European Commission

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Assessment of the status, development and diversification of fisheries-dependent communities

Comhairle nan Eilean Siar

Stornoway data collection report

Contents

1. Introduction

1.1. General description

Stornoway's fisheries sector faces many of the same issues facing the Scottish fisheries sector, but fishing's importance to the Stornoway community and its contribution to the economy of the Outer Hebrides are proportionally much greater. Stornoway's recent experiences clearly demonstrate some of the employment and capacity issues facing remote coastal communities. As the volume of landings has declined, post-harvest sectors struggle to retain viable levels of throughput. The fisheries sector is now almost entirely focused on shellfish, with most being not limited by quota and the most important Nephrops being the only species under quota. Much of the islands landings are transported whole and often live to continental markets requiring storage and haulage capacity, but limited processing.

Salmon farming is also important to the economy of the islands and in sustaining the processing sector, but as with fishing, recent years have seen a decline in production levels and overall employment. Fisheries remains a very important indigenous industry for the islands and is recognised as a contributor to the growing tourism sector as other traditional industries, such as textiles (Harris tweed) and Ministry of Defence jobs continue to decline.

With limited employment opportunities in general, young people seek education and employment opportunities away from the islands, which results in workforce shortages for these primary sectors with variable pay levels and testing working conditions. The shortage has been addressed by immigrant labour from Member States in Eastern Europe and recently by non-EEA labour from the Philippines. This has helped the catching sector deal with the increased fuel costs, reduced landings and recent poor prices, but may not be sustainable in the long term.

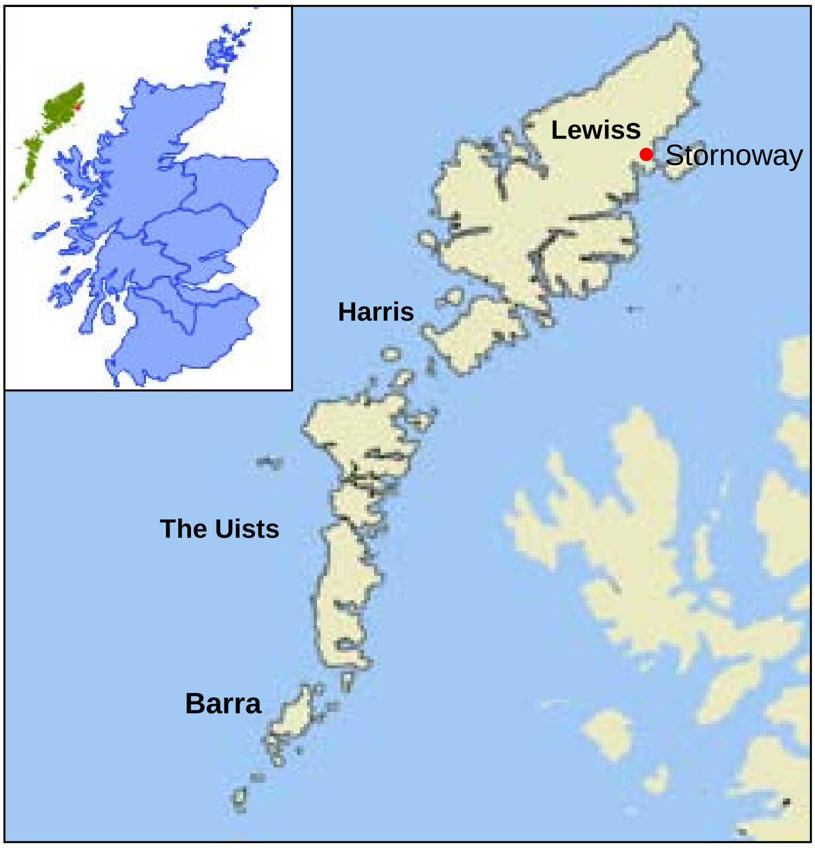
1.2. Location

The Outer Hebrides, also known as the Western Isles and named Eilean Siar in Gaelic (NUTS code UKM64), are a chain of over 119 islands in the Atlantic. They are separated from the North West coast of Scotland by 45 km of sea known as the Minch and Little Minch and form part of Scotland's 'Highlands and Islands' NUTS 2 region, UKM6. Eleven islands are in habited, the major isles being Lewis and Harris (which confusingly are not separate islands even though they are known as such), North Uist, South Uist, Benbecula and Barra.

Stornoway (Steòrnabhagh in Gaelic) is the largest town in the Outer Hebrides and the administrative centre. It is situated on the Isle of Lewis, the most northerly of the Hebridean Islands. It has a built-up area of approximately 4km^2 around 58.21^{o}N, -6.38^{o}W. Sixty one percent of the population speak Gaelic and the local council is called Comhairle nan Eilean Siar.

Stornoway town's population is approximately 5,740 people. Almost 30% of the total population of the Outer Hebrides, some 8,000 people, live within Stornoway or the immediately vicinity encompassing Laxdale (Lacasdal) and Sandwick (Sanndabhaig). The remaining 26,000 population is dispersed around the various islands throughout over 280 townships. Stornoway is the only settlement, which can really be described as having any 'urban' characteristics in infrastructure terms.

Figure 1 Map showing location of Stornoway in the Outer Hebrides



1.3 Key geographical characteristics of the community

Stornoway was originally a Viking settlement that developed around a well sheltered natural harbour. It is the main seaport of the Hebridean Island chain and provides a ferry link to mainland Scotland. Inverness, the regional capital of Scotland's Highlands and Islands is 174 km by ferry and road. Almost 30% of the total population of the Outer Hebrides, some 8,000 people, live within the urban settlement of Stornoway or the immediately vicinity. The remaining population is scattered throughout over 280 rural townships[1]. The Hebrides have a temperate maritime climate, mean temperatures are between 16 °C and 1.5 °C. Rainfall is high (around 1200 millimetres annually) as are wind speeds which range between a mean of 12 knots in July-August to about 16 knots in December-January. Daily mean wind speeds of over 30 knots are common. Daylight is limited to around six hours in the winter but the islands benefit from long days in the summer. The continental slope occurs around 150 km from the west coast of Lewis. The seabed to the west of Lewis is variously sandy and rocky while mud is common in the Minches. Both freshwater and sea fisheries are historically important to the Hebrides, nowadays only sea fisheries are commercially exploited but recreational angling for salmon and trout fishing continues to attract visitors to the islands.

In rural Scotland the 19th century clearances by landlords resulted in high numbers of islanders being forced off their lands with many emigrating from Scotland to Canada and other British Commonwealth countries.

[1] http://www.cne-siar.gov.uk/factfile/population

2. DEMOGRAPHIC ASPECTS

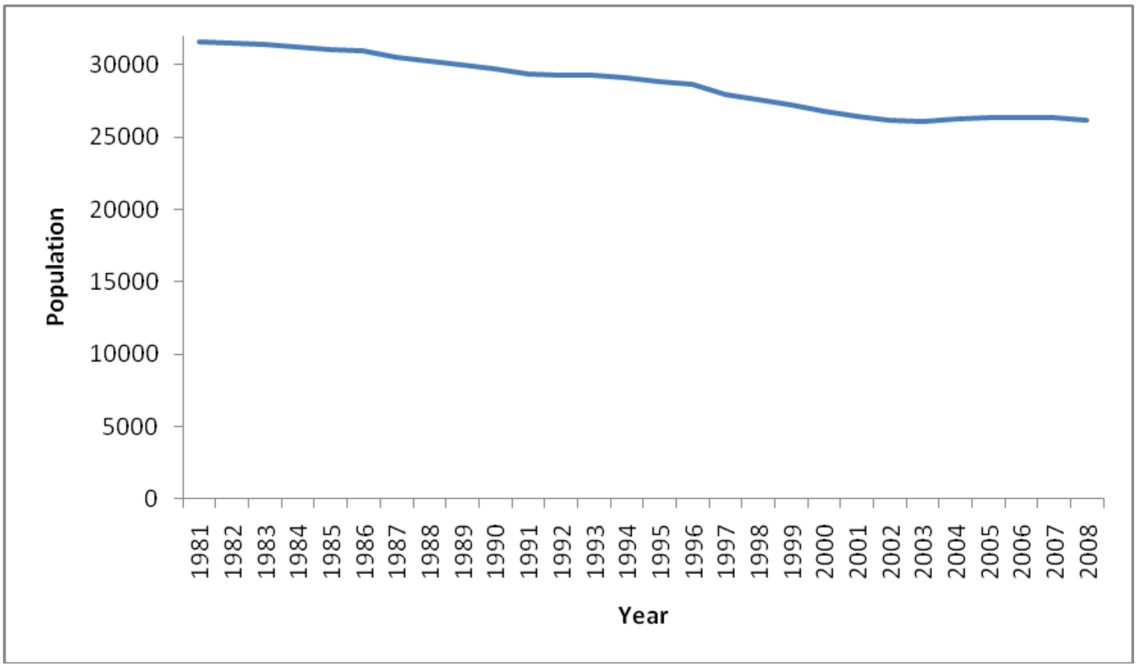
2.1. Population and population age structure

The General Register Office for Scotland (GROS) estimates that in June 2008, the population of the Outer Hebrides was 26,200. Overall within the last 100 years the population has declined by approximately 43% or 19,670 persons. The only large town in the Outer Hebrides is Stornoway (Steòrnabhagh) with approximately 5,740 people. Figure 1 below shows how the population of the Outer Hebrides has decreased over time.

While Scotland's overall population has increased slightly and projections to 2031 predict further growth, this is mainly limited to certain urban centres such as Edinburgh and Inverness. Population levels in rural and remote coastal locations around Scotland, including the Outer Hebrides are expected to decline further.

In the decade between 1998 and 2008 the population declined by 6% this is compared to a 2 % increase over Scotland as a whole. The decline was due to a lack of employment on the Islands as agriculture and fisheries diminished, and "life-style" choice with residents moving to the mainland to enjoy a greater range of services. The long term pattern of population decline has slowed dramatically in recent years, but a slow decline persists with a decrease of 100 people between 2007 and 2008. The decline is due to natural factors (local deaths exceeding births) and small net out-migration from the islands, and is predicted to continue[2].

Figure 2 Changes in the population of the Outer Hebrides 1981-2008



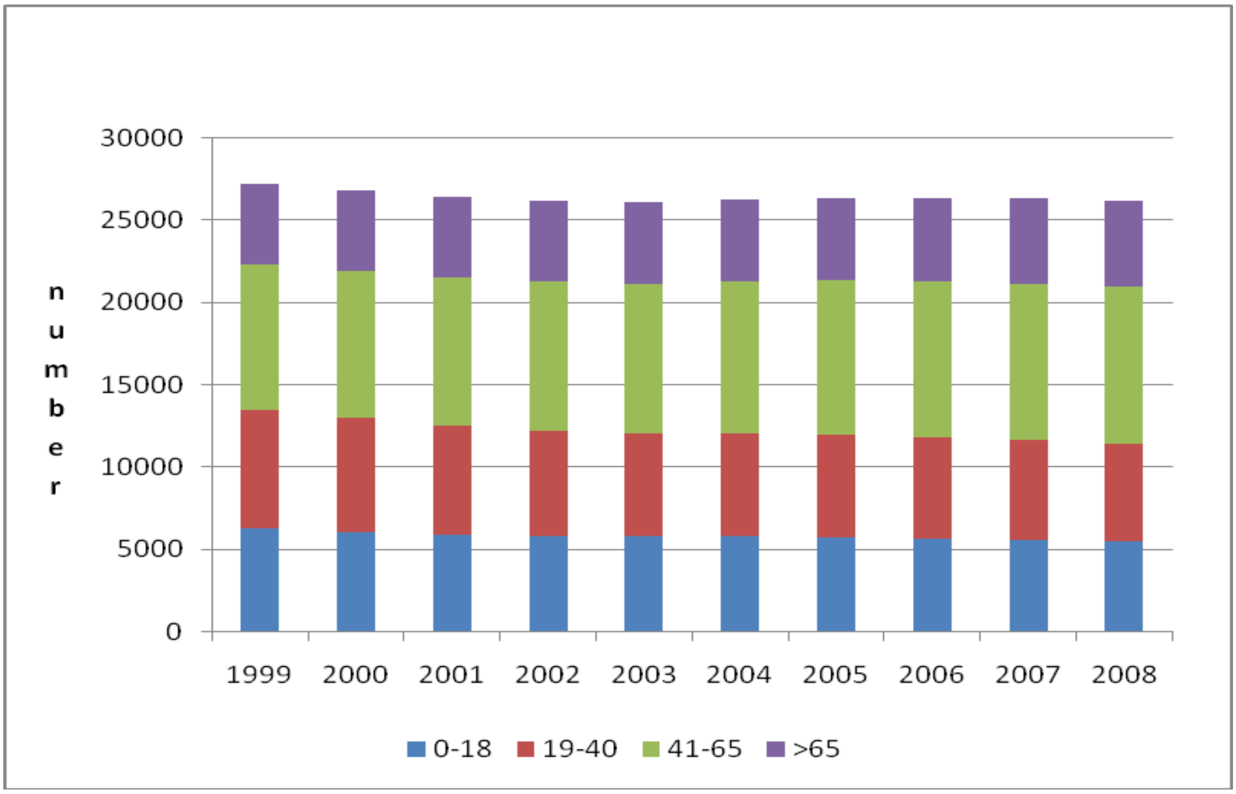
Source: General Register Office for Scotland

A pronounced change is occurring in the age structure of the population with an increasing proportion of older people as people live longer and birth rates decrease. This pattern is more marked in the Outer Hebrides than elsewhere in Scotland because outward migration rates of young people are also consistently high. Historically young adults leave the islands

[2] http://www.cne-siar.gov.uk/factfile

for further education or employment and this trend continues to date. As a result the average age of Outer Hebrides residents is up to 8 years older than the national average[3]. The chart below illustrates the age structure of Outer Hebrides residents showing the decline in the proportion of people under the age of 40[4].

Figure 3 Age structure of Outer Hebrides population 1999-2008



Source: General Register Office for Scotland

Across Scotland there has been a move away from the most remote and rural islands to areas surrounding urban centres. Almost 30% of the total population of the Outer Hebrides, some 8,000 people, live within Stornoway or the immediately vicinity encompassing Laxdale (Lacasdal) and Sandwick (Sanndabhaig). The remaining population is scattered throughout over 280 townships[5]. Following the national trend the population of Stornoway has increased at the expense of outlying areas[6].

2.2. Ethnicity and migration

The Outer Hebrides have a strong Gaelic culture, which is now unique in Scotland with over 50 % of the population speaking Gaelic, compared with less than 2 % nationally[1]. Stornoway has lower numbers of Gaelic speakers than elsewhere on the islands (44%) but numbers may increase as a growing number of Stornoway school children are taught in Gaelic. Religion is important, with many of the town's population belonging to one of four Presbyterian churches in Stornoway.

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3 2001 census data, http://www.scrol.gov.uk/scrol

4 Population data is from http://www.gro-scotland.gov.uk/statistics/publications-and-data/population-estimates/mid-year

5 http://www.cne-siar.gov.uk/factfile/population

6 Sustainable Community Areas, census profiles http://www.cne-siar.gov.uk

In 2007 – 2008 there was net migration from the Outer Hebrides. The numbers leaving the islands only just outnumbered those moving to the islands and the marginal trend of outward migration was strongly driven by the typically large numbers of young people (18 – 30 year olds) migrating elsewhere in Scotland for education or employment (see section 4.2). Inward migration is most common for 21 – 40 year olds from the UK and, more recently, overseas. Immigration was largely driven by the availability of employment in public and primary sectors for UK and EU residents respectively. Immigrants also included people returning or coming for life style reasons including the low crime rates and affordable rural property. Interestingly inward migrants from the UK were more likely to move to rural areas of the islands whereas island residents have increasingly moved from rural areas into Stornoway.

Between 2004 and 2007 up to 80 immigrants arrived annually from EU Accession States, predominantly Poland and Latvia. In 2008 this trend reversed and there was a net outward migration of residents from overseas[7]. A key reason for this reverse was the weakening exchange rate from Sterling to Euro, making work in the UK less financially attractive than elsewhere in the EU. Since 2008 Filipino fishermen have proved vital crew for many vessels in the Outer Hebrides fishing fleet, precise data on numbers of Filipino crewmen are not available (see section 4.4).

[7] Orkney, Shetland and Eilean Siar Migration Report. July 2009. General Register Office for Scotland.

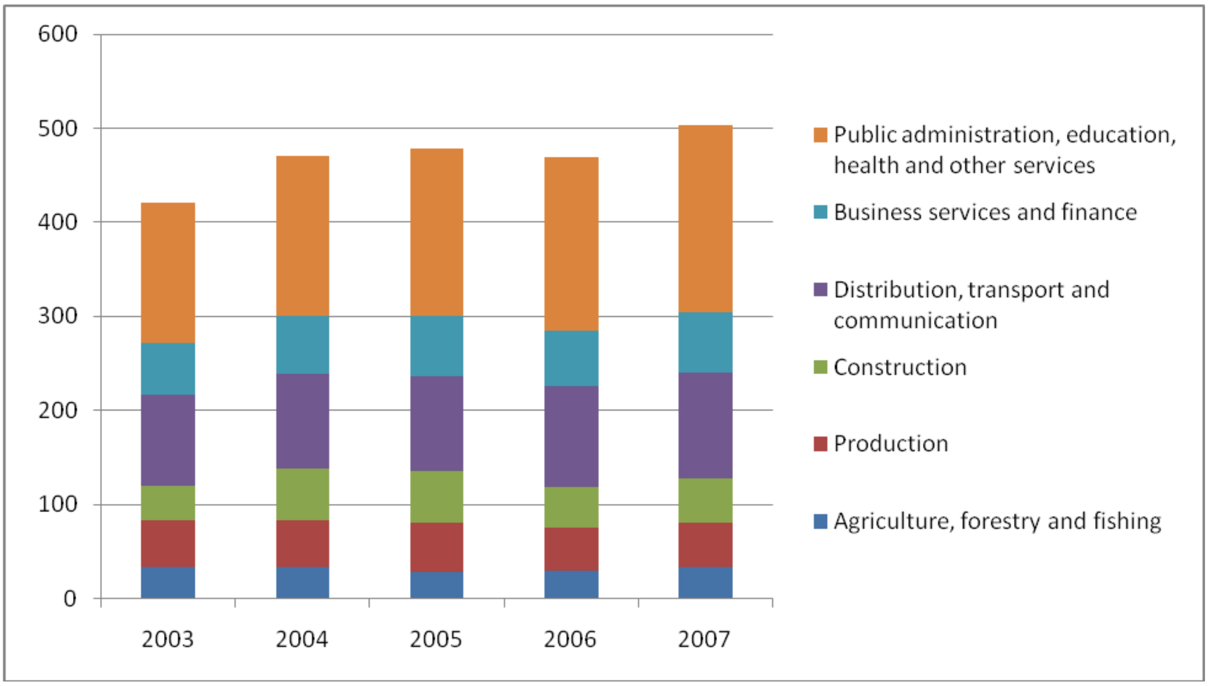
3. ECONOMIC ASPECTS

An ageing population and reliance on transporting goods to the islands limits private sector investment in the Outer Hebrides and there is a strong reliance on public sector jobs and investment[8]. The public sector, distribution, primary industries, construction and tourism are major sources of employment and there is a prevalence of seasonal and part time work. As the administrative sector of the Outer Hebrides many public sector, administrative and retail jobs are located in Stornoway boosting the town's economy. Rural areas of the Outer Hebrides are recognised in policy terms by Highland and Islands Enterprise (the agency charged with 'economic development' in the Highlands and Islands) as an economically 'Fragile Area'. Current levels of public investment are unsustainable and beginning to decline[9]. There is therefore an urgent need for new sustainable development which is likely to include increased tourism and renewable energy schemes.[10]

3.1. Importance of economic activities

Scotland's economic output rose between 2003 and 2007. This was also true of the Outer Hebrides where increases were driven by the public services and distribution sector. The proportion of public sector contributions increased from 36% to 40% between 2003 and 2007. Other growth sectors were construction and distribution and transport, while some key sectors such as production and agri/fishing reduced slightly over this period. The island's economy has been somewhat buffered from the global downturn by a reliance on public sector money, but planned cuts in public sector spending are likely to impact the economy from 2010.

Figure 4. Gross Value Added for main economic sectors in the Outer Hebrides



Source: Scottish Government, 2009

8 http://www.cne-siar.gov.uk/factfile/economy
9 "Job cuts at highland development agency". BBC News February 2010. http://news.bbc.co.uk.
10 http://www.cne-siar.gov.uk/ssp

The broad breakdown of economic sectors shown in Figure 4 illustrates that the economy of the Outer Hebrides is highly dependent on a few sectors with public services and distribution (retailing and most wholesaling) together accounting for over 50% of Gross Value Added (GVA). More detailed Outer Hebrides data available for 2003 show at that time agriculture, fishing and fish farming contributed 9% of the region's GVA while food and fish processing accounted for 5%[11]. In 2007 the contribution made by agriculture, forestry and fishing amounted to 7% of total GVA as this economic sector showed a 4% decline, mainly resulting from a down-turn in the aquaculture industry[12].

Average GVA per full time employee is significantly lower in the Outer Hebrides than the average national value. This is because of the dominance of small firms that do not benefit from economies of scale and the relatively low and sometimes seasonal value of the islands products and services.[13]

In common with Scotland as a whole, tourism in the Outer Hebrides has grown in recent years. Both numbers of visitors and their average expenditure has increased with a growing number of businesses catering to "high-end" tourist market[14]. Like fishing and agriculture tourist income has a seasonal peak in the summer. The length of the tourist season has, however, expanded to run between March and October[15].

In 2008 the Scottish Government introduced a "Road Equivalent Tariff" for ferry routes to the islands which reduced the price of inter-island vehicle tickets by more than half.[16] There are early signs that this has further boosted the islands' income from tourism (in addition to helping other businesses on the islands). The media (particularly Gaelic medium) and creative arts are also becoming increasingly important for Stornoway's economy (see section 3.4).

3.2. Employment and unemployment

In 1998 around 13,000 people were employed across the Outer Hebrides. This represented an employment rate of 77% of the population at working age (16 to 65 years old). This is similar to the Scottish average figure of 74%, but the Outer Hebrides had proportionally more part time employees, less full time employees and more self employed residents than Scotland as a whole (**Figure 5** shows full time employment and unemployment rates).

Outside of Stornoway there is a tradition of pluri-activity with workers taking on a number of part time jobs to maintain a reasonable income (traditionally crofting and weaving and fishing). Annual employment rates in the Outer Hebrides vary erratically and workers often move between employment sectors to remain in employment. Unemployment rates rise in the winter because significant numbers of people are employed in the summer in tourism and primary industries[17].

Detailed data are not yet available for 2009 but initial reports show that although the recession has reduced employment across the Highlands and Islands of Scotland the impact

[11] Comhairle nan Eilean Siar Regional Accounts, 2003
[12] Comhairle nan Eilean Siar Regional Accounts, 1997
[13] April 2007 Economic update – Innse Gall. Highlands and Islands Enterprise.
[14] Outer Hebrides Tourism Facts and Figures Update - Review of 2006 season
[15] http://www.cne-siar.gov.uk/factfile/economy

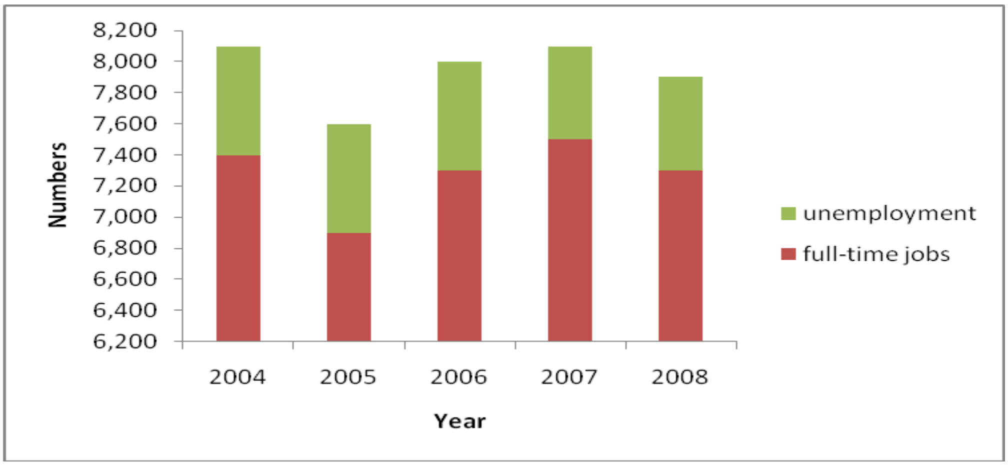
[16] "Islanders rejoice as ferry fares are slashed." Stornoway Gazette. 28.2.08.

[17] http://www.cne-siar.gov.uk/factfile/labourmarket

has not been as dramatic as elsewhere in the UK[18]. Impacts are, however, likely to occur from 2010 when the local council will begin to implement multi million pound spending cuts[19].

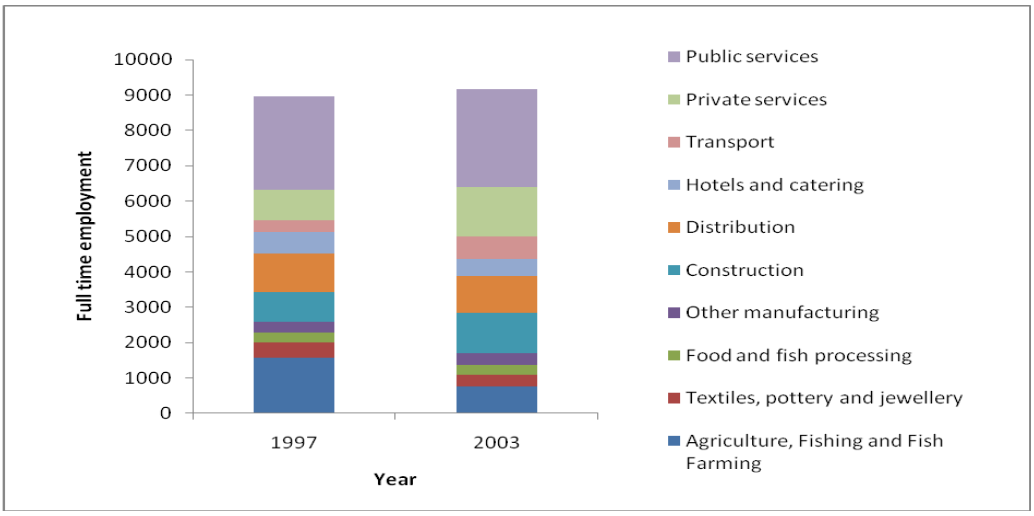
The Outer Hebrides economy has a few key sectors employing the majority of the workforce. The public sector has a dominant position providing around 30 % of all employment across the islands. The 2001 census found that the proportion of employment in the fishing, construction, transport and the public sector was of greater importance to the Outer Hebrides than Scotland as a whole. Detailed recent figures are not available for employment by sector. A comparison of 1997 and 2003 data, however, showed a decline in jobs in agriculture, fisheries and fish farming and in textiles pottery and jewellery (primarily tweed manufacture), and an increase in employment in construction, transport and private services (Figure 6).

Figure 5: Employment in the Outer Hebrides, 2004 – 2008*.



Source: https://www.nomisweb.co.uk   * Excludes self employed workers.

Figure 6. Changes in employment (fulltime equivalent jobs) across the Outer Hebrides between 1997 and 2003.



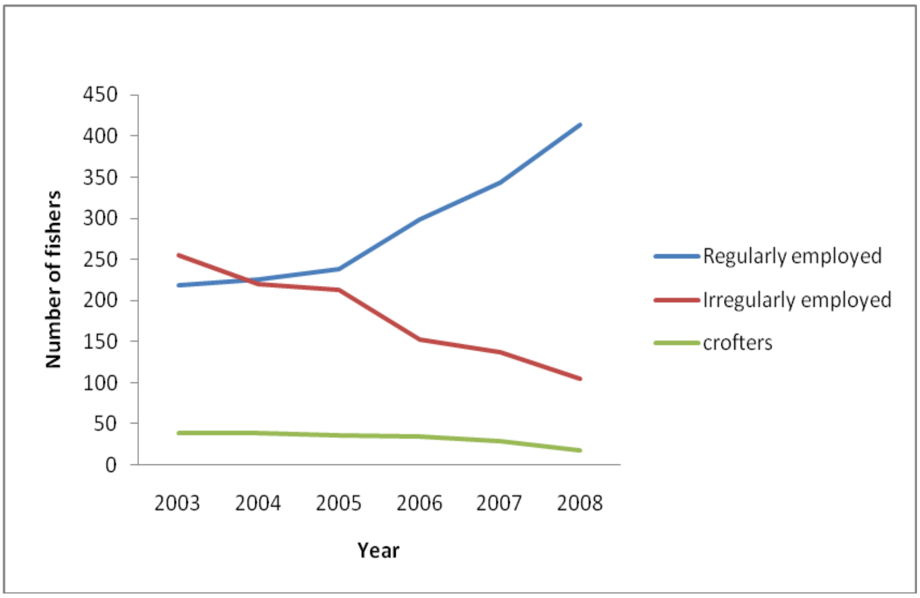
Source: Comhairle nan Eilean Siar Regional Accounts, 2003

[18] Highlands and Islands Enterprise Economic Digest. December 2009
[19] "Outer Hebrides Council to Set Budget." News report 18.2.2010. http://news.stv.tv

The relative importance of fishing to Stornoway and the Outer Hebrides is substantially greater than for Scotland as a whole in GVA and employment terms. In 2007 fisheries dependency as a proportion of total employment was 4.5 % in Lewis and Harris and 11.1% in the Uists and Barra, which is far higher than the 0.2% contribution of fishing to employment across Scotland.

A breakdown of 2001 census data by small area[20] shows that Stornoway was more reliant on the retail sector for employment than most rural areas. Fishing was less important in Stornoway than across the whole of the Outer Hebrides (it provided 3% of total employment in Stornoway compared with 8% across the Outer Hebrides). This is backed up by "Travel To Work by Area" data[21] which shows that in 2007 fisheries dependency as a proportion of total employment was 4.5 % in Lewis and Harris and 11.1% in the Uists and Barra.

Figure 7. Number of fishers employed in the Outer Hebrides 2003-2008 and their type of employment.



Source: Scottish Sea Fisheries Statistics 2003-2008

Accross Scotland numbers of fishers regularly employed increased from 2005 following an all time slump in numbers of regularly employed fishermen in the preceeding decade[22]. This was true in the Outer Hebrides where numbers of regularly employed fishermen rose between 2003 and 2005 following high shellfish catches (see section 4.4). Numbers of irregularly employed fishermen and crofter-fishermen has declined significantly over this period. Part time fishing is a traditional industry for islanders and its occurrence may have declined as younger generations lack the experience and motivation to go to sea.

Stornoway shows more part-time and seasonal employment in fishing compared to Scotland overall, which is partly as a result of the seasonal nature of some fisheries. While this is in keeping with the crofting heritage of the islands, few are now crofters (farming small-holdings) and therefore this means workers have to seeking other casual work. Unfortunately another key economic sector, tourism also results in seasonal employment.

[20] Comhairle nan Eilean Siar – Area Profiles
[21] Rural and Environment Research and Analysis 2009

[22] Scottish Sea Fisheries Statistics 2003-2008

The limited employment opportunities mean that young people are leaving the island to work on mainland Scotland. The questionable attractiveness of the sector with variable and low wage levels for physical work in demanding conditions means that the remaining local workforce is less interested in the fisheries sector and this has resulted in employment shortages. These shortages are evident across the Scottish fishing and fish processing sectors and are currently being filled by an immigrant workforce from accession states such as Poland and Latvia. A particular development in the Stornoway fleet is the introduction of non-EEA workers from the Philippines.

3.3. Infrastructure

Vehicle access to the Outer Hebrides is from one of three mainland ports to the island's ferry ports in Stornoway, Tarbert, Loch Boisdale, Loch Maddy and Castlebay (Barra). Transit times are between 1.5 and 5 hours depending on the route. From Stornoway ferries take 2 hours 45 minutes to reach Ullapool. Freight and passenger ferries operate out of Stornoway while at the other ports single ferries take both freight and passengers. Two smaller ferries link Harris to Uist and Uist to Barra and a network of road causeways links North Uist, South Uist and Benbecula. All ferries are operated by Caledonian MacBrayne with significant public subsidy[23]. The nearest motorway is the M90 which ends at Perth, by road and ferry this is 437 km from Stornoway. The nearest city is Inverness, 174km from Stornoway by surface transport. In 2010 the Stornoway to Ullapool ferry broke with the strong Presbyterian tradition against work on the Sabbath and began operating on Sundays. This will boost visitor numbers and allow islanders to visit the mainland without taking time off work.

Stornoway airport is located 3 miles outside of Stornoway and operates regular flights to Glasgow, Inverness, Edinburgh and Aberdeen. Flights also operate between Stornoway Barra and Benbecula although recently the company operating these flights has gone out of business[24] because of low passenger numbers and debts due to extreme weather conditions in the winter of 2010 (heavy snow caused flight disruption for months). A coastguard helicopter is also based at Stornoway airport.

Stornoway has a hospital and construction of a new dental facility and teaching centre should be completed in 2010. Three primary schools and one secondary school serve the Stornoway area. In 2008 the secondary school had 124 pupils aged 15-16. Education levels are good across the Outer Hebrides with attainment levels and numbers of pupils going on to higher education exceeding national averages[25]. Island school children benefit from low pupil to teacher ratios, particularly in the primary sector (for children under 11 years of age). There are 36 primary schools across the Outer Hebrides with total rolls of between 8 and 296 pupils. Declining birth rates across the islands lead to the closure of nine schools between 1998 and 2008. There are plans for further closures before 2013[26], however Highlands and Islands Enterprise warn that the provision of high quality schooling is essential if rural areas are to retain and attract people with families[27].

Lews Castle College in Stornoway is a campus of the University of the Highlands and Islands (UHI). It offers a small range of academic courses and more vocational studies for school leavers and mature students. Degree level courses relate to business management, health, Gaelic, Computing, Sustainable Rural Development and Engineering for renewable

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[23] In 2005-2006 Caledonian MacBrayne received 46 million Euros to support approved services in the Highlands and Islands, http://www.calmac.co.uk
[24] "Highland Airways goes into administration" BBC News 25.3.10 http://news.bbc.co.uk
[25] April 2007 Economic update – Innse Gall. Highlands and Islands Enterprise
[26] "Disagreement over school closures" BBC News 24.7.07 http://news.bbc.co.uk
[27] April 2007 Economic update – Innse Gall. Highlands and Islands Enterprise

energy (this course was offered first in 2009). Other courses include longer term qualifications for fishing skippers (inshore), fishing deckhands and aquaculture workers and a range of short courses for fishermen and boat handlers including training in fire fighting and first aid at sea. The college had 351 full time and 1437 part time students in 2009.

Traditional industries in Stornoway include fishing and fish processing, textiles (production of Harris Tweed), retail and tourism. Fishing and fish processing are discussed in section 4. Three tweed mills exist across Lewis and Harris and self employed weavers work at home. Tweed production in Stornoway declined following the takeover of the town's mill in 2007. However there are some signs of a revitalised industry with 12 new weavers signing up for training courses and Harris Tweed Hebrides winning a top award at Scotland's 2009 Fashion Awards[28].

The islands stunning landscape, wildlife and Gaelic heritage continue to attract tourists. In 2009 record numbers of tourists visited the Outer Hebrides. This was thought to be due to a combination of the economic down turn causing UK residents to holiday at home and a halving of ferry fares to the islands. While this increase in tourists was welcomed concerns were raised about the lack of waste disposal units and camping areas for motor homes and the poor quality of some accommodation on offer. Grants and planning incentives have stimulated a number of new camping and accommodation schemes which should improve facilities in 2010.

Other long-term employers in Stornoway include a communications company employing around 120 people in a call centre and the Arnish Fabrication Yard. The Arnish yard employed over 100 people in the 1990's when it produced steel structures for the oil industry. However the yard has gone out of business a number of times and often relied on public funding to stay open[29]. BiFab occupy the Arnish yard employing around 60 people, with the community landlord Stornoway Trust owning the large factory and its heavy equipment and leases the facility to Highlands and Islands Enterprise. It is not currently in use but there are hopes that it will be revived to serve the renewable energy sector with the creation of up to a hundred skilled jobs. More recently, in 2006, a seaweed processing factory has opened in Stornoway with the creation of 28 jobs to harvest and process the seaweed.

Emerging sectors include creative industries and renewable energy. Creative industries include music, media and radio, fashion and crafts. There is a long tradition of music, art and craft industries across the Outer Hebrides often inspired by the culture and environment of the islands. More recently Stornoway has developed flagship venues including An Lanntair (an arts centre) and the Hebridean Celtic Festival. Gaelic media has also found a home in Stornoway with BBC and private media companies based there alongside freelance workers. The creative industries are recognised as an important stimulus for economic growth, bringing highly skilled, high value jobs and benefitting tourism[30]. The council is keen to encourage the sector and recently announced funding for a new Creative Industries and Media Centre[31].

Renewable energy industries also look set to expand with planning permission having been granted for a large wind farm on the east coast of Lewis, several small community owned wind and hydroelectric schemes and a novel wave power scheme . Lews Castle College is

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[28] www.harristweedhebrides.com

[29] "Is it third time lucky for Arnish Yard?" Stornoway Gazette. 29.3.07

[30] Outer Hebrides Creative Industry Strategy 2008-2009
[31] "Contract awarded for new media centre." Stornoway Gazette 3.15.10

also building expertise in new hydrogen technology and innovative energy efficiency technologies. To date renewable energy schemes have been constrained by the lack of a subsea interconnecter which would enable the islands to export electricity to the mainland. In March 2010, however, a €33 million project was announced to construct an electricity transmission circuit in Lewis[32]. This will create 20 jobs and is a precursor to the proposed interconnector.

The Outer Hebrides has a higher business start up rate than Scotland as a whole. This is typical of rural areas where individuals are more likely to enter-self employment due to a lack of alternative employment opportunities[33]. New businesses are supported by Highlands and Islands Enterprise (a government organisation that promotes sustainable economic growth) who offer advice on setting up and managing businesses and sources of funding.

A lack of broadband internet access can constrain businesses outside of the Stornoway area. To combat this a publicly funded “Connected Communities” project was set up in 2004. This project provides wireless internet access to rural areas of the Outer Hebrides, however it has been slow to reach some areas (particularly in the Uists and Harris) and connection remains intermittent.

Table 1 Number of active, births & deaths of enterprises in the Outer Hebrides

	2004	2005	2006	2007
Number of active enterprises	870	875	880	885
New enterprises	60	90	70	75
Deaths of enterprises	70	65	70	60

Source: UK Office of National Statistics

3.4. Local development plans

In 2002 Comhairle nan Eilean Siar launched a strategy for economic regeneration of the Outer Hebrides called “Creating Communities for the Future.” This strategy has six main drivers, Renewable Energy Innovation, Broadband, Tourism, Culture and Heritage, Business Infrastructure and Jobs Dispersal, and the University of Highlands & Islands (UHI) Millennium Institute – Lewis Castle College. The strategy broadly aims to have the following outcomes by 2010:

- a diverse and growing population with a balanced demographic structure allowing young people to move freely as lifestyles change and allowing effective public services;
- a dynamic renewable energy sector of international renown providing the base for new forms of economic activity;
- a high quality environment, which maintains bio-diversity;
- a private sector that is a high-level economic contributor;

[32] “£30 million electricity project bringing 20 jobs to Lewis.” Stornoway Gazette 25.3.10
[33] April 2007 Economic update – Innse Gall. Highlands and Islands Enterprise

- a tourism industry, which has developed the Western Isles as a world-class destination;

- a confident community, utilising new forms of land and sea ownership; and

- communities which are globally connected through a high quality transport infrastructure and leading-edge communications systems.

The strategy recognises that there will be an ongoing requirement for the investment of European funds to achieve progress and that success is dependent on an efficient air and sea transport network. The fisheries sector is briefly considered in the economic strategy as "requiring assistance through a period of change".

The Western Isles Local Plan (2008) sets out land-use priorities and outlines projects for the regeneration of Stornoway town. It includes plans for the harbour regeneration including: relocation of storage facilities for bulk goods (oil, gas); the development of smaller scale commercial marine activities such as fisheries and boat building alongside leisure and water based recreational activities and a detailed evaluation of the potential benefits of infilling and area of the harbour to create more land. Outwith Stornoway a number of developments for piers and harbours are considered including, and improved fishing facilities at Lochboisdale (South Uist) and Lochmaddy (North Uists). Improvements for visiting yachts are also proposed with the addition of pontoons and other facilities at a number of harbours.

4. Fisheries and aquaculture sector

The value of landings into Outer Hebrides is in the region of €16 million. Shellfish accounts for nearly 95% of this by value with *Nephrops* accounting for 63% of total landed value (see Table 2). The main shellfish species by value landed in the area are *Nephrops*, scallops, lobster, brown crab and velvet crab. This strong reliance on the Nephrops fishery makes the sector vulnerable to any change in fishing opportunities and prices.

Table 2 Volume and Value of main species landed into Outer Hebrides in 2008

	Tonnes	€'000
Haddock	24	57
Other demersal	95	173
Total demersal	119	230
Total pelagic	0	0
Edible crabs	739	1,144
Green crabs	22	16
Lobsters	162	2,392
Nephrops	2,107	10,004
Scallops	416	1,279
Velvet crabs	257	753
Other shellfish	5	182
Total shellfish	3,708	15,771
Total landings	3,827	16,001

Source: Scottish Government, 2009

There is substantial vivier storage on the islands to hold live shellfish prior to export and some shellfish processing capacity (Youngs in Stornoway and Barratlantic Ltd in Barra processing mainly Nephrops; Kallin Shellfish Ltd mainly processing scallops).

Other smaller-scale fisheries include the crawfish fishery (up to 20 vessels targeting crawfish April to August), the razorfish fishery (targeted by a handful of boat divers) and the cockle fishery (currently undertaken by 25 hand gatherers in Barra and 6 in Harris).

Aquaculture is an important primary production sector with Atlantic salmon and mussels being produced throughout the islands.

The growing reliance on shellfish by the Stornoway fleet marks a trend that is observed in the national fleet. For Stornoway this move has occurred to the point where demersal and pelagic species are no longer targeted by segments of the fleet (the one Hebridean pelagic vessel is permanently based and lands elsewhere). Consequently Barratlanctic Ltd is the only Island based company processing white fish and fin fish processing in Stornoway now only services the salmon farming sector.

4.1. Details of the local fishing fleets

Stornoway historically supported a significant fishing fleet with large numbers of boats targeting demersal and pelagic fish stocks. The herring fishery was particularly important; at its peak (around 1900) more than 900 boats fished for herring from Stornoway, supporting nearly 9000 people in jobs including fishing, gutting, packing, curing and barrel making[34].

[34] "Stornoway the Herring Girls" http://www.virtualheb.co.uk

Many of these workers, most famously the “herring girls”, were itinerant, following the fleet from port to port.

The West Coast sandeel fishery is located on inshore grounds and is regulated with a non transferable licence currently available to 4 vessels. In earlier years the fishery was pursued by smaller vessels that landed into a fishmeal factory in Stornoway. Once this plant closed the only available plants were in Shetland, Ireland and Faroe. Due to the long steaming distances and the vagaries of weather this meant that the fishery was then pursued by a larger class of pelagic vessel. During the last number of years activity in the fishery has been low, with only one local vessel joining the fishery.

Demersal white fish trawling stopped following poor catches in the 1990’s leading to a loss of boats to decommissioning schemes, conversion to *Nephrops* trawling or sale to fleets in the deepwater ports of Fraserburgh, Peterhead and Lerwick. This reflects the situation across Scotland where vessels targeting demersal fish have declined but numbers of shellfish and pelagic vessels have remained reasonably static since 1998 [35]

Unlike the Scottish fleet, which retains a small but significant whitefish and pelagic fleet, the segments represented in the Stornoway fleet are now limited to small inshore creel vessels targeting Nephrops, crab and lobster; and 10-24m trawlers (single and twin-rig) targeting Nephrops. One scallop dredger remains based in Stornoway with other Hebridean vessels this segment being based further south at Kallin.

The Outer Hebrides and Stornoway fleet is now made up solely of inshore shellfish vessels targeting *Nephrops*, crabs and lobsters around the islands and throughout the Minch (the sea separating the Outer Hebrides from mainland Scotland). Most inshore boats operate on a day basis within 30km of Stornoway harbour. The largest of these vessels may be out for more than 3 days fishing over 100km from Stornoway, but these too remain within 12 nmiles of the coast.

Nephrops is the most valuable fishery (63% of total landings by value). Initially processors used by-catch from white fish trawlers with all the catch being tailed and sold for the UK scampi market. Now prawns are targeted and whole live prawns are sought after alongside traditional tails. Most *Nephrops* are taken by small trawlers but increasing amounts are caught in creels (pots).

Prawn trawlers make up the majority of the Stornoway fleet with increasing numbers using twin-rigged trawls (see Table 3). Elsewhere across the Outer Hebrides small (<10m) creel boats dominate, 200 such vessels are active, many target prawns during the spring months, lobster and crab in the summer months and some move to targeting velvet crab in the late autumn. Occasionally vessels are equipped to both creel and trawl for prawns.

Many of the smaller boats are part-time with these fishermen engaged in other jobs including work in the offshore gas and oil sector and agriculture[36]. These part-time boats often work out of the 30 smaller ports dotted around the islands. Creels are traditionally used in inshore areas and sea lochs where access by trawlers is limited by the seabed conditions (rough/rocky ground). As the numbers of creelers have increased, however, they are sometimes forced onto traditional trawl grounds, which can sometimes lead to conflict.

“Herring Industry” http://www.stornowayhistoricalsociety.org.uk

[35] Scottish Sea Fisheries Statistics 2008.

[36] The traditional farming of a small holding in Scotland, which is often combined with other income such as fishing, is termed ‘crofting’.

Table 3 Fleet segments in Stornoway fishing fleet*

Segment (length class)	Number of active vessels	Main gears used	Number of crew	Main species fished	Main fishing areas	Trip length (days)
0-10 m	6	pots	1-2	prawn, edible crab, velvet crab, lobster	V1a	1
0-10 m	2	single trawl +/- dredge	1-3	prawn	V1a	1
> 10 < 25 m	14	single trawl	2-4	prawn	V1a	1
> 10 < 25 m	5	twin trawl	2-4	prawn	V1a	1
> 10 < 25 m	1	dredge	3	scallop	V1a	1-3

Source: Marine Scotland Compliance, Stornoway Office *Stornoway fleet defined as boats landing in Stornoway ten or more times a year (boats over 10 m) and seven or more times a year (boats less than 10 m, - these boats often work seasonally).

Larger creel boats (>10 m) including modern vivier vessels catching brown crab and lobster, fish within the inshore waters of the Outer Hebrides but these are from other areas of Scotland such as Ullapool and Orkney and do not land to the Outer Hebrides. Four scallop dredgers are registered in the Outer Hebrides, one of these lands in Stornoway while the others work out of the Uists. Boat crews are generally small with up to 4 people working the larger vessels. Most boats land daily with only the larger creel boats and scallop dredgers regularly spending more than one day at sea.

Numbers of vessels landing regularly in Stornoway increased from 2005 to 2007 (Figure 8) because of high prawn abundance, value and catches (see section 4.4). From 2008 high vessel running costs coupled with declining prawn catches and the global recession depressing shellfish markets (see section 4.4) resulted in the loss of active vessels from the fleet. Twin rig trawlers declined less than single trawlers as some vessels switched from single to twin rigs. Changes in segment powers and tonnages closely track numbers of vessels leaving and joining the fleet. This is because most boats in the Stornoway fleet are old (see Table 4 average age across the Hebridean over 10m fleet) and largely unmodified. Elsewhere in Scotland average vessel power has increased as fleets modernise[37] .

Table 4 Average age profile of vessels and skippers for over 10m categories

Gear type	Vessel	Skipper
Static Gear	25	44
Scallop	25	56
Stornoway Trawl	38	45
Barra Trawl	30	44

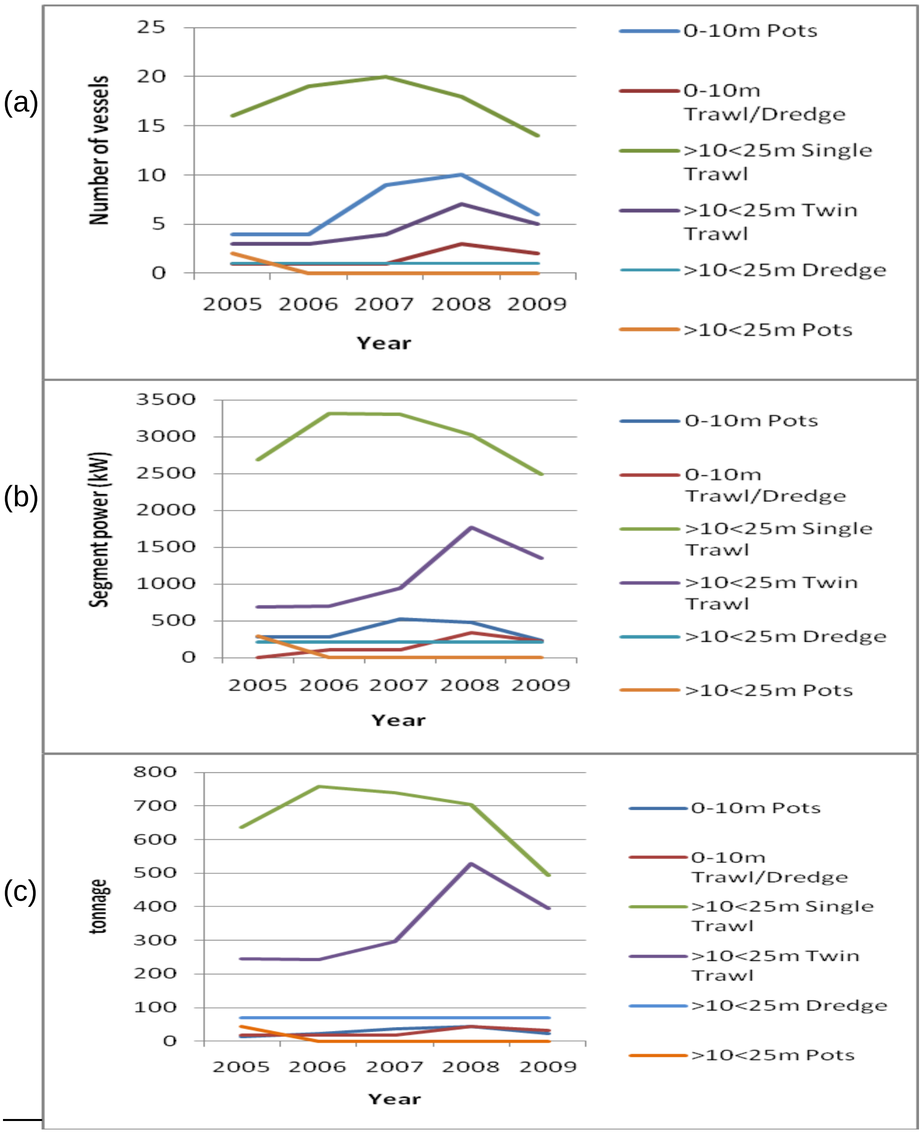
Source: WIFA

[37] Scottish Sea Fisheries Statistics 2008.

In recent years vessels have struggled to attract reliable crew. This is probably due to a number of factors, including the availability of more highly paid and regular employment in other primary industries (e.g. construction and fish farming). Young locals are generally not choosing to become fishers and boats rely on crew from Poland and Latvia and, more recently, the Philippines. These skilled workers are now viewed as an important component of the fishing fleet of the Outer Hebrides and following pressure from politicians and industry representatives the agency has recently revised their position and is granting visas for work on fishing vessels.[38]There remain concerns that the UK Borders Agency will refuse Filipino fishermen work visas in the future and so prevent them from working on Stornoway vessels. Replacing these workers will have a negative impact on the economic performance of many in the Stornoway fleet as higher wages would be required to attract migrant workers from elsewhere.

Figure 8 Stornoway fleet segment changes in (a) number; (b) power (kW); (c) tonnage (GT)

Source: Scottish Government, 2009



[38] "UK Borders Agency having second thoughts over Filipino fishermen." Stornoway Gazette. 11.6.09.

"Filipino crew allowed to work on island fishing boats" http://www.hebridesnews.co.uk

4.2. Fish stock status

With 95% by value of Outer Hebrides landings being shellfish, compared to 39% for the Scotland as a whole, there are concerns that the Hebridean fleet is highly vulnerable to overexploitation of particular stocks, particularly as vessels have a limited range and only *Nephrops* is managed under quota. None of the key stocks targeted by the Stornoway fleet are under an LTMP. All managed stocks are identified as being fished at or above F_{max}. Local plans to develop fisheries therefore involve species that are not currently being actively managed (razorfish, squid, cockles).

Prawn

Prawns (also called *Nephrops*) occur on muddy substrates throughout the Minch (the area of sea separating the Outer Hebrides from mainland Scotland). ICES divides this area in to two functional units for management, North Minch and South Minch. Nephrops abundance is assessed by video surveys of numbers of burrows. Prior to 2007 stock levels across the Minch were assessed to be stable, but between 2007 and 2008 abundance declined. Declines were most dramatic in the South Minch where numbers fell by around 40%. In 2009 fishermen complained of very low *Nephrops* catches despite good fishing conditions. To protect this stock ICES recommended a large restriction in prawn landings (a cut of 75% was recommended for the North Minch). A 15 % reduction in TAC for area V1a was agreed for 2010.

Crab and lobster

West coast stocks tend to be exploited in the summer when weather conditions are best. Minch stocks are generally targeted in the winter alongside prawns. Inshore areas around the Uists are closed to fishing with static gear between the October and March to protect stocks from over exploitation. Marine Scotland Science estimates that exploitation levels for edible crabs, velvet crabs and female lobsters are close to or exceeding optimal levels for maximising yields and fishing effort should not be increased. Male lobsters in the Hebrides are caught when they are too small (growth overfished) and a reduction in fishing effort would benefit the fishery by increasing long term yields[39].

Crab and lobster fisheries are not subject to TAC regulations or national quotas although there are EU provisions to allow the restriction of fishing effort on edible crab for of all vessels longer than 15 m in Western Waters. There are also minimum landing sizes for crabs and lobsters and a maximum landing size for female lobsters in Scotland. Vessels landing more than 25 crabs or 5 lobsters per day must have a licence.

Scallops

Scallop grounds are concentrated on the east coast of Lewis and Harris and the west coast of south Uist though inshore areas around the islands are targeted by divers. There are no TAC regulations for scallops but minimum landing sizes and gear restrictions are enforced. Like crabs and lobsters scallops are exploited above the level that maximises long term returns to the fishery. Surveys by Marine Science Scotland show that spawning stocks of scallops have reduced to levels where recruitment of juveniles into the fishery is declining. An increase in minimum landing size to 110 mm is being considered to protect and restore stocks.

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[39] There are however plans to introduce a maximum landing size for females as prices for large lobsters are relatively poor. By returning large and berried females it is hoped stocks can be better conserved.

Other species

Razor fish, cockles and winkles are fished on an occasional basis by locals and visitors. Winkles and razor fish are collected around Stornoway. Some are targeted by prawn fishermen when fishing returns are poor or the weather prevents them from going to sea. Lucrative crawfish are also caught occasionally with tangle nets and some inshore fishermen catch wrasse for fish farms where they are used to control sea lice. There is limited information on these species but cockle beds have recently been assessed for the Inshore Fisheries Group with a view to promoting this fishery. Fishermen have also expressed interest in a future squid fishery as there are increasing numbers of squid in their by-catch. A seaweed factory has opened in Stornoway and processes seaweed for animal feed and fertilizer. Seaweed for the factory is collected by hand from sea lochs across the Outer Hebrides.

Table 5 Management and status of key fisheries for Outer Hebrides

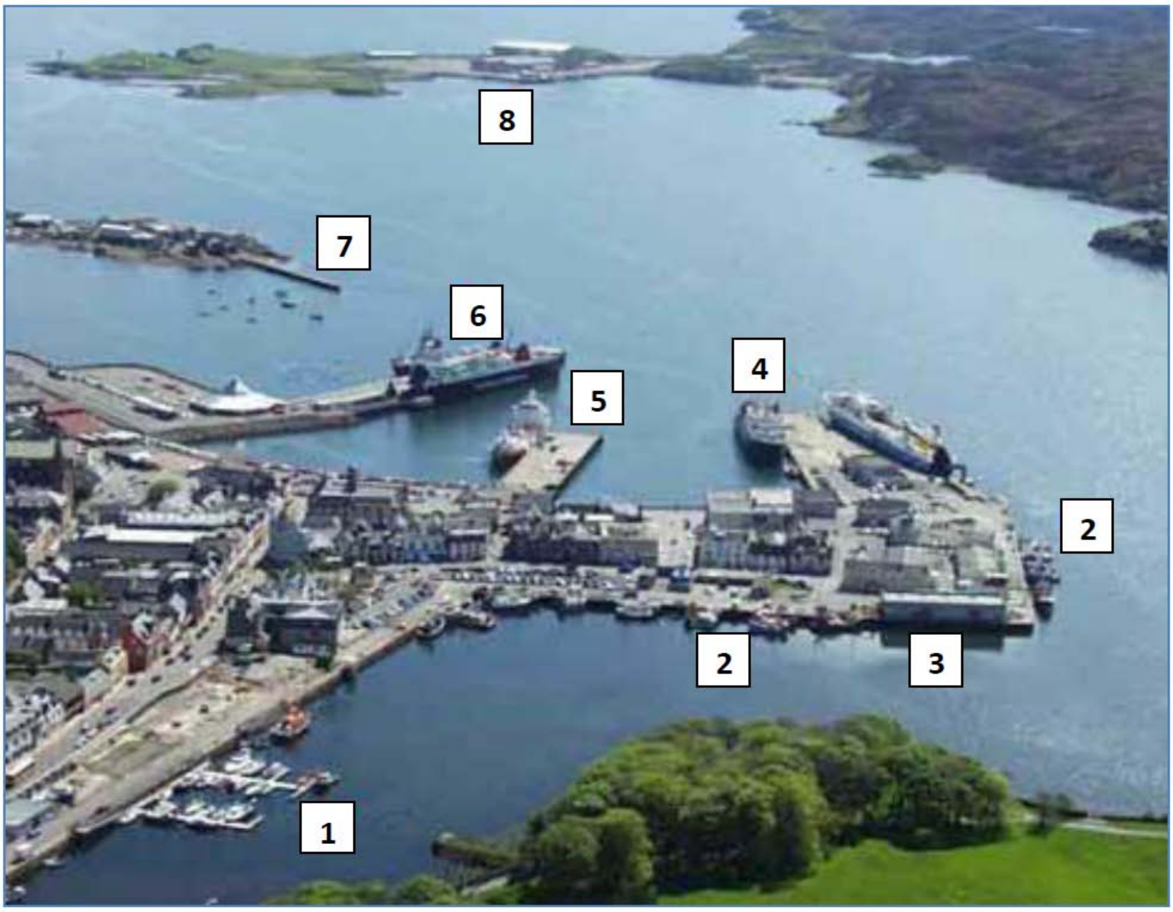
Species	ICES Area	Management responsibility	Stock status relative to MSY	Main management regulations affecting the stock
Nephrops	V1a	EU/Scottish Government	No MSY set stock declining	Minimum landing size, gear restrictions, limited vessel licences, seasonal closed areas, TAC set following ICES advice
Edible crabs	V1a	EU/Scottish Government	No MSY set stock fully exploited	Minimum and maximum landing sizes, limited vessel licences, seasonal closed areas, closed season and gear restrictions for scallops
Lobsters	V1a	Scottish Government	No MSY set stock fully exploited	
Velvet crabs	V1a	Scottish Government	No MSY set stock fully exploited	
Scallops	V1a	Scottish Government	No MSY set stock over exploited	

4.3. Fisheries infrastructure

Stornoway harbour is largely owned and managed by Stornoway Port Authority. The harbour provides facilities for fishing boats, pleasure craft, ferries, visiting vessels and freight vessels. The Port Authority also provides a slip way which vessels can use to access the local boatyard. A pier at Arnish fabrication yard, just outside of Stornoway, provides access for large freight vessels. This harbour may soon be used in the movement of salmon to and from a proposed new processing plant[40].

Around 500 meters of quay side is available for fishing vessels. Nowadays the fish market building is rarely used for the buying and selling of fish but it contains a cold store where shellfish are temporarily stored. The Port Authority also provides areas of hard standing and storage containers for fishing gear and skips for fishing waste. A Fishermen's Mission and shower facilities are available near to the harbour for visiting pleasure craft and itinerant boat crew. Stornoway Fisherman's Co-operative has an ice plant and chandlery next to the harbour.

Plate 1 Stornoway Harbour



Pontoons for pleasure craft (1), fishing vessel berths (2), fish market and ice plant (3), piers for tankers, freight vessels and visiting vessels (4 and 5), Ro/Ro ferry pier (6), slipway and boatyard (7), and Arnish pier (8).

Source: Stornoway Port Authority (www.stornoway-portauthority.com)

[40] Press Release "Planning application submitted for new Lighthouse Caledonia factory bringing 100 jobs to the Hebrides." lighthousecaledonia.com

Large gear items are generally bought from the mainland but prawn creels are manufactured and sold by Gael Force in Stornoway. Currently most fuel is brought by tankers from the mainland. The local council has plans to install a fuel depot in the harbour for fishing vessels. This would enable fuel to be bought at a reduced bulk rate, reducing the price to the fishing fleet. The main prawn processor in Stornoway (Young's) is located on Goat Island, next to the slipway (7 on Plate 1).

Salmon and mussel aquaculture is carried out across the islands but not in the vicinity of Stornoway. Until 2009 there was a salmon processing plant in Stornoway operated by Light House Caledonia; this is not in use at the moment, but is due to reopen in 2010.

Outside Stornoway the Council and Caledonian MacBrayne (the ferry operator) manage 30 regional harbours and ferry ports, the largest of these are Brevig in Lewis, Tarbert, Stockinish, and Leverburgh in Harris, Lochmaddy in North Uist, Kallin in Benbecula (with a new breakwater and ice plant), Acarsaid and Lochboisdale in South Uist and Castlebay and Ardveenish in Barra.

4.4. Details of the local catching sector

Prawns *(Nephrops)* dominate catches in terms of value (€10m in 2008) and volume (2,107t in 2008). Landings for edible crabs are five times higher in volume (over 700 tonnes and valued at over €1.1m in 2008), but the lobster fishery is twice as valuable (€2.4m in 2008). Over 400t of scallops worth €1.3m were landed into the Outer Hebrides in 2008. There are however additional amounts of landings made by Stornoway-based vessels into mainland Scottish ports like Lochinver and Kinlochbervie. There are also substantial catches of Nephrops and other shellfish taken by larger Scottish and Irish vessels fishing in waters adjacent to the Outer Hebrides (within 12nm). These are rarely landed into the Outer Hebrides due to the additional transport required to export from the islands.

Marine Science Scotland estimates that local prawn abundance peaked between 2003 and 2006 while catches peaked in 2006 – 2007 (Figure 9). There are two reasons for this peak:

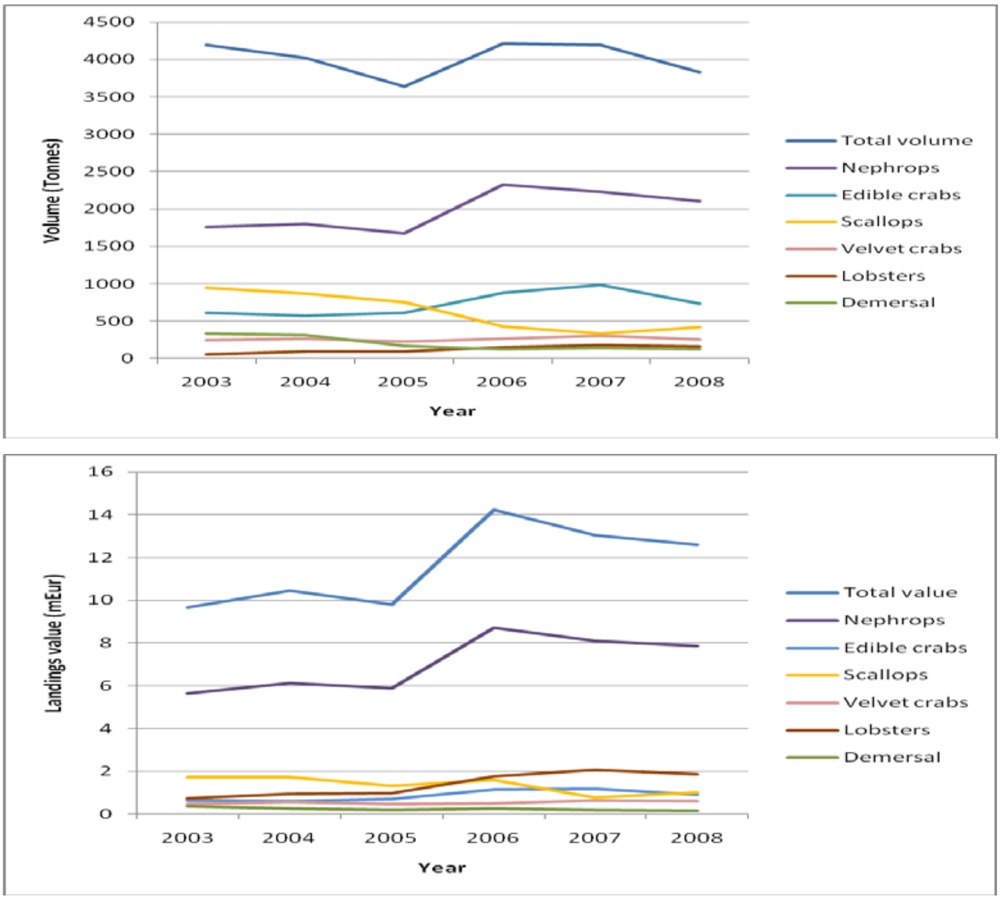
1. The introduction of a regulation requiring the 'Registration of Buyers and Sellers' resulted in more accurate landings declarations, particularly from the inshore fleet, which resulted in a jump in recorded landings from 2006 on observed around the UK.

2. An increase in fishing effort in those years: Scottish Sea Fisheries Statistics show that the total number of fishing trips from the Outer Hebrides jumped from 6,330 in 2005 to 8,696 in 2006, with number of trips declining again in 2008.

Time series figures are not available for the Stornoway fleet, but it is estimated that this fleet landed over 30 % of the Outer Hebrides *Nephrops* catch by volume and a similar percentage of the scallop catch. Less than ten percent of the crabs, lobsters and demersal fish were landed in Stornoway. Overall roughly 38% of all the Outer Hebrides landings by value and 28% by volume were estimated to be landed in Stornoway in 2009[41]. Numbers of visiting fishing vessels landing in the Islands is generally low, a couple of the larger island based creel boats sometimes land to mainland ports when hauliers are reluctant to come to Stornoway.

[41] Outer Hebrides Inshore Fisheries Group estimates

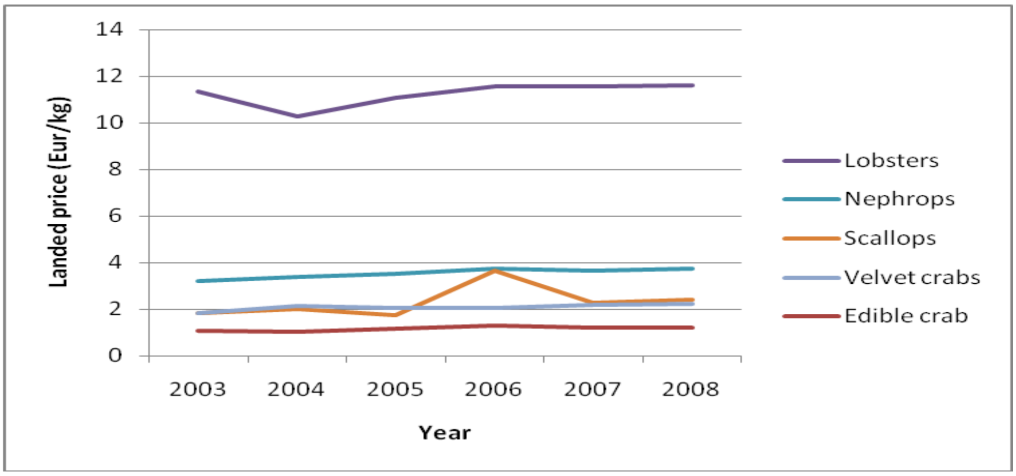
Figure 9 Trends in volume & value of fish and shellfish landed in the Outer Hebrides 2003-2008



Source: Scottish Government, 2009

Between 2003 and 2008 shellfish values were reasonably constant with a single peak in price of scallops and dip in lobster prices (Figure 10). Although creel caught prawns account for only around 20-25 % of the catch by volume their value per kilo is up to four times higher than trawl caught prawns[42].

Figure 10 Trends in landed price (€/kg) for main species for Outer Hebrides 2003-2008



Source: Scottish Government, 2009

[42] Provisional data for 2007-2009 from the Outer Hebrides Inshore Fisheries Group

The prices for Nephrops achieved vary significantly depending upon the form and grade being landed. Creel vessels land live large specimens which are sold at a premium price. On-shore vivier storage and transport infrastructure has developed to serve this lucrative market along with live crab and lobster sales. Nephrops trawlers also received good prices for medium to large grade whole Nephrops, but very poor prices for small tailed Nephrops. The minimum mesh size adopted in 2008 shows a smaller proportion of the smallest grade prawns are being landed and there are plans to increase the minimum tail size that can be landed.

GVA for fishing by the Stornoway fleets has shown an overall slight increase, but fishing's contribution to overall GVA has reduced slightly. This is also true for Scotland as a whole, but growth in GVA throughout the Highlands and Islands region has not been as large as for Scotland overall.

While still just operating above break-even levels, revenue and profitability are down for both single and twin rig prawn sectors due to the increased costs of fuel and reduced catching opportunities. This poor performance is also evident in the Net profit margin and return on investment where prawn vessels on the West Coast of Scotland have shown reduced profitability compared to the same scale of vessel fishing in the North Sea.

In 2009 the Scottish Government introduced a reduced tarrif for vehicles travelling on ferries to the Outer Hebrides and this has been a huge benefit to the islands fisheries sector, the majority of which export their product in vivier lorries. However other costs have increased, particularly fuel, which has almost doubled in price since 2004[43]. This has been coupled with a decrease in landings and a more recent decrease in prices per kilo for crabs, trawl caught prawns, scallops and lobsters. Provisional figures from the Outer Hebrides Inshore Fisheries Group show that the value of lobsters and trawl caught prawns declined by around 10 % between 2008 and 2009 as the recession hit Europe. This coupled with a 14 % reduction in landings for prawn trawlers has had a major impact on their annual earnings and most of the Stornoway trawlers are currently struggling to make a profit. Interestingly creel caught prawns and cheaper shellfish (e.g. winkles and cockles) did not loose value in this period. However like trawlers, creelers are suffering from low catches, increasing costs and difficulties finding crew (see section 4.1).

The quality and catchability of creel caught prawns is generally greatest in the spring. However poor weather often restricts fishing at this time of year and. Volumes of trawl caught prawns are highest in the summer. In the summer creel boats tend to target valuable lobsters. Part time creel fishermen are generally most active in the summer alongside a small number of fishers handlining for mackerel. Diving for scallops occurs year round with about four regular boats and handlining for lythe (pollock) tends to be carried out in the winter by one or two small boats. Occassionally Stornoway vessels are paid to carry out support work for the oil industry, which provides additional non-fishing income.

Increasingly the market for Stornoway prawns and other shellfish is continental Europe. Prices for small tailed prawns have decreased significantly. This coupled with short-handed crewing making on-board tailing more onerous and a larger mesh size that is now being used which have both encouraged the targeting of larger prawns and retaining these onboard whole. Landings have moved away from tailed prawns entering the UK breaded scampi market and towards whole langoustine that is exported fresh and frozen to the mainland and often on to continental Europe.

Stornoway trawl-caught Nephrops has recently attained MSC certification. These are landed exclusively into the Youngs processing facility, which contributed to the standard through the

[43] "Crippling fuel prices hitting fishermen." Stornoway Gazette. 17.3.2008

data collated as part of a sophisticated catch reporting system and it also paid for certification process. The potential for other fisheries to seek MSC certification is being explored currently, but options may be limited to shellfisheries with sufficient stock assessment information.

Overall Stornoway operations, particularly vivier operators remain dependent on market conditions in continental Europe. While these have benefitted from the weak pound to euro exchange rate over the last two years, the economic crisis has led to reduced demand and consequently lower prices. The sale of premium products in whole frozen (langoustine) and live (crab & lobster) is also seen as a barrier to adding value more value on the islands before export.

4.5. Details of the local processing sector

Prior to 2006 two shellfish processors were based in Stornoway employing around 80 people to process prawns, crabs and scallops. One of these processors (Stornoway Shellfish) shut in 2006. The remaining processor, Young's Bluecrest, currently employs 45 full time staff (10 male and 35 female) most are between 20 and 40 years of age. The annual turnover of Young's in Stornoway is around €3 million.

In 2009 Young's initiated an assessment of the Stornoway Nephrops Trawl Fishery been by the Marine Stewardship Council (MSC). The fishery was successfully certified in 2009, largely because of the Young Trace system which provides full traceability for prawn (Nephrops) products from the point of capture to the point of sale[44]. In return for their efforts towards traceability and sustainable practices prawn trawlers are rewarded with slightly higher prices for their catch and Young's can market their Stornoway products at a premium. This is important for the long term future of local processing as processing of cheaper non-certified products is increasingly outsourced to Asia.

Prior to 2010 Young's processed between 400 and 500 tonnes of prawn tails, around 25% of which was imported to Stornoway from elsewhere in Scotland, the rest being sourced locally. Local processing benefits the prawn fleet because it provides a reasonably guaranteed market (prawns are frozen and stored if a glut is landed) and other facilities such as cold storage. Frozen prawn tails are often breaded and sold to a variety of UK retailers while fresh and frozen whole prawns are exported to elsewhere in the EU, particularly Germany and Switzerland.

The company now plans to process smaller amounts of MSC certified prawns for both the shelled frozen market and the whole prawn fresh and frozen market. From 2010 the company aims to process 250 T of MSC certified prawns annually, around half of these will come from Stornoway and half from Barra. The processing capacity of the factory is higher than 250 T but processing volumes are limited by declining prawn catches and the number of vessels operating under the MSC certificate. It is hoped that in the future additional vessels will be included (requiring VMS to be installed), but the industry remains constrained by declining catches and the resulting quota restrictions (see section 4.2).

Local youngsters are generally not keen to work in fish processing and the processor is strongly reliant on staff from outside of the UK. Currently 80% of the employees are Latvians who have settled in Stornoway.

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[44] J.W. Andrews, C. J. Chapman, S.J. Lockwood. 2009. Public Certification Report for the Nephrops Trawl Fishery. 160pp. http://www.msc.org
"Young's support world first for Stornoway fishery." http://www.youngsseafood.co.uk

Stornoway has two fishmongers and a smokehouse which variously fillet, clean and smoke small amounts of local fish and shellfish for the local and export market. Together these outlets account for around 5 tonnes of local produce annually. As the availability of local fish has declined these shops have become increasingly reliant on fish imported from the east coast of Scotland.

Two other shellfish processors exist outwith Stornoway; Kallin Shellfish in Benbecula processes mainly scallops and Barra Atlantic Ltd mainly Nephrops, but takes most other landings by the Barra and hand-gathered cockles. Both employ 20-30 people, which varies on a seasonal basis.

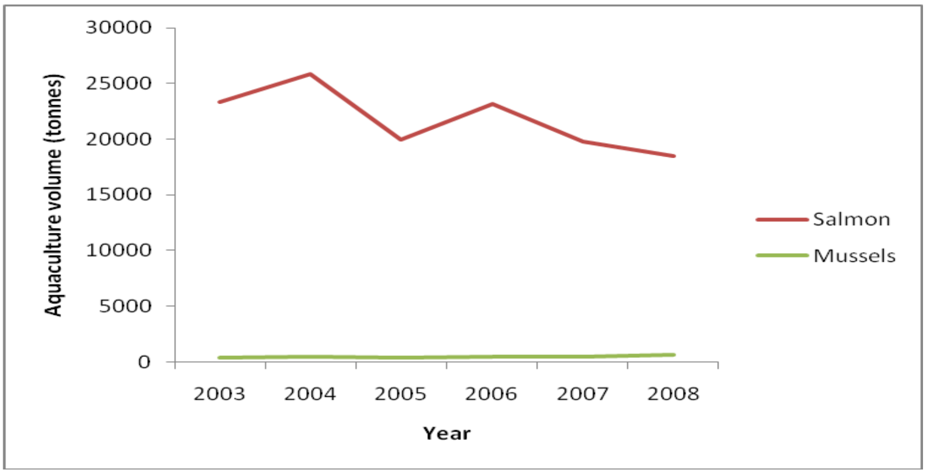
4.6. Details of the local aquaculture sector

Twenty three aquaculture companies operate in the Outer Hebrides producing salmon, mussels and very small amounts of oysters and sea trout. Salmon aquaculture is largely carried out by big multinational companies with a handful of local firms producing organic products. Salmon production has fluctuated between 20,000 and 25,000t, but the past five years has seen a decline in overall volume. This reflects a similar situation in Scottish production as Outer Hebrides production continues to represent around 14%. Based on overall farm-gate value of €450m for Scottish salmon production, Outer Hebrides production would amount to over €63m.

Scottish salmon farms, including production sites in the Outer Hebrides, are tending to consolidate, significantly reducing the number of people they employ[45] in the Outer Hebrides from 220 full time jobs in 1999 to 134 full time jobs in 2008[46]. Aquaculture production does not occur in the Stornoway area, the sheltered bay being used as a harbour. A processing plant and other ancillary services are, however, based in the town.

Mussel farms are generally owned and run by local entrepreneurs and employ 36 people, half of whom work on a part time basis; this level of employment has remained fairly stable over the last five years[47]. The volume of mussels produced has increased slightly over the past five years to a current volume of 671 tonnes in 2008, worth approximately E671 000[48].

Figure 11 Volume of salmon and mussels produced in the Outer Hebrides 2003-2008



Source: Scottish fish farm production surveys and Scottish Shellfish Production Surveys 2003-2008

[45] 2007 Sector Profile – Aquaculture. Highlands and Islands Enterprise.
[46] Scottish Fish Farm Production Survey 2008
[47] Scottish Shellfish Production Surveys 2003- 2008.
[48] Scottish Shellfish Production Surveys 2003- 2008.

Up to 2008 Lighthouse Caledonia operated a salmon processing factory in Stornoway. This closed in 2008 with the loss of around 100 jobs. Before it closed, this factory processed between 4000T-5000T per annum at a value of around 17 million pounds, it plans to process 5000T in 2010. Until now the processing factory has suffered from a lack of investment as it has been owned by a succession of different companies. However processing is set to resume in 2010 and the company is currently recruiting 90 people. It also has plans to build a new processing plant; situated just outside of Stornoway. The new five million pound plant should secure 100 jobs for the town49.

In 2010 the Lighthouse Caledonia processing factory aims to employ around 120 people, of which 95 % will be full time employees. Based on 2008 figures 60% of the workforce is likely to be male, half will probably be local and half with be resident Polish, Latvian and Bulgarian workers.

The salmon processor is a major supporter of Stornoway's ancillary sector, in particular it commissions over one million Euros of haulage and over €500,000 of packaging from local companies per annum. It also supplies small amounts of salmon (ca. 200Kg per week) to local hotels and restaurants.

4.7. Details of the local ancillary sector

Haulage is the most significant ancillary sector as prawns, crabs, lobsters and crawfish landed in the Outer Hebrides is exported live in vivier lorries. Three haulage firms carry fish out of Stornoway; the majority of shellfish is exported by Hebridean Marine who have seawater holding tanks and 6 full time employees.

Other ancillary industries include a chandlery, shipyard, creel manufacturer, three fish shops, an engineer and an electrical engineer. Like the fish catching and processing sectors the creel manufacturers report difficulties in recruiting reliable staff.

Staff in the ancillary sector are predominantly local males. All of these industries report declining trade from the sea fish industry, the shipyard is largely reliant on fish farm work, the creel manufacturer exports 98 % of their creels and the chandlery now receives about 75 % of its custom from the general public. By examining estimates of fisheries related trade and employee numbers we estimate that around 20 people are employed in these ancillary businesses to support Stornoway's fishing fleet. Around six local restaurants also rely on good quality local seafood to attract residents, and in the summer months, tourists.

[49] Press Release. "Planning application submitted for new Lighthouse Caledonia factory bringing 100 jobs to the Hebrides." lighthousecaledonia.com

5. Governance

5.1. Key local institutions

Stornoway fishermen are represented at a local and national level by the Western Isles Fishermen's Association. This association has a relatively static membership of 180 trawl and creel fishermen from across the Outer Hebrides; its membership includes the owners of all of the over 10 m vessels working out of Stornoway. Stornoway Fishermens Co-operative consist of 12 Stornoway based trawlers and operate an ice plant, fish shop, chandlery and fish selling divisions.

The management costs for the Stornoway fleet are expected to be similar to those seen throughout Scotland as it operates under the same national management regime. However some costs may be higher due to its remote island location. More localised fisheries management is being piloted in the islands through establishment of the Inshore Fisheries Groups. In financial terms this represents an added management cost, but ultimately may prove to be of worthwhile with more appropriate and sustainable local management of resources.

The Outer Hebrides Inshore Fisheries Group (IFG) was established as one of three pilot groups to test a new industry-based approach to local fisheries management in Scotland. The IFGs model entails giving commercial fishermen a stronger voice on decision-making processes about the management of inshore fisheries, whilst at the same time involving a range of stakeholders in inshore policy and decision-making at the localized level.

The key component parts of an IFG are: a) an Executive Committee made up of representatives from the commercial fishing sector in the IFG area; and b) an Advisory Group made up of representatives from the relevant statutory advisory bodies and other key stakeholders to provide technical advice and expertise to the Executive Committee. IFGs are currently non-statutory bodies and remain pilot projects which are currently being reviewed before a decision is made on the wider roll-out of the model. It is, however, expected that IFGs or similar will be required to provide the fisheries management & planning role within regional marine bodies proposed under the Marine Bill (Scotland), which recently received Royal Assent.

Other fisheries-related roles and organisations include:

- An Economic Development Officer for Marine Resources at Comhairle nan Eilean Siar promotes fisheries and manages projects such as harbour improvements.

- A Tripartite Working Group has a Regional Development Officer at the Outer Hebrides Fisheries Trust who aims promote and maintain the good health of both wild and farmed salmon and sea trout by bringing together fish farmers, anglers and Government representatives.

- Stornoway Sea Angling Club and Stornoway Angling Association represent recreational sea and freshwater anglers.

- Highlands and Islands Enterprise (HIE) has offices in Stornoway and Benbecula and a fisheries development officer based in Inverness. In practice it offers business and funding advice and funding to large and small businesses across the Outer Hebrides.

Other business sectors are variously represented by: the Crofters Commission, the Outer Hebrides Tourism Association and the auspicious Harris Tweed Authority and the Harris Tweed Artisan Co-Operative. Supporting and promoting the current resurgence in small scale horticulture, the Lewis and Harris Horticultural Society is a co-operative group of 76 producers who grow their own food and supply local schools, the Comhairle, and a weekly farmers market.

5.2. Public intervention

Table 6 presents the public sector investment under the 2000-2006 FIFG programme. Most public sector investment has been associated with the port sector, enabling upkeep and upgrading harbour, slipway and piers in and around Stornoway.

In terms of subsidy levels, a larger proportion of the Stornoway fleet (21%) received a grant under FIFG compared to the wider Outer Hebrides fleet and the UK as a whole (5% of the fleet). This higher award rate may be as a result of proximity to the administrative offices in Stornoway, but overall funding levels were relatively modest. More substantial funding went to processing and infrastructure projects in and around Stornoway.

Six Stornoway-based vessels received funding under the 2000 to 2006 FIFG funding scheme for modernisation of the vessels, but together these only totalled an investment of less than €200,000. As average repair and maintenance costs for West Coast Twin-rig trawlers exceed €70,000 per year, the public sector contribution to the fleet is relatively small. Eight other vessels in the Outer Hebrides fleet also received grants for modernisation. This level of FIFG funding is similar to that seen across the Scottish fleet.

Under non-fleet measures, two grants were awarded to fish processing companies for modernisation (€63,000) and expansion (€209,000) of facilities. The slipway at Goat Island adjacent to Stornoway Harbour received a substantial modernisation grant of €474,000, which was one of four port infrastructure projects funded under FIFG in the islands.

Levels of funding available for small businesses through HIE have declined since 2009. Other sources of more general economic development support include The Outer Hebrides Chamber of Commerce, which encourages membership from all private business sectors and campaigns on key issues affecting businesses.

Table 6 FIFG funding in fishing vessels and infrastructure (2000-2006)

Public investment	Source of funding	Investment cost	What was the investment intended to achieve?	What were the outcomes (or expected outcomes)
Fishing fleet support				
€ 47,807	FIFG/State	€ 168, 673	modernisation	Reduced fuel & maintenance costs, improved catch quality
Non-fleet support				
€ 1, 532, 827	FIFG/State	€ 2, 896, 510	Port refurbishment (Isle of Lewis – not just Stornoway)	Maintaining ancillary services for fishing/processing sector
€ 110, 755	FIFG/State	€ 221,514	Processing expansion & modernisation	Safeguarding of processing jobs

A more significant area of public intervention is the Loan Guarantee Scheme established by the Western Isles Fishermen's Association, Comhairle nan Eilean Siar and the Stornoway branch of a national bank (Royal Bank of Scotland). This facility where the local authority acted as the guarantor of loans to fishing businesses has enabled fleet investment and loans for new entrants into the industry that would not have occurred under usual lending arrangements.

Discussions are ongoing between industry and government on the continuation of this scheme, renamed the Outer Hebrides Fisheries Support Scheme, as issues have emerged regarding State aid support for new entrants in relation to vessel purchases.

6. STAKEHOLDER ANALYSIS

Stakeholder analysis is proposed using the Outer Hebrides Inshore Fisheries Group (see section 5.1) as this organisation consists of a highly representative fishing industry group including buyers and processors (the Executive Committee) and various other stakeholders (the Advisory Group). Memberships of these groups are listed below. It is proposed that stakeholder analysis be undertaken as part of the agenda for the next available meeting of these groups.

Executive Committee	
Duncan MacInnes	**Coordinator**
Angus Campbell	WIFA, **LEWIS**
Angus Campbell	Western Isles Fishermen's Association (WIFA)
Heddle Costie	Orkney Fishermen's Association (OFA)
Lachie Murray	Mallaig and North West Fishermen's Association (MNWFA)
Alan Coghill	Orkney Fishermen's Association (OFA)
John Macleod	Scottish Pelagic Fishermen's Association (SPFA)
John Hermse	Scallop Association,
David Lovie	Scottish White Fish Producers Association (SWFPA)
Patrick Stewart	Clyde Fishermen's Association (CFA)
David Shiel	Anglo-Scottish Fishermen's Association (ASFA)
Advisory Group	
John Nicholson	Youngs Seafood
Donald Morrison	SFPA
John Bruce	SFPA
Hazel Macleod	SEPA
Roddy MacMinn	SNH
Anne MacLay	FRS
Pete Middleton	CnES
Anne MacAulay	HIE Stornoway
Gordon Mackay	UHI

Kathlene MacDonald	LEADER INNSE GALL
Colm Fraser	CNES Environmental Health
Martin Scott	RSPB (SE LINK)
Craig Burton	Seafood Scotland
Alex Adrian	The Crown Estate

7. QUALITATIVE INTERPRETATION & ANALYSIS

To qualitatively analyse socio-economic changes in Stornoway focus groups were held at the Outer Hebrides Inshore Fisheries Group Executive and Advisory Group meetings. Together these groups included 13 participants representing the fishing and aquaculture industry, fish processors, fishery scientists, public sector investors and agencies and local government. Further feedback was sought informally from static gear fishermen, young families and in-migrants.

7.1 Key events and drivers of change

Demographics - *Young people are leaving due to a lack of good housing & education on the mainland*

Consistently high outward migration of young people from the islands continues the population decline and exacerbates ageing of the island's population. Young people feel that there is currently a lack of affordable, good quality rental accommodation and jobs outside of primary sectors. This was thought to encourage local young people to leave the islands for further education and to discourage keen young migrants, particularly females, from settling on the islands. The provision of good quality schooling was viewed as an important draw for inward migrants with families. Stornoway has been somewhat buffered from declining population as people move into the town from surrounding rural areas.

Economics - *Stornoway's dependence on public sector employment is now a risk*

The economy of Stornoway and the Outer Hebrides is dominated by the public sector. Jobs in this sector are relatively well paid and the rise in public sector employment helped to support growth in the town's service, construction and retail sectors throughout the last decade. Public sector employment now looks set to decline as the government strives to save money and already jobs in public health, administration and enterprise sectors have been cut. This impacts retail businesses based in Stornoway.

Improved transport links with the mainland have positive and negative impacts on local trade.

Stornoway retailers also report that reduced ferry costs and increased sailings have enabled people to travel to the mainland for goods they previously purchased in the town. Numbers of tourists have, however, increased and along with this has come an increased seasonal demand for service industries and local souvenirs such as those made of Harris Tweed. It is thought that the fishing sector is a benefit to tourism because visitors enjoy exploring and watching working harbours and the availability of affordable, good quality seafood. Tweed production has increased recently in rural areas, but overall the island's manufacturing sector remains small with the steel fabrication yard at Arnish remaining closed.

Fisheries & aquaculture - *Profitability of the prawn fleet dictates performance of Stornoway fleet*

Around 30% of the Outer Hebrides shellfish catch is landed in Stornoway. The Stornoway fleet is dominated by old prawn trawlers (the average age of Stornoway trawlers over 10 meters is 38 years) while elsewhere across the islands fishing is generally by a younger, static gear fleet. In the Uists the static gear fleet now benefits from a number of new holding facilities for live shellfish. Numbers of vessels landing in Stornoway peaked between 2006 and 2008 and has subsequently declined. Peaks followed good prawn catches and the subsequent decline is due to the loss of some active vessels as catches declined and vessel running costs, particularly fuel prices, increased. Numbers of regularly visiting vessels also declined as some were sold on and others landed less frequently as prawn catches declined. As fuel costs have risen the least efficient single rig trawlers have been lost or replaced with twin rig and static gear vessels. The profitability of larger vivier vessels has declined in 2009 and 2010 because crab prices have fallen caused by the European financial situation and an oversupply of brown crab.

Fishing employment on static gear vessels increased, but trawlers have had to rely on migrant labour

Fisheries dependency is at least twenty times greater in the Outer Hebrides than in Scotland as a whole. Numbers of regularly employed fishermen in the Outer Hebrides increased until 2008, perhaps because of increases in the static gear sector across the islands. Numbers of irregularly employed fishers declined, this was thought to be due to an increase in employment in other sectors. Provisional figures show that total numbers of fishermen across the islands has fallen by 50 between 2008 and 2009. The trawl sector struggles to find local crew and has become reliant on crew from Eastern Europe and, latterly, the Philippines. The majority of these crewmen have now left the islands because changing exchange rates made work here less profitable and new immigration rules for vessels working inside of the six mile limit have made it more difficult to employ non EU crew**.** With greater catch values and lower capital and running costs the static gear sector is most attractive to young fishers and new entrants are unlikely to enter the trawl fleet.

Aquaculture has become an important customer for the ancillary sector

Salmon farming is important to the economy of the Outer Hebrides, with around 16 % of Scotland's production coming from the Islands. Production varies annually depending on harvest cycles, there has also been a high turnover of salmon farming companies and this has impacted annual outputs. The industry is currently dominated by three large companies (two of which are multinational, one is based in the Uists) and a number of smaller independent companies. Salmon production is carried out in sea lochs outside of Stornoway but fish processing and ancillary services (boat yard, hauliers and packaging firms) are based in the town: as the fishing sector has diminished these services have become dependent on business from aquaculture. Mussel cultivation is carried out by smaller, local firms. Production has increased since 2007, but there is significant annual variation depending on the natural supply of seed mussels and environmental conditions such as weather and plankton levels (food supply).

Governance – *developing further education in Stornoway and supporting indigenous sectors*

To encourage young islanders to remain on the island and attract new young people Comhairle nan Eilean Siar has supported the development of Lews Castle College which offers a range of vocational and academic qualifications. It has also promoted the creative arts sector which attracts young professionals. Recently training courses in crofting and weaving have encouraged new people into these traditional industries and the Inshore Fisheries Group intends to address the lack of young trawl fishermen. By providing capital for new vessels the Comhairle's (Local Council) Loan Guarantee Scheme has been important in enabling new fishermen to enter the static gear fleet, particularly in the Uists and Barra. Funding for decommissioning also enabled a number of large trawlers to leave the fleet in 2002 reducing fishing effort on prawn stocks.

Growing marine environmental pressures and competition for space

The Stornoway fleet is not currently affected by restrictions due to marine protected areas, other than scallop dredging which is not permitted in Broad Bay, immediately beyond

Stornoway harbour. There are also contentious plans to introduce two marine SACs around the islands further south (Mingulay Reefs and Sound of Barra). These are being fought against by local fishing interests as future management may restrict fishing activities. These two sites amount to a smaller proportion of the inshore waters of the Outer Hebrides as a whole, but for local fleets any such restrictions could have a significant impact. These environmental developments along with existing restrictions surrounding fish farms and more wide-reaching plans for marine renewable energy devices all amount to the feeling amongst fishermen that they are being more spatially restricted.

7.2 Adaptation

Demographics – *Stornoway is part of tradition of adaptation and multiple jobs*

Hebrideans are traditionally adaptable and readily move between sectors as employment becomes available, as is required in the traditional crofting livelihood (some fishing, some farming, etc.). This is most common in the primary industries (agriculture, construction, tourism, textiles, fish farming and fishing). Offshore work in the oil and gas industries has become increasingly important particularly for people who previously worked on fishing boats or fishing service industries.

Stornoway is the only part of the island that has the urban characteristics of a small town. Residents have more alternative work opportunities than elsewhere in the Hebrides and recent years has seen that the local workforce has been reluctant to undertake work in fishing and fish processing sectors, perhaps due to comparatively low and variable rates of pay and the often difficult working conditions. The future of these sectors may to an extent depend on the availability of migrant labour from elsewhere on the island and elsewhere in the EU.

Economics -*Public sector support for communities and travel*

Public sector support has been important in enabling fishing-dependent communities to adapt to change. At the start of the decade Highlands and Islands Enterprise (HIE) provided funding for vocational training and small capital projects which enabled people to broaden their careers. More recently they have helped fund projects such as community halls which have been used to generate money for communities. Despite some problems HIE sponsorship and management of the “Connected Communities” Broadband project is also thought to have encouraged the in-migration of skilled home workers and to have enabled rural residents to setting up small enterprises. Crofting grants have also helped people to improve small scale agriculture and this has been supported by the Lewis and Harris Horticultural Society. Government subsidy of ferry and air travel has improved the profitability of local businesses including the aquaculture and fishing sectors. Benefits have been greatest for vessels that export live shellfish, in particularly vivier vessels. Comhairle and European funded projects to upgrade piers and slipways, and provide ice plants and fuel depots has also helped to reduce fishing vessel costs. Six Stornoway vessels also benefited from FIFG funded vessel modernisation. Decommissioning schemes have reduced pressure in the trawl sector but may have displaced effort to the static gear sector as a number of trawl skippers and crew have purchased smaller creel vessels.

Fisheries and aquaculture – *Targeting high value markets and looking to add value*

As the traditional market for prawn tails has become less profitable fish processors and fishers have increasingly targeted the live shellfish markets. A large amount of vivier storage has been installed, which along with the cheaper inter-island transport, has enabled the high value vivier trade with the continent. In the last couple of years the economic down-turn has highlighted the risk of too much dependence on this trade in high-value seafood products with the continent as demand and so prices dropped substantially.

There is limited opportunity to add value to the live trade but the sector is seeking to add more value to products on island where possible. The numbers of value added products have increased through processing e.g. award-winning smoked salmon and developing cooked crab products and through eco-labelling (e.g. Stornoway MSC certified Nephrops).

In terms of fleet adaptations, some trawlers have altered their fishing gear to reduce the numbers of crew they require. The Stornoway prawn fleet is working more closely with local processors to better catch for the market through an electronic catch notification system that alerts the factory to what has been caught allowing the processor to prepare production lines and better enable vessels to catch to buyer requirements.

Governance – '*Creating communities for the future'*

Comhairle nan Eilean Siar commissioned a number of studies in 2006 and 2007 to examine and address migration patterns. To encourage inward migration and discourage outward migration the studies recommended a number of measures. As part of Comhairle's "Creating Communities for the Future" strategy they are showcasing positive aspects of island life and developing flagship business projects, encouraging the integration of newcomers and established residents, involving women and young people in political decision making and improving communication between communities.

7.3 Future development of the community

Demographics - *ICT improvements to encourage in-migration*

Island birth rates are higher than the national average and inward migration rates have increased in the last decade. However an aging population and consistent migration of young people means that the population is forecast to decline into the future with a marked deficit of young people and young families. It is hoped that the provision of broadband to rural areas, new opportunities for higher education, the availability of high quality schooling and the draw of the creative arts sector will help to encourage new residents and retain young people.

Economics - *Supporting a mix of new and old industries*

The public sector is perceived to be vulnerable in the current financial situation and stakeholders believe that indigenous industries including fishing & weaving and the growth of tourism will become increasingly important. Renewable energy generation and research, including hydrogen cells, on and off shore wind, tidal and hydro electricity could also be important for the future economy of the islands but their success depends on the provision of an interconnector by which electricity can travel to the mainland. Putting an interconnector in place is an expensive project which has not yet begun construction although planning permission has been granted and a completion date of 2012 has been set.

Fisheries and aquaculture - *Local fisheries management and added value processing*

Fishing stakeholders believe that a diverse fishing sector is important for the islands and hope that local management will enable fishers to increase their profitability in a way that is sustainable for both fishers and the environment. In particular regulation of fishing effort across the fleet should increase long term yields of all shellfish. They also envisage further markets for value added branded products, perhaps integrating further with the tourist sector (in a similar way to the Hebridean Smokehouse in North Uist which provides products by mail order) and increasing numbers of vessels catching for the market to increase returns. New species including cockles are also likely to be exploited following studies by the Inshore Fisheries Group. The Stornoway trawler fleet is predicted to contract to a smaller number of larger twin rig freezer boats; this would be facilitated by the recent decision that licences can be consolidated onto a single vessel.

The Inshore Fisheries Group is worried that the Guaranteed Loan Scheme for fishers will be revoked in 2010 because of new rules regarding State Aid. It believes that this would prevent new vessels from entering the fishery. It is thought that the fishing industry will continue to struggle for crew and that local fishermen may be lost to aquaculture and offshore industries. Local fish retailers, smokers and restaurants are all keen to use larger amounts of local fish should it be available in the future.

Stornoway's prawn processor (Youngs Bluecrest) is dependent on the continued supply of MSC certified product as traditional prawn tail products can now be prepared cheaper away from the Islands. Aquaculture production looks set to increase in the immediate future as outbreaks of fish disease have reduced Chilean outputs. This may have a limited impact on jobs as salmon farms are increasingly large and mechanised. However it should boost the fish processing and ancillary sectors including haulage.

Governance - *Some external pressures, but optimistic of improved management*

The proposal for Marine Protected Areas off Barra has been met with opposition by local fishermen who believe it will jeopardise their fishing. Proposals for offshore wind power may also impact fishing fleets but this has not yet been considered. Stakeholders are also concerned about increased European regulations, rising fuel prices and the impacts of shellfish market fluctuations on large vivier vessels. Overall, however, stakeholders recognise that they have a unique, high quality product and making them mildly optimistic about the future of the fisheries sector. They also welcome new local management under the Inshore Fisheries Group.