

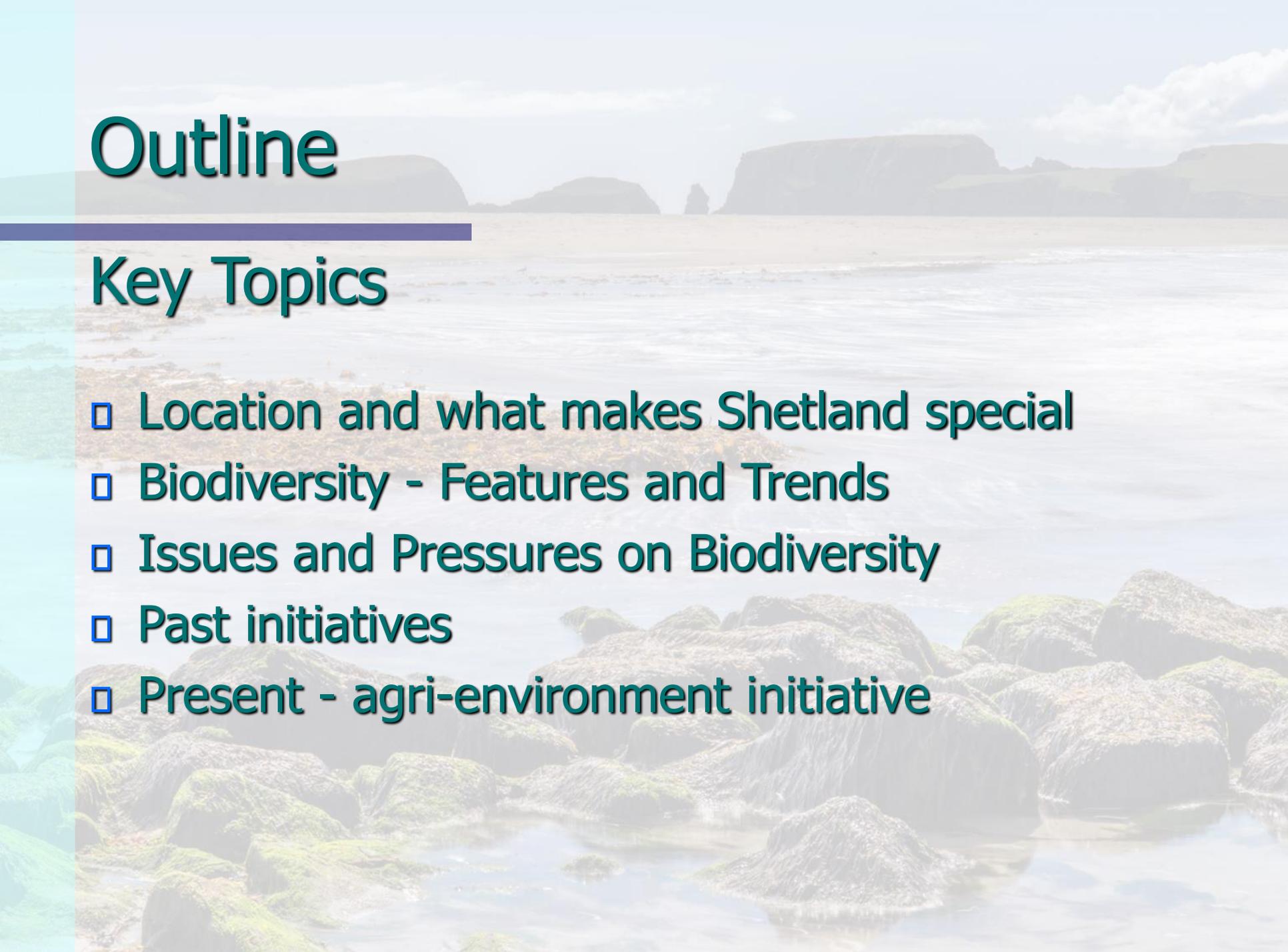


# Wildlife and Habitats of the Shetland Islands

With some recent agri-environment  
initiatives

Austin Taylor, Natural Heritage Officer  
Shetland Islands Council

# Outline



## Key Topics

- Location and what makes Shetland special
- Biodiversity - Features and Trends
- Issues and Pressures on Biodiversity
- Past initiatives
- Present - agri-environment initiative

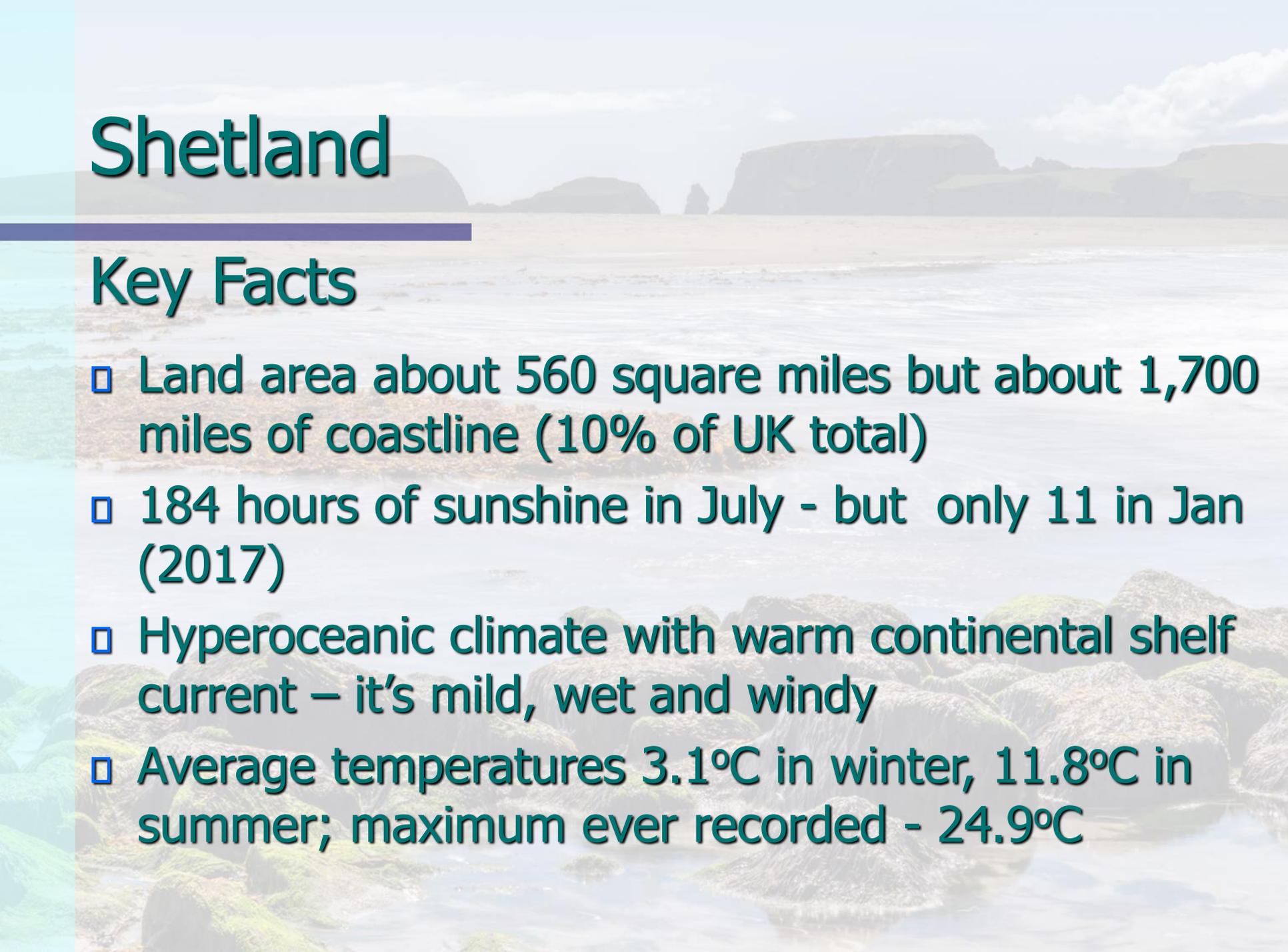
# Where is Shetland?

## Shetland's Location



- ❑ 150km north of Scottish mainland - almost the same distance from Aberdeen in Scotland, Bergen in Norway and Torshavn in Faeroe
- ❑ 400 miles south of the Arctic Circle
- ❑ 2 flights and 2 sea crossings to Lisdoonvarna!

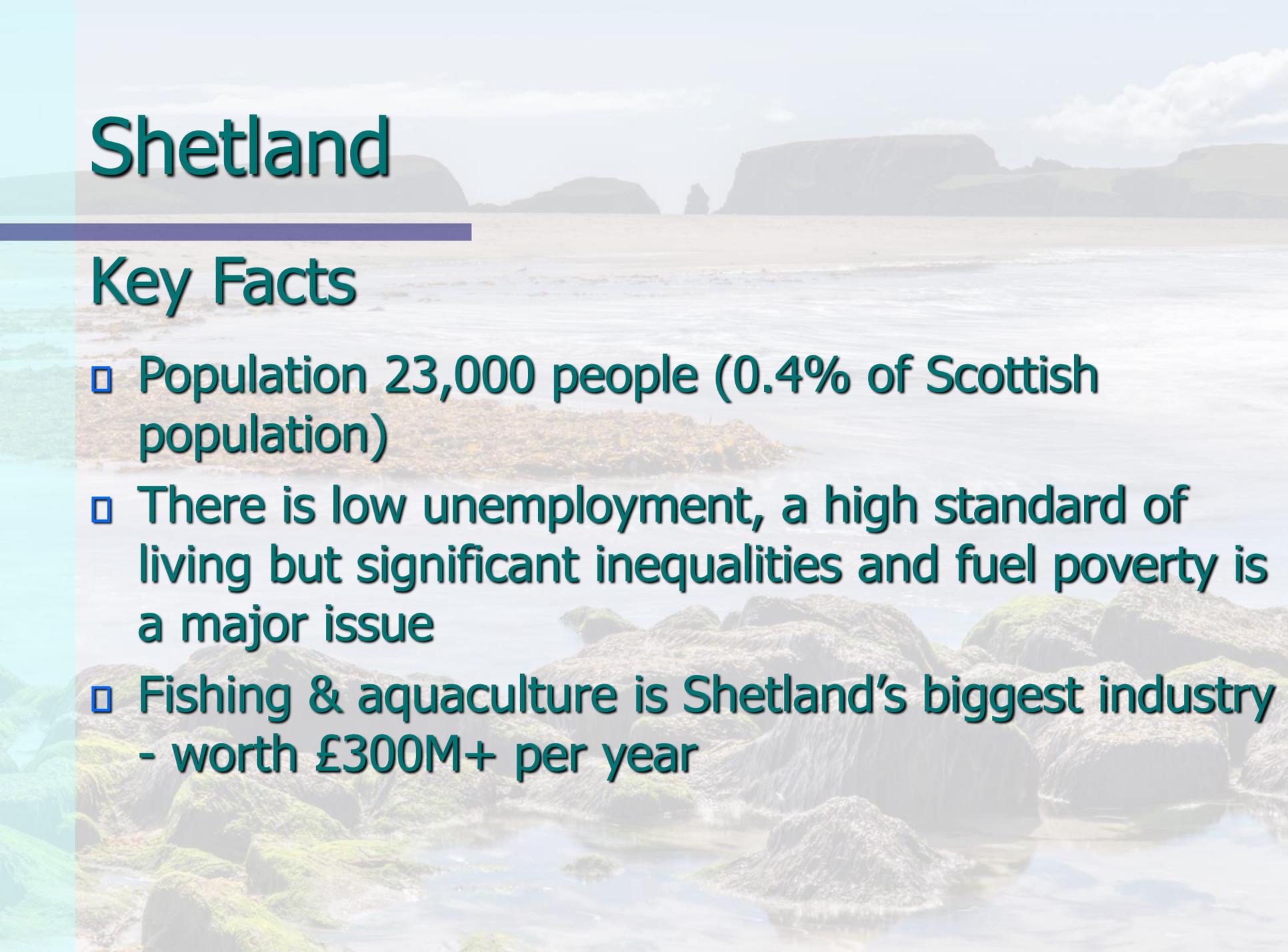
# Shetland



## Key Facts

- ❑ Land area about 560 square miles but about 1,700 miles of coastline (10% of UK total)
- ❑ 184 hours of sunshine in July - but only 11 in Jan (2017)
- ❑ Hyperoceanic climate with warm continental shelf current – it's mild, wet and windy
- ❑ Average temperatures 3.1°C in winter, 11.8°C in summer; maximum ever recorded - 24.9°C

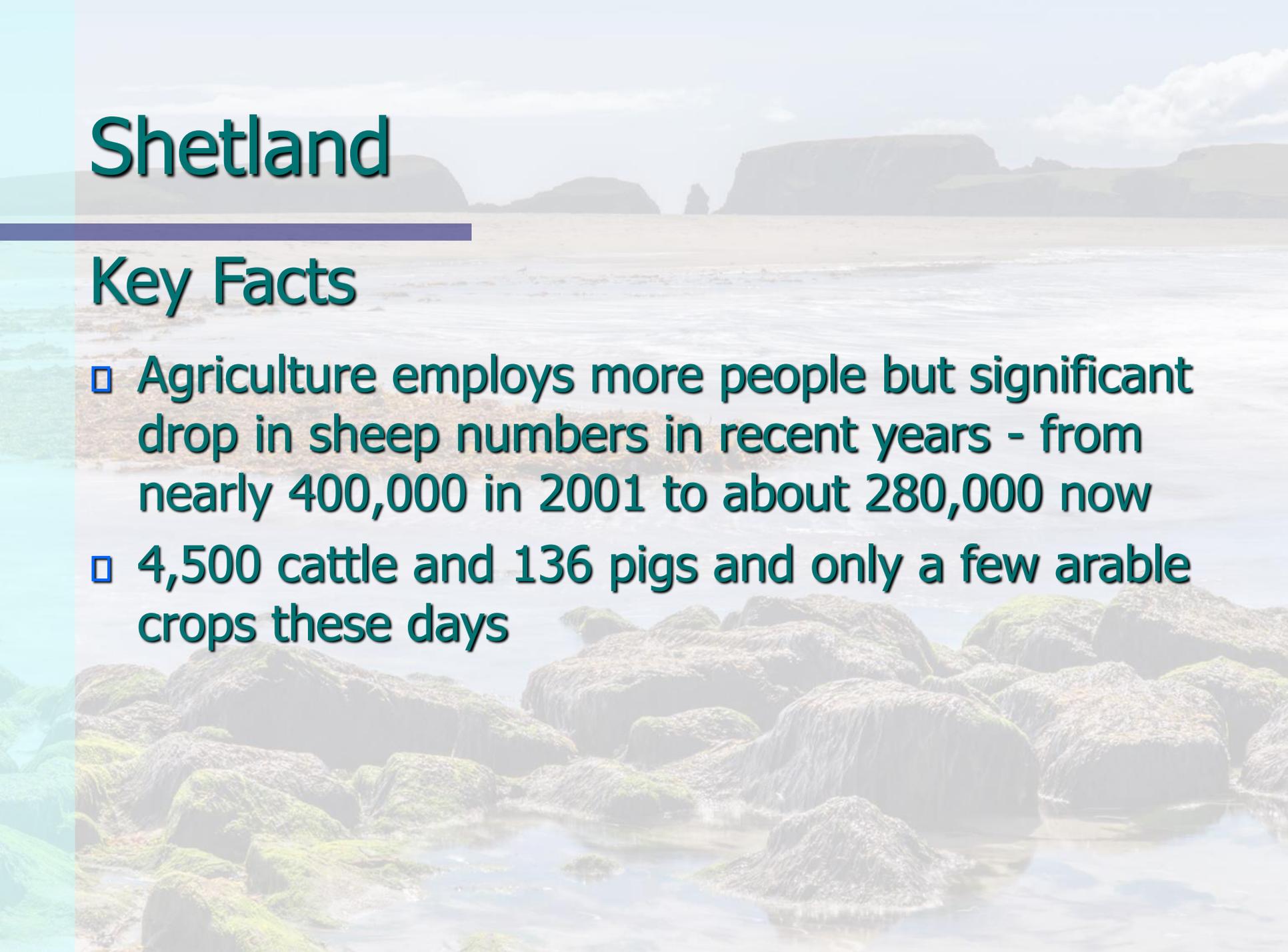
# Shetland



## Key Facts

- ❑ Population 23,000 people (0.4% of Scottish population)
- ❑ There is low unemployment, a high standard of living but significant inequalities and fuel poverty is a major issue
- ❑ Fishing & aquaculture is Shetland's biggest industry  
- worth £300M+ per year

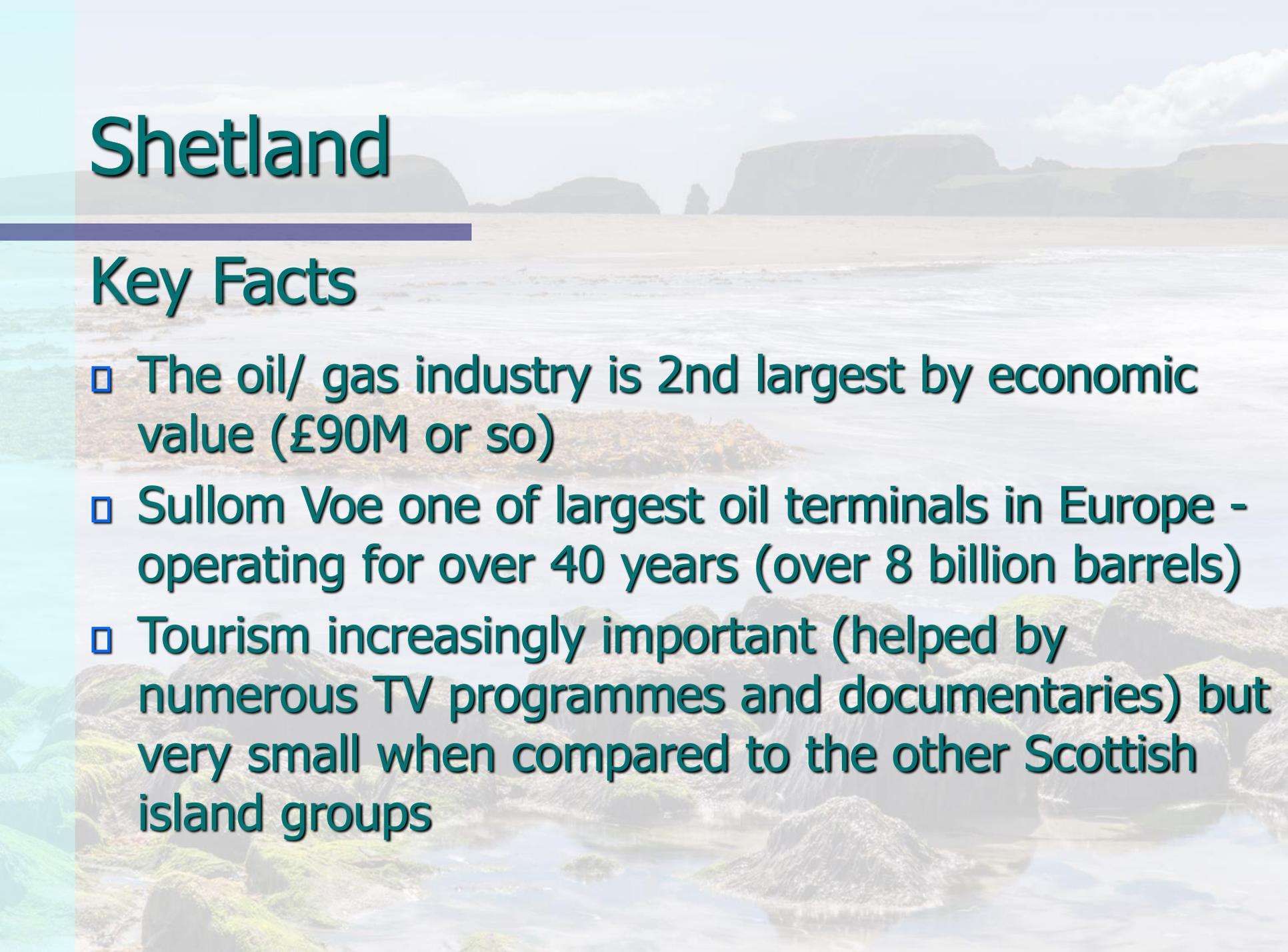
# Shetland



## Key Facts

- ❑ Agriculture employs more people but significant drop in sheep numbers in recent years - from nearly 400,000 in 2001 to about 280,000 now
- ❑ 4,500 cattle and 136 pigs and only a few arable crops these days

# Shetland



## Key Facts

- ❑ The oil/ gas industry is 2nd largest by economic value (£90M or so)
- ❑ Sullom Voe one of largest oil terminals in Europe - operating for over 40 years (over 8 billion barrels)
- ❑ Tourism increasingly important (helped by numerous TV programmes and documentaries) but very small when compared to the other Scottish island groups

# Shetland

## Key Facts - Tourism

- Outer Hebrides (Western Isles)
  - 218,590 (business 19%)
- Orkney
  - 174,273 (business 19%)
- Shetland
  - 73,262 (business 36% - significant number of these oil related workers)

# What's Special about Shetland?

## Landscape and Geomorphology

- Spectacular landscape in terms of its aesthetics and variety



# What's Special about Shetland?

## Landscape and Geomorphology

- Unique and important geomorphology; recognised as a UNESCO Global Geopark



# What's Special about Shetland?

## Culture and History

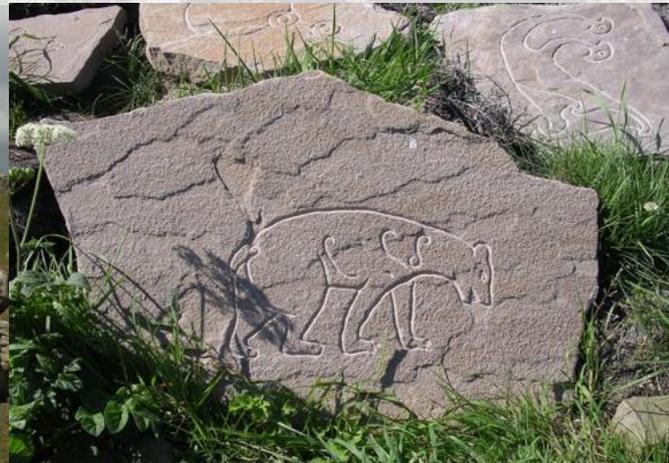
- ❑ Shetlanders proud of their long history and local identity, with strong Norse cultural links
- ❑ Part of Norway (then Denmark) until 1468 when gifted to Scottish Crown as a marriage dowry



# What's Special about Shetland?

## Culture and History

- Zenith of Iron Age Shetland on the tentative List of World Heritage Sites
  - - Mousa Broch - Jarlshof - Old Scatness Broch



# What's Special about Shetland?

## Biodiversity

- Unique Biodiversity with a number of endemic species that occur nowhere else
- Shetland's biodiversity is relatively impoverished (compared to UK), but it hosts unique species assemblages and is an incredible place for birds
- The environment on Ronas Hill (450m) is very similar to the Cairngorm mountain plateau (1300m) and hosts arctic species

# What's Special about Shetland?



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# What's Special about Shetland?

## Biodiversity - Designations

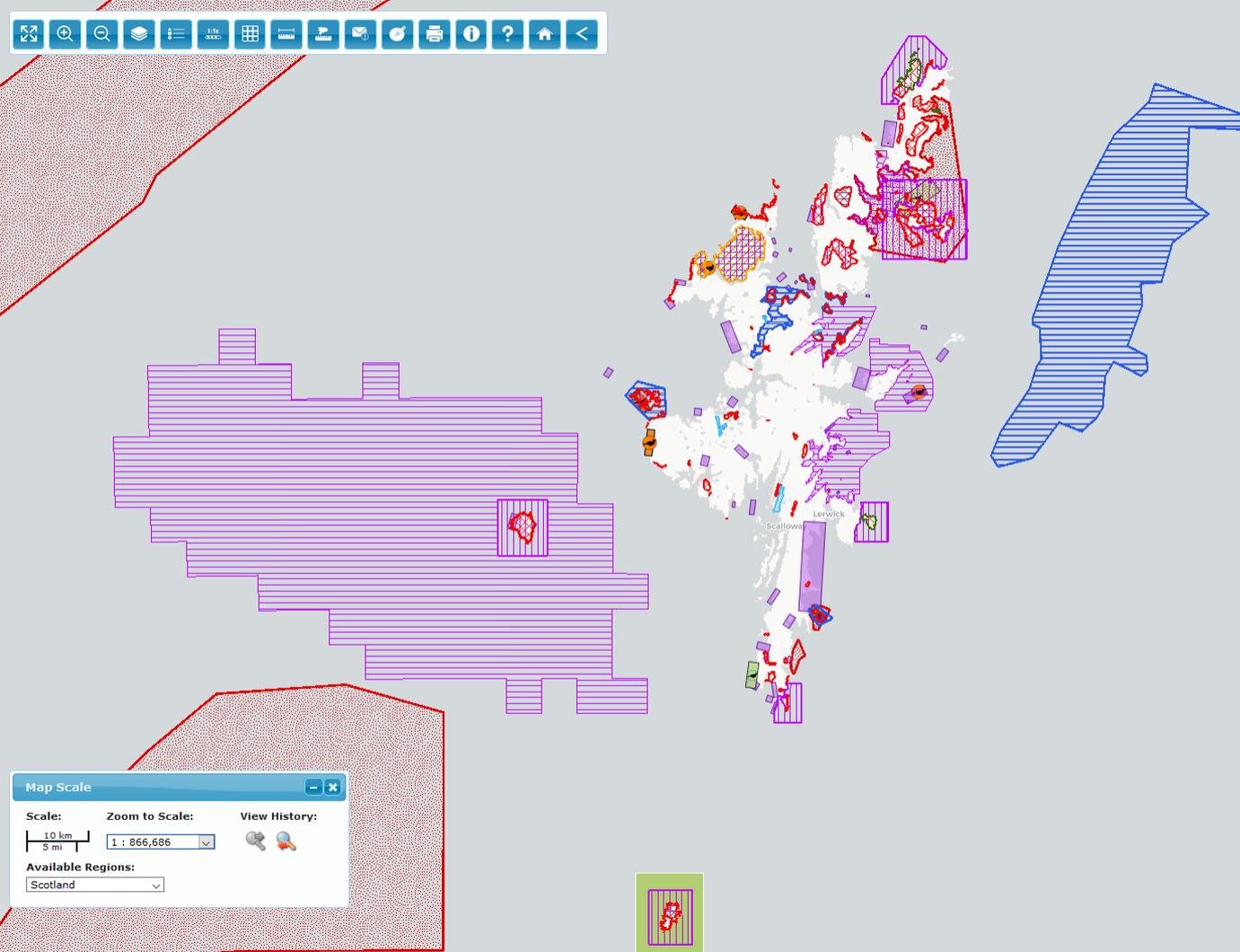
- ❑ It's not all about species - these depend upon the habitats and the climate
- ❑ 2 National Nature Reserves
- ❑ 12 Special Areas of Conservation
- ❑ 12 Special Protection Areas and 3 pSPAs
- ❑ 78 SSSIs - biological and geological

# What's Special about Shetland?

## Biodiversity - That's not all -

- ❑ 2 Nature Conservation Marine Protected Areas
- ❑ 1 Demonstration and Research MPA
- ❑ 1 Ramsar site
- ❑ 47 Statutory Grey/ Harbour Seal haul out sites and 8 Grey Seal pupping sites
- ❑ 49 Local Nature Conservation Sites
- ❑ 4 Marine Consultation Areas

# Biodiversity - Designations



Layer Control

Layers Legend

Nature Conservation Marine Protected Areas (MPAs) contributing to the MPA network (SNH WMS) (OSCP)

- Current
- Approved by SG for designation

Demonstration and Research Marine Protected Areas (DR MPA) contributing to the MPA Network (OSCP)

- 

Grey seal (*Halichoerus grypus*) pupping sites

- Breeding colony with  $\geq 20$  pups
- Known breeding site with little or no count data

Designated haul-out sites for Grey and Common/Harbour Seals (Protection of Seals Orders) - May 2017 (OSCP)

- Seal Haul Out
- Breeding Colony Seal Haul Out

Marine Consultation Areas (SNH WMS)

- 

SNH Nature Reserves (SNH WMS)

- 

National Nature Reserves (NNR) (SNH WMS)

- 

Ramsar sites (SNH WMS) (OSCP)

- 

Sites of Special Scientific Interest (SSSIs) (SNH WMS) (OSCP)

- 

Special Protection Areas (SPAs) (SNH WMS) (OSCP)

- Current

Possible marine bird special protected areas (pSPA) contributing to the MPA Network (SNH WMS)

- At consultation stage

Special Areas of Conservation (SACs) contributing to the MPA network (SNH WMS) (OSCP)

- Candidate SAC - submitted to EC
- Designated SAC
- SCI (adopted cSAC)

Special Areas of Conservation (SACs) (SNH WMS) (OSCP)

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Map Scale

Scale: 10 km / 5 mi

Zoom to Scale: 1 : 866,686

View History:

Available Regions: Scotland

# What's Special about Shetland?

Oh and probably the best place in the British Isles to see the Northern Lights!



# Shetland in the media

- ❑ Shetland regularly makes it to various “top 10 must visit destinations” type lists -
- ❑ Lonely Planet’s “Best in Travel”  
<https://www.lonelyplanet.com/articles/shetland-shines-as-2011s-best-in-travel>
- ❑ 6<sup>th</sup> on Wanderlust “25 most exhilarating destinations” <https://www.wanderlust.co.uk/content/25-must-visit-outposts>
- ❑ Lonely Planet “Best in Europe” 2019  
<https://www.lonelyplanet.com/best-in-europe>

# Biodiversity Trends

## Biodiversity (species) Loss - Birds

- ❑ Shetland's world famous breeding seabirds have had poor breeding success and population declines since 1990s
- ❑ 81% decline in population of Arctic Skua since 1992 - Shetland was a stronghold
- ❑ Arctic Tern, down from 9,000 to 110 at one site
- ❑ Puffin, down from 33,000 to 570 across Shetland
- ❑ Kittiwake 55,000 - 5,000 (Shetland)
- ❑ RSPB - "apocalyptic" decline in Shetland seabird colonies

# Biodiversity Trends

## Biodiversity (birds) Loss - Reasons?

- Many human pressures, activity and change
- Climate Breakdown, probably causing -
  - Warming sea temperatures and changes in ocean currents
  - Migration of prey species - further north or just further away resulting in:-
    - Less available prey overall, and/ or
    - Selection of less nutritious or digestible prey = just less overall food for chicks

# Biodiversity Trends

## Biodiversity - Marine mammals

- ❑ Seals, cetaceans, otters – seem mostly stable or slight decrease in populations
- ❑ Contrast most of Scotland or UK where populations are generally stable or increasing

# Biodiversity Trends

## Biodiversity - Plants; Other Birds

- Plants - Limited recording but about 20% of rare plants in unfavourable condition/ declining
- Wading Birds - Nearly 40% of waders unfavourable condition/ declining
- Songbirds - About 25% of songbirds unfavourable condition/ declining

# Issues and Causes

## Biodiversity - all species

- ❑ Changes in land and sea use (development)
- ❑ Direct exploitation and Persecution of species
- ❑ Climate Change
- ❑ Pollution of the land, water and atmosphere
- ❑ Movement of and invasion by alien species









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# Issues and Causes

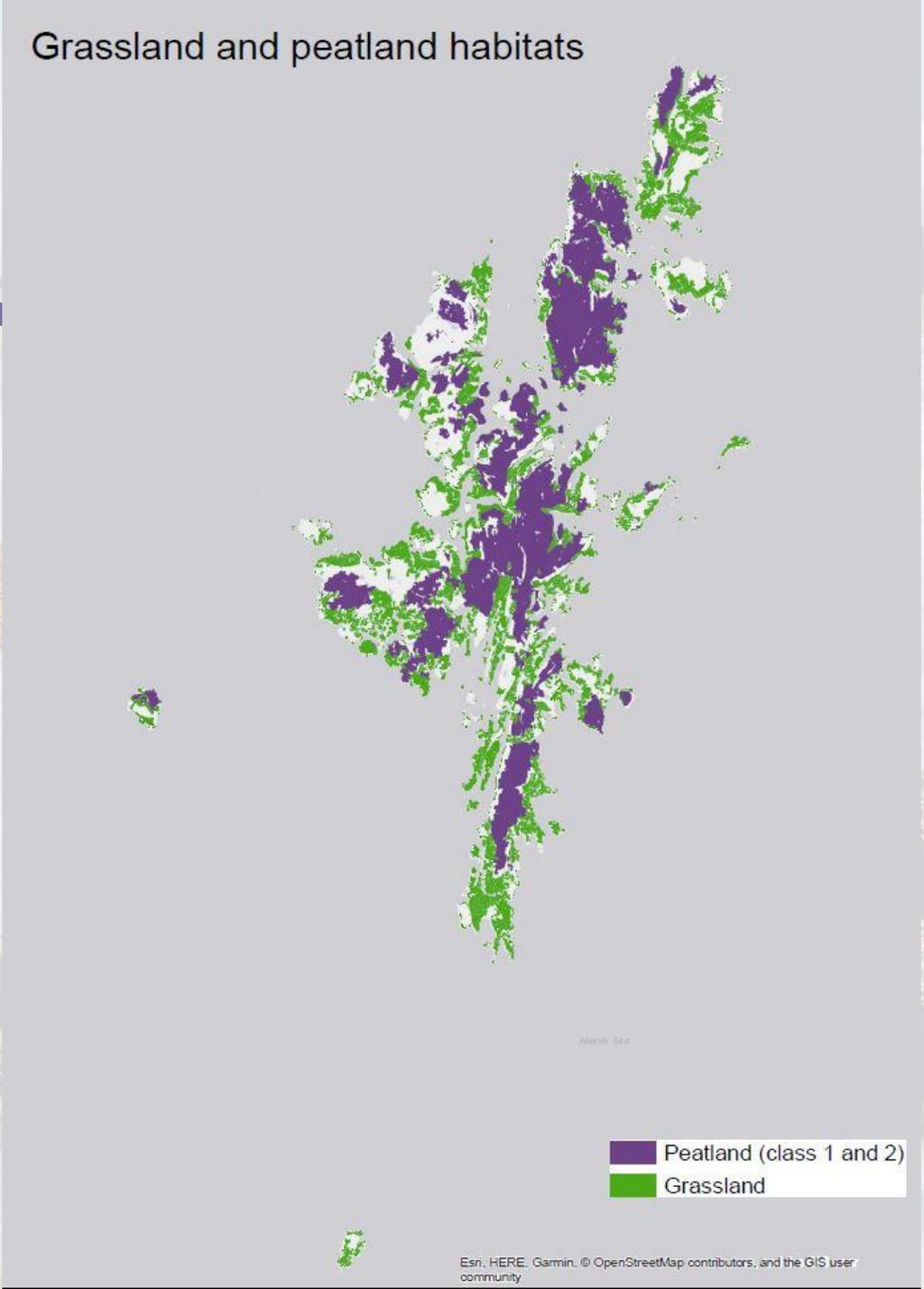
## Biodiversity - Habitats including Peatland

- Peatland covers a huge proportion of Shetland
- Much has been damaged - by drainage and overgrazing (over generations)
- Large areas under pressure from very large windfarms - largest is 103 x 155m turbines (457MW) and several others are at advanced planning stage





# Grassland and peatland habitats



# Other Issues

## Biodiversity - Other Habitats

- ❑ Grassland covers a large proportion of the rest Shetland - in-bye, meadows, fairly limited crops
- ❑ Traditional Croftland - created botanically diverse habitats particularly valuable for wildlife
  - ❑ Hay and Cornfields becoming less common
  - ❑ Meadows becoming less diverse
  - ❑ Grazing regimes changing
  - ❑ Declines in diversity
  - ❑ Pressure from Development



# Pressures

## Development

- **Energy and Power**
  - Oil infrastructure - commissioning, decommissioning, transport, logistics, personnel management and occupation, power stations and transmission infrastructure
- **Housing, Industry, Commerce, Agricultural change and intensification**
  - New housing, new roads and other infrastructure, Plant and warehousing, tracks, roads, drainage, large storage and mechanisation
- **Wind Farms**
  - Turbines, Converter stations, roads, transmission infrastructure

# Pressures

## Development

### □ Fishing

- Shore-based infrastructure - piers, markets, logistics, storage commissioning, decommissioning, transport, logistics, personnel management and occupation, power stations and transmission infrastructure

### □ Aquaculture

- New fish farms in previously unoccupied locations, enlargement of existing farm sites

### □ Wealth-driven investment

- Contributing to significant scale-up in most of the above over the past 2 decades and increasing/ accelerating

# Awareness is very low in the UK

## E.G. Have You Heard of Natura Sites?

### □ EU

- Yes 30%
- No 70%

### □ Ireland

- Yes 18%
- No 82%

### □ UK

- Yes 4%
- No 96%

□ Source: EU Nature and Biodiversity Newsletter 45: August 2019

# Initiatives

## Past

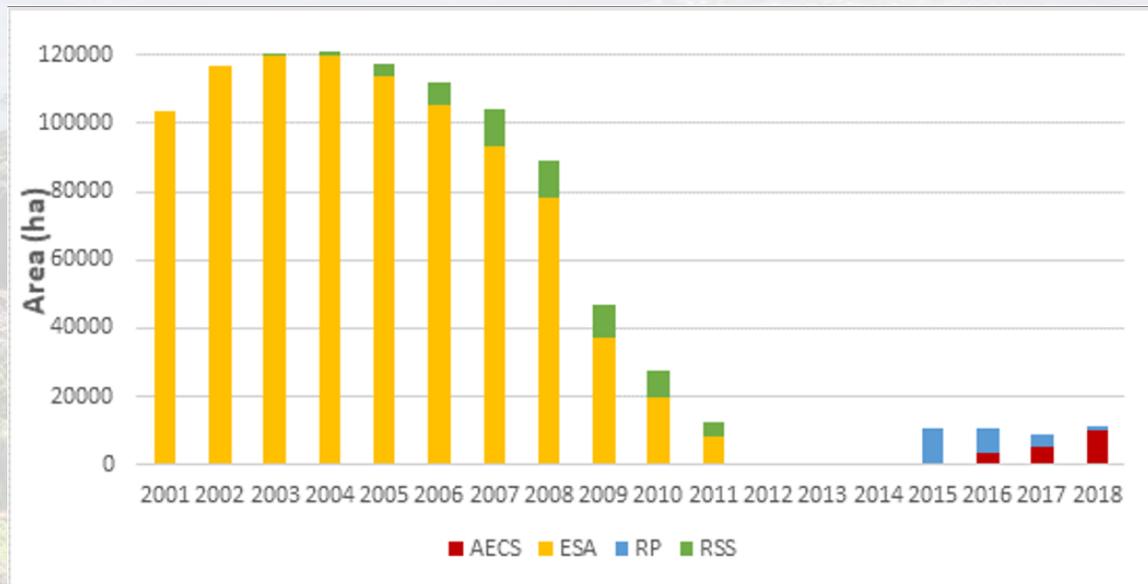
- **ESA (Environmentally Sensitive Area - till 2006)**
  - Many Shetland Crofters included 120,000Ha in ESA Schemes
  - Over £2M in agricultural support
- **Neaps for Linties (Twite) (2000-2008)**
  - Crofters were given financial support to grow neaps (turnips) under specified conditions. Helped increase the area of neaps grown, which supported wintering twite and other seed-eaters
- **Farmers for Nature (Interreg IIIB, 2005-2008)**
  - Supported crofters to work with the AgriBAP by retaining & reintroducing native cattle and crops and promoting crofting landscapes and associated wildlife

# Initiatives

## Present

### □ Current Agricultural Support

- Very limited help in Shetland, many Agri-Environment Climate Scheme options simply aren't relevant
- 120,000 Ha previously, just 12,000 Ha in current schemes



# Current Agricultural Support

## Agri-Environment Climate Scheme Options

- Why so low in Shetland now?
- AECS has 74 Options (excluding capital and scheduled monuments)
- At best, only 10 or so are available to Shetland crofters and farmers and very few, if any, holdings could achieve all
- Why? Most of the habitats, species, farm types, regimes, crops, livestock, water or land features don't occur there

# Initiatives

## Present

- **Peatland Action Fund (SNH-funded)**
  - Supporting some small-scale peatland restoration projects
- **Large Windfarms Promise Habitat Restoration**
  - Propose to undertake larger-scale peatland restoration projects
  - Propose to restore habitats for some target bird species
  - These could help a wider range of species than just the targets





# Initiative - Now and Future

## Shetland Agri-Environment Group - Established August 2018

- NFUS
- Crofting Federation
- Shetland Livestock Marketing Group Chairman
- Senior Agricultural Consultant SRUC
- Veterinary Surgeon
- Biological Records Centre Manager, Shetland Amenity Trust
- Dairy and Sheep Farmer
- Conservation Advisor, RSPB Scotland
- Scottish Organic Producers Association
- Natural Heritage Officer, Shetland Islands Council
- Peatland Restoration Project Officer, Shetland Amenity Trust

# Initiative - Now and Future

## Shetland Agri-Environment Group - Established August 2018

### □ Objectives

- Protect biodiversity and support 'High Nature Value' farming
- Seek incentives for conservation and sustainable use of biodiversity
- Reduce habitat loss and degradation
- Sustainable agriculture
- Restoration of ecosystem services
- Achieve significant reductions in agricultural emissions
- Increase carbon sequestration on agricultural land

# Initiative - Now and Future

## Shetland Agri-Environment Group

### □ Principles

- Evidence-based
- Outcome-focused (aka results-based)
- Public money for public goods
- Knowledge-based
- Regional and flexible approach
- Effective monitoring of outcomes is essential to inform further management and future scheme development

# Initiative - Now and Future

## Shetland Agri-Environment Group

- ❑ Scheme should also link four different elements as integral to farming for nature
  - ❑ Environmental improvement and climate change
  - ❑ Local food production
  - ❑ Local economy
  - ❑ Health and well-being

# Initiative - Now and Future

## Shetland Agri-Environment Group Workshop

- Followed a visit from Gwyn Jones and Michael Davoren from the Burren
- Results-based agri-environment scheme workshop earlier this month
- After wide-ranging discussion 3 themes emerged:
  - Carbon sequestration
  - Waders
  - Habitat mosaic

# Thank you.

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## Questions?

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