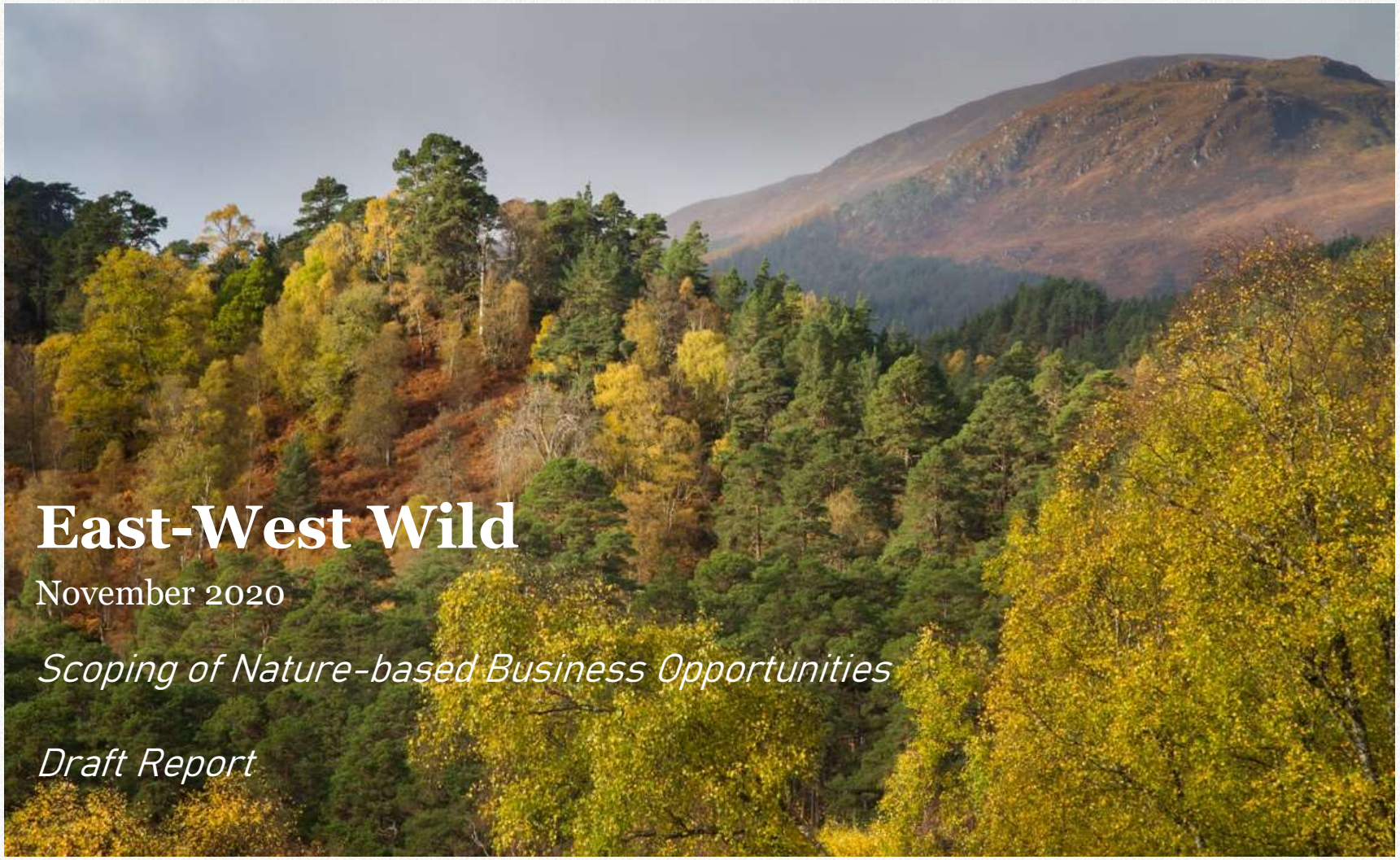

East-West Wild

November 2020

Scoping of Nature-based Business Opportunities

Draft Report

Commissioned by Trees for Life | Rewilding the Scottish Highlands | Ath-fhiadhachadh na Gàidhealtachd

Prepared by CONSERVATION CAPITAL

Foreword and Executive Summary by Trees For Life

An ambitious and perhaps unusual partnership has been proposed for a large landscape in the Central Highlands. The proposal is based on combining the natural, social and economic qualities of the landscape and the people who live in it to benefit all three of these interdependent factors – nature, people and business. This draft report outlines the opportunities that exist for nature-based businesses in this area, how these can be developed and considers the indicators for the significance of the revenue streams that could result.

East West Wild proposes that restoring nature to the land can be the enabler of community and economic regeneration. Market data from the UK, Europe and around the world increasingly points to diverse ways in which helping nature to function across landscapes provides opportunities for businesses to develop highly marketable products and services based on the land. Where these businesses work together in a region, there is scope to create a positive spiral of income flows, where more money circulates locally, creating more opportunities for businesses and more jobs in the community. Moreover, the connections between businesses and nature tend to rely on more skilled employment, with an emphasis on producing quality, so wages and job satisfaction levels are good.

This draft report is the first step to identifying what that could look like in practice within the East West Wild area. The area is blessed with huge potential for nature to be transformational here. It is a wild and beautiful landscape holding natural environments that range from the Loch Duich shoreline to the summit of Mam Sodhail via native forests, luxuriant peatlands and wild rivers and lochs. The habitats inhabiting these spaces are already diverse and capable of expanding to support a wider and more vibrant range of wildlife. As a result, the potential for nature-based business here is substantial.

This draft report explores this potential for the East West Wild area. It begins with an overview of the landscape, its physical characteristics, current land uses, population and economic activities. With those local factors in mind, the report considers the nature-based income streams that most lend themselves to the area and outlines how they can be taken forward as profitable enterprises. While the onset of Covid-19 throws considerable uncertainty into market forecasting, both the underlying data and the wisdom of diversifying economic activity indicate that there is value in considering this approach. Five of the areas considered by the report are outlined below.

Tourism

Perhaps the sector with the biggest revenue potential is tourism. VisitScotland surveys have estimated that Scotland's natural assets attract about one third of all tourists to the country, with international data showing that adventure and nature-based tourism is growing at 10-12% per year. The East West Wild area has the assets to present itself as perhaps the wildest parts of the UK to experience a rich and resurging natural environment. The growing demand for this kind of tourism can already be seen in places like the Cairngorms and Skye. A well-developed nature-based tourism offer, which takes a proactive approach to managing visitor flows could significantly increase revenues throughout communities in the East West Wild area without leading to congestion and overdevelopment. Nature tourism, involving fresh air and space, is likely to be one of the first sectors to recover from the impact of COVID-19 with particular emphasis on the UK domestic market.

Deer Stalking & Fishing

Sporting estates are the predominant land use and a key source of income for the area, an essential activity here for a range of reasons. The draft report identifies a number of ways in which tourism relating to hunting might be developed for a higher value market, in a landscape where the resurgence of nature is also increasing the capital value of the land. The skills and knowledge of the stalker are an essential component of this mix.

Carbon and ecosystem services

As the climate emergency becomes ever more apparent and both companies and individuals look to move towards net zero emissions, the market for accredited carbon offset units from woodland creation schemes is gaining traction quickly. For instance, Trees for Life has already sold carbon units from an accredited project at Dundreggan, in the East West Wild area. The carbon units are expected to sell at £24 or more per unit, a premium price reached through the value added to the units by the biodiversity contribution the native woodland will provide. With just over 50,000 accredited units in the project, which is replicable over a decent proportion of the landscape, the income potential from this route is considerable.

This section of the report also considers the less developed, but emerging market for carbon offset units from peatlands, which are another natural asset of this landscape. The scope for land management in East West Wild to be regarded as a heavy contributor to Scotland's efforts to reach net zero couldn't be clearer.

Forestry

There is a lot of potential in this landscape to develop a more diverse, profitable and nature-friendly mix of forestry. Forestry is currently a £1 billion pound per year activity in Scotland and there is scope to increase this, most interestingly in ways that can add value to forest products in local communities. Alternative forms of silviculture can provide steadier flows of income than conventional commercial clearfell forestry and can grow significantly higher value timber. Conventional forestry itself can also benefit from expertise to send timber to market at the optimum price point or to combine harvesting across ownerships to achieve higher values.

With time and well-planned integration of forestry practice, timber processing facilities and skills and relationships with end users such as local timber-based construction firms, forestry can come to support a wider network of employment opportunities. The draft report outlines ways in which partnerships of forestry owners and local businesses can work together, often at small scale, to add value to timber products before they leave the community, creating 'sticky money' that allows other local businesses to start up or expand.

Micro-renewable Energy

The potential for East West Wild to play a role in increasing energy generation from micro-renewable sources and distributing that energy for local use came up during conversations with stakeholders about the draft of this plan. A collaborative project would certainly have the potential to acquire the resource needed to develop some of the interesting ideas around small solar and wind to provide very low cost energy locally.

Taking it forward

The final sections of the draft look at how the ideas outlined within it can be developed towards implementation. An early version of an action plan is set out, along with an initial estimate of the levels of investment needed for developing different aspects of the business possibilities and possible sources of funding for more detailed business planning or development.

We need to talk

However, it is important to note that the draft report is intended as a conversation starter. The potential noted by the report cannot be taken forward without the knowledge, skills and views of the communities and owners in the area. The authors and Trees for Life discussed the first version of the study with as many people from the area as we could reach in the summer of 2020. Some of these early conversations opened up further horizons such as in energy production and we hope that people will continue to contribute their ideas as this work goes forward.

As East West Wild moves into a detailed development stage, those stakeholders who have expressed an interest in exploring these opportunities can join the partnership which will move into the development and action phase. Seeking funding, planning the land management to start the process, business planning and embedding communities into the project will become the key priorities.

We believe that this study shows how the economy here could make much more of the natural qualities of the area and grow significantly, in a nature-based way which creates a new scale of opportunity for local people. It is a route based on delivering environmental, social and economic regeneration. We hope you will be part of it.

Alan McDonnell, Trees for Life, November 2020

BACKGROUND

About this report

Conservation Capital ("CC") (www.conservation-capital.com) is a specialist consultancy which develops and finances nature based businesses in important conservation areas around the world. CC has a long connection with the Highlands and has been asked by Trees for Life to carry out a high level analysis of nature based business potential in the East-West Wild initiative ("EWW") area. The aim is to demonstrate the future socio-economic opportunities for communities, landowners and local businesses in the region arising from EWW.

The primary audiences for the report are landowners in the EWW area, communities in and around the EWW area and local, regional and national policymakers. This report is intended to inform stakeholder consultation in the early stages of economic transition.

In this report, CC has assessed the financial viability and socio-economic benefits arising from a range of nature based businesses in the area (both current and potential future businesses). CC has also considered the types and amount of finance and technical support necessary to enable these businesses to realise their potential. The collective synergies between individual nature-based businesses and how they will integrate and complement existing land uses and businesses in the area have been considered, enabling a comparison with the current land-based economy.

This report is intended to provide interested audiences with an informed overview of the current status and future potential. Upon receipt of feedback from EWW stakeholders, there will be a further phase of work which will focus in further detail on specific opportunities and sectors, with targeted analysis and financial modelling. The current COVD-19 situation will inevitably impact on certain activities in the short term, but in the medium to long term the opportunities outlined are likely to remain very relevant.

Photo credit: Trees for Life (unless mentioned otherwise)

OVERVIEW

The East-West Wild area is a mostly mountainous region covering c. 195,000 ha and comprising around 50 estates. Two thirds of the land is heathland or moorland with a mix of conifer and broadleaved woodlands and small areas of arable land. The native woodland represents one of the key natural assets of the area, along with the variety of exceptional landscapes, recognised and preserved through multiple conservation areas, including a National Nature Reserve.

The EWW community comprises five community councils in the Central Highlands. It is a predominantly Scottish community, with a higher than average knowledge of the Gaelic language. Compared to the rest of Scotland, it is more skilled and comprises more pensioners and independent workers than average. Half of the c. 2,300 inhabitants live in hamlets.

Developing a nature-based economy in this context will involve careful integration between relevant economic sectors, all framed within a landscape where natural processes are evolving at scale. We have considered how the key sectors of forestry, sporting (hunting and fishing), tourism and other nature-based business opportunities could be developed area.

Additionally, through a focus on Payment for Ecosystem Services (PES), we demonstrate how native woodland carbon and peatland carbon could generate significant profits for landowners. Retail and services constitute a network of mostly small local businesses, evenly spread throughout the area. These businesses too will have a crucial role to play in helping to service and shape the wider economy.

To realise the EWW vision, we have built a simplified roadmap and an action plan for landowners and other stakeholders willing to participate. We have further analysed the area's readiness to transition towards such an economy by outlining a series of enabling factors. We provide examples of which nature-based businesses are of most relevance to different landowners.

An initial budgeting exercise shows that an estimated **£3-4mn** of investment capital and supporting grant finance in order to move significantly towards a nature-based economy in the EWW area. We consider a variety of financing sources which may be relevant for this process. Further work will be necessary to model and support in detail each of the identified opportunities.

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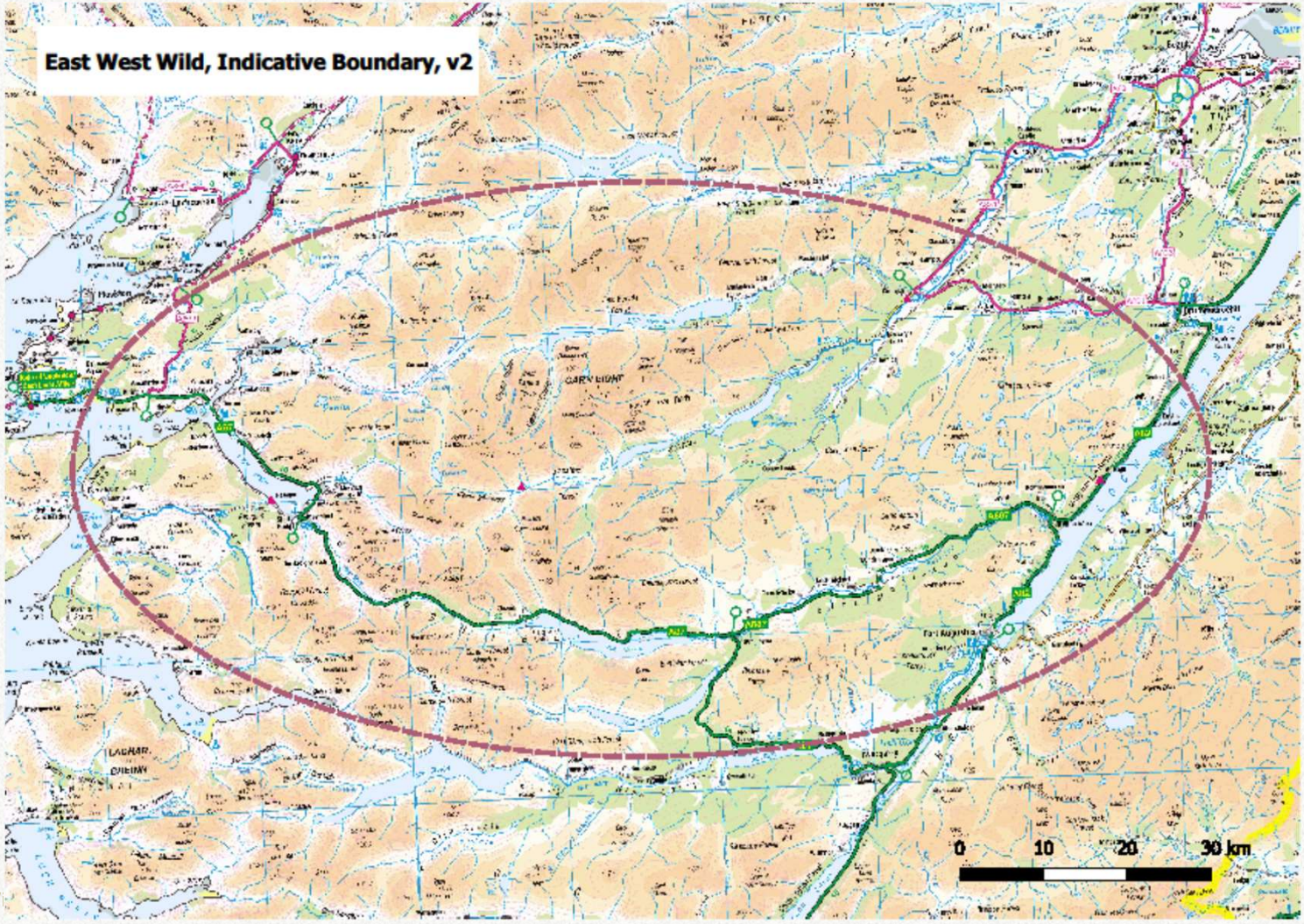
The East-West Wild area

01

GEOGRAPHICAL SCOPE

Area map

For the purpose of this report, Conservation Capital has focused on the indicative boundaries of the East-West Wild ("EWW") area, as defined by Trees for Life. We understand that these boundaries are preliminary and subject to change.



GEOGRAPHICAL OVERVIEW

CONSERVATION CAPITAL

A c. 195,000 ha region, mostly mountainous and spanning across five community councils

Area description

The EWW area is situated in the central Highlands, covering Glen Cannich, Glen Affric, Glen Moriston and Glen Shiel. It comprises c. 195,000 ha of land and water (rivers and lochs), equivalent to about half the size of Cairngorms National Park.

A mostly mountainous and remote region, the EWW area comprises many peaks, with the highest being Carn Eighe (1,183m). In its southern half, the region is crossed by the A87, linking Loch Ness to the Isle of Skye via Dornie.

Main settlements and administrative boundaries

The area as a whole is sparsely inhabited. The largest settlement is Fort Augustus (670 inhabitants), on the southernmost point of Loch Ness.

Part of the Highland council area, the region falls under five different community councils: Strathglass, Glenurquhart, Loch Duich and Kintail, Glenelg and Armsdale, and Fort Augustus and Glenmoriston.

Source: 2011 Population census; Community Councils. Photo credits: Harrison Carter; Undiscovered Scotland

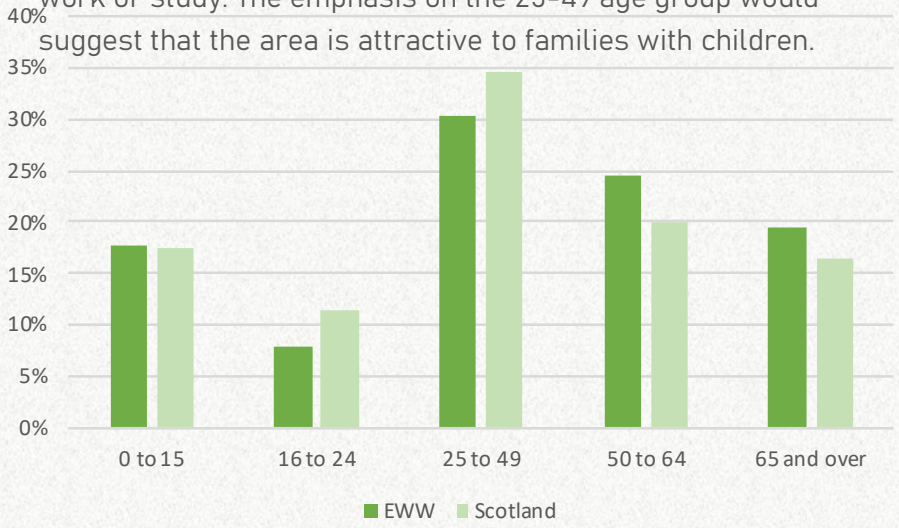
POPULATION DEMOGRAPHICS

CONSERVATION CAPITAL

A growing population of c. 2,300 inhabitants, of which around half live in hamlets

Population distribution

The area has an estimated 2,300 inhabitants, with 45% of the population located in Fort Augustus and Dornie. A similar number live in villages (> 100 inhabitants) and in hamlets. 20% of the local population is 65 years old or more. This is slightly higher than the Scottish average (16%). The proportion of children is in line with the rest of the country, but the share of students and those of working age is lower, potentially indicating that this population group tends to leave the area to work or study. The emphasis on the 25-49 age group would suggest that the area is attractive to families with children.



Percentage of the EWW and Scottish population by age

Source: 2011 Population Census (cf. Methodology section); Community Councils; National Records of Scotland; City Population

Density

Population density throughout the EWW area averages 1 inhabitant/km^2, significantly below the Highland average (9 inhabitants/km^2) and the country average (67).

Household composition

Compared to the Scotland average, EWW has a lower proportion of people living alone (13% vs 16%) and a higher share of one family households with a married couple. Lone parents are less common than in the rest of the country, and the percentage of people aged 65 or above that live alone in the area is in line with the Scottish average.

Population growth

In Fort Augustus (approx. 670 inhabitants) the population has grown by about 0.8% a year between 2001 and 2018, with an acceleration in the last decade. This is slightly faster than the Highland average (+0.6%) and more than twice the country average (+0.3%).

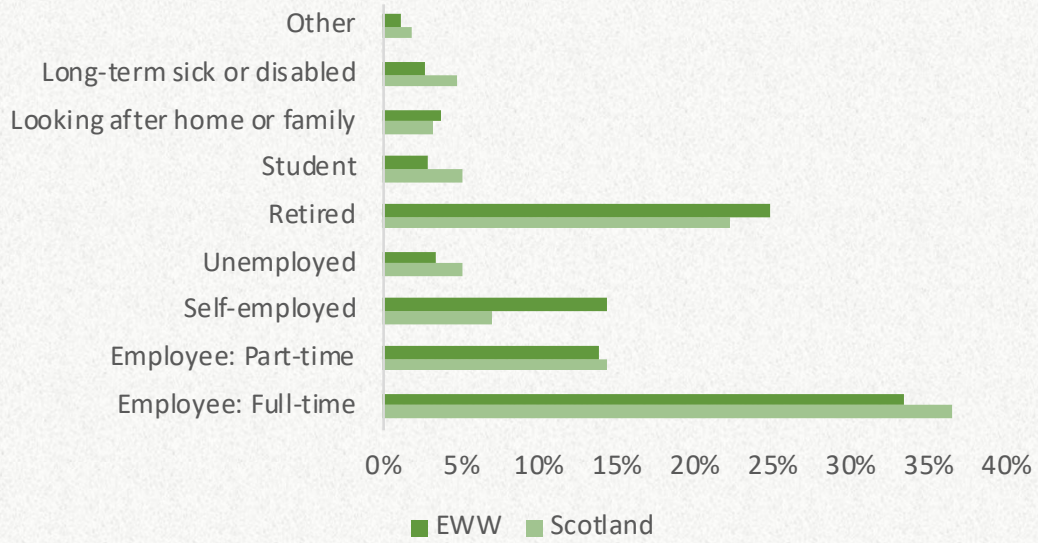
Extrapolating this growth rate to the whole EWW area, we can estimate that every year, the local population increases by c.15 people.

POPULATION DEMOGRAPHICS

More pensioners and independent workers but fewer students than elsewhere in Scotland

Economic activity

An analysis of the 2011 census data shows that the proportion of economically active members of the society is higher in the EWW area compared to the rest of the country. This is despite the fact that pensioners are more represented, and mostly relates to the significantly higher share of self-employed people (twice the country average). The unemployment rate is 35% lower in East-West Wild area than in Scotland as a whole.



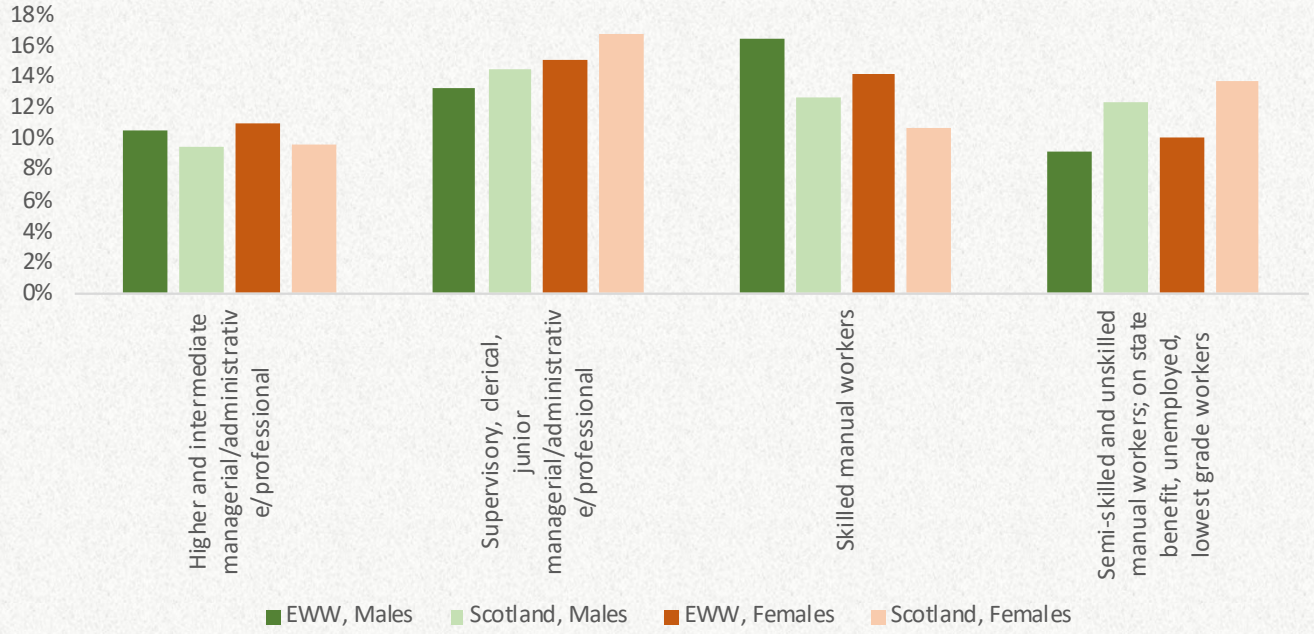
Percentage of the EWW and Scottish population by economic activity

Source: Analysis of 2011 Population Census (see Methodology section)

POPULATION DEMOGRAPHICS

A community more skilled than the country average

Analysing census data shows that the population in the East-West Wild region appears in general to be more skilled than the Scottish average. In particular, the proportion of higher and intermediate managerial professionals and the proportion of skilled manual workers are higher in the area, whilst the percentage of semi-skilled and unskilled workers or unemployed people is lower.



Percentage of the EWW and Scottish population by gender and social grade

In particular, skilled professionals aged between 45 and 64 are overrepresented whilst supervisory, clerical and junior managerial professionals aged between 20 and 34 are underrepresented. There is no significant difference between genders (i.e. the gender gap is the same in the EWW area as in the rest of the country).

Source: Analysis of 2011 Population Census (see Methodology section)

POPULATION DEMOGRAPHICS

Nationality

Around 70% of the EWW population is Scottish, c. 25% comes from the rest of the UK and less than 5% comes from abroad (predominantly EU countries).

Gaelic language

Close to 10% of the population in the EWW area has at least some understanding of Gaelic. This compares with less than 2% of the Scottish population.

Public transport use, car ownership and commuting

Only 9% of households in the EWW region do not own any car or van (vs. 23% for the whole of Scotland). In 55% of households, more than one car or van is owned. For those people who do not work from home (78% of the population, vs 89% for the whole country), the median commuting distance is about 15 km, vs. less than 5 km for the country average, and 63% of them drive a car or are passengers in a car (18% take a bus and 15% walk).

Split of the EWW and Scottish population by commuting distance and main form of transport used

Source: Analysis of 2011 Population Census (see Methodology section)

POPULATION DEMOGRAPHICS

Some initial observations

Significant emphasis should be placed on **creation of economic opportunities for under 25s to remain in the area**, although it is a relatively common pattern for young people to wish to experience new places and larger urban environments regardless of employment opportunities. Available employment opportunities tend to be taken up by older age ranges as appears to be the case presently in the EWW area. Those within the **age range of 25-49 presently form the backbone of the local economy**.

The **EWW area already seems to be an entrepreneurial society** with twice the national average of self employed people and a low level of unemployment. This apparent entrepreneurial outlook serves as a good basis for further economic diversification, although it may also be a result of changes in certain industries where some sectors of the workforce increasingly function as independent contractors.

The high representation of more senior professionals may be due to the fact these people have reached a sufficient level of seniority to be able to work from home, whereas it has been necessary for younger people to move away to gain experience in certain professions. Changes in working practices with a **trend towards remote working** (a trend which has been accelerated hugely by the COVID-19 situation) may change this balance.

On balance, there may not seem to be much need for further employment creation. However, **further analysis into the types of jobs available and the income levels in the area would be valuable** in order to understand the specific needs more thoroughly. It is likely to be the case that a transition towards a nature-based economy may produce some **higher earning jobs** in certain sectors, such as tourism.

A **survey at household level** would be a helpful way to establish this information and to also provide a baseline from which to track the impact of transition towards a nature-based economy

East-West Wild Land Use

02

LAND USE

Historic Land Use

Much has been written on the human history of the Highlands and the resulting impact on land use. In early human history, the EWW area would have been much more heavily forested, however deforestation began as early as the Bronze and Iron Ages as woodland was cleared for fuel and pasture.

Populations and human impacts gradually increased until the 18th century, after which the twin effects of the Highlands Clearances and radical change to the clan system resulted in a trend towards significant depopulation.

A combination of commercial sheep farming, forestry and deer stalking thereafter maintained a relatively similar land use economy. Whilst the land became wilder in character with the loss of many people from the glens, the scope for natural processes to operate at scale remained limited.

Current land Use

The majority of the land (c. two thirds, excluding lochs and rivers) consists of heathland and moorland or rough hill pasture. The rest consists of woodland, with only very small pockets of arable land. As the earlier maps illustrate, since 1930 woodland has expanded significantly in the area, especially south of Glen Affric and between Invermoriston and Invergarry (see maps on next slide).

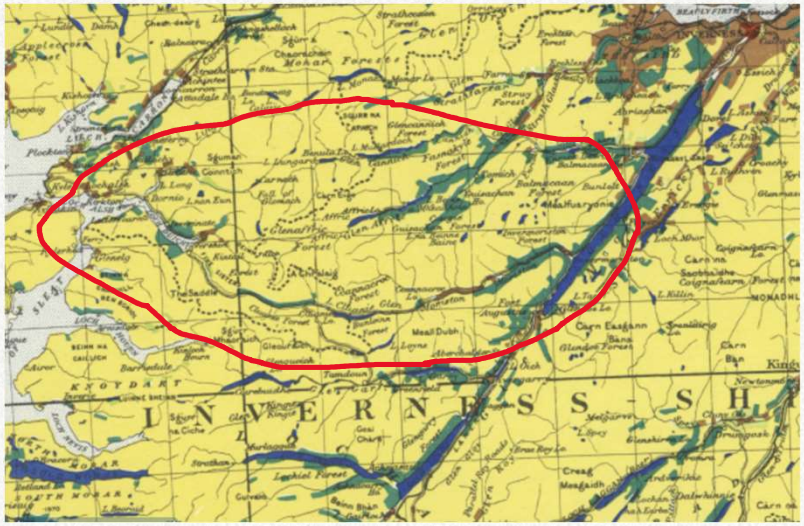
The primary land uses in the EWW area today are forestry, rough grazing, deer stalking, nature conservation (as a primary land use) and some small scale agriculture in the more fertile glens.

What is certain is that today's landscape is not fixed. Profound changes have happened in the past and there is scope to adapt for the future.

LAND USE

CONSERVATION CAPITAL

EWW – Comparison of land use in 2015 (left) and 1930 (right)



Source: National Library of Scotland, 2015

arable land including rotation grass (brown)

heathland and moorland or rough hill pasture (yellow)

forests and woodland (dark green)

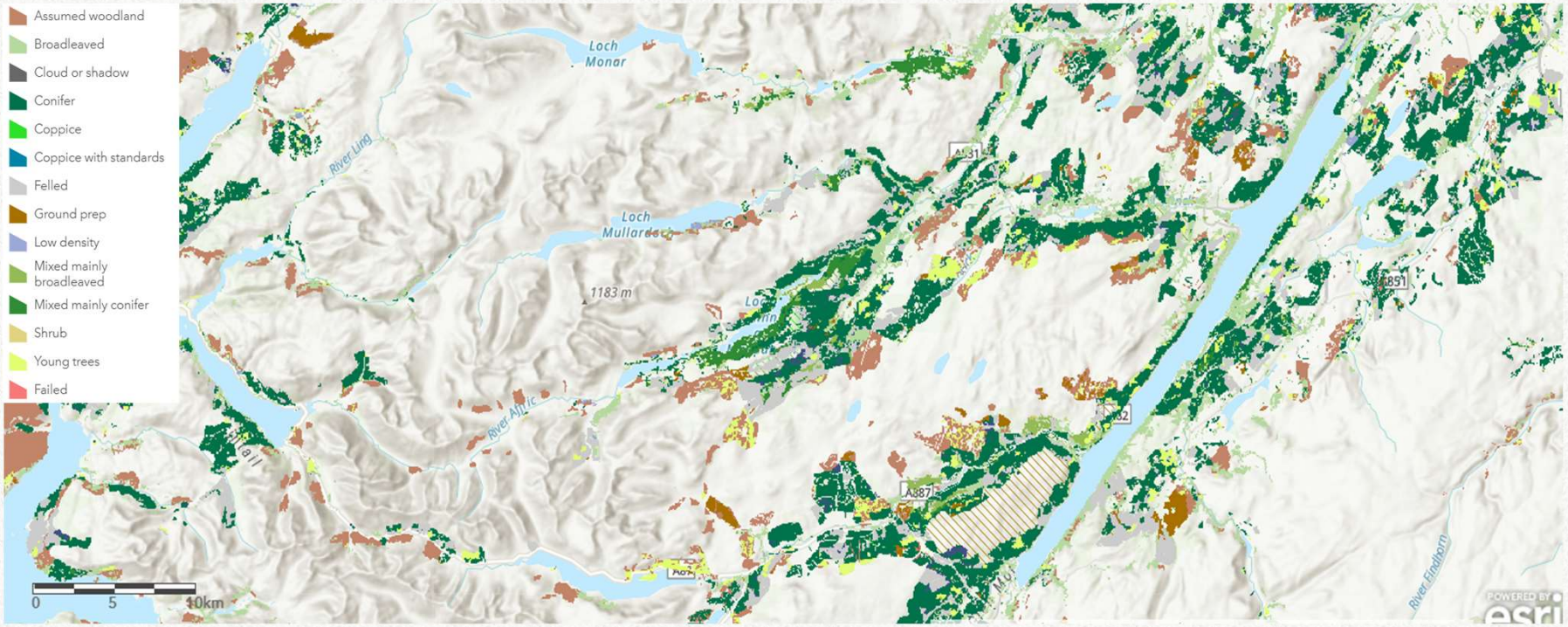
FORESTRY

Conifers are more present than broadleaves, significant amount of native woodland

Woodland in the area consists of primarily conifer plantations, which represent c. 70-80% of the total forested area.

The region has significant areas of native woodland and this represents one of the area's most compelling attributes for a transition to a nature-based economy, where scenery and biodiversity will be central to success.

Forestry and woodlands in the region are managed for a range of objectives (timber, shooting and nature conservation) which enables a range of habitat types, biodiversity and ecosystem services to be maintained.



Source: Forestry Commission Open Data, National Forest Inventory Woodland Scotland 2018

DEER STALKING & FISHING

CONSERVATION CAPITAL

After forestry, field sports is the main land use

Sporting Estates

The majority of private landowners in the area (see Land Ownership section) are sporting estates.

The primary land use activities include deer stalking, salmon fishing and trout fishing. Several estates also benefit from previous investment in micro-hydro energy schemes and tourism accommodation lets outwith the main hunting season.

Photo credits: The Glen Affric Estate - Source: Endole.co.uk, The Glen Affric, Who Owns Scotland

AGRICULTURE & AQUACULTURE

Agriculture and aquaculture are important in the glens and along the coastline

Agriculture

There are a several farms in the EWW area, located mainly in Glenurquhart and Glenmoriston. They are typically cattle farms (e.g. Shewglie Farmers) or mixed farms (e.g. Achlain Estates).

Aquaculture

There are several aquaculture businesses in the area, including a hatchery in Glenmoriston, a salmon farm in Inverinate and a scallop business in Arnisdale.

Photo credits: Visit Scotland / Loch Hourn Scallops

HOSPITALITY AND TOURISM

Tourism structured mainly around self-catering options

Structure of the local tourism offering

Tourism, like sporting estates, has broader knock-on effects in the wider economy, bringing benefits to local food producers, farmers and services providers such as transport operators.

Self-catering represents the core accommodation offering in the area. Most are found at the periphery of the area. Around 300 options are available to the traveller, of which c. 120 are in Fort Augustus, c. 80 around Loch Duich and c. 30 in Cannich/ Glen Affric.

In addition, a small network of small- and medium-sized hotels exists in the area. These tend to be located at the periphery of the region. The potential for widening the geographical scope of economic impact is explored later.

A limited number of camping areas and holiday parks are also present in the area (e.g. Glen Affric Holiday Park in Cannich or Inver Coille Camping in Invermoriston).

The tourism industry has been significantly affected by COVID-19, however it is understood that self-catering properties have experienced a successful summer season in general following the end of lockdown.

Sources: Endole.co.uk; AirBnB; Scottish Canals, VisitScotland

NATURE CONSERVATION

Multiple conservation areas in the EWW region, providing a backdrop for a nature economy

Overview of conservation areas in the EWW region

The East West Wild area includes multiple conservation areas (in shades of green on the map below), with different levels of protection.
These include:

- a National Nature Reserve (IUCN Category II): Glen Affric (14,533 ha)
- five Sites of Special Scientific Interest (IUCN Category IV): Affric – Cannich Hills (17,315 ha), Levishie Wood (180 ha), Glen Tarff (270 ha), Loch Bran (17 ha) and east Ness Forest (471 ha)
- a Nature Reserve (IUCN Category IV): Corrimony (1,711 ha)
- two Sites of Community Importance: the Strathglass Complex (23,592 ha) and Ness Woods (841 ha).
- two National Scenic Areas: Kintail (17,340 ha) and Knoydart (50,696 ha)
- A Special Protection Area: West Inverness-shire Lochs (2,968 ha)

All are managed by Scottish Natural Heritage or Forest and Land Scotland, with the exception of Corrimony (joint management by RSPB and graziers). Some of them (e.g. Knoydart) are only partly included in the boundaries of EWW.

The protected status does place some restrictions on certain forms of land use (where modification of natural habitats are necessary) however conversely they provide an excellent platform for nature-based economic activities such as tourism.

LAND OWNERSHIP

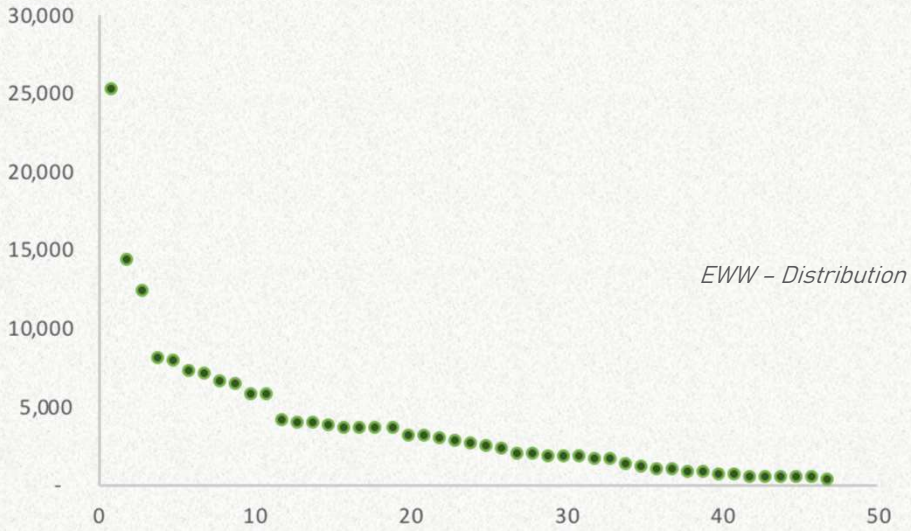
CONSERVATION CAPITAL

The EWW area consists of around 50 estates, with 7 representing half of the land area

The EWW area is divided into around 50 parcels of land belonging to over 40 different owners. See the map overleaf for more details (*we understand that since this map was produced, some boundaries and ownership have recently changed*).

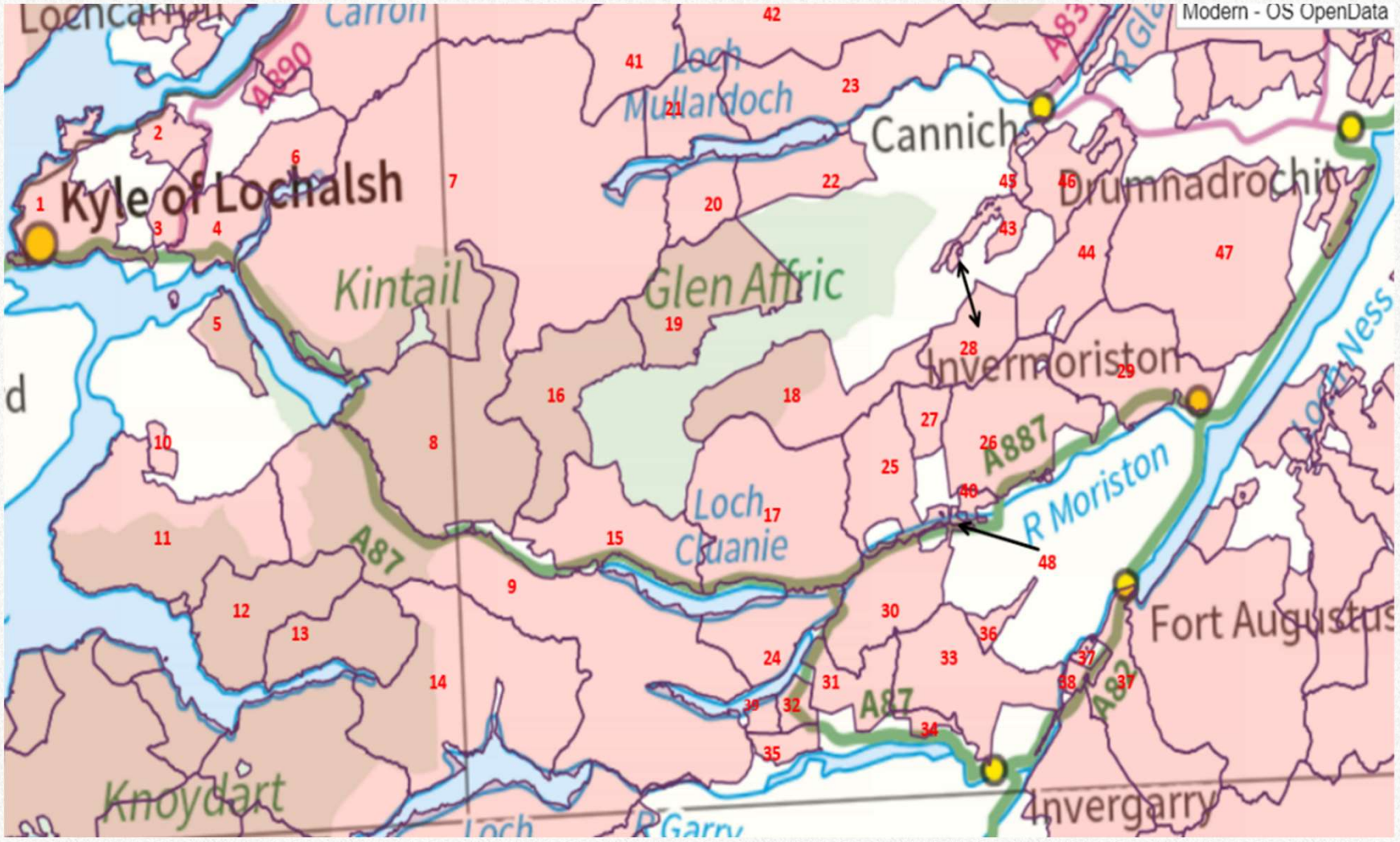
On average, each piece of land spans over 3,500 ha. Three properties are larger than 10,000ha, around 30 are between 1,000ha and 10,000 ha and approximately a further 14 are less than 1,000 ha.

Nature conservation organisations together own 11% of the land area.



EWW – Distribution of land by area (in hectares)

LAND OWNERSHIP MAP



See overleaf for map legend - Source: WhoownsScotland

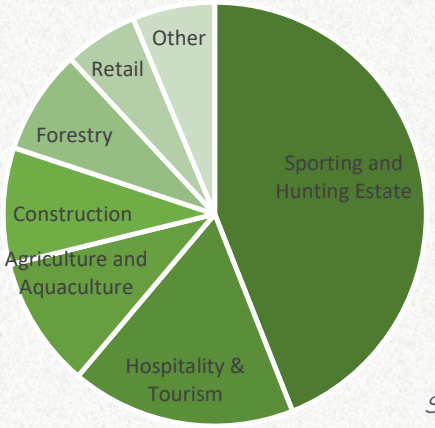
REVENUE GENERATION

Analysis of locally registered companies

Estimated revenue proportions in the EWW area

We have analysed the proportions of revenue generated by businesses which are registered in the EWW area (as distinct from non-local businesses who may also have operations there and income from self-employed people). Sporting estates and tourism are estimated to be the largest sectors, followed by agriculture and aquaculture – although it should be noted that much of the income derived from sporting estates will come from a combination of energy (e.g. hydro schemes) and non-hunting tourism lets.

Estimated sector breakdown of revenue generation in the EWW area



Source: Endole.co.uk

A note on methodology

We have analysed data for all companies registered in the area, on a postcode by postcode basis. This constitutes only a proxy for proportions of revenue generated in the area (rather than overall revenue totals) since many companies might operate in the area whilst being registered elsewhere (especially sporting estates or forestry companies) or vice-versa. This is however the best possible estimate of the overall revenue proportions without resorting to extensive local surveys.

Specifically, for each of the c.100 businesses registered in the area, we have downloaded names, location, sector, industry and financial data (where available) from Endole.co.uk. 70% of the companies disclose (at least partial) financial data. In a typical example where a company publishes a condensed balance sheet but not a profit and loss statement, we have applied assets/sales ratios of the relevant industry to estimate sales of the companies with no data. We recognised that this data will need to be sense-checked directly with specific local businesses as relationships with stakeholders enable us to do this.

RETAIL, CONSUMER AND BUSINESS SERVICES

CONSERVATION CAPITAL

A network of mostly small local businesses, evenly spread throughout the area

There are many other important businesses in the area including the following sectors:

- Bookkeeping activities
- Cleaning services
- Combined office administrative service activities
- Engineering related scientific and technical consulting activities
- Environmental consulting activities
- Freight transport by road
- Landscape service activities
- Letting and operating of own or leased real estate
- Management consultancy activities
- Manufacture of cocoa, and chocolate confectionery
- Manufacture of jewellery and related articles
- Operations of art facilities
- Other amusement and recreation activities
- Other business support service activities Other information service activitie
- Other passenger land transport
- Other personal service activities
- Other professional, scientific and technical activities
- Other research and experimental development on natural sciences and engineering
- Other retail sale in non-specialised stores
- Real estate agencies
- Retail sale in non-specialised stores with food, beverages or tobacco predominating
- Retail sale of automotive fuel in specialised stores
- Retail sale of meat and meat products in specialised stores
- Sale of other motor vehicles
- Sea and coastal passenger water transport
- Take away food shops and mobile food stands
- Technical testing and analysis
- Wholesale of meat and meat products
- Wholesale of textiles

Most of the companies involved are small (turnover <£1mn) and involve c. 150 people throughout the area. They are evenly spread across several settlements: Cannich, Dornie, Auchtertyre, Arnisdale, Glenelg, Glenmoriston and Fort Augustus.

These businesses typically act as the 'gel' in a rural economy and will be integral to a transition to a nature-based economy. They will both support and benefit from land use changes and related economic activity within the larger land units in the area.

With more revenue flowing to these businesses, and an emphasis on synergies and supply relationships between businesses (and revenues being retained locally as a result), there ought to be scope to increase growth considerably including the number of employees.

A nature-based economy in EWW

03

WHAT IS A NATURE-BASED ECONOMY ?

CONSERVATION CAPITAL

Strong integration between economic sectors where natural processes are evolving at scale

The following section attempts to describe the key aspects of a nature-based economy in the East-West Wild context.

A wild core supports and connects the entire area

A series of interconnected areas of intact natural habitat (a "wild core") is home to a wide variety of native and reintroduced species which thrive in a biodiversity rich landscape. Natural regeneration and transition zones are encouraged between land uses. The native ecosystems are protected and reconnected at all scales, enabling integration with other land uses, and avoiding fragmentation of important open ground habitats. Woodland networks play a valuable role in facilitating species movement, developing climate change resilience, and providing green travel routes for recreation, including local public transport. Enhanced hunting experiences and nature tourism attract visitors and spending, creating new businesses and employment opportunities within the wider economy. Diverse, higher value jobs are created in local communities and there is a stronger sense of connection and integration between people and land use across the area.

Complementary land uses

Sporting activities continue to represent a key activity but forestry and tourism are seen by landowners as an integral part of their portfolio. Some of the commercial woodland is incorporated into productive farming businesses. Whilst non-native conifers continue to provide high value timber, emphasis is placed on developing diverse plantations that have a large proportion of native broadleaves and native pinewoods, managed under a low-impact silvicultural approach and generating a new source of revenue for landowners, local processors and retaining profits locally where possible. Rivers and streams will be flanked by riparian buffers to provide wildlife corridors and shade, ensuring optimum habitat for fish. Carbon is stored in peatland, woodlands. Forest products are highly valued and create meaningful additional revenue streams for landowners and low-carbon, affordable materials for local house building and construction.

A VISION FOR A NATURE-BASED TOURISM

CONSERVATION CAPITAL

Imagining future nature-based tourism opportunities in the EWW area

In a landscape where natural processes are evolving at scale, increased wildlife and stunning natural scenery are the main assets for a thriving tourism industry in the area and a new brand inspired by a 'wildling/nature surge' storyline.

Visit Scotland estimated in its 2018 visitor surveys that the Highlands & Islands region attracted 2.5 million visitors (17% of all visits to Scotland), with spending over £762 million. 21% of visitors were from overseas, 35% from the rest of the UK and 44% from Scotland.

In Fort Augustus, there are an estimated 300,000 visitors each year, although we suspect that many of them do not stay overnight.

The tourism proportion of existing revenue illustrated in the graph on slide 23 would in reality have been significantly higher because much of the revenue from sporting estates will also include tourism lets in cottages and lodges outwith the main hunting seasons. As such, this is a key sector to further develop in future.

The tourism sector has been significantly affected by COVID-19, in particular the hotel and guesthouse sector. Conversely, self-catering properties appear to have enjoyed a very busy period following the end of lockdown.

The future is difficult to predict, however global tourism strategy experts consulted informally for the purpose of this report believe that one of the strongest sectors 'post COVID' will be nature tourism, as people will increasingly seek fresh air and space. The domestic tourism market will also remain strong as with changes in global aviation, prices for longer haul travel will increase and many of the low-cost carriers will have different business models in future.

A VISION FOR A NATURE-BASED TOURISM

Imagining future nature-based tourism opportunities in the EWW area

At the core of this, there could be a locally owned East-West Wild destination management company. Outdoor guiding companies would thrive as the volume of tourists increases (managed carefully through zoning plans – developed with landowners - to avoid overcrowding in key sites such as Glen Affric).

A focus on value vs. volume will benefit existing local tourism operators, for example through high quality 'ecolodge' accommodations for tourists (see images), built from local timber products and associated quality local guiding and food experiences. This will allow for further opportunities for creative new businesses and local employment.

Redirecting some of the traffic away from the main axis (A82/A87), Cannich could become the gateway to the area for outdoor activities. Although inevitably at a smaller scale, it could draw inspiration from some aspects of Aviemore's success (the gateway to Cairngorms NP), Banff (Canada) or Chamonix (France). Similarly, the existing destination infrastructure of Fort Augustus or Dornie can be leveraged to increase and diversify opportunities for businesses.

A VISION FOR A NATURE-BASED TOURISM

CONSERVATION CAPITAL

Imagining future nature-based tourism opportunities in the EWW area

In addition to wildlife tourism, educational travel opportunities could be developed, leveraging the successful Sheiling Project and the planned Dundreggan Rewilding Centre and a wide range of other habitat restoration activities. In particular, education programs (for schools, researchers, universities and local community groups) and skills building workshops (e.g. rewilding, reforestation, photography, artist retreats) could prove to be very relevant and impactful. Local community meetings, conferences and corporate retreats complement the offer (in particular outside of the peak season), ensuring a flow of visitors throughout the year.

Creative, often off-grid, accomodations accessible on cycling and hiking routes can complement the existing accommodation offering previously focused on the periphery of the area. In particular, cabins and huts linked by walking and cycling trails could be built, leveraging the current planning policies aimed at facilitating such buildings in rural areas. The sustainable wooden building techniques used could provided revenue for local construction businesses and leverage the area's natural assets.

TOURISM IN SCOTLAND AND THE HIGHLANDS

CONSERVATION CAPITAL

East West Wild can build on the existing tourism offering in Scotland and the Highlands

Building on the existing tourism interest

A key element for the EWW project is to facilitate better integration with the existing tourism attractions focused around Skye and Loch Ness. Creating a strong brand around EWW, with high quality nature-based, adventure and educational tourism opportunities will aim to attract many more to the area to stay and experience it.

Nature- based tourism

Scottish Natural Heritage has estimated the direct economic impact of nature-based tourism to the Scottish economy at £1.4 billion per year with 39,000 jobs (full-time equivalent) reliant on Scotland's nature-based tourism sector. SNH states that tourist spending on nature-based activities is worth nearly 40% of all tourism spending in Scotland.

Visit Scotland estimates that in 2017, there were 1.2 million trips made to or within Scotland for the primary purpose of viewing wildlife. 56% of these trips were made by domestic (UK) tourists. £364 million was spent on these trips, with 75% spent by domestic tourists.

The profile of wildlife visitors to Scotland consists primarily of middle-aged, 'empty-nest', professional, retired and middle-class couples who enjoy experiences in nature and are looking for new interests to follow. Within this context, nature-based tourism plays an important role in attracting visitors to Scotland. For example, VisitScotland's 2016 Visitor Experience Survey showed that Scotland's scenery is the top reason for choosing Scotland as a holiday destination.

The scenery and beautiful landscape (50%) is the principal highlight of the visitors' holiday in Scotland, followed by history & culture (33%) and return visitors (24%).

As noted earlier, in the recovery from COVID it is anticipated that nature and wildlife/adventure tourism will be one of the strongest sectors globally.

Source: Scottish Natural Heritage, VisitScotland, *Adventure Tourism in Scotland* (Highland and Islands Enterprise, 2015), ABTA, Avi Tourism

TOURISM IN SCOTLAND AND THE HIGHLANDS

New and expanded forms of tourism

Adventure tourism

More than one third (35%) of Adventure Tourism businesses in Scotland are based within the Highland Council area and more than two thirds (68%) of Adventure Tourism businesses expected to expand their turnover over the next three years (although this is presently severely affected by COVID-19). Over half of the businesses (57%) are planning to increase employment. Tourism Intelligence Scotland states that walking is by far the most popular activity, with nearly 1.8 million trips. The second most popular activity is wildlife-watching with well over a million trips, followed by adventure sports and mountain biking.

Outdoor guiding companies would thrive as the volume of tourists increases (managed carefully to avoid overcrowding in key sites such as Glen Affric). A focus on value vs. volume will benefit existing local tourism operators and will allow for further opportunities for creative new businesses, including a network of imaginative off-grid accommodations to enable enhanced access to some of the wilder regions in a low-impact manner.

Educational / learning tourism market opportunity

Educational tourism is becoming an increasingly important market, with over 200 specialist tour operators globally (over 40 in the UK alone). This can include school trips, expert led trips or attending workshops as part of a wider tourism proposition.

Learning holidays are increasingly popular, whether that is painting, photography, birdwatching or arts and culture. Small trips with a maximum 25 people and expert—led tours are increasingly popular.

A VISION FOR A NATURE-BASED TOURISM

Imagining future tourism opportunities in the EWW area

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Benefits from tourism

There is a real opportunity for EWW to increase the value of tourism to the area by attracting new markets, encouraging them to stay longer and ensuring that a larger percentage of tourist spend is retained in the local area through use of local accommodations and purchase of local products. Scotland is already a key destination for nature-based, adventure and educational tourism and the project has the opportunity to make EWW a core destination to visit for any of these purposes.

A core consideration to the project should be to ensure that this tourism is developed in an environmentally and socially sustainable manner, which minimises the carbon footprint, develops key infrastructure and builds on local collaboration.

EWW Destination Management Company

At the core of the EWW tourism proposition, there could be a locally owned East-West Wild destination management company which promotes the area and facilitates collaboration between local businesses. The company would be a key information source for tourists / companies / schools looking to arrange a trip to area, with information on activities, accommodations and sites to visit.

The company could work with local businesses to create partnerships and either partner with local tourism agencies or themselves organise trips to the area. Partners would all have a commitment to promoting conservation within EWW and the destination management company would strongly promote their offerings.

An additional focus of the company will be to consider the infrastructure development required to facilitate environmentally and socially sustainable tourism. The exact structure and management of this company could be detailed in a separate, focused business planning exercise in due course.

SUGGESTED ACTION PLAN FOR TOURISM

We suggest below a high-level action plan to help test if East West Wild destination management company is of interest to landowners and to the market. It should be noted that progress should only pass from phase 2 onwards if the high-level business plan indicates positive outcome for landowners and the EWW initiative.

1. Community Engagement	✓ Consultation of local tourism and food production businesses and assess interest ✓ Consultation with tourism operators offering trips to nearby areas to assess opportunity to increase trips to the area and barriers to current existence of trips
2. Planning and Coordination	✓ Identification of businesses interested in collaboration efforts ✓ Identification of EWW's role in the development of tourism activities ✓ High-level business plan for tourism opportunity
3. Structuring	✓ Dialogue with local businesses, tourism operators (both local and bringing business to the area) ✓ Strong involvement of community council ✓ Engagement with other relevant stakeholders (VisitScotland, Forestry Commission Scotland, Scottish Enterprise,…)
4. Branding and Marketing	✓ Establishment of a detailed vision for the tourism offering ✓ Development of a marketing plan which links to the overall branding for the initiative ✓ Possible creation of community company for the destination management entity
5. Institutional structuring	✓ Implementation of management structure for the EWW destination management company ✓ Fundraising for up front costs
6. Execution	✓ Implementation of the business plan ✓ Establishment of benefit-sharing mechanisms for the relevant landowners and EWW initiative

A VISION FOR SPORTING ESTATES

A transition to higher value sporting experiences based on lower deer numbers

As noted earlier, sporting estates make a valuable contribution to the local economy in the EWW area. They are also a key part of the cultural and social fabric of the area, with many jobs having been in certain families for generations.

However, it is now widely understood that there is increased pressure for sporting estate owners to make changes in line with national UK government policies on climate change mitigation (which are largely focused on woodland creation and peatland restoration) and a Scottish government emphasis on ownership of large areas of land being shown to be in the public interest in both ecological and economic returns.

There is no question in the mind of the authors of this report that sporting estates are, and will remain, a valued part of the EWW area. The question is whether there can be a positive transition towards a model which enables nature and biodiversity to adapt and which serves to increase rather than decrease the economic value of deer as a result of higher value hunting experiences and wild meat processing businesses.

A new economic model?

It is understood that many sporting estate owners are not primarily motivated by finance, rather simply the opportunity to be custodians of natural land in the Highlands and enjoy sport with family, friends and professional contacts.

If there is a motivation in financial terms for owners, it lies primarily in achieving an increase in underlying capital value. General trends in land prices in Scotland (evidenced by interviews with land agents) have indicated a steady and significant rise in land values in sporting estates over the past decade. Despite the current uncertainty, this is likely to continue in in the medium and long term future.

What is also changing however are the interests and motivation of potential new owners, with a clear trend towards emphasis on wider biodiversity, woodland and less emphasis on the sporting context. One land agent commented confidentially that in his view, at least two thirds of potential buyers nowadays are not primarily interested in the sporting potential, but are rather motivated in playing a significant part in a habitat recovery process and spending time with their friends and family in nature.

A VISION FOR SPORTING ESTATES

An investment in the political and natural capital of land

Many investors are also actively seeking to benefit from climate change related funding opportunities (see carbon credits section later). A comment from one land agent who was interviewed was that there is understood within the industry to have been a 90% increase in enquiries for Highland estates over the past 12 months (prior to the outbreak of coronavirus). This is understood to have been primarily fuelled by the significant increase in climate change awareness and finance opportunities in recent times.

Achieving transition

A clear rationale for owners whose priority is capital preservation rather an annual financial return is to instead consider a transition to a more nature/biodiversity based approach as a means to ensure their longer term political and social viability in the local and national context in Scotland.

Many of the deer management plans in the area contemplate the way in which such a change process can be achieved in a concerted way, whereby deer reduction on one estate does not impact significantly on neighbours. The EWW leadership team is interested to work with estate owners to consider new technologies which may support the modelling for such a change process.

A higher value sporting model

Examples from around the world suggests that there is opportunity for a higher financial value sporting experience, targeting a premium market, and justified and enhanced by the fact the experience will take place in an important nature conservation area.

Whilst the overseas models summarised in the following pages could provide some insight, more compelling perhaps are examples closer to home. Letterewe in the West Highlands (see case study later in this report) and Wild Land are offering stalking experiences on land which is transitioning towards greater biodiversity (in particular Wild Land). The experience is characterised by characterful accommodation (sometimes luxurious but sometimes also simple – but always charming) where traditional ponies are used rather than ATVs, and there is an even stronger emphasis on the knowledge and skill of the stalker.

A VISION FOR SPORTING ESTATES

A higher value hunting model

Review of pricing models suggests that these estates are able to charge much higher fees per stag as part of creative accommodation/guiding and hunting packages. A move towards this approach (recognising that some EWW owners are already moving in this direction) would provide the basis for an enhanced emphasis on guiding/hunting skills and consequently opportunities to increase earnings for stalkers (and indeed all employees involved in providing the stalking experience) and create opportunities for more young people to enter the hunting sector.

Hunting in Scotland is revered around the world, yet the prices paid by clients seem to be comparatively low when compared to experiences in certain other countries. Direct comparisons are admittedly difficult as the experience and trophy species are different, but there is a general consensus that for the hunting sector to be sustained (not just in Scotland, but globally in the wake of the 'Cecil the Lion' saga) there must be a move towards more responsible, ecologically sustainable models which provide the anti-hunting lobby with less ammunition with which to target the industry.

Community hunting models

Whilst stags can be profitable, hind stalking is always more challenging in economic terms given the more severe weather, the need for precision and skill (not necessarily the case with some paying clients) to achieve cull targets and generally the fact that market appetite for stalking in the depths of winter holds less appeal for some.

With creative promotion, there probably is a greater market for paying clients – attracted by the challenge inherent in the experience (why not come and hunt in the Highlands in winter for wild meat rather than do an Iron Man or ultra marathon event etc.). However, perhaps a more politically and economically creative model is to consider alliances between sporting estate owners and hunting clubs and associations (ideally in the local community or at least in the Highland area) for low cost hunting experiences during the hind season.

There will inevitably be practical and logistical challenges, but perhaps there could be models developed where the stalkers set the cull targets, assess the skills/experience of club members and there is a collective effort to achieve cull targets. Grant funding might be raised to upskill community stalkers.

A VISION FOR SPORTING ESTATES

Additional opportunities arising from hunting

Wild meat business

The hunting sector also forms the basis for a more sustainable wild meat business in the region. Examples such as 'Forest to Fork' featured in a case study later, and the East Glen Quoich estate (which is freeze packing its own venison and selling directly to local tourism and retail outlets) provide an illustration of **integrated deer management and wild meat sales models**. These could be further integrated with local farming models perhaps and enhanced abattoir facilities in the area.

One wholesale meat business (The Quiet Meat Company, based in Tomich) has recently been set up in the area. There is also a meat retailer based in Fort Augustus. What is missing in our view is an organised supply of venison and other wild meat.

Opportunities in that field are numerous and could relatively easily be implemented, given the existence of a supply chain, the limited capital requirements (most estates already posses much of the equipment necessary) and the ever-increasing demand for wild or free range meat products.

HUNTING EXAMPLES FROM OVERSEAS

CONSERVATION CAPITAL

Conservation and hunting working collaboratively

We have analysed several models from elsewhere in the world. These provide insight into integrated conservation and hunting models (resulting in political, social and ecological viability). As noted earlier, direct comparisons with the EWW context on pricing and economic return are more challenging. These examples illustrate the potential for premium hunting experiences, grounded in strong nature conservation models, to succeed. Similarly, examples such as the one from Norway below highlight the possibilities for integrated hunting and habitat improvement.

Norway

In Norway, the hunting experience is generally focused on reindeer, moose, red deer and roe deer. The Norwegian government permits hunting of all these species and hunting is seen as a critical part of species and habitat management, because the numbers of moose and red deer especially have increased so significantly that there is significant grazing pressure and negative effects on the economic interest of landowners (e.g. forest owners). Each municipality is responsible for maintaining viable populations of deer, but must manage these populations to ensure there is not significant loss to biodiversity or negative impact on the economic interest of landowners.

Landowners have the sole hunting or trapping rights on their land. Private landowners can let their hunting rights to paying guests, either national or international, and typically this is arranged through a landowner association or local hunting and fishing society. On public land, the sale of permits is organised through the Norwegian Environment Agency. Hunting remains a key part of the local tradition and although some permits are sold, a significant part of the hunting is completed by local people.

Studies in Norway have found that reduced density of moose and other deer species can have a positive impact on hunter satisfaction, through increasing the size of the trophies. The management of the deer numbers also reduces forest damage, deer-vehicle collisions, disease as well as positive benefits for other species and habitats.

In Norway, there is also a significant market for the wild meat that is harvested, with that being the principal reason for many local people to participate. For deer management, this is important as it ensures that deer without antlers are hunted as well as the larger bull trophies.

Source: Archnetwork, FACE, Norwegian Government, Alaskan Government

HUNTING EXAMPLES

United States of America

Hunting in the United States is seen as part of the outdoor tradition and the national heritage. It is viewed as a key element of the North American Model of Wildlife Conservation. Wildlife is considered a national resource and hence hunting, whether on public or private land, requires a state license and there are strict hunting seasons, bag limits and license requirements. The revenue from licenses, federal duck stamps, excise taxes on hunting equipment and ammunition are directed to the state wildlife agencies and enable the purchase and conservation of millions of acres for wildlife across the US. The exact system for hunting differs by state, but everyone who hunts must have a state license and in addition, when hunting on national refuges there is typically an additional permit and / or user fee.

National Elk Refuge

In 1912, the National Elk Refuge was established by Congress to provide and manage lands for wintering elk, birds and other big game animals and is located at the heart of the 22 million acre Greater Yellowstone Ecosystem. Hunting is a key element of the management of the refuge to contribute to sustainable and healthy populations of Elk and Bison as well as to habitat conservation.

Private Estates / Ranches

Across the US, there are many private estates that generate from revenue from hunting, fishing and tourism activities. Many of these identify hunting as a required element of the habitat management of the ranches and also contribute to foundations (e.g. the Wild Sheep Foundation, Ducks Unlimited) who consider the landscape level management of the populations of species and habitat conservation.

Source: US Fish and Wildlife Service

HUNTING EXAMPLES

USA continued:

Rocky Mountain Elk Foundation

The Rocky Mountain Elk Foundation is an NGO with the mission to "ensure the future of the elk, other wildlife, their habitat and our hunting heritage". Operating since 1984, the foundation has protected and enhanced 7.1 million acres of Elk habitat, through collaboration with private and public land owners. The foundation has a tiered membership scheme which many private ranches contribute to and work with to manage Elk populations effectively to achieve the four elements of their mission.

Across the US, there are many other foundations that have also established themselves to support and advocate for specific species conservation and hunting.

Wild Harvest Initiative

The Wild Harvest Initiative was established in 2015 to "evaluate the combined economic, conservation, and social benefits of recreational wild animal harvests in modern American and Canadian societies." The idea is to increase understanding of the importance of hunting for wildlife and habitat conservation and the interaction between hunting, fishing and nature and people. The aim of the project is to advocate for better cooperation between the different groups, including hunters, anglers, governments NGOs and green-living advocates.

Source: US Fish and Wildlife Service, Rocky Mountain Elk Foundation, Wild Harvest Initiative, Conservation Visions

HUNTING EXAMPLES

Tajikistan

A case study was produced by the Association of Nature Conservation Organisations of Tajikistan and the IUCN Specialist Group for Sustainable use and Livelihoods for CITES in 2019 looking at the community based hunting of Ibex and Markhor in Tajikistan. The case study found that the hunting and trade of trophies of Ibex and Markhor has led to the recovery of the population, reduced poaching and illegal trade and had habitat and conservation benefits, whilst also funding the collection of better data on population dynamics. These successes have been seen through community conservancies with benefit sharing schemes and tangible benefits being derived by the local communities through conservation. If properly managed, there are key benefits for conservation and local communities that can be derived from hunting.

Mexico

A similar case study was produced by the IUCN Specialist Group for Sustainable use and Livelihoods for CITES in 2019 looking at Big Horn Sheep hunting in Mexico. The study found that similar to other areas in North America, in Canada and the USA, that trophy hunting programmes have contributed to the re-establishment and recovery of bighorn populations. "*These recoveries of Bighorn Sheep populations have been driven by the benefits that local landowners and communities can gain from re-establishing wildlife habitat and wildlife populations on their land, via trophy hunting. These benefits have provided incentives for landowners to restore habitat and reintroduce or restore bighorn populations to provide a source of income. Before these hunting programmes were initiated, in general local ejidos and Seri communities did not value, manage or protect wild sheep, and depended largely on goats, which were damaging to habitat and competed with big horn populations.*"

Source: CITES

A VISION FOR PAYMENT FOR ECOSYSTEM SERVICES

An opportunity for integrated Payments for Ecosystem Services schemes across the landscape

As noted earlier, the **new opportunities relating to finance for ecosystem services provide compelling opportunities** to increase their ecological, political and financial capital. Many of these initiatives (if not all) will benefit from – and be enhanced at all levels including financial return – by a **collective approach**.

Carbon related opportunities are considered in detail on the following slides, followed by some suggestions for other less conventional PES schemes which might also be developed.

CARBON CREDIT POTENTIAL

Carbon credits are a potential mechanism to help make habitat restoration financially viable for landowners

In this section, we explore the opportunity and some of the issues arising, including:

- How carbon credits relate to efforts to reduce carbon emissions and mitigate climate change;
- The two different carbon markets;
- The attributes of a project to qualify for carbon credits;
- The price for carbon sequestration and the opportunity for generating a premium priced credit;
- The potential for East West Wild carbon credits;
- The steps to establish a carbon credit project;
- The potential for woodland and peatland carbon credits ;
- A suggested action plan for testing and implementing a EWW carbon credit scheme.

Source: Gilfillan et al. (2019), UNFCCC (2019), BP (2019), Earth System Research

CLIMATE CHANGE MITIGATION

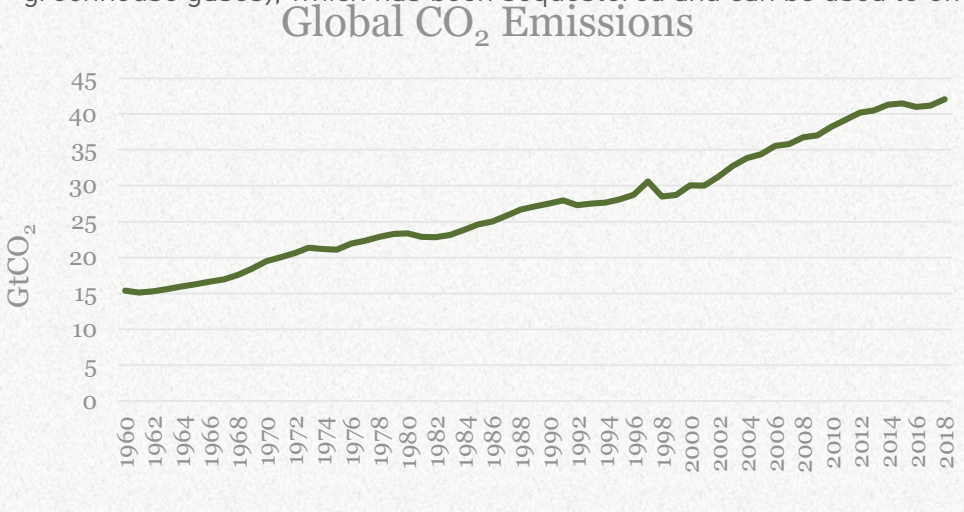
CONSERVATION CAPITAL

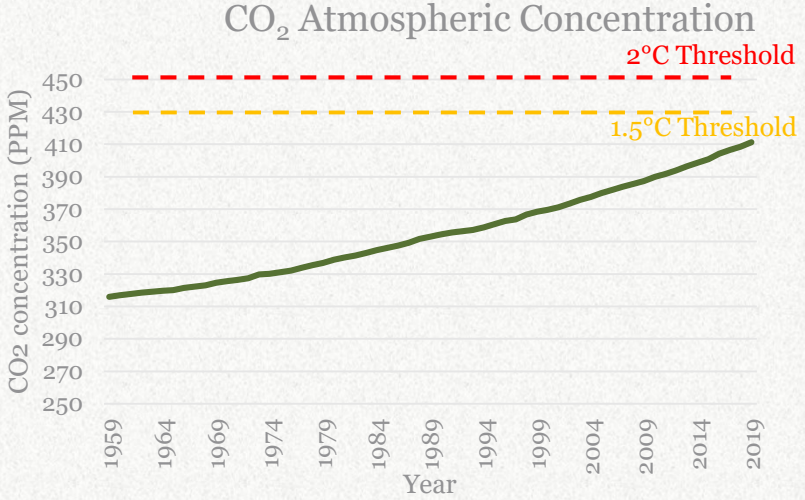
Carbon credits are a mechanism for land owners to generate revenue and mitigate climate change

Carbon emissions and carbon credits

Currently, the global anthropogenic CO_2 emissions are c. 42 Gt of CO_2 per year with the majority of these from electricity and heat production, transport and industrial production. The increase in carbon emissions is predicted to cause a significant increase in temperature, which will cause devasting effects, including reduced food security, water scarcity, disease issues, loss of ecosystems and biodiversity. As the global population has become increasingly aware of the risks, there is a focus on reducing the atmospheric concentration of carbon, by reducing emissions, preserving carbon storage and increasing carbon sequestration. Although there are attempts to follow the mitigation hierarchy and avoid and minimise CO_2 emissions, there remain significant, and increasing emissions every year result in the need for offsetting the carbon emissions and related opportunities for landowners in natural areas around the world and within this, for EWW landowners.

Carbon credits are the recognised units for purchasing 1 tonne of carbon dioxide equivalents (thereby taking into account other greenhouse gases), which has been sequestered and can be used to offset the emission of 1 tonne of carbon dioxide equivalents.





Source: Gilfillan et al. (2019), UNFCCC (2019), BP (2019), Earth System Research

CARBON MARKETS AND PROJECT ATTRIBUTES

Carbon markets

There are two components of the carbon market: the compliance market and the voluntary market. The compliance market applies primarily to national governments and larger companies. It operates with certified credits, responds to formal legislation setting carbon limits and is regulated by mandatory carbon reduction schemes. This is a commodity style market which typically favours the lowest price and with limited product differentiation.

The voluntary market allows companies and individuals to offset their carbon emissions on a voluntary basis. It operates with verified credits and the standards are set by a number of voluntary standard bodies. There is large price differentiation within this market and buyers may look for additional attributes to the credits beyond carbon sequestration e.g. biodiversity and community benefits (which tend to result in a premium on the price achieved).

For EWW, the voluntary market is the relevant market for creation of carbon credits.

Attributes of the project

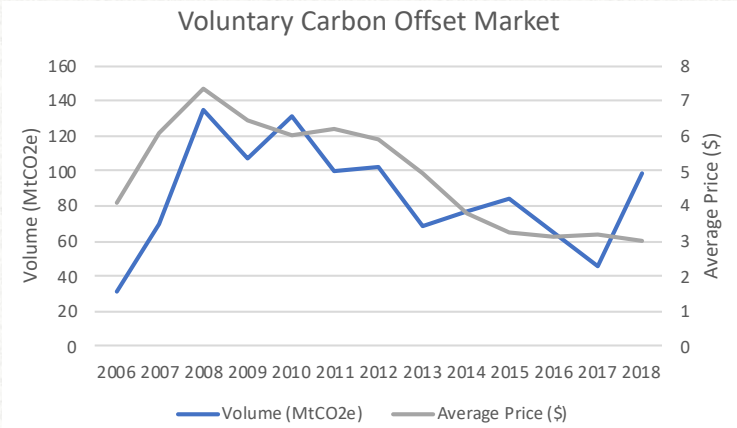
For a project to qualify for carbon credits within the voluntary market, the project must fulfil the following principles:

- **Permanence:** The reduction must last in perpetuity
- **Additionality**: The reduction would not have occurred during business as usual
- **Verification:** The reduction must have been monitored and confirmed to have occurred
- **Enforceable:** The reduction must be counted only once and then retired
- **Real:** The reduction must have actually occurred and not as a result of flawed accounting

CARBON CREDITS PRICE

Carbon Price

The voluntary carbon market has seen significant volatility in price and volume of carbon credits overtime and the average price for a carbon credit on average is relatively low, dropping to c.$3 / tonne in 2018.



However, anecdotally from conversations with operators in the market, there is a significant lack of supply of European nature based carbon credits currently within the market. As a result, many high quality projects are selling their credits significantly above the average price indicated (in excess of $30 per tonne in some cases in 2019) and ending up forward selling all of their carbon credits as soon as they are marketed.

As a result, some carbon credit project developers are considering waiving the typical high upfront verification costs in order to increase the supply to the market and instead taking a higher percentage of the carbon credit cost sold.

Opportunity for a premium price

Within EWW, we believe there is an opportunity to sell carbon credits significantly higher than average prices. As buyers increase their understanding, they are aware that there is significant differentiation among carbon credits. Anecdotally, from conversations with corporates, there appears to be a willingness to pay a premium for credits that are produced in their country of operation and which have significant additional environmental and social benefits.

We believe that East West Wild credits could be created under a branded EWW entity and this could be an opportunity to find interested buyers who recognise the additional value of the wider conservation vision of EWW, and would be more interested to purchase credits from a conservation initiative rather than individually paying private landowners to undertake carbon sequestration.

It is likely that the Covid-19 pandemic will result in a reduction in the demand for carbon credits, however, environmental factors will be key in the stimulus efforts offered by governments and therefore carbon prices will hopefully rebound quicker than after the 2008 recession.

Source: Forest Trends. Note: 1 tonne of carbon = 3.67 tonnes of CO_2

CARBON CREDITS IN EAST WEST WILD

Native Woodland and Peatland Restoration

In the EWW area, there are two principle mechanisms that could result in carbon credit generation for land owners: afforestation with native woodland and restoration of degraded peatlands.

Currently in developed countries, it is difficult to generate carbon credits for avoided damage, e.g. obtaining carbon credits for not clearing forest or not mining peatlands. This remains possible in developing countries, e.g. through the REDD+ program (Reducing Deforestation and / or Degradation of forests). Therefore, in order to prove 'additionality' in the EWW area, the project would need to show afforestation or restoration of degraded peatlands and increase the natural value with the evidence of additional biodiversity benefits.

Choice of standard

Within the voluntary market, there are a number of standards (Gold Standard, Voluntary Carbon Standard etc.) as well as the UK specific standards, the UK Woodland Carbon Code and the UK Peatland Code.

The UK standards could be used for the East West Wild project to generate carbon credits as they are well recognised in the UK market and would leverage the knowledge built up by Trees for Life after successfully developing and selling carbon credits under this scheme in 2019. However, the choice of standard should be taken following discussions with potential buyers as if these are mainly located in the European market, it may be worth choosing a broader standard such as VCS.

Market positioning

As interest and understanding of carbon credits increase, there is in turn increased scrutiny and interest in the carbon credits that are being purchased. Conversations with corporates have identified that they will be interested in purchasing high quality credits, where the tangible benefits can easily be identified and communicated and there is trust that the credits purchased are meaningfully contributing to carbon sequestration (and biodiversity conservation where relevant). Leveraging the conservation vision of EWW and the track record of Trees for Life could be key to the market positioning of the credit scheme.

ESTABLISHING A CARBON CREDIT PROGRAM

Setting up carbon credit project

In order to start selling carbon credits, the project must follow these general steps (which may differ slightly depending on the standard chosen):

- Identify which activities will be undertaken to sequester carbon (and generate biodiversity benefits);
- Estimate the scale of the project, select the relevant standard to ensure consistency - and establish a monitoring system: e.g. tonnes of carbon to be sequestered per year, area of hectares afforested / peatland restored, biodiversity benefits;
- Locate buyers for the carbon credits;
- Register it with the relevant standard and have it validated by a certified verification entity;
- Verify the project periodically to check that it continues to comply with the standard.

Economies of Scale

The process identified above can seem a significant undertaking for an individual landowner who is only potentially afforesting or restoring a few hectares. Therefore, **there is a real opportunity under EWW to aggregate projects** to streamline the process, to carry out shared marketing, and allow afforestation and restoration of peatlands on a larger scale and reduce the barriers to entry for land owners.

Project Developers

There is an opportunity to work with project developers who can manage the overall process of developing the carbon credits, from carrying out a feasibility study, determining which voluntary standard would be most relevant, to registering it with a relevant standard and locating the buyers. However, for this service the project developers will likely require an upfront fee for the feasibility assessment and / or a commission on any credits sold. Therefore, East West Wild, if there was sufficient interest from landowners, could instead choose to take on a project development role and help to aggregate land owners under a new East West Wild carbon credit scheme.

NATIVE WOODLAND CARBON CREDITS

CONSERVATION CAPITAL

Woodland carbon could generate significant profits

Native woodland as a source of carbon credits

Woodland carbon credits can be a signicant revenue generator. There is an opportunity for East West Wild to create a combined native woodland and biodiversity carbon credit scheme.

There is also an opportunity to leverage the previous knowledge of Trees for Life and the Scottish Forest Alliance who have been working on creating carbon credits in the EWW area. Trees for Life in 2019 sold UK Woodland carbon credits based on the afforestation activities at their Dundreggan Estate.

Implementing a woodland carbon scheme in the EWW area

We believe that EWW should look to **facilitate collaboration between landowners so they can collectively commit to selling their carbon credits to one entity**, who would then bear the costs of verification, sell all of the credits to large buyers on behalf of the landowners and take a fee for such a service. We believe that if there is sufficient interest from landowners, the EWW project could conduct this process themselves or otherwise look to outsource this to an external party.

Assuming a carbon sequestration of 50 t/ha for newly established native woodland (this is the level expected at Corrimony) and a price of £20 per credit, revenue of £3,670/ha could be achieved over 100 years. Whilst prices for a tonne of carbon vary considerably on the voluntary market and the context of COVID-19 will make it difficult to find buyers presently, we estimate a price of £20 per tonne could be achievable, ensuring also that costs of woodland creation (c. £10 per tonne) and verification costs (typically £100,000) will be covered by the sale.

We estimate that any scheme resulting in the creation of at least 100 ha of native woodland will result in a profit for landowners, based on an assumption of woodland grant schemes being available for the initial planting. For instance, a scheme creating 1,000 hectares of new woodland would result in a net profit of £1.7mn (before discounting), for a total investment of c. £2mn.

Source: Scottish Forest Alliance - Note: 1 tonne of carbon = 3.67 tonnes of CO_2

PEATLAND CARBON CREDITS

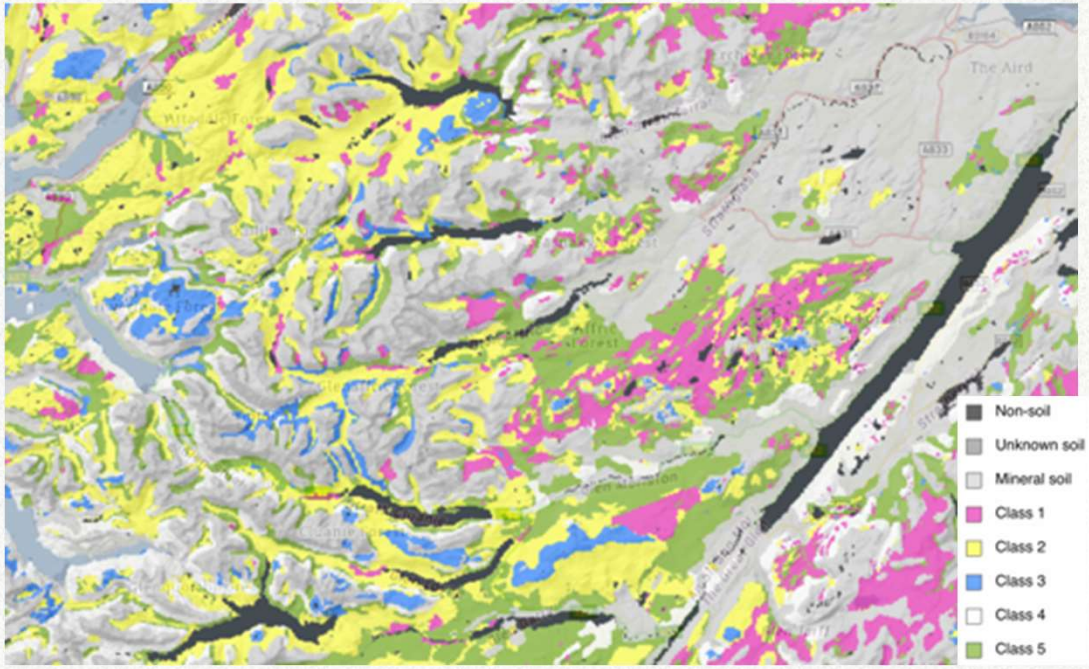
Peatland carbon could generate further revenue

The EWW area includes a significant area of Class 1 peatland, i.e. nationally important carbon-rich soils, deep peat and priority peatland habitat. Class 2 peatland (i.e. peat soil with occasional peaty soil or areas with high potential to be restored to peatland) is also very common (cf. map).

Whilst calculating the potential for revenue generation through peatland restoration schemes is challenging, reasonable estimates are possible. We assume for modelling purposes that 50,000 hectares of peatland are degraded (in the EWW context this will typically be the result of high numbers of grazing animals) and that their restoration would result in emission reduction of 0.5 t/ha p.a. Prices for a ton of carbon vary considerably on the voluntary market so we have retained a price of £10 per tonne, which is relatively low given the current context and the likely difficulty of finding buyers.

For such an area, annual revenue generation through peatland carbon is likely to be around £250,000 p.a. (c.1% of the current estimated revenue for all land in the area). Restoration costs, however, are likely to be high: around £300/ha, meaning that such investment could only generate a positive return if a significant part of the restoration cost was grant-funded.

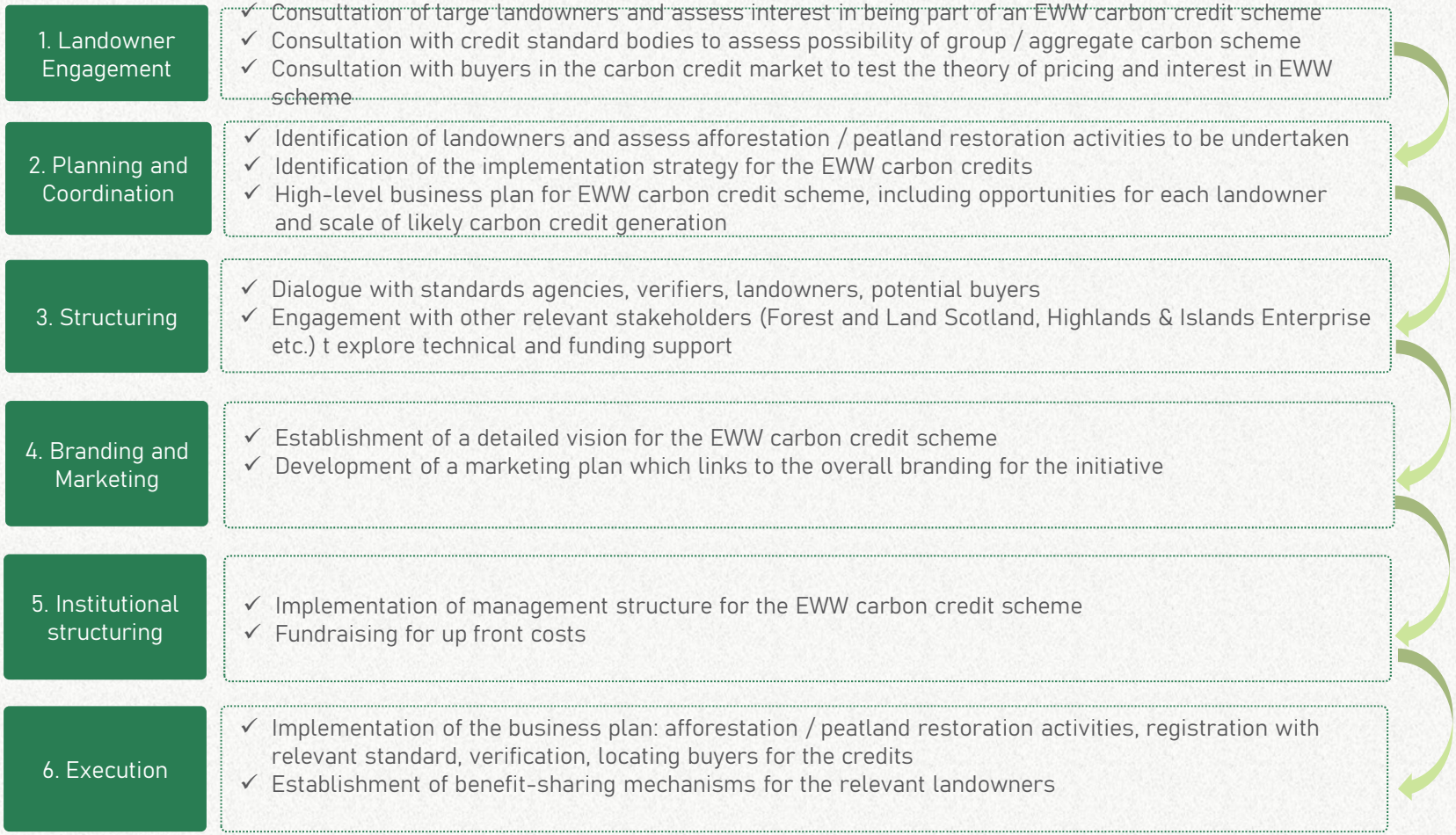
We note that the Scottish Government has laid out ambitious targets to restore 20,000 hectares of peatlands each year over the next 15 years, supporting this aim through restoration grants available to land managers (which we understand to be c. £20m in total).



Source: Scotland's soils (Scotland 's Environment); The Economics of Peatland Restoration in Scotland

SUGGESTED ACTION PLAN FOR CARBON

We suggest below a high-level action plan to help test if East West Wild carbon credit development is of interest to landowners and to the market. It should be noted that progress should only progress beyond phase 2 if the high-level business plan indicates positive outcomes for landowners and the EWW initiative.



MODELLING GREEN PRESCRIBING

CONSERVATION CAPITAL

The improved health of participants in nature-based activities can potentially be monetised

What is green prescribing

Green prescribing is an arrangement that secures a number of ecosystem services and recognises the beneficial effect that activities which take place in the rural environment have for health, wellbeing and social care outcomes of participants. These activities would be typically run by an intermediary, who would have the skills to manage the needs of the participants and minimise risks. There are three potential supply chains within this theme. In the first, the ultimate beneficiaries are people with health or social care issues, or people from disadvantaged groups. It is driven by the need to reduce costs of medical and social interventions related to poor mental health, obesity, and substance misuse; and presumes that those responsible for allocating health and social care budgets would divert a portion of spending to projects which encourage or require people to participate in outdoor, nature-based activities. The majority of this would come from the public sector, but there may potentially be interest in private insurers/re-insurers to reduce the size of future claims. The second supply chain deals with rehabilitation of offenders and builds on theory and evidence that spending time in natural environments and learning new skills reduces risk of reoffending and speeds up the integration of these people into the economy. In the third supply chain, the beneficiaries are children who would derive not just health and wellbeing, but also knowledge and skills from participating in these activities. Health and wellbeing benefits from engagement with the natural environment can be viewed as preventative actions that reduce the chance of illness and mortality.

Modelling green prescribing revenue

This form of revenue should be considered as medium to long term as this sector remains in its infancy and as yet has been difficult to monetise. However, there is increasing evidence of its relevance. Most cost-benefit asessment tools, such as the Health Economic Assessment Tool (HEAT) for walking and cycling developed by the World Health Organisation use the number of death avoided with reference to the "Value of a Statistical Life" (VSL) to determine value. The HEAT tool uses a value of approx. £350,000/yr for a 10 year period as a UK reference figure. Other tools such as the Physical Activity Return on Investment Tool developed by the National Institute for Health and Care Excellence (NICE) use the value of a "Quality Adjusted Life Year" (QALY) which reflects both length and quality of life. The UK Government recommends a value of £20,000/yr only for use in cost-benefit analysis. While VSL and QALY are used in policy / project appraisal, they do not reflect actual costs borne by NHS, Prison

Source: HEAT Walking Cycling, NICE.org

BENEFITS FROM OTHER PES SCHEMES

Non carbon PES schemes are harder to monetise but could support the EWW vision

Community natural spaces

Areas of woodland and other rural green space that are not economically viable for use in primary production could be managed instead as a resource to supply small-scale provisioning and cultural services for a local community. Such woodland creation does not in itself represent a direct revenue generating opportunity, however it can result in value for related businesses and political / social capital in the area and beyond. These would be typically implemented through an agreement with a community organisation. Landowners may not derive a direct financial benefit from the arrangement, but may perceive there to be a reputational or social benefit to allowing their land to be used in this way with negligible downside. Some may view such arrangements as helping to boost rural skillsets in the local area and encourage younger people into nature related professions, thus addressing issues of labour and succession. Benefits to the local community include physical outputs such as woodfuel, timber, craft items, and food as well as other tangible economic benefits such as employment.

The system could also deliver intangible benefits: the green space closest to these communities may currently be managed for forestry, agriculture, or biodiversity, but communities may feel disconnected if they play no part in those activities and if they are excluded from these areas by a combination of physical and mental barriers (access restrictions, lack of interest/knowledge, being in a disadvantaged group, etc.). The community organisation is a critical element in this model, being the party which enters the agreement with the landowner to manage the land. The organisation would fulfil this commitment using volunteer labour, trainees or paid staff. Other organisations may be involved as facilitators or to provide specific training and skillsets (e.g. SNH, NGOs and consultants).

Water-related PES: difficult to quantify, hard to establish but meaningful potential revenue drivers

Quantifying potential revenue for a water-quality PES scheme involves computing the difference between the cost of upstream treatment to *prevent* a unit of pollutant from entering the water course (noting that rivers and water bodies are not presently polluted in the area) and the cost of downstream treatment to remove it and/or the price that sport fishing operators might be willing to pay for an increase in fish stock due to the improvement in water quality and nutrient levels and temperature control. All are difficult to compute but estimates can be made : assuming that 1km2 of lochs and reservoirs and 40km of rivers are covered by a PES scheme, applying the same valuation as for the Pumulumon Project in Wales (for which detailed estimates

Source: Pumulumon Project

A VISION FOR A NATURE-BASED FORESTRY

Imagining a nature-based forestry sector in the EWW area

Low impact silvicultural systems and connected woodlands

Sustainably managed woodlands could integrate with and complement a diverse mix of land uses. Emphasis would been placed on developing diverse plantations with a large proportion of native broadleaves and pinewoods. Woodland cover in the region will increase to 25-35% (similar to the European average). There will be a wide range of woodland owners including local community groups, and more farmers will have woodlands integrated into their business model. This in turn will lead to a greater diversity of woodland types and approaches to forest management.

A greater area of woodland cover will support more local businesses, in particular by developing local markets for timber, including biomass fuel, fencing and local construction uses. There are several well developed major sawmills just outside the region (BSW at Fort William and Norbord near Inverness) and some local construction firms are increasingly focused on working exclusively in Scottish timber. Through a Payment for Ecosystem Services scheme, plantation owners might receive financial benefits from using low impact silvicultural systems, which would result in better regulated water yield and reduced siltation and nitrate flushes. A forest training initiative might be established to work with plantation owners.

Additionally, marginal areas of commercial forestry could be gradually felled and replanted with native woodland, with an emphasis on ecotourism use, biodiversity and carbon.

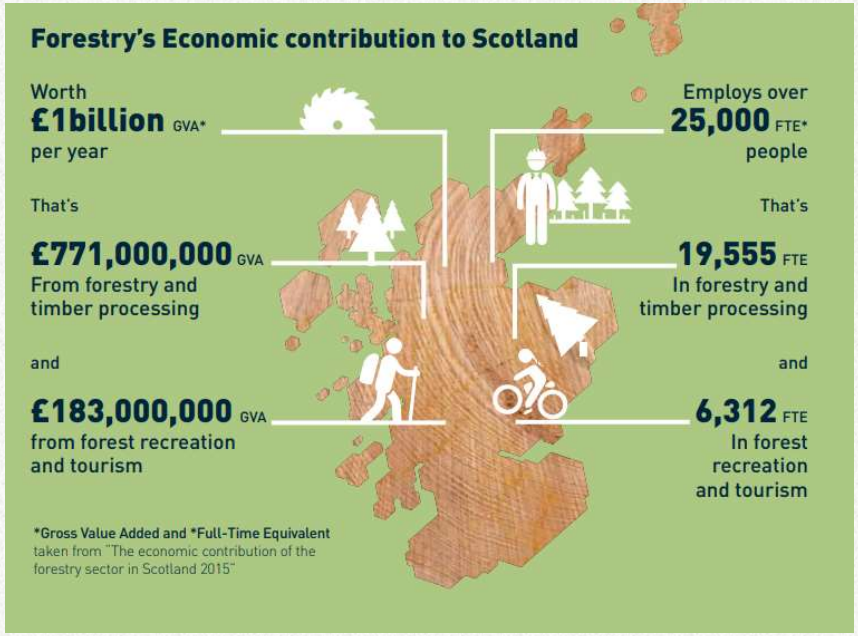
NATURE BASED FORESTRY

Ownership and Management

Currently the ownership of the majority of woodlands and forests in Scotland is concentrated amongst a small number of organisations and estates (and this also generally seems to apply in the EWW area).

This in turn tends to lead to a limited range of management objectives and limited diversity of forest types.

Encouraging more woodland management, and wider woodland ownership and creation, will broaden those management objectives. This in turn will lead to a greater diversity of forest types, species, silvicultural practices and rotation lengths.



http://www.forestryscotland.com/media/390514/roots%20for%20further%20growth%20-%20november%202018.pdf

NATURE BASED FORESTRY

Forest Management

Forest management is often reduced to rather binary discussions of commercial versus native.

A new nature based forestry vision could ensure a much broader and more sophisticated approach including rewilding, alternative silviculture, productive broadleaves in addition to more traditional sustainable forest management.

A goal would ideally be for the EWW are to feature multifunctional and robust forests, which can thrive and survive in an uncertain future.

NATURE BASED FORESTRY

CONSERVATION CAPITAL

Training and Research

Many landowners and managers are unfamiliar with forest management and are often unaware of the financial opportunities available. Improving this understanding via knowledge sharing, training education and technical advice will help in 3 key areas –

1. Grants – access, application and delivery

2. Carbon – brokering, amalgamation and additionality

3. Timber, fibre and fuel wood – better management, access to markets, live price information and data on supply and demand

Encouraging woodland creation and management on farms and estates, will not only improve biodiversity and carbon sequestration but also support rural diversification and employment during the Brexit transition away from CAP support.

NATURE BASED FORESTRY

Forest Products and Markets

Many forest and woodland owners struggle to access data on prices and costs of timber production.

Small woodland owners can often achieve better prices by combining with their neighbours to develop large sales parcels.

Bringing the right timber to the right market, at the right time is hugely important. Often local timber processors also struggle to access local timber.

The EWW initiative could ideally work to develop a Forest Business Hub, which will enable growers to work together and share knowledge, and to build connections with local small scale timber processors, construction companies and other wood users (carpenters, joiners and crafts people).

NATURE BASED FORESTRY

CONSERVATION CAPITAL

Local processing and adding value to hardwood timber

The 2019 State of Nature Report identified a “lack of management” as a key driver of biodiversity decline in many of our native woodlands.

Access difficulties and low value markets means that previously working woodlands are often abandoned. This can impact ground flora and many bird species that thrive in woodland glades.

Mobile sawmilling can reduce working costs and add value to hardwood timber close to the woodland.

This means woodlands are valued, managed and more are created.

NATURE BASED FORESTRY

Timber in construction

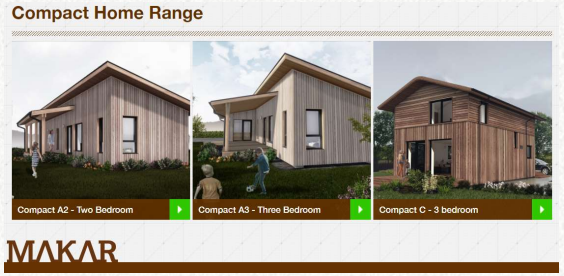
The largest market for wood products at present is in house building and the construction industry where significant quantities of sawn timber, panel products and engineered wood products are used.

However, the UK still imports roughly 75% of the forest products we use.

There is a growing demand for high quality, low carbon homes in the EWW area. These homes should be sustainable to build and inexpensive to heat, and they should be built with locally sourced timber and forest products.

There are early stage plans for a new cross-laminated timber (CLT) processing factory in the Highlands. This could represent a significant opportunity for forest owners in the EWW area.

By developing and supporting local timber processing EWW can create additional value for home grown forest products, whilst creating more employment opportunities and providing high quality rural houses for local residents.



NATURE BASED FORESTRY

Local Markets and 'Sticky Money'

There are a number of well established and large scale markets for forest products in the area. The NORBORD plant in Inverness and the BSW saw mill at Fort William process circa 1,000,000 tonnes per annum. These two facilities plus others are key local employers and produce a range of products which are used in the construction industry.

In addition, we believe there are opportunities to grow and support more local processors in the EWW area. There could also be opportunity to badge local woodland and forest products to identify where they were grown, harvested and processed.

These local markets could include local construction companies such as Makar https://makar.co.uk/ and members of ASHS – Scottish Hardwood Sawmillers https://www.ashs.co.uk/

Growing local markets will ensure greater demand for local forest products, shorten supply chains and reduce timber haulage, and most importantly retain more value in the local community.

NATURE BASED FORESTRY

CONSERVATION CAPITAL

Existing small scale sawmills and markets in the wider region

	Round Timber	Sawn Timber	Kiln-Dried Timber	Machined Timber	Turning Blanks	Fencing	Structural Timber	Cladding	Shingles	Flooring	Kitchens & Worktops	Doors	Interior Joinery	Bespoke Furniture	Outdoor Furniture	Contract Sawmilling	Contract Kiln-Drying	Contract Machining	Mobile Sawmilling	Pressure Treatment	Bespoke Buildings	Product Design	Structural Grading	Consultancy	Hardwood Harvesting
247 Tree Surgery	contact member for information																								
Abbey Timber	•	•	•	•		•	•	•		•							•								
Alba Timber	contact member for information																								
Angus & Mack	•	•	•	•	•						•	•	•	•	•		•	•			•	•		•	
Angus Biofuels	contact member for information																								
Angus Ross										•			•	•								•			
Ardoon Woods	contact member for information																								
Black Dog Timber		•	•	•		•	•	•	•							•	•		•					•	
Caledonia Log Homes	contact member for information																								

NATURE BASED FORESTRY

CONSERVATION CAPITAL

Existing larger scale sawmills and processors, and piers for sea transport

The two mills at Fort William (BSW) and Inverness (Norbord) use circa 1 million tonnes of timber per annum

http://www.forestryscotland.com/media/390514/roots%20for%20further%20growth%20-%20november%202018.pdf

NATURE BASED FORESTRY

Better Forest Management – UKWAS – Certification (FSC and PEFC)

The UK Woodland Assurance Standard was developed over 20 years ago, as a standard for sustainable forest management.

It enables woodland owners to access the international PEFC and FSC sustainability certification systems. This can be vital for demonstrating and assuring sustainable forest management if a forest owner is accessing carbon funding, natural capital payments or selling timber into key markets.

As part of a Forest Business Hub, EWW could develop and support forest owners to become certified using UKWAS. This would include advice and knowledge sharing, and access to the UK's largest independent certification Group Schemes - http://www.forestcertification.org.uk/

A target could be to have 75% of all the woodland and forests in the East West Wild area sustainably managed by 2030.

NATURE BASED FORESTRY

Low Carbon Construction

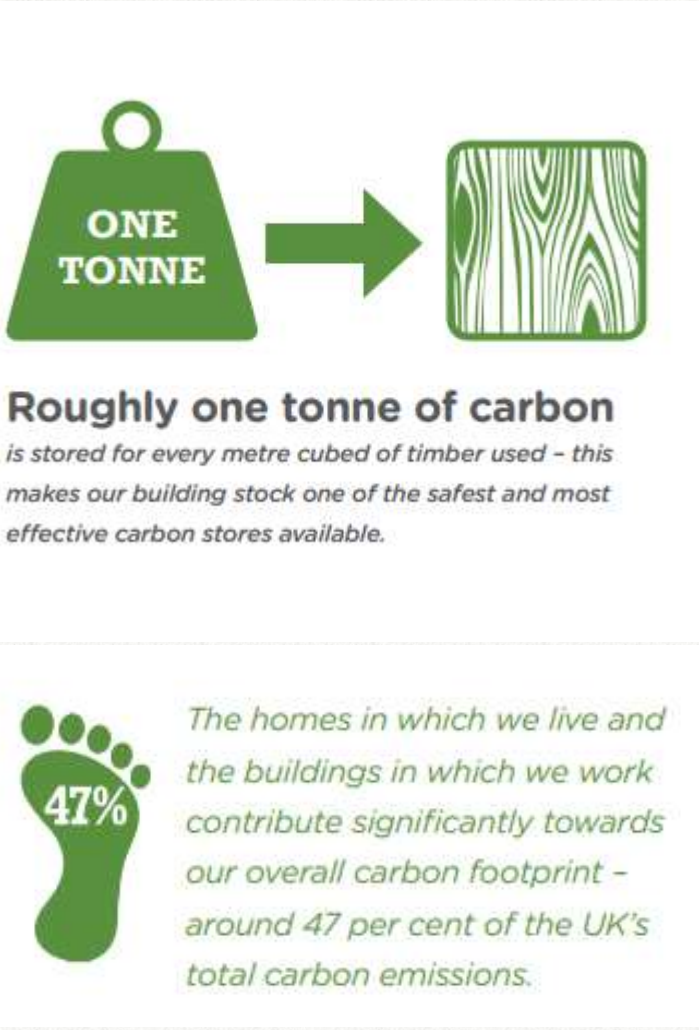
"Wood is the most technologically advanced material that we can build with. The Earth grows our food. The earth can grow our homes. It's an ethical change we have to go through."
Michael Green, Architect

Timber is one of the safest and cheapest forms of carbon capture and storage available.

EWW can help to build better links between the homes local people live in and the land in the EWW area.

The continued evolution of woodland carbon standards will also likely create opportunities for 'productive native woodland' models, whereby an element of production in native woodland will enable owners to access a combination of carbon revenue and operating returns.

https://woodforgood.com/assets/Downloads/Growing%20Our%20Low-Carbon%20Economy.pdf



A VISION FOR NEW BUSINESSES

CONSERVATION CAPITAL

Imagining which new businesses could be created in a nature-based economy.

In addition to new markets and products for existing companies, a greater focus on nature-based solutions will inevitably lead to the creation of many businesses. We list some of them below, dividing them simply between "Services" and "Production" as many of them will be in effect multi-sector.

As noted earlier, once stakeholder feedback on this report has been incorporated, a further phase of work would examine in more depth the synergies and multiplier effects between different businesses. The overall brand positioning and marketing of the EWW initiative would also overlay and contribute to individual business revenue generation.

Services

- ✓ New cafés, pubs and restaurants
- ✓ New hostel
- ✓ Destination management company
- ✓ Local tour operators
- ✓ Local specialised guides
- ✓ Bicycle rental shop/tours
- ✓ Canoe rental shop/tours
- ✓ Fishing trips/equipment
- ✓ Sailing centre/Regattas
- ✓ Horse-riding
- ✓ Glamping
- ✓ Designated 'wild' camping sites
- ✓ Tree houses
- ✓ Wildlife hides
- ✓ Outdoor recreation centre
- ✓ Sports club
- ✓ Nature photography business
- ✓ Wedding venues
- ✓ PES consulting company
- ✓ PES broker
- ✓ Peatland restoration company
- ✓ Flood regulation consulting
- ✓ Green prescribing company

Production

- ✓ Tree nursery
- ✓ Heating scheme using short rotation coppicing
- ✓ Timber architecture
- ✓ Manufacture of wooden furniture
- ✓ High-end venison marketing
- ✓ Mushroom farming
- ✓ Harvest of natural products
- ✓ Mobile sawmill
- ✓ Bracken compost company
- ✓ Small-scale wildlife-friendly hydropower scheme
- ✓ Hut builder

POSITIVE IMPACT FOR LOCAL COMMUNITIES

A wide range of benefits for local communities

Some of the key benefits of the vision previously described for local communities include:

- ✓ Greater opportunities for retention of young people in the area
- ✓ Diversity in employment options, attracting and keeping a more diverse range of people in the area
- ✓ Higher value employment opportunities
- ✓ New business creation opportunities for entrepreneurs
- ✓ Preservation of key ecosystem services (flood mitigation, water quality, etc.)
- ✓ Preservation and reinforcement of local culture
- ✓ Increase in the value of the land and quality of the soil
- ✓ Diversity in recreation options
- ✓ Better health and wellness overall
- ✓ Enhanced political relevance which in turn will ensure that larger landowners are more positively regarded by government

Moving to a nature-based economy

04

ENABLING FACTORS

Summarising the key conditions to establish a nature-based economy

Transitioning to a nature-based economy will require a series of enabling actions and supporting finance. The key enabling factors are listed below and expanded upon in the following slide.

Valued Natural Assets	✓ Preservation and enhancement (where necessary) of landscape quality ✓ Visible wildlife ✓ Communities connected to nature ✓ A sense generally that nature is progressing and becoming stronger
Supportive Business Environment	✓ Readiness of local business community ✓ Relevant know-how
Coordinated Management	✓ Pro-conservation and pro-environmental policies ✓ Strategic marketing of the area ✓ Coordinated development plan
Engaged Communities and Landowners	✓ Local engagement ✓ Awareness ✓ Training and guidance ✓ Benefit-sharing mechanisms
Improved infrastructure and Access	✓ Improved access by public transport ✓ Appropriate accommodation ✓ Appropriate tourist infrastructure (trails, signposts, visitor centres, etc.) ✓ Improved broadband
Investment	✓ Thorough analysis of resource needs and future profit generation ✓ Available funding ✓ Adequate investment (quantum and duration)

COMMENTS ON ENABLING FACTORS

An integrated approach

Enhanced natural assets

The EWW area has very high-quality natural assets – many of them formally protected, and its communities value them. These enhanced natural qualities will help to differentiate the EWW area from other beautiful areas in Scotland and indeed Europe. Greater native woodland cover will help to 'frame' the striking upland landscape and visible wildlife will enhance both tourism and hunting activities.

Supportive business environment

Local businesses need to be ready and willing to enter new markets or to adapt to a new clientele. In some cases, a specific set of skills and know-how is required. For new nature-based businesses to thrive, there is a need to find entrepreneurs aligned with the EWW vision and for enterprise agencies to be engaged in provision of technical support and finance.

Coordinated management

The impetus behind a move to the EWW vision needs to come from the local communities but be framed by coordinated and aligned policies. For instance, the current lack of coordination of the tourism industry in EWW hampers its growth. Oversight and coordination will be increasingly necessary, in a way that encompasses all sectors of the envisaged new economy. As Deer Manager Groups are already fully aware, enhancing nature will require coordinated land management. There will also be a requirement for some degree of zoning, where perhaps certain activities are given prominence in specific areas and at certain times of year (e.g. stag hunting season). Coordination and exploration of cost efficiencies (e.g. in carbon credit development) will enable revenue streams which are presently very difficult for individual landowners to achieve.

COMMENTS ON ENABLING FACTORS

Engaged communities and landowners

The single most important factor is the willingness for local communities and landowners to actually transition towards a nature-based economy. Consultation and engagement with relevant communities (estate owners, forestry workers, business owners, residents, etc.) is of paramount importance. Organisations such as FWAG, SAC, HIE or FLS could provide guidance and training.

Improved infrastructure and access

Improved infrastructure is a common need in rural areas in the Highlands, and any change in this regard would be tailored to suit the identified collective business needs. Access is arguably not an issue for those businesses situated on or near the road between Inverness and the Isle of Skye via Fort Augustus. It is however a consideration for other parts of the area. Internet access and high speed broadband is a major consideration. EWW might be able to collaborate with Highland Council and other stakeholders to highlight the importance of this infrastructure to nature based business development (and of course all kinds of business activity in the region).

Collective Marketing and Promotion

Collective marketing and promotion of the area would be essential to establish brand presence and to explain the differences between EWW and its constituent businesses from those which might exist elsewhere.

HOW LANDOWNERS CAN CONTRIBUTE

Landowner will form the backbone of a future EWW nature-based economy

Early adopters and shared learning

Most of the nature-based opportunities identified will typically require some sort of investment, whether in time and/or in monetary form, but this will ideally lead to more frequent and more diversified cash-flows. We assume that whether landowners decide to embrace such opportunities will be decided on a case by case basis, and ideally the successes and learnings will be shared, resulting in early adopters influencing others in time. For example, some landowners might continue to manage conifer plantations but over time and by sharing experiences with others who have adopted low impact silvicultural approaches adapt to generate revenue more frequently and benefit from woodland carbon schemes. Similarly, those moving towards a lower density and premium hunting experience may generate enhanced revenue and achieve greater political recognition.

Different opportunities for different scales of land ownership

Whilst the exact path followed by each landowner willing to share the EWW vision will be different in practice, there are also likely to be similarities. For illustration purposes, we have organised landowners into 4 categories:

1) Private individuals/corporations with more than 10,000 ha of land,

2) Private individuals/corporations owning between 1,000 ha and 10,000 ha, and

3) Private landowners with less than 1,000 ha.

4) Public or non-profit entities

We have retained size as the defining factor between these categories (as opposed to, e.g. existing land use, existing economic activity, type of land, etc.) since we believe it is the criterion likely to result in the most differences between categories. It is also the easiest way for any landowner to identify which scenario applies to them.

HOW LANDOWNERS CAN CONTRIBUTE

Opportunities for different landowners

Larger estates

Seven landowners own more than half of the land in the EWW area. The larger estates in the area are often already equipped to carry out economic activities at scale. They are the prime locations for transition to premium hunting models and they may be the drivers of the wild meat business opportunities as several have fully equipped modern deer larders, with chilled carcass storage and meat preparation facilities. Several also offer very good fishing opportunities and the larger landowners have the possibility to innovate around wildlife and nature tourism at scale.

Woodland areas could potentially be converted to continuous cover forestry and the larger estates may be the primary beneficiaries from a carbon credit scheme.

Medium size estates

Medium-sized estates (between 1,000 and 10,000 ha) constitute the core of the EWW area. There are 25 of them and many of the same opportunities available to larger owners will be relevant to them also, however they will have a greater need to (and benefit from) collaboration across land holdings to achieve the necessary scale for economic viability for certain business activities e.g. nature tourism and carbon credit development.

In particular, these estates might be the drivers of innovation in tourism accommodation and creative service provision for the wider area.

HOW LANDOWNERS CAN CONTRIBUTE

Smaller estates

There are c. 14 private landowners (individuals or corporations) with land areas of less than 1,000 ha in the EWW area, together owning 6,400 ha of land.

Farming, commercial forestry and small-scale sporting activities are the most common economic activities presently. Unlike with larger estates, many of the opportunities for these estates are likely to involve a limited number of activities (using a focused approach rather than a portfolio of economic activities). This could be for instance a combination of sporting and high-value meat selling, or mixed farming and small-scale low impact silviculture.

In farming, one could imagine a transition for an existing farm towards a multi-business entity, following the model of Comrie Croft (see later case study) or the local success example of The Shieling Project (www.theshielingproject.org). Even over an area smaller than 100 ha, this example shows that it is possible to set up and manage (for instance) a wedding venue, a hostel, a café, a campsite, a market garden (with a greenhouse) and a small-scale wildlife viewing experience.

OPPORTUNITIES FOR NON-PROFIT ENTITIES

Public and non-profit landowners

NGOs and public bodies such as Trees for Life, the National Trust, FLS and RSPB all have a very significant role to play in the EWW vision. Some will have the resources and existing mandate to move immediately towards innovative new approaches. The Rewilding Centre on the Dundreggan estate for example is going to create several new jobs and significantly expanded economic opportunity in the Glenmoriston area and beyond.

Beyond facilitation and guidance, specific potential roles and opportunities include:

- Acting as an intermediary for the sale of the area's carbon credits,
- Leading the initial creation of a destination management company for the area
- Leading the way in setting up community natural spaces in collaboration with local community organisations,
- Participation in the design of other PES programmes

INVESTMENT REQUIREMENTS

CONSERVATION CAPITAL

An estimated £1-4mn is needed to move meaningfully towards a natural-based economy in the EWW area

The vision as outlined will require investment, both in time and money. Quantifying total investment is difficult at this stage, but estimates can be made assuming the following investments and their potential costs. We also outline the likely source of funds (more on this overleaf). Note that some of the items listed below can be excluded without compromising the ability to deliver the EWW vision (e.g. wildlife-friendly hydro scheme).

Item	Estimated cost (GBP thousands)			
	Min	Max	Mid	Likely source
Establishment of a support, training and guidance programme for land users	10	50	30	Public funds
Creation of an organised premium wild meat supply chain	100	500	300	Private sector
Design of a woodland carbon scheme	50	200	125	Public and private funds
Design of a peatland carbon scheme	50	200	125	Public and private funds
Setting up an intermediary company for EWW carbon credits	50	100	75	Public and private funds
Setting up green prescribing programmes	10	50	30	Public and private funds
Building of a series of huts on carefully chosen locations	60	300	180	Private sector
Construction company: launching a hut-building programme	10	50	30	Private sector
Forestry companies: moving to continuous cover forestry	50	300	175	Public and private funds
Establishment of a common brand for the area (managed and coordinated by a central entity)	10	100	55	Public funds
Establishment of a wildlife-friendly hydro scheme	200	1,200	700	Public and private funds
Increase in deer management costs	195	975	585	Public and private sector
Shift in marketing/commercialisation/ communication strategy (tourism company and estates)	20	200	110	Private sector
TOTAL	**815**	**4,225**	**2,520**	

Incremental investment is estimated to range between £0.8 and £4.2mn, with an average estimate of £2.5mn. It is too early to determine the exact quantum and source of each investment but it is reasonable to assume that a significant share of it (most likely the majority) could be obtained from grants and public funds.

FUNDING EXAMPLES

Various potential sources of funding in Scotland and across the UK

We have filtered more than 220 grant types available to small businesses based in Scotland, the list of public funding programmes currently available (exception made of EU funds or non-UK funds) and a list of major foundations, trusts and other potential sources of funding.

The list presented below is purely for illustrative purposes at this stage as once the specifics of any vision are further defined, we can be more targeted. However, this list includes some of the most relevant organisations and initiatives that could contribute to fund the transition towards a nature-based economy. The combined maximum limits of these potential sources of funds covers several times the total investment identified.

- Arcadia Foundation
- Big Lottery Fund
- Business Cash Advance - UK
- By Design Grant
- CARE for the wild International
- ClubSport
- Community Enhancement Trust
- Creative Scotland
- EventScotland funding programmes
- Foundation Scotland
- Heritage Enterprise (HE) - UK
- Local Festival Grant
- Make it to Market Grant
- People's Postcode Lottery
- Regional Selective Assistant
- (RSA) Grant
- Rural Housing Fund
- Scottish landfill communities fund
- Scottish Co-Investment Fund
- Scottish Loan Scheme
- Scottish Venture Fund
- SMART:Scotland Grant
- Sportscotland
- SRDP - Knowledge
- Transfer and Innovation Fund
- The Gannochy Trust
- The Robertson Trust
- VisitScotland Growth Fund Grants
- Welfare Trust
- Workplace Innovation Grant

NB: some of these funding programmes are piloted by the same organisations (e.g. Scottish Enterprise and Highlands & Islands Enterprise are behind the Scottish Co-Investment Fund, the Scottish Venture Fund and the Scottish Loan scheme).

SUGGESTED ACTION PLAN

We suggest below a high-level action plan to help establish a nature-based economy in the EWW area (should communities and landowners decide to do so), for which we provide some comments overleaf. This report contributes to stages 1 and 2.

1. Stakeholder Engagement	✓ Consultation of large landowners ✓ Consultation of main communities ✓ Engagement of the business community
2. Planning and Coordination	✓ Identification of the relevant partners and establishment of a Steering Group ✓ Determination of key conservation, societal and economic goals ✓ High-level business plans (focused on key sectors – see next page)
3. Structuring	✓ Dialogue with policymakers ✓ Engagement with other relevant stakeholders (e.g. funding agencies, policy makers)
4. Branding and Marketing	✓ Establishment of a detailed vision for the area ✓ Development of a strategic marketing and branding plan for the area
5. Institutional structuring	✓ Implementation of relevant technical support ✓ Fundraising ✓ Establishment of benefit-sharing mechanisms
6. Execution	✓ Implementation of business plans ✓ Support to organizations in transition ✓ Design of PES schemes

KEY SECTORS

Primary economic sector focuses

The outcomes of this report suggest that the economic sectors with the most potential and relevance for a nature based economy are:

- Tourism
- Carbon /PES
- Forestry
- Energy (with a focus on small scale renewables)

The stakeholder engagement process from here will place primary emphasis on opportunities within these sectors, in order to build some momentum around a focused series of initiatives, rather than trying to address every sub-set of the economy.

While there are certainly opportunities for evolution within the deer management and sporting sector, this is best driven by the Deer Management Group members and the East West Wild initiative will do all possible to support diversification and share experiences going forward.

FURTHER STEPS

Additional supporting recommendations

Community management

Communities and landowners should be consulted with at least an outline plan rather than being asked to design the plan. An initial vision should be established to serve as a guide for discussion, and amended where necessary.

Planning and Coordination

Before developing a nature-based economy, it will be important to determine and share with stakeholders the finalised conservation, economic and social objectives of such an economy. This will also help with fundraising and ongoing monitoring of progress towards objectives.

Structuring

The transition plan should leverage existing policies. For instance, in February 2019 the Scottish Government published a forestry strategy that identified six key priorities for the period 2019-29. Those priorities are broadly aligned with the objectives of a nature-based economy. The Government's emphasis on a **Green Recovery** from the COVID-19 pandemic is presently evolving and will certainly be relevant.

Branding and marketing

A new focused marketing effort could be made in collaboration with VisitScotland and other online channels to further promote the new focus of the EWW area and its offerings. Similarly, a media and PR campaign could be initiated, engaging local and possibly international media agents for support and articles through experience / hosted short trips highlighting the area and all it has to offer.

Execution

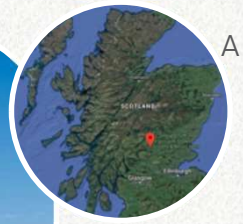
A local area coordinator responsible for developing business-based relationships and partnerships within the region should be appointed. This person should be supported by appropriate technical specialists from time to time as required.

Case studies and Annex

05

CASE STUDY 1: COMRIE CROFT

CONSERVATION CAPITAL



A farmstead, house, barn and suite of eco-enterprises on the site of a former

mixed farm with pasture and woodland extending to c. 94 ha in Comrie, Perthshire, Scotland.

Founded by local entrepreneur in 2004 when he organized the buy-out of the site by local people and employees.

Activities include: wedding venue, hostel, café, bike shop and trails, campsite, walking trails, wildlife viewing and market garden (3.5ha of fiel polytunnel, orchard and horticultural space)

Funded through community and employee equity investment (25%) and loans. Generates >£1mn in annual revenue and employs 20 FTEs.

Farmland and biodiversity restoration

Rural regeneration

Preservation of cultural heritage

Access to land

CASE STUDY 1: COMRIE CROFT ACHIEVEMENTS

CONSERVATION CAPITAL

Conservation

- ✓ Converted more than half of the land into indigenous woodlands and open spaces
- ✓ Created a wildlife preservation zone with virtually no human disturbance
- ✓ Home to red kites, barn owls and red squirrels
- ✓ Enhanced two osprey nesting sites
- ✓ Rehabilitated a mill pond
- ✓ Engaged in a major tree planting scheme

Enterprise

- ✓ Recipient of many awards
- ✓ Built a small wind turbine and uses solar power for lightning
- ✓ Food produced on site is sold in the local café and to local restaurants, horticulture business sells flowers at the wedding venue
- ✓ Re-uses most of its waste (e.g. carboard boxes as mulch)
- ✓ Offers discount for guests who come "using their own steam"
- ✓Channels a percentage of earnings to support conservation, community development and cultural stewardship activities

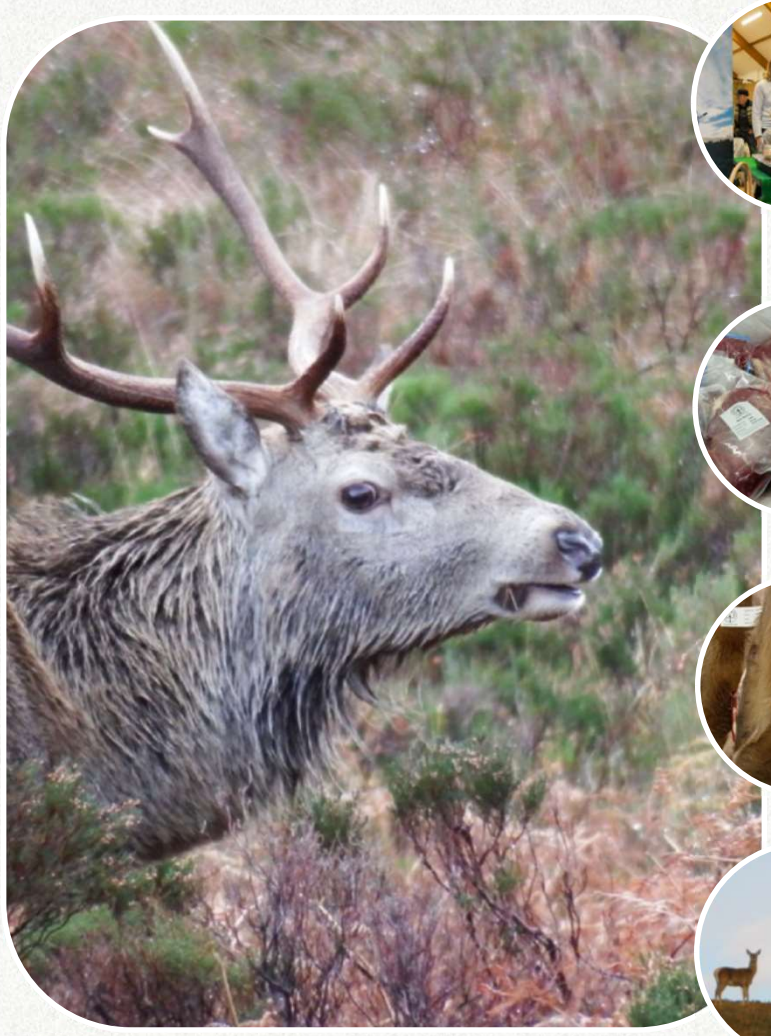
Community

- ✓ Stocks its shops with locally produced products that are unique to the region
- ✓ Strongly supports the rekindling of the Gaelic culture
- ✓ Supports the conversion of abandoned farmlands into public spaces
- ✓ Provided funding for a community minibus
- ✓ Donates its premises for school functions and community gatherings
- ✓ Investigates models for affordable housing

Source and photo credits: Comrie Croft Ltd, The Long Run, Access to Land.eu

CASE STUDY 2: FOREST TO FORK.CO.UK

CONSERVATION CAPITAL



Forest to Fork carries out deer management and is a sustainable supplier wild venison. They are based in Culbokie on the Black Isle and are a member of the Scottish Quality Wild Venison assurance scheme.

The venison is sourced from deer which are responsibly managed and butchered by Forest to Fork ensuring complete traceability every step of the way.

Forest to Fork predominately sells the venison locally, either to local markets or to local suppliers, thereby reducing food miles. They also work with landowners on the deer management planning, estate management and crop / habitat protection.

Forest to Fork believes that wild venison is the most sustainable meat in Scotland as the deer population have no natural predators and landowners must cull their deer populations each year.

Wild meat

Sustainable protein source

Responsible deer management

Local markets

CASE STUDY 2: FOREST TO FORK ACHIEVEMENTS

CONSERVATION CAPITAL

Conservation

- ✓Helps to maintain a healthy population of deer. Deer culls are required in Scotland as there are no natural predators
- ✓A reduced population of deer enables other species and habitats to regenerate, including woodlands (although often deer fencing is required in addition)
- ✓Locally and wild sourced meat has a considerably lower carbon and environmental footprint than other protein sources

Forest to Fork

Enterprise

- ✓Provides a revenue source for landowners
- ✓Provides a route to market for the deer that are culled each year
- ✓Traceability of the supply chain enables quality assurance
- ✓Economies of scale by working across estates enables the business model to function, which would not be possible for each estate on an individual basis

Community

- ✓Local producers working with local suppliers and consumers
- ✓Linking with the tourism market increases the proportion of spend that is retained in the Highlands
- ✓Creates and sustains jobs for the local community in both deer management, processing and sales

Source and photo credits: Forest to Fork , Black Isle Larder

CASE STUDY 3: LETTEREWE ESTATE

CONSERVATION CAPITAL

Letterewe Estate is a 43,000 acre sporting estate in Wester Ross. The estate has three lodges and offers stalking, hiking and fishing among other activities.

The owners bought Letterewe Estate in 1978 and act as the guardians of its mountain, glens, rivers and forest.

Letterewe is one of the leading hunting estates within Scotland and offering their guests a stay in luxury while enabling “an escape to the wild”.

Letterewe works to manage their estate in an environmentally and socially responsible manner, including reducing their carbon footprint by installing a mini hydro plant and reintroducing red squirrels in 2018.

Conservation estate management

Diversified revenue

Hunting and fishing

Preservation of natural heritage

CASE STUDY 3: LETTEREWE ACHIEVEMENTS

CONSERVATION CAPITAL

Conservation

- ✓ **Conservation of ancient oaks:** To conserve and allow their Oak woods on Loch Maree to naturally regenerate, between 2006 and 2014, Letterewe created 21 deer exclosures, totalling 93.94 ha
- ✓**Red squirrel reintroduction**: Part of a wider reintroduction scheme to the Highlands, red squirrels were reintroduced to the estate in 2018.
- ✓**Hydropower:** The mini hydro scheme can generate up to 100KWh. It was installed on a fast flowing burn near Letterewe Lodge in 2017, with the rain water that floods from the hills after a downpour driving a turbine to generate electricity.

Enterprise

- ✓Diversified revenue stream on the estate, with a focus on hunting and fishing.
- ✓Established as a wedding venue.
- ✓The lodges also acts as a base for other Highland activities both on the estate and within the local area including hiking, whale and dolphin watching trips and cruises on the Loch Maree.
- ✓Conducts enterprise activities which are sympathetic to nature, with stalking conducted on foot and the use of ponies to remove the stags and hinds.
- ✓Pricing appears to be at a premium compared to other estates for hunting experiences.

Community

- ✓**Local employment:** They employ 6 staff, with the manager working on the estate since 1978.
- ✓**Purchasing:** the estate works with local suppliers and the local community
- ✓**Engagement:** the original 'Letterewe Accord' gave the public rights of access to the whole estate and the owners of the estate were involved in the right to roam negotiations relating to the wider context of Scotland.

Source and photo credits: Letterewe Estate website

ANNEX 1: METHODOLOGY

Methodology used for calculating sector by sector revenue proportions

Area overview – Methodology used

We used the provisional boundaries of the EWW area provided by Trees for Life. We then identified the list of the postcodes covered by the provisional area. For each of these postcodes, we then gathered and aggregated the relevant data (population, economic activity, etc.) from the 2011 census. This method is not perfect, since some of the postcodes used also cover partly areas that are not included in the provisional boundaries of the EWW area, but it is arguably the best proxy there is for such analysis.

Revenue generation – Methodology used

We analysed data for allcompanies registered in the area, on a postcode by postcode basis. The specific postcodes used were:

IV4 7LJ; IV4 7LN; IV4 7LP; IV4 7LT; IV4 7LZ; IV40 8DT; IV40 8EG; IV40 8HB; IV40 8HE; IV40 8HG; IV40 8HP; IV40 8HQ; IV40 8HW; IV40 8HX; IV40 8JH; IV40 8JL; IV40 8JR; IV40 8JX; IV40 8JY; IV40 8JZ; IV40 8LA; IV63 6TJ; IV63 6TN; IV63 6XJ; IV63 6XQ; IV63 6XW; IV63 7YE; IV63 7YG; IV63 7YQ; IV63 7YH; IV63 7YN; IV63 7YJ; PH35 4HR; PH35 4HG; PH35 4HL; PH32 4BL; PH32 4AU; PH32 4BA; PH32 4BB; PH32 4BD; PH32 4BG; PH32 4BH; PH32 4BJ; and PH32 4BX.

Although this constitutes only a proxy for revenue generation in the area since many companies might operate in the area whilst being registered elsewhere (especially sporting estates or forestry companies) or vice-versa, it is the best possible estimate of the overall revenue generation without resorting to local surveys. Specifically, for each of the c.100 businesses registered in the area, we downloaded names, location, sector, industry and financial data (where available) from Endole.co.uk. 70% of the companies disclose (at least partial) financial data. In a typical example where a company publishes a condensed balance sheet but not a profit and loss statement, we have applied assets/sales ratios of the relevant industry to estimate sales of the companies with no data. We have also used data on number of employees to sense-check the estimates made.