situation in the 1690s in each of the island locations, and the situation there today.

Recommendation
A multidisciplinary team be put together to reanalyse, in a modern context, the biological and ecosystem information in Martin Martin's 'A Description of the Western Islands of Scotland'. The team should comprise, at least, a Gaelic linguist, biologist, conservationist, herbalist, forager, historian and members of the crofting and fishing communities from those islands. This would allow an accurate assessment of the Ecosystem Services for those communities in the 1690s, when Martin travelled there, and make relevant comparisons with the situation today. This could be a NatureScot-led project of great relevance to island communities, and to Scotland more generally. This is ***Major Recommendation 10.***

5.4.4 Supernatural or Scientifically Unattested Animals

Gaelic tradition has stories of mermaids, and of seals that take on human form (and vice-versa), and, indeed, of people that live beneath the sea, but perhaps those that are most unique to the world of the Gaels, which concern marine animals that are unattested by science are the *crodh-mara* 'sea cattle', already described on p.47, and various sea monsters known variously as *cìrean-cròin, cionaran-crò* and *mial mhòr a' chuain*, or variations on these names.

It is not clear if these massive marine animals are or were mammals, fish, giant cephalopods or simply creatures of the imagination, but they seem to represent an

[71] Robson (2003)

extremely productive marine ecosystem. The animals are at the top end of the food chain, as represented by the two following verses:

Seachd sgadain sàth bradain,
Seachd bradain sàth ròin,
Seachd ròin sàth mial-mhòr-mhara,
Seachd mial sàth cìrein-cròin.
Seven herrings a salmon's fill,
Seven salmon a seal's fill,
Seven seals a whale's fill (or lit. a great sea animal),
Seven whales the fill of a cìrein cròin*.*

Seachd sgadain sàth bradain,
Seachd bradain sàth ròin,
Seachd ròin sàth muc-mhara bheag,
Seachd mucan-mara beaga, sàth muc-mhara mhòr,
Seachd mucan-mara mòra, sàth cionarain-crò,
Seachd cionarain-crò, sàth mial mhòr a' chuain.
Seven herrings a salmon's fill,
Seven salmon a seal's fill,
Seven seals a small whale's fill,
Seven small whales, the fill of a big whale,
Seven big whales, the fill of a cionaran-crò*,*
Seven cionarain-crò*, the fill of a great ocean monster.*

Mial is an old Gaelic word, likely of Celtic origin, meaning a large animal, and is used in Irish Gaelic for 'whale'. The modern Scottish word for whale is *muc-mhara* (lit. 'sea-pig'), and there is nothing bigger in our modern ocean. However, in Irish *muc-mhara* means 'dolphin' – which might have also been the situation in Scotland at one time – so there is some latitude for interpretation of the above verses, depending on how old they are – although the *cìrean-cròin* and *cionaran-crò* remain unidentifiable, and are treated as mythical sea-creatures. Ronald Black has summarised this tradition, and sources of material in *The Gaelic Otherworld.*[72]

In Carmina Gadelica, Alexander Carmichael gives an account of such a creature from 84 year-old Angus Gunn in Ness on the Isle of Lewis. Gunn had previously lived on the remote oceanic island of (North) Rona, north of Ness. Carmichael seems to link Gunn's *cionaran-crò* to the kraken of Scandinavian myth, and Gunn was clearly of the opinion that other strange animals once lived on the tiny island!

[Saint] Ronan came to Lewis to convert the people to the Christian faith. He built himself a prayer-house at Eorabay. But the people were bad and they would not give him peace. The men quarrelled about everything, and the women quarrelled about nothing, and Ronan was distressed and could not say his prayers for their clamour. He prayed to be removed from the people of Eorabay, and immediately an angel came and told him to go down to the laimirig*, natural landing-rock, where the* cionaran-cro*, cragen, was waiting him. Ronan arose and hurried down to the sea-shore shaking the dust of Eorabay off his feet, and taking nothing but his* pollaire*, satchel, containing the*

[72] Black (2005) pp. 373-4

Book, on his breast. And there, stretched along the rock, was the great cionaran-cro*, his great eyes shining like two stars of night.*

Ronan sat on the back of the cionaran-cro *and it flew with him over the sea, usually wild as the mountains, now smooth as the plains, and in the twinkling of two eyes reached the remote isle of the ocean. Ronan landed on the island, and that was the land full of* nathair bheumnaich, gribh inich, nathair nimhe, agus leomhain bheucaich *– biting adders, taloned griffins, poisonous snakes, and roaring lions. All the beasts of the island fled before the holy Ronan and rushed backwards over the rocks into the sea. And that is how the rocks of the island of Roney are grooved and scratched and lined with the claws and the nails of the unholy creatures. The good Ronan built himself a prayer-house in the island where he could say his prayers in peace.*[73]

5.5 **Traditions of Healing**

There is a considerable body of literature, mostly written in English, but dealing with Gaelic tradition and knowledge, that demonstrates how natural ecosystems would provide materials, mostly botanical, that would assist in treating, or even curing, illnesses and ailments. A list of appropriate texts is given at the bottom of this section.

The researcher par excellence on this topic was the late Mary Beith of N Sutherland, whose book *Healing Threads*[74] is full of gems, but there have been others also (see below). As Beith writes in the introduction to her book, 'all the details of the subject would fill several volumes'. Beith's copious papers and unpublished notes, reputedly kept within her family following her death, would be worthy of investigation at an academic level.

To pull out a simple example, the author gives an instance from her own oral tradition: 'An army pensioner with a stomach ulcer which city doctors declared incurable, returned from Edinburgh to Melness to seek out an elderly woman relative by the name of Giorsail (Grace) who treated him with infusions made from bogbean, a plant which grows profusely in local moorland pools. He made a full recovery and lived a healthy life for many years'.[75] This species – *trì-bhileach* or *lus nan laogh* in Gaelic – is still used for such purposes and as a general pick-me-up.

The current author has looked at the Gaelic names for plants which are used for both food and healing, and has noted some whose terminology summarises their use.[76] Examples include:

- *Lus chasgadh na fala* 'the anti-haemorrhage plant' – yarrow.
- *Slàn-lus* 'healing plant' – ribwort or greater plantain. Used on wounds.
- *Seachdamh aran a' Ghàidheil* 'the seventh bread of the Gael' (poetic name) – the silverweed (famine food of which a simple bread could be made).
- *Achlasan Chaluim Chille* 'St Columba's little armpit package' – St John's Wort – placed under the left armpit to effect cures.
- *Lus nam Ban-sìth* 'the fairy women's plant' – the foxglove, used to try and treat *tàcharain* 'changeling children'.

[73] Carmichael (1900) p. 76
[74] Beith (2004)
[75] Beith (2004) p. 113
[76] MacIlleathain (2018) pp. 66-88

The knowledge that the Gaels had, and sometimes still have, of such medicinal uses of native species (animals also come into the picture) can help to inform and inspire those who spend time in the Highlands, and who enjoy a practical, aesthetic and spiritual connection with nature. It can also inform the argument about protection of habitat, where the existence of a greater species diversity can be argued from a cultural, as well as natural, perspective. And it can even be of practical use – the current author once used yarrow to stem blood flow from a chronically bleeding hand, and can vouch for the validity of its Gaelic name! There is a strong connection between this area of knowledge and issues of well-being.

List of useful texts

- Barker, Anne (2011) *Remembered Remedies: Traditional Scottish Plant Lore.* Birlinn.
- Beith, Mary (2004) *Healing. Threads* Birlinn.
- Darwin, Tess (1996) *The Scots Herbal: The Plant Lore of Scotland.* Mercat Press.
- Kenicer, Gregory J (2018) *Scottish Plant Lore.* Royal Botanic Garden Edinburgh.
- Martynoga, Fi (2012) ed. *A Handbook of Scotland's Wild Harvests.* Reforesting Scotland & Scottish Wild Harvests Association.
- Milliken, William & Sam Bridgewater (2004) *Flora Celtica.* Birlinn

It should also be noted that the Beaton 'Medical Kindred' possessed a special place as Gaelic-speaking medical professionals over many centuries in many parts of Scotland, a fact which is poorly appreciated in Scottish society in general. Dr John Bannerman studied the family from an academic perspective, and summarised their contribution to medical science in his book *The Beatons: A Medical Kindred in the Classical Gaelic Tradition (1986).* What does not appear to be well understood, however, is how much these medical practitioners employed the products of native ecosystems, rather than physic gardens or imported materials, in the provision of medicines and treatments. This would benefit from further research.

Recommmendation

A research project be instigated on the use by Gaelic medical professionals, from the Middle Ages to the Early Modern era, notably the Beatons, of the products of natural and native ecosystems in their professional work, as opposed to their use of products of physic gardens or imported materials. It would be beneficial to link this with 'folk' medicine as practised in Scotland, and traditions of 'herbal' medicine practised to this day. This would likely have to take place at university level, as it would probably involve scrutiny of learned manuscripts. This is ***Major Recommendation 8.***

5.6 Other Plant Traditions

In addition to food foraging (Section 3) and healing (above), plants obtained from natural habitats were heavily used for dyeing of homespun and woven cloth, notably wool. Dwelly's Gaelic dictionary has an excellent summary of major species used, the colours obtained and other information such as mordants.[77] This type of knowledge, where still present in Gaelic communities, has largely been passed down orally and

[77] Dwelly (1988) pp. 312-3

augmented by experimentation. English-speakers have generally become the keepers of the tradition in recent times. Such knowledge, however, still has the power to inform and inspire. For example, the beautiful bell heather, known in Gaelic as *fraoch a' bhadain* 'the heather of the little clump' (referring to its bunches of leaves), when used with alum, provides a dark green dye, but only if it is 'pulled before flowering, and from a dark, shady place'.[78]

Another aspect of Scotland's botanical heritage is the presence of plant species in clan badges (*suaicheantas* in Gaelic). Those clans that chose evergreen species had an advantage, as they could be picked at any time of year, for example at times of conflict, when one's loyalty had to be demonstrated unequivocally. Examples are the *iubhar* 'yew' (Frasers), *aiteann* 'juniper' (Gunns), *eidheann* 'ivy' (Gordons), *roid* 'bog myrtle' (Campbells) and *garbhag an t-slèibhe* 'fir clubmoss' (MacRaes).

This brings us to an aspect of botanical conservation that is arguably under-represented within Scottish environmental circles and under-championed within the bodies that are responsible for creating and implementing policies on habitat renewal and protection – that is, the protection and promotion of species that are culturally important in a Gaelic context – whether that be for foraging, healing, dyeing, aesthetics or anything else.

One example might be given from the current author's personal experience to illustrate the point. The tuberous or bitter vetch is (generally) known in Gaelic as *carra meille* and has traditional cultural significance. The following passage is from the current author's student notes for his annual Gaelic environment course – *Àrainneachd, Cànan is Dualchas (*see *acisd.wordpress.com).*

A plant of enormous significance, highly esteemed […] right back to the days of the ancient Celts. Has long branching roots with nodulous lumps which are dried and chewed as wild liquorice. Root known in Gaelic as carrachan*. The taste is long-lasting and wards off hunger for a long time (recorded by Lightfoot, Pennant and Martin). Was used by journeying Highlanders and by Celtic armies for that purpose. Infused in liquor, it is an agreeable beverage. Martin recorded eating the root to expel wind, and to relieve drunkenness; the root would keep for many years.* Carra Meille *is obscure as a name (Martin gave it as* carmel*); it is probably ancient and cognate with* chara*, discovered by Caesar's soldiers at the siege of Dyrracium (steeped in milk it gave relief to the hungry army). Other classical writers give it as coram or courmi, and in early Gaelic literature as* corm, cairm *or* cuirm. *Still being used into the 1950s in N Scotland for inclusion in home-brewed heather ale (Beith). In Colonsay, it was dug with with a* pleadhag*, then hung to dry from the kitchen ceiling, roasted and used to flavour whisky (Flora Celtica), and was also chewed to relieve lung diseases.*

There is a good argument to say that we should be attempting on cultural grounds, as well as environmental, to increase the amount of habitat that supports the growth of tuberous vetch i.e. woodland, hedgebanks and heaths. In the W Highlands, under the influence of large numbers of sheep and deer, the plant is no longer common. One of the few places in the Applecross peninsula where the current author has found it is the *Fireach Garbh* NG737485, a rugged rocky slope of senescent woodland that was not regenerating and whose continued life could be measured in years rather than decades. Fortunately, this has now been fenced against deer and it is to be hoped that the habitat will self-restore, and that the presence of the tuberous vetch is

[78] Dwelly (1988) p. 313

assured. The decision to fence the area, was undoubtedly (and praiseworthily) made on general conservation grounds, and was unlikely to have been in any way based on the presence of an iconic 'Gaelic' plant species. However, the current author argues that such a consideration should be included among the criteria for habitat conservation.

One might make similar observations, in a foraging context, of excellent food plants such as sea beet, sea kale, sea radish and oyster plant which are rare in a W Highland context because of the grazing of sheep (and sometimes deer) right to the high tide line. The ability to forage such good food plants seems not to be taken into account when authorities are considering conservation of habitat or restriction on grazing. With the exception of plants like the orache, which is extremely abundant on the highest part of the shore, and which was widely used, for example, in Uist (it is called *praiseach mhìn* 'fine pot-herb'), foraging in coastal habitats above the high-tide line in the W Highlands and Islands has been poorly served in recent times by rigorous grazing practice and a lack of environmental protection.

Recommendation
In planning habitat protection and expansion, more recognition should be made by NatureScot and other land-management authorities of protecting habitat and communities that support plants which are recognised in Gaelic tradition as being useful for food-foraging, healing, dyeing and other purposes, and which have particular cultural significance to the Gaels. This would recognise the strong relationship between the people of the Highlands and their environment. This issue should be addressed by the policy makers of the newly branded NatureScot to demonstrate the ever-closer links being forged between the organisation and the Scottish population. This is ***Minor Recommendation 1.***

5.7 Religious Traditions and Ecosystem Services

One of the distinctions between the Gaelic and English interpretations of the environment in Highland Scotland lies in the vocabulary for native species, and the historical and folkloric connections betrayed by the nomenclature. A number of plants and animals have Gaelic names that connect them to church figures. Perhaps the best-known is the *Brìdean* or *Gille Brìde* 'oystercatcher' – 'St Bride's bird' or 'the follower of Bride'. This tradition may have pre-Christian origins, but the stories connect the species to the Christian St Bride or Brigid who, while belonging to Ireland, had a cult throughout the British Isles, and a distinct presence in Scotland where she has many places named after her (there are, for example, around twenty places from the Western Isles to southern Scotland (in former Gaelic-speaking areas) called Kilbride *Cille Brìde* 'St Bride's cell or church'.

In the botanical world, the Slender St. John's wort is connected, not to St John, but to the greatest saint of the Gàidhealtachd – Columba. And many plants carry the appellation *Muire* or *Moire* in their name, referring to the Virgin Mary. Examples are *Gruag Mhuire* 'Mary's locks' – Marigold; *Coig Meòir Mhuire* 'the five fingers of Mary' – cinquefoil, and *Seamair Mhuire* 'Mary's clover' – yellow pimpernel.[79]

[79] MacFarlane (1924)

6. SUMMARY OF RECOMMENDATIONS

Below is a list of the recommendations made in the text. They have been divided into **Major** and **Minor Recommendations**, and are ordered in terms of priority, with the most important at the top. They total 20 in all (10 Major Recommendations and 10 Minor Recommendations). It is envisaged by the author, in making these recommendations, that NatureScot will be proactive in commissioning and funding research projects along the lines of these recommendations in the years ahead. This could be built into the organisation's annual Gaelic budget which, it is envisaged, would be given an injection of new funding.

In particular, it is recommended that NatureScot seek to work with Scottish universities in order to assist the funding of PhD projects which will explore the areas recommended under Major Recommendations (he particularly strongly recommends Major Recommendations 1 to 5). Expanding this knowledge base would greatly help to inform Scottish habitat and nature conservation, and therefore NatureScot aims, objectives and policy, in the years ahead.

6.1 Major recommendations

6.1.1 Major Recommendation 1

A major study, on the level of a PhD research thesis, be undertaken into mountain and hill toponyms across the Gàidhealtachd, and co-ordinated with other evidence, including altitude, aspect, geology, geomorphological history, dialect, region and land-use, in order to attempt to understand more fully the subtle differences between generics and the reason for their choice. This would benefit, not only the Gaelic community, but many participants and players in Scotland's burgeoning, and economically important, outdoor recreation industry.

6.1.2 Major Recommendation 2

A major study, on the level of a PhD research thesis, be undertaken into woodland and tree toponyms across the Gàidhealtachd, and co-ordinated with other evidence to attempt to map the historical presence of woodland of various types. This could be extended to include the whole of Scotland, and toponyms in languages other than Gaelic.

6.1.3 Major Recommendation 3

A project be established in which some of the iconic places in Gaelic literature, particularly those representing upland ecosystems with high values for remoteness, such as *Beinn Dòbhrain, Coire a' Cheathaich* and *Allt an t-Siùcair* are analysed for their botanical and zoological diversity and environmental health in the current era, in the light of the descriptions made of them by Gaels in the past. This would provide extra tools in promoting management regimes that seek to defend and enhance biological diversity, and would put a Gaelic slant on the argument for 'rewilding', an intellectual standpoint that has, to this point in time, been largely based on anglophone perspectives and which has given little credence to a Gaelic view of Scotland or a Welsh language perspective of the Welsh environment. There might

well be an opportunity for Welsh and Scottish researchers to co-operate in such a project.

6.1.4 Major Recommendation 4

A study be made, and published, about the historical reaction of Scotland's Gaels to the loss of their forests (from literature and oral tradition). This would help to inform the debate about rewilding of the environment, and to build bridges between the 'traditional' Gaelic and Highland community on one hand, and non-Gaelic speaking supporters of rewilding on the other.

6.1.5 Major Recommendation 5

A major research study, at the level of a PhD thesis, take place in which Gaelic literature and tradition is minutely examined for evidence about foraging and other use of non-tree plant species and fungi. Dr Michael Newton has already done this for trees (see his PhD thesis), but much might be learned about herbs, shrubs, grasses, sedges, ferns (and their allies), bryophytes, lichens and algae (particularly seaweeds) in terms of their traditional role in Ecosystem Services. The big 'missing element' in Gaelic tradition – identification, naming and use of fungi – would be of particular interest, if such can be ascertained. To this point in time, evidence gathered on fungi has been scanty.

6.1.6 Major Recommendation 6

An investigation be made of Gaelic toponyms across the Gàidhealtachd which are likely to refer to the wolf, and comparison made of this data with historical records and accounts of the wolf in those parts of the country. This would help to inform the debate (currently at a low level) about the possible reintroduction of this iconic predator species to the Scottish Highlands.

6.1.7 Major Recommendation 7

Research be undertaken into the role that the Gaelic language and culture, and the relationship that these afford with the Highland landscape, have in promoting self-esteem, health and well-being in the Scottish population, particularly teenagers and young adults.

6.1.8 Major Recommendation 8

A research project be instigated on the use by Gaelic medical professionals, from the Middle Ages to the Early Modern era, notably the Beatons, of the products of natural and native ecosystems in their professional work, as opposed to their use of products of physic gardens or imported materials. It would be beneficial to link this with 'folk' medicine as practised in Scotland, and traditions of 'herbal' medicine practised to this day. This would likely have to take place at university level, as it would probably involve scrutiny of learned manuscripts.

6.1.9 Major Recommendation 9

An interdisciplinary study take place, to include toponymy, with the aim of assessing the productivity, in terms of cattle and dairy products, of shieling locations across the Gàidhealtachd at the height of the practice of Highland transhumance.

6.1.10 Major Recommendation 10

A multidisciplinary team be put together to reanalyse, in a modern context, the biological and ecosystem information in Martin Martin's 'A Description of the Western Islands of Scotland'. The team should comprise, at least, a Gaelic linguist, biologist, conservationist, herbalist, forager, historian and members of the crofting and fishing communities from those islands. This would allow an accurate assessment of the Ecosystem Services for those communities in the 1690s, when Martin travelled there, and make relevant comparisons with the situation today. This could be a NatureScot-led project of great relevance to island communities, and to Scotland more generally.

6.2 Minor recommendations

6.2.1 Minor Recommendation 1

In planning habitat protection and expansion, more recognition should be made by NatureScot, and other land-management authorities, of protecting habitat and communities that support plants which are recognised in Gaelic tradition as being useful for food-foraging, healing, dyeing and other purposes, and which have particular cultural significance to the Gaels. This would recognise the strong relationship between the people of the Highlands and their environment. This issue should be addressed by the policy makers of the newly branded NatureScot to demonstrate the ever-closer links being forged between the organisation and the Scottish population.

6.2.2 Minor Recommendation 2

A study be made of the Gaelic writings, tradition and heritage associated with 'white martyrdom', in order to present, to a modern audience, a Christian practice which placed the natural environment and remoteness at the centre of spiritual well-being.

6.2.3 Minor Recommendation 3

A study be made of ancient Celtic law systems, and legal management of clan lands in Scotland, and how this impinged upon use and management of natural resources, including woods and trees.

6.2.4 Minor Recommendation 4

A detailed examination of *Baile* and *Achadh* place-names be undertaken to obtain further information about longevity of farming in particular locations, and about the provisioning services connected to those places. The study could be profitably extended to Norse and Scots farm names in the areas where speakers of those languages left a clear linguistic indication of their involvement in agriculture.

6.2.5 Minor Recommendation 5

A study be undertaken of the access to, and use of, forest resources by communities dwelling in places without trees, particularly in the islands of the west, and the protection of their rights to access those resources – and the maintenance of the integrity of those areas of woodland. How many exist today as woodland because of their protection for this very purpose? This study would include toponymic research, and information from Gaelic literature and oral tradition.

6.2.6 Minor Recommendation 6

Roe deer toponyms in Scotland be made part of an inter-disciplinary research project to evaluate their relationship to past and present tree cover, and habitat considered suitable for roe deer in the modern era.

6.2.7 Minor Recommendation 7

A detailed examination be made of toponyms likely to reference the Scottish wildcat, with the aim of seeing if we can learn more about their historic spread, and the habitats in which they were located.

6.2.8 Minor Recommendation 8

Research be undertaken into *breac* toponyms, comparing them to bedrock type and other physical indicators of ecosystem productivity, to see if there is a correlation between physical factors and *breac* place-names.

6.2.9 Minor Recommendation 9

Further research be conducted into horse toponyms, and local history, to elucidate further the role of the horse in traditional life in the Gàidhealtachd, and its function within Ecosystem Services.

6.2.10 Minor Recommendation 10

That NatureScot upgrade the Gaelic components of their website and social media interaction with the population as a matter of some urgency. This should include a review and upgrade of the Dictionary of Gaelic Nature Words, notably to include the results of the NatureScot-led project to standardise mollusc species names and terminology.

7. IAR-FHACAL (AFTERWORD)

In further conclusion, it is worth returning here to the Gaelic saying quoted in section 3.3.1.2: ***Slat à coille, bradan à linne, fiadh à fireach – trì 'mèirlean' às nach do ghabh Gàidheal riamh nàire.*** 'A rod from a wood, a salmon from a pool and a deer from rough ground – three 'thefts' which never shamed a Gael.' This sums up the traditional Gaelic view of Ecosystem Services as it applied to the ordinary people of the Highlands for centuries. If you take from the ecosystem just enough for yourself and your family, then there is no shame or crime in it, regardless of what a local landlord or distant government might think or legislate for. This philosophy not only explains why otherwise law-abiding citizens, including clerics, who were in no way rebellious towards authority in their everyday lives, would turn a blind eye to poaching of deer or salmon (at a non-commercial level) or even engage enthusiastically, without demur, in the practice themselves. It is, at its most basic level, about the equitable sharing of resources, and rejects the notion that a powerful or rich person or group can acquire 'rights' to environmental resources based, not on need, but on greed.

One might characterise this philosophy as providing a moral underpinning to the broad opinion in Scotland that the land and its resources 'belong' to all. While the Scottish legal system does not support such a notion in its entirety, it is notable that the 'freedom to roam' legislation in the Land Reform (Scotland) Act 2003, which codified into Scots law the ancient tradition of universal responsible access to wild and uncultivated land, gives more protection to the public in such matters than does the equivalent legislation in England and Wales. Similar Scandinavian rights are known in Finnish as *jokamiehenoikeus* and in Swedish as *allemansrätten.* In Gaelic such rights might be viewed as *còraichean dligheach nan Gàidheal* 'the legitimate rights of the Gaels'.

Although the Highlands are often characterised as a cold, wet place of low productivity, the indigenous people viewed, and still view, the region as their beloved homeland, the land of their language and culture, that could, and should, provide a living for a significant population through the provision of Ecosystem Services (although that term was unknown to them), as long as the dead hand of landlordism, remote governance and cruel authority could be stayed. Even today, if we listen carefully, we can hear the Gaelic voices of those people, often speaking from beyond the grave and from places where the warm laughter of a *cèilidh* has not been heard for a hundred years or more. They have something to say to us that informs how we should live today and in the future, and we should listen to them.

8. END NOTES

8.1 The Author

Roddy Maclean (Ruairidh MacIlleathain) is a bilingual (Gaelic/English) award-winning journalist, educator, author, consultant and storyteller, based in Inverness. An honours graduate in ecology, and a former Ambassador for Gaelic, he has for many years been involved in bringing together the language and Scotland's natural and toponymic heritage, running classes, workshops and courses on reading the Highland landscape, the Gaelic vocabulary and heritage connected to nature, and the folklore and tradition that connects people to environment and place. He is the author of several publications on place-names and has worked with NatureScot on producing Gaelic vocabularies connected to native flora and fauna, and a Gaelic booklet about foraging edible plants.

8.2 Abbreviations in the Text

C	Central
DASG	Digital Archive of Scottish Gaelic
E	East
MA	Millennium Ecosystem Assessment
N	North
NSA	New Statistical Account of Scotland
NW	North West
OS	Ordnance Survey
OSA	Old Statistical Account of Scotland
S	South
W	West

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ISBN: 978-1-78391-880-5

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