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The Maritime Sector Labour Market Assessment

A review of the fishing, ports and shipping industries for the Maritime Skills Alliance

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Introduction

1. The Maritime Skills Alliance (MSA) is a strategic alliance between the Merchant Navy Training Board (MNTB), Port Skills and Safety (PSS) and the Sea Fish Industry Authority (SFIA) and was formally established in January 2004. It aims to provide a focus for maritime sector skills issues and ensure that a joint approach is adopted wherever appropriate to the development of education and training, occupational standards and qualifications frameworks for those involved with maritime activities.

2. This labour market assessment is the first project commissioned by the Alliance and for the first time it provides an up-to-date, independent and authoritative assessment of the maritime sector's labour market and skill needs. The assessment provides the evidence base on which to underpin the MSA's future actions and priorities and will specifically inform the MSA's first business plan.

Definition of the sector

3. The maritime sector as defined by the current MSA footprint includes industries where the principal business activities cover the control management and operation of harbours, ports and vessels associated with:

   - transport by sea of passengers, freight and petrochemicals in bulk (coastal; intra-European (short sea) and worldwide);
   - leisure cruises at sea;
   - loading and unloading cargo and passengers from ships;
   - catching fish and shellfish;
   - supporting offshore exploration and production, surveying and other sub-sea activities.

4. The maritime sector:

   - has a turnover of £7.6bn and its Gross Value Added is £3.8bn;
   - supports the UK economy more widely;
   - employs 85,000 people in 5,900 enterprises.

Key findings

5. Our main finding is that the priorities for action identified in the individual industries' National Training Organisation Workforce Development Plans (WDP) are still relevant. The evidence provided here and the priorities identified in the WDP suggest that action in the sector needs to focus on seven areas.

1. Raising management skills

6. All the industries have identified a need to continue to raise the level of management skills in the workforce. A common need is the management of risk and health and safety requirements. There are slight differences in emphasis between industries in other areas.

2. Engineering skills

7. As in a number of other sectors the maritime sector is concerned about the availability of engineers and has to compete with other sectors for a limited pool of new and experienced engineers. The ports' industry has difficulty recruiting and retaining engineers in particular locations depending on the local labour market, while the fishing industry finds it is not attractive to engineers who can get relatively well paid shore-based jobs.

3. Raise the sector's image and attract new entrants

8. The sector is not attracting the quantity or calibre of new entrants that it requires and this has long-term implications. In particular the sector needs to build on activities such as Sea Vision to:

- raise awareness of the sector and its career opportunities amongst young people;
- increase the attractiveness of the sector by ensuring there are attractive career paths that provide compatible qualifications that are viable alternatives to the general full-time education route.

4. Career progression

9. There is a need to ensure the sector provides the appropriate opportunities for career progression to quickly address the impending skills shortage in maritime skills. New flexibility may be required to try and overcome career bottlenecks in particular parts of the sector. There is also a need to consider how the movement between parts of the maritime sector can be encouraged more easily.

5. Strengthening training provision

10. There is a need to strengthen the training and qualification provision throughout the sector, particularly in light of changes in government funding arrangements.

- the review of SFIA supported Group Training Associations provides an opportunity to strengthen the position of GTAs which are already highly regarded and may help them be better able to bid for regional funding;
- there is a need to ensure the ports sector gets its fair share of government funding. Current training activity is primarily in-house and there is not the training provider infra-structure to access government funding;
- across the sector there is need to ensure that the qualifications framework meets the needs of employers and individuals. This may mean looking at alternatives to N/SVQs.

6. Addressing language skills needs

11. It is essential that there is good communication between people working in often dangerous environments in the sector. With the increasing use of foreign nationals in the fishing and ports industries there is a danger that a lack of English language skills may create hazardous situations or reduce efficiency. There may be an increasing demand from employers and employees to provide ESOL courses to such workers.

7. Addressing the loss of maritime skills

12. Many of the previous actions will help to address the specific issues facing the sector of a loss of maritime skills. In addition the maritime sector and others sector's relying on ex-seafarers need to:

- consider whether some shore based roles can be undertaken by non ex-seafarers;
- consider whether some shore-based roles can be changed to require less seafaring experience;
- work in partnership with DfT and others to monitor the impact of the current policies and activities to revive the UK shipping industry on the supply of British seafarers.

Areas for Action

13. Initial recommendations for action based on this review and discussions with MSA members include:

- the development of a coherent qualifications framework for the sector with appropriate career paths within and between the various parts of the sector. This should be set out in the forthcoming Sector Qualifications Strategy;

- the development of a Maritime Studies Certificate to broaden the appeal of the sector to new entrants and provide a new route of entry;

- the development of a Maritime Foundation Degree to address some of the management skills issues as well as attracting a higher standard of new entrants to the industry;

- to review the delivery of training and qualifications within the sector and develop or broker new delivery frameworks where appropriate to meet future needs of the sector. For example the review of the GTA network may provide the opportunity for the ports sector to make links and use the network as a vehicle for accessing and delivering government funded training;

- to provide good practice to the sector in relation to the delivery of skills and training;

- the development of more effective regional and sub-regional working in the sector including further investigation of specific labour market and skills issues at regional and sub-regional level and greater linkages with regional and local funding agencies.

1. Introduction

Context

1.1 The Maritime Skills Alliance (MSA) is a strategic alliance between the Merchant Navy Training Board (MNTB), Port Skills and Safety (PSS) and the Sea Fish Industry Authority (SFIA) and was formally established in January 2004. It aims to provide a focus for maritime sector skills issues and ensure that a joint approach is adopted wherever appropriate to the development of education and training, occupational standards and qualifications frameworks for those involved with maritime activities.

1.2 The MSA is a Sector Body working with the Skills for Business Network in the absence of a dedicated Maritime Sector Skills Council (SSC). It has a strategic relationship with several overlapping SSCs including GoSkills, Improve and Skills for Logistics as well as the Sector Skills Development Agency (SSDA).

1.3 This labour market assessment is the first project commissioned by the Alliance and is supported by the SSDA. For the first time it provides an up-to-date, independent and authoritative assessment of the maritime sector's labour market and skill needs. The assessment provides the evidence base on which to underpin the MSA's future actions and priorities and will specifically inform the MSA's first business plan.

Methodology

1.4 The evidence presented in this assessment comes from a number of existing sources and is supplemented by the results of primary research undertaken as part of the study. We do not present the results of the primary research independently, but instead integrate it with other available research to present a coherent picture of the sector. Sources used in this document include:

- existing research on the sector produced by MSA partners and other relevant organisations;
- nationally produced data including a bespoke analysis of the Spring 2004 Labour Force Survey;
- interviews with informed stakeholders;
- a postal survey of 1,000 fishing vessel owners resulting in a response of 176 questionnaires (18%). An above average response rate for a postal questionnaire;
- qualitative interviews with over 30 employers from across the sector;

- workshops with employers representing each of the three industries represented by the MSA partners.

1.5 It should be noted that there are currently two major studies being undertaken by the Department for Transport (DfT) that will provide detailed information on employment and roles in the ports and shipping industries. These reports are due to be completed in early 2005 and should provide detailed industry specific information to supplement that presented here.

Structure of the report

1.6 This labour market assessment is based on the structure presented in the SSDA's Guide to Market Assessments and covers:

- The definition of the sector;
- Competitiveness and drivers of change;
- Employment patterns and skills needs;
- Skills supply and employer training;
- Priorities for the sector.

1.7 Throughout the document we present the evidence in relation to the maritime sector, but where appropriate highlight industry and sub-sector[1] specific issues and analysis.

[1] To avoid confusion throughout the report we use the term industry to refer to one of the three activities covered by the MSA ie Fishing, Ports or Shipping and we use the term sub-sector to define a more specific activity such as stevedoring or ferry operations.

2. Definition of the sector

Description of sector

2.1 The maritime sector as defined by the current MSA footprint includes industries where the principal business activities cover the control management and operation of harbours, ports and vessels associated with:

- transport by sea of passengers, freight and petrochemicals in bulk (coastal; intra-European (short sea) and worldwide);
- leisure cruises at sea;
- loading and unloading cargo and passengers from ships;
- catching fish and shellfish;
- supporting offshore exploration and production, surveying and other sub-sea activities.

2.2 The sector typically operates through a complex set of sub-contracting arrangements between owners, operators, management and human resource agencies. For example the industry includes:

- owners:
  - UK based shipping and fishing companies that own or operate ships under British and/or foreign flags;
  - ports and statutory harbour authorities. They are generally land-owners with responsibility for the safety of navigation in the areas they cover. In some cases they operate all the port activities.
- management companies and agents that provide ship and fishing vessel management services for British or foreign companies or owners;
- operators including:
  - terminal operators, which operate their own facilities within a port area;
  - self-employed fishermen who manage and run their own fishing vessel;
  - ferry companies which generally manage their own shore operations.
- labour suppliers including:

- shipping manning agents;
- stevedoring and contract labour suppliers which provide plant and labour to ports and terminal operators upon demand.

2.3 There are additonal supply chain relationships with other activities, particularly in ports, which make it difficult to define the sector precisely. The British Ports Industry Training Workforce Development Plan (BPIT, 2000) estimated that for every person employed by a Port Authority there are at least 15 dependent jobs in the local area. The forthcoming DfT study will provide an update on this and provide more detail.

2.4 This industry structure means that a cargo ship docking at a UK port could be owned, managed and crewed by different organisation and that it could also be piloted into harbour, moored and unloaded by a further three different organisations.

Statistical definition of the sector

2.5 For statistical purposes the Office for National Statistics classifies industries by the Standard Industrial Classification (SIC). Unfortunately these do not equate to the activities described above. Table 2.1 defines the sector by the most appropriate SIC codes and highlights which codes are unique to the maritime sector as define in this assessment. The most significant difference is in the SIC for cargo handling which includes stevedoring, but also loading and unloading of goods or passengers' luggage irrespective of transport used.

Table 2.1: Sector definition by SIC 2002 codes

SIC Code	Description	Unique to MSA?	
		Yes	No
6110	Passenger and Freight Sea and Coastal Water Transport	✓	
6311	Cargo Handling		
	- Stevedoring	✓	
	- Loading and Unloading of goods or passengers' luggage irrespective of mode of transport used.		✓
6322	Other supporting Transport activities - Activities related to water transport of passengers, animals or freight:		
	- The operation of terminal facilities such as harbours and piers	✓	
	- Operation of waterway locks		✓
	- Navigation, Pilotage and berthing activities	✓	
	- Lighterage, salvage activities	✓	
	- Lighthouse activities.	✓	
0501	Fishing	✓	

2.6 In the analysis below we use the following shorthand to represent each of these SICs:

- Fishing (SIC 0501);
- Passenger and freight water transport (SIC 6110);
- Cargo handling (SIC 6311);
- Ports (SIC 6322).

Value of the sector

2.7 The maritime sector is of vital importance to the UK economy. In 2003:

- around 555m tonnes of freight was transported through the UK's ports, this accounts for 95% of the UK's trade by weight;
- British shipping was the UK's fifth largest service sector earner and contributes around £2.3 billion net to the balance of payments;
- nearly 51m passenger journeys were undertaken through UK's ports on either international or domestic journeys;
- 631,000 tonnes of sea fish were landed into the UK and abroad by the UK fleet with a total value of £521 million.

2.8 Through the skills it fosters the UK shipping industry underpins a wide range of shore-based businesses, particularly the City of London maritime sector which insures 25% of the world marine risk and excels in financial and legal services to world shipping.

2.9 The sector also contributes directly to the UK economy. In 2002 the Annual Business Inquiry estimated the sector's turnover to be worth £7.6bn whilst its Gross Value Added (GVA) at basic prices was £3.2 billion. This accounts for 0.6% of the UK's GVA. As table 2.2 illustrates the shipping industry accounts for over half of the sector's turnover, whilst the ports industry is nearly as important in terms of GVA.

Table 2.2: Turnover and Gross Value Added at basic prices by industry, 2002

Industry (SIC92)	**Turnover**		**GVA at basic prices**	
	(£m)	**%**	**(£m)**	**%**
Fishing (0501)	648	8%	235	6%
Passenger and freight water transport (6110)	4,007	52%	1,791	47%
Cargo handling (6311)	876	11%	366	10%
Ports (6322)	2,111	28%	1,410	37%
Maritime sector	**7,642**	**100%**	**3,802**	**100%**
UK economy	2,080,066		641,978	

Source: Annual Business Inquiry, 2002 (ONS)

Sector structure

2.10 The 2003 Annual Business Inquiry reports that the sector is composed of just over 5,900 enterprises[2] or autonomous workplaces. Over half of these (55%) are in the fishing industry.

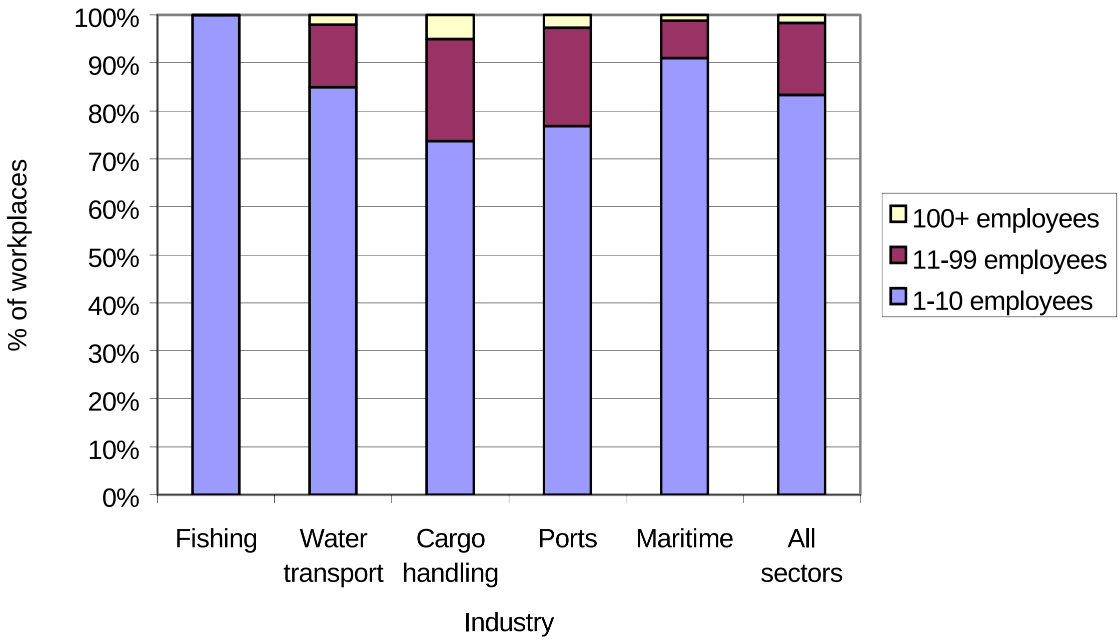
[2] An enterprise is defined as the smallest combination of legal units, which have a certain degree of autonomy within an enterprise group. An enterprise group is simply a number of enterprises under common ownership

Table 2.3: Number of enterprises by industry in Great Britain

Industry (SIC92)	Number	%
Fishing (0501)	3,262	64%
Passenger and freight water transport (6110)	1,235	21%
Cargo handling (6311)	319	5%
Ports (6322)	1,117	19%
Maritime sector	5,746	100%
Great Britain economy	2,213,793	
Source: Annual Business Inquiry, 2003 (NOMIS)		

2.11 The sector is dominated by activity in workplaces employing fewer than 11 people. These account for 91% of enterprises, whilst those employing over 100 employees account for just 1% of enterprises. Only a small number of fishing enterprises employ more than 10 people, whilst ports are more likely than the other maritime industries to employ over 10 people.

Figure 2.1 Enterprises by number employed



Source: Annual Business Inquiry, 2003 (NOMIS)

2.12 Defining the sector in terms of workplaces can be difficult particularly in relation to sea-based activities. In many cases workplaces are vessels. The UK fleet includes vessels that are UK owned, UK parent owned or UK managed. In 2003 this accounts for:

- 6,793 fishing vessels, of which 1,622 (24%) are over 10 metres in length[3];

[3] Source: UK Sea Fisheries Statistics 2003, DEFRA

- 1,326 vessels over 100 gross tonnes of which 1,012 (76%) are UK or UK parent owned and 314 (24%) are foreign owned but UK managed[4].

2.13 In addition there are 51 major ports in the UK each dealing with at least 1m tonnes of traffic in 2003.

[4] Source: Maritime Statistics 2003, Department for Transport

3. Competitiveness and drivers of change

Introduction

3.1 In this section we discuss the recent performance of the sector and its competitive position. We then consider the drivers of change that may impact on the sector and its workforce over the next few years. When considering the financial data in this section it is important to recognise that there are many influences on turnover and value added of which volumes of freight and passengers handled are just one. For example changes in exchange rates can have a significant impact on freight transport rates which are priced in US dollars.

Competitiveness of the sector

Performance

3.2 The maritime sector has significantly outperformed the UK economy as a whole over recent years in terms of turnover. According to the Annual Business Inquiry turnover in the maritime sector grew by 23% between 2000 and 2002 compared to the UK average of 5%. This represents a significant improvement on the previous two years when turnover declined by 8%[5], compared with an 11% growth in the UK economy as a whole.

3.3 As figure 3.1 illustrates there are significant differences in performance by industry:

- the ports and cargo handling industries have led the growth in turnover despite a fall of 3% in the tonnage passing through UK ports since 2000 when record levels were recorded. Our interviews with industry representatives were unable to identify the reason for this apparent contradiction between company performance and volumes handled between 2000 and 2002, although one possibility is the exchange rate. The dollar was relatively strong against the pound during this period. Another possibility could be a change in the mix of cargo being handled. The tonnage passing through ports is still higher than ten years ago;

- the shipping industry represents the largest proportion of the maritime sector's turnover and has now returned to its 1998 turnover levels. The gross tonnage of UK owned trading vessels has seen a steady rise since 1999 after a decade of decline. This revival is partly as a result of changes in government policies introduced to halt the decline in the UK shipping industry;

[5] Excludes the fishing industry as data is not available before 2000.

- the value of fish and shellfish landings has been declining and were worth £545m in 2002 compared to over £660 million in 1998. At the sub-sector level, real average price declines among the whitefish and shellfish species have been offset to some degree by significant real price increases in the pelagic sub-sector.

Figure 3.1: Turnover by industry 1998-2002

Source: Annual Business Inquiry 1998-2002, ONS

3.4 Similarly the sector has outperformed the UK economy in terms of Gross Value Added (GVA) at basic prices. The sector's GVA grew by 27% between 2000 and 2002 compared to the UK average of just 6%. This follows slightly slower than average growth between 1998 and 2000 (10%[6] compared to a UK average of 12%). As figure 3.2 shows there are differences between industries:

- GVA in the shipping industry has grown steadily above the UK economy's average between 1998 and 2002, despite the decline in turnover between 1998 and 2000. This is partly as a result of the use of larger and faster ships;

- cargo handling and ports have seen their GVA grow dramatically between 2000 and 2002 years alongside their growth in turnover. AS we discuss earlier this is against a background of slight decline in freight handled;

- the fishing industry has seen a decline in GVA between 2000 and 2002. The pelagic fish catching sub-sector achieves high profit margins, whilst whitefish is suffering from quotas reducing the quantity of fish that can be landed and the number of days ships can be at sea.

[6] Excludes the fishing industry as comparable data is not available before 2000.

Figure 3.2: GVA at basic prices by industry 1998-2002

Source: Annual Business Inquiry 1998-2002, ONS

Competitiveness

3.5 The maritime industry as a whole is suffering from a significant squeeze on costs as a result of challenges from global markets.

3.6 The shipping industry is truly global and there is significant competition caused by the emergence of new competitors in areas like the Far East with lower operating costs. In addition the industry has become vastly more productive with the use of larger and faster ships and with increasing technology reducing the number of crew required. There is a certain amount of consolidation within the shipping industry and this is affecting the ports industry with larger companies applying greater pressure for cost reductions.

3.7 There is increasing competition for the cross channel shipping and ports sub-sectors from the Channel Tunnel, which accounted for 16% of short sea unitised traffic in 2003 compared with just 9% in 1998. Similarly the Channel Tunnel accounts for 43% of the passengers travelling across the English Channel between UK and France[7]. Recently competition for passengers has also grown with the expansion of cheap air travel.

[7] Source: Maritime Statistics 2003, Department for Transport

3.8 Fishermen are facing competition from the exploitation of new fisheries in developing countries, which have increased overseas production at a time when the UK's has remained steady. In addition, with the introduction of new countries to the EU UK fishermen are facing the prospect of more fishermen using the same fishing grounds. The UK industry is increasingly focusing on improving the quality of fish and shellfish landed so as to increase its value.

Drivers of sectoral change

3.9 This section discusses some of the drivers that will impact on the sector in the near future.

Globalisation and competition

3.10 Globalisation and competition will continue to increase in the sector. There will be increasing competition in terms of quality and price from overseas markets caused by the emergence of new competitors. For example whilst increasing global trade may increase the volume of containers passing through UK ports, it is unlikely that UK shipping companies will benefit, as much of this new business may be taken by companies from countries such as China. Ships can operate anywhere in the world and do not necessarily have to be registered in the country where the ship's owner is based or where it operates. Similarly ships can be managed from anywhere in the world. The location of operations and country of registration are governed by a whole host of factors including global markets and countries' regulatory and tax regimes.

3.11 The demand for increasing efficiency and accompanying tighter margins will see further consolidation in the maritime sector. Globalisation is pushing more power into fewer hands. There is a significant trend towards global ownership of shipping vessels and management of port terminals.

3.12 The Prime Minister's Strategy Unit Net Benefits Report suggests that in the future, the recovery of fish and shellfish stocks will be less important to the future of the fishing industry than how competition from abroad is handled. This is primarily about matching productivity and not a question of overall costs as the main competitor nations have similarly high labour costs to the UK. The improvement must be in both relative quantity and quality as the fishing industry increasingly believes that customers will pay a premium price for a premium product.

3.13 The Net Benefits report identifies the need of the whitefish fleet in particular to be modernised and rationalised and states that capacity will need to be reduced whether quotas are increased or not. The level of reduction necessary will be dependent on the price of whitefish over the next five to ten years.

3.14 Increasing customer expectations and high quality demands are common across the maritime sector. For example:

- shipping customers expect ships to arrive on schedule;
- ports customers expect zero breakage from unloading and loading activities;
- consumers are increasingly demanding higher quality fish and shellfish and are willing to pay a premium.

3.15 Over the next ten years there will be a decline in the North Sea oil and gas industries which will force a change in both shipping and ports. The supply could be depleted as early as 2015. This may release labour (including former fishermen) back into other maritime industries. In addition ports may need to move away from fuel towards other kinds of freight.

3.16 Both shipping and ports are also likely to see a growth in liquid natural gas (LNG) transportation. The ports that can take advantage of this growth sector are limited by the size of their harbour as LNG ships will be very large. However, there is a sense in the shipping industry that British companies can take advantage of the sophisticated nature of LNG ships, where crews will need to be much more competent, to capture a large slice of the market.

3.17 The passenger ferry sub-sector is likely to continue to face competition from the Channel Tunnel and low-cost air travel. In contrast the passenger cruise market is expected to continue to grow in response to an ageing population and increased disposable income.

Legislation, regulation and the environment

3.18 The maritime sector is heavily regulated and many of these are based on international regulations not just UK or European. Some regulations are industry specific and some are not, for example, health and safety regulations are important across the entire sector. UK government policy also recognises the sector's importance in relation to the UK's economy, transport infrastructure and environment.

3.19 In 1998 the Government introduced a strategy (British Shipping – Charting a new course) which aimed to halt the decline in the UK's registered and owned trading fleets and in the skills pool of qualified seafarers. It included 33 inter-related actions under four strands:

- increasing skills;
- encouraging employment;

- increasing the UK's attractiveness to shipping enterprises;
- gaining safety and environmental benefit.

3.20 Most of these actions have been taken forward and there has been a significant increase in the number of ships and their combined tonnage, but the full impact on employment has yet to be seen.

3.21 Government transport policy is seeking to develop a more sustainable transport infrastructure. As part of this policy it is seeking to move away from road freight transport where possible. This will have implications for the ports and shipping industries as short-sea coastal shipping provides a potential alternative. In addition the focus on increasing the use of rail freight may lead to an increasing number of rail interfaces within ports. There is some concern within the sector that too much government focus has been placed on extending rail freight, with less emphasis on expanding coastal transport.

3.22 The fishing industry also faces significant regulation. Quotas imposed by the EU that are designed to ensure responsible fishing and sustainable fish and shellfish stocks limit the industry's activity. These limit the amount and species that can be caught. Changing quotas will continue to force fishermen to adapt their activities and fishing grounds. Whitefish has currently the most stringent quotas imposed on it and many UK fishermen will find it necessary to diversify their catch into shellfish and pelagic varieties. There is a corresponding need to quickly develop new knowledge of different species and new skills to use any different fishing gear that might be required.

3.23 The EU Working Time Directive has impacted on almost all sectors in the UK and maritime is no exception. Most fishermen are not affected because they are self-employed, but any decision to remove the opt-out for individuals may have consequences for the ports industry. Some employers in the ports industry believe that additional staff will need to be recruited in operational roles especially in smaller, and therefore less flexible, companies and there is a concern over the cost implications of this. Specifically, it is possible that more pilots will be needed as any change will prevent the 24 hour watch system which some operate.

3.24 The European Access to Ports Services Directive was proposed on October 2004. The Directive is still in its early stages and is likely to be amended significantly before its adoption, but aims to set clear rules on access to port services and maximise the efficiency of the European transport supply chain. The main impact of the Directive as it is currently proposed would be to allow competition for the provision of services such as cargo handling, pilotage and passenger services in ports that handle a certain level of freight or passengers per year. As a result Port Authorities would have to bid to run or sub-contract services which they currently provide to clients directly.

3.25 In addition there are a number of new specific regulations that may impact on the sector:

- regulations on waste management will seek to create a paper trail of what happens to waste from ships once it comes ashore. This may provide an additional burden for many ports;

- the recent Port Marine Safety Code (PMSC) is designed to address safety issues relating to marine operations with ports and to ensure the safety of vessels using those facilities;

- legislation will shortly be introduced for lifting equipment on board ships. This is a concern for some within the fishing industry as the cost of having all lifting equipment certified will fall on the skipper of the ship, at a time when low margins are already having an impact on operations.

3.26 In relation to the environment port expansion is closely monitored and heavily regulated. Environmental Impact Assessments and the Wild Birds and Habitats Directive are used to determine if port development will have a detrimental effect on shorelines or tidal estuaries.

3.27 The shipping industry has particular regard to environmental regulations and its impact on the environment. This includes:

- particular care in relation to the transportation of oil. The cost of cleaning up after an oil spill is large and shipping companies providing these services recognise that the investment in prevention is worthwhile, although expensive, to avoid the potential clear up costs and bad publicity;

- using eco-friendly anti-fouling paint on the underwater sections of ship's hulls;

- avoiding pollution through the dumping of waste at sea and reducing exhaust emissions.

Technology trends

3.28 The sector has continued to adopt new technology that increases the sophistication and innovation of their systems and processes. Generally all operational level staff are expected to be more familiar with IT systems from common PC skills. The technological has tended to influence the sector in three ways.

3.29 Technology has increased the amount of information that is available and increased communication allowing more accurate information to be available more quickly. This has resulted in:

- ship management functions being increasingly undertaken onboard ship as opposed to onshore, thereby reducing costs, but impacting on the management skill needs of ship's officers;
- satellite navigational systems allowing easier navigation and better tracking of vessels at sea. This is an issue for some in the fishing industry as it will be used for policing vessels to enforce quotas and vessels will need to ensure they are not straying into closed fishing grounds. In addition pilots within ports are increasingly using portable radar systems as a backup to the radar system controlled from the operations centre;
- the development of dynamic positioning systems and their increasing use onboard vessels in the off-shore oil supply sub-sector. These systems allow a ship to maintain a position relative to a stationary object, for example an oilrig;
- fishermen demonstrating traceability and improving care of the catch through the use of on-board weighing and labelling systems;
- the adoption of new electronic auctioning systems at some fish markets which has led to improved information on prices and greater price stability.

3.30 Technology has also improved the efficiency of the capital used in the sector. For example:

- there is a trend to larger and more sophisticated vessels. In addition smaller vessels are becoming more powerful, which has implications for the size of nets that can be used in the fishing industry;
- more advanced cargo handling systems, for example robotic cranes, are being introduced, onboard ships and in ports. This includes new fish handling systems onboard larger fishing vessels which can reduce the number of crew needed.

3.31 Finally technology has created a move towards more electronic control interfaces, and the installation of high voltage electro-propulsion systems in new vessels. This impacts on the skills and knowledge of marine engineer officers particularly in the safety aspects of modern high voltage systems. In addition the increasing complexity of specialist equipment on certain types of ships has shifted the focus towards electro-technical specialists in some companies.

4. Employment patterns and skill needs

Introduction

4.1 In this section we discuss the composition of the sector's workforce and the key issues the sector faces in terms of employment and skills.

Employment patterns

Employment in the sector

4.2 According to the Labour Force Survey the maritime sector has a workforce of approximately 85,000 of which shore and sea-based employees in the shipping industry accounts for just over half. Table 4.1 provides a breakdown of the workforce by industry.

Table 4.1: The maritime sector workforce

Industry (SIC 2002)	Total Employed	% of sector
Fishing (0501)	11,800	14%
Passenger and freight water transport (6110)	45,600	54%
Cargo handling and ports (6311 & 6322)	27,300	32%
Maritime sector	84,700	
Source: Labour Force Survey, Spring 2004 (ONS), UK Sea Fisheries Statistics 2003 (DEFRA)		

4.3 Data from a study undertaken by Cardiff University in 2003, estimates that approximately 57,000 (+/- 13,000) of the maritime workforce as defined in this report[8] are shore based.

4.4 The workforce in the maritime sector is primarily full-time with nine out of ten (90%) working full-time. This compares with an average of 74% for the whole of the UK workforce. The fishing industry has the highest level of part-time working with approximately 18% working part-time.

4.5 Self-employment accounts for 15% of the maritime workforce and is the same as the average for all sectors. However self-employment dominates the fishing industry accounting for approximately 71% of the workforce[9].

[8] The categories used from the study include port service, terminal operators, towage/salvage/dredging, ports, ship agents, non-federated and federated ship owners and offshore, ship and crew management and maritime schools.
[9] This figure may under-estimate self-employment in the industry as the LFS sample for this analysis is below 10,000 and can be considered unreliable.

Table 4.2: Type of employment in the maritime workforce

Industry (SIC 2002)	% full-time	% self-employed
Fishing (0501)	82%	71%
Passenger and freight water transport (6110)	91%	6%
Cargo handling and ports (6311 & 6322)	91%	9%
Maritime sector	90%	15%
All sector average	74%	15%
Source: Labour Force Survey, Spring 2004 (ONS)		

4.6 There is some use of short-term temporary employment within parts of the sector, although there is no data to illustrate the extent of its use. Many cargo handlers and stevedores are employed on short temporary contracts so that the port can respond flexibly to peaks and troughs in the sector. The DfT study of the ports industry should identify how common short-term contracts are. In addition some officers are employed on a voyage-by-voyage basis through recognised agencies.

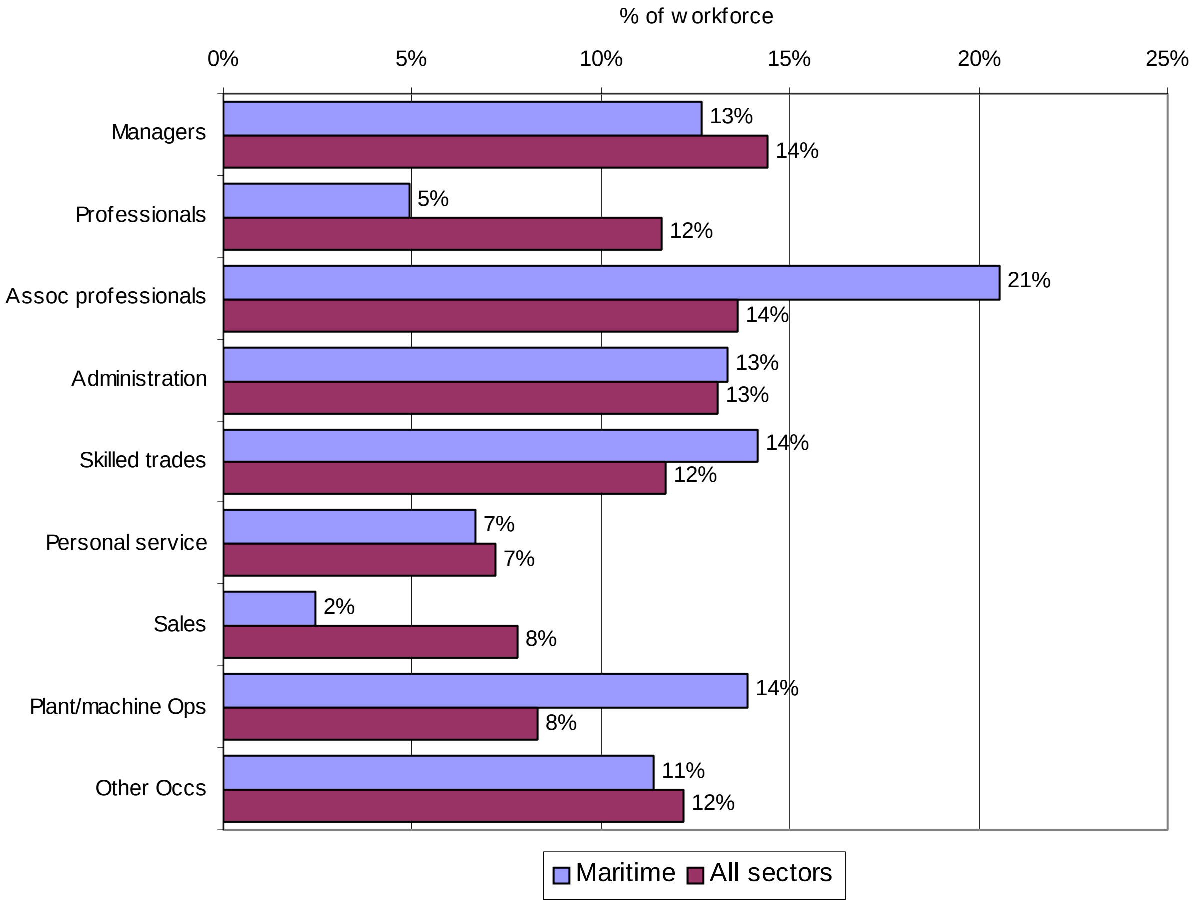
4.7 According to the Spring 2004 Labour Force Survey (ONS) the maritime sector employs a number of specialist occupations that account for over half of the workforce identified by the survey[10]. These include approximately:

- 17,000 ship officers (20%);
- 12,000 fishermen (14%)[11];
- 12,000 ratings (14%);
- 9,000 stevedores (11%).

4.8 As a result in comparison with the UK workforce the maritime sector employs a higher proportion of associate professionals (including ships officers), skilled trades (including fishermen) and plant and machine operatives (including ratings).

[10] Combining the shore-based workforce estimate produced by Cardiff University and the seafaring workforce presented here suggests the Maritime workforce is 13,000 larger than reported in table 4.1. This difference is explained by differing methodology and sample error.
[11] Source: UK Sea Fisheries Statistics 2003, DEFRA

Figure 4.1: Occupations employed by Standard Occupational Classification



Source: Labour Force Survey, Spring 2004 (ONS)

4.9 The 2003 Cardiff University Study of the UK economy's requirements for people with experience of working at sea suggests that the maritime sector, as defined in this report, has around 7,000 shore based jobs where employers would prefer to employ a former seafarer. In addition there are 8,700 jobs in other sectors of the economy where employers would prefer people with seafaring experience. Table 4.3 summarises the demand for ex-seafarers in various parts of the shore-based maritime sector identified by the Bristol University study of the UK's requirements for people with experience of working at sea.

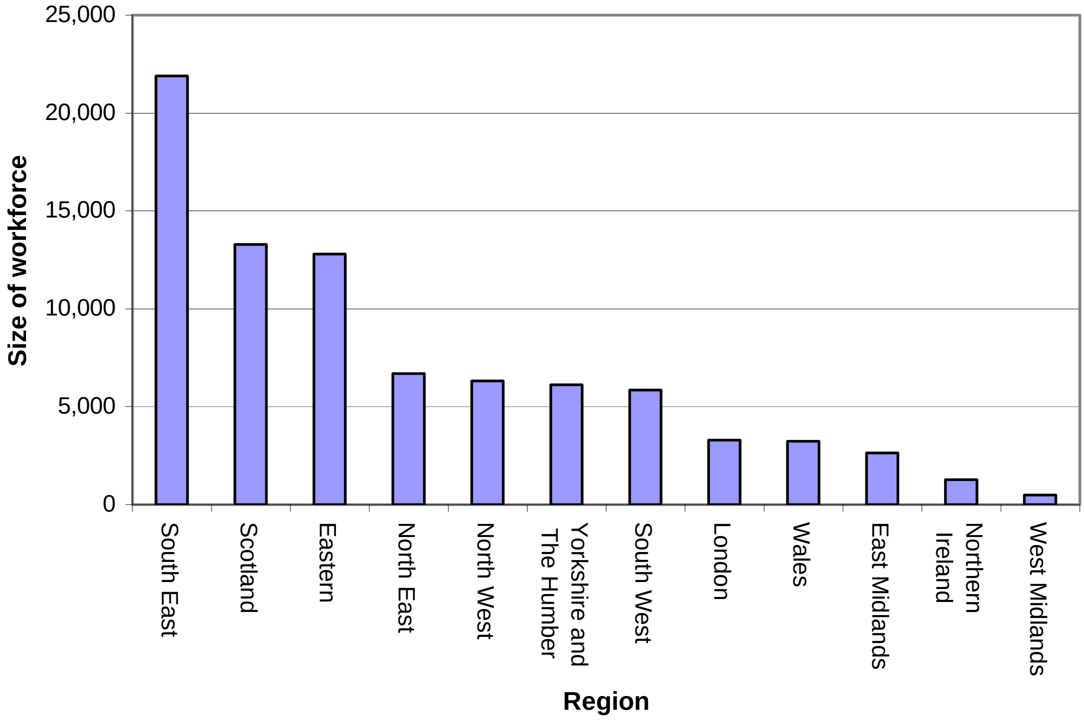
Table 4.3: Demand for ex-seafarers in maritime shore-based jobs

Activity	**Roles requiring ex-seafarers**
Port management	• Harbour masters or port managers.
Cargo handling	• Small numbers of ex-seafarers employed as cargo superintendents or in general management roles.
Pilotage	• Former deck officers employed as pilots • Former ratings employed as launch crews.
Pollution control	• Former ratings employed as boat handlers • Former officers as Oil Spill Technicians, Marine and engineering superintendents and technical, sales and commercial managers.
Towage, salvage and dredging companies	• Officers and ratings on tugs and dredgers • Marine and engineer superintendents • Safety officers and salvage masters • Dredging superintendents
On-shore management of ships and crew	• Fleet management roles • Marine or engineering superintendents • Marine safety management • Ship operations managers • Training and personnel management
Education and Training	• Training
Source: The UK economy's requirement for people with experience of working at sea 2003	

4.10 The Labour Force Survey provides an indication of where the maritime sector's workforce lives. It is important to note that some seafarers may live in one region but work on board vessels which may be operating the other side of the world or off the UK coast. Nevertheless it shows the concentration of employment in south east England, Scotland and eastern England. This reflects the location of the large ports.

4.11 While fishermen account for a small percentage of the national workforce, they make a significant contribution to local economies as they tend to be regionally and locally concentrated. Around 20% of UK fishermen are located in the south west of England and 13% in Aberdeenshire,

Figure 4.2: Maritime sector employment by region



Source: Labour Force Survey, Spring 2004 (ONS)

Changes in employment

4.12 Employment in the maritime sector grew by 9% between 2000 and 2002 compared with a 1% increase in total UK employment. This is due to the large increase in employment reported in the ports industry. However, examining a longer period (between 1998 and 2002) shows that there is no employment growth in the sector, compared to a 6% increase in overall UK employment. This is due to the significant decrease in fishing employment effectively cancelling out the growth in the ports industry.

Table 4.4: Percentage change in maritime employment

Industry (SIC)	1998 - 2002	2000 - 02
Fishing (0501)	-28%	-13%
Passenger and freight water transport (6110)	0	7%
Cargo handling and ports (6311 & 6322)	19%	24%
Maritime Sector	0	9%
UK Economy	6%	1%
Source: Annual Business Inquiry (2002) & DEFRA UK Sea Fisheries Statistics (2003)		

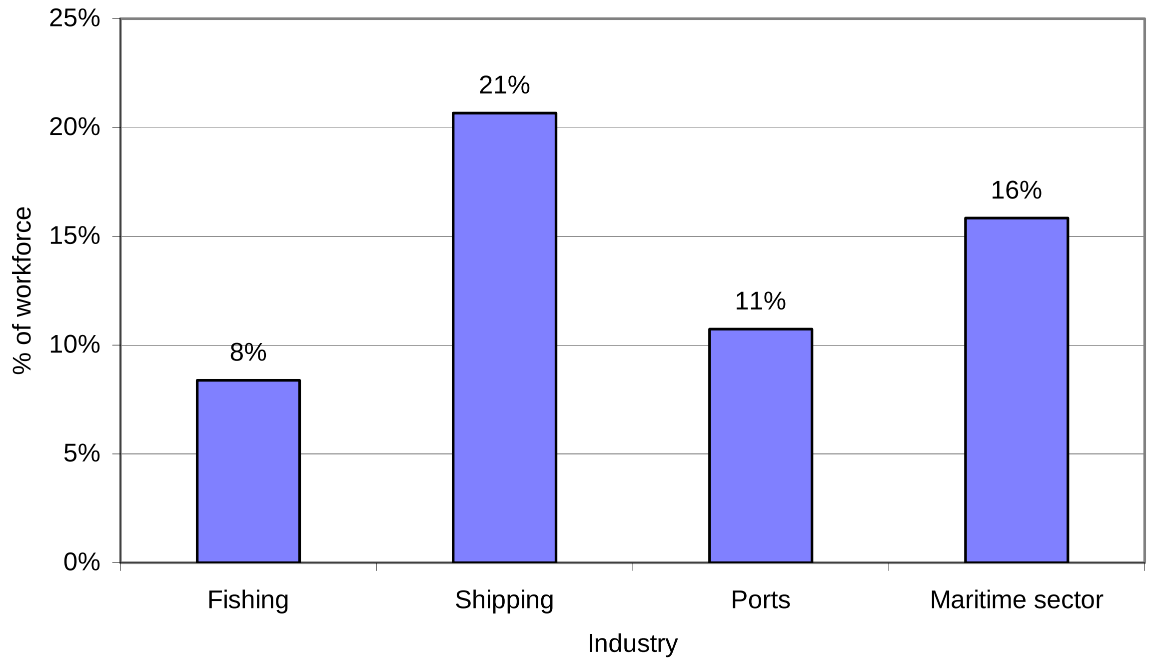
4.13 The Prime Minister's Strategy Unit report 'Net Benefits' estimates that fishing employment will continue to fall. Its strong fish-stock recovery and rising prices scenario suggests it could fall by between 12% and 22%, but if fish-stocks collapse and prices are weak and this could be between 45% and 59%.

4.14 The Cardiff University study of the demand for ex-seafarers suggests that that number of shore-based jobs that maritime sector employers would prefer to fill with ex-seafarers will rise by 8% over the next 10 years. This will account for 7,500 jobs. In addition, other sectors of the economy will have approximately 9,300 jobs they would prefer to fill with ex-seafarers in 10 years time. This is a rise of 6%.

Workforce characteristics

4.15 The maritime workforce is male dominated with women accounting for just 16% of the workforce compared to the all sector average of 54%. The gender split varies slightly between industries with the shipping industry employing most women (21%) whilst women in the fishing industry account for just 8% of the workforce.

Figure 4.3: Proportion of the workforce who are women



Source: Labour Force Survey, Spring 2004 (ONS)

4.16 The data suggests that people from ethnic minority backgrounds are significantly under-represented in the maritime sector. Non-whites account for just 2.9% of the workforce, in comparison to Great Britain average of 6.9% (Labour Force Survey, Spring 2004 (ONS)).

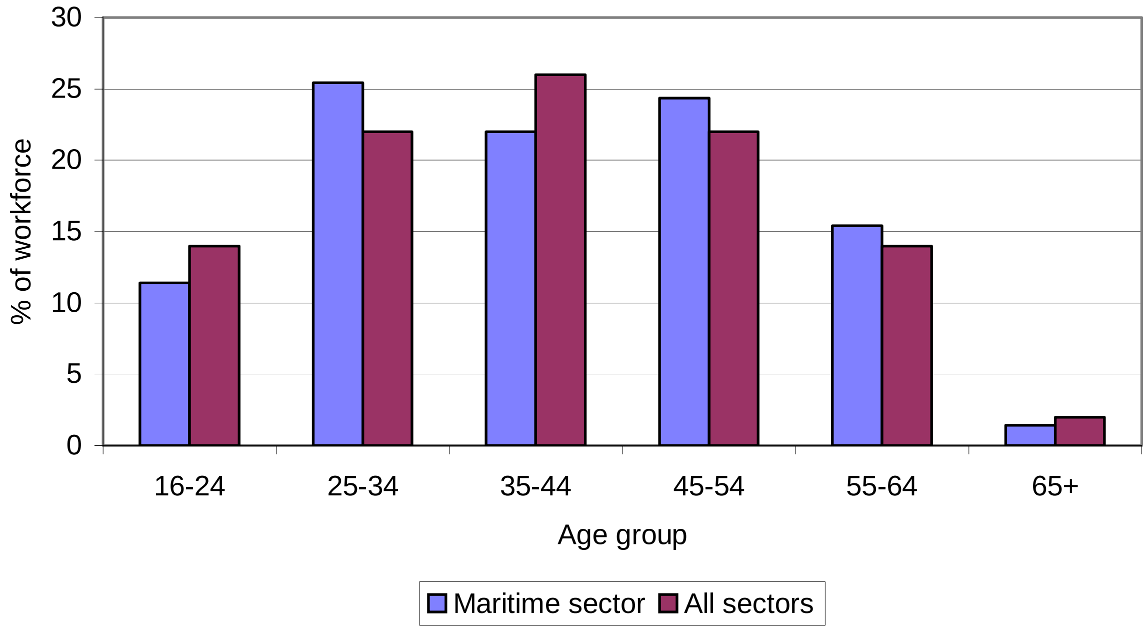
4.17 The employment of foreign nationals is an increasingly common occurrence in the sector. This is partly in response to a shortage of UK nationals with the appropriate skills or interest in working in the sector and partly related to reducing labour costs.

4.18 For the ports and fishing industries and certain short-sea operations in the shipping industry where employment restrictions apply, employment of eastern Europeans from the newly enlarged EU is increasing. There are no official statistics, but our survey of fishing vessel owners found that 4% of crew were from Latvia, Lithuania or Poland. We believe this may underestimate the number, as the quantitative survey did not include fishing companies with more than one vessel and our interviews with these companies confirmed they were also employing foreign nationals.

4.19 The labour market for the shipping industry is global. There are few restrictions on the nationality of ships' officers and crew even on UK-flagged vessels. Similarly foreign companies are able to employ British seafarers on the ships they operate. As we discuss in more detail later the overall number of British seafarers (as opposed to other shipping industry roles and foreign seafarers working in the UK) is declining which in turn means the number available for transfer to specialist roles ashore where seafaring skills and expertise are in demand will decline.

4.20 The age profile of the maritime workforce is slightly older than the workforce as a whole. The sector employs a lower proportion of 16-24 year olds and 35-44 year olds. This partly reflects the type of work involved in the sector and the experience required for many of the roles, but also highlights the concern of many in the sector that there are not enough young people entering the sector.

Figure 4.4: Age distribution of maritime workforce

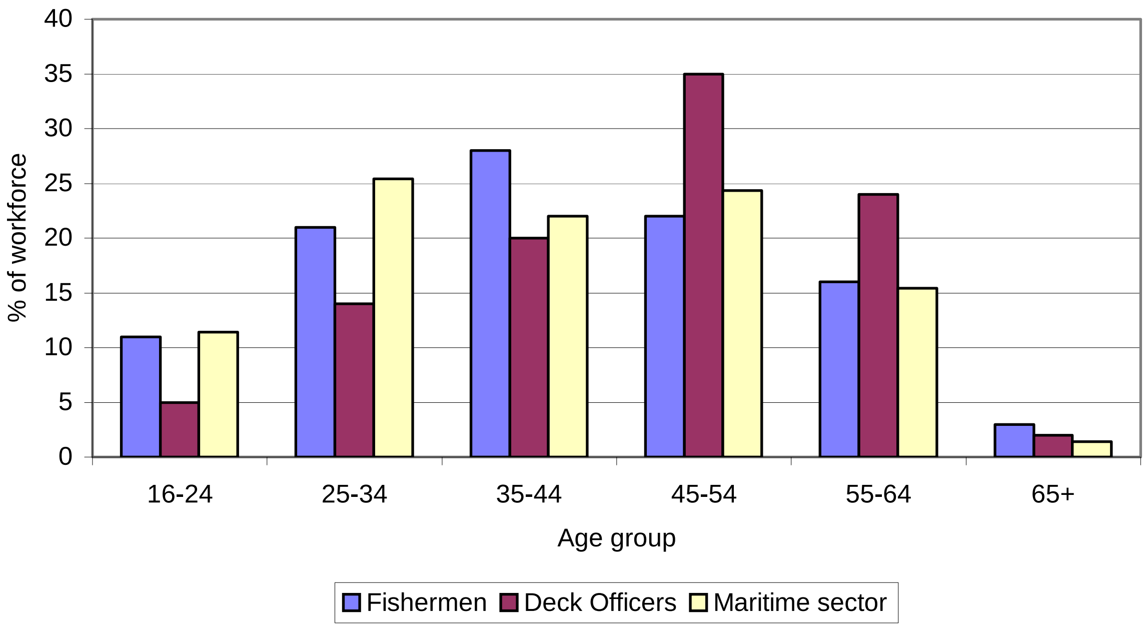


Source: Labour Force Survey, Spring 2004 (ONS)

4.21 The Labour Force Survey data is not robust enough to provide an analysis by industry, but analysis of the age of over 8,000 fishermen completing compulsory safety awareness training (SFIA, 2004) and analysis of the age of UK Deck Officers (London Metropolitan University, 2004) provides an indication of the differences across the sector. The data shows that Deck Officers have a significantly older profile than fishermen or the maritime sector average with over a third (35% aged between 45 and 55. In contrast the largest proportion of fishermen (28%) are aged between 35 and 45 in contrast to the maritime average of just 22%.

4.22 Analysis of UK seafarers undertaken by London Metropolitan University shows that there was an apparent increase in the number of certificated officers in 2003 compared with 2002, but that the largest increase was in the over 50 age group. This confirms that the workforce is ageing and based on cadet wastage rates it estimates that the number of UK officers will decline by 12% over the next five years. This has significant implications for the maritime sector and the UK economy as a whole as the Cardiff University study shows that there is an increasing demand for ex-seafarers in shore-based roles.

Figure 4.5: Age distribution of fishermen and deck officers



Source: SFIA course participant data (2004) and London Metropolitan University, UK Seafarers Analysis (2004)

Recruitment and employment issues

Recruitment and skill shortages

4.23 The Learning and Skills Council's 2003 National Employer Skills Survey (NESS) provides an indication of recruitment and skills activity across the maritime sector in England. The survey included responses from 137 maritime companies, but used a broader definition than used in this labour market assessment[12]. The analysis shows that just 4% of companies in the maritime sector reported vacancies compared with the survey average of 17%. This supports the findings of previous studies and qualitative feedback from employers that suggest staff turnover is generally low in the sector. In addition the survey reported that:

- just 1% of maritime companies had a hard to fill vacancy compared to the survey average of 8%;

- just 0.4% of maritime companies had a skill shortage vacancy compared to the survey average of 4%.

4.24 Recruitment and retention difficulties in shore-based and short-sea roles can depend on the nature of the local labour market and competition for labour from other employers. For example one ports employer in south east England found that many cargo handlers and stevedores trained by the port were now working in a local supermarket distribution centre, using many of the same skills but working more regular hours. A study of the transport sector in south east England in 2003 (Skills Insight, 2003) found that 13% of water transport companies surveyed (shipping and ports) had had difficulty recruiting staff in the previous 12 months. This compared to an average of 45% across the transport sector as a whole.

4.25 The available evidence also suggest some differences in recruitment issues between industries in the sector:

- Our survey of fishing vessel owners in November 2004 found that 20% of vessels had recruited crew in the previous 12 months and the 11% had difficulty recruiting. Respondents reported difficulties recruiting skippers, engineers and deckhands. Our qualitative interviews suggest that there is not a lack of qualified and experienced skippers in the industry, but that many do not have the financial backing to buy and run their own boat. The uncertain future of the industry makes it difficult to produce a robust financial plan and this can make it difficult to obtain finance.

[12] The LSC survey defined the maritime sector to include the building and repairing of ships (SIC 3511), building and repair of leisure boats (SIC 3512) and renting of water transport equipment (SIC 7122) in addition to the industries reviewed in this report.

- A survey of shore-based fleet management operations undertaken by MNTB in 2002 reported that 72% of respondents had some recruitment difficulty. Over half had difficulty recruiting managers, although only 4% reported a major or serious difficulty.

4.26 The use of ex-seafarers in shore-based roles is a key issue for the maritime sector. The sector is currently able to recruit people to work at the highest operational and managerial level, although there is competition for the best candidates. Ex-seafarers from the Royal Navy still provide a source of skilled people for shore-based roles, particularly harbour masters and in ports.

4.27 Recruitment may become more difficult in the future, particularly in shore-based roles that require seafaring experience as the supply of people with these skills dwindles and competition from other sectors increases. The Cardiff University research estimates that across all sectors employers consider that it is essential to fill 9,800 jobs with ex-seafarers and 8,800 jobs with ex-officers.

4.28 The study estimates that there is a current annual short-fall of between 65 and 112 in the number of ex-seafarers available to work in shore-based jobs where employers consider it essential to employ former ships officers. We would therefore expect shore-based maritime sector employers to see increasing recruitment difficulties in roles that require seafaring experience as the supply of ex-seafarers dwindles. However, the fact that no such problems have been reported to date suggests that something else is happening.

4.29 The sector appears to be adapting to the threat of declining seafaring experience and there is an increasing willingness to accept non-seafarers in positions where they would previously have been excluded. For example, some companies still expect cargo handling supervisors to have sea experience but increasingly companies are prepared to accept candidates who do not. In the case of pilots and launch crews there is a growing trend towards employing less well qualified mariners as pilots and non-mariners as launch crews and training them to the required competence levels.

4.30 The use of foreign nationals with seafaring experience is also increasing. The Cardiff University research estimates that across all sectors where there is a demand for ex-seafarers companies employ approximate 1,800 foreign ex-seafarers. This accounts for 11% of the roles where companies would prefer to employ an ex-seafarer.

4.31 Considering the key roles in the maritime sector the qualitative and quantitative evidence suggest that:

- there is a global shortage of ship's officers. The BIMCO/ISF 2000 Manpower Update estimates that in 2000 there was a worldwide shortfall of 16,000 officers or 4% of the total workforce. The reports considered that this may be an underestimate given the barriers, such as culture and language, which may prevent surpluses in some nationalities compensating for shortfalls in other nationalities. The report identifies that OECD countries provide the main source of officers, but that this may change in the future. There is therefore a current significant global demand for good, experienced British Officers. How this situation may change in the future is open to debate and dependent on a number of factors, but the ageing of the British seafaring workforce may mean that there are insufficient British officers to meet demand in the future and that these roles will be filled by overseas officers.

- there is a global surplus of ratings and very few ratings are British. This reflects the cost savings that can be made recruiting foreign nationals as ratings. Even many ferry operations and cruise operators employ foreign ratings in response to the need to reduce costs. Many fishing vessels find it difficult to recruit deckhands and are resorting to foreign nationals. There is a concern within the sector and particularly the fishing industry that the link is being broken with the sea and that that this will result in a critical blow to the UK's ability to supply seafaring skills in the future.

- there is general concern in the maritime sector, along with other sectors, about the availability of engineers and skilled maintenance workers. This is a national issue and not a problem specific to the maritime sector. In the ports industry difficulty recruiting these roles varies across the country depending on the local labour market. The fishing sub-sector requires few dedicated engineers but nevertheless finds them difficult to recruit. They are required to work at sea and away from home for long periods and in a time when they are in demand many may prefer shore-based jobs. Some shipping employers report difficulty recruiting electro-technical occupations with relevant experience and qualifications, although there is no shortage of cadets training in this area.

- recruitment difficulties for cargo handlers or stevedores in ports can vary depending on location and local competition for employment. The demand can be seasonal and ports are willing to accept people to be trained internally who do not have much experience or skill as a cargo handler. There can be issues with retaining experienced workers in these occupations, for example, fork lift drivers, as the irregular hours of work in a port can encourage employees to look for other work with set hours.

- ports report few problems with recruitment of pilots. The picture is similar for less skilled marine staff such as pilot launch crews and ratings.

Skills gaps identified

4.32 As we highlight in chapter 3 there are many drivers of change in the sector and these are having an impact on the skills required in the workforce. The 2003 NESS reports that 14% of maritime companies (using their broader definition of maritime) identified skills gaps within their existing workforce. This is less than the survey average of 22% and is similar to the findings of the south east England transport sector study that found that 12% of respondents in the ports and shipping industries were concerned about skills gaps in their workforce. These were in:

- mechanical or technical skills;
- customer service/care skills;
- general management skills.

4.33 Our qualitative research suggest that specific skill needs include:

- an increasingly need for sophisticated management skills, including project management, people management, financial management and information management. The key drivers behind this are the desire for greater efficiency against tight margins and the availability of more management information via increasingly complex IT systems. There is also some demand for extra commercial skills such as marketing. Some examples include a need for:
  - better business and financial management skills amongst self-employed skippers in the fishing industry;
  - senior ports managers to have greater commercial awareness in terms of managing the port’s physical assets;
  - ship officers to have better information management skills in order to deal with the additonal ship management functions that are moving onboard.
- an on-going need for managers to keep up with changes in health and safety requirements and to effectively manage risk. For example owners of fishing vessels are now required to undertake a comprehensive risk assessment for their vessel;
- a need for more multi-skilled staff in a sector facing increasing competition and demand for efficiency. For example, fishing vessels which find it hard to recruit engineers are expecting deckhands to have some knowledge of engineering and stevedores in ports are often doubling up as fitters and welders;

- a need for ships' engineers to gain additonal electro-technical skills in response to the introduction of new high voltage propulsion systems on new vessels;

- basic skills gaps are an issue for many sectors in the UK. In the maritime sector the strongest evidence of a basic skills challenge comes from the fishing sub-sector where many of the new recruits working as deckhands have left school early and without a satisfactory literacy or numeracy level. This has implications in terms of ability to heed health and safety notices. There is also some concern that the increasing number of foreign nationals being employed will create a need for communication skills, specifically English language training;

- a continued need to maintain and update ICT skills. This applies to most staff, from those using conventional IT systems in offices, to port operations officials, navigators onboard ships and engineers who are all using increasingly computerised systems;

- increasing awareness at all levels of the commercial aspects of the industry. For example fishing companies are concerned that crews appreciate the importance of caring for the catch with a lack of appreciation for the 'care of the catch' among crews.

4.34 The 2003 NESS reports that fewer maritime companies in England (using their wider definition of maritime) than the survey average have a formal business (48%) or training plan (29%) and fewer formally assess if employees have skills gaps (30%). This suggests the number of employees with skills gaps may by higher than reported by the survey.

Table 4.5: Formal business and training planning

% of companies	Maritime[13]	All sectors
With business plans	48%	56%
With training plans	29%	39%
With business and training plans	16%	21%
Formally assessing if employees have skills gaps	30%	52%
Source: 2003 National Employer Skills Survey, Learning and Skills Council		

[13] As defined by the NESS this includes the building and repairing of ships (SIC 3511), building and repair of leisure boats (SIC 3512) and renting of water transport equipment (SIC 7122) in addition to the industries reviewed in this report.

5. Skills supply and employer training

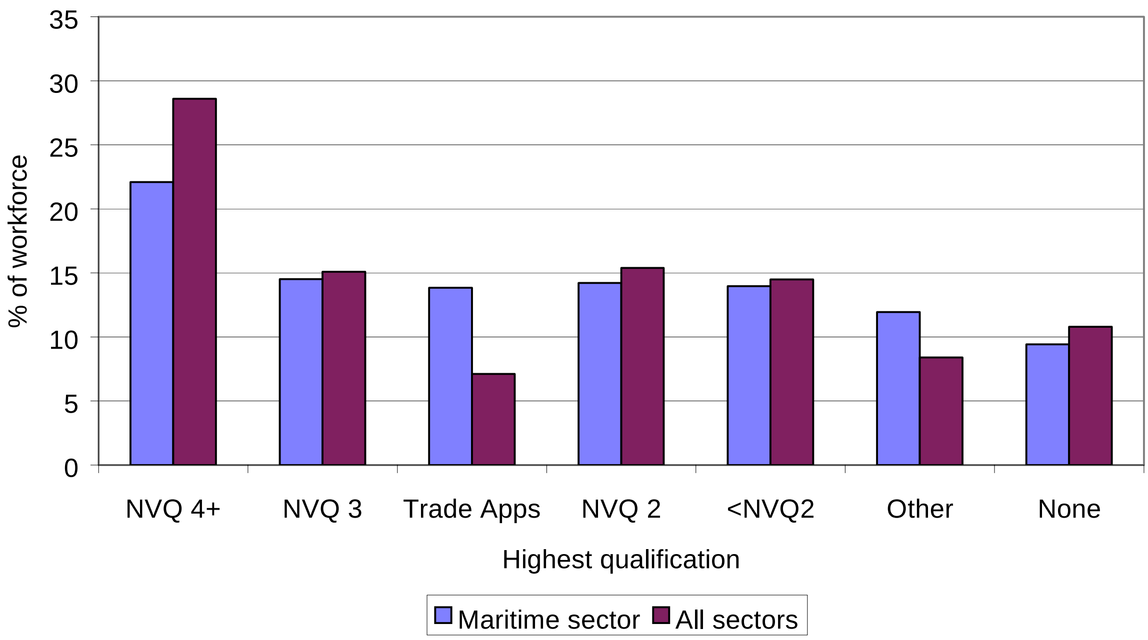
Introduction

5.1 In this section we discuss the qualification and training needs of the sector.

Qualifications

5.2 As figure 5.1 illustrates it is difficult to compare the qualification levels held by the maritime workforce with that of the UK workforce. The maritime sector has a smaller proportion of its workforce qualified at all NVQ equivalent levels. This is because of the high prevalence of trade apprenticeships and other qualifications.

Figure 5.1: Qualifications held by the maritime workforce



Source: Labour Force Survey, Spring 2004 (ONS)

5.3 There is a high level of compulsory certification required to work in many roles in the sector, many of which are based on international regulations and agreements. This reflects the level of health and safety risks and responsibilities associated with maritime operations. The implications of these requirements are that:

- employers can be sure that employees have the minimum level of competence for particular roles. This can be of particular benefit when recruiting in international labour markets;

- changes in certification requirements can restrict career progression and the flexibility of particular parts of the workforce. For example where certification requirements are introduced or changed employees with significant experience are often able to continue to work in their current roles, but have restrictions placed on their certification. This means they are unable to transfer to other operations without gaining the new certificates. This can cause difficulties if the nature of their role or the equipment they use is updated or changes;

- some certification requirements may result in employees having to undertake training for activities that are not part of their current role.

Comparability of qualifications

5.4 A further issue highlighted by figure 5.1 is the lack of comparability between the many maritime sector certificates and qualifications and other non-sector specific qualifications. This has implications for individuals' position in the labour market if they leave the sector, which could be a disincentive for individuals to enter the sector in the first place. It also makes it more difficult for employers to recruit people without maritime sector experience. The latter is an issue being considered by many shore-based employers as they seek to identify solutions to the future shortage of ex-seafarers.

5.5 The certification regime can also make it difficult to switch careers within the sector. For example fishermen can work on offshore oil standby vessels, but not other merchant navy vessels without significant further training. There is an attempt to make certificates and qualifications compatible where possible, but even where this has occurred, for example through the development of joint fishing and merchant navy NVQs, the anecdotal evidence suggests little movement between industries has occurred.

Vocational qualifications

5.6 The individual industries within the sector have sought to develop National Occupational Standards (NOS) and National and Scottish Vocational Qualifications (N/SVQs) that link to the sector's certification requirements.

5.7 For example the ports industry has national occupational standards and N/SVQs in place for:

- Stevedoring, Level 2;

- Marine Operations, Level 2;

- Passenger Operations, Level 2;

5.8 National Occupational Standards are available for:

- Pilots;
- Harbour Masters;
- Vessel Traffic Services.

5.9 MNTB and SFIA have a well-established relationship through which they have jointly developed a qualification framework for seafarers in the merchant navy and sea fishing industry. The framework is based on National Occupational Standards developed to meet the needs of both industries as well as the statutory competence requirements administered by the Maritime and Coastguard Agency. It provides the following N/SVQs:

- Marine Vessel Operations, Levels 2, 3 and 4;
- Marine Engineering Operations, Levels 2, 3 and 4.

5.10 Within the ports and fishing industries take-up of N/SVQs is relatively low and awarding bodies are concerned that the maintenance of the qualifications is becoming unviable. A key challenge for this part of the sector is to increase the take-up of N/SVQs or identify alternative qualification routes that meet the sector's needs and support career progression. In comparison all new entrants to the shipping industry over the past ten years have followed programmes leading to N/SVQ level 2 or 3.

Employer training

5.11 The implication of the high level of certification and health and safety training requirements is that a great deal of employers' training resources and time are focused on meeting these requirements, particularly when recruiting new entrants who need to gain this knowledge and relevant certificates before they are able to do their jobs fully.

5.12 The 2003 NESS reports that 39% of employers in the maritime sector (using a wider definition of maritime) in England had funded or provided training for their employees in the previous 12 months. This is less than the survey average of 59%. The survey reports that 75% of maritime companies providing training provided job specific training whilst 69% provided health and safety training.

5.13 The method and level of training provided by employers varies by industry. For example:

- the fishing industry is predominantly made up of self-employed fishermen. As with other sectors the amount of formal training undertaken by self-employed people is relatively low, mainly due to time constraints. Activity is therefore focused on training to meet regulatory requirements and is mostly delivered through Seafish's network of industry-led Group Training Associations (GTA) throughout the UK. The GTA network is currently being reviewed by Seafish to ensure that it can continue to meet the needs fishing industry and improve its effectiveness in delivering training for the onshore activities of the seafood industry. Our survey of fishing vessel owners found that:
  - 79% of respondents agreed there is an on-going need for crew to update and refresh their skills;
  - 29% of respondents felt they would need some training for their crew in the next 12 months;
  - the top four training requirements were Inshore skipper qualification, radio operation; net mending and risk assessment.
- ports employers provide a great deal of in-house training. This partly reflects the specialised nature of the training and the availability of specialist equipment to train externally. Anecdotal evidence suggests the ports industry is making significant use of NOS, but that it finds it difficult to access government funding for N/SVQs because of the lack of external training organisations able to deliver the specialist training cost-effectively. This is partly as a result of the geographical remoteness of the industry;
- the shipping industry uses a combination of onshore training delivered by maritime colleges based around the country and on-the-job sea-based training to prepare employees for particular roles and ensure they have the appropriate certification. For cadets this requires the availability of training berths onboard ship. Many companies provide technical and management training to update the skills of existing employees.

New entrants

5.14 There is concern across the whole sector that young people are not being attracted into and then staying in the sector in sufficient numbers to sustain its operations and to provide the high level skills that the sector and the rest of UK economy require. For example:

- the decline in the fishing industry has dissuaded young people in communities that have traditionally provided sources of new recruits from entering the industry. In our survey of fishing vessel owners 82% agreed that there was a critical shortage of new entrants to the industry, although Seafish reports over 800 new entrants per annum undertaking new entrant safety training;

- many ports face an ageing workforce and whilst many recognise this and are taking measures to address this, the type of work and working hours can seem unattractive to young people compared with alternative forms of employment;

- as discussed earlier the British officer workforce is ageing and this is leading to concerns that there will be a future lack of ex-seafarers with the appropriate skills to meet the needs of shore-based UK companies in the maritime sector and in other industries where seafaring skills are seen as an essential requirement. There has been a recent increase in the number of cadets being trained as part of the Government's new policies to revive the sector set out in Charting the New Course.

5.15 The sector has had to face increasing competition for new entrants. The rise in the proportion of young people remaining in full-time education and continuing to higher education has meant the sector has had a limited pool of young people from which to recruit. Young people who prefer to stay on in full-time education and get a more general qualification have not seen the maritime sector as an attractive career. The young people who do not continue in education have lower qualifications that those traditionally recruited to the industry. These trends partly reflect the low take-up of Advanced and Foundation Apprenticeships in the fishing and ports industries.

5.16 In response the sector has:

- established Sea Vision as a vehicle for promoting employment in the maritime sector (including a wider focus than the MSA);

- set up a working group to examine the possibility of establishing a Maritime Studies Certificate as a wide ranging introduction to the sector aimed at lower qualified potential new entrants;

- considered establishing a Maritime Foundation Degree to include the ports and shipping industry in order to attract a higher calibre of young person to the industry and to ensure they have a recognisable qualification at the end of the course as well as the skills and certification the industry needs.

6. Priorities for action

Introduction

6.1 Throughout this labour market assessment we have sought to provide an overview of issues affecting the maritime sector and its constituent parts. In this section we present the key issues and areas for initial action by the Maritime Skills Alliance.

Common Themes

6.2 Our main finding is that the priorities for action identified in the individual industries' National Training Organisation Workforce Development Plans (WDP) are still relevant. The evidence provided here and the priorities identified in the WDP suggest that action in the sector needs to focus on seven areas.

1. Raising management skills

6.3 All the industries have identified a need to continue to raise the level of management skills in the workforce. A common need is the management of risk and health and safety requirements. There are slight differences in emphasis between industries in other areas:

- skippers in the fishing industry require greater business and financial management skills;
- ports managers need greater commercial awareness in terms of managing the port's assets;
- ship officers need skills to deal with increasing amount of information and to deal with the additional ship management functions that are moving onboard ship.

2. Engineering skills

6.4 As in a number of other sectors the maritime sector is concerned about the availability of engineers and has to compete with other sectors for a limited pool of new and experienced engineers. The ports' industry has difficulty recruiting and retaining engineers in particular locations depending on the local labour market, while the fishing industry finds it is not attractive to engineers who can get relatively well paid shore-based jobs.

3. Raise the sector's image and attract new entrants

6.5 The sector is not attracting the quantity or calibre of new entrants that it requires and this has long-term implications. In particular the sector needs to build on activities such as Sea Vision to:

- raise awareness of the sector and its career opportunities amongst young people;
- increase the attractiveness of the sector by ensuring there are attractive career paths that provide compatible qualifications that are viable alternatives to the general full-time education route and allow entrance to young people with different academic experiences.

4. Career progression

6.6 There is a need to ensure the sector provides the appropriate opportunities for career progression not only so that it attracts young people as we discuss above, but also so that it retains a workforce that can progress to more senior positions. New flexibility may be required to try and overcome career bottlenecks in particular parts of the sector. There is also a need to consider how the movement between parts of the maritime sector can be encouraged more easily.

6.7 Action in this area will need to have close involvement of both the Maritime and Coastguard Agency and employers.

5. Strengthening training provision

6.8 There is a need to strengthen the training and qualification provision throughout the sector, particularly in light of changes in government funding arrangements.

- the review of SFIA supported Group Training Associations provides an opportunity to strengthen the position of GTAs which are already highly regarded and may help them be better able to bid for regional funding;
- there is a need to ensure the ports sector gets its fair share of government funding. Current training activity is primarily in-house and there is not the training provider infra-structure to access government funding;
- across the sector there is need to ensure that the qualifications framework meets the needs of employers and individuals. This may mean looking at alternatives to N/SVQs.

6. Addressing language skills needs

6.9 It is essential that there is good communication between people working in often dangerous environments in the sector. With the increasing use of foreign nationals in the fishing and ports industries there is a danger that a lack of English language skills may create hazardous situations or reduce efficiency. There may be an increasing demand from employers and employees to provide ESOL courses to such workers.

7. Addressing the loss of maritime skills

6.10 Many of the previous actions will help to address the specific issues facing the sector of a loss of maritime skills. In addition the maritime sector and others sector's relying on ex-seafarers need to:

- consider whether some shore based roles can be undertaken by non ex-seafarers;
- consider whether some shore-based roles can be changed to require less seafaring experience;
- work in partnership with DfT and others to monitor the impact of the current policies and activities to revive the UK shipping industry on the supply of British seafarers.

Areas for Action

6.11 The Maritime Skills Alliance will use this report to inform the development of its first business plan. Initial recommendations for action based on this review and discussions with MSA members include:

- the development of a coherent qualifications framework for the sector with appropriate career paths within and between the various parts of the sector. This should be set out in the forthcoming Sector Qualifications Strategy;
- the development of a Maritime Studies Certificate to broaden the appeal of the sector to new entrants and provide a new route of entry;
- the development of a Maritime Foundation Degree to address some of the management skills issues as well as attracting a higher standard of new entrants to the industry;

- to review the delivery of training and qualifications within the sector and develop or broker new delivery frameworks where appropriate to meet future needs of the sector. For example the review of the GTA network may provide the opportunity for the ports sector to make links and use the network as a vehicle for accessing and delivering government funded training;

- to provide good practice to the sector in relation to the delivery of skills and training;

- the development of more effective regional and sub-regional working in the sector including further investigation of specific labour market and skills issues at regional and sub-regional level and greater linkages with regional and local funding agencies.