

NNRs -

The role of NNRs in delivering past, current & future conservation objectives in Wales

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National Nature Reserves

- *Places where THE PRIMARY LAND USE IS NATURE CONSERVATION*
- *Places of NATIONAL IMPORTANCE (National = UK)*
- *They are EXEMPLARS OF 'GOOD PRACTICE' IN CONSERVATION MANAGEMENT*
- *They provide essential opportunities for STUDY AND RESEARCH*
- *They provide PUBLIC ACCESS, RECREATION, EXPERIENCE*
- *They deliver INTERPRETATION, EDUCATION, DEMONSTRATION*
- *They encourage STAKEHOLDER & LOCAL COMMUNITY involvement*
- *They contribute to LOCAL & NATIONAL ECONOMIES*
- *They deliver APPROPRIATE ECOSYSTEM SERVICES*

An imperfect series

- Acquisition was often opportunistic and inconsistent
- Tenure can be very weak
- Lack of control / influence over surrounding land
- Inadequate resources



National Nature Reserves in Wales

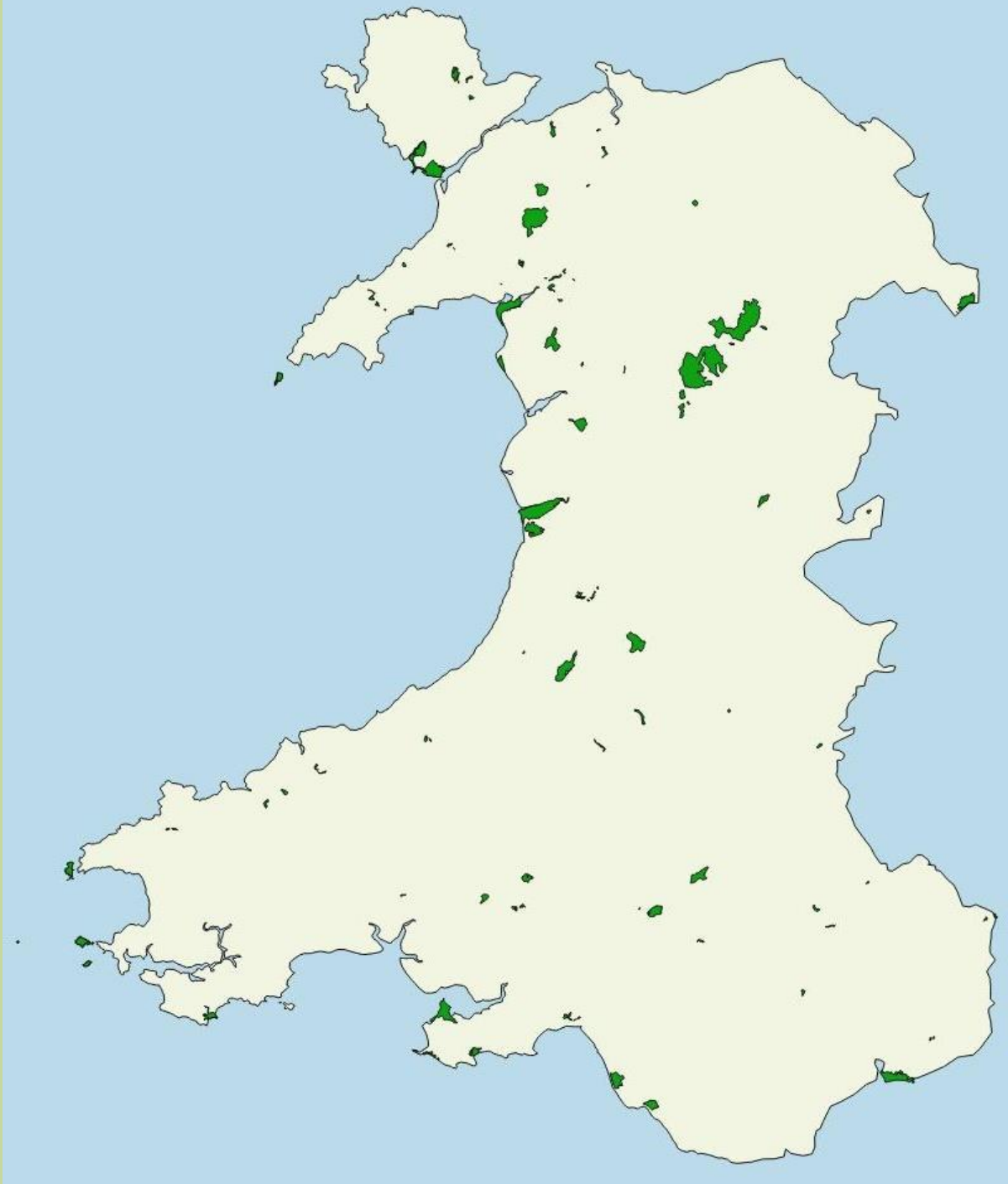
Total number 76
Total area 26,000 ha

NNRs managed by:

NRW 42
NRW in partnership 14
NGOs 20

All NNRs are SSSIs

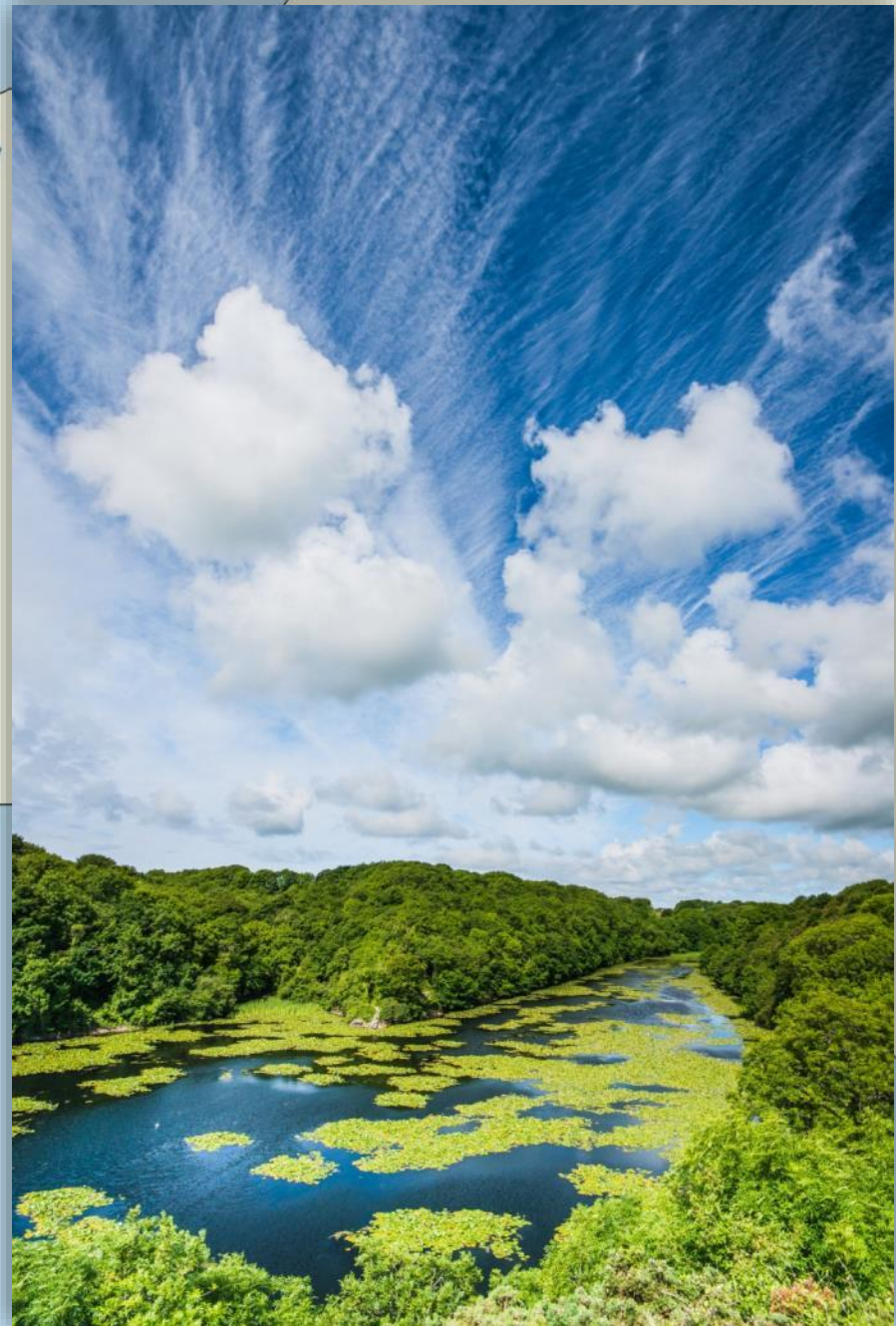
SACs 60
SPAs 13
Ramsar Sites 11



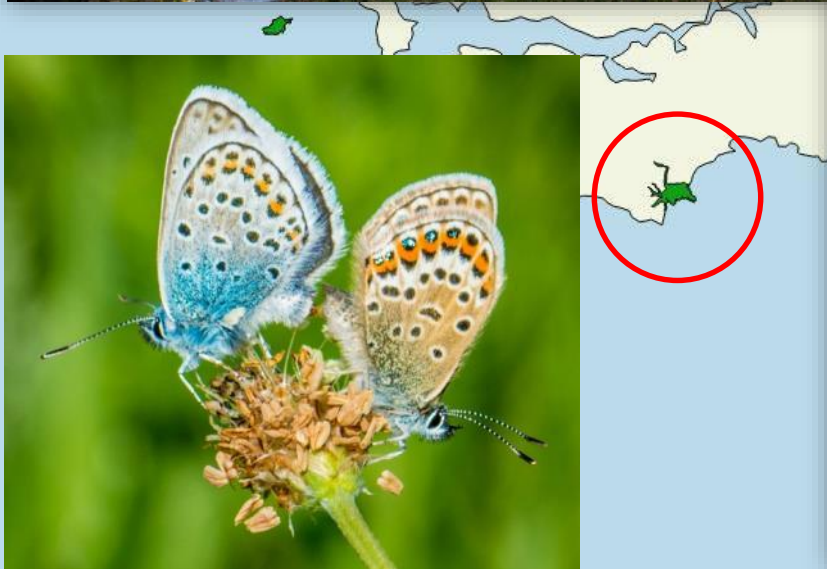
Stackpole NNR



Case study 1



Stackpole NNR

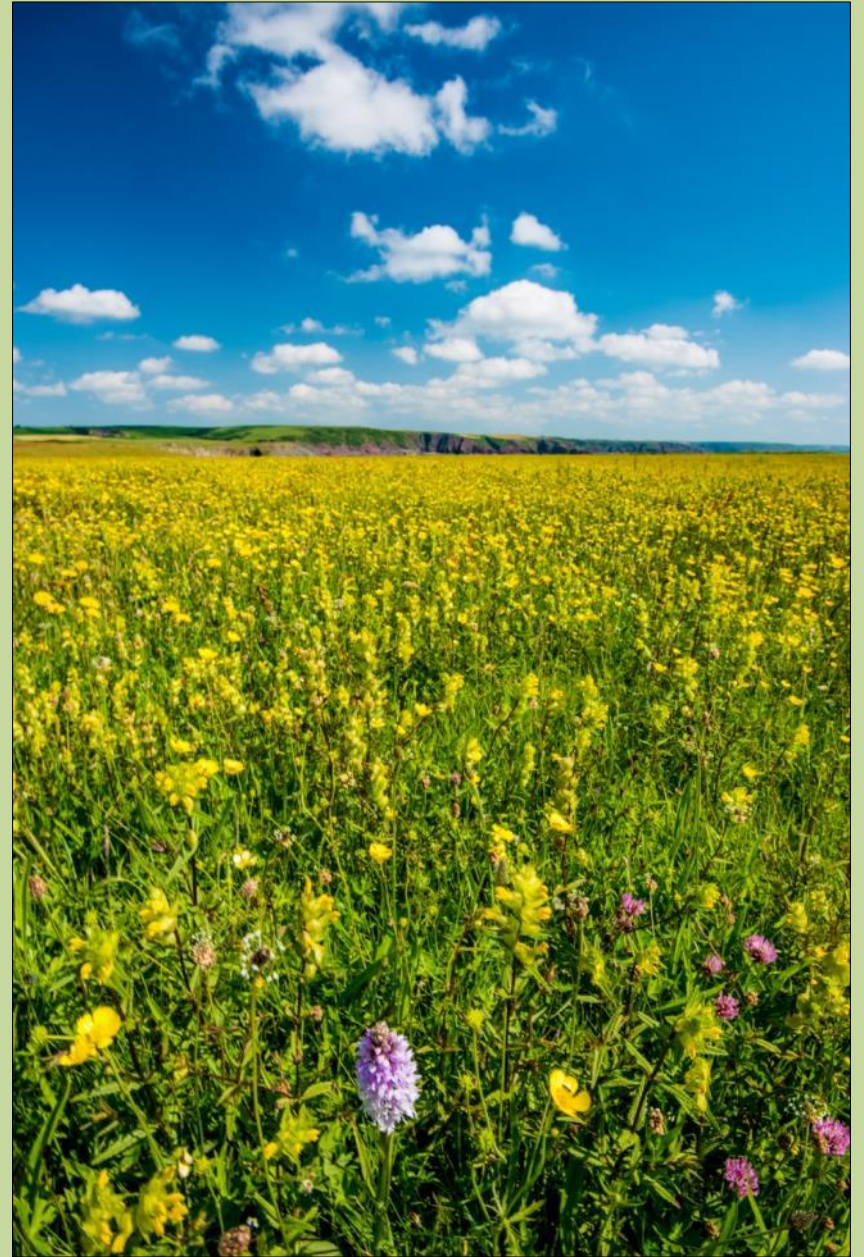


Stackpole NNR

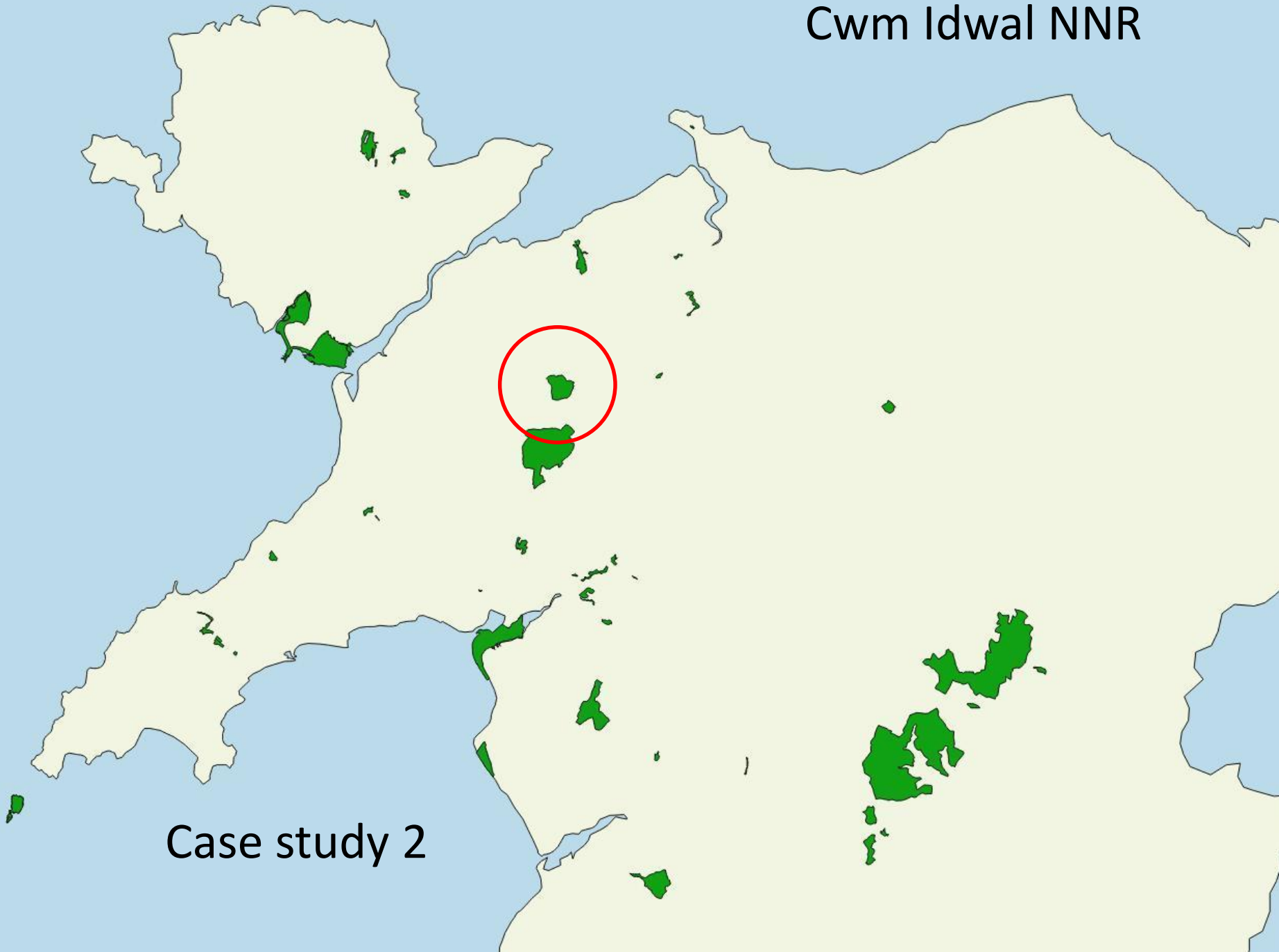
1978

Stackpole NNR 40 years of management





Cwm Idwal NNR

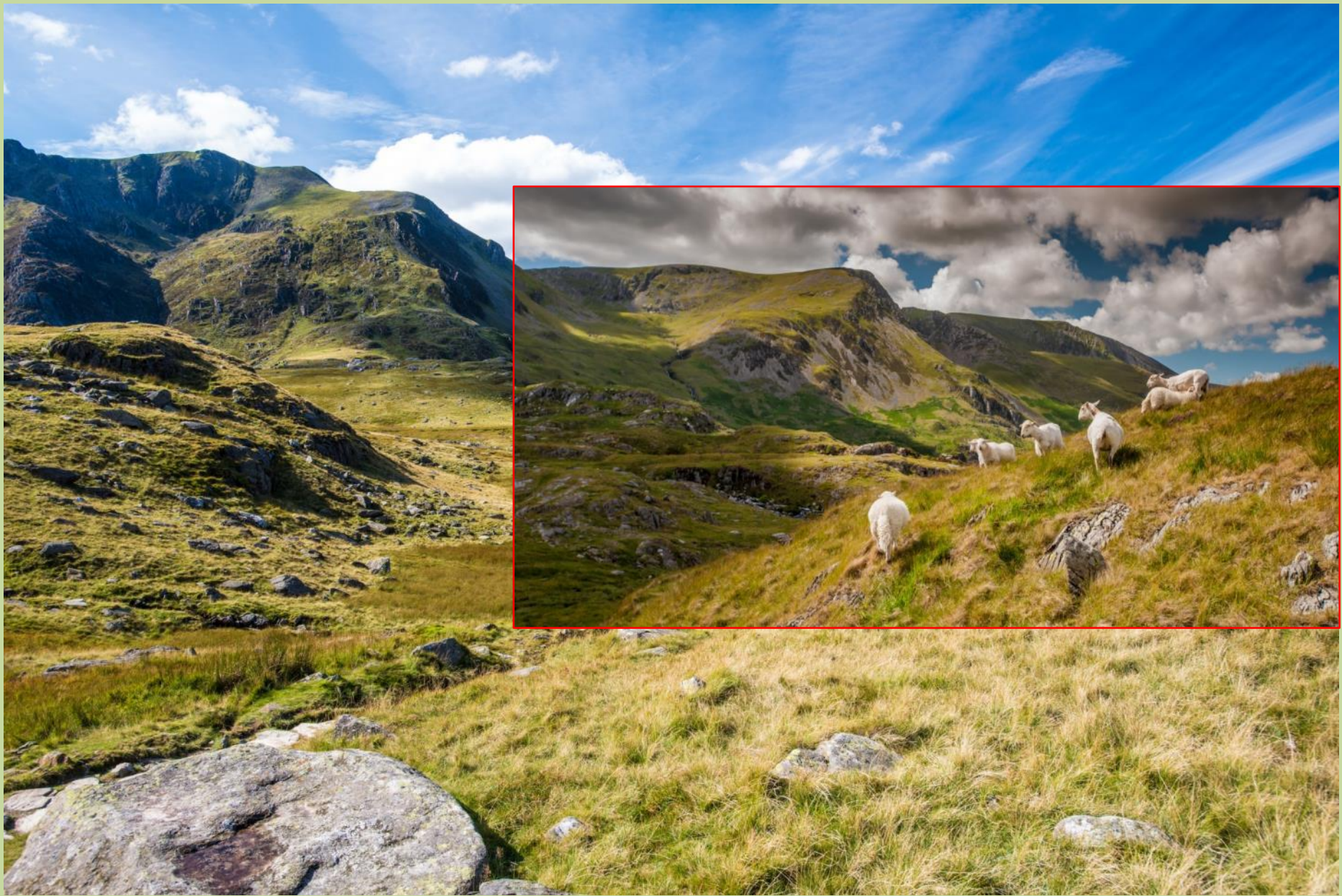


Case study 2

Cwm Idwal NNR



A place which once inspired Darwin

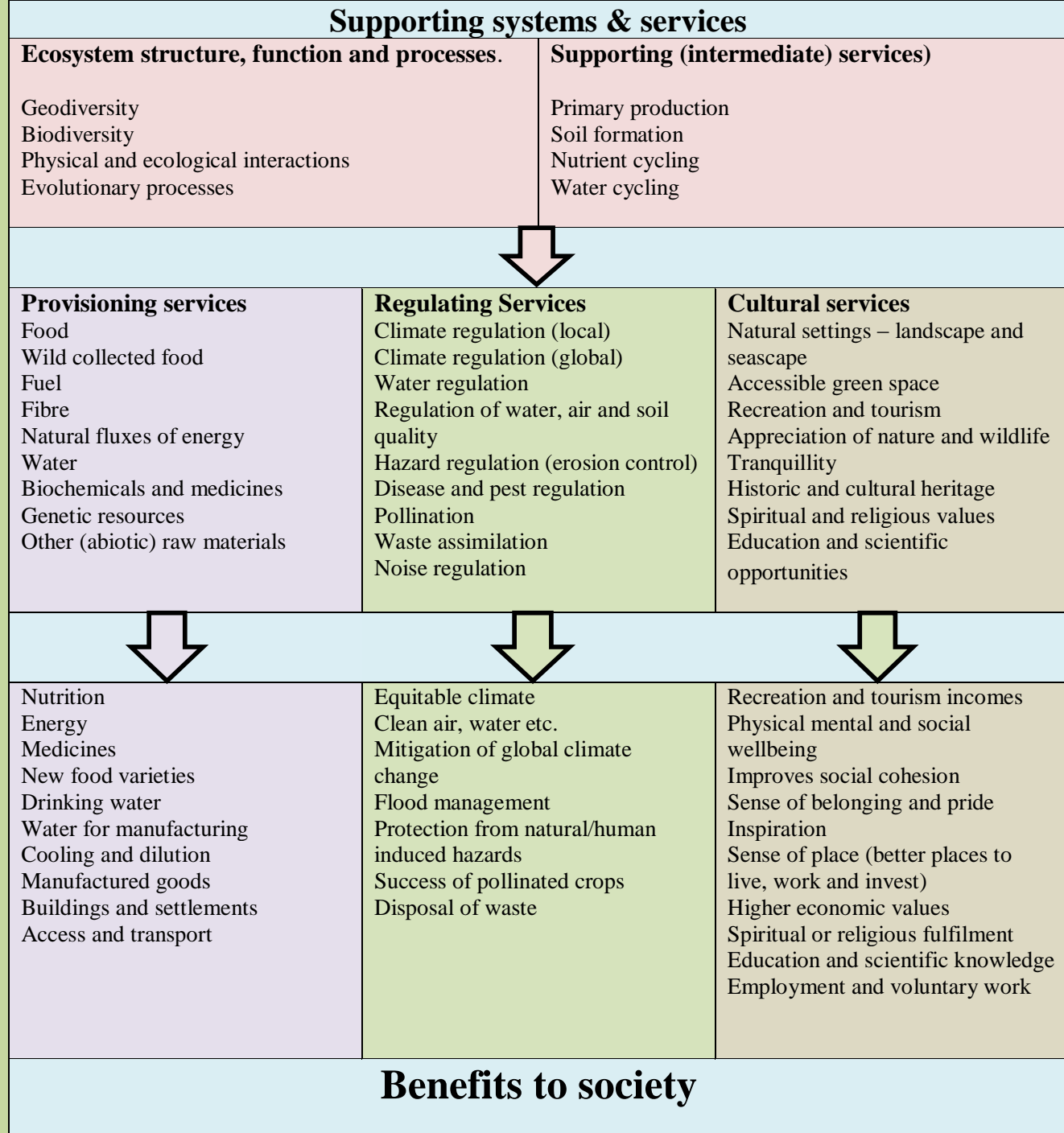






Welsh Government 2016

Ecosystem Services





National Nature Reserves

The ecosystem approach
and delivery of ecosystem
services

Mike Alexander

Tom Hellawell

September 2014

- A report based on assessments, prepared by the NNR Reserve Managers.
- The assessment revealed the outstanding contributions that the NNR series makes toward delivering a very wide range of ecosystem services.
- Almost without exception all the ecosystem services were the incidental consequences of the presence and management of the of the wildlife features.



Islands



Uplands



Woodlands

HABITATS



Parkland



Sand dunes



Wetlands



Grey seal



Razorbills



Silver studded



Green-winged

SPECIES



Wilson's



Historic & Cultural Heritage



Access & Education



Establishing or re-establishing a personal baseline or expectation.

A photograph of two seals in the water. The seal on the left is dark grey and has its mouth slightly open. The seal on the right is white with dark spots and has its mouth wide open, showing its teeth and tongue. A blue speech bubble is positioned above the white seal's head.

A word of
caution

I can't see any purpose in a hay meadow unless it's delivering recreational or other opportunities for people.



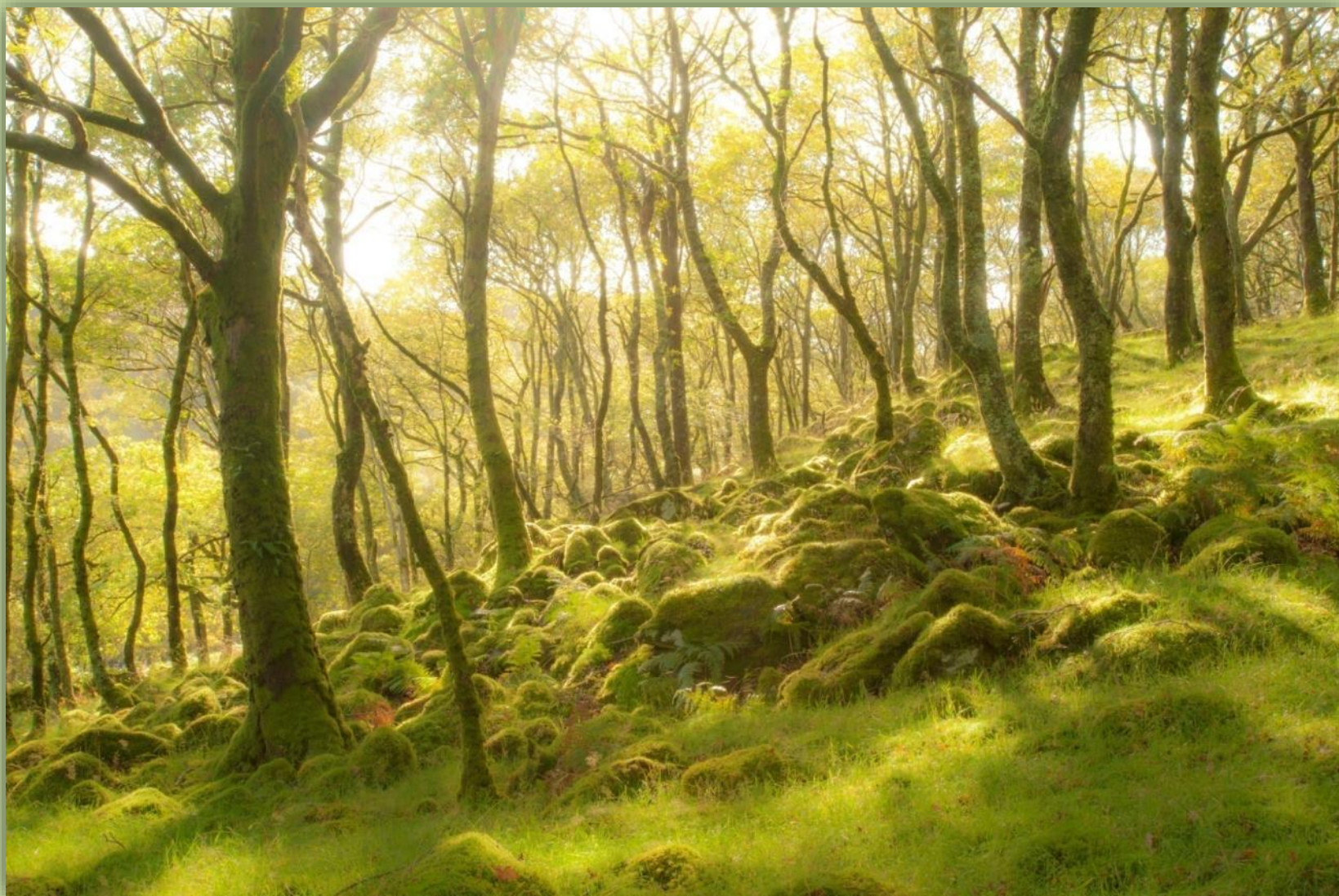
There is a common assertion or belief that if ecosystems are delivering the desired goods and services biodiversity will be conserved.

A logical consequence; policies and strategies once focussed on biodiversity are replaced with those concerned with the delivery of ecosystem services.

Future policies and strategies should recognise that this is a high risk approach.

- Many ecosystem services are provided by individual, or groups of, species and not by intact, functional ecosystems.
- A seriously depleted ecosystem, that fails to meet its biodiversity potential, and with many rare and endangered species absent, can continue to provide important ecosystem services.





Tree species	Oak (native)	Scots pine	Spruce	Larch
Insects	280 +	90	37	17

'A system of conservation based solely on economic self-interest is hopelessly lopsided. It tends to ignore and thus eventually to eliminate, many elements in the land community that lack commercial value, but that are (as far as we know) essential to its healthy functioning. It assumes falsely, I think, that the economic parts of the biotic clock will function without the uneconomic parts.'

Aldo Leopold (1949)

‘The Environment (Wales) Act and the Well-being of Future Generations (Wales) Act together create modern legislation for managing Wales’ natural resources and improve the social, economic, environmental and cultural well-being of Wales.’



**NATIONAL NATURE RESERVES
& THE WELL-BEING GOALS**



- A Resilient Wales
- A Prosperous Wales
- A Healthier Wales
- An Equal Wales
- A Wales of Cohesive Communities
- A Wales of Vibrant Culture and Thriving Welsh Language
- A Globally Responsible Wales

A Resilient Wales

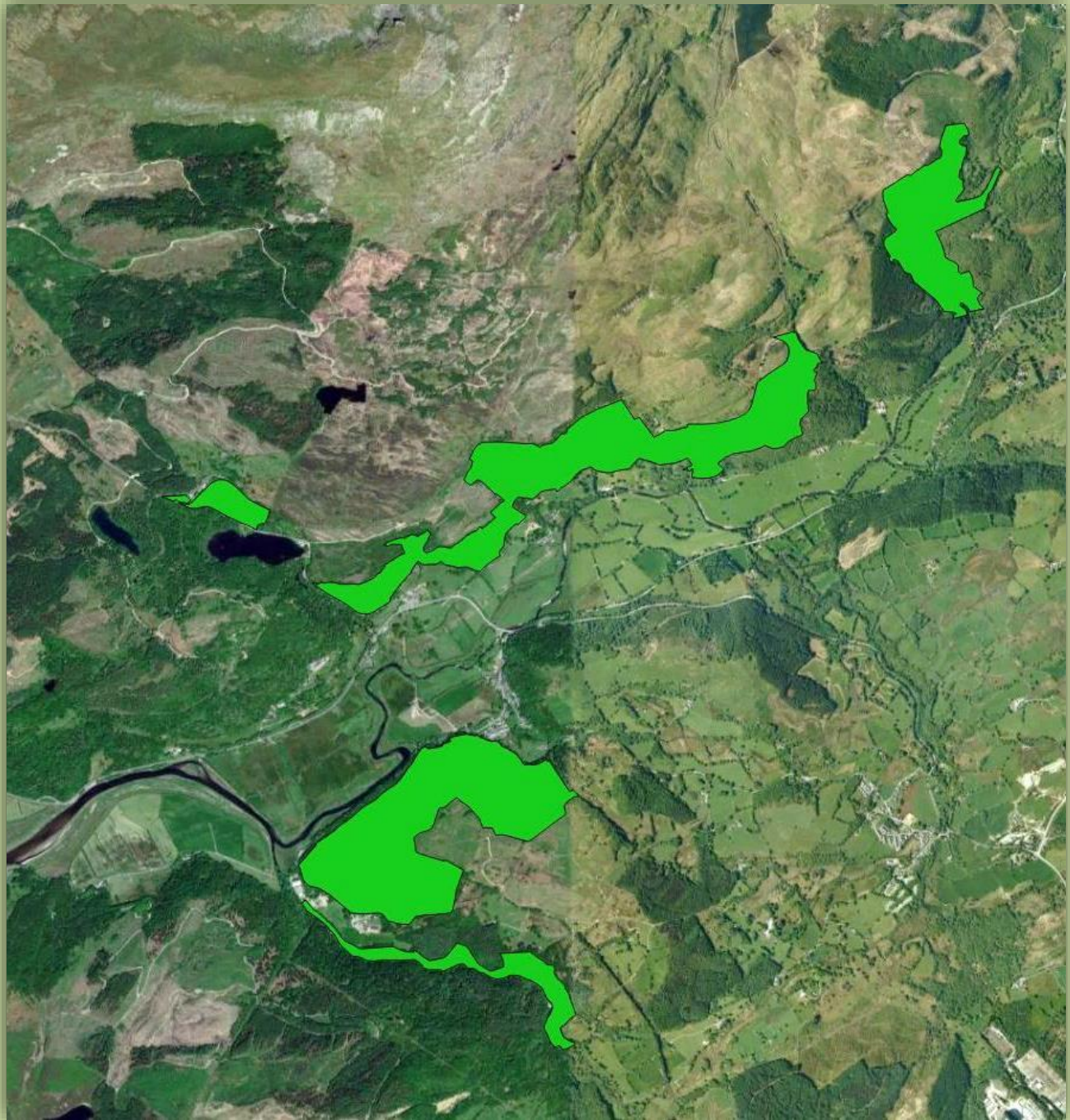
NNRs provide the essential stepping stones and the reservoirs of wildlife.

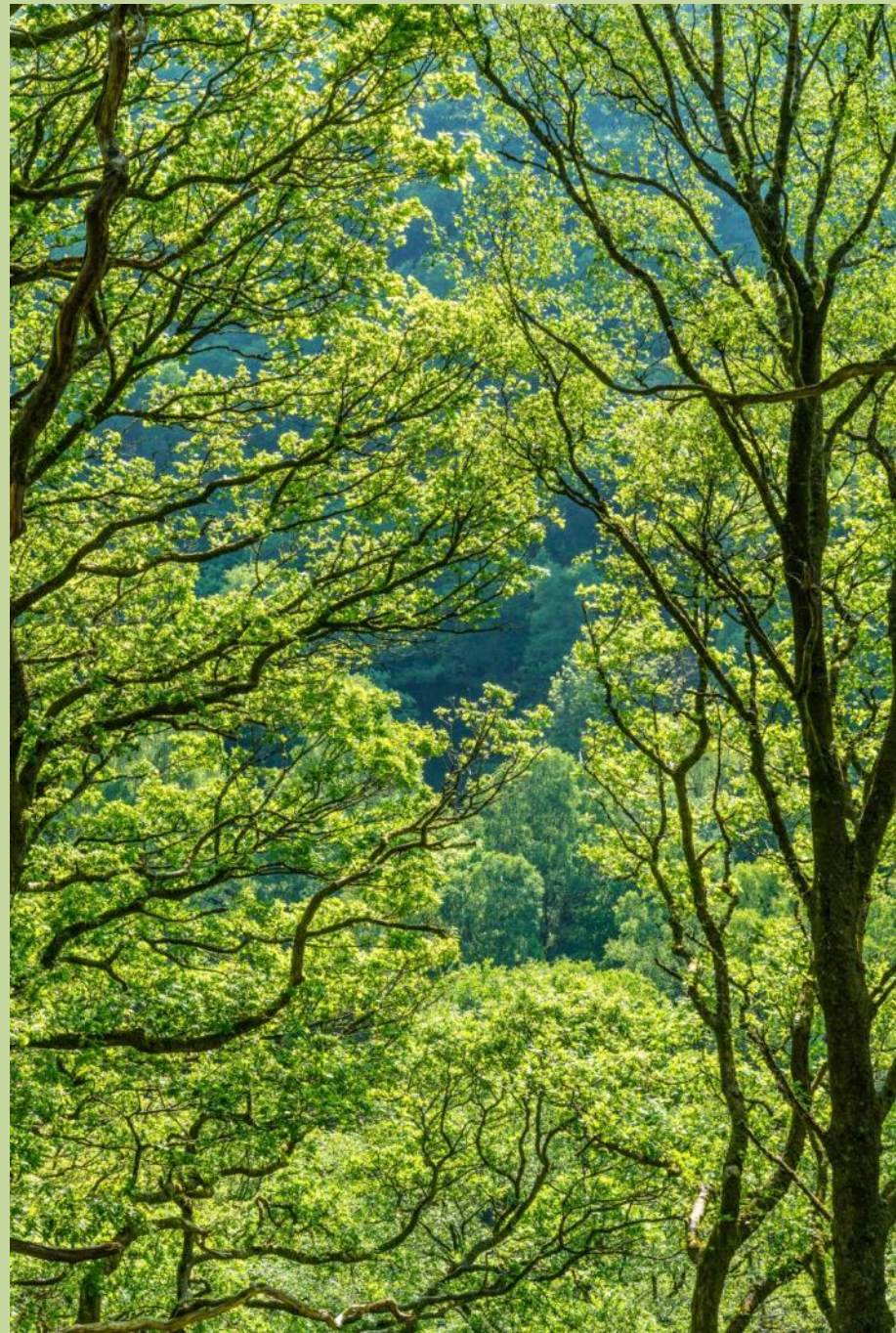
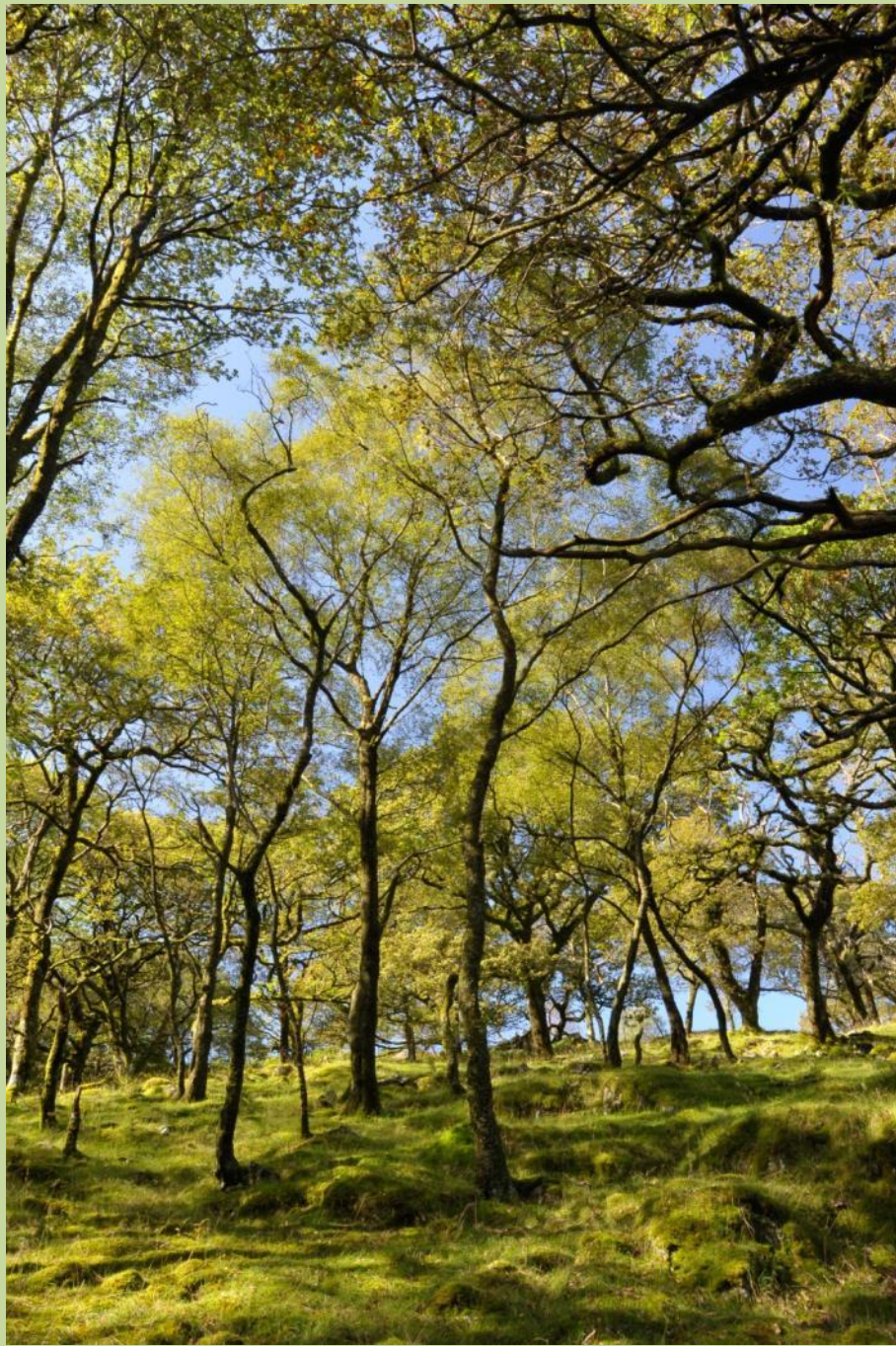
The Welsh countryside - our habitats with their wild populations- is a fragmented mosaic of small, fragile remnants, few of which can ever thrive in isolation.

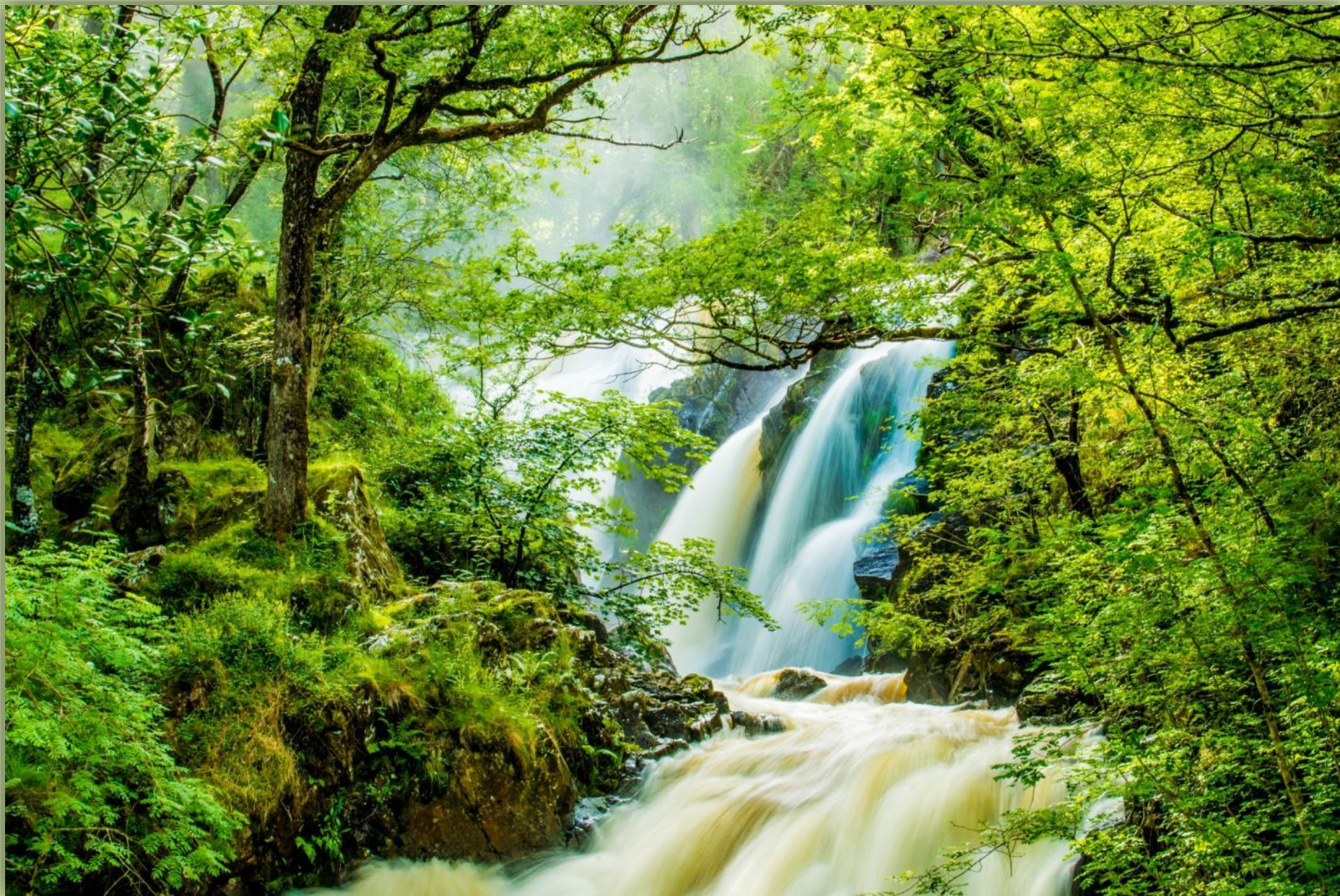
NNRs play an essential role as we begin to repair the damage of the past generations, by connecting places with places and building robust, sustainable ecosystems.

NNRs in the Vale of Ffestiniog.

These are the core areas, the essential reservoirs for the restoration of woodlands in the Meirionnydd SAC and wider countryside.







Rhaeadr Ddu - Coed Ganllwyd NNR



Rhododendron ponticum



A Prosperous Wales

NNRs make a vital contribution to our economic prosperity.

- Each year over 3.5 million people visit our coastline contributing £602 million to the Welsh economy.
- Tourism sustains 10% of total employment in Wales
- International tourism receipts as a percentage of GDP in Wales are at about the same level as in Spain and Greece.

8 of the most important Welsh tourist beaches are NNRs



Well Being Goal 3 – A Healthier Wales

NNRs, make an invaluable contribution to the physical health and mental well-being of people in Wales.



A Wales of Vibrant Culture

Wales – a cultural landscape

In so many parts of Wales the NNRs help to define our glorious cultural landscape. They are the bright jewels in the crown, sparkling in a landscape which reflects both our cultural and natural heritage, shaped over millennia: a place where nature and people came together.



Cader Idris NNR



Rhinog NNR



Ramsey Island NNR

A Globally Responsible Wales



Research, Study,
Development &
Demonstration



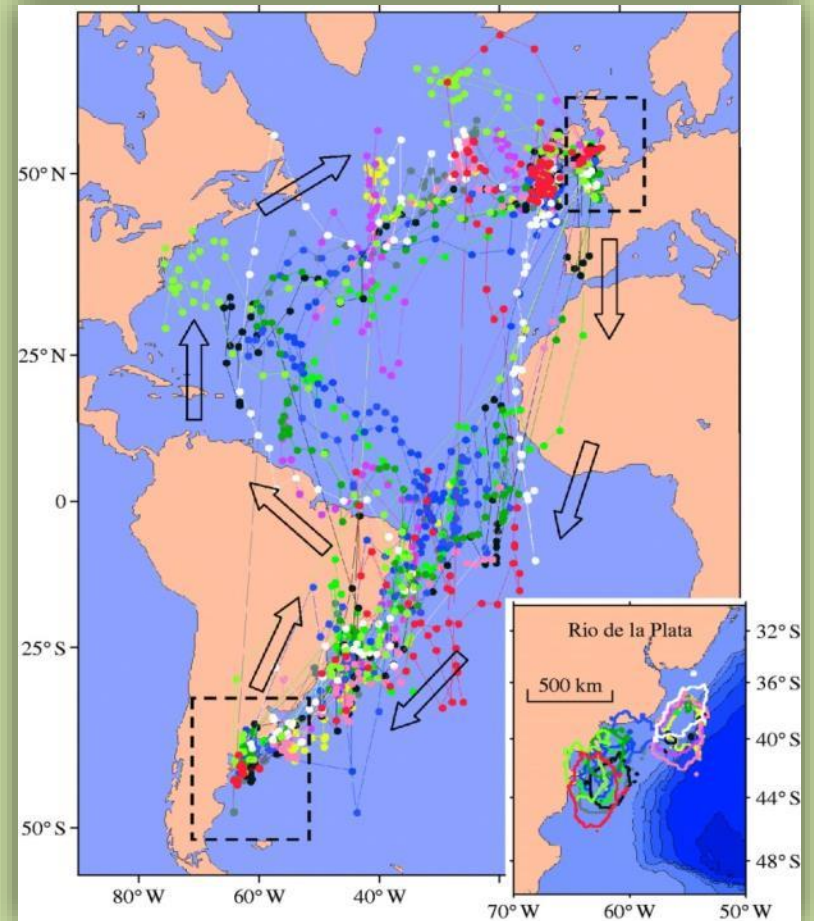
Major users include; the national conservation agencies in the UK (NRW, Natural England), the Netherlands (Natuurmonumenten, Staatsbosbeheer) and Belgium (Agentschap voor Natuur en Bos).



There over 50 active client organisations using CMSi in the UK, Europe and Canada, from conservation charities, local government and universities and the number is growing.



Manx shearwater research on Skomer Island NNR



T. Guilford oxnav

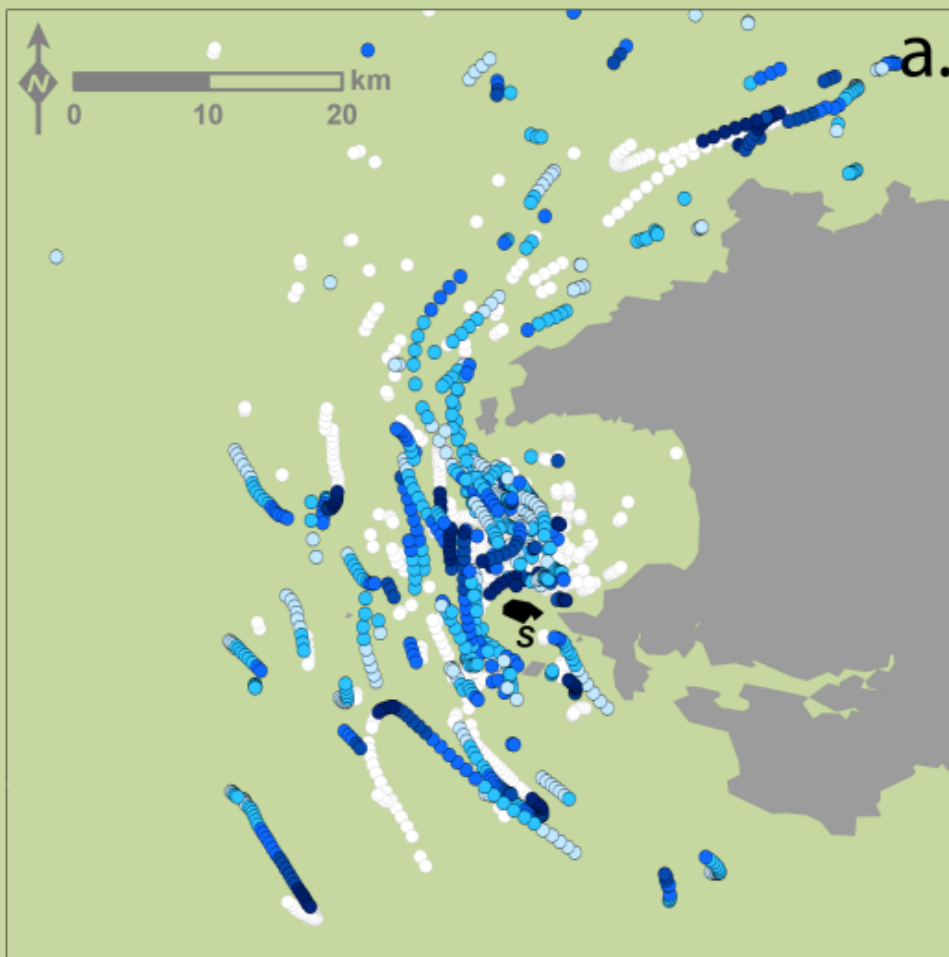
Will help protect the global
population of Manx shearwaters
and contribute to the protection
of other seabirds

Life is nowhere static. The changes in the population of plants and animals within reserves have to be followed over a long period of years. This involves researches in the field of population dynamics which are of fundamental importance to biological science. (R Elfyng Hughes NNC Wales 1956)



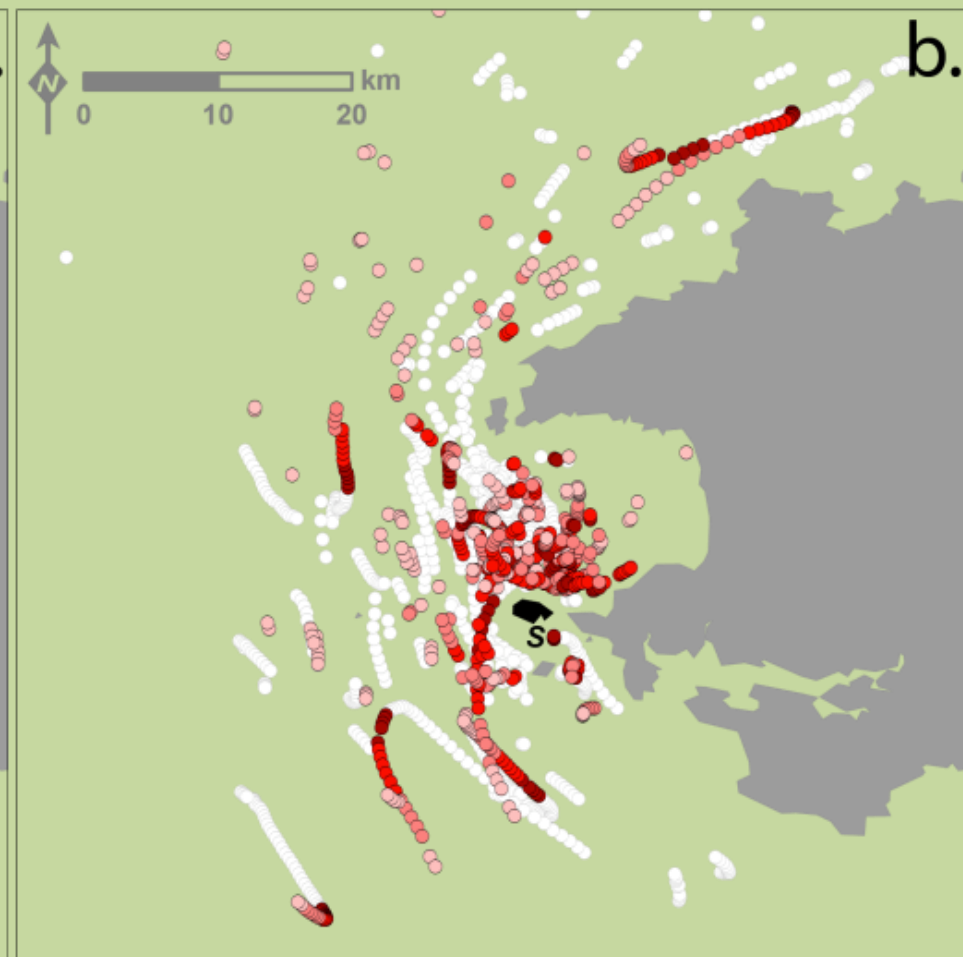
Professor Chris Perrins examining a Manx Shearwater in one of his study burrows on Skokholm NNR in 2016. Research which began in 1966

Shearwater rafting map, using a sample of birds tracked by GPS



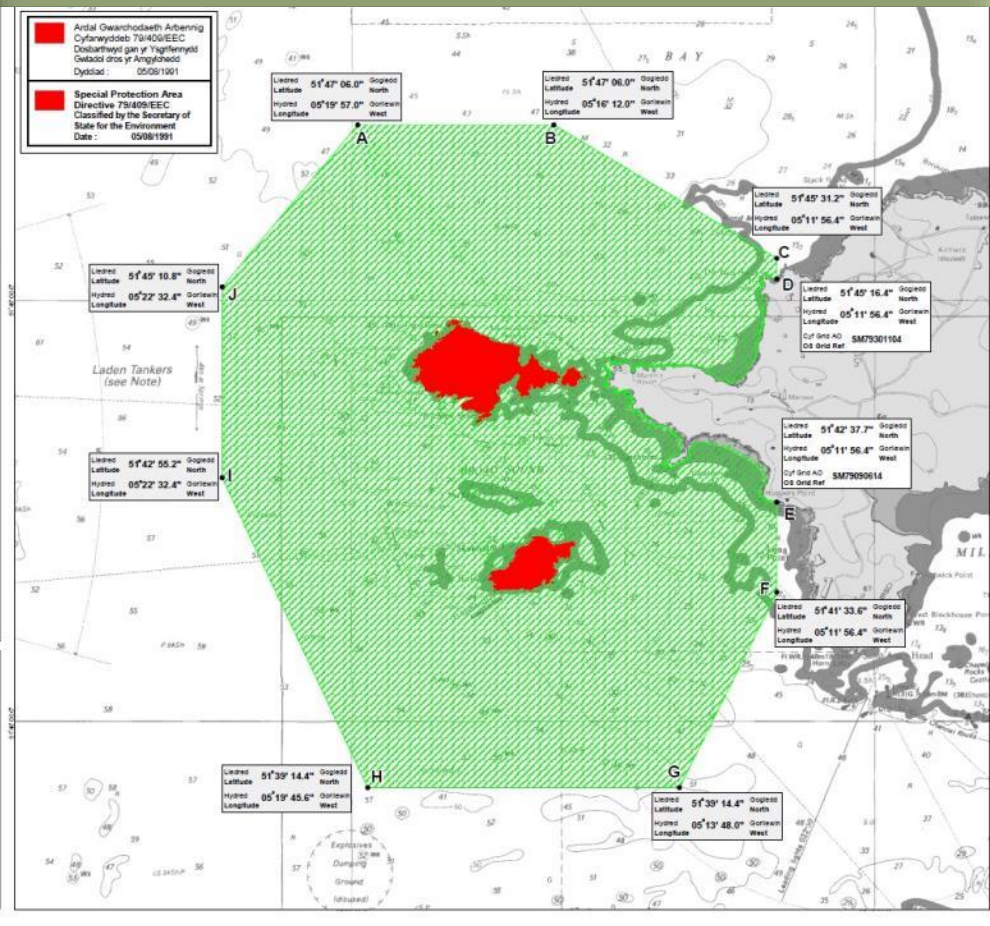
Hour (GMT) ● 20 ● 21 ● 22 ● 23 ● 00 ● 01 - 04

Rafting prior to visit



Hour (GMT) ● 20 - 00 ● 01 ● 02 ● 03 ● 04

Rafting after visit



Monitoring

The total guillemot population:

Lower limit: 3 in any 5 consecutive years with less than 21,600 individuals

The annual survival rate of breeding adults:

Lower limit: 3 in any 5 consecutive years with a survival rate less than 85%

Annual breeding productivity:

Lower limit: 3 in any 5 consecutive years with less than 0.8 chicks per breeding pair



The seabird wreck 2014



Evidence which demonstrates the impact of global climate change.



Final words

Protected areas are at the core of efforts towards conserving nature and the services it provides us. (IUCN)

Protected areas are crucial for the conservation of terrestrial, freshwater and marine environments. (FAO Food and Agriculture Organisation of the United Nations.)

We must press for better resources and a deserved higher profile for our National Nature Reserves, and hold government to account in any move that threatens them. (Peter Marren, British Wildlife, 2018)

Thank you for listening

