

**Edexcel GCSE**

# **Geography B**

**Unit 3: Making Geographical Decisions  
The problems and prospects for Scotland's  
fishing communities**

**Paper 3F and 3H**

Friday 24 June 2011 - Morning

**Resource Booklet**

Paper Reference

**5GB3F/01**

**5GB3H/01**

**Do not return the Resource Booklet with the question paper.**

## **Instructions**

- Use this Resource Booklet to prepare for the examination. You will be asked to use the resources in the examination.
- Your teacher will go through the Resource Booklet, over about 10–15 hours, in the lessons leading up to the examination.
- The Resource Booklet must be handed in to your teacher at the end of each lesson. You **must not** write on the booklet. No notes are to be taken into the examination.

*Turn over* ►

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## Guidance and suggested activities

### **General**

This Resource Booklet is about a stretch of coast in Scotland and what kind of future people there face. It focuses on a region in the counties of Moray and Aberdeenshire. You may not know much about this region. Do not worry; it is not your knowledge of the region that is being tested in this exam, but your ability to understand issues that it faces, and to think about its future options. **You can do all of that using only the information in this booklet.**

You should:

- begin by reading the Resource Booklet so that you can understand the issues
- make sure you understand the meaning of all geographical terms used
- focus on terms printed in *italics* which are central to the issue. You may be asked to define these terms in the examination
- make links with topics you may have studied e.g. Making a Living (Unit 2 Topic 4).

### **Section A Getting to know the region**

- Study the key points about the north-east coast of Scotland, e.g. its size and location.
- Identify what the main issues are there.

### **Section B Understanding the issues**

- Explore the debate about the economy of the region and how, and why, it is changing.
- Consider how well it is coping with change, e.g. employment for local people.
- Assess whether its future economic growth could be threatened.
- Think whether its traditional economy can continue or whether new ideas are needed.

### **Section C Options for the future**

- Consider the **six** options for the future, **A to F**. You will see that they are in two groups. Look at each option and analyse what benefits and problems it might create for the region's people, wealth and environment. You will be asked to discuss these options in the examination. Don't just choose which ones are best and ignore the rest. The exam could ask why you support or reject one or more.
- There are no 'correct' options. You could make a good case for any of them. Local people themselves are divided about this! You won't be marked on which one you select, but on the way you support your choice with evidence.

### **Background research**

This booklet contains all the information that you need.

- If you want further background research, use sources such as Google Maps or Google Earth to find this region, its settlements, landscapes and resources.
- Do not contact any people or organisations mentioned in this booklet direct.

## Section A: Getting to know the region

This Resource Booklet is about the study region shown in Figure 1. It focuses on coastal communities in the counties of Moray and Aberdeenshire. Throughout this resource booklet the word 'region' means this area.

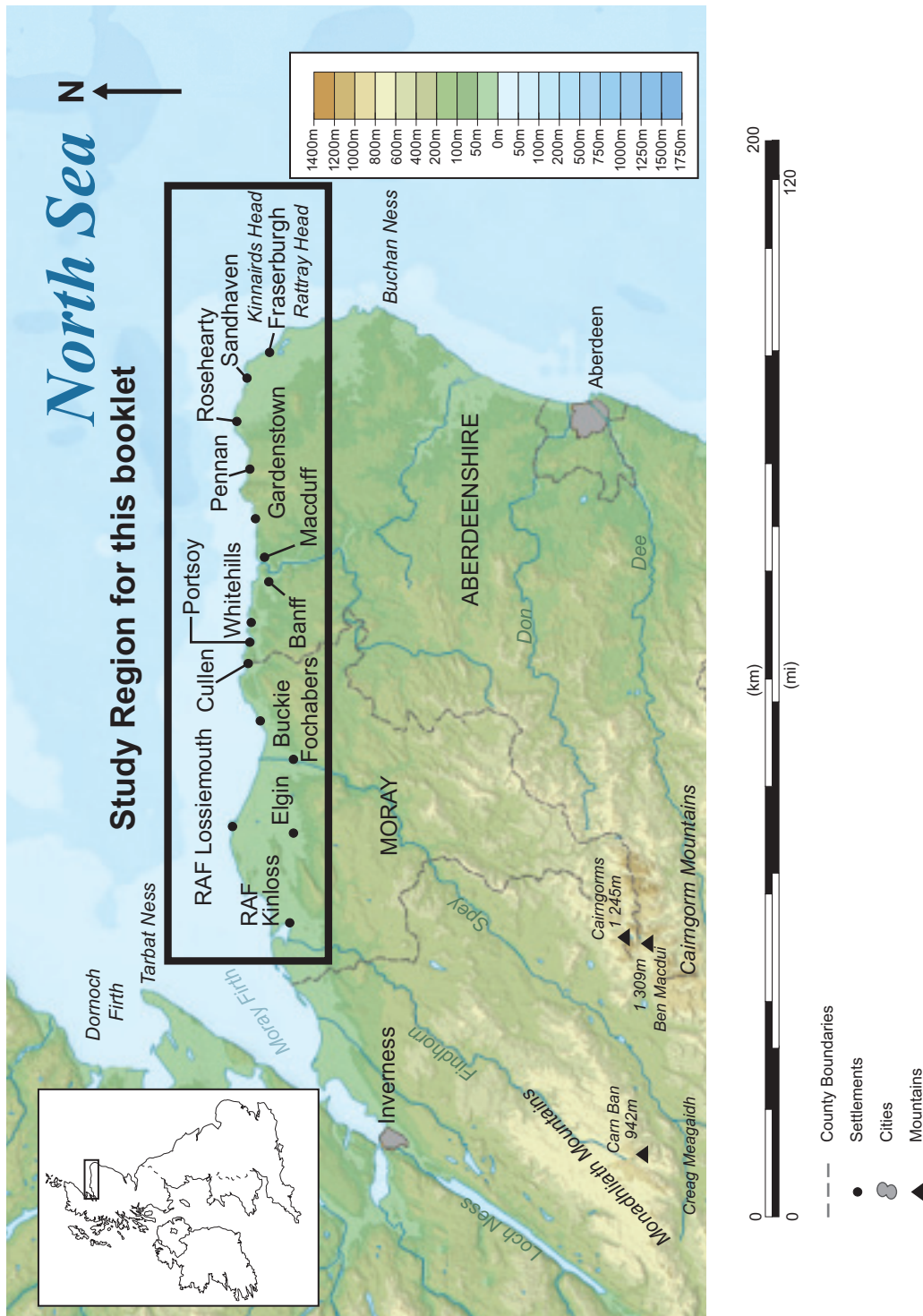


Figure 1 Map showing the study region for this booklet

## The issues facing the region

### This region's dying!

"Fishing's dead now. That all happened during my parent's time in the 70s and 80s. There's nothing but tourism here now, and most young people have to move away. In Cullen 40% of houses are *second homes*, owned by the English, they come here for a week and that's it, it's dead for the rest of the year."

18 year old university student, living in Cullen

## Employment change

The region in Figure 1 has an uncertain *economic* future. People who live and work in the region are asking questions about its future, shown in bold below.

- So few fish are left in the North Sea now that some people believe fishing should be stopped altogether. **What should be the future of the fishing industry?**
- Many coastal settlements grew around small harbours, used for fishing which has now declined (Figure 2). **How could these harbours be used?**
- Many people believe that the region could have a future in tourism. There are many fishing harbours (Figure 2) and attractive coastal villages (Figure 3). Already, many old fishing cottages are let as *holiday lets* or are owned as second homes. But jobs in tourism are mostly seasonal, part-time and low wage. **How might tourism develop in the future?**
- In 2007, the government announced that nearly a fifth of the 5000 jobs at the two RAF bases near Lossiemouth were to be lost. In 2010, the government was considering closing RAF Lossiemouth altogether. These bases provide the majority of the few skilled jobs in the region. **How could this region create new high income jobs for skilled people?**
- The region has little *diversity of employment*. It concentrates heavily on fishing, farming, food processing and whisky production. **What new types of job might be attracted to the region?**





**Figure 2 Fishing Harbour at Banff, now used for tourist boats**



**Figure 3 Gardenstown – some small fishing boats are left, but the harbour now mainly attracts tourists**

## The landscape and climate of the region

### Landscape

Unlike much of Scotland, this region is mainly lowland (Figure 4). Its soils are *fertile* and it is good farmland. As well as fruit, much land is used for growing *cereal crops e.g. barley*.



**Figure 4 A farming landscape in the region**

### Climate

The climate of this region (Figure 5a) is different from that of western Scotland (Figure 5b). The climate figures will be especially important to farmers and those working in the tourist industry.

#### Figure 5a Climate data for the region (Kinloss)

	Max Temp °C	Sunshine per day	Rainfall in mm	No of rainy days (>1mm)
January	6.6	1.4 hours	55	11
July	18.7	4.9 hours	53	11
Year	12.2	3.5 average	624 total	128 total

#### Figure 5b Climate data for western Scotland (Kinlochewe)

	Max Temp °C	Sunshine per day	Rainfall in mm	No of rainy days (>1mm)
January	6.7	0.6 hours	284	21
July	18.1	3.6 hours	99	16
Year	12.2	2.5 average	2280 total	218 total

**Figure 5 Climate data comparing this region (5a) to western Scotland (5b)**

## The region's isolation

This is one of Scotland's most *remote* regions, distant from most of its major cities.

- Travel from this region to Scotland's largest cities (Glasgow and Edinburgh) takes a long time (Figure 6). Anyone wanting to travel to these cities by rail has to go to Aberdeen or Inverness first.
- The region has no motorways and few dual carriageways.
- Industries in the region have to take their products long distances by road to other areas of the UK. Their delivery drivers take a long time to travel to Scottish or other UK cities, adding to their costs.
- There are two airports close by, at Inverness and Aberdeen. However, in 2009, Inverness Airport served only 17 destinations, many of which are remote Scottish islands. Aberdeen Airport has more connections and serves 34 destinations in the UK and Europe. Many flights serve the North Sea oil industry.

Journey	Distance in miles	Driving time	Average rail journey time
<b>Fraserburgh to Aberdeen</b>	<b>40</b>	<b>1 hour</b>	<b>No rail link; 90 mins by bus</b>
Aberdeen to Edinburgh	131	2 hours 30 mins	2 hours 30 mins
Aberdeen to Glasgow	152	3 hours	2 hours 30 mins
Aberdeen to London	540	9 hours 30 mins	7 hours 15 mins
<b>Fraserburgh to Inverness</b>	<b>99</b>	<b>2 hours 30mins</b>	<b>No rail or direct bus link</b>
Inverness to Aberdeen	100	2 hours 25 mins	2 hours 20 mins
Inverness to Edinburgh	162	3 hours 30 mins	3 hours 35 mins
Inverness to Glasgow	177	4 hours	3 hours 25 mins
Inverness to London	560	10 hours	8 hours 0 mins

**Figure 6 Travel distances and times from the region**

## The population of the region

### Where people live

The region is mainly *rural*; there are no large towns and less than 25% of the population is urban (compared to 70% in Scotland as a whole). The two largest towns are:

- Elgin in the west, with a population of about 21 000 in 2008
- Fraserburgh in the east, with a population of about 12 500 in 2008.

### Population trends

The population of the region as a whole is stable. However, it varies within the region. Since the 1980s:

- in the east, where fishing has been important, there has been a small decline
- in the west, there has been a small increase caused by people retiring to the area.

### Population structure

Figure 7 shows the *age-sex structure* of the region in 2008.

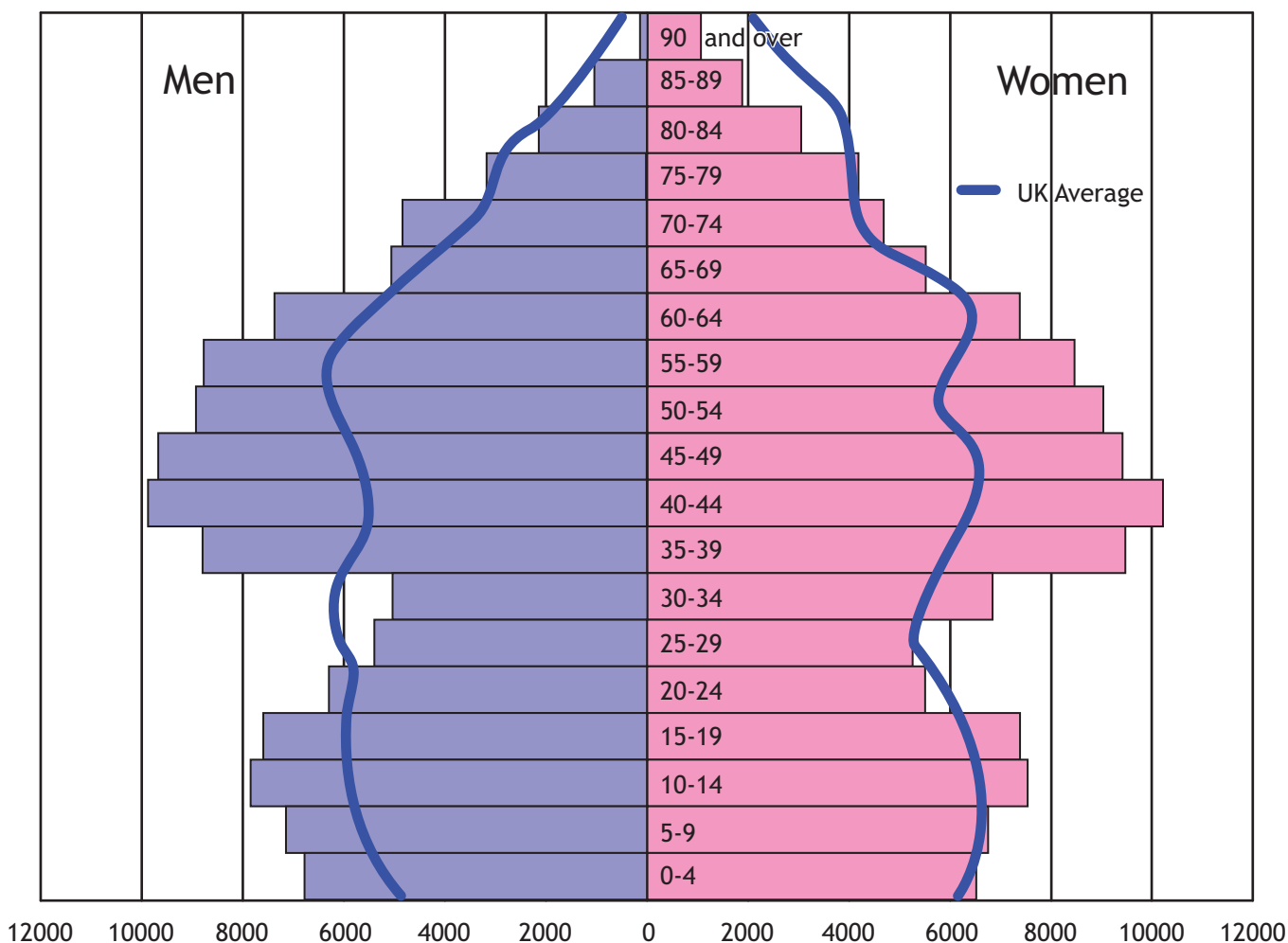


Figure 7 The age-sex structure of the region in 2008



## Section B: Understanding the issues

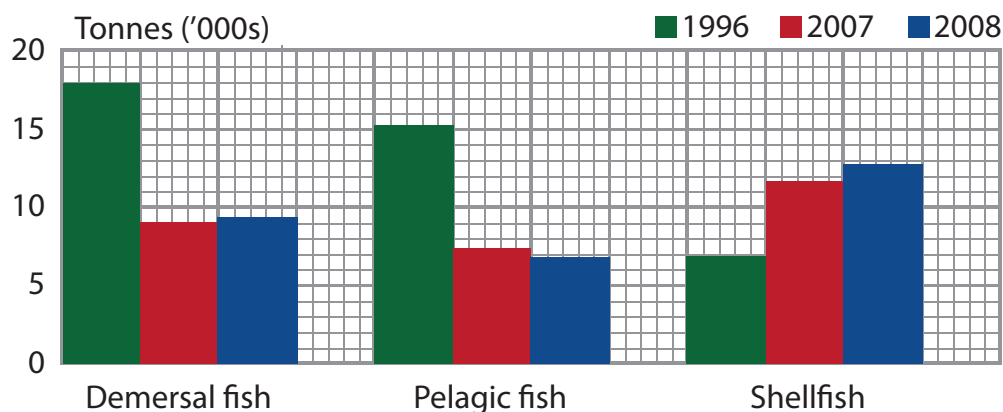
### B1 Problems facing the fishing industry

In recent years, the fishing industry has declined (Figure 8).

	1996 Tonnes	2007 Tonnes	2008 Tonnes	Change 1996–2008
<b>Ports in the region (Figure 1)</b>	39,389	28,557	28,251	–28.3%
<b>UK total</b>	635,900	439,800	408,200	–35.8%

**Figure 8 Tonnes of fish brought in by UK fishing vessels 1996–2008**

- Fishing ports in the region (see Figure 1) include Fraserburgh, Gardenstown, Macduff, Pennan, Portsoy, Rosehearty and Sandhaven.
- Fraserburgh is the largest shellfish port in the UK.



(Source: Scottish Government)

**Figure 9 Tonnes of fish brought in by UK fishing vessels at Fraserburgh 1996–2008**

- **Demersal fish** live and feed on or near the sea floor, near the coast, though not in the deepest ocean water. Examples include cod, monkfish, haddock and whiting.
- **Pelagic fish** live and feed in open water away from the sea bed. Examples include herring and mackerel.
- **Shellfish** are found in different locations. Shrimp and prawns swim in large shoals in open water, while scallops or lobster live on the sea bed.

## Causes of the fishing industry's problems

### 1 Overfishing

Many years of *overfishing* for mackerel and herring in the North Sea means that there are few fish now. There has been rapid growth in *bottom-trawling* to obtain whatever is left.

"The global fishing fleet is 2.5 times greater than is needed to catch what the oceans can sustainably produce."

(Charles Clover, journalist)

"We are eating away our own future in the clear knowledge that we are doing so."

(Former Environment Minister, David Miliband)

### 2 Technology and large boats

- Fishing boats are getting larger (Figure 10). These boats can pinpoint *shoals* of fish accurately using radar, have powerful engines to drag enormous fishing gear and are able to catch more in a shorter period.
- Large boats travel away from port for up to three weeks, with everything on board to process and pack the fish, e.g. freezers and processing plants.
- Because of *fishing quotas*, these boats are allowed to fish for only 4–5 months per year and are in harbour for the remainder. Some go as far as Iceland or Newfoundland off the coast of Canada.

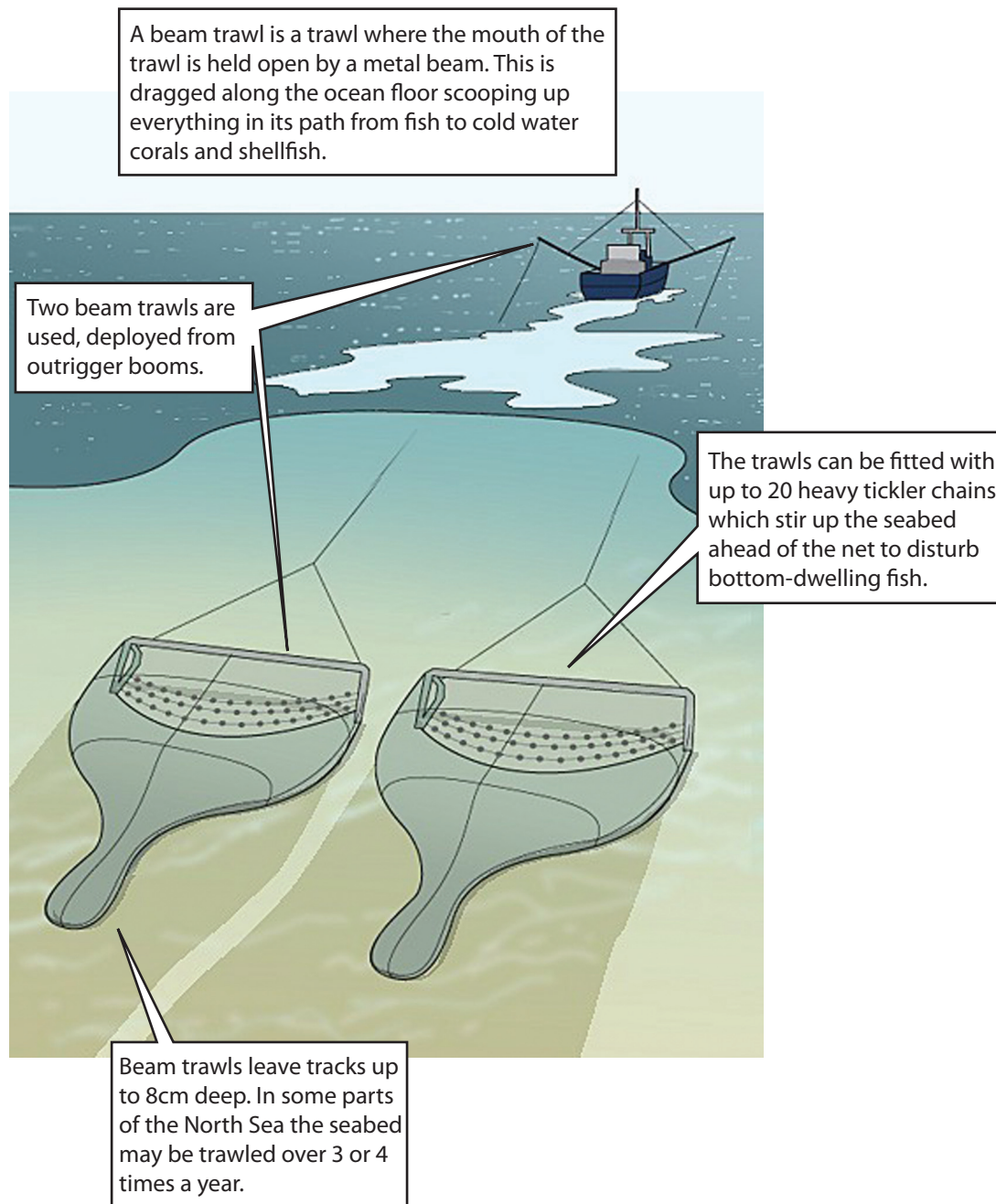


Figure 10 Large fishing trawlers in Fraserburgh

### 3 Trawling

Trawling involves the use of large nets which catch fish at different depths. Beam-trawling (Figure 11) is worst of all; it destroys sea-floor *ecosystems* and is the most destructive of all fishing methods. Although not used by Scottish boats, it goes on in Scottish coastal waters.

#### **How beam trawling affects the sea bed**



**Figure 11 How beam trawling affects the marine ecosystem**

Beam trawling works like this:

- On large trawlers there are often two nets. One targets shrimp (in open water) and the other targets demersal fish species on the sea floor.
- These nets are dragged by the boat. The lower net digs into and ploughs up the sea bed.
- 'Tickler' chains run ahead of the net to disturb fish into the net and prevent them being crushed by the beam.

## 4 Destructive fishing practices

### **Bycatch**

Most fishing methods catch species apart from the ones they are targeting. This is known as bycatch (Figure 12).

- Globally, 25% of all creatures caught by fishing boats are thrown back in the sea, dead or dying, because they are not the intended catch or have no value.
- For every fish caught, up to three times the number of other creatures die e.g. crabs and starfish (Figure 12).
- Whales, dolphins and seals are also caught as bycatch.
- Shrimp catching has the worst impact of all because many fish and dolphins feed on shrimp, and get caught in shrimp nets. Over 80% of a shrimp catch can be bycatch.



**Figure 12 Bycatch; all of these fish will have to be thrown back into the sea, dead**

## 5 EU Policies

- In 1973, the UK joined the EEC, now the *European Union (EU)*. Until then, it had protected its own territory around the UK coast. Only British fishing boats could fish there.
- After joining the EU, fishing boats from other countries could fish in British territory and British fishing boats could fish elsewhere around the EU.
- This reduced UK fish stocks. Boats from Spain and Italy (where demand for fish is greater than in the UK) now catch large amounts of fish. Many of these boats are beam trawlers.
- The EU estimates that 90% of its surrounding seas have hardly any fish left.
- The EU has tried to manage fish stocks in different ways (Figure 13). Each attempt has created new problems.

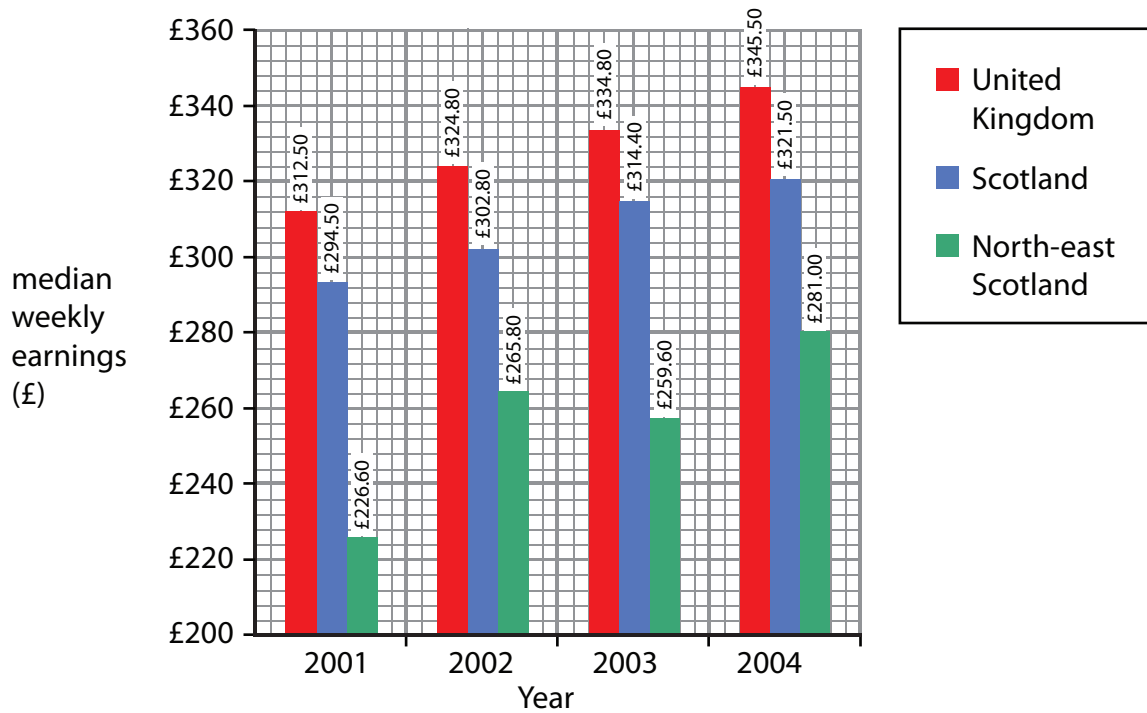
EU Policy	How it works	Its effects
1. Allow fishing boats of the EU member states to fish anywhere in EU waters.	<ul style="list-style-type: none"> <li>• Scottish fishing boats could fish anywhere in EU territories.</li> <li>• Fishing boats from other member states could fish in UK waters.</li> </ul>	<p>Scottish fishing boats could fish over wider territories.</p> <p>More French, Spanish and Italian boats fished in the North Sea</p>
2. Use quotas to protect fish stocks from dying out.	<ul style="list-style-type: none"> <li>• Each fishing boat is allowed to catch a quota of a particular type of fish in each year.</li> <li>• If a boat-owner wants to catch more than their quota of fish, they must buy quotas from other owners.</li> <li>• If other species are caught, they must be thrown back into the sea.</li> </ul>	<p>Once a fishing vessel has caught its quota from EU seas, it cannot catch any more. Some boats have to stay idle in port for long periods.</p> <p>Fish caught accidentally above the limit must be thrown back into the ocean. By this stage most are dead.</p>
3. Ban catching young fish which have yet to grow to maturity.	<ul style="list-style-type: none"> <li>• Increase the '<i>mesh size</i>' of fishing nets, which allows young fish to escape while keeping larger fish inside the net.</li> </ul>	<p>Protected species e.g. dolphins and small whales still get caught in the nets.</p>
4. Encourage member countries to impose their own voluntary quotas.	<ul style="list-style-type: none"> <li>• Boat owners agree to stop fishing, allowing fish stocks to increase.</li> <li>• Governments pay boat owners to replace their lost income.</li> </ul>	<p>In 2006, the owners of 500 Scottish fishing boats agreed to stop fishing, but boats from the rest of the EU continued to fish in waters around Scotland.</p>

**Figure 13 How the EU has tried to manage fishing**

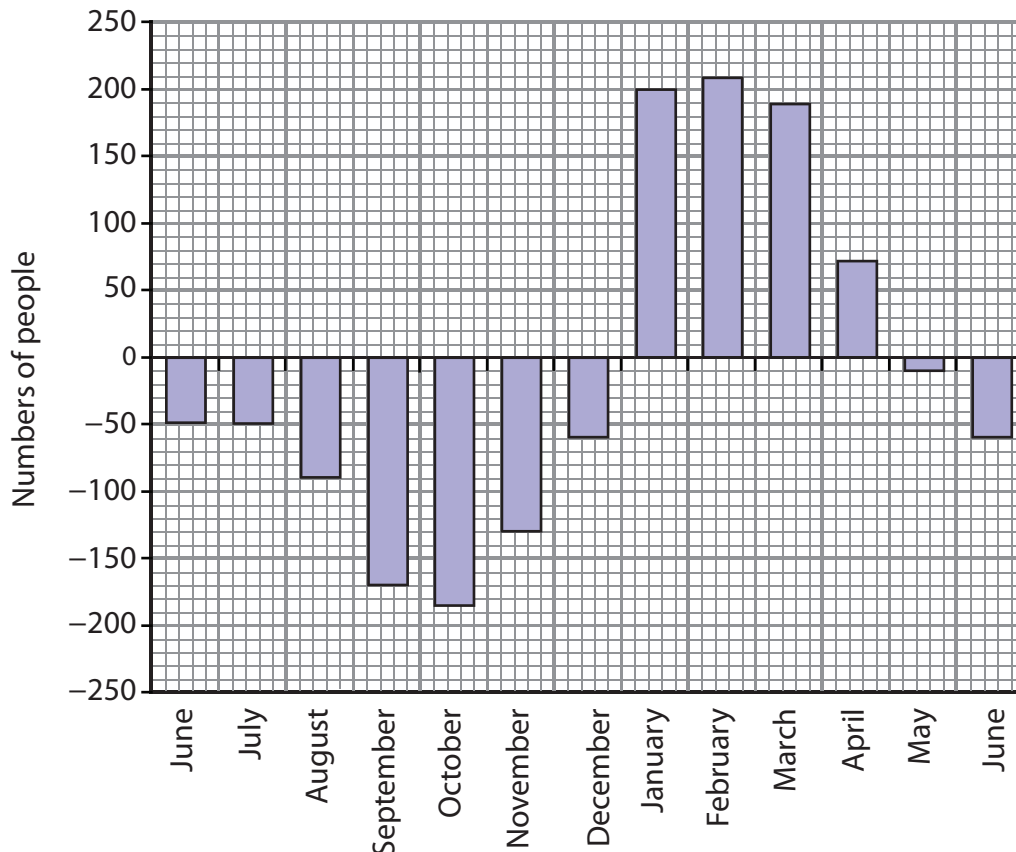


## B2 Employment problems in the region

The region shown in Figure 1 has low unemployment; in August 2009, it was about 3%. However, the region faces several employment challenges, shown in Figures 14 and 15.



**Figure 14 Average weekly wages in North-east Scotland compared to Scotland and the UK**



**Figure 15 Monthly unemployment in the eastern part of the region during 2004-5**

Note: In Figure 15, '0' is the average unemployment through the year. The bars show how many people are added to (+) or taken off (-) the average unemployment each month.

The region faces these problems:

- It has few *professional* and *managerial* workers, and few jobs in the *knowledge economy* (the part of the economy which relies on expertise and creativity e.g. IT, financial and legal services, advertising and media).
- Many men have left the region to find jobs in Aberdeen and in the North Sea oil industry. But North Sea oil production will fall sharply within the next 15 years.
- Most of the region's well-qualified people work in the RAF, which provides 5000 jobs (20% of all jobs in the western part of the region). Many are skilled, high income jobs. But the RAF is cutting 20% of jobs at its bases in the region and in 2010 was considering closing RAF Lossiemouth altogether.
- One third of all jobs in the region are *part-time*. Over half of female workers work part-time, much higher than the UK or Scottish average.
- Many people living in the region have to *commute* to work. 1 in 8 people commutes to Aberdeen or Inverness.
- There are too few jobs for young people. About 15% of 16 year-olds leave school and go straight into unemployment.
- About half of 18 year-old school-leavers in the region go to universities in Glasgow, Edinburgh, Aberdeen and Dundee. This especially applies to girls, who do better than boys in public examinations. Of those who leave at 18, only 25% return after university.

## Different types of employment in the region

### Primary employment

Traditional work in this region has been in *primary employment*, especially fishing and farming. The land is high quality farmland and the west of the region produces some of the UK's finest soft fruits (such as raspberries, blackcurrants) and tree fruits (such as plums). Increasingly, farms (Figure 16) are employing *seasonal labour*, or prefer people to pick their own fruit. Many of the labourers are *migrant workers*.



**Figure 16 A fruit farm near Lossiemouth**

In the last 20 years:

- The number of jobs in primary employment has fallen by 10%.
- *Full-time jobs* in farming have halved since 1982, but part-time jobs have increased by a third.
- *Casual workers* and seasonal labour have increased by over 40% on farms.
- The increase in casual work has led to an increase in migrant workers, many of whom work for contractors who are brought in to pick fruit or harvest crops (e.g. barley).

## **Secondary employment**

Much of the region's *manufacturing* is based on processing the products of farming and fishing.

### **Food**

*Food processing* is the biggest manufacturing industry in the region with several hundred employees. Companies in Fraserburgh include several who freeze, can or package fish e.g. Young's, the seafood company (Figure 17), Nor-Sea Foods Ltd and International Fish Cannery Ltd.

Other companies in Fraserburgh include Gray and Adams Ltd, making refrigerated containers (over 100 workers) and engineering company Power Jacks (over 80 workers).



**Figure 17 Young's seafood processing factory in Fraserburgh**

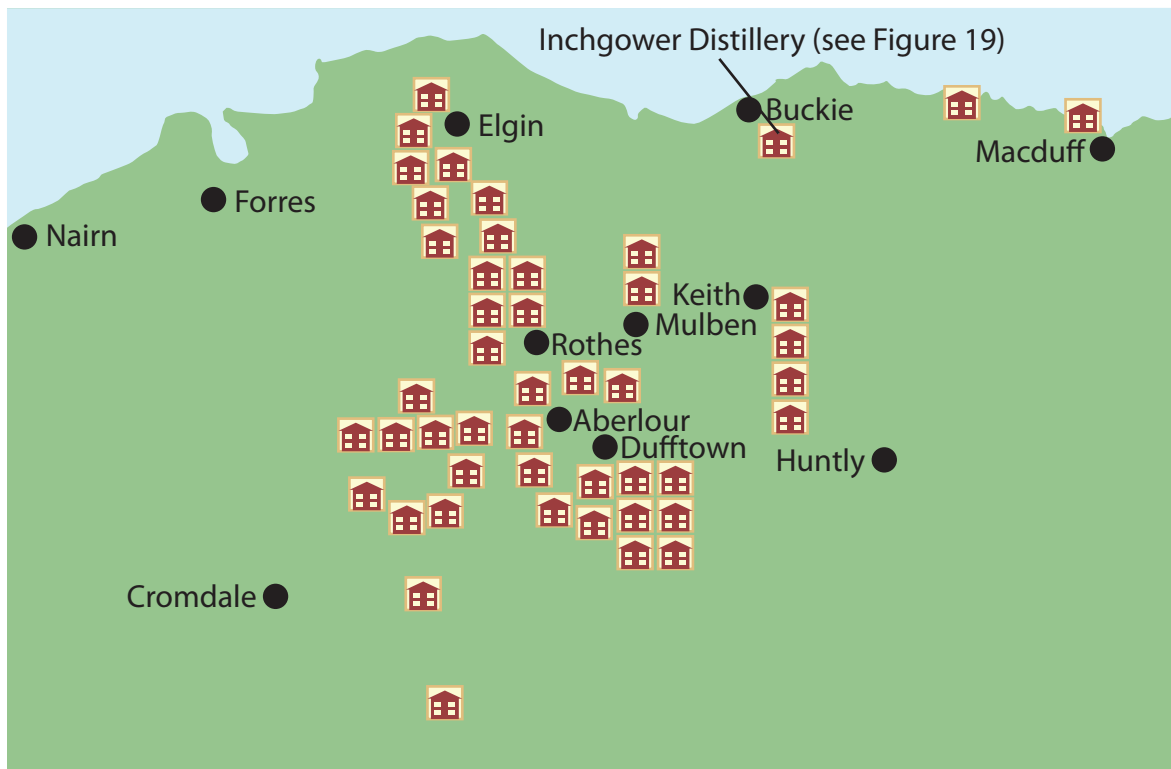
Elsewhere in the region, there are smaller towns with manufacturing which is closely linked to farming and fishing:

- Baxter's (who make soups and jams) are located at Fochabers, in the east.
- The small town of Macduff has a repair yard (Macduff Shipyards Ltd), which deals mainly with fishing boats.

## The whisky industry

Whisky is made from local barley and water. The western part of the region is one of the main centres of Scotland's whisky industry. There is a whisky trail for tourists which has 59 distilleries, many within the region (Figure 18).

- Until 2006, the Scotch whisky industry was booming. In 2006, one billion bottles were exported, making up 25% of the value of the UK's food and drink exports.
- Most was sent to be sold in Europe, North and South America and Asia.
- Rising incomes in China helped to boost sales.
- To meet increased demand, Diageo (a large TNC) the largest local whisky producer, made plans to invest £100 million on upgrading its distilleries (where whisky is made) across Scotland.



**Figure 18** The 'whisky trail' along the Spey River; each symbol shows a distillery

However, there has recently been a sharp decline in global whisky sales, and sales in the UK have been falling for a long time.

- Whisky has a very low market share among drinkers aged 18 to 30, who prefer vodka.
- The over-45s, traditionally whisky's main market, now drink more wine and liqueurs instead.
- The challenge for the industry is to create a market of new whisky drinkers.





**Figure 19 Inchgower Distillery, near Buckie (see Figure 18)**

### ***Tertiary employment***

*Service industries* employ the large majority of people in this region, mainly in public administration, education and health.

- Full-time jobs are mainly in local government offices, the NHS, and the RAF.
- Part-time jobs are found mainly in tourism.

The region's major tourist attractions at present include:

- its unspoilt coastline
- visitor attractions within the region (e.g. museums of its fishing heritage)
- use as a base for visits to attractions outside the region (e.g. Balmoral Castle and the Cairngorm Mountains).

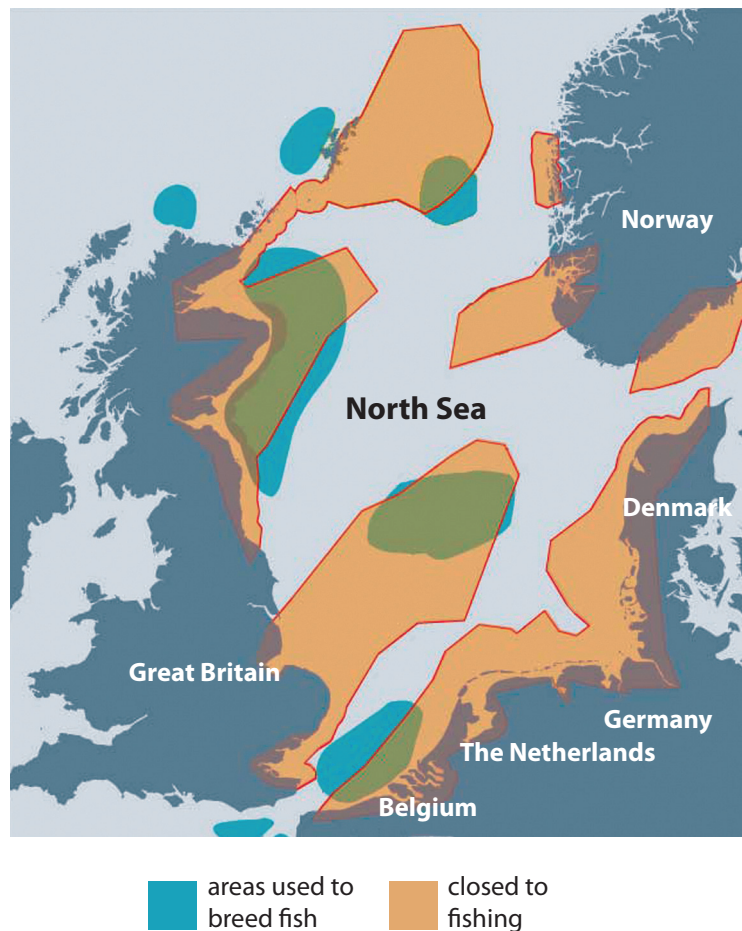
However, the region's tourist industry is declining, and some people feel that more could be done to promote the region's attractions.

- Although 1.8 million tourist trips were made to this region in 2007 (including 0.25 million by overseas visitors), every attraction in the west of the region had fewer visitors in 2007 than in 2005 or 2006.
- In 2007 tourists spent £296 million, or about £165 per tourist. This is a low total, and the tourist industry would like to increase tourist spending.
- The region lacks a 4 or 5 star hotel to help 'brand' the area for tourism.

## Section C: Options for the future?

### C1 The North Sea – a marine reserve?

Greenpeace feels that the North Sea *ecosystem* is in a critical state. Unlike freshwater fish found in rivers (e.g. salmon or trout), marine fish species are difficult to farm. Other than fishing outside the area with long distance trawlers, the region will need to rely upon the North Sea to sustain its local fishing industry. Greenpeace thinks that creating *Marine Reserves* in the North Sea (Figure 20) can solve the current problem of North Sea fish stocks.



**Figure 20 The North Sea Marine Reserves, proposed by Greenpeace**

- Greenpeace describes a Marine Reserve as a '*National Park at sea*' which would protect the ecosystem and give *threatened species* time to recover.
- In the reserve, some areas (Figure 20) would be completely closed to any fishing for the foreseeable future. Within these, long term scientific monitoring areas could be set up, and sensitive *habitats* and species protected.
- Some parts of the reserve could be open to small-scale, *non-destructive fishing* within *sustainable* limits, which would be decided with local communities.
- During the breeding season, fish eggs and larvae stocks would be deliberately introduced in the Marine Reserves – the blue areas in Figure 20. The fish larvae would grow, mature and reproduce. These fish would then swim beyond the reserve boundaries into the wider sea, where they could be caught.

## C2 The quality of the environment

The North Sea and its coastline offers potential as a tourist resource for many different types of tourism. Already, one company – North 58, based in Banff – uses a large powerboat to take tourists to see marine birdlife (including gannets, guillemots, and puffins), as well as bottlenose dolphins, porpoises and seals.

Its coastal attractions include:

- long sandy beaches (Figure 21)
- small fishing harbours (Figures 2 and 3)
- its drier climate compared to the rest of Scotland (Figure 5)
- the North Sea itself.



**Figure 21 The beach at Lossiemouth in summer holiday season**



### C3 Property availability

Property in the region has many advantages for future development.

- Housing in the region is about 35% cheaper than Scotland and the UK as a whole. This appeals to those letting holiday homes and buying second homes, or for people moving into the region for work or retirement.
- There is a range of older properties in fishing villages which would be attractive to tourists.
- There are several former fishing warehouses (Figure 22) which could be converted for several uses, e.g. retail, holiday lets, or office space. This property could be used for small companies wishing to set up businesses here like that shown in Figure 22.
- Better availability of rural broadband would help to make the remoteness of the region less of a problem for local business and residents.



**Figure 22 Converted former fishing warehouse at Portsoy**

#### **C4 Quality of the region's food**

Its fishing and farming industries could give the region a distinctive food brand. A range of seafoods (e.g. shellfish, smoked fish), fresh food (e.g. soft fruit) and whisky could help to 'brand' the area, just as Cornwall has done through its foods (e.g. pasties and clotted cream), and chefs such as Rick Stein in Padstow. Many people in the food industry would like to add a tourist 'food trail' to the existing whisky trail.

#### **C5 The region's film potential**

In 1983, the British comedy film 'Local Hero' was released. It was filmed at Pennan (Figure 23) between Macduff and Fraserburgh and is one of the UK's most successful films. The film still brings many tourists to the region who are keen to see some of its locations.

Many people feel that the region has plenty of potential to offer film companies. TV programmes and films can bring thousands of tourists to a region. Local people would like to follow examples of other places which have developed an 'image' in film making, e.g.

- The Scottish Highlands, for TV programmes such as 'Monarch of the Glen'
- Cornwall, where 'Doc Martin' has been filmed in Port Isaac
- The North York Moors, where 'Heartbeat' was filmed.



**Figure 23 Pennan, where 'Local Hero' was filmed**



## **Options for the future**

### **1 Options for the fishing industry**

#### **Option A Invest more in the fishing industry**

The fishing industry should be revived with a combination of small scale in-shore fishing and larger, long distance trawlers e.g. such as those in Figure 10 (page 10).

#### **Option B Sustainable fishing within a North Sea Marine Reserve**

The plan put forward by Greenpeace for a North Sea Marine Reserve along the region's coast (Figure 20 on page 20) should go ahead.

#### **Option C No change – allow the current arrangements to continue**

The EU should continue to manage ways of maintaining a fishing industry, while trying to improve fish stocks (Figure 13 on page 13).

### **2 Options for employment**

#### **Option D Develop an environmental 'brand' for tourism**

Investment should be put into promoting the region in order to attract more tourists. This could be done by advertising the region's environment and appeal to different people. Old harbourside properties could be promoted as holiday letting cottages.

#### **Option E Rebrand the region as a 'food hotspot'**

Investment should be put into promoting the region's existing farming industry and those industries which use local products in food processing. Investment should also be put into the whisky industry to meet the demands of new markets.

#### **Option F Invest in the region as a Business Development Zone**

Investment should be put into improving the region's infrastructure, especially road, rail and air connections with the rest of the UK and beyond, as well as broadband connectivity. Local councils should give planning permission for regenerating fishing harbour buildings and waterfronts for business purposes.