British Ecological Society

Introduction to Policy in Scotland

2 October 2014

#scotbio14

Science policy and the role of scrutiny in Scotland

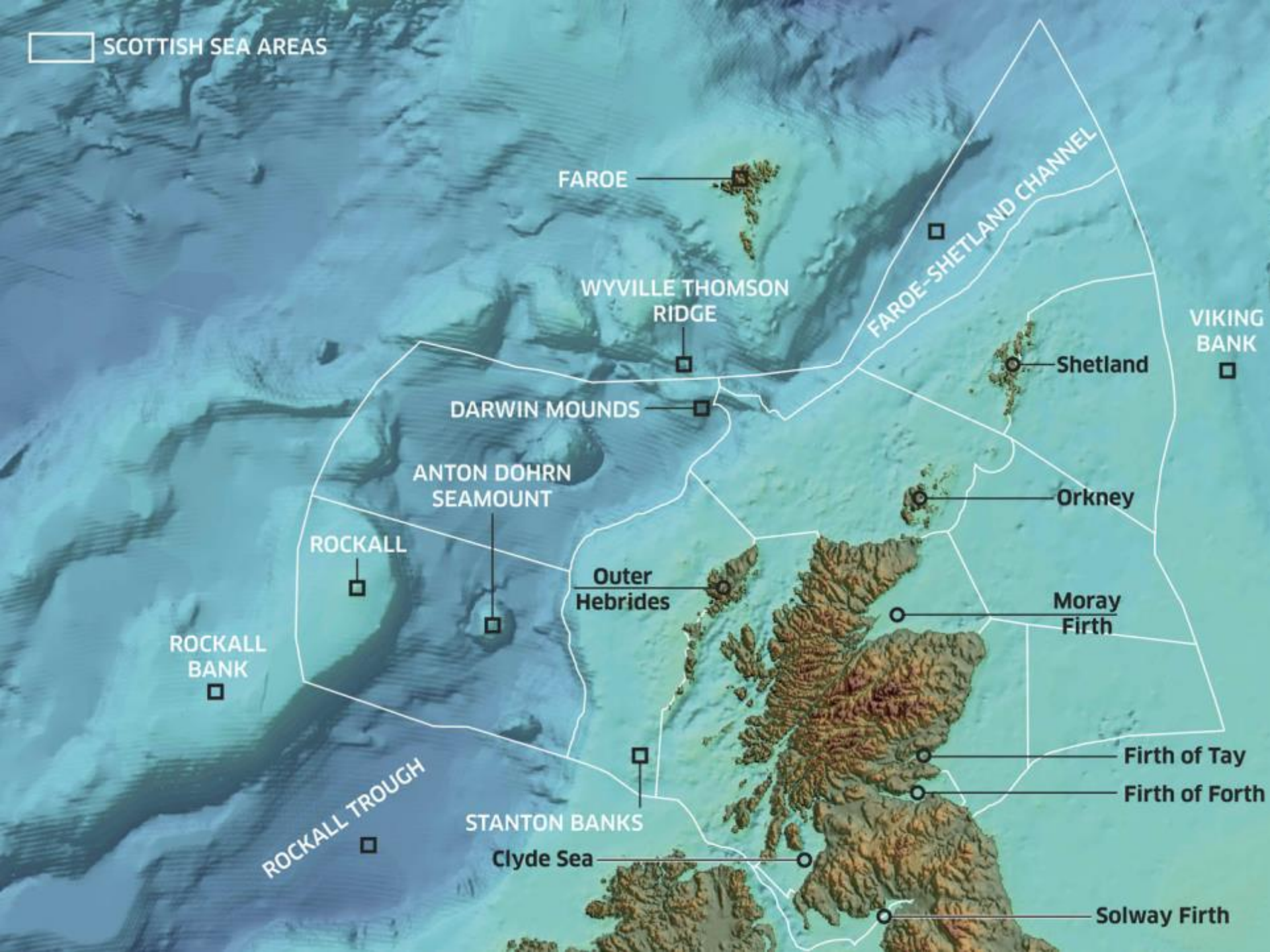
Graeme Cook
Head of Research and Enquiries
The Scottish Parliament

British Ecological Society
Edinburgh Zoo
2 October 2014

The Scottish Parliament
Pàrlamaid na h-Alba

Take Home Messages

- **The development of policy, the scrutiny of policy, and the making of law do not happen in a vacuum.**
- **Contributing is possible, not as complicated as you might think, and is absolutely fundamental.**
- **The Parliament and Government are not the same thing.**


SCOTTISH SEA AREAS
FAROE
FAROE-SHETLAND CHANNEL
WYVILLE THOMSON RIDGE
VIKING BANK
Shetland
DARWIN MOUNDS
ANTON DOHRN SEAMOUNT
Orkney
ROCKALL
Outer Hebrides
Moray Firth
ROCKALL BANK
Firth of Tay
Firth of Forth
STANTON BANKS
ROCKALL TROUGH
Clyde Sea
Solway Firth

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Policy

Chambers Dictionary

- **A course of action, especially one based on some declared or respected principle**
- **A system of administration guided more by interest than by principle**
- **The art of government**
- **Statecraft**
- **Dexterity of management**
- **Prudence**
- **Cunning**

Scots Dictionary

- **Polish of manners, refinement, cultivation, civilization**
- **The enclosed grounds of a large house, the park of an estate**

Policy Makers

Politic

- **In accordance with good policy**
- **Acting or proceeding from motives of policy**

Politician

- **Someone versed in the science of government**
- **Someone engaged in political life or statesmanship**
- **An intriguer**

Policy Maker

- **A person responsible for or involved in formulating policies, especially in politics – politicians, civil servants but many others…**

The Scottish Parliament
Pàrlamaid na h-Alba

Scottish Parliament and Scottish Government

The Scottish Parliament
Pàrlamaid na h-Alba

UK Parliament and UK Government

The Scottish Parliament
Pàrlamaid na h-Alba

A Modern Parliament

- **Founding Principles of sharing of power; access & participation; accountability, and equal opportunities**
- **10 Committees with Twitter feeds, plus overall Parliament account and Gaelic account**
- **Bilingual if required**
- **A voice in the land – engagement**

The Scottish Parliament
Pàrlamaid na h-Alba

Devolved subjects with a science emphasis

- **Devolved legislature** – Health, Environment, Rural Affairs, Renewable Energy, Economy, Education, Transport, Rural Affairs, Local Government

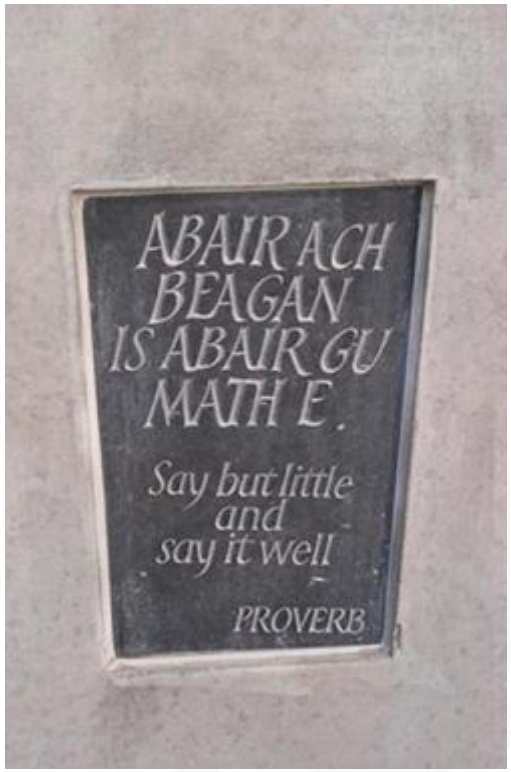
- **Issues reserved to London** – Social Security, Defence, Energy Markets, Foreign Affairs

The Scottish Parliament
Pàrlamaid na h-Alba

Processes in the Parliament

The Scottish Parliament Information Centre (SPICe)

- **36 impartial staff (Full and Part Time)**
- **Enquiries Service**
- **Research**
  - To individual members and their staff
  - Supporting committees
  - Input to Presiding Officer, Scotland's Futures Forum, international delegations
- **Collection**
  - Library and Electronic Resources



The Scottish Parliament
Pàrlamaid na h-Alba

Who is providing science information to the Parliament?

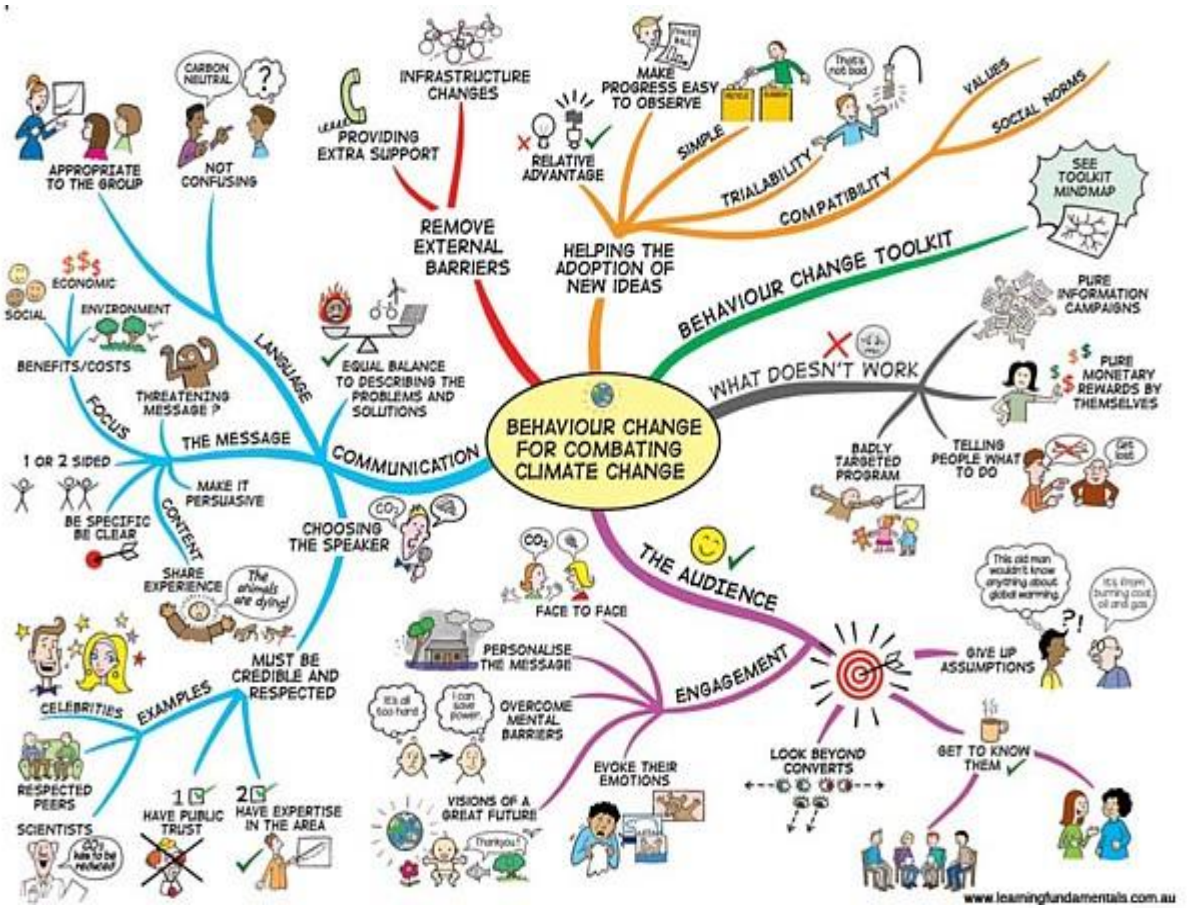
- Academia (universities and institutes)
- NGOs
- Business interests

How is this being improved?

- PhD Fellowships with POST and others
- Seeking to develop relationship with academia
- Work with other Parliaments

The Scottish Parliament
Pàrlamaid na h-Alba

Case Study - Climate Change



The Scottish Parliament
Pàrlamaid na h-Alba

Case Study - Climate Change

The Scottish Parliament
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The Scottish Parliament
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The Scottish Parliament
Pàrlamaid na h-Alba

Thank you!

- **graeme.cook@scottish.parliament.uk**
- **@scotparl**

An Insider's Perspective on Policy Making

NEIL RITCHIE
Scottish Government

What is Policy

50,000 Shades of Gray

Bernard - Will I be a moral vaccum

Sir Humphrey – Yes, if you are lucky

Delivering Minister's/Government asks

- Its not operational delivery;

In practice

- Designing/delivering an initiative – eg flood risk management
- Communicating policy – ie why and what legislative framework
- (Trying) to find the money
- Meeting scrutiny
- Managing expectations

The process

ongoing and often reactive to events

How to engage – changing the question!!

What do we need?

- Evidence and analysis
- Expertise
- To know the Rumsfelds

How do we get it (in general)

- Events like today
- Ongoing stakeholder engagement
- Through our advisors – internal and external
- Picking up the phone

What do we need?

- Simple short, understandable
- Understanding of what we are trying to deliver. Policy not an end
- Multi-disciplinary engagement

How do we get it in Rural and Environment

- (Excellent internal science and analytical support
- Main research providers
- Centres of Expertise

Takeaway Messages

- I am simple and potentially confused
- Focus on outcome not the process
- Identify key contacts – what they need as well as what you can offer
- The answer is easy – it's the right questions that's not

The Ups and Downs of being CSA for Rural Affairs and the Environment in the Scottish Government 2006-2011

Maggie Gill
Professor of Integrated Land Use
Institute of Biological and Environmental Sciences
University of Aberdeen

Structure of talk

- What was the job about?
- What changed during the 5 years?
- What were the challenges?
- What were the positive outcomes for me?

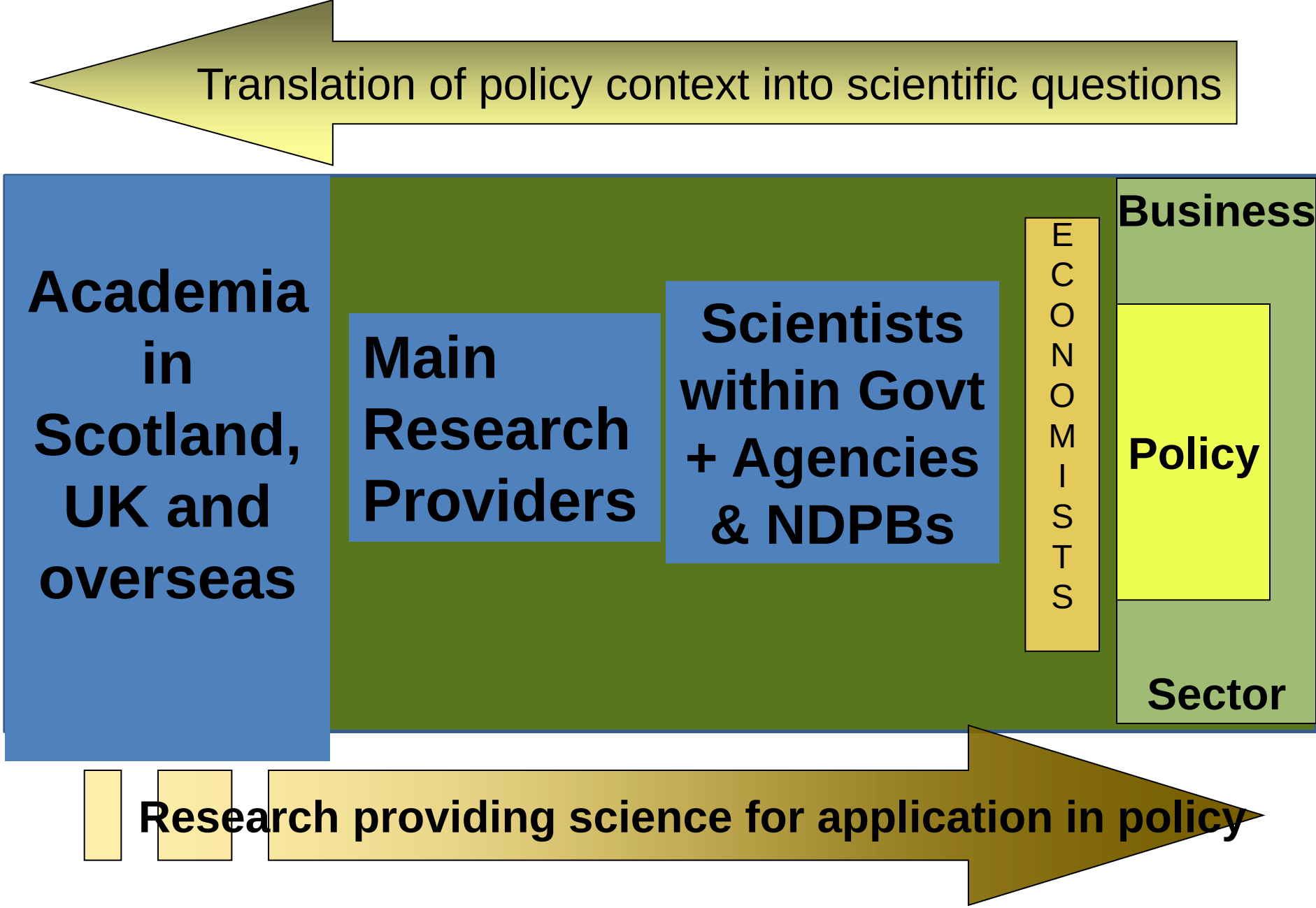
The role and vision – from *my* perspective

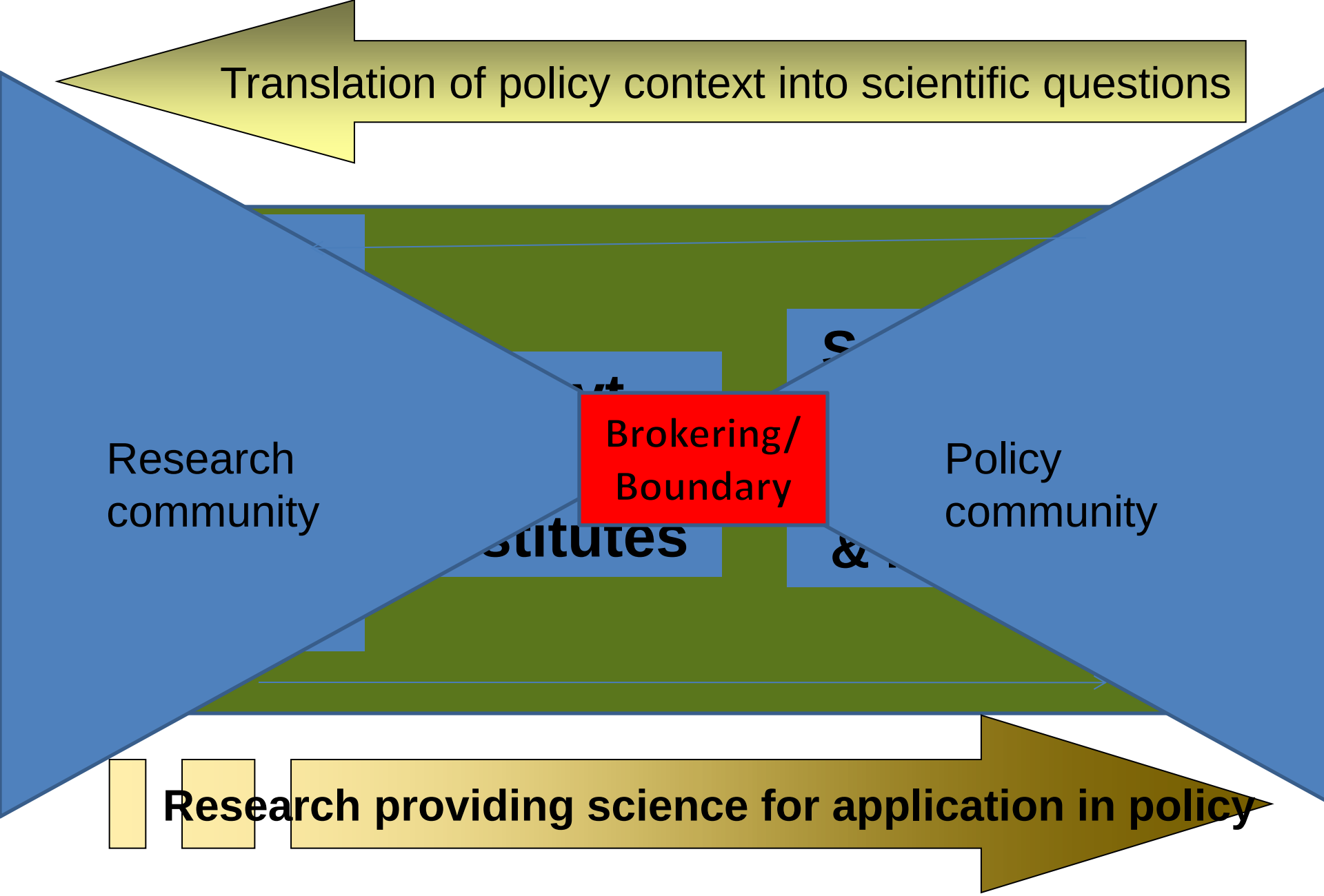
Role of CSA in SG Environment and Rural Affairs Department (ERAD)

- Develop an integrated science strategy across the ERAD family
- Raise the profile of ERAD's science both internally and externally
- Provide scientific advice within SEERAD
- Develop the concept of science as a profession within ERAD as part of CSAS initiative
- Liaise with CSAS, Chief Scientist (HD) and Chief Vet and input to cross-Executive science strategies.
- Direct the programme for the Science Strategy Advisory Panel.

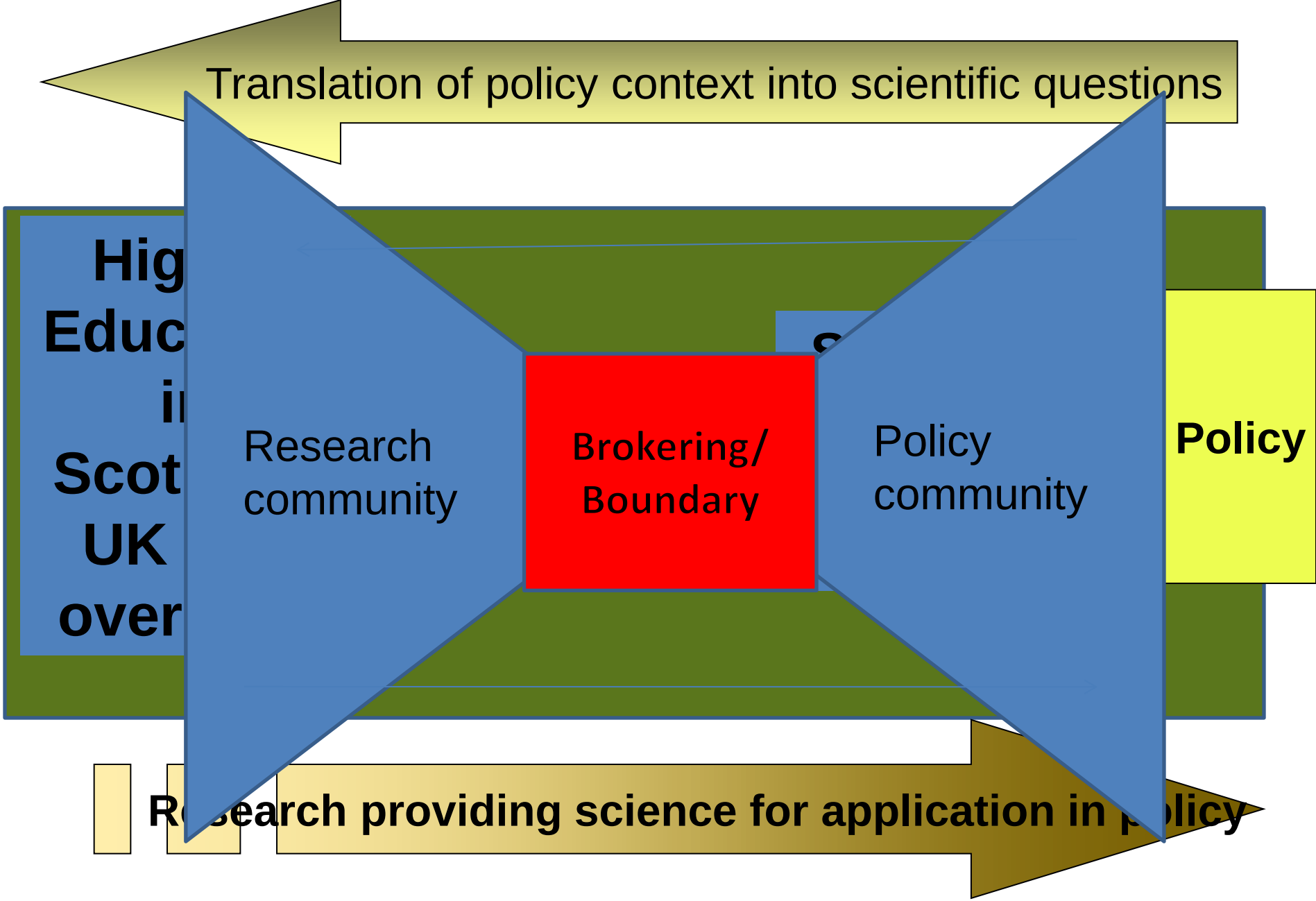
Vision

Complex policy development and implementation underpinned by robust evidence, enhancing Scotland's reputation for evidence-based policymaking in Rural Affairs and the Environment


Translation of policy context into scientific questions
Academia in Scotland, UK and overseas
Main Research Providers
Scientists within Govt + Agencies & NDPBs
ECONOMISTS
Business
Policy
Sector
Research providing science for application in policy



Direction of travel


Translation of policy context into scientific questions
Hig
Educ
i
Scot
UK
over
Research community
Brokering/ Boundary
Policy community
Policy
Research providing science for application in policy

The changing context

Stern Review published 2006

- This independent Review was commissioned by the Chancellor of the Exchequer, reporting to both the Chancellor and to the Prime Minister, as a contribution to assessing the evidence and building understanding of the economics of climate change.

The Stern report

Concluded that:

- Extreme weather could reduce global gross domestic product (GDP) by up to 1%
- A two to three degrees Celsius rise in temperatures could reduce global economic output by 3%
- If temperatures rise by five degrees Celsius, up to 10% of global output could be lost.

Consequences?

- Policy colleagues interested in scientific evidence
- Question of certainty/uncertainty of evidence was highlighted
- Current research providers were not providing key evidence
- Highlighted cross-departmental nature of 21st century challenges

Action taken

- Concept of transient think-tanks
- In-house economists undertook innovative analysis of policies
- Commissioned short-term studies on impact in Scotland
- Creation of ClimateXchange – centre of expertise on climate change drawing on academics from across Scotland

Change of Government

- 2007 – SNP minority government came to power
- Renewed focus on agriculture
- ‘Scotland Performs’ framework for government
- ‘Simplification of the landscape’ – i.e. even greater emphasis on co-ordination between quangos

Scottish Government Purpose

"To focus Government and public services on creating a more successful country, with opportunities for all of Scotland to flourish, ***through increasing sustainable economic growth***."

Consequences?

- Commitment to growing food and drink sector
- Commitment to farming
- Interest in Scotland as world leader
- Pressure for co-ordination across government agencies

Action taken

- Involvement of science in development of food and drink policy
- Easier initially to protect research funding
- Led to creation of CAMERAS: Co-ordinated Agenda for Marine, Environment and Rural Affairs Science

CHALLENGES!

Within government

- The importance of economics
- The importance of language
- The need to communicate uncertainty
- The differences in time scale between policy and science

External challenges

- Explaining to the scientific community what policy-makers want!
- Trying to get the scientific community to accept that research grants are not theirs by rights!
- Finding objectivity when evidence is patchy and NGOs were lobbying!
- Representing Scotland in Whitehall when SG was pro-livestock and Whitehall anti!

POSITIVE OUTCOMES!

Learning

- How to see the world from a totally different perspective!
- How to meet very short deadlines!
- How to read large volumes of paper and separate out the key messages
- How to act as a bridge between communities

Positive outcomes

- It was fun…..eventually!
- I understand much better how government works…. At least in Scotland!
- I make good use now (in an international role) of the lessons learnt!

Turning scientific advice into Government policy

an agency view

Dr Ian Bainbridge
Head of Science
Scottish Natural Heritage

Scottish Natural Heritage
Dualchas Nàdair na h-Alba
All of nature for all of Scotland

Definitions of policy

- **Political**:
The basic principles by which a government is guided
The declared objectives that a governing party seek to achieve in the interest of the national community

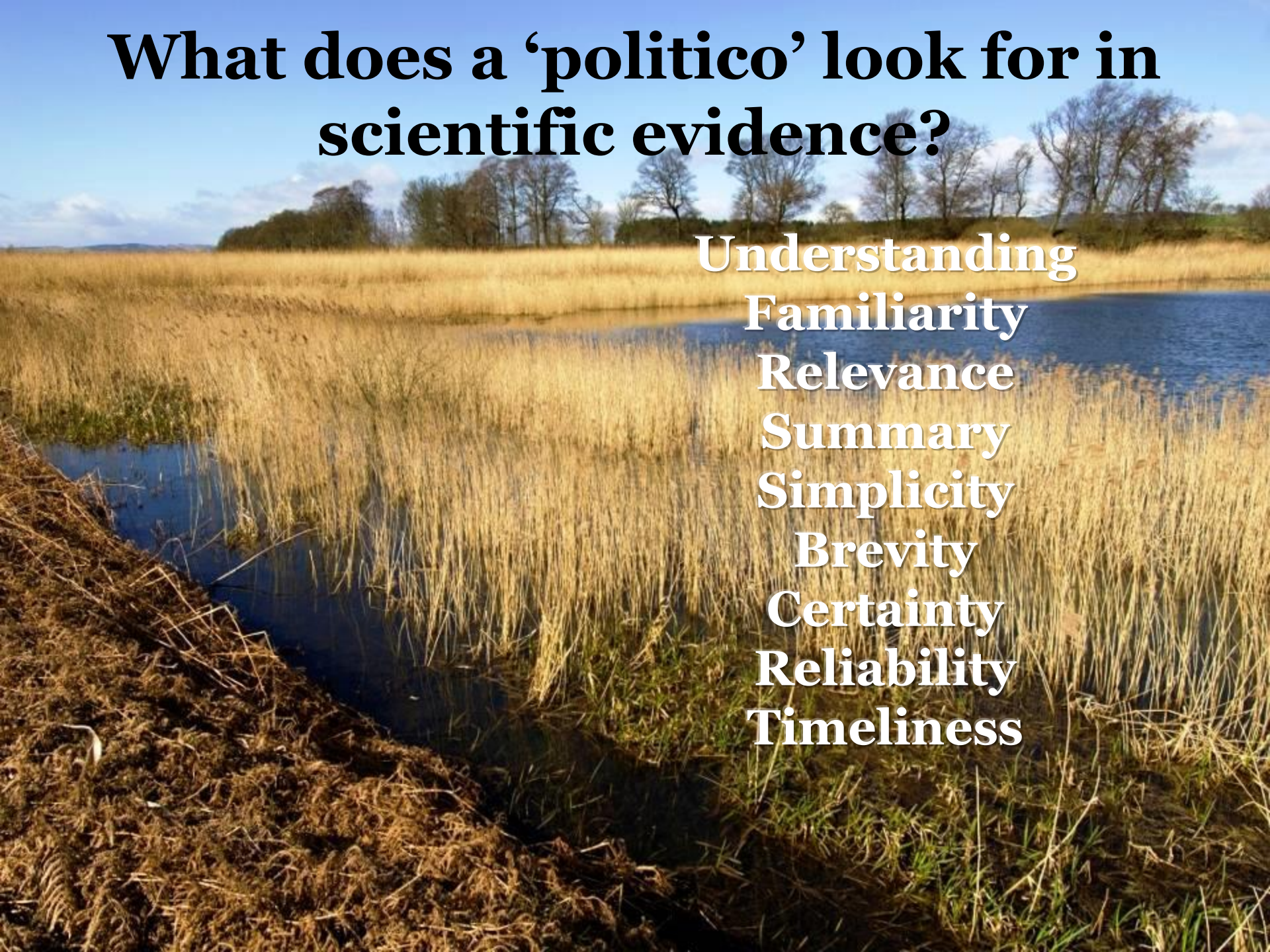
Definitions of policy

- **Management**:
  The set of basic principles and guidelines formulated and enforced by a governing body
  To direct or limit actions in pursuit of its long-term goals

Elements of conservation policy

- Natural science
- Social science
- Economics
- Ethics
- Philosophy
- Societal values
- Political judgement

What does a ‘politico’ look for in scientific evidence?



Understanding
Familiarity
Relevance
Summary
Simplicity
Brevity
Certainty
Reliability
Timeliness

Connecting with policymakers

- **Understanding:** appreciate their policy needs and direction
- **Familiarity**: find out how government works, get to know the right people, be sure they know you
- **Relevance:** focus your evidence on their questions

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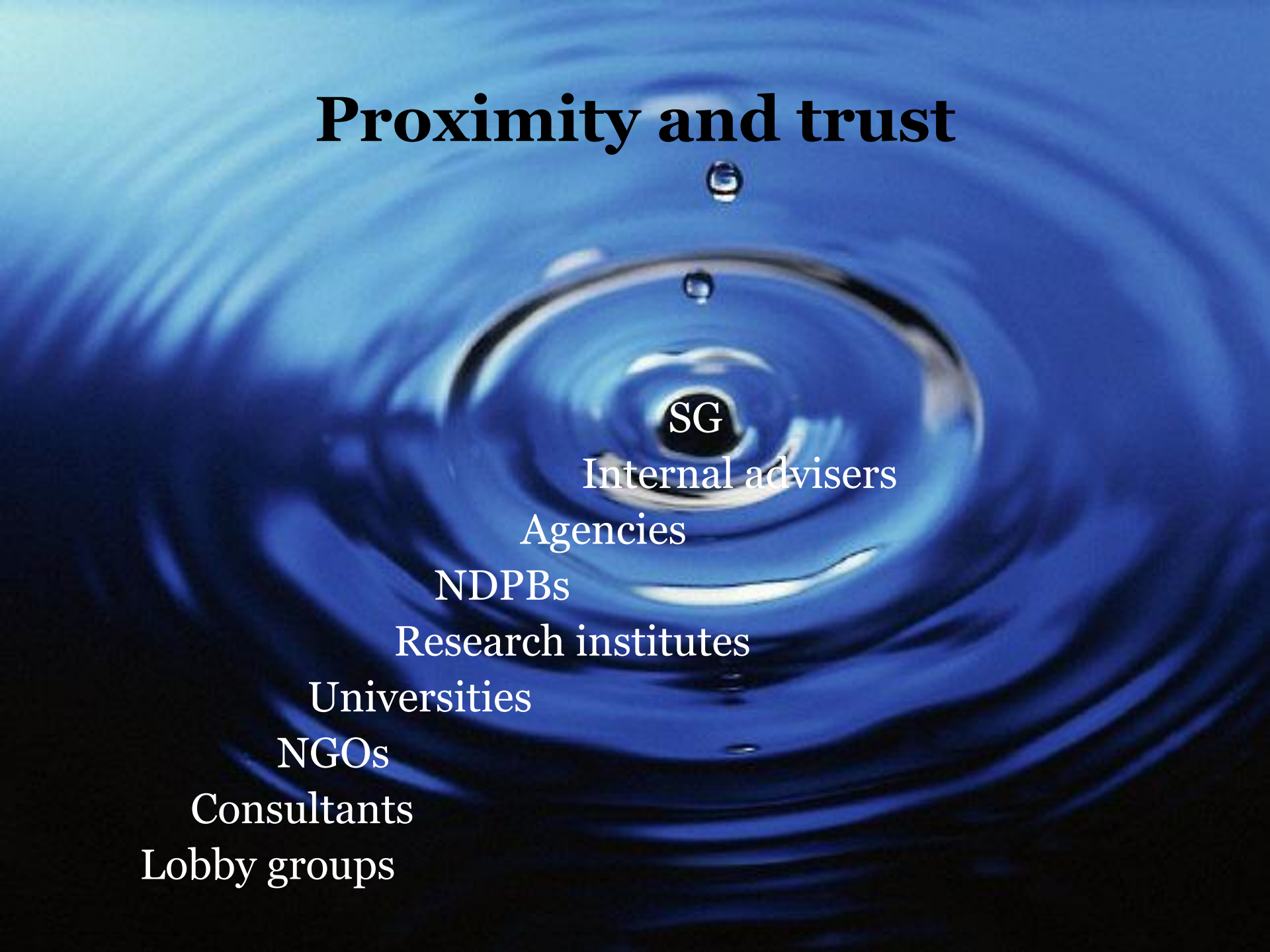
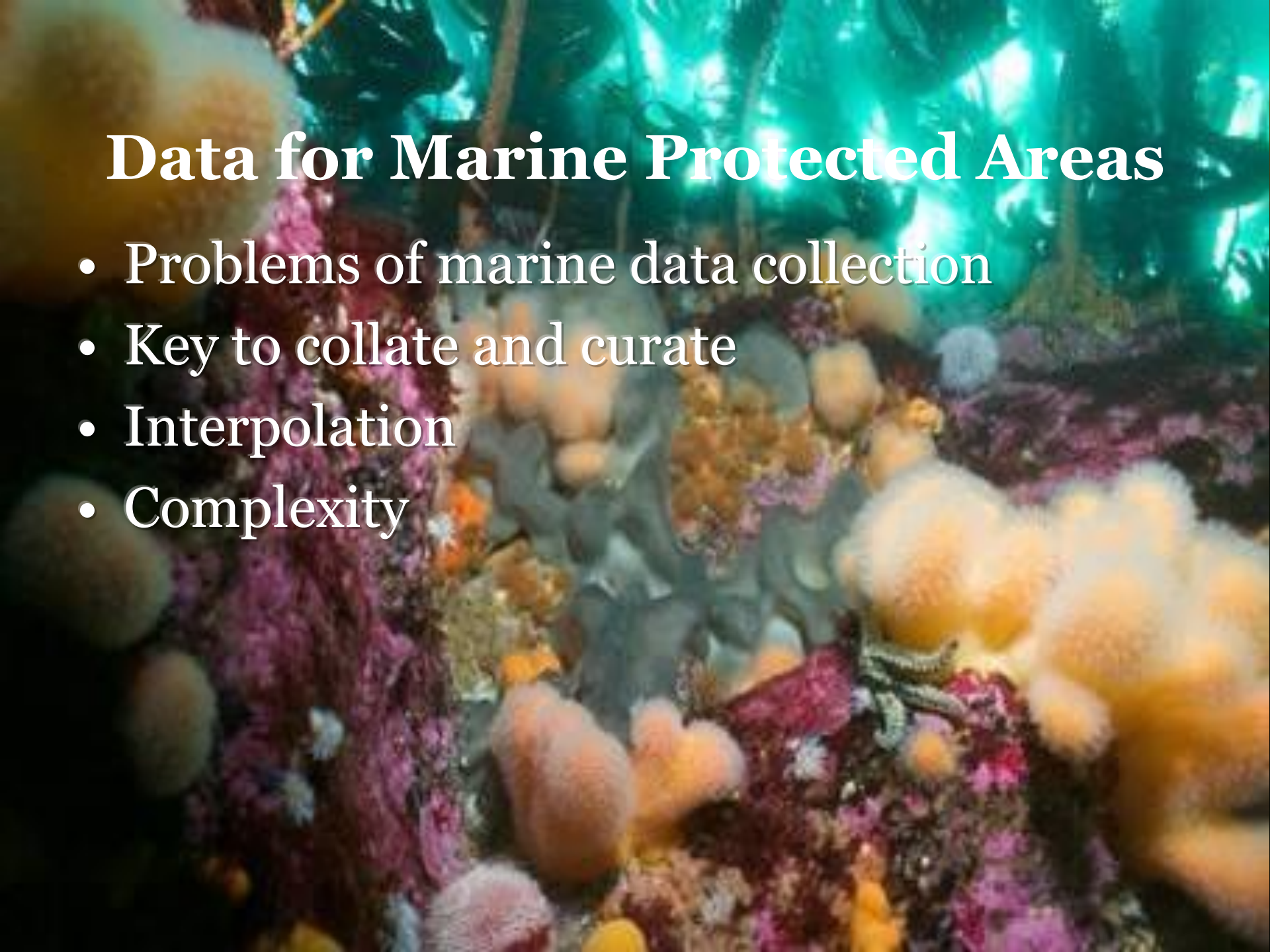
- **Simplicity:** if in doubt, simplify, don't complicate
- **Brevity:** you'll get minutes of their attention, not hours
- **Certainty:** they'll want to know how certain your evidence is
- **Reliability:** they'll want to know your track record and standing
- **Timeliness:** political timescales are shorter than research timescales; hours not years

Proximity and trust



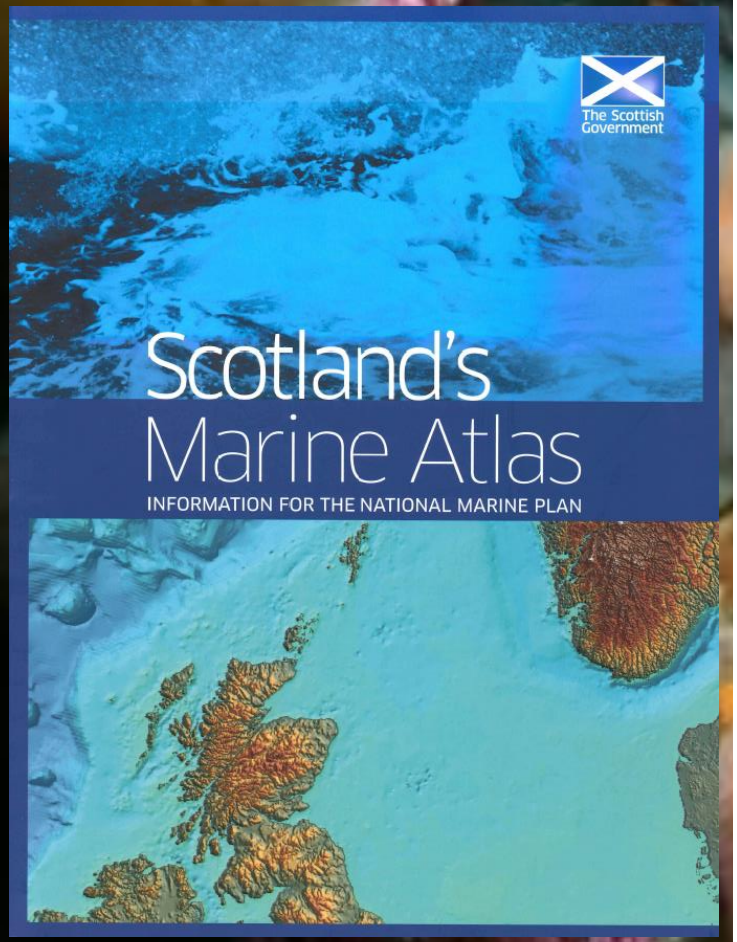
Proximity and trust

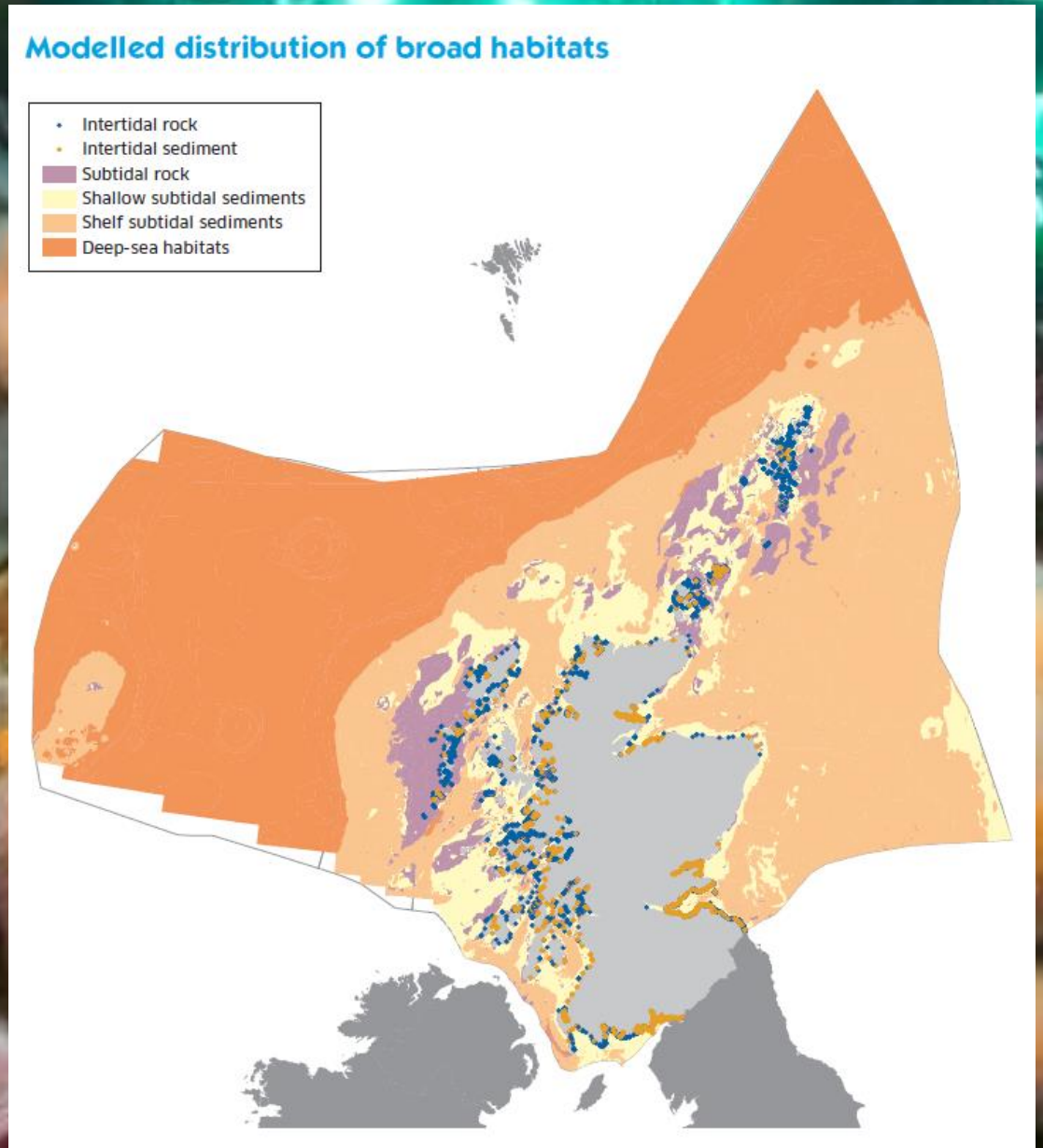


Data for Marine Protected Areas

- Problems of marine data collection
- Key to collate and curate
- Interpolation
- Complexity

Production of the Marine Atlas





Simple summaries
Scotland - six parts water to one part land

Loch Slapin, Isle of Skye

© Marine Scotland

Gairloch

© Marine Scotland

St Ninian's Isle, Shetland

© Marine Scotland

Puldrite, Orkney

© Sonia Duguid, Marine Scotland

St Kilda

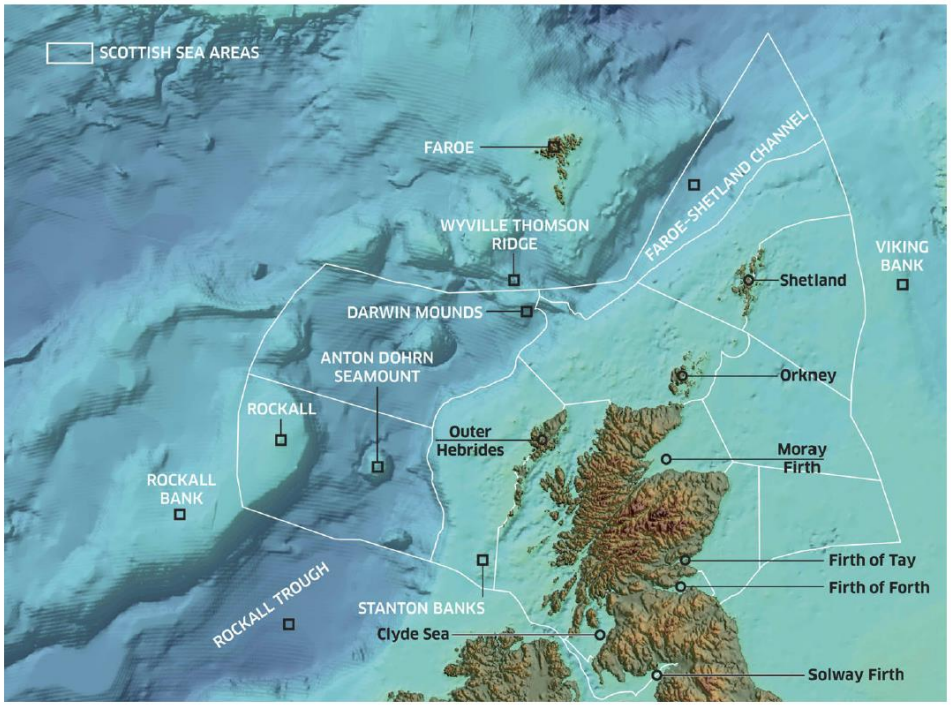
© Brent Harrald

Rockall

© Francis Neat, Marine Scotland

Mull

© SNH



Duncansby Head, North Scotland

© George Brown

Aberdeen Harbour

© Marine Scotland

North-East Scotland

© Marine Scotland

Clyde

© SNH

Caerlaverock, Solway Firth

© SNH

Grangemouth, Firth of Forth

© SNH

Stonehaven Bay

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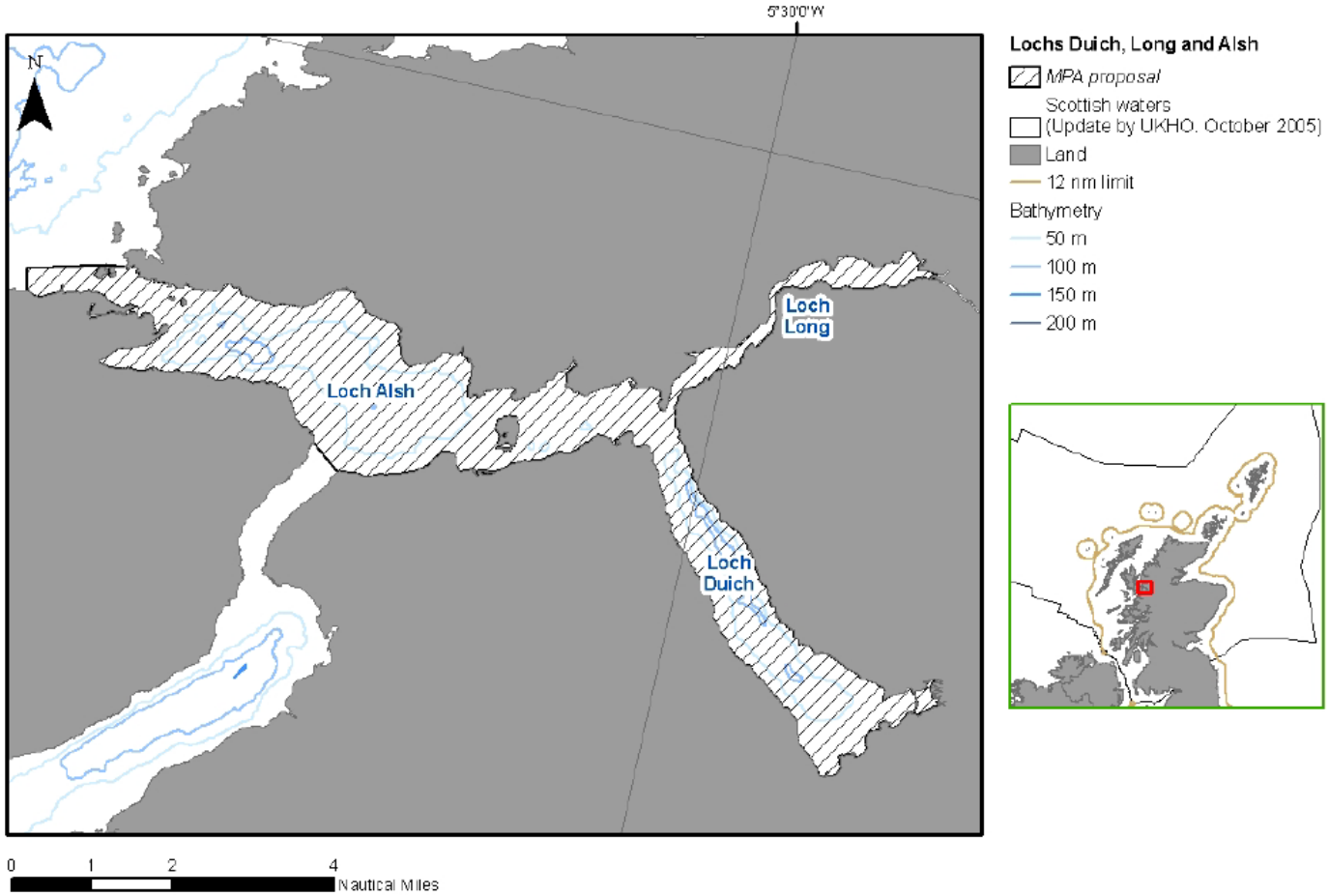
Detailed data assessments

LOCHS DUICH, LONG AND ALSH MPA PROPOSAL - DATA CONFIDENCE ASSESSMENT

Figure 1 The Lochs Duich, Long and Alsh MPA proposal



Detailed data assessments

- Map showing location and boundary.
- Introduction to the area
- List of all the proposed protected features
- List of all datasets used for the assessment
- Summary of the Data Confidence Assessment.
- Map with all available records of protected features.
- Data on:
  - ◇ Age of protected feature data (When were the data collected?)
  - ◇ Source of protected feature data (Who collected the data, and why?)
  - ◇ Sampling methods & resolution (How were the data collected, and what can be seen in them?)
  - ◇ Protected feature data coverage (Are data distributed across the whole area, for all of the features?)
- List of published reports on data used and sources of further information.
- Maps illustrating the main text of the DCA

Simple summary

Lochs Duich, Long and Alsh
Possible Marine Protected Area

Home to a huge bed of elusive yet brightly coloured bivalve molluscs known as flame shells, the Lochs Duich, Long and Alsh possible Marine Protected Area (MPA) covers a group of sea lochs on the west coast. When viewed from the air, they form a distinctive Y-shape. The sea lochs lie between the jagged mountains of Kintail, Lochalsh, Glenelg and Skye.

The steep sides of the mountains continue down underwater to form deep basins carpeted with burrowed mud, home to many animals that would usually only be found in deep waters, much further offshore. The possible MPA will provide protection for the inhabitants of the burrowed mud and an estimated 100 million flame shells, the largest known bed of this animal anywhere in the world!

Location: 57° 15' 59" N 005° 36' 03" W

Area: 37 km²

works anemone

posed
ected
tures

iversity: burrowed
: flame shell beds.

aim is to conserve
e features in order
ake a long lasting
contribution to the
MPA network.

The possible MPA overlaps the Lochs Duich, Long and Alsh Special Area of Conservation (SAC), designated for extensive areas of tide-swept reefs, extremely sheltered rocky reefs and horse mussel beds. Parts of the deep basins of the three lochs are blanketed with soft burrowed mud. The chambered burrows and mounds of Norway lobsters pepper the sea bed amongst forests of seapens. The flamboyant white tentacles of fireworks anemones flare out over the dark mud, particularly within Loch Duich where this animal is recorded in large numbers.

The flame shell bed covers an area of 0.75 km² from the shallow tide-washed waters of Kyle Akin, through the mouth of Loch Alsh, under the Skye Bridge and out into the Inner Sound. Flame shell beds stabilise the sea bed creating habitat for other animals such as peacock worms, anemones and sponges. These in turn encourage other predatory animals such as whelks, crabs and fish into the area.

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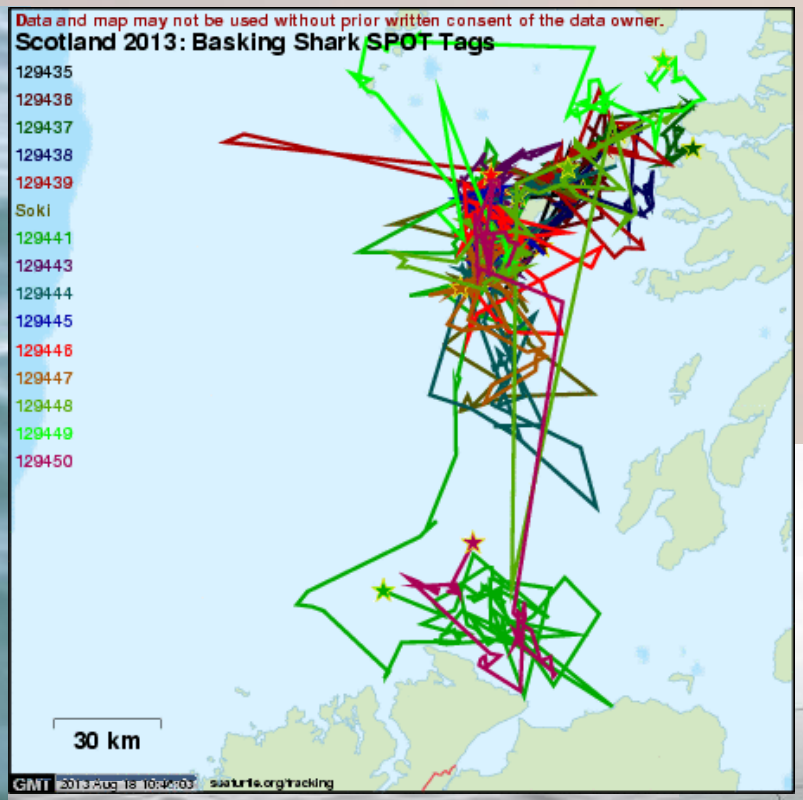
nd Alsh possible MPA

n Guidelines

nd

ble MPA

Ongoing detailed data collection - *Cetorhinus maximus* studies

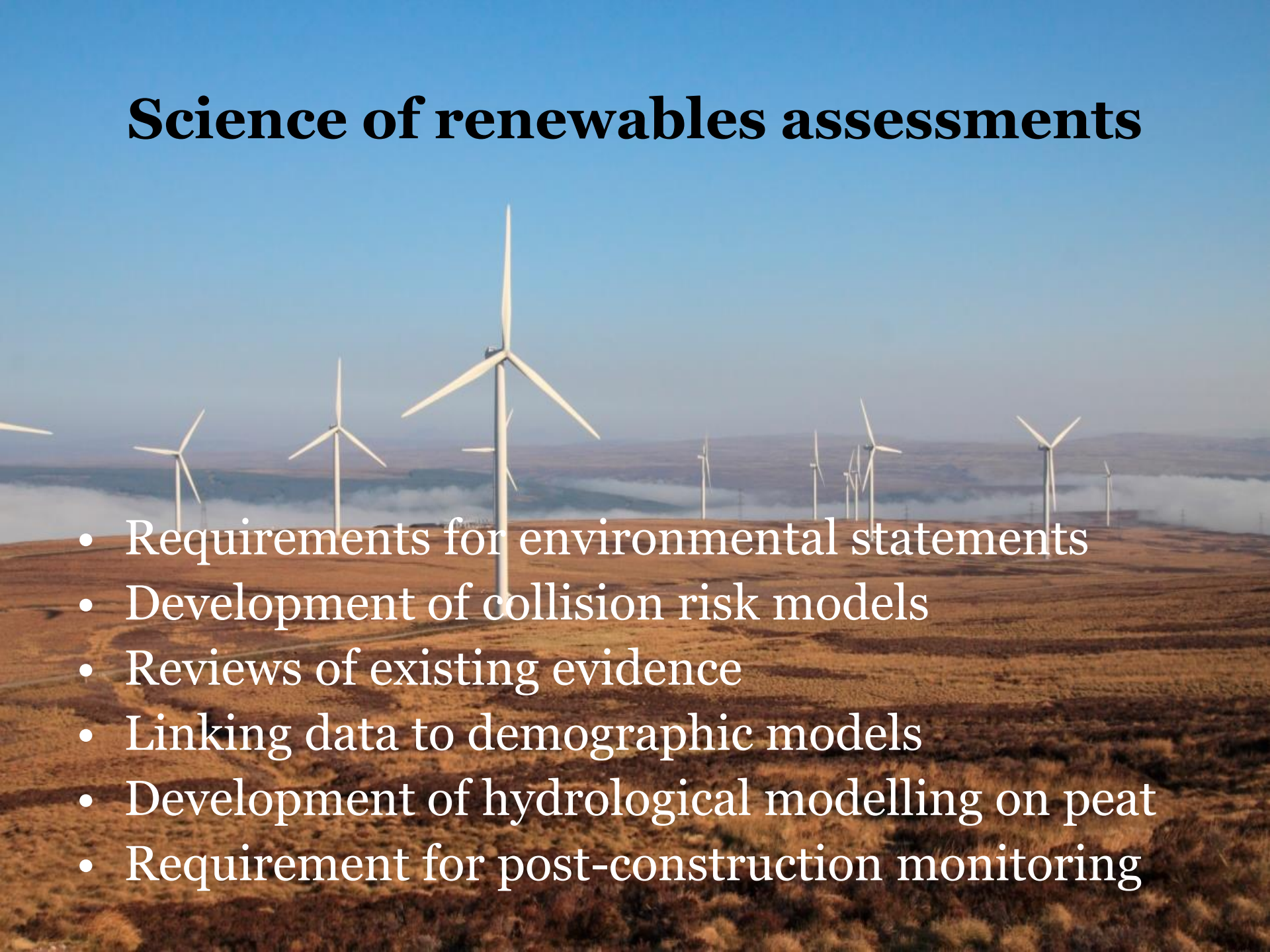


Photos R Graham, S Henderson

Ongoing detailed data collection - *Cetorhinus maximus* studies

Photos R Graham, S Henders

Science of renewables assessments



- Requirements for environmental statements
- Development of collision risk models
- Reviews of existing evidence
- Linking data to demographic models
- Development of hydrological modelling on peat
- Requirement for post-construction monitoring

Additional issues with marine renewables

- Modelling of population effects
- Lack of data on avoidance and collisions
- Lack of data on flight heights
- Lack of migration flight-path data
- Avoidance at night and in bad weather
- Underwater monitoring

Where do all the data go?

- Need for release of ‘commercial’ data
- Need for collation and curation
- Capacity to undertake correlative studies
- Need for longitudinal studies

Hygrophilous ravine bryophytes

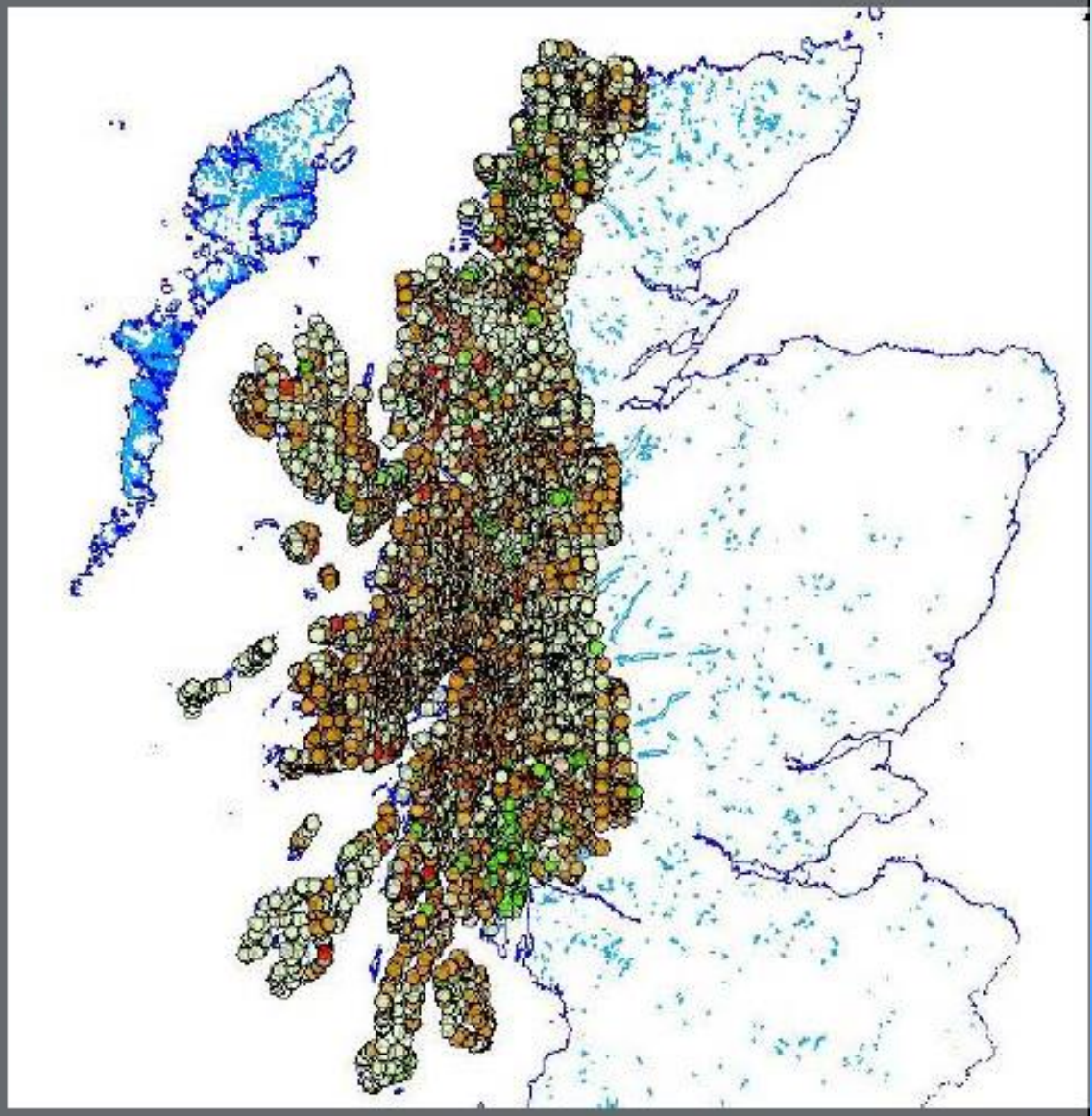
- ***Bazzania trilobata***

Scottish Natural Heritage

A subset of these bryophytes are mainly confined to humid habitats besides watercourses

Radula aquilegia

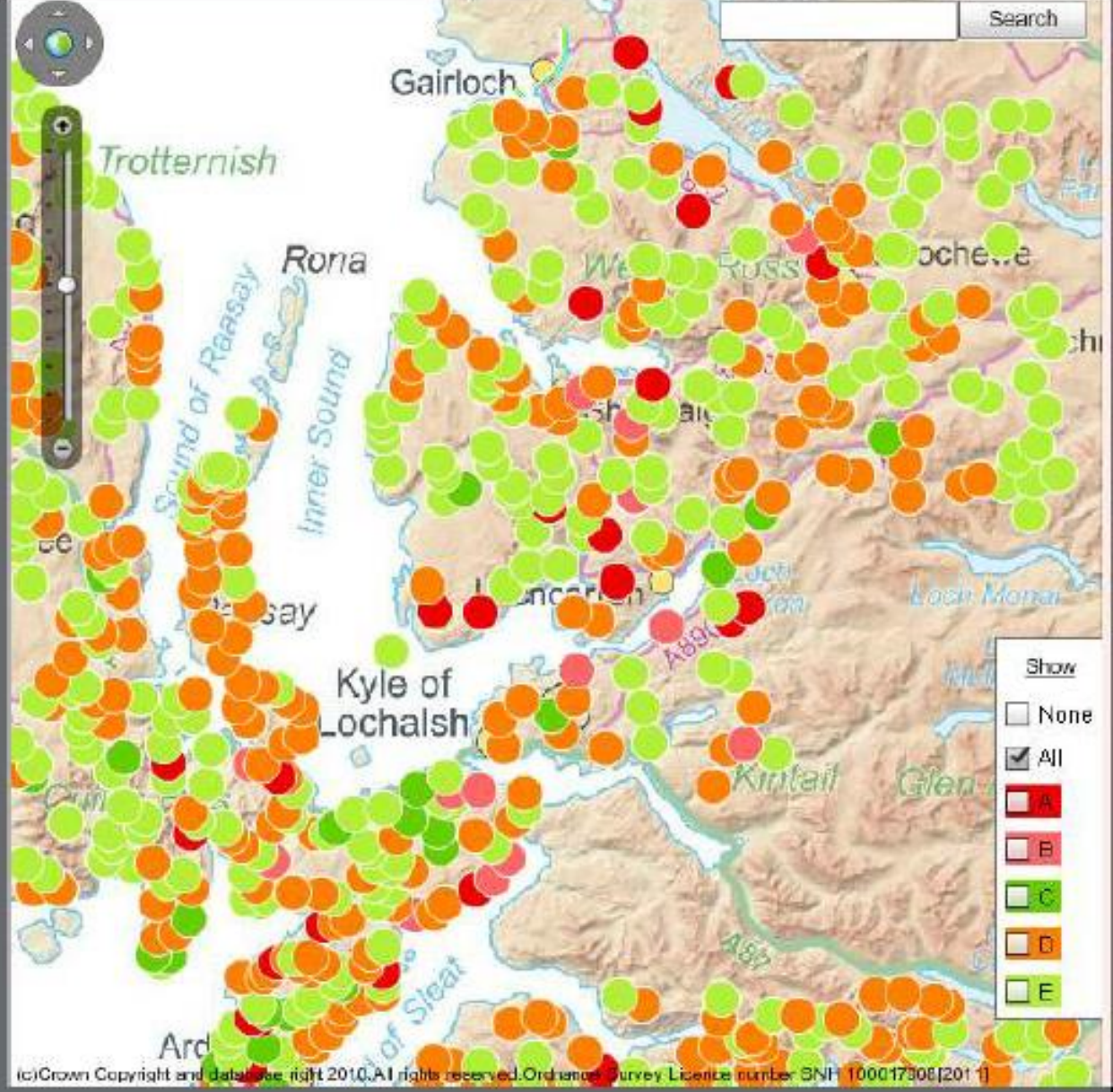
5629 watercourses assessed



Scottish Natural Heritage

Advising at the earliest possible opportunity

Intention is to publish results on the SNH website via an interactive map



Non-native invasives: developing policy

- Science involvement from day 1
- Value of formal (Defra) review
- High level advisory group
- Working with policy staff to form legislation
- Value of paving legislation

Non-native invasives Implementing the policy

- Development of risk assessment process
- Conservation-led group on rapid response actions
- Identifying ‘prohibitions list’ species
- Working with ngos and the public
- Using science to underpin management
- Issues with legal definitions

Policy-makers vs Researchers

- Often not scientists
- Move every 3 years
- Uninterested in technical or science stuff
- Interested in policy process
- Hate conferences, won't travel
- Want simple summaries
- Meetings last minutes
- Want certainty, not probability or doubt
- Will read 1 or 2 A4s

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- **Are scientists**
- **Have long tenures**
- **Fascinated by technical & scientific detail**
- **What is policy process?**
- **Love conferences, especially overseas**
- **Want detailed explanation**
- **Meetings last hours / days**
- **Delight in uncertainty and complexity**
- **Read a PhD before coffee**

Getting Your Message Across

Andy Myles

Scottish Environment Link

British Ecological Society

#scotbio14

British Ecological Society

Introduction to Policy in Scotland

2 October 2014

#scotbio14

Rob Brooker, The James Hutton Institute

Getting involved….

Why do I bother?

1. A chance to make a difference?
2. I like doing it!

How did I get started?

- Contracts for SG
- BES policy shadowing scheme
- Member of BES Council & PPC
- Invitations to contribute (NERC, SG, SNH)
- Member/chair of Science and Technical Group of the SBS
- Chair, BES Scottish Policy Group

Still learning!

What have I learnt?

- Look for opportunities for gaining experience, e.g. BES shadowing schemes or SNH workshops
- Turn up and contribute – demonstrate commitment and reliability
- Tailor your approach to the forum
- Crazy stuff will happen – keep calm!

What have I learnt?

- Scotland is a good place to engage with policy
- There will be increasing demand for this activity and these skills
- Feel no guilt - if you enjoy it, and are good at it, then GO FOR IT

"An ounce of action is worth a ton of theory."

Thanks

Especially to… BES, RESAS, SNH

BES POST Fellowship

A Post-grads Foray into the Science:Policy World

Danny Heptinstall

d.heptinstall@abdn.ac.uk

linkedin.com/in/dheptinstall

What Did I Do?

BES POST Fellowship

What Did I Do?

British Ecological Society

BES POST Fellowship

Parliamentary Office of Science and Technology

HOUSES OF PARLIAMENT
PARLIAMENTARY OFFICE OF SCIENCE & TECHNOLOGY

POSTNOTE

Number 454 January 2014

Risks from Climate Feedbacks

The Fifth Assessment Report of the IPCC concluded that human activities are causing the climate to warm, but there is uncertainty in how the climate will continue to change. Climate feedbacks could both increase and decrease global warming. This POSTnote discusses what climate feedbacks are, as well as the challenges they present for climate change mitigation policies.

Overview

- Feedbacks in the climate system can either increase or decrease the rate of global warming.
- Although knowledge of climate feedbacks is increasing, there remains uncertainty about the scale of many of their impacts.
- In aggregate, climate feedbacks will likely cause additional carbon to be released into the atmosphere, increasing the risk of exceeding a 2°C rise in global temperatures.
- If human carbon emissions are reduced beyond existing commitments, it may reduce the impacts of additional atmospheric carbon from climate feedbacks.
- A better understanding of climate feedbacks could reduce uncertainty of how the climate will respond to future warming.

What is a Climate Feedback?

The climate is a system of interacting components that includes the atmosphere, land and oceans. Feedbacks between components of the climate system can either increase the rate of global warming, or decrease the rate of global warming. A climate feedback is a change to a component of the climate system that causes a knock-on effect which further alters the original change.

- An **amplifying feedback** (also referred to as a 'positive feedback') increases the rate of global warming. For example, as the climate warms it will cause snow to melt exposing the land underneath. The darker land absorbs more sunlight than the highly reflective white snow so the Earth heats up quicker. This causes more snow melt, exposing more land which results in even more warming.
- A **diminishing feedback** (also referred to as a 'negative feedback') decreases the rate of global warming. For example, an increase in CO_2 in the atmosphere will allow plant growth rates to increase. This will reduce the rate at which CO_2 accumulates in the atmosphere thereby decreasing the rate of global warming.

To avoid the worst effects of climate change, many nations agree global warming should be limited to 2°C above pre-industrial levels. [1] Climate feedbacks may cause difficulties when trying to stay within this target, although it remains uncertain to what extent.

Feedbacks in the Climate System

Climate feedbacks may be divided into those involving physical components of the climate system and those involving the Earth's carbon cycle.

Physical Climate Feedbacks

Physical feedbacks involve physical components of the climate system such as glaciers and the Earth's surface. Of the many physical feedbacks, two well known examples are discussed below:

Water Vapour Feedback

As the climate warms the atmosphere is able to hold more water. Water vapour is a greenhouse gas which causes the climate to warm in a manner similar to CO_2. Consequently, a warmer climate leads to more atmospheric water vapour and more warming. [2] The water vapour feedback is significant as it causes the climate to warm twice as much as it would if the feedback were not to occur. [3] Because this feedback is relatively well understood, it is considered well represented in all climate models (Box 1). [2]

Albedo (Reflectivity) Feedback

This amplifying feedback occurs due to the different abilities of light and dark surfaces to absorb sunlight. Ice and snow are highly reflective and consequently absorb little sunlight; while the darker surfaces of the land and ocean absorb


What is the LHC?
the
big bag
theory

Things Learnt / Ideas Formed

from my experiences

PARLIAMENT

Clearer If Academics Decide Their Role

> “honest broker” vs. “policy advocate”

> stick to your role

> sure of your role?

Helps to Understand A Policymaker's World

> how else will you have an impact?

> ~~evidence-based policy~~ evidence informed policy

Politicians Are Humans Too

> most have no science training - like most people

> have character flaws - like everyone else

> slow to change their mind - like all humans

> many factors influence their decisions

> comprehend your ecological baggage

"For too long governments have been overly influenced by self-interested scientists promoting their own agendas."

Politicians are Ordinary People in Extra-ordinary Positions

so don’t communicate with them like you would with other academics

Instead

> provide the info needed to inform a decision - not to learn the topic inside out

> concise

> keep it relevant to policy goals

problem /// impact /// solution

> summary

> contact details

Need for Scientists to Communicate Better & More Frequently

"…the thing is, in the chamber, we don't often debate issues relevant to science…"
a quote from an anonymous MP…

scientific knowledge will never be properly valued till scientists stand up and demonstrate its value and utility

If you've got something to say – say it

imagine the impact if every academic expressed their voice

THANK-YOU!

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British Ecological Society

Introduction to Policy in Scotland

2 October 2014

#scotbio14