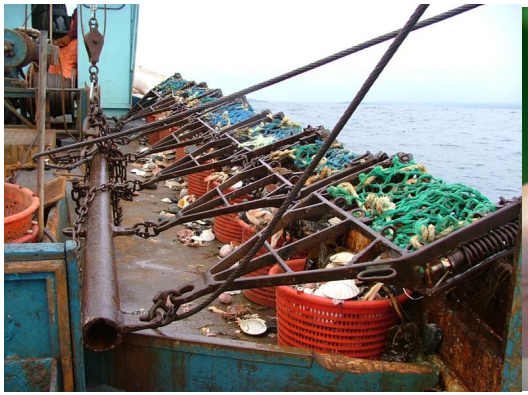
Data Collection for Inshore Fisheries Management



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NAFC Marine Centre
University of the Highlands and Islands

Shetland Shellfish Management Organisation

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Why do we need data?

Why do we need data?

- Fisheries management
  - Appropriate management measures (MLS, gear limitations, closed periods), appropriate spatial scale
- Sustainability of industry
  - Biological & financial sustainability
  - Certification schemes
- Representing industry
  - Other inshore users & developments

Overview

- Shetland's Inshore Fisheries
  - Background to NAFC Marine Centre & SSMO
  - Scientific support for inshore fisheries
  - Integrating data into fisheries management
- MSC Accreditation

NAFC Marine Centre

- Charitable Trust set up to support Shetland's Maritime Sector
- Training and Research Provider
- Applied research in Fisheries, Aquaculture, and Marine Spatial Planning

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Shetland's Inshore Fisheries

- SSMO manages fisheries using a regulating order
- Data collection has been carried out under the regulating order since 2000
- Data and research are embedded within the management plan

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NAFC's Role

- Management and analysis of fisheries data
- Collection of biological data
  - Stock assessment
  - Targeted Research and Survey
- Management Advice
  - Management plan
  - MPA implementation
  - MSC accreditation

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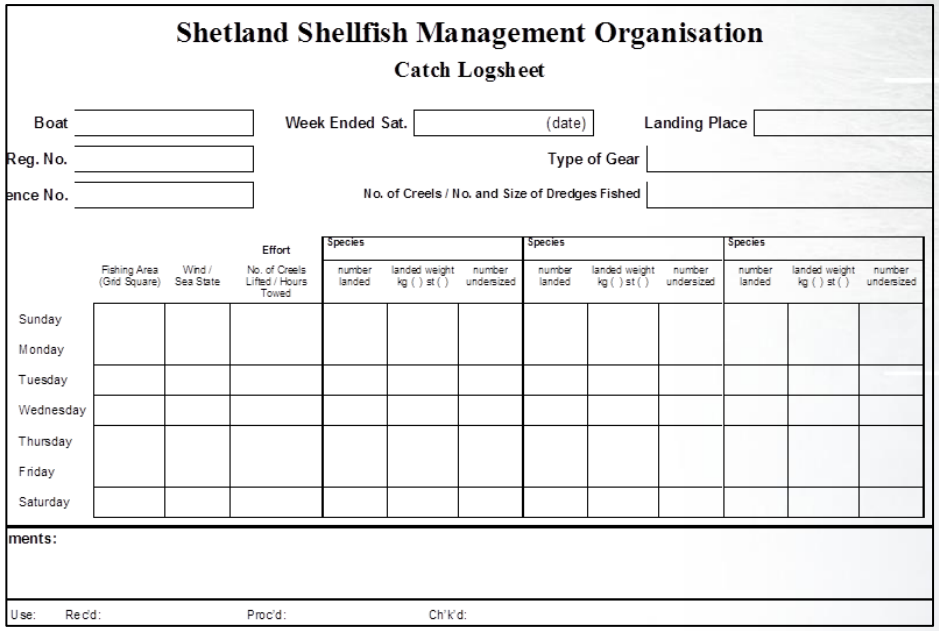
Fisheries data

- Submission of SSMO logsheets is a licence condition
- Data recorded includes: landings, discards, effort, soak time, area fished & protected species interactions.



Shetland Shellfish Management Organisation

Catch Logsheet

Boat | Week Ended Sat. (date) | Landing Place

Reg. No. | Type of Gear

ence No. | No. of Creels / No. and Size of Dredges Fished

	Fishing Area (Grid Square)	Wind / Sea State	Effort: No. of Creels Lifted / Hours Towed	Species: number landed	Species: landed weight kg ( ) st ( )	Species: number undersized	Species: number landed	Species: landed weight kg ( ) st ( )	Species: number undersized	Species: number landed	Species: landed weight kg ( ) st ( )	Species: number undersized
Sunday												
Monday												
Tuesday												
Wednesday												
Thursday												
Friday												
Saturday												

ments:

Use: Rec'd: Proc'd: Ch'k'd:

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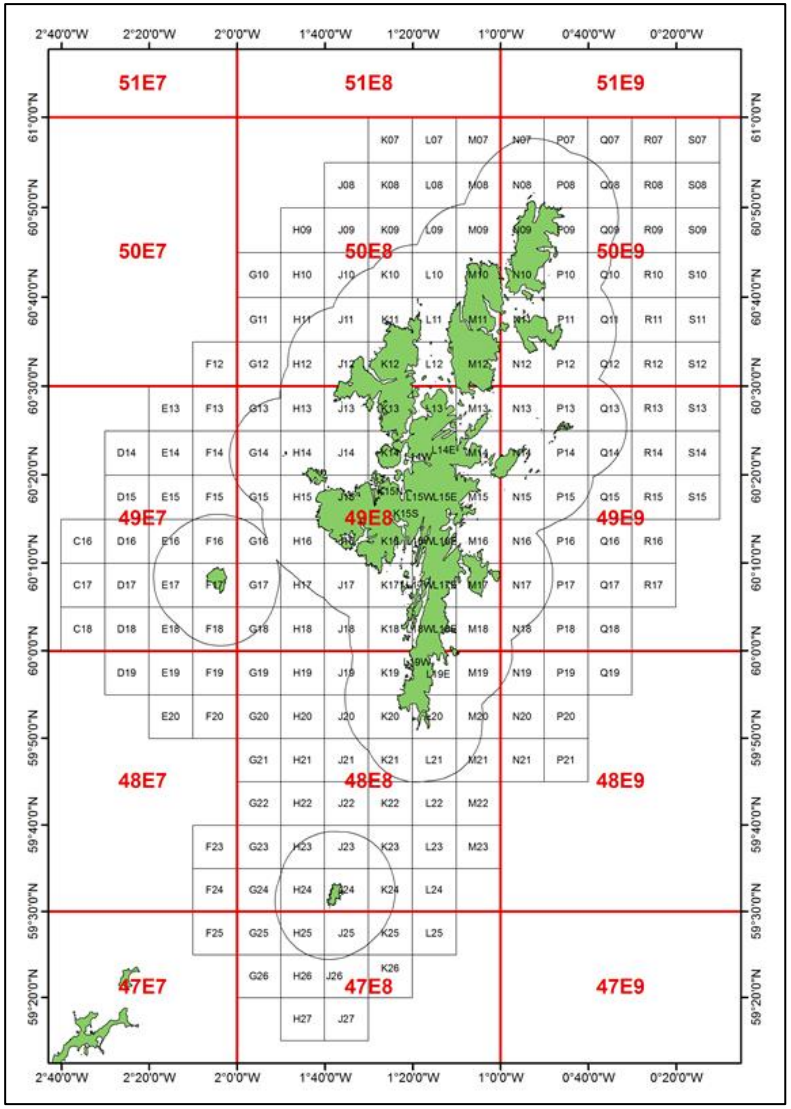
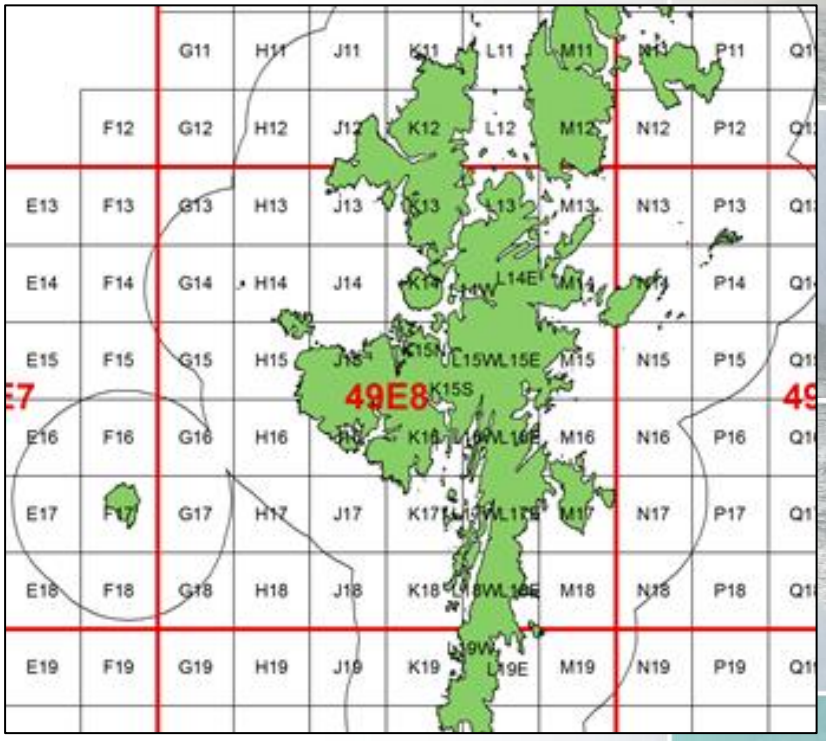


- Spatial scale of data collection is appropriate for inshore fisheries



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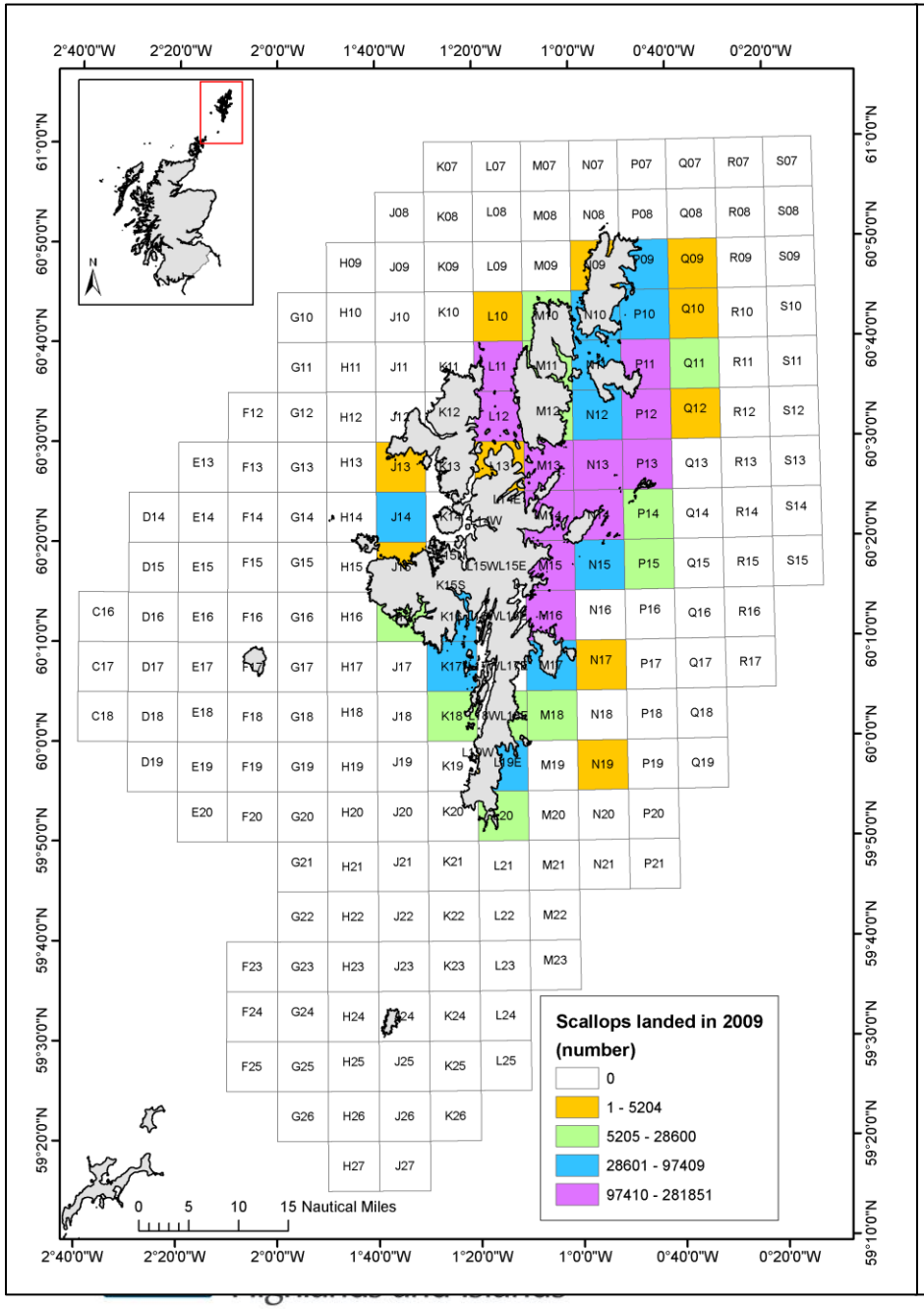
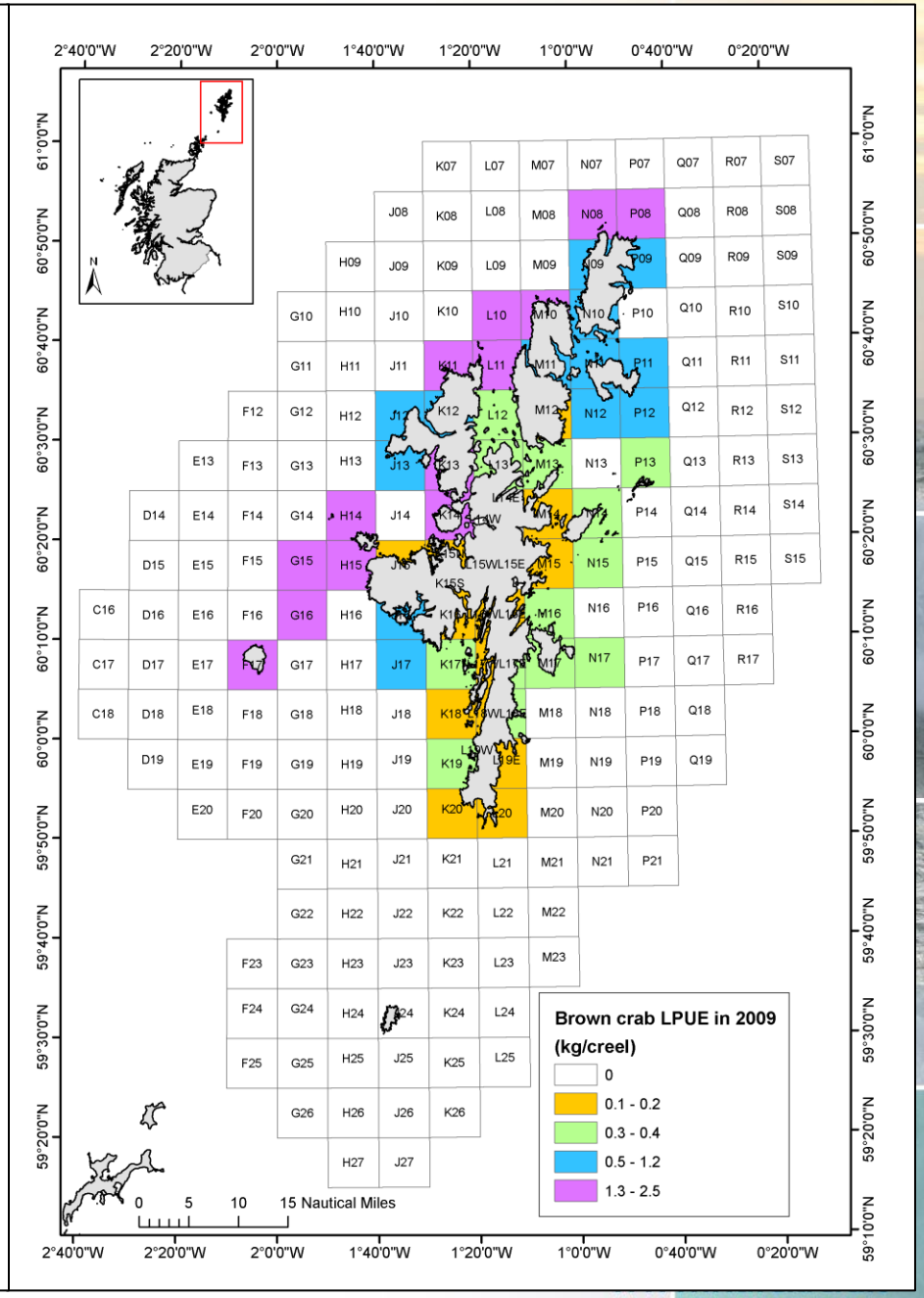

Scallops landed in 2009
(number)
0
1 - 5204
5205 - 28600
28601 - 97409
97410 - 281851
0 5 10 15 Nautical Miles


Brown crab LPUE in 2009
(kg/creel)
0
0.1 - 0.2
0.3 - 0.4
0.5 - 1.2
1.3 - 2.5
0 5 10 15 Nautical Miles

Biological Data

- Observers collect data at sea
- Shore based sampling at processing factories, vivier operators and keep creels.
- Surveys and research projects also contribute to data collection

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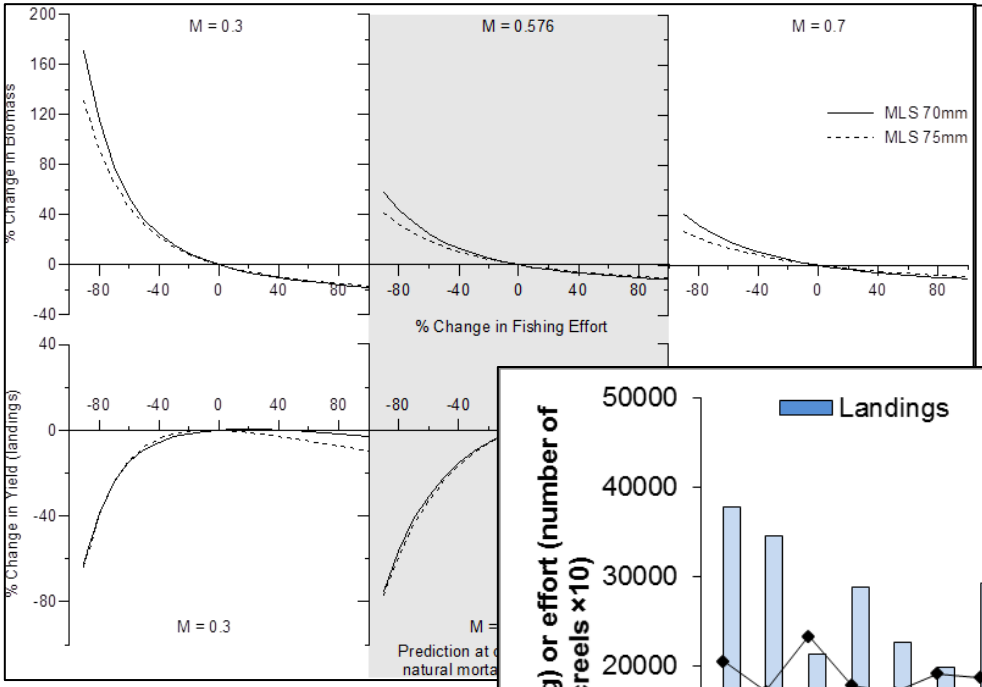
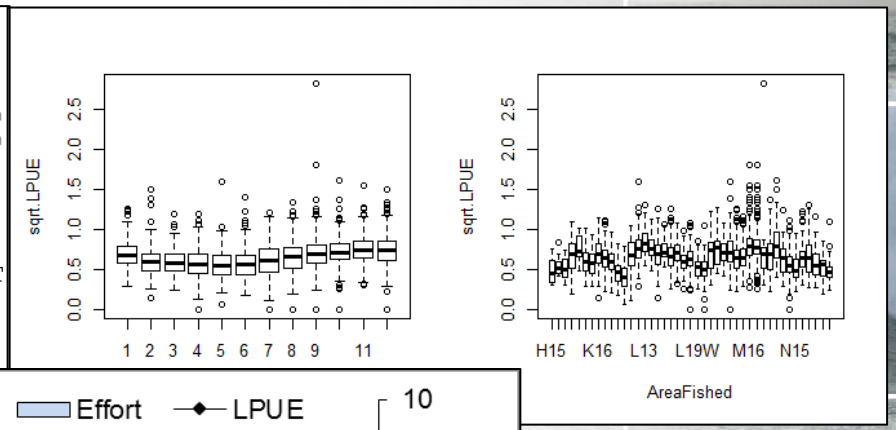
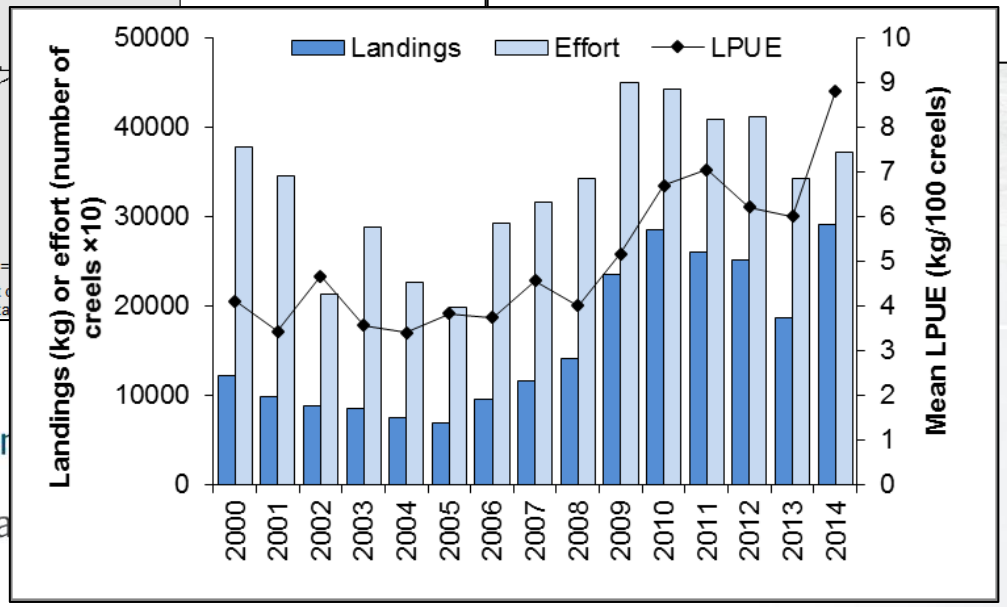
Stock Assessment

- Fisheries and biological data used to produce stock assessments







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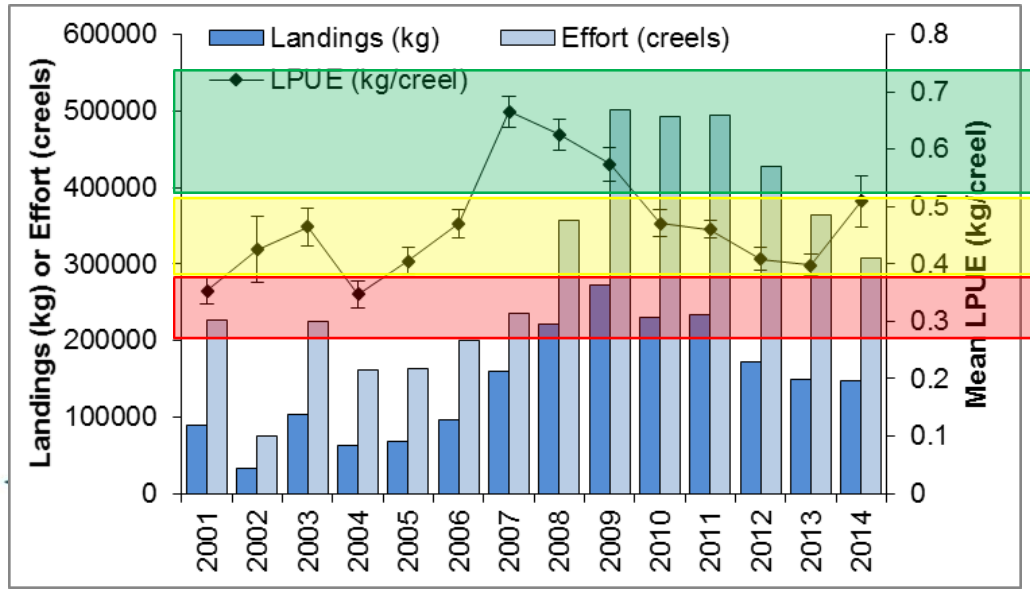
Fisheries Management

- Stock assessment data is used in fisheries management
  - Reference points
  - Harvest control rules
  - Licencing policy



No action required

No new entrants
Creel limitation imposed
Increase in moult closed period

Increase in minimum landing size (min 6 mth)
Extend closed areas

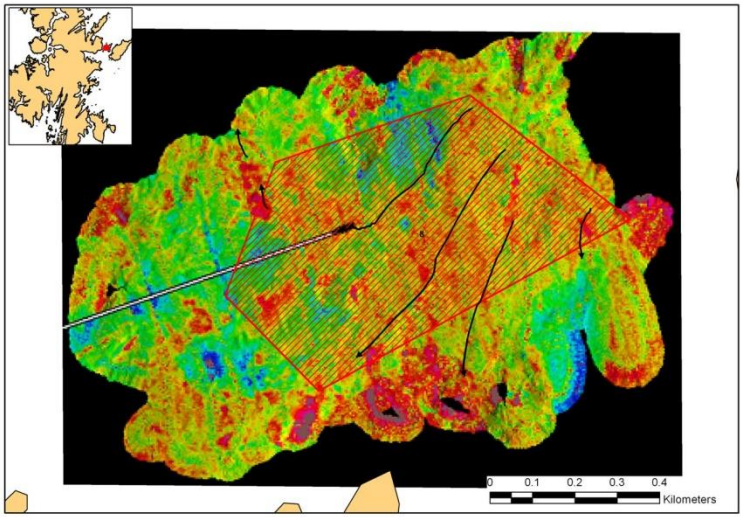
Close fishery

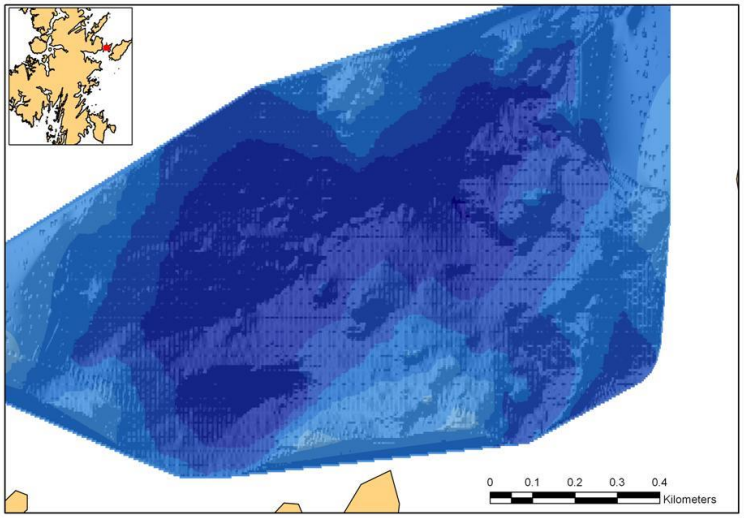
Fishermen

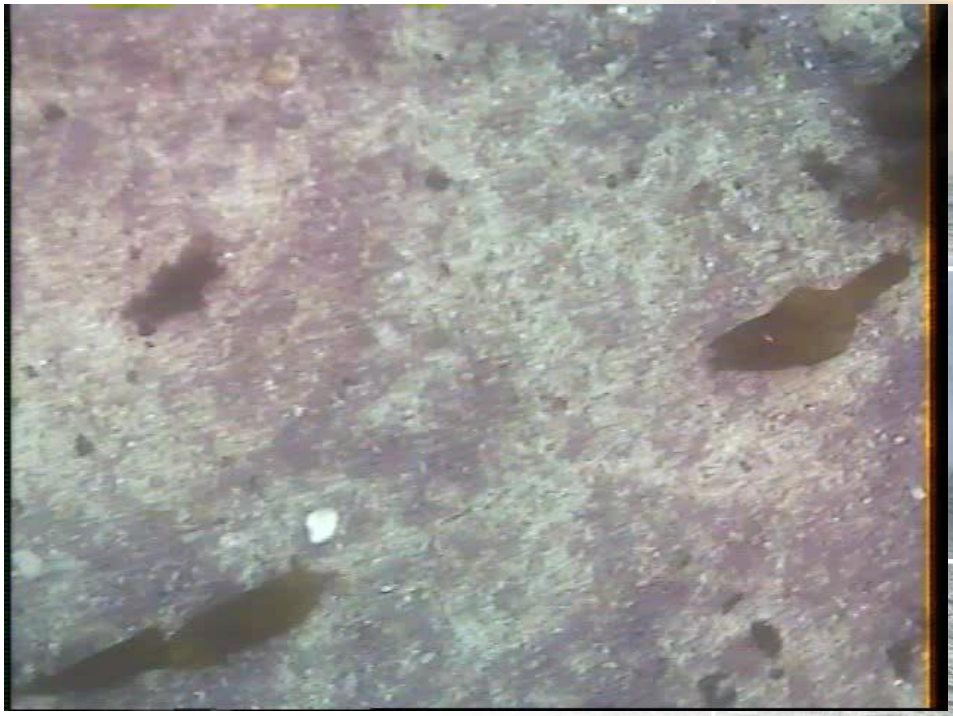
- Fishermen contribute greatly to the management process
  - Provision of data
  - Participation in research and development projects (VMS, escape gaps)

Scallop Closed Areas

- Protection of seabed habitats a requirement for MSC Accreditation
- Fishermen consulted on habitat data from Shetland Islands Marine Spatial Plan
- A series of voluntary closures were put in place.







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Fishermen led MPAs

- Based on survey data areas were redefined and made statutory
- Proactive management facilitated by fishermen now feeding into national MPA management
- Voluntary VMS for scallop fleet

Data Ownership

- Fishermen own the data
- Confidentiality is a priority in reporting
- Data sharing agreements specify uses
- Dialogue on data use helps fishermen to understand its importance

Fisheries Management Tool

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Fisheries Management Tool

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Marine Stewardship Council

- Environmental Certification for sustainable fisheries
  - World First for multiple fisheries
  - World First for a dredge fishery

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Why MSC?

- Continued access to markets
- Increased price of product
- Independent Validation of fisheries management

Marine Stewardship Council
Certified sustainable seafood

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Evidence

- Providing evidence is a key part of the MSC process
- Ongoing data collection and specific research projects were included
- MSC conditions must be monitored and reported on at audit

Benefits

- Improved management plan
- Implementation of fishermen led MPAs
  - Proactive management is limiting imposition of central management
- Stability in market demand for scallops
- Increased profile of fishery

Drawbacks

- MSC is not well suited to small scale inshore fisheries
- Rigid certification criteria
- Based on ICES type aged stock assessments
- No increase in price paid to fishermen
- Very expensive
  - Certification, annual audits, recertification, chain of custody audits

The “Shetland Model”

- Local solutions
- Involving fishermen in data collection, research projects and management processes
- Scottish IFGs taking forward aspects of the approach in Shetland