

HM Coastguard: Civil Maritime Search and Rescue



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Executive summary

Background

1 HM Coastguard once operated fixed watch posts along the coast, visually scanning the area for seafarers and coast users in difficulty. Since the late 1970s, HM Coastguard has closed such posts, increasing its reliance on others to raise the alarm, and instead concentrates on co-ordinating the response to incidents. It does so through 21 co-ordination centres along or near the United Kingdom coast, which provide a round the clock service monitoring international distress frequencies and answering “999” and other telephone calls. For every call or distress signal received, watch officers based in the co-ordination centres must quickly establish the facts; decide what response, if any, is needed; despatch and co-ordinate the several organisations, such as the Ministry of Defence and Royal National Lifeboat Institution, which might be involved in the operation; and monitor subsequent progress.

2 HM Coastguard discharges these monitoring and co-ordinating responsibilities for the whole of the UK Search and Rescue Region. This covers over 10,000 miles of coast line and extends 1,000 miles into the Atlantic. Since 1986, the number of reported incidents has more than doubled to around 11,300 in 1996, nearly two thirds of which occurred out to sea on board ships or boats with the remainder on or close to the shore. Over the same period, however, the number of lives lost has remained relatively constant at around 250 a year.

3 The purpose of this report is to examine the efficiency and effectiveness of the UK civil maritime search and rescue service, focusing primarily on the role of HM Coastguard. In 1996-97 this service cost the Exchequer £50 million. Of this, around £48 million was spent by HM Coastguard, which is funded by the Department of the Environment, Transport and the Regions. In addition, the Royal National Lifeboat Institution spent £59 million in providing lifeboats around the UK coast. Other costs are borne by other emergency services and local authorities. The service also relies heavily on volunteers working in lifeboats and the 3,100 auxiliaries working in HM Coastguard’s own coastal response teams.

- 4** This report considers whether HM Coastguard:
- ensures that the UK has an effective and efficient search and rescue capability which is ready to respond when and where needed; and
 - initiates and co-ordinates an effective and efficient response to requests for assistance once these are received.

Main findings

On search and rescue capability

Communications systems

5 HM Coastguard has progressively improved VHF radio coverage so that by 1997 it included 95 per cent of the UK coast out to 30 nautical miles. The quality of reception and transmissions are regularly checked; but technical inspections of equipment had not been occurring with the planned frequency. HM Coastguard has recently introduced revised arrangements lengthening the intervals between inspections. However, preventative maintenance is carried out, so equipment downtime is low.

Co-ordination centres

6 HM Coastguard's watch officers are held in high regard by the overwhelming majority of rescuers and members of local advisory committees, although there is scope for forging stronger links with port and harbour authorities. The workload of staff at co-ordination centres varies widely, however, and some centres deal with relatively few incidents in any one year. The number of centres could be reduced without adversely affecting search and rescue operations, and there would be positive benefits in allowing more flexible and effective use of staff. In November 1997, during our examination, the Minister for Aviation and Shipping announced a proposal, subject to consultation, to close four centres by the year 2000 and to co-locate two centres by 2002.

Rescue resources

7 The UK has access to a sufficient combination of coastal response teams, helicopters and lifeboats. Not all coastal response teams are up to their nominal total strength. Based on its local review of every incident, HM Coastguard believes that the shortfall has not impaired the teams' effectiveness although it has not carried out a formal national review of the situation since 1990. The training of

teams gives insufficient attention to the needs of individual volunteer auxiliaries; and formal inspections of their readiness are not carried out as frequently as required. The coverage currently provided from search and rescue helicopter bases overlap, and there may be scope for reducing the number of HM Coastguard helicopters and bases on the south coast while maintaining standards of coverage. However, the Ministry of Defence is currently reviewing its provision of helicopters, and HM Coastguard is contracted to current levels of provision until 2001.

Planning for major emergencies

8 Emergency plans are in place at co-ordination centres, but there is some good practice which should be more widely adopted, and some deficiencies to be remedied. In 1996-97, HM Coastguard reported that it had undertaken 21 major exercises, considerably more than the target of six. However, we found some uncertainty over the definition of a major exercise, and consequently the number reported as having been undertaken in 1996-97 has been overstated. Not all co-ordination centres are testing their plans with live exercises, and there is a demand from other agencies for more exercises, with better debriefings.

Measuring and reporting capability

9 HM Coastguard's current performance indicators provide an incomplete picture both of its own capability and the capability of the UK civil maritime search and rescue service as a whole. A more comprehensive set of indicators, as described in Appendix 2, is needed to ensure that the key aspects of capability are appropriately monitored.

Responding to requests for assistance

Effectiveness of search and rescue

10 There is a high level of satisfaction amongst rescuers with HM Coastguard's co-ordination of search and rescue operations, and the UK has fewer lives lost per thousand incidents than some comparable countries. But the effectiveness of civil maritime search and rescue is hard to judge because of deficiencies in HM Coastguard's compilation of data both on lives lost and on lives saved. Of lives which were lost, it is unclear what proportion could have been saved, because

deaths which occurred after HM Coastguard was notified are not recorded separately. Of those who were saved, it is unclear how many were in life threatening situations, and therefore at risk. HM Coastguard intends to address these deficiencies.

Answering calls for assistance

11 HM Coastguard believes that co-ordination centres answer all distress calls immediately but does not have the capability to monitor the speed with which calls are answered in most co-ordination centres. It is confident that all calls are handled in an appropriate and effective manner and has issued guidance on the handling of calls, although this could be enhanced further.

Timeliness of the rescue response

12 HM Coastguard sent rescue resources consistently quickly. Helicopters and lifeboats generally met response standards and targets. However, unavoidable geographical factors, such as distance to an incident, meant that helicopters and lifeboats could not always meet these standards, particularly in the north of Scotland. But 12 co-ordination centres did not meet the target of getting the first member of a coastal response team to an incident within 30 minutes in 90 per cent of cases in 1996.

The appropriateness of response

13 In the great majority of cases HM Coastguard sent the right number and type of rescue resources in response to incidents with, if anything, a slight bias towards sending too many rather than too few resources. But in 1996 around 40 per cent of requests for assistance were false alarms, three-quarters of which triggered the commitment of search and rescue resources. HM Coastguard has little information on the nature and causes of false alarms.

Monitoring and reporting response performance

14 HM Coastguard devotes considerable effort to reviewing the search and rescue response to each incident. However, there is a lack of formal guidance on how to review incidents, and there is scope to make reviews more effective at identifying lessons to be learned and good practice. HM Coastguard's response indicators and targets could be improved to provide a better picture of both its own

response performance and that of the UK civil maritime search and rescue service as a whole, as described in Appendix 2. In addition, the manner in which HM Coastguard measures some aspects of performance may lead to the overstatement of that performance, in particular:

- the scramble times of helicopters; and
- the arrival times of coastal response teams.

Main recommendations

15 This examination has found many strengths in HM Coastguard's performance. It has also identified scope for improvements in some areas, which HM Coastguard could address by the following measures.

- a) Monitor the frequency with which technical inspections are carried out, to ensure full compliance with the recently revised inspection regime for telecommunications equipment.
- b) If the proposed closure of four co-ordination centres and the co-location of two others goes ahead, review in due course its impact on: the workloads for each centre and for watch officers; flexibility in the use of staff; and the effectiveness of search and rescue co-ordination.
- c) Identify the coverage provided by coastal response teams; and monitor the proportion of teams which are not up to their full nominal strength, the number of incidents when teams are below operational strength, and the extent to which this impaired their effectiveness. If warranted, HM Coastguard should take steps to bolster the numbers of volunteer auxiliaries.
- d) Provide training for coastal response teams based on the acquisition and use of the requisite skills rather than a minimum number of hours training per year; and collect and monitor information on the percentage of teams which are fully trained.
- e) Once the results of the Ministry of Defence review are known, consider the scope for rationalising helicopter coverage along the south coast, so as to reach decisions in good time before the contracts for Portland and Solent come up for renewal in 2001.

- f)** Provide better guidance on emergency planning, based on the guidance and plans of other relevant agencies and best practice developed locally; and ensure that such guidance is complied with by co-ordination centres.
- g)** Analyse the causes of false alarms to assess whether action could be taken to reduce the number of false alarms where rescue resources are sent.
- h)** Provide reviewing officers with an aide-memoire along the lines of Figure 33, to improve consistency of review and to obtain better management information about the quality of work at co-ordination centres. Such improvements should permit a reduction in the number of reviews of each incident report.
- i)** Introduce an improved set of capability and response indicators and associated targets, to provide a more complete picture of both its own performance and the performance of the UK civil maritime search and rescue service as a whole, as described in Appendix 2.

Part 1: Background

Introduction

1.1 The Secretary of State for the Environment, Transport and the Regions is responsible, under international agreements, for ensuring that the United Kingdom maintains and operates an effective search and rescue service to deal with civil maritime emergencies on and around the coast of the UK. Such emergencies range from minor incidents, for example people stranded by incoming tides, to major incidents such as a fire on board a ferry.

1.2 The UK's responsibilities stretch across a large area, known as the UK Search and Rescue Region, comprising over 10,000 miles of coastline and extending 1,000 miles into the Atlantic (Figure 1). The boundaries of this region are based on those laid down by the International Civil Aviation Organisation for aeronautical search and rescue. To facilitate co-ordination with the UK's closest neighbours, the UK has also established Memoranda of Understanding with France, Denmark, Germany and Spain, covering arrangements for mutual assistance for search and rescue and major pollution incidents.

1.3 HM Coastguard, part of the Coastguard Agency, plays a major role in meeting the Secretary of State's obligations with respect to civil maritime search and rescue. HM Coastguard is responsible for:

- the initiation and co-ordination of search and rescue operations;
- providing some of the facilities used in search and rescue operations, and organising volunteer coastal response teams who work alongside the many other organisations involved, such as lifeboat crews and other emergency services; and
- co-ordinating the response to major maritime or coastal emergencies.

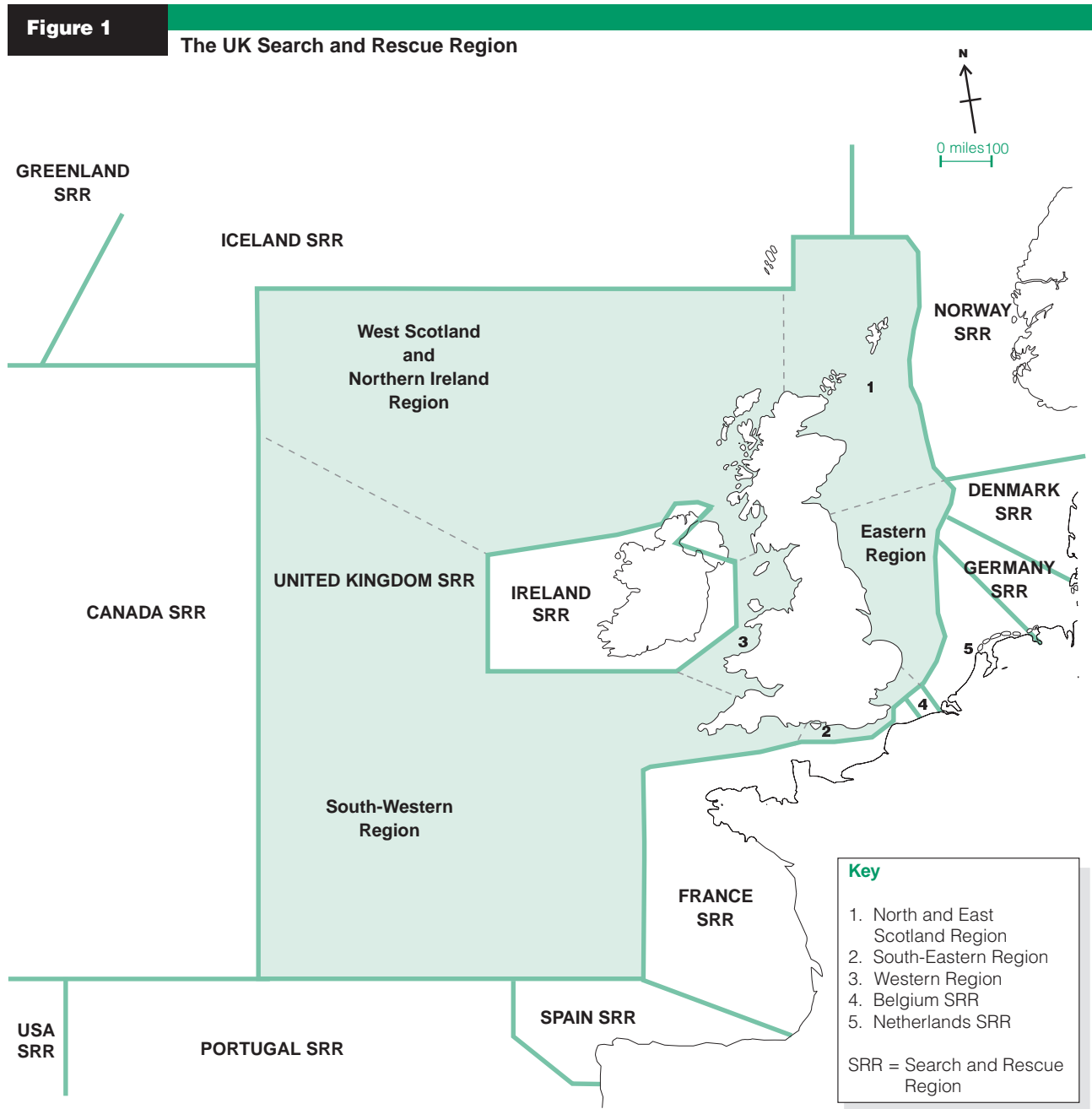
1.4 The Coastguard Agency is an executive agency of the Department of the Environment, Transport and the Regions. As well as HM Coastguard, the Agency also includes the Marine Pollution Control Unit, which is responsible for dealing with major spillages of oil and other hazardous substances at sea (Figure 2). In April 1998, the Agency will merge with the Marine Safety Agency, which inspects safety standards on commercial vessels. The Department expects that the combined agency will provide better safety and environmental protection at sea, and more effective support to seafarers and coast users. Throughout the rest of the report, the term “HM Coastguard” includes the senior management of the Coastguard Agency who manage the coastguard service.

1.5 In 1971 the then Secretary of State established the UK Search and Rescue Committee to report to him on a continuing basis on maritime search and rescue arrangements. This Committee, chaired by the Chief Executive of the Coastguard Agency, comprises representatives from the various organisations involved in or concerned with maritime search and rescue. The Committee is supported by similarly constituted local advisory committees which liaise with HM Coastguard in each area. In England, Wales and Northern Ireland, they are called local Search and Rescue Committees. In Scotland, local search and rescue matters are raised in Joint Emergency Committees, which are broadly based forums for discussing all matters dealing with emergency planning. Throughout the UK, these committees are particularly tasked with ensuring the proper co-ordination of planning for major maritime and coastal emergencies.

1.6 Since the creation of the Coastguard Agency, the Secretary of State has also been advised by a departmental Advisory Board, which includes representatives from the Department, HM Coastguard and the private sector. The Board, which is appointed by the Secretary of State, provides advice on HM Coastguard’s corporate and business plans and on HM Coastguard’s performance against its objectives and targets.

The main features of maritime search and rescue

1.7 HM Coastguard once operated watch posts along the coast, visually scanning the area for seafarers and coast users in difficulty. Since the late 1970s, HM Coastguard has closed such posts, increasing its reliance on others to raise the alarm and instead concentrates on co-ordinating the response to incidents. It does so through 21 co-ordination centres along or near the UK coast, comprising five Maritime Rescue Co-ordination Centres at which Regional Offices are co-located, and 16 Maritime Rescue Sub Centres. Both types of centre provide a round the clock service, monitoring international distress frequencies and



Note: 1. In April 1997, South-Eastern and South-Western Regions were merged to form a new Southern Region.

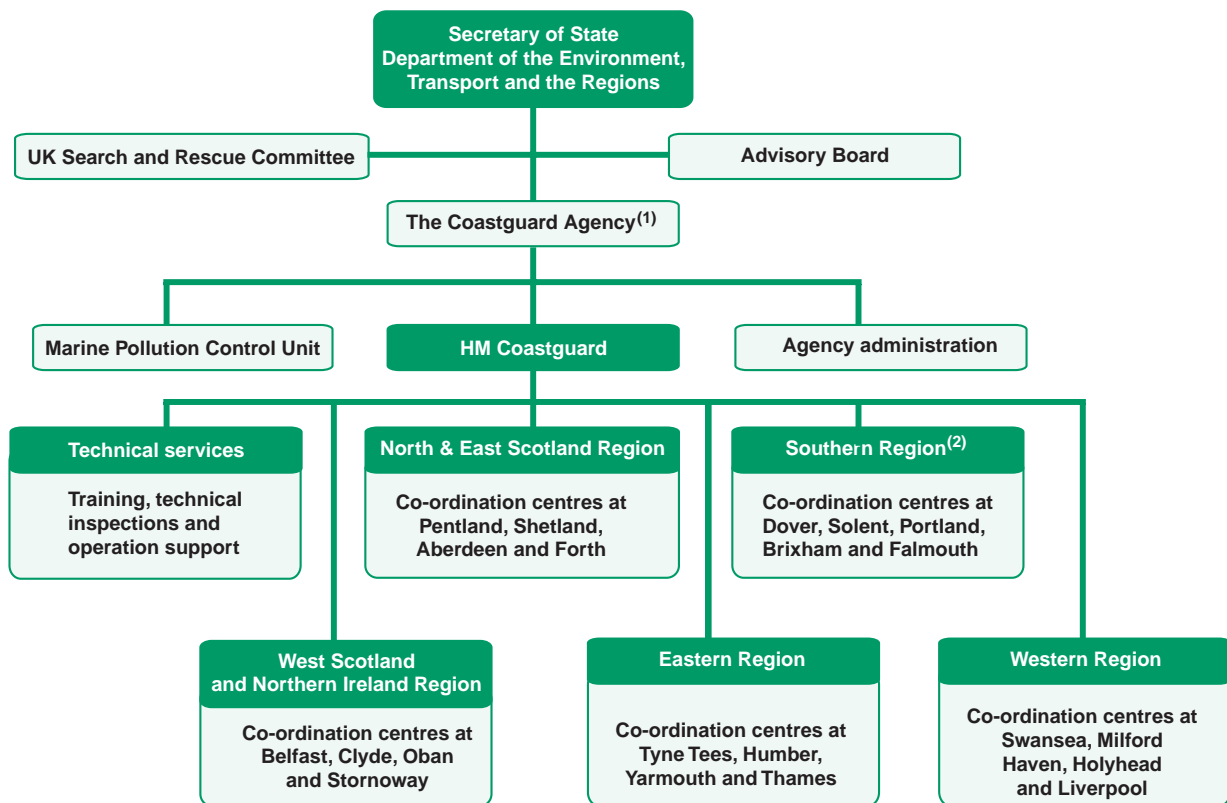
Source: The Coastguard Agency

The UK Search and Rescue Region extends from the middle of the North Sea to 1,000 miles into the Atlantic.

answering “999” and other telephone calls. For every call or distress signal received, watch officers based in the co-ordination centres must quickly establish the facts; decide what response, if any, is needed; despatch and co-ordinate the several organisations which might be involved in the operation; and monitor subsequent progress (Figure 3). In the past, watch officers were recruited mainly from the Royal and merchant navies and the Royal Air Force. More recently, watch officers have been drawn from other emergency services and watch assistants

Figure 2

Organisation of the UK coastguard service, since April 1997



Notes: 1. The Coastguard Agency will merge with the Marine Safety Agency in April 1998.

2. Southern Region was formed in April 1997 by amalgamating the former South-Eastern and South-Western Regions.

Source: National Audit Office

In the UK, HM Coastguard, part of the Coastguard Agency, is responsible for the co-ordination of civil maritime search and rescue. HM Coastguard has five regions and an administrative headquarters.

(see paragraph 1.17) from a wider range of backgrounds, including people who have taken early retirement, secretaries, school and college leavers, housewives returning to work, local government officers: HM Coastguard provides them with the necessary training and maritime experience.

1.8 In co-ordinating the response to an incident, HM Coastguard can call on a variety of rescue resources (Figure 4). It may call on its own search and rescue helicopters provided, flown and maintained by Bristow Helicopters Limited (Bristow), a provider of helicopter services throughout the UK and worldwide. HM Coastguard can also call on the 3,100 volunteers in coastal response teams, whose role is to provide an initial assessment of search and rescue needs and carry out cliff and shoreline rescues where necessary. In addition, HM Coastguard can also call on resources made available by other organisations, which have declared equipment and personnel which meet agreed standards set out in Memoranda of Understanding. The main ones are the lifeboats owned and operated by the Royal National Lifeboat Institution, and helicopters from the Royal Air Force and Royal Navy. Other declared assets include other Royal Air Force aircraft; fire-fighters trained and made available by fire brigades for fighting fires at sea; and other local rescue resources, mainly lifeguard teams and other rescue boats provided by voluntary organisations, usually in inshore waters and areas of high maritime activity such as the Solent.

1.9 Furthermore, if necessary, HM Coastguard can call on other resources which may be in the vicinity of an incident, such as passing vessels; helicopters of the offshore oil and gas operators; facilities of foreign search and rescue agencies; and vessels under the control of authorities such as lighthouse and pilotage bodies, HM Customs and Excise and the police. Case 1 illustrates a typical incident.

1.10 Civil maritime search and rescue is unique amongst the UK emergency services in the extent of its reliance upon volunteers. Volunteers are called upon in a significant proportion of search and rescue incidents, and are often the first on the scene dealing with members of the public in distress. Coastal response teams, the Royal National Lifeboat Institution, other voluntary rescue boats and lifeguard teams all rely to a great extent on the skill and dedication of volunteers.

1.11 In 1996, HM Coastguard handled over 11,000 reported incidents, nearly two thirds of which occurred out to sea on board ships or boats, with the rest on or close to the shore (Figure 5). Two thirds of all incidents at sea involved yachts, power boats, dinghies or other leisure craft, and nearly half of all incidents at sea were caused by equipment failure. Medical evacuations represent the largest

Figure 3

Getting assistance to an incident



Stage 1: Start

Any person can contact HM Coastguard by radio, using Medium Wave frequencies 500 kHz and 2182 kHz and VHF Channel 16, by telephone dialling "999" and asking for the Coastguard, or by calling a co-ordination centre direct.



Stage 2: Evaluation of appropriate response

Every caller will be put through to a watch officer at a co-ordination centre. The watch officer will ask a number of questions to decide what, if any, assistance should be sent and enter the essential details on to a computer.



Stage 3: Search and rescue response

If the watch officer considers it appropriate, he or she will alert the rescuers and send them to the incident. Rescuers include helicopters, lifeboats and coastal response teams.



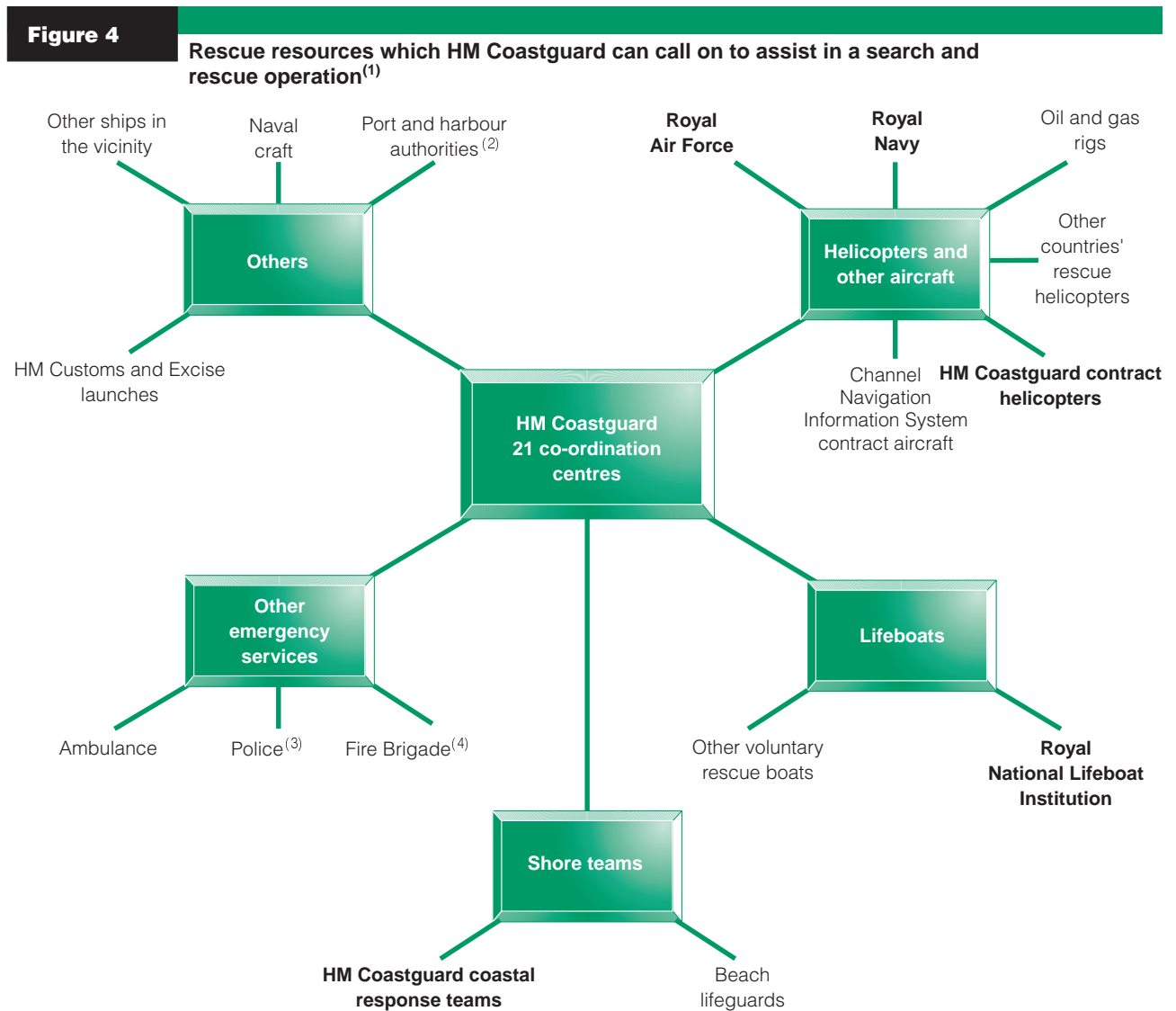
Stage 4: Completion

Often more than one resource will be needed. For instance, it may not be possible to winch a casualty direct from a yacht, so a lifeboat may be needed. The watch officer will monitor progress and keep in touch with all parties concerned.

Source: National Audit Office: Photograph 1, P&O European Ferries; Photograph 2, The Coastguard Agency; Photograph 3, Royal National Lifeboat Institution; and Photograph 4, Ministry of Defence

There are four key stages to organising the response to an incident.

number of incidents on the coast, for example after an injury caused by falling down a cliff. In remoter areas, they also include the emergency and occasional



- Notes:
1. Resources in bold represent the main resources used by HM Coastguard.
 2. Port and harbour authorities may provide ships, high speed launches and the use of their radar.
 3. In addition to its uniformed officers, the police may also provide helicopters and launches for searches.
 4. The Fire Brigades have trained teams to fight fires on board ships.

Source: National Audit Office

HM Coastguard can call on a variety of resources to assist in a search and rescue operation.

non-emergency transport of patients to or between hospitals at the request and expense of a health authority. In such cases the health authority concerned bears the costs of using a HM Coastguard helicopter, as it does when using a Ministry of Defence helicopter.

The cost of maritime search and rescue activity

1.12 In 1996-97, civil maritime search and rescue cost the Exchequer around £50 million (Figure 6). Of this, £48 million was spent by HM Coastguard on search and rescue activities, administration and safety promotion. The Ministry of Defence estimates that the use of Royal Air Force and Royal Navy helicopters for civil maritime search and rescue cost around £2 million in 1996-97 (£1.3 million relating to the Royal Air Force and £0.7 million to the Royal Navy). This represents the additional cost of using existing military helicopters and facilities for civil maritime search and rescue. In addition to these Exchequer costs, the Royal National Lifeboat Institution spent some £59 million on providing lifeboats around

Case 1

The French Coastguard informed Falmouth Coastguard that an electronic distress beacon alert had been picked up from a French yacht some 120 miles off Lands End. Falmouth Coastguard took control of the operation. An Irish helicopter was the nearest to the incident and, with the approval of the Irish authorities, was scrambled. An RAF Nimrod was in the area and provided back up cover for the helicopter. The helicopter winched the two crewmen to safety and a French fishing vessel took the waterlogged yacht in tow.

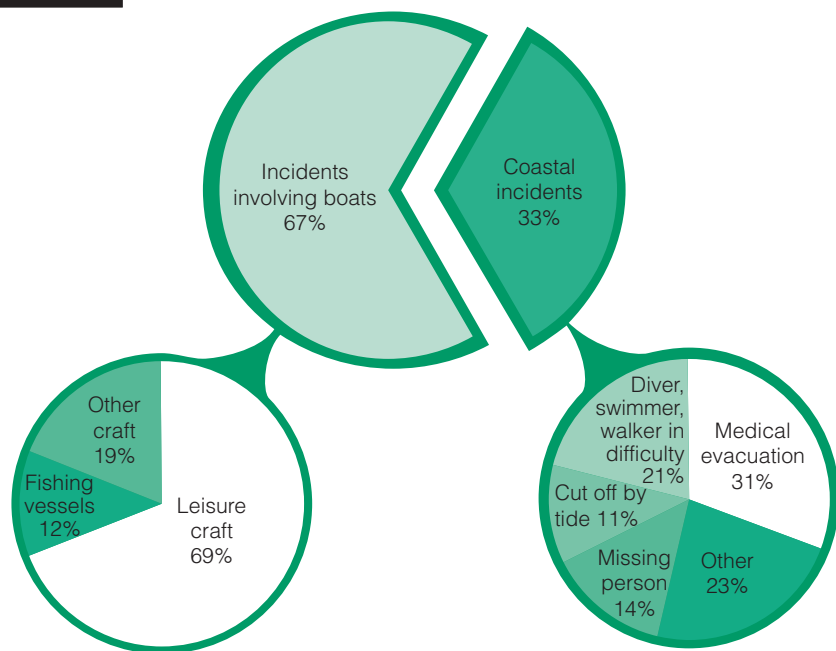
the UK coast, and there were also smaller but unquantified costs borne by other local public and voluntary services.

1.13 HM Coastguard is an internationally respected leader in the co-ordination of maritime search and rescue, and a source of advice and guidance for many nations. In 1996-97, it earned £83,000 from the provision of international training and is currently exploring the feasibility of generating additional income from this source. The Department is now considering ways in which HM Coastguard's financial regime might be amended to give it flexibility to respond to additional demand for training which arises within the financial year, so long as it recovers its costs.

1.14 The costs incurred by these other public and voluntary rescue agencies are not passed on to HM Coastguard, except for some £1.3 million which HM Coastguard paid the Royal Navy for helicopter sorties between 5pm and 8.30am, and all day Saturday, Sunday and public holidays. This charge reflects the

Types of incidents in 1996

Figure 5



In 1996, two thirds of all incidents happened at sea, with the remaining third on or around the coast. Most incidents at sea involved leisure craft, whilst medical evacuations were the main reason for HM Coastguard action on the coast.

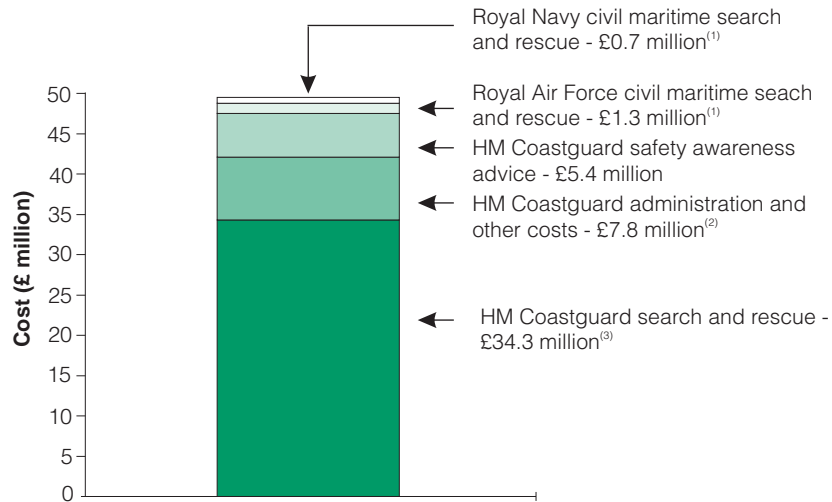
Source: National Audit Office

fact that Royal Navy helicopters do not have a designated search and rescue function for military purposes, and are not used by the Navy at night, at weekends or on public holidays unless required for civil maritime search and rescue, when any use is charged on a full cost basis. In contrast, Royal Air Force helicopters called on by HM Coastguard have a designated 24 hour military search and rescue function. No charge is therefore made for their availability for civil maritime search and rescue purposes. The basis of charging is acknowledged to be inconsistent and is under review by the Ministry of Defence, in consultation with the Treasury and the civil departments.

1.15 Of the total cost of £48 million incurred by HM Coastguard in 1996-97, the provision of co-ordination centres, radio aerials, watch officers, information technology, vehicles and administration cost £42.1 million. An estimated £5.6 million was spent on the provision of safety awareness advice. On a national

The Exchequer costs of civil maritime search and rescue in 1996-97

Figure 6



- Notes:
1. This represents the additional cost of using existing military helicopters and facilities for civil maritime search and rescue.
 2. Includes costs for the Channel Navigation Information System and other costs, such as training, property, information technology and vehicles, which are incurred by both search and rescue and safety promotion and cannot be readily apportioned between them.
 3. Includes £1.3 million paid to the Royal Navy for helicopter flights between 5pm and 8.30am, and all day Saturday, Sunday and public holidays.

Source: National Audit Office

In 1996-97, civil maritime search and rescue cost the Exchequer £50 million.

level, this involved providing material for schools on accident prevention and the role of HM Coastguard, liaison with the gas, oil, ferry and diving industries and participation in the work and campaigns co-ordinated by the Sea Safety Liaison Working Group which includes representatives of all the major bodies involved in sea safety. Most safety awareness work, however, takes place on the coast, with locally based HM Coastguard officers organising campaigns on local safety issues.

1.16 The cost of the HM Coastguard’s search and rescue activity is determined by the need to have sufficient co-ordination centres to maintain a 24 hour watch around the whole of the UK coast, with enough officers and rescue resources readily available to ensure that it can respond appropriately to any incident, at any time, anywhere in the UK Search and Rescue Region. As a result, HM Coastguard has the capacity to handle many more incidents than it actually receives each year. Between 1986 and 1996 the number of reported incidents has doubled. But HM Coastguard has reduced the number of co-ordination centres and watch officers without having an impact on the number of lives lost, which has remained

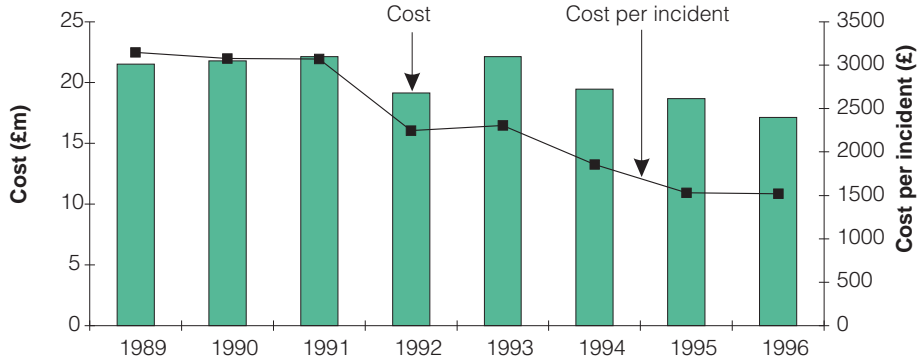
relatively constant at around 250 a year. There has been a decrease of 52 per cent in real terms in HM Coastguard's cost of handling each incident and an increase of 105 per cent in the number of reported incidents handled by each watch officer (Figure 7).

1.17 *Focus for Change*, a detailed internal review of HM Coastguard's structure and staffing, was approved by Ministers and published in March 1996. This review sought to achieve a better match between staff and workload, which varies considerably between co-ordination centres, by time of day and from month to month. The recommendations of the review are being phased in over the two years up to March 1998. Prior to the review, full time watch officers were augmented by the use of volunteer auxiliaries in co-ordination centres' operations rooms. As a result of the review, HM Coastguard has recruited 200 new full time watch assistants, replacing the use of these auxiliaries. These watch assistants are expected to monitor and handle distress calls under the supervision of more senior watch officers. The additional cost has been offset by a reduction of 66 existing officers; a decrease in the need for overtime working; a reduction in the total amount paid to auxiliaries; and the merger of two regions.

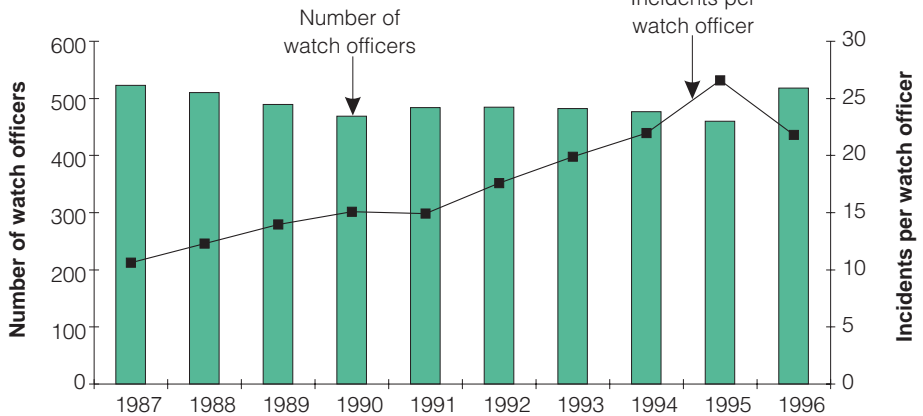
Cost and number of watch officers per incident

Figure 7

A) Cost of HM Coastguard search and rescue⁽¹⁾



B) Number of watch officers⁽²⁾



Notes: 1. Cost is stated in real terms, using the GDP deflator; and is shown for financial years.

2. Prior to 1996, watch officer numbers were augmented by volunteer auxiliaries and overtime worked by full time watch staff. Whilst auxiliaries are no longer used as watch officers, and the number of full time watch officers has been reduced, the total number of watch officers increased in 1996 because of the recruitment of 200 watch assistants.

Since 1987, the cost per incident has halved and the number of incidents per watch officer has doubled, representing a significant increase in efficiency.

Source: National Audit Office

The National Audit Office review: scope, issues and methods

1.18 The National Audit Office examined the efficiency and effectiveness of the UK's civil maritime search and rescue service, focusing primarily on the role of HM Coastguard. In particular, the study examined whether HM Coastguard:

- ensures that the UK has an effective and efficient search and rescue capability which is ready to respond when and where needed; and
- initiates and co-ordinates an effective and efficient response to requests for assistance once these are received.

1.19 The examination included a visit and review of records at one co-ordination centre from each of HM Coastguard's six regions (which became five regions in April 1997); a review of the responses to 60 rescue incidents at each centre; a survey of Royal Air Force and Royal Navy helicopter captains involved in search and rescue operations, and the honorary secretaries of lifeboats and the auxiliaries in charge of coastal response teams; a survey of members of local advisory committees; consultation with key organisations involved in maritime search and rescue; comparisons with other national coastguard agencies; and an analysis of HM Coastguard's computerised incident data base. To provide a comprehensive view of the service, the National Audit Office also examined HM Coastguard's information on the capability and performance of the rescue resources provided by other organisations. Figure 8 details the key questions addressed by the review. The methodology is described more fully in Appendix 1.

1.20 The National Audit Office engaged a senior retired HM Coastguard officer to assist with the study and to review the responses to incidents at each co-ordination centre. The study was advised by a panel of experts drawn from key organisations involved in civil maritime search and rescue (Figure 9).

Figure 8**The issues and questions addressed by the National Audit Office**

Issue	Key questions	Report paragraphs
<i>Whether HM Coastguard ensures that the UK has an effective and efficient search and rescue capability.</i>	On the adequacy of communication systems:	
	■ Do HM Coastguard's radio systems provide adequate coverage in all formats?	2.4 - 2.9
	■ Is radio equipment functioning 24 hours a day all year round?	2.10 - 2.13
	■ Are telephone systems functioning adequately?	2.14
	On the operation of co-ordination centres:	
	■ Does the UK have the right number of co-ordination centres?	2.15 - 2.21
	Are rescuers and local advisory committee members satisfied with the co-ordination centres?	2.22 - 2.24
	■ Are co-ordination centres adequately prepared to co-ordinate incidents?	2.25 - 2.27
	On rescue resources:	
	■ Are coastal response teams appropriately located, staffed and trained?	2.28 - 2.34
	■ Are HM Coastguard's vehicles fully available and efficiently managed?	2.35 - 2.37
	Do helicopters provide adequate coverage and are they kept at an appropriate level of readiness?	2.38 - 2.43
	Do lifeboats provide adequate coverage and are they kept at an appropriate level of readiness?	2.44 - 2.45
How well does HM Coastguard plan for major maritime or coastal emergencies?	2.46 - 2.50	
Are the key performance indicators used to measure capability appropriate and accurate?	2.51	
<i>Whether HM Coastguard initiates and co-ordinates an effective and efficient response to requests for assistance.</i>	On overall effectiveness:	
	How effective is the UK's search and rescue organisation in terms of lives saved and lives lost?	3.2 - 3.6
	How satisfied are rescuers with the effectiveness of HM Coastguard's co-ordination of incidents?	3.7
	On answering calls for assistance:	
	■ Are calls to HM Coastguard answered quickly?	3.8
	■ Are calls to HM Coastguard handled effectively?	3.9 - 3.11
	On the speed of response:	
	■ Do rescue resources arrive quickly?	3.12 - 3.13
	■ Does HM Coastguard task rescuers quickly?	3.14 - 3.16
	■ Do helicopters scramble and arrive at incidents within operational standards and targets?	3.17 - 3.21
	■ Do lifeboats arrive at incidents within operational standards?	3.22 - 3.23
	■ Do coastal response teams arrive at incidents within the target time?	3.24 - 3.26
	Does HM Coastguard send the right type and number of rescue resources to different incidents?	3.27 - 3.31
	On monitoring and reporting performance:	
	■ Are incidents properly reviewed to identify lessons to be learnt and points of good practice?	3.32 - 3.35
	How effectively does HM Coastguard measure and report on its own performance and the performance of the UK search and rescue service as a whole?	3.36

Source: National Audit Office

The National Audit Office addressed two main issues and a number of subsidiary questions.

Members of the expert panel advising the National Audit Office

Figure 9

Name	Organisation	Expertise or interest
Andrew Bates	Ministry of Defence	Military search and rescue helicopters
Capt James Davenport	Chamber of Shipping	The commercial maritime industry in general and UK ferries in particular
Malcolm Ellis	Royal Society for the Prevention of Accidents	Prevention of accidents on beaches and cliffs
Derek Reeves	Regional Controller, HM Coastguard (retired)	Retired senior coastguard
Robin Sjoberg	Royal Yachting Association	Safety of pleasure craft
Michael Vlasto	Royal National Lifeboat Institution	Lifeboats and lifeboat crews

Source: National Audit Office

The National Audit Office was advised by members of six key organisations with an interest in maritime search and rescue.