
# National Coastwatch Institution

# Prawle Point

# WATCHKEEPER'S HANDBOOK

# TWELFTH EDITION

**Including all updates since 1st September 2024**

**This update issued on 18 September 2025**

Edited by Richard Cropper

Please report all errors and omissions to the editor.

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# National Coastwatch Institution

# Prawle Point

# WATCHKEEPER'S HANDBOOK

## Contents

# Foreword

This edition of Prawle Point NCI's Watchkeeper's Handbook (WKH) incorporates all the latest updates and changes. The handbook is PQ's reference manual for both qualified and trainee watchkeepers.

Our core role – 'eyes along the coast' – doesn't change. Watchkeeping is however constantly evolving and the WKH is key to keeping yourself up to date.

### Maintenance and updating.

You can access up to date copies of the WKH in two ways:

1. Two fully updated copies are kept at the lookout.
2. Download it from the station's website 'on demand' via the watchkeeper's login.

### Change Management.

Significant changes to this edition will be summarised on the following page of the Lookout and website copies of this Handbook. You will be told about major changes via the Notice Book, the Bulletin or directly by email if appropriate.

### Online Version

When viewing on a screen, cross references and page references are generally hyperlinked (like a link on a web page) but the index at the end of the Handbook is not. Click on the words, "Watchkeeper's Handbook' at the foot of any page to return to the Contents page.

As always, comments and suggestions for improvement are welcome.

Thank you, Richard Povall for printing this edition.

Richard Cropper

Station Manager
10 September 2025

# Changes from the September 2024 edition

| Sep 2024 page no. | Current page no. | Change |
|---|---|---|
| 1:2 | 1:2 | A new paragraph 1.3 explains NCI's management structure. The former paragraph on PQ's organisation becomes 1.4 and subsequent paragraph numbers are adjusted accordingly. The newly numbered paragraph 1.4 has been expanded slightly. |
| 1:3 | 1:4 | Para 1.7.1 now includes reference to the refresher quiz |
| 1:4 | 1:5 | Reference is now made to PQ's Station Operating Manual and to the requirement to keep up to date with the H & S Manual and initial the checklist each year |
| 1:5 | 1:6 | Urgent notices from NCI may be forwarded to watchkeepers |
| 1:8 | 1:9 | Website references updated where necessary to refer to the NCI intranet. The NCI Station Manual is now known as the NCI Manual. |
| 1:8 | 1:10 | Paragraph on recruitment of watchkeepers updated |
| 2:5 | 2:5 | The key safe is on the East door not by it (Para 2.4.2(5)).<br>The West door to be opened at commencement of the morning watch as well as the East and Visitor Centre doors (Para 2.4.4(1)) |
| 2:5, 2:7 & 2:9 | 2:5, 2:7 & 2:9 | When logging on and off with the Coastguard we should offer our current weather conditions. |
| 2:10 | 2:10 | Method of sending accident reports corrected (Para 2.5.3). Para 2.5.6 deleted. |
| 2:20 | 2:20 | Instructions for closing the watch due to hazardous conditions updated |
| 3:1-3:26 | 3:1 | Chapter 3 on Activities and Incidents has been substantially reworded and unnecessary detail deleted |
| 4:4 | 4:4 | Paragraph 4(10) removed as unnecessary<br>The procedure for reporting suspicious or criminal activity has changed. Note added that report of a crime in progress could result in a requirement to testify in court. |
| 4:7 | 4:7 | Guidance on reporting unlawful trawling updated |
| 4:7 | 4:8 | 2025 South Devon Potting Agreement Chart now shown |
| 4:9 | 4:10 | No need to scan the logbook in the case of live dolphin etc sightings reported to Brixham Sea Watch. |
| 4:10 | 4:11 | Example (3) in para 4.16 has been deleted. Suspicious activity in the approaches to the Harbour would be reported to the Crimestoppers, not the Harbourmaster. |
| 5:10 | 5:10 | SARTS graphics updated |

| | | |
|---|---|---|
| 6:3 | 6:3 | Give priority to logging vessels without AIS, ignoring those with in busy periods. |
| 6:4 | 6:4 | Paddleboards added as vulnerable craft |
| 6:5 | 6:5 | No need to record the MMSI number as well as the vessel's name unless there is some confusion as to the latter. |
| 6:8 | 6:9 | A photo of a dory has been added |
| 6:13 | 6:14 | Paragraph 6.11 now contains information about the Vessel Search spreadsheet. The paragraph on the Watch Summary is now numbered 6.12 |
| 7:20 | 7:20 | The text in the spring and neap tides graphics has been corrected |
| 7:23 | 7:23 | The wording on the introduction to 'Positions on Land' has been updated |
| 7:24 | 7:24 | The hook is above the radar, not by it (Para 7.23.2) |
| 8:12 | 8:12 | No mention is now made of PQ Weather regarding the barometric pressure tendency as it is no longer displayed there. |
| 9:6 | 9:6 | Some Proword definitions have been changed |
| 9:16 | 9:16 | The handheld radio to be placed in front of the console at the end of that day, not on the floor |
| 3:21 | 9:16 | The explanation of Call Connect t has been simplified and moved here from Chapter 3 |
| 10:1 | 10:1 | The whole of Chapter 10 has been updated as the new radar computer does not have a touch screen. |
| 10:5 - 10.6 | 10:5 | Most of the content regarding the right-hand radar panel has been removed. Gain and rain and seas filters are to be left in automatic mode. |
| 10:9 | 10:9 | Instructions for ensuring that the radar is working have been updated |
| 10:10 | 10:6 & 10:10 | The steps to take if an error message appears when trying to mark a position on the radar |
| 11:3 | 11:3 | Telescopes. The instructions have been updated to remove references to the cases that are no longer used. No mention is now made of how to mount the Swarovski telescope or of the back-up Leica telescope at all. The guidance on locating objects has been amended to cover whether or not the telescopes have sighting stalks fitted |
| 11:4 | 11:4 | Do not fold back the eye caps of the binoculars |
| 11:10 - 11:12 | 11:8 - 11:12 | The instructions for scanning and sending off reports have been clarified and the screenshots updated |
| 11:13 | 11:12 | The troubleshooting instructions for the webcams have been updated and the photograph replaced |
| 11:9 & 11:19 | 11:8 & 11:19 | The instructions as to what to do in the event of a power failure have been revised. Falmouth Coastguard should be advised of a power cut and of our mobile number. The instructions are now all in one place on page 11:19 |

| | | |
|---|---|---|
| 11:9 | 11:8 | Instructions for rebooting the AIS receiver updated |
| 11:13 | 11:12 | Instructions if the printer fails to connect updated |
| 11:16 | 11:15 | Contents of holder on door of left-hand door of secure cupboard added |
| 11:17 | 11:16 | Please take home washable rags after use and launder and return them |
| 11:19 | 11:18 | The paragraphs on the Power Supply have been updated and photographs added |
| 11:19 | 11:20 | The last paragraph has been amended to state that if the Facilities Manager cannot be contacted, serious defects requiring urgent attention should be reported to the Station Manager or a DSM |

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# 1 Organisation

## 1.1 The National Coastwatch Institution (NCI)

The NCI was formed in 1994 after two Cornish fishermen lost their lives within sight of the recently closed Coastguard Lookout at Bass Point. A group of concerned local people decided that restoring a visual watch along the coast would make a significant contribution to marine safety.

They formed a new charity - NCI - and set about restoring and equipping the redundant Lookout. The opening of other stations quickly followed and now there are around sixty operational stations around the UK coast. For more information about NCI and its stations visit www.nci.org.uk.

Figure 1-1 NCI logo

In 2016 the charity was re-established as a Charitable Incorporated Organisation (CIO). This gave NCI a legal entity for the first time and offers better protection to its trustees and officers.

HRH The Princess Royal and Dame Katherine Grainger are patrons of NCI.

NCI's prime role is to support Search and Rescue by providing a visual (and radio, radar / AIS) watch on the parts of the coast covered by our Lookouts.

## 1.2 History of NCI Prawle Point (PQ)

Plans to restore, refurbish and equip the abandoned lookout at Prawle Point were initiated by a group of local people in May 1997, and in April of the following year a team of some thirty watchkeepers began their duties keeping the Lookout open during daylight hours. All funds for the project were raised locally and the station continues to rely on the generosity of local people.

All NCI stations work closely with the Coastguard and in 2000 Prawle Point achieved Declared Facility Status (see paragraph 1.5 *Declared Facility Status*) after assessment by Brixham Coastguard. A year later, following an appeal that raised £50,000 including a handsome donation of £30,000 from Sir Donald Gosling, the Lookout was partially rebuilt and completely refurbished. Today, a fully trained team of about sixty volunteers turn out in all weather conditions to keep the station open 365 days a year.

The Queen's Award for Voluntary Service
*The MBE for volunteer groups*

Figure 1-2 QAVS

In 2010 the former generator room next to the Lookout was converted into a Visitor Centre with the help of a National Lottery grant.

In 2012 the station gained the Queen's Award for Voluntary Service and its chairman at the time, Jon Gifford was awarded the OBE for his work with NCI and for many years thereafter he was president of NCI.

As far as we know, 'PQ', our common abbreviation for 'Prawle Point', was the original code allocated to the Lookout in its early days.

## 1.3 NCI's management structure

NCI has a Board of Trustees responsible for strategic decisions, oversight and governance in line with Charity Commission rules and guidance. Trustees are elected by stations at the charity's AGMs.

Day to day management of the charity's affairs is delegated by the Board of Trustees to its Management Executive.

Each station has regional trustee who keep an eye on the stations in their region and is the route for station managers to contact the Board of Trustees.

Sector managers are appointed by the Board of Trustees and manage small groups of around half a dozen stations. Station managers attend monthly online sector meetings where news from 'Liskeard' is passed down and matters of mutual concern discussed.

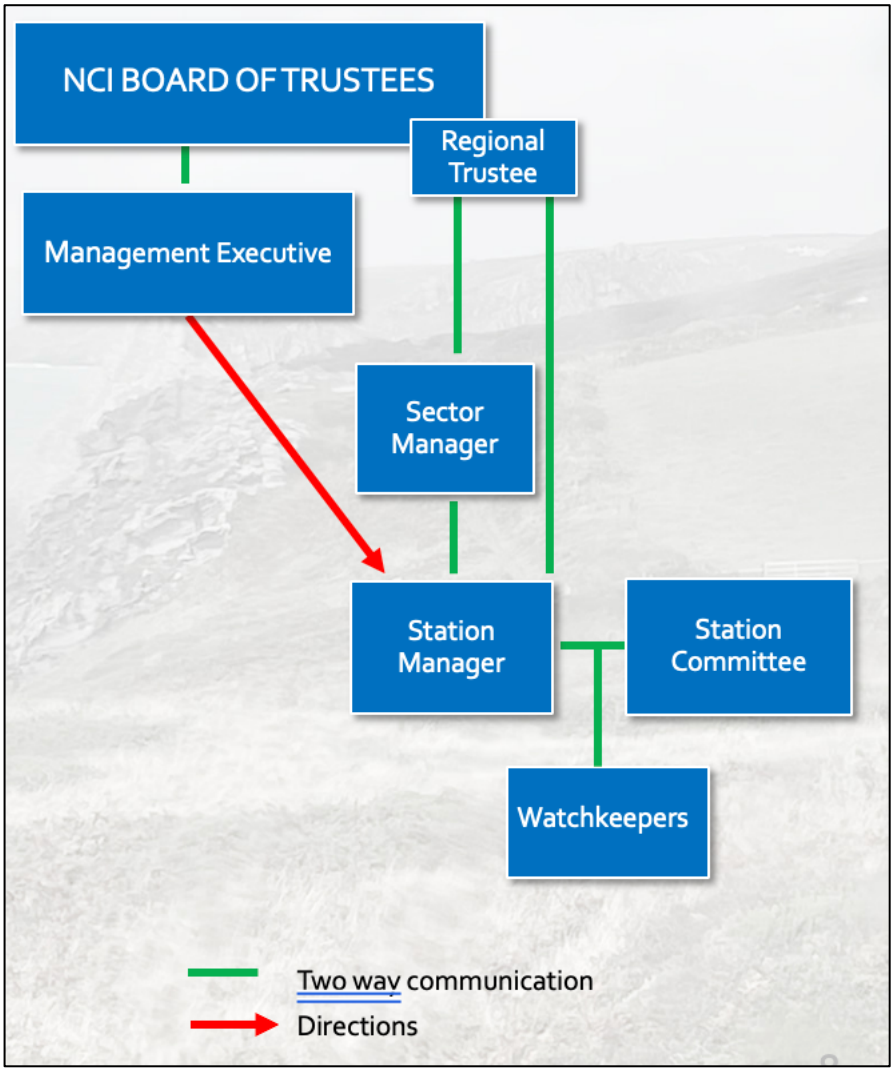



Figure 1-3 NCI management structure

NCI has a small office in Liskeard but you will also hear "Liskeard" as shorthand for the Board of Trustees and Management Executive.

## 1.4 PQ organisation and management committee

Prawle Point NCI is run by a management committee comprising the Station Manager, Station Secretary, Station Treasurer and other elected or co-opted members; it meets on the first Wednesday of each month.

Station officers and committee members are elected by the station's watchkeepers at the station's AGM each November. The Station Manager is elected for a term of three years; other officers and members committee members are elected annually.

The composition of the committee is to be found in the Station Operating Manual. This also contains a list of all watchkeepers who have a specific role within the station.

The station operates within guidelines and standards set by NCI. These are set out in the NCI Manual (see paragraph 1.14 *The NCI Manual* on page 1:9). Each station has significant autonomy in the way it operates as long as it adheres to key standards.

Minutes of the committee meetings are filed in the secure cupboard in the kitchen and emailed to watchkeepers. They are working documents whose primary purpose is to assist the committee by summarising agreed decisions and actions. They do not repeat the contents of written reports and other papers circulated to committee members or the discussions thereon. Electronic copies of those reports and papers are available from the Station Secretary on request but may be wholly or partially redacted for reason of confidentiality. The Station Manager's decision is final in this respect.

#### *1.4.1 Station Committee email addresses*

Station committee members have special NCI email addresses. This is to comply with GDPR (see paragraph 1.15 *General Data Protection Regulation (GDPR)* on page 1:10) and to provide continuity.

To find a watchkeeper's private email address, you will need to search the directory in Dutyman (see paragraph 1.12 *Rostering - Dutyman* on page 1:7).

## 1.5 Declared Facility Status

PQ, like most NCI stations, has achieved Declared Facility Status (DFS).

This means that PQ is fully recognised by HM Coastguard as a Search and Rescue (SAR) Asset and that PQ has declared it will maintain a visual, radio, radar and AIS watch on its defined sector during specified daylight hours. It is the standard to which all NCI stations must aspire once they have been operational for at least two years.

Having been awarded DFS status in 2000, PQ is inspected once a year by a member of the national DFS Assessment/Liaison Team.

The inspection, known as the Annual Review, is of the whole station not of individual watchkeepers. Nevertheless, during the review selected watchkeepers will be questioned to establish basic competency. This helps ensure that PQ meets the required standards.

After logging on, the Coastguard assumes that we are operational as declared in our DFS unless we tell them to the contrary (i.e. log off). See also paragraph 2.1 *Introduction* on page 2:2.

## 1.6 NCI's relationship with third parties

Watchkeepers must be familiar with a number of nationally agreed documents that define NCI's relationship with certain third parties. This is a requirement of the DFS Assessment. Copies of these documents as listed below may be found in Chapter 12 *NCI Documents*:

1) Memorandum of Understanding (MoU) with the Maritime and Coastguard Agency (MCA).
2) Operating Instructions agreed with the MCA and Border Force regarding the reporting of suspicious activity.
3) Operating Instructions agreed with the MCA regarding the broadcast of the Inshore Waters Forecast.

## 1.7 Qualified watchkeeper training and watch commitment

#### *1.7.1 Training*

Trainee watchkeepers undertake a training programme. Once qualified and past their probationary period they are permitted to carry out watches and, if necessary, to do this on their own.

Qualified watchkeepers undergo ongoing training to help them remain current and practise key skills. There are training workshops and six interactive quizzes issued monthly from October to

March each year. Each year the final online refresher quiz will be crafted specifically to address six core competencies. Watchkeepers should be able to show confidence in all of them so that station can maintain its Declared Facility Status.

Watchkeepers are expected to meet their training commitment as set by the PQ Qualified Watchkeeper Updating Programme in force at the time. This is emailed to watchkeepers and may be found in the Station Operating Manual. Those who cannot meet their commitment are separately assessed by a member of the training team.

Whenever necessary we also run specific training sessions or add 'training' quizzes on a particular topic. A number of old quizzes are available for people to practise on.

### *1.7.2 Watch commitment*

PQ, like all NCI stations, has to pay a 'capitation' fee for each watchkeeper to help fund the wider charity operation and administration.

Each year we ask watchkeepers to complete a commitment form by which they confirm their willingness to continue as a watchkeeper for a further year and agree to do a minimum number of watches per annum. Based on that commitment PQ will pay his or her capitation fee, although we are always grateful if a watchkeeper makes a contribution.

If you find you cannot complete that number of watches, you should inform the Station Manager. PQ reserves the right to ask watchkeepers who do not achieve their target (and where the Station Manager has not been informed of the background) to contribute to their capitation payment.

Over a year we expect watchkeepers to average a minimum of two watches a month and three when we are running the evening watch. This caters easily for holidays and absences – just make up the shortfall by doing more watches either side of the time you are not available.

In addition to their watch commitment, watchkeepers are also expected to do what they can to keep the station running. Funds need to be raised to maintain the building and its equipment, and to pay rent and utility bills. New members need to be recruited and maintenance tasks must be undertaken. In particular, watchkeepers are expected to man at least two shifts at a supermarket collection or show each year.

A watchkeeping policy is issued from time to time specifying the commitment expected from watchkeepers and expanding on the above. Every watchkeeper will receive a copy; the policy will also be found in the Station Operating Manual.

## 1.8 The Station Operating Manual and the Health and Safety Manual

Every watchkeeper must know and follow our policies and guidelines relating to watchkeepers, the Lookout, and members of the public. These are set out in PQ's Station Operating Manual which is kept in the secure cupboard. As regards national standards, see paragraph 1.14 *The NCI Manual* on p 1:9.

The station's Health and Safety Manual expands on and gives more information. Watchkeepers must keep themselves up to date with its contents and know how to respond to and record any Health and Safety reportable injuries or problems. They are required to initial the checklist at the front of the manual every year to confirm they have read this manual. See also paragraph 2.5 *Health and safety and First Aid* on page 2:10.

## 1.9 Uniform

The wearing of a uniform gives a credible and reassuring presence to members of the public, especially anyone involved in an accident or emergency. It also gives the appearance of being disciplined, smart and efficient and enhances NCI's national image.

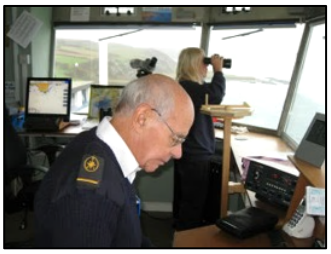


Figure 1-4 Uniform

At PQ trainees may wear uniform once they have passed their mid-term review which is carried out when they have completed five training watches.

All watchkeepers must wear uniform and their name badge(s) when on duty, at official occasions and when fund raising. Watchkeepers are issued with two NCI name badges as shown in Figure 1-5.

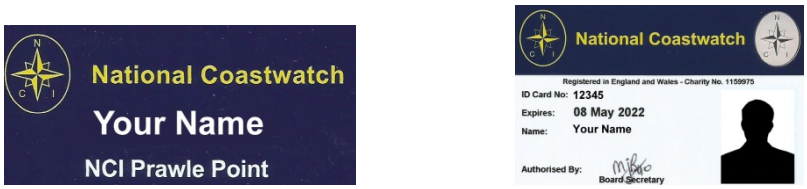



Figure 1-5 Name badges

The name badge shown on the left is no longer issued. NCI directs it is no longer to be worn as "in this current climate of increased criminal activity around the coastline of the UK and the use of social media to target people, it may not be the best idea to clearly identify our watchkeepers names" when on duty and they could be put at risk.

The photo ID badge shown on the right should be kept available but not worn at all times when on duty whether in the Lookout or not..

Ask PQ's quartermaster for a replacement, if you lose or damage your photo name badge.

Watchkeepers must order uniform items through the station's quartermaster Our quartermaster can obtain NCI embroidered items and can give advice on prices and any second-hand items available. See the Station Operating Manual for the identity of our quartermaster.

There is more about uniform standards in the NCI Station Manual. The Manual and the uniform and leisurewear catalogues can be viewed online by logging onto nci.org.uk.

## 1.10 Notices

Periodically it is necessary to update the station's procedures. This is done by the issue of notices; these are filed in the Notices Book in the secure cupboard.

Warning of the issue of a notice may sometimes be given by email and /or an entry on the whiteboard. **However, watchkeepers should check the Notices Book for new notices every time they go on watch. After reading a notice, watchkeepers should confirm having done so by ticking the entry in the index to the Notices Book.**

In any event, watchkeepers should regularly inspect the Notices Book to check for updates.

You may also have forwarded to you by email urgent notices issued by NCI.

## 1.11 Suggestions

Watchkeepers' suggestions as to improving the facilities and procedures of the station are always welcome. They may be emailed to the station manager at prawle.point@nci.org.uk .

## 1.12 Rostering - Dutyman

PQ does not allocate watches. Watchkeepers book watches themselves using an online rostering system called Dutyman which can be used at home or on PQ's computer.

We rely on watchkeepers to manage their own watches, to book them directly and to act responsibly if they have to cancel a watch (see paragraph 1.12.3 *Booking and cancelling watches*).

The roster is monitored by two co-ordinators whose main task is to identify, and encourage watchkeepers to fill, any empty or undermanned watches.

### *1.12.1 Logging on*

Soon after they have qualified, watchkeepers receive a welcome email from Dutyman with details of their Dutyman user name and password.

The email also gives a direct link which, if used, saves the need to log on and give a password each time. You are encouraged to follow that link and then bookmark the page or save it as a favourite. Dutyman has an option to generate a replacement welcome email with the direct link.

PQ's Dutyman web address is rather long. The following link is shorter and easier to type:

https://tinyurl.com/pqdutyman

To log on, enter your name and password and click the green arrow.

Nevertheless, remember your password so that you may access Dutyman on the Lookout computer.

Figure 1-6 shows an example of the Dutyman screen. Telephone numbers have been blurred to comply with GDPR but are visible when you log on.

When logged on, the watches booked are shown ticked and the names of those on duty shown. Your name is shown in red for any watches already booked. Watches needing filling are marked 'tba'.

The qualified watchkeeper slots are marked W1 and W2. Trainee slots are marked T1. Trainees are not given access to the system and cannot book their own slots.

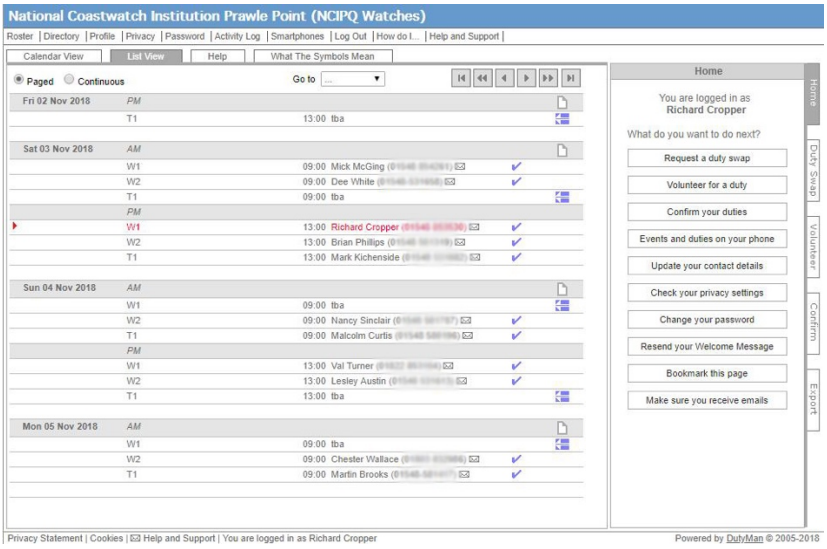



Figure 1-6 Dutyman screen

You are recommended to select the 'List View' tab and 'Paged' button for ease of use.

#### *1.12.2 Contact details*

The Dutyman system has a personal information section for each watchkeeper. It is important that you check this periodically and keep the information up to date as this is the station's GDPR compliant record of all its watchkeepers.

By clicking on 'Directory' you can find the telephone number and email address of any watchkeeper you need to contact, for example in order to share transport to the Lookout.

Your profile includes an 'Emergency contact' field. In the event of a serious problem (e.g. illness or injury whilst on watch) it tells PQ management whom to contact. **All watchkeepers, particularly those living on their own, are urged to complete this field**.

To check and, if necessary, update your contact information, click on the 'Profile' button under the blue bar. Correct any errors in the Contact Details and provide an emergency contact but do not alter anything else. Your privacy should remain shown as 'anonymous'. Then click 'Save changes' or 'Cancel' as appropriate.

#### *1.12.3 Booking and cancelling watches*

To book a watch:

1) Use the dropdown 'Go to' list and/or the grey navigation buttons at the top to find the watch that you wish to book.
2) Click the 'Volunteer for a duty' box in the right-hand panel.
3) Follow the instructions in the right-hand panel.
4) Unless you've opted out, Dutyman will automatically email you a reminder a few days before your watch.

To cancel a watch:

1) Click on the red arrow on the left opposite your name.
2) Click 'Can't do' and 'OK'.
3) The watch status reverts to 'tba'.
4) Unless you are cancelling a watch within minutes of booking it or the watch cancelled is more than 14 days away, you should notify the rostering coordinator.
   If the cancellation is some way ahead, an email will do but, if it is 48 hours or less away, you *must* telephone. Do not just leave a message as they may be away; try the deputy coordinator, failing which (in order) the Station Secretary, the Station Manager or a member of the Station Committee.

You should ensure that someone else has the relevant numbers and knows what to do if you cannot make contact yourself.

Dutyman has a 'Help and Support' page with more detailed information about its use.

## 1.13 Funding, visitors, the Visitor Centre and public relations

#### *1.13.1 Funding*

PQ is a part of the NCI charity and is wholly self-funded.

To raise funds, increase public awareness and encourage recruitment, we hold supermarket collections and attend key local shows. Watchkeepers are expected to help man these events. We also maintain collecting boxes both at the Lookout and in the surrounding areas.

#### *1.13.2 Visitors*

PQ welcomes visitors to both the Lookout and the Visitor Centre. This raises public awareness of NCI and PQ in particular and is an income source from sales and donations.

As the Lookout and Visitor Centre are open to the public, it is vital that:

1) they are kept clean and tidy;
2) watchkeepers are smartly dressed and wear uniform and a name badge; and
3) watchkeepers comply with our Health and Safety rules especially as regards unlocking the West Door (the Lookout's fire exit).

See also paragraph 2.7 *Visitors* on page 2:19.

#### *1.13.3 Visitor Centre*

This has wall panels describing the flora, fauna, geology and history of the area, NCI and the search and rescue services, and the types of vessel that may be seen off the coast.

An interactive information kiosk supplements this with text, photos and videos. It also displays up to date weather information and a live AIS map. The Centre also has a telescope and a monitor repeating the display on the Lookout's radar screen.

The present centre was set up with funding from the Heritage Lottery Fund in 2010 and the information kiosk was installed in 2012 with funding from the South Devon Area of Outstanding Natural Beauty and additional support from local businesses.

It is part of all watchkeepers' duties to keep the centre clean and tidy and to know the associated operating procedures. See also paragraph 11.19 *Prawle Point Visitor Centre* on page 11:17.

#### *1.13.4 Public relations*

PQ regularly publishes a newsletter for public consumption and maintains an online presence. We aim to attract as much publicity as we can in the local press, speak to local clubs etc. and attend local shows.

PQ's own website at www.nci-prawlepoint.org.uk contains more information about our station, its operations and activities. The weather gauges and webcams can be viewed using a mobile 'app'. The site has a watchkeepers' area from which copies of key documents such as this Handbook can be downloaded. The Station Operating Manual cannot be downloaded from the website for GDPR reasons.

PQ also publicises its activities on Facebook.

NCI's national website at www.nci.org.uk has a publicly accessible area and a closed intranet for watchkeepers and station management. Every station has a page which links to any website maintained by that station. The intranet is also is a repository for the national members' database, incident records and the NCI Station Manual.

## 1.14 The NCI Manual

This sets out NCI's national standards and requirements. In addition to being available on the NCI intranet, a printed copy is kept in the Lookout.

The online copy may be found by following the 'Members Area' and 'NCI' links after logging onto the NCI website at https://intranet.nci.org.uk/

In particular, watchkeepers should make themselves acquainted with and abide by the following:

- NCI Code of Conduct
- NCI Policy on Equality & Diversity
- NCI Policy on Harassment and Bullying
- NCI Safeguarding Policy
- NCI Health & Safety Policy

- NCI Uniform Policy

## 1.15 General Data Protection Regulation (GDPR)

This regulation applicable imposes an obligation to keep data safe. So, any document such as a logbook or telephone list when not actually in use must be kept under close supervision or lock and key.

Remember not to disclose to any visitor or third party the names or contact details of any person or vessel mentioned in the log or in any PQ document. For this reason, used logbooks are kept locked away in one of the kitchen cupboards.

## 1.16 Recruitment of watchkeepers

All members are urged to encourage this. Potential watchkeepers may be taken up to the Lookout by a member but they should not be given an application form. If they are interested in joining PQ as a watchkeeper, refer them to the contact form on the Get in Touch page of our website at nci-prawlepoint.org.uk and a member of the training team will then invite them to observe a watch and discuss NCI and PQ with them.

## 1.17 Supporters and Veterans

Supporters can be appointed by their local Station or the National Office and assist in various support functions of NCI such as fundraising and social activities.

Watchkeepers who are unable, for various reasons, to continue to undertake watches and who are stepping down but would like to stay closely connected with NCI, may be nominated for veteran status by their Station Committee providing they have at least 12 months continuous NCI watchkeeping service.

Veterans will:

- be registered on the national database and subject to all NCI policies and practices.
- be issued with an NCI Veteran Membership card, Veteran epaulettes, enamel badge and certificate to be signed by the Chairman
- not have voting rights
- not be subject to capitation
- be entitled to wear uniform with Veteran epaulettes at NCI events
- have access to the national and home-station websites, Internal Communications Newsletter (ICN), minutes etc
- be able to undertake NCI related activities as authorised by the Station Manager for example fund-raising and delivering presentations
- be included in all appropriate station communications
- be made welcome at stations

21. Veteran appointments will be for life unless the Veteran wishes to resign, or the appointment is terminated by a majority vote of the Station Committee *and* NCI liaison Trustee gives authorisation.

# 2 Watchkeeping and local knowledge

## 2.1 Introduction

Prawle Point, like most NCI stations, has Declared Facility Status. This means that the Coastguard expects us to operate with certain capabilities and to set hours. In a nutshell PQ's DFS says that:

1) We maintain a visual, radio, radar and AIS watch; and
2) Our Lookout will be operational from 09:00 to 17:00 every day of the year and during the summer we run an additional watch until 20:00. The watch closes at sunset if earlier than the above times.

PQ logs on and off with Falmouth Coastguard by telephone each day. The Coastguard's telephone number displayed on the radio console, and programmed into the console telephone, is unique to Froward Point NCI and PQ (Zone 22). The Coastguard officer will see 'NCI Z22' on his screen when you call but you will still need to identify yourself as 'Prawle Point NCI' when the call is answered.

## 2.2 Maintaining a visual watch

The primary role of watchkeepers is to provide an effective visual watch over the immediate area of sea and land and to monitor the safety of people and vessels. In order to do so, it is vital that watchkeepers do not just look through the windows but understand what they are observing.

Our primary role is not to indulge in the marine equivalent of 'trainspotting' i.e. spot, log and forget! It is to SPOT, PLOT and REPORT to the Coastguard any vessel or person in difficulty or at risk.

Therefore prioritise. Spend most time on the most vulnerable. Follow this *hierarchy of vulnerability*:

**All significant events within our watch sector**

- Mayday, PanPan - distress/urgency signals.
- Casualty at sea – vessel/people in difficulty.
- Coast path incidents – injured or missing persons.
- Significant floating debris/life rafts etc.
- Suspicious activity e.g. people or drug smuggling – at your discretion.
- Illegal diving on the historic wrecks.
- Dolphin/porpoise sightings.
- Deceased mammals/sea birds.

**Vulnerable craft and people etc**

- All persons in or on the water.
- Small craft/inflatables and leisure craft users.
- Children, scramblers, climbers and walkers.
- Vulnerable adults and disabled persons.
- Injured mammals, birds or other animals.

It is important to maintain a watch over the whole sector, paying particular attention to the tidal races off Start Point and Bolt Head and the mouth of the Salcombe Estuary as well as the areas immediately around Prawle Point.

Try to build up a 'mental map' of what is 'out there' in the watch sector, i.e.

1) Identify and note the whereabouts of vulnerable craft and people;
2) Know which craft have and have not been logged; and
3) Be aware of the wind speed and direction and state of the tide and what changes can be anticipated.

Figure 2-1 Maintaining a visual lookout

All this information is of value when handling incidents as they occur and in anticipating them before they arise. It is information that should be passed onto to the next 'pair of eyes' at watch handover.

If two watchkeepers are on duty, one should 'spot', and the other should maintain the log and monitor the radios. The roles can be swapped at 'half-time'. When spotting, give priority to direct 'eyeball' observation backed up by the use of binoculars and/or telescope.

The *observation hierarchy* is:

**Eyes → Optical equipment (Binoculars, Telescope) → Electronic aids (Radar, AIS) → VHF Radio**

Get into the habit of breaking off any conversation whenever there is radio traffic. Be ready to 'silence the Lookout', turn on the tape recorder and write down any distress or potential distress messages. A distress alert will generally 'come out of the blue', so always be ready to respond:

1) with knowledge gained from your mental map (see page 2:2);
2) by keeping the chart table clear and the chart instruments ready to hand; and
3) by having pen and pad, and your spectacles if you need them, to hand.

Be ready to respond to any significant event within our watch sector (see page 2:2)

There is more guidance on reporting these matters in the chapters on Activities and Incidents.

### *2.2.1 Effective visual scanning*

1) **Move the Head not the Eyes** whether with or without binoculars or the telescope. Otherwise, your eyes will soon tire.
2) **Use Peripheral Vision.** Peripheral vision is more acute than looking straight ahead. By placing a target slightly off the centre line of vision, a target will be easier to identify.
3) **Sweep Slowly and Routinely.** Imagine something small in the water and estimate how long it might be before it would next appear on a top of a wave.
4) **A Fleeting Glimpse.** If you think you have seen something, you are probably correct. The brain will register a fleeting contact slightly later than the eyes have sent the message to the brain. Look again, taking sufficient time to check thoroughly.
5) **Be Methodical.** Whatever method is chosen to sweep our patch, there must be a gapless search and each step must be small enough to provide some overlap.
6) **Move around** to avoid blind spots.
7) ***Mark and lock on to the target*** – it is imperative that you keep the target in view at all times especially in rough seas. This is achieved by:
   - informing any other Watchkeepers in the Station of the target, who must confirm they also have visual contact
   - giving a running commentary so that your colleague can take notes (for later transfer to the Station Logbook), and phone the details through to HMCG. This, combined with a tape recording of a serious incident, can give useful information in the future.
   - lining up the pelorus sighting vane with the target, taking a bearing and updating continually.
   - when binoculars are needed, keeping your eyes fixed on the target and bringing the binoculars up to your eyes, as this will help keep it in your line of sight.
   - using a *non-permanent* marker to mark the Lookout window with a circle around the target and maintaining the same body stance in relation to that line of sight, e.g. by a second mark on the counter where you are standing.

## 2.3 Watchkeepers' duties

### *2.3.1 The role of the watchkeeper*

Most duties involve routine surveillance, but vigilance is required at all times. In addition to visual watchkeeping, watchkeepers monitor radio messages for emergency traffic. All incidents are reported promptly to the relevant authority and a written record - the log - is maintained.

In summary, the role of the watchkeeper is to:

**SPOT** ..... identify vessels, signals, incidents and weather within range.
**PLOT** ..... locate the position of a vessel or incident.
**REPORT** ..... communicate effectively with the relevant authorities.

### *2.3.2 Specific watchkeepers' duties*

1) ***Co*-operation with the Coastguard**. Knowledge of the procedures on how to deal with emergencies and to liaise with the Coastguard is essential. Their confidence in us must be preserved.
2) **Recognition of Distress signals**.
3) **Surveillance of vulnerable craft and people**. These include canoeists, wind surfers, paddle boarders, divers, open boats, fishing vessels and other small craft, anglers and walkers.
4) **Reporting and monitoring casualties**. For example, drifting divers or vessels with engine or steering failure.
5) **Reporting illegal diving on the Historic Wreck sites**.
6) **Reporting sightings of dolphins, porpoises etc**.
7) **Listening on VHF Channels 16, 0, 67 and 65 for** distress and urgency messages, weather forecasts and calls to Prawle Point NCI.
8) **Broadcasting actual weather** and sea conditions.
9) **Keeping an accurate log.** The log that is kept is important for safety and may also be helpful to other agencies such as the police.
10) **Logging the Inshore Waters Forecasts and any Gale Warnings.**
11) **Providing a contact point** for walkers and farmers.
12) **Maintaining the Lookout** and its equipment.
13) **Providing information to the public** in person, by telephone or channel 65 or by means of the Visitor Centre.
14) **Promoting NCI**.

## 2.4 Going on watch

### *2.4.1 Before leaving home*

1) Copy the gale warnings, inshore waters forecast, shipping forecast and the tide times from the internet, if possible. These may be found together at www.nci-prawlepoint.org.uk/pq-wxfx.html. Right click anywhere on the forecasts and then left click on 'Print' on the next menu to print.
2) Try to arrange car-sharing with your fellow watchkeeper whenever possible.
3) Aim to arrive at the Lookout at least 15 minutes before the start of the watch. This is to allow sufficient time to set up or be briefed by those on the previous watch.

### *2.4.2 Before entering the Lookout*

1) Parking: Our car park by the Coastguard Cottages can take 4 cars. Please park considerately. Put the rope across after you have parked and after you have driven out. Do not drive over the rope. Trainees should park in the National Trust car park or arrange a car share with their trainer or other watchkeeper.

2) When entering the field (and on your return), shut the gate firmly but do not slam it. Ensure that it is properly latched and roped so that livestock cannot escape.
3) Bring a change of shoes to wear in the Lookout, particularly in muddy conditions.
4) On your way to the Lookout, note the weather, sea state and craft/people in sight. Note anything untoward.
5) The keys to the East (main) and West doors of the Lookout and the Visitor Centre are kept in the key safe on the East door. You will need to remember the 4 digit code. Do not, on any account, divulge the code to non-members.
6) For insurance purposes the key safe must be kept closed and locked at all times other than when extracting the key.

See paragraph 11.18 *Doors and security* on page11:16 for instructions about using the key safe.

### *2.4.3 At the start of every watch*

1) **Note any messages on the white board** and any scheduled tasks that need performing.
2) **Check that all equipment is functioning correctly and the Lookout and VC are clean and tidy.** Special rules apply in the event of a power failure (paragraph 11.22.1 *Power failure* on page 11:19) or telephone failure (paragraph 11.6.1 *Telephone/* Broadband failure on page 11:5).
3) **Check PQ's website** and ensure that the webcams and weather gauges are functioning.
    a. Follow the navigation links at the top of the page. On the Weather page, check that the time of the last update is within a minute or so of the current time.
    b. Webcam failures can usually be simply dealt with (see paragraph 11.14 *Webcams* on page 11:12).

    Report failures to the IT Manager (see station committee details in the Station Operating Manual).
4) **Check the Notice Book and deficiency notices**. If you read a new notice, enter a tick in the index.
5) **Report any equipment failure** if not already reported in a deficiency notice (See paragraph 11.23 *Defects* on page 11:20).
6) **Check the letter tray**.
7) **Listen to the verbal handover** if taking over a watch (see paragraph *2.4.8 Handing over the watch*).
8) **Open the log** for your watch. See paragraph 6.2 *Using the logbook* on page 6:2.
9) **Check the radios.** Are they are tuned to the correct channels and is the volume turned up?
10) **Carry out a "binocular sweep".**

### *2.4.4 At the start of the first watch of the day*

1) **Open the East and West doors and Visitor Centre door**. See paragraph 11.18 *Doors and security* on page 11:16
2) ***Open the Visitor Centre***, raise its blind, switch on the radar monitor and check that the touchscreen is on.
3) **Raise the flag *and put out the collection box***. See paragraph *2.4.6 Hoisting the flag* on the next page.
4) **Establish the closing time for the day**. The closing time will be the earlier of 1700 (or 2000 if there is a manned evening watch) and sunset. Check Dutyman to see if the evening watch is manned. The time of sunset is indicated on the weather station.
5) **Log on with the Coastguard** by telephone on the routine number and indicate how long we shall be on duty that day, for example, "*This is Prawle Point NCI. We are now on duty until 1700. Do you want our current weather conditions".* (wind speed, direction & visibility).

### 2.4.5 Opening the Lookout

There is a whole range of tasks to carry out when opening the Lookout in the morning and even the most experienced of watchkeepers can forget to perform one or more of them.

The golden rule is always to use the laminated checklist which can be found inside the secure cupboard on the right-hand door. Even if you think you've remembered it all!

Don't get complacent and ignore the checklists – that's how mistakes are made.

### 2.4.6 Hoisting the flag

1) If there are two sizes of flag, use the smaller one when the wind is, or is forecast to be Force 4 or more.
2) No flag is to be flown if the wind is or is forecast to be Force 7 or more.
3) Attach the flag to the halyard on the downwind yard with the shorter cord uppermost using the Inglefield clips top and bottom. If the wind changes direction during a watch, the flag should be moved to the new downwind yard.
4) If the flag has no cords or both are the same length, be sure to attach the flag correctly. In the half of the flag nearer the flagpole, the wider diagonal white stripe must be above the red diagonal stripe.

Figure 2-2 The correct way to fly the Union Flag

5) Raise the flag and secure the raising halyard to the cleat on the mast, ensuring it is not under tension.
6) Now pull the halyard from the ground block to the cleat until it is under slight tension and secure to the cleat. Finish off with a locking loop.

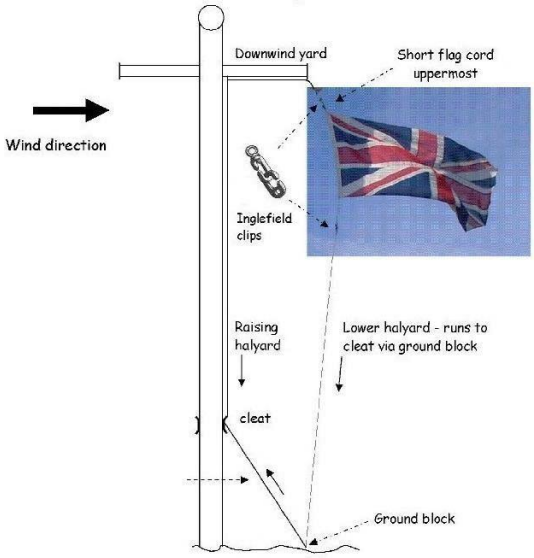



Figure 2-3 Hoisting the flag.

### *2.4.7 During the watch*

1) Maintain a visual, VHF and radar watch.
2) Keep the log (see Chapter 6 *Logging and vessel identification*).
3) Log and broadcast the actual weather at the allotted times.
4) Clean the Lookout and Visitor Centre as necessary, paying particular attention to the floor and to dead flies and tea/coffee stains on the counter and ensuring the windows are clean.
5) Report any deficiencies on a deficiency notice and send off using the 'Smart Scan' function on the printer (see page 11:8) .
6) Perform any scheduled tasks and update the whiteboard accordingly.
7) Draw attention to any ongoing matters or problems on the whiteboard.
8) Inform HMCG immediately, if there is an equipment failure affecting DFS capability (e.g. radio or radar failure) or if the station is to be closed prematurely.

### *2.4.8 Handing over the watch*

On a change of watchkeepers a verbal handover should be given to the new watchkeeper(s) noting:

**I** **INCIDENTS** - Report any ongoing incidents and their status, plus other incidents occurring during the watch.

**C** **CONCERNS** - Point out any vulnerable craft or people currently at risk that require close monitoring, their location and what they are doing.

**E** **EQUIPMENT** - Report any equipment failures, deficiencies.

**L** **LOG** - Point out and identify craft that that have and have not been logged. (The pelorus provides a good 'pointer').

**A** **ADVISORY NOTICES, MESSAGES** etc. – Draw attention to any station notices, messages to be passed on, housekeeping issues.

**W** **WEATHER** - Describe the (changing?) state of the weather and tide, and state if the weather is forecast to improve or deteriorate.

### *2.4.9 At the end of every watch*

The Watch Summary should be completed.

The log should be signed off, noting the time and, in the case of a handover, the names of the oncoming watchkeepers. A line should be drawn under this entry and, at the end of the day, the rest of the page ruled off.

### *2.4.10 At the end of the last watch of the day*

Log off with the Coastguard by telephone on the routine number. For example, "*This is Prawle Point NCI logging off until 0900 tomorrow morning. Do you want our current weather conditions*". (wind speed, direction & visibility).". Inform the Coastguard of any matters of interest that have occurred during the day or may occur overnight, e.g. a vulnerable craft.

Carry out the tasks on the laminated checklist "Closing the Lookout" which can be found inside the secure cupboard on the right-hand door. Take home with you old Inshore Waters Forecast print outs and other rubbish..

The Lookout and Visitor Centre should be left clean and tidy and satisfy PQ's Minimum Housekeeping Standards (see paragraph 11.17 *Keeping PQ clean and tidy* on page 11:16). Log accordingly.

Take with you any empty water canisters and refill them using the outside tap at the Coastguard Cottages. Leave the full canister(s) by the NCI car park entrance.

You MUST relock the East and West doors of the Lookout and the Visitor Centre door and replace the key in the key safe. You MUST also ensure that all window vents are closed.

Even if you think you've remembered it all, you must make sure you have done so by mentally checking off the items on the list. Better that way than remembering something when you reach the car and having to walk all the way back!

Don't get complacent and ignore the checklists – that's how mistakes are made.

### *2.4.11 Lowering the flag*

When securing the halyard to the cleat after lowering the flag, the Inglefield clips should be within reach from the ground (See Figure 2-4).

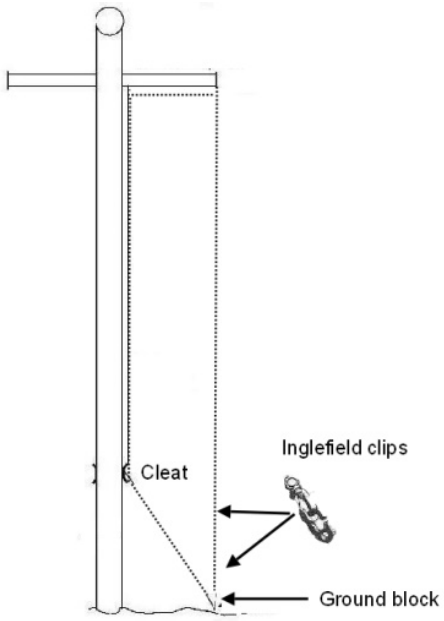



Figure 2-4 Lowering the flag

### *2.4.12 Daily routine*

Table 1 on the next page outlines the key activities that watchkeepers must complete. Times marked with a * may be completed earlier if you are ready.

**Informing the Coastguard**

The table covers this but please note the following:

1) The Roster Team will do their best to notify the Coastguard if they know in advance that a morning watch will be unmanned.
2) You should tell the Coastguard if our DFS capability is affected during your watch. Causes might include equipment failure, landline failure or an accident or problem that forces premature closure of the Lookout.

**Table 1 Daily routine**

| | | |
|---|---|---|
| **MORNING** | By 0845 | Watchkeepers arrive at the Lookout. |
| | 0845-0900* | Open up the Lookout and Visitor Centre following checklist. Check whiteboard for any tests scheduled for today. |
| | 0855* | Open log, initial your name at the top. Log actual weather. |
| | 0900* | Log on with the Coastguard by telephone. Indicate until when we shall be on watch and offer weather (wind speed & direction and visibility.) |
| | 0902* | Announce on Ch. 65 that lookout is open and until when |
| | 0905* | Enter Internet WxFx. |
| | 0945 | Log actual weather and sea conditions and broadcast them on Ch.65. |
| | 1010 | Expect MSI broadcast. Log any changes to Inshore Waters Forecast or Gale Warnings. |
| | 1145 | Log actual weather and sea conditions and broadcast them on Ch.65. |
| | 1200 | If local time is UTC, download latest Inshore Waters Forecast and Gale Warnings using PQ Weather on the computer and enter in log. |
| **AFTERNOON** | **Watch Handover** | |
| | By 1245 | Afternoon watchkeepers arrive at the Lookout. |
| | 1245-1300 | Watch handover including log summary and signing off. |
| | 1300* | Log watch handover, initial your name at the top. |
| | 1310 | Expect MSI broadcast. Log Inshore Waters Forecast and any Gale Warnings. |
| | 1345 & 1545 | Log actual weather and sea conditions and broadcast them on Ch.65. |
| | 1610 | Expect MSI broadcast. Log any changes to Inshore Waters Forecast or Gale Warnings. |
| | **If no evening watch** | |
| | 1700 or sunset (whichever is earlier) - Preparations may begin 15 minutes beforehand. | 1. Log actual weather.<br>2. Announce Lookout closed until 0900 on Ch65.<br>3. Log off with Coastguard by telephone. Offer weather (wind speed & direction and visibility). Notify any matters of interest.<br>4. Sign off log.<br>5. Complete log summary.<br>6. Close the Lookout and Visitor Centre **as per checklist**. |
| | **If Summer evening watches are operative** | |
| | Watch Handover | |
| | By 1645 | Evening watchkeeper(s) arrive at the Lookout. |
| | 1700* | Watch handover including log summary and signing off. |
| **EVENING** | 1700* | Log watch handover, initial your name at the top. |
| | 1745 | Log actual weather and sea conditions and broadcast them on Ch.65. |
| | 1910 | Expect MSI broadcast. Log any changes to Inshore Waters Forecast or Gale Warnings. |
| | 2000 or sunset (whichever is earlier) – Preparations may begin 15 minutes beforehand. | 1. Log actual weather.<br>2. Announce Lookout closed until 0900 on Ch65.<br>3. Log off with Coastguard by telephone. Offer weather (wind speed & direction and visibility.). Notify any matters of interest.<br>4. Sign off log.<br>5. Complete log summary.<br>6. Close the Lookout and Visitor Centre **as per checklist**. |

## 2.5 Health and safety and First Aid

### *2.5.1 Emergency contact details*

It is important that station management and your fellow watchkeeper know whom to contact in the unfortunate event of you being taken ill or having an accident. For this reason you should complete the emergency contact details in Dutyman (see paragraph 1.12.2 *Contact details* on page 1:8).

### *2.5.2 Solo watches*

Watchkeepers are reminded to wear the People Safe pendant when on solo watch and to put it back at the end of the watch. A member of the station committee should make a buddy call to you during the watch. If this is overlooked, please call any member of the committee to confirm your wellbeing before the end of the watch. Solo watchkeepers with a known medical condition may wish to arrange for partner, friend or another watchkeeper to make additional checks during the watch. They should have the relevant contact numbers to summon help. Solo watchkeepers should be careful not to lock themselves inside the Lookout so preventing emergency services from gaining access.

Solo watchkeepers, especially those on evening watch, should telephone a partner, friend or another watchkeeper before leaving the Lookout and again when they are in their vehicle and have mobile phone coverage. This is particularly important for watchkeepers living on their own whose non-return might not be noticed. If necessary, ask the Station Manager or a committee member to be your contact.

### *2.5.3 Accidents*

The green Accident Report book is located in the Watch Keeping Box. Completed reports should be sent off using Quick Scan function on the computer and removed from the book, placed in a sealed envelope, and placed in “C” post tray for the Health & Safety (H & S) Officer to file. The H & S Accident Book is only to be used for accidents and near misses, occurring within the Station, its immediate environs, and between the Station and car park.

An entry must be made in the Log Book

An accident is defined as an unforeseen and undesirable occurrence which may or may not cause harm to a person or persons. So, an accident should be reported even if no injury is caused. Part of the need for a report is to ensure that similar mistakes do not occur again, based upon incidents and near misses.

### *2.5.4 First aid*

There is a basic first aid kit kept at the Lookout in the cupboard under the printer. Watchkeepers must know where to find it and be familiar with PQ’s Injury and Accident guidelines on the noticeboard. Watchkeepers are not expected to be First Aid trained and the guidelines assume no formal training in this area.

However, there is a defibrillator in the First Aid cupboard for use on someone who is unresponsive and not breathing normally. No training is required to use this as, once switched on, the machine tells you what to do. See paragraph 11.15 *AED (Automated* External Defibrillator) on page 11:13.

### *2.5.5 Walking to and from the Lookout*

Take care. The field can be very slippery. Wear shoes or boots with a good grip. At times a walking pole may be useful.

## 2.6 Local Information and Knowledge

### *2.6.1 Contacting the Lookout*

- Telephone: 01548 511259
- Address: Prawle Point NCI, East Prawle, Kingsbridge TQ7 2BX

### *2.6.2 Email*

- For use by the public: prawle.point@nci.org.uk and prawlepoint.secretary@nci.org.uk. Emails sent to these addresses are received by the Station Manager and Station Secretary respectively and cannot be seen at the Lookout. The Station Manager's address is displayed on the sign by the East door and the Secretary's on our website at nci-prawlepoint.org.uk.
- For use by the emergency services: mail@nci-prawlepoint.org.uk. **N.B**. This address is **not to be disclosed to the public** and **should not be routinely monitored** by watchkeepers. See 11.12.1 *Email* on page 11:7. This facility will only exceptionally be used, e.g. a photo of a missing person might be sent to us.

### *2.6.3 Prawle Point's position*

- Lat/Long: 50° 12.2' N, 003° 43.2' W (50.202908, -3.720267)
- OS Grid reference: SX 773 351
- What3Words address: windmill.rooftop.urgent (See paragraph 7.24 *What3Words* on page 7:24)
- Height above mean sea level: 61 metres (200 feet)
- 'Forward heading' of Lookout: 153°T

### *2.6.4 Visual range of watch sector*

- Distance of sea horizon with clear atmosphere, normal conditions and normal refraction: 16.5 nautical miles (nm)
- Field of view: 210° from 070°T (just south of Start Point) to 280°T (Bolt Head)
- Visual range limits based on a 16.5nm sea horizon: Lat: 49° 56' to 50° 18' N. Long: 003° 17' to 004° 09' W. Note: Tall vessels, vessels on fire and rocket flares may be seen beyond these limits.

### *2.6.5 Local weather and sea conditions*

See paragraph 8.8 *Local weather and sea conditions* on page 8:13.

### *2.6.6 Tidal streams*

There's information about tidal streams in Chapter 7 *Plotting* starting at page 7:12.

### *2.6.7 Cloud base*

When a helicopter is tasked to a SAR incident within our watch sector, it is possible that you may be asked for the estimated height of the cloud base on scene. The height of the cloud base is normally expressed in feet.

A useful quick reference tool is the cloud base height indicator (Figure 2-5 on page 2:12) which gives the height of various local landscape features as a guide. A laminated copy is kept in the chart folder.

These heights are also displayed as a table in notice displayed above the windows at the Lookout and watchkeepers need to familiarise themselves with the location of these landscape features.


Figure 2-5 Cloud Base Height Indicator

### 2.6.8 Prawle Point 'Ship Trap'

During the last century Prawle Point gained a fearsome reputation as a 'ship trap' with at least 6 vessels piling up on the rocks on the west side of the Point, particularly in the 'jaws' between the mainland and The Island.

Figure 2-6 The Island from Signalhouse Point looking towards the Lookout

The reefs around Langerstone Point have also claimed a number of victims over the years. Many of these vessels were lost in dense fog or in southerly gales.

### 2.6.9 Local knowledge as regards certain Activities and Incidents

**Historic wrecks**

Unauthorised diving is prohibited over these Bronze Age wrecks which are in the following position:-

Lat: 50°12'.7 to 12'.9N, Long: 003°44'.4 W.

Bearing and range from the Lookout: -

299° approx.1nm.

See Figure 2-11 on page 2:16 and paragraph 4.10 *Diving on the Historic Wreck Site* on page 4:6.

**Local farmers**

For information as to whom to report incidents involving farm animals, consult the map kept in the secure cupboard. For more information see paragraph 4.13 *Incidents involving farm animals* on page 4:9.

### *2.6.10 What cannot be seen from the Lookout*

*Two 'Blind Spots'*

*Horseley Cove from Woodcombe Point looking towards Sharper's Point*

*Rickham and Seacombe Sands from Gara Rock looking towards Gammon Head*

**Figure 2-7 Horsley Cove and Rickham and Seacombe Sands**


Figure 2-8 Maceley and Elender Coves from Signalhouse Point looking towards Gammon Head

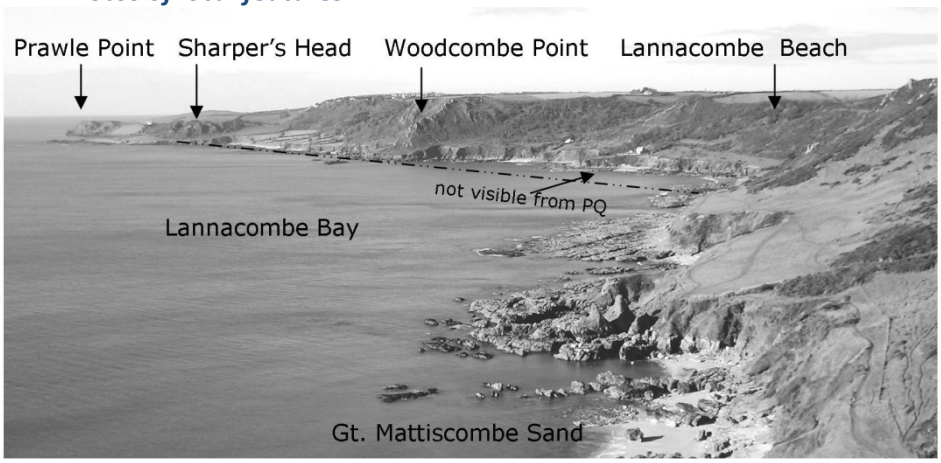
See paragraphs 2.6.12 *Photos of local features* on page 2:15 and 2.6.14 *Geographical features from Start Point to Bolt Head* on page 2:17 for the locations of the features pictured above .

### *2.6.11 The Demetrios*

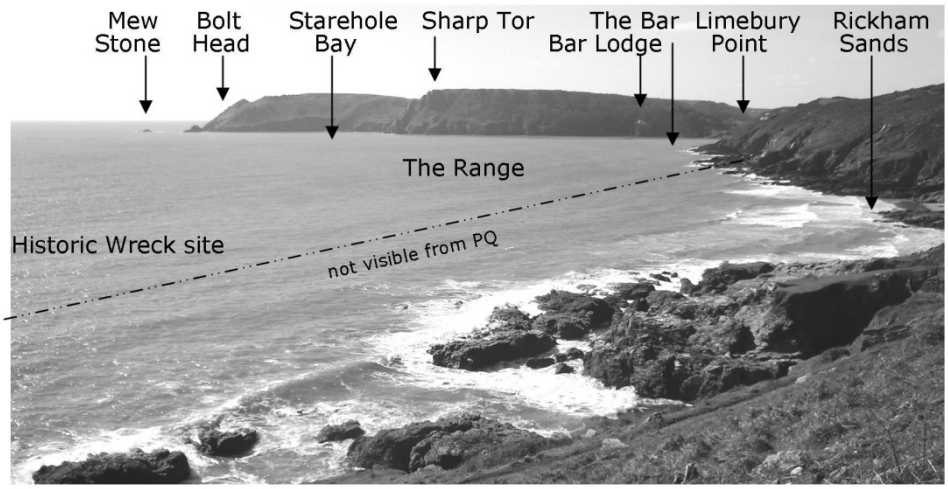
The Demetrios is the most recent and largest shipwreck to have occurred at Prawle Point. The 9,700 ton cargo ship was being towed on its way to a breaker's yard in 1992 when its tow from the tug parted in a Force 10 gale and the vessel drifted for some 30 miles before striking The Island. Although later cut up by a salvage company, sections of the wreck are still visible today.

Figure 2-9 The wreck of the Demetrios

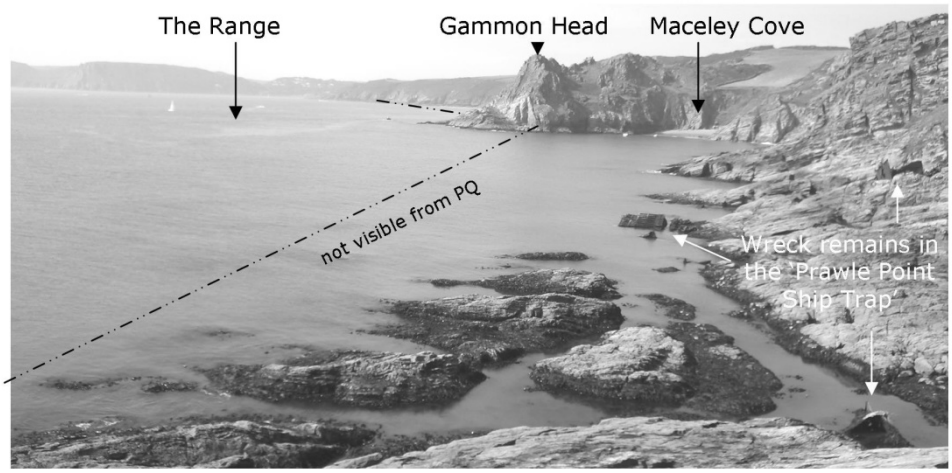
### 2.6.12 Photos of local features




Lannacombe Bay - west to Prawle Point from Mattiscombe Beach




The Range from Rickham Sands to Bolt Head




Gammon Head and Maceley Cove viewed from the Island at low water springs with the remains of the *Demetrios* and *Heye-P*

Figure 2-10 Photos of Local Features

### 2.6.13 Key features to the East and West

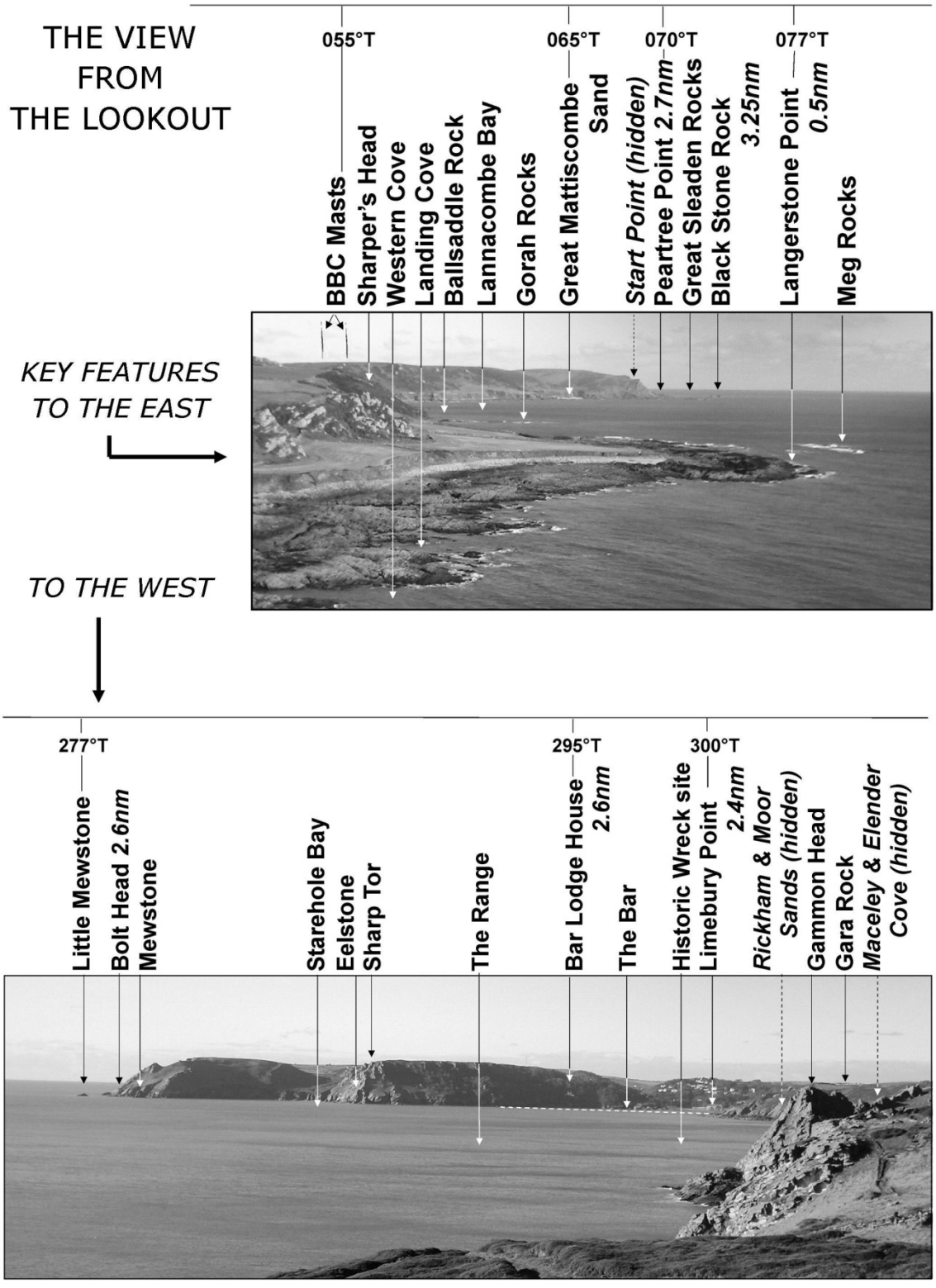



Figure 2-11 Key Features, East and West

### 2.6.14 Geographical features from Start Point to Bolt Head

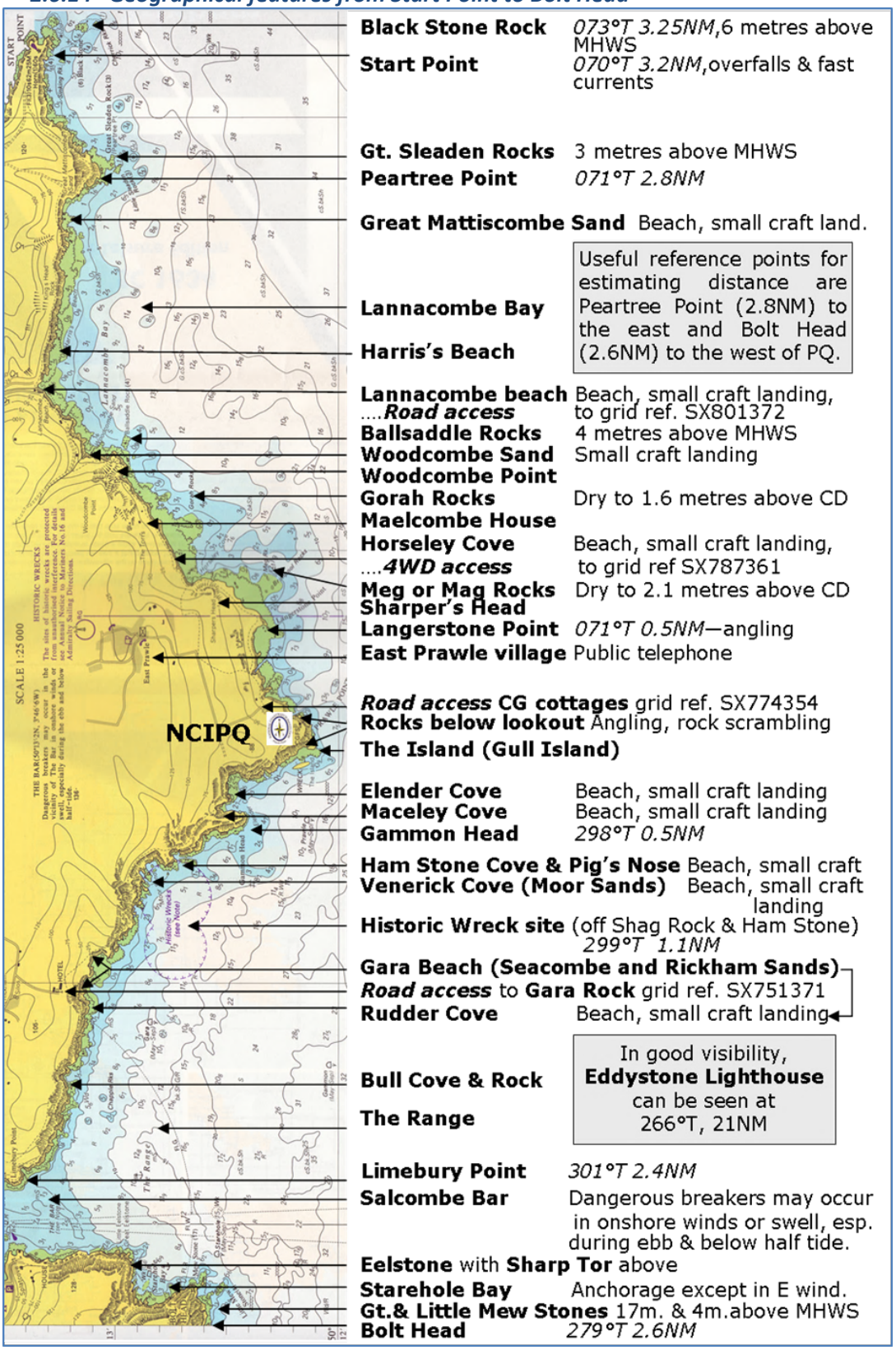



Figure 2-12 Geographic Features from Start Point to Bolt Head

### *2.6.15 Satellite view of coastal footpath with key grid references*

The full-size originals of the following are kept on the hook above the radar. They may be useful in helping a member of the public identify the location of an incident.

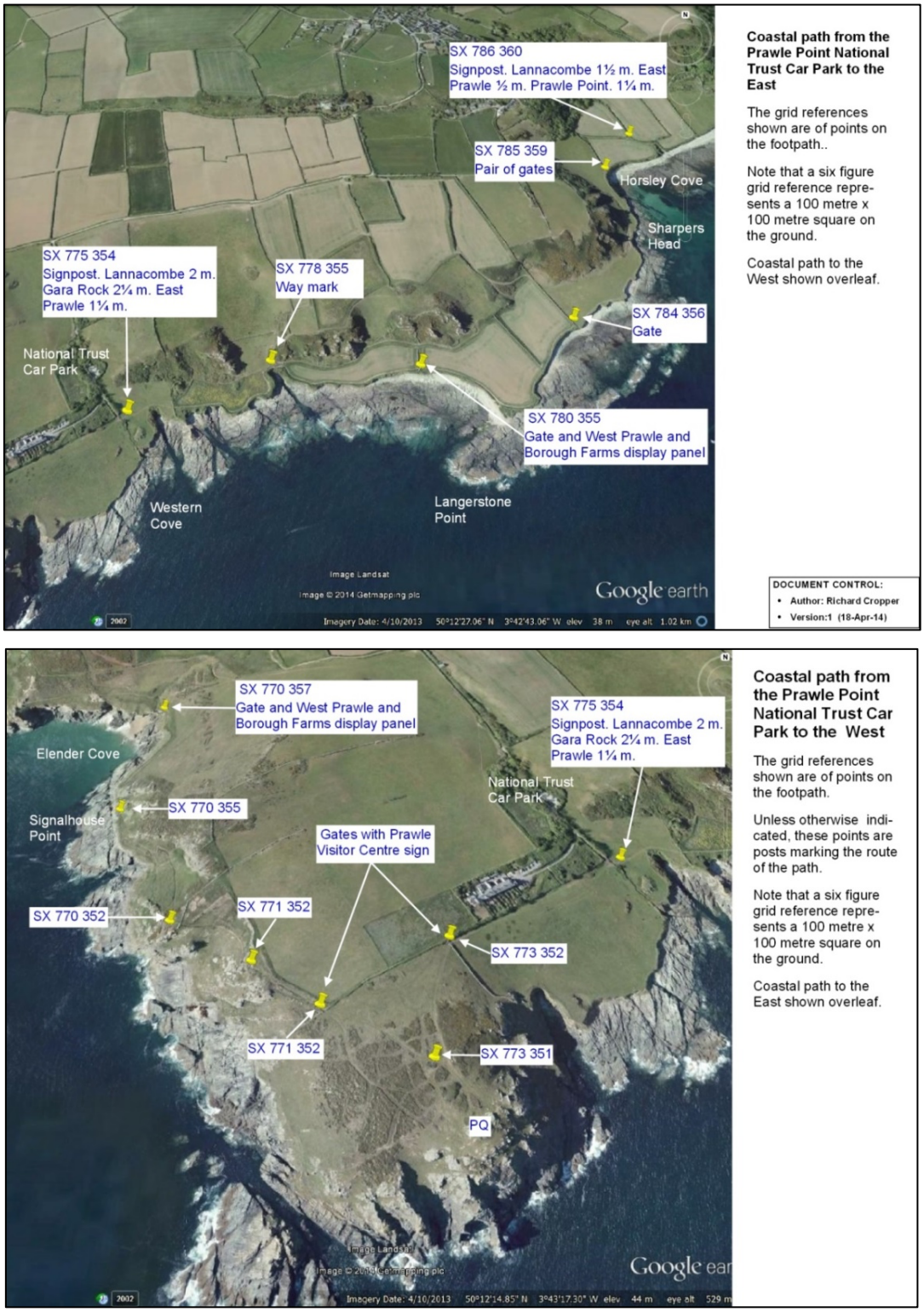



Figure 2-13 Satellite view of coast with grid references

## 2.7 Visitors

Watchkeepers should welcome visitors to the Lookout when they are not busy with an incident or other important duty.

Unaccompanied children under 16 are not allowed in the Lookout. This is for the protection of watchkeepers, particularly those on a solo watch, against spurious claims of inappropriate behaviour. **Great caution should be exercised when children are in the Lookout and the parent's permission sought before there is any close contact**, e.g. assisting a child with the binoculars.

When talking to visitors the emphasis should be on our safety role with the Coastguard and our SAR partners. Avoid stressing our role in monitoring suspicious and illegal activities.

Available for sale to visitors are souvenirs, postcards, guidebooks and leaflets as well as bottles of water from the fridge.

We do not allow visitors' dogs in the Lookout because they constitute a trip hazard and could render us liable for any consequent injury. An exception is made for assistance dogs. See the current Watchkeeping Policy in the Station Operating Manual as regards watchkeepers' own dogs.

We can provide information but should not give advice to visitors. In particular, we should not advise visitors to keep their dog on a lead however sensible that may seem. NCI points out that if they got pulled over the cliff, they might say they were just following our advice. This is not our area of expertise and we might not be covered by insurance.

The Lookout and Visitor Centre are both quite small. From time to time we get requests for large parties and it is imperative that these are coordinated by PQ's public relations officer to ensure that we don't get clashes or too many people at a time.

## 2.8 Water Safety


National Coastwatch Institution is part of the national "**#RESPECT**THE**WATER**" campaign.

Other institutions involved are the RNLI, Coastguard and "blue light" emergency services.

The aim of the campaign is to alert the public to the dangers faced on or near water.

The NCI can offer information to help the public make decisions and take actions to stay safe along the coast.

There is a display in the Visitor's Centre that has various posters covering all aspects of water safety. There are leaflets that are free for public to take away, and also, when available, goods related to water safety e.g., paddle board stickers, phone pouches, etc.

Watchkeepers are encouraged to converse with the public and this may involve answering their questions regarding their safety.

There is a variety of information you can pass on that includes tide times, local weather conditions and anything that you may think that could relate to them – e.g., safety of children and dogs around cliff edges and in areas where livestock is grazing.

These are the key points to convey:

Table 2 Key water safety messages

**If in difficulty and there is no lifeguard close by, dial 999 and ask for Coastguard. If you are on the water and have a VHF radio, call the Coastguard on Ch. 16.**

**While swimming**

- Choose a lifeguarded beach and swim between the flags.
- Check the weather and tides and be aware of rip currents.
- Be visible when swimming - wear a tow float and/or brightly coloured swim hat.
- In difficulty, remember *float to live.*

**If boarding also**

- Wear a suitable lifejacket or buoyancy aid.
- Wear an appropriate leash while boarding.
- Carry a phone in a waterproof pouch.

**Coastal walking**

- Let someone know where you are going and when you expect to be back.
- Plan your route and check tides if you walk by the water so you don't get cut off.
- Check the weather forecast, especially for mist, fog and high winds.
- Stay back from cliff edges as some cliffs overhang or are unstable.
- Always take a mobile phone with you

**On jet skis, small powered craft, dinghies and small yachts**

- Check weather and tides, especially wind conditions.
- Wear an appropriate lifejacket or buoyancy aid.
- Wear a kill cord when appropriate.
- Carry a phone in a waterproof pouch.
- Consider carrying a personal locator beacon or VHF radio.

Those who live close to the sea should mostly be aware of potential dangers, however others visiting may not have that knowledge. Engaging with the public is not easy for everyone – by telling them about the NCI and what we do may lead to discussing safety issues as well.

Prawle Point NCI has its own water safety officer who welcomes questions and suggestions.

## 2.9 Extreme Weather

There are occasions when the weather is extreme enough to make it unsafe, particularly getting to and from the Lookout.

If due to extreme weather conditions, you

(i) feel unsafe in the lookout OR

(ii) are concerned about returning home safely if you continue with the watch OR

(iii) consider it will be unsafe for those on the following watch(es) that day to attend,

you can opt to close the watch early.

Before closing the Lookout, you must first take all three of the following steps:

1. do your utmost to contact all the watchkeepers on the following watch(es) that day to prevent them making a wasted and potentially hazardous journey. Please try to do so at least 90 minutes before the scheduled end of the watch, particularly if they need to travel a long way from home. If you can only leave a voice message, do so but try other routes such as sending a text message or email AND
2. inform the Station Manager but if you are unable to speak with him try the Deputy Station Managers and Station Committee members in turn until you have spoken to someone AND
3. telephone Falmouth Coastguard; you will find them sympathetic.

Then close the watch and the Lookout, following the Closing Checklist as you would normally.

The contact details for the Station Manager and DSMs are in the Station Operating Manual in the secure cupboard.

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# 3 Activities and Incidents

## 3.1 Introduction

1. The primary function of all NCI Watchkeepers is to spot any vessel or person in difficulty or at risk, whether on land or at sea, and immediately report the essential facts to HMCG.

2. We are the '*local eyes and ears*' of HMCG and, as such, must always act speedily, and with accuracy, when dealing with an incident.

3. NCI's contribution to the national SAR community is in helping to maintain a safe coastal environment – our professionalism must therefore be a continuous priority.

4. Immediately a potential incident is identified, Watchkeepers must follow NCI's standard Incident Reporting Procedure, summarised as SPOT, PLOT, REPORT AND RESPOND

- **SPOT:** Visual observation of the incident
- **PLOT:** Establish location of the incident
- **REPORT:** Notify HMCG in a timely manner
- **RESPOND:** Follow directions of HMCG or other agency

## 3.2 What is an Incident?

1. An event is defined by NCI as an incident if:
   - Watchkeepers initiate a call to any emergency service (HMCG, Police, Fire or Ambulance) in connection with an accident or incident and request their assistance
   - Watchkeepers provide assistance to the emergency services in connection with an accident or incident, whether HMCG initiated or not
   - HMCG or the police provide an incident reference number
   - the Station Manager believes that there are lessons to be learned by NCI as a whole
2. Other events outside the above definition where we participate and add value but no emergency service is involved are recorded by us as "Activities".
3. As a rule of thumb, any non-routine call to or from the Coastguard involving a vessel, hazard or pollution at sea or a person on land is almost certainly an incident and so an incident number if available should be requested in due course.
4. NCI has also indicated that certain partner agencies such as harbourmasters count as an emergency service for this purpose.
5. Watchkeepers do not need to automatically notify HMCG when they call the police, fire or ambulance service in an emergency (except in the case of a found child or vulnerable adult), or when they are asked for assistance by any of those services. However, if the incident is likely to be relevant to HMCG operations the Coastguard must be informed.
6. There is sometimes only a fine distinction between an Activity and an Incident but the ordinary watchkeeper need not be overly concerned and should just observe the instructions below:
7. All activities and incidents are to be recorded on an Activities and Incidents Record form.
8. **Incidents** should be underlined in red in the logbook. We should obtain an incident number from the Coastguard (or police).
9. **Activities** should be underlined in black in the logbook.
10. Watchkeepers must never leave their Station unattended to investigate any incident, occurrence or debris.

11. If you are unsure if what you have seen is reportable, check with the day's Duty Manager, the Station Manager or a member of the Station Committee. If you believe that life or property is at risk '*call it in*'.
12. It is the duty watchkeeper's responsibility, using experience and judgement, to determine the seriousness of the incident.
13. The posters above the windows are useful guides as to our reporting procedures. There are copies of them in paragraph 3.16 *An overview of PQ incident reporting procedures* on page 3:21.

## 3.3 When an Activity or Incident starts

These are the general actions to take when an Activity or Incident starts:

1) Note the time and start a rough log on a notepad or an Activity and Incident Worksheet.
2) Silence the Lookout and record a radio distress or urgency call.

Depending on the nature and severity of the incident you may wish to:

3) Ask all visitors to leave the Lookout and lock the outer door.
4) Record the weather and sea conditions at the start of the incident or activity on a notepad or preferably on an Activity and Incident Worksheet.
5) Notify the Station Manager or Deputy Station Manager if the situation is, or is likely to be, both serious and NCI notifiable (paragraph 3.9 *Serious incidents – Retaining the evidence* on page *3:8).*
6) Summon Additional Help from Committee members (paragraph 3.8.2 *Additional help* on page 3:8) if, in the opinion of the duty watchkeeper(s), additional manpower is required at the Lookout.
7) Ask the 'offgoing' watchkeeper(s) to remain on station and provide continuity if an incident is in progress at the time of watch handover.

## 3.4 General procedures for dealing with Activities and Incidents

However an activity or incident arises, the procedure is essentially as follows:

1) **SPOT, PLOT** and **REPORT**.
2) **RESPOND with additional information.**
3) **RECORD** the activity or incident.

### *3.4.1 Spot, Plot and Report*

#### 3.4.1.A Spot

In all cases you need to first identify the casualty or potential casualty and note the key facts for reporting to the Coastguard. These are:

- Type of incident/ nature of distress.
- Flares if sighted: what seen, length of time visible and estimated height.
- Identity or type of any craft involved.
- Number of persons visible or involved.
- What is happening on scene.

If an incident is reported to you by a member of the public, you will need to establish the above by questioning and, if possible, by visually confirming the information given to you.

There are useful satellite photographs hanging over the radar which give the grid references of various points within sight of the Lookout (see Figure 2-13 on page 2:18).

### 3.4.1.B Maydays and Pan Pans

If you hear a distress message (MAYDAY or PAN PAN) on the radio you should record it and note the message verbatim in both cases as far as possible including the above key facts and, if given, the latitude and longitude. Our radios are not DSC enabled and Distress Alert messages will not be displayed on the screen.

**If the Coastguard does not respond to a distress message (MAYDAY or PAN PAN) within 30 seconds, you must report the emergency to the Coastguard giving range and bearing if possible.**

Messages may be partial, garbled or badly phrased, particularly if the VHF operator is under stress and / or inexperienced.

Vessels often call the Coastguard on channel 16 and then, when switched to Channel 67, report a problem. We therefore need to maintain a listening watch on both channels 16 and 67. If you hear a problem discussed on Channel 67 involving a vessel on 'our patch', you should note the key facts.

### 3.4.1.C Channel 65

If a vessel calls Prawle Point NCI, Coastwatch or a variant thereof on Channel 65 after trying to contact the Coastguard on Channel 16 without success and reports an incident, you should:

1) make a note of the key facts as above;
2) ask the caller to standby on Channel 65; and then
3) telephone the Coastguard on 999 (pass the message and act as instructed.

**Subject to the rule about unacknowledged MAYDAY and PAN PAN messages, if you hear a station calling the Coastguard twice without obtaining a response, you should telephone the Coastguard on the routine number and inform them.**

### 3.4.1.D Plot

Quickly establish a visually generated bearing and distance from the Lookout. Do this even if the casualty gives his position by radio. It may be wrong. It is far better to be quick and approximate than waste time being unnecessarily precise at this stage.

### 3.4.1.E Report

Report the essential facts to the Coastguard without delay.

In the case of a lost or found child or vulnerable adult you must notify the police as well (paragraphs 4.6 *Missing child or vulnerable adult reported by member of the public* and 4.7 *Found child or vulnerable adult* on page 4:3).

Aim to report incidents involving persons, vessels or aircraft within a minute.

1. Telephone 999 and ask for the Coastguard.
2. When you are connected, say:
   "*This is Prawle Point NCI, reporting an incident.*"
   or, if you are reporting an unacknowledged distress message:
   "*This is Prawle Point NCI. Did you hear the Mayday/Pan Pan from* (vessel name)?"
3. If reporting an unanswered Mayday or Pan Pan, the Coastguard *may* ask you to radio the vessel on Ch.16 but **you must not do so without first being given authority**.
4. Introduce the member of the public who reported the incident if that is the case and put them on the phone.

5. The initial report needs to be brief and clear. At this stage all that is required is enough information to allow action to be initiated.
6. Report the 4 W's – "When, Who, What, Where" – facts only , do not speculate. If reporting an unacknowledged distress message, repat it verbatim

   **When?** The time of first sighting or receipt of the distress message.

   ***Who?*** Type and, if readily available, identity of craft if incident at sea.

   a) Name, sail number or, fishing vessel's port registration number (check logbook); and
   b) Number of people visible and what are they doing.

   **What?** Type of incident, nature of the problem.

   **Where?** Location.

   a) Bearing and distance from Lookout; and/or
   b) The latitude and longitude reported in the distress message; or
   c) Named location or OS grid reference if a land incident.
7. Try to give as accurate a position as possible but do not waste time at this stage plotting the casualty's position on the chart; speed is of the essence. A latitude and longitude from the radar is best. Otherwise give a bearing and distance from the Lookout. Remember that the greater the error in the bearing and distance given, the greater the area to be searched.
8. In all cases, give the most accurate bearing you have. The pelorus is the best. The bearing given will be particularly important if a helicopter is tasked. Standard practice is for a helicopter to overfly the Lookout and set off down the bearing. See paragraph 7.4 *Give a position as a bearing and distance from PQ* on page 7:4.
9. NEVER make a call directly to Salcombe RNLI to report an incident.

### *3.4.2 Respond*

Watchkeepers must:

- carry out all instructions given by HMCG
- keep the target in sight, reporting changes to HMCG

Always be prepared to be asked for, or to volunteer, additional information, for example:

**AT SEA** – other information needed

- more detailed description of person/vessel
- if flares sighted – colour, length of time visible, estimated height, smoke drift
- nearby vessels of a size able to assist
- weather conditions and sea state at target's location
- what is happening on scene

**ON LAND** – other information needed

- any assistance already provided
- weather conditions at scene
- what is happening on scene
- OS grid reference of nearest vehicular access point

Do not hesitate to volunteer additional information to assist the rescue operation.

Our goal is to help reduce the search area to the minimum for the rescue boat or helicopter.

**NOTES:**

1) Maintain an activity and incident log. Include all relevant telephone calls, actions taken and radio traffic. Use PQ's Activity and Incident Worksheet kept on the console or a notepad.
2) Keep the casualty under continuous observation and plot its track on the chart.
3) If the casualty at sea is not visible but its position has been reported and it is in, or may come into, our watch sector, calculate its direction and possible rate of drift. This will help with any visual search procedures being followed.
4) Be prepared to direct the Rescue Services to the casualty if so instructed by the Coastguard. If you believe you can assist then offer to do so (see paragraph 3.13 *Guidance on communications during an Incident* on page 3:17).
5) If two watchkeepers are on duty and the casualty is visible, one watchkeeper should maintain constant watch and perform any chart work needed without losing visual contact. The other should monitor telephone and radios and maintain the log.
6) Whether or not an incident is in our sector remember to maintain a listening watch until the incident has been closed in case there are radio problems.
7) Watchkeepers should be extremely cautious about leaving the Lookout to attend or investigate a land-based incident. If it is decided to do so:
   a) Only one watchkeeper should leave and then only if the watch is double-manned and the other watchkeeper agrees.
   b) Take a hand-held radio.
   c) Wear a 'high vis' jacket.
   d) Take the grab bag kept on the back of the inner east door. Its contents are listed on it and include a waterproof notebook and pencil so that a written log may be maintained.
   e) When the Coastguard/emergency services arrive, hand over the incident to them.

### *3.4.3 Record*

1) Obtain an incident number from HMCG after the situation has been dealt with
2) Seek additional contact information when an incident is reported by a member of the public including the first informant's name and contact details
3) Make a full record of the facts of the incident, including relevant times, in an Activity and Incident Record, transferring information from any rough notes made during the incident;
4) Log all relevant events, telephone calls and radio traffic
5) Log any SAR personnel in attendance during an incident
6) Ensure that all information documented is legible and cross-referenced to the Station Logbook
7) Enter all incidents where NCI has actively taken part and underline in red, in the Station Logbook
8) In the case of lost or found children, follow the relevant protocols (see paragraph 4:2 *Special checklists* on page 4:2) and the principles set out in our Safeguarding Policy (see paragraph 4.17 Safeguarding *and Wellbeing Concerns* on page 4:12) must always be borne in mind.
9) Email the Activity and Incident Record and relevant pages of the Logbook to the Station Manager and Committee using the computer's SmartScan function
10) If that is not possible, copy all documents on the printer scanner at the Lookout and deliver them to the Station Manager.
11) File the original Record in the 'Activity and Incident Records' binder.
12) If you think there are lessons to be learnt from the activity or incident, tell the Station Manager.

## 3.5 Example reports

PQ *This is Prawle Point NCI reporting an incident. We have visual of motor vessel 'Hopeless' that has apparently lost power on a bearing of two three seven degrees from Prawle Point at a distance of half a nautical mile. The skipper has indicated his distress to us by looking up at us and waving both arms up and down. There are two persons on board including the skipper. One is a small child. None are wearing lifejackets. The vessel is white, approximately five metres in length with a small cuddy and an outboard. There are no other vessels in the vicinity able to assist.*

---

PQ *This is Prawle Point NCI. Did you hear the MAYDAY from vessel 'Bad Day'?*

CG *No we did not.*

PQ *We heard the following MAYDAY at 1524: "Mayday. This is Bad Day, Bad Day, Bad Day. I am a quarter of a mile South West of Bolt Head and am sinking. I have three persons on board and require immediate assistance".*

*We have visual on Bad Day. It is sinking but not, repeat not in the position given. It is on a bearing of two one zero degrees from Prawle Point at a distance of a quarter of a nautical mile. The three persons have abandoned the vessel and are now in a small inflatable in that position. None are wearing lifejackets and one is a small child. There are no other vessels in the vicinity able to assist.*

---

PQ *This is Prawle Point NCI reporting an incident. We have just had reported to us a gentleman having fallen on the coastal footpath west of Prawle Point and having sustained a suspected broken leg. The casualty is understood to be close to Signalhouse Point at grid reference Sierra X-ray 770355. The casualty's wife tells us that her husband is 75 years old but is in generally good health. His son is with him.*

## 3.6 Safety advice – Helicopters

If a Coastguard helicopter or the Devon Air Ambulance is tasked to an incident on the Coastal footpath, members of the public should be given the following advice:

1) If the helicopter is landing, taking off or hovering above, protect your eyes from flying debris caused by the downdraft; this can be considerable.
2) Keep well away when the helicopter is landing or taking off.
3) When the helicopter is on the ground, do not approach it except with the permission of the pilot or a member of the crew. **Never approach a helicopter from the rear.**

Obviously, you too should follow that advice, should you be out of the Lookout at the time.

## 3.7 Anti-social and criminal behaviour

Watchkeepers should be cautious about intervening when cases of anti-social or criminal behaviour occur off station. Our role is rather to report to the appropriate people. If a report is made, it should be recorded as an Incident.

## 3.8 Whom to contact in an emergency

You need to know whom to contact in an emergency either to report it or to request more help at the Lookout.

Whilst most incidents are first reported to the Coastguard, a variety of other agencies may need to be contacted from time to time including the Police, Ambulance service/paramedics, Border Force,

Salcombe lifeboat station, Salcombe Harbourmaster, local farmers, South Hams District Council and wildlife agencies.

There is no need to inform the Coastguard if you call the fire, police or ambulance in an emergency or if you are asked for your assistance by one of those services **UNLESS** the incident is relevant to Coastguard operations. **N.B.** Emergencies on the coastal path or at sea should be reported to the Coastguard but, if for example, you spotted one of the Coastguard Cottages on fire, the fire brigade would be called.

#### *3.8.1 Third party phone numbers*

There is a list in the Station Operating Manual kept in the secure cupboard.

#### *3.8.2 Additional help*

Assistance may be needed to support the Lookout in the following circumstances:

1) A major situation such as a ship ashore, oil pollution or missing person where either additional manpower is required to supplement the watch or when additional hours of coverage are required.
2) Bad weather, if watchkeepers travelling from a distance are unable to reach the Lookout.
3) Any other situation where there's a need for more help at the Lookout.

Details of whom to contact in the first place are in the Station Operating Manual.

#### *3.8.3 PQ watchkeepers*

A current list of watchkeepers and their contact details is kept the Station Operating Manual.

#### *3.8.4 Neighbouring NCI stations*

See the Station Operating Manual for phone numbers.

## 3.9 Serious incidents – Retaining the evidence

Serious incidents might become the subject of a subsequent investigation and/or hearing in a court of law. Such incidents may involve:

- loss of life
- serious injury
- collision at sea
- wreck or loss of a vessel
- fire causing major damage
- serious pollution

Where this is the case, Station personnel could be called upon to present the Station Logbook and any other material evidence, for example photographs, rough notes, written statements and/or or tape recordings of phone calls. In such serious cases these items should be placed in a Serious Incidents envelope. You'll find them at the bottom of the Watchkeeper's Box. Fill in the details on the front of the envelope then seal and sign it and put it back in the box.

13. Any queries received from HMCG or other agencies, regarding incidents will be answered by referring to the Station Logbook. General enquiries from authorised parties can also be answered by review of the filed incident reports held on NCI's national database.

## 3.10 Activity and Incident procedure summaries

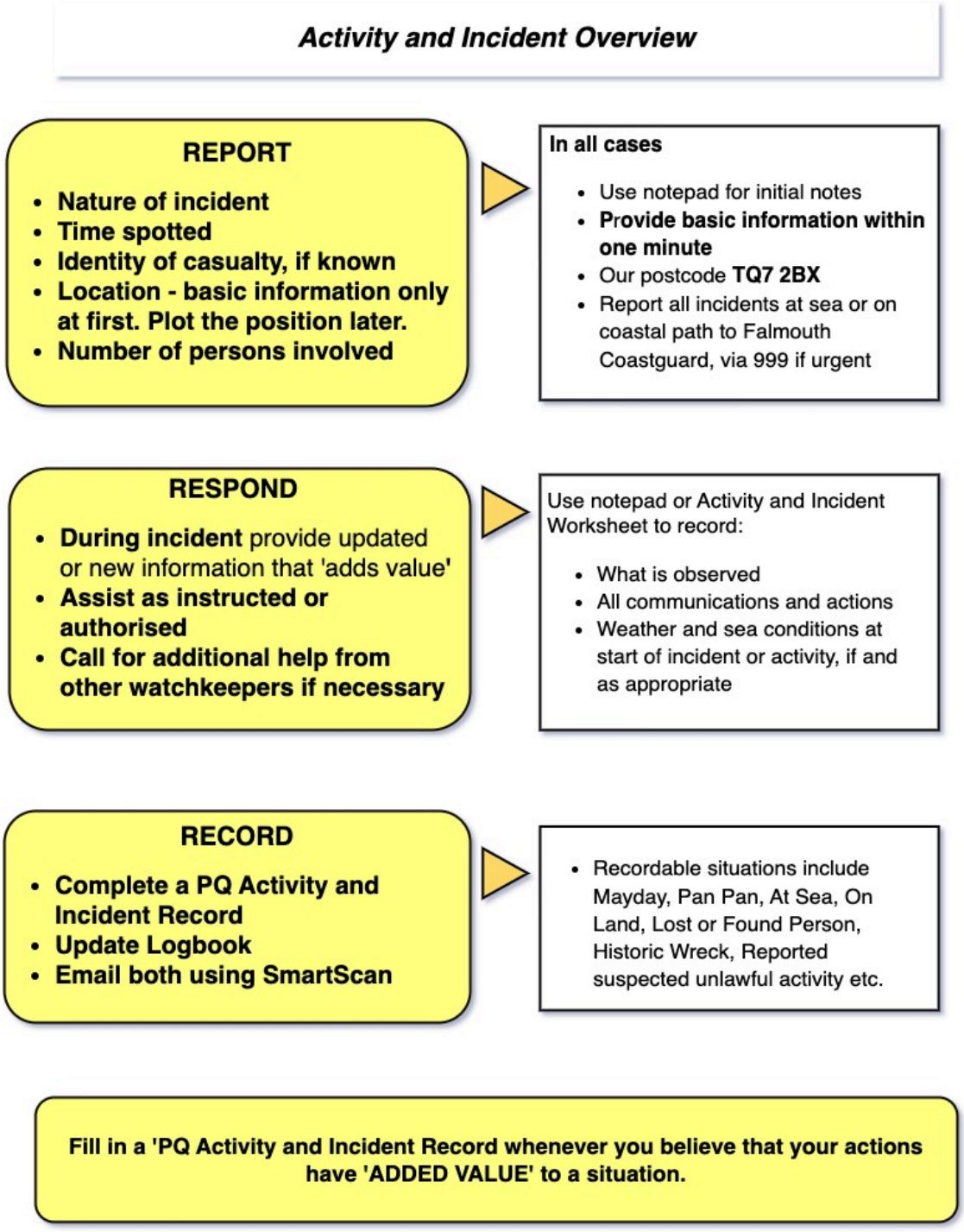


Figure 3-1 Activity and Incident Overview

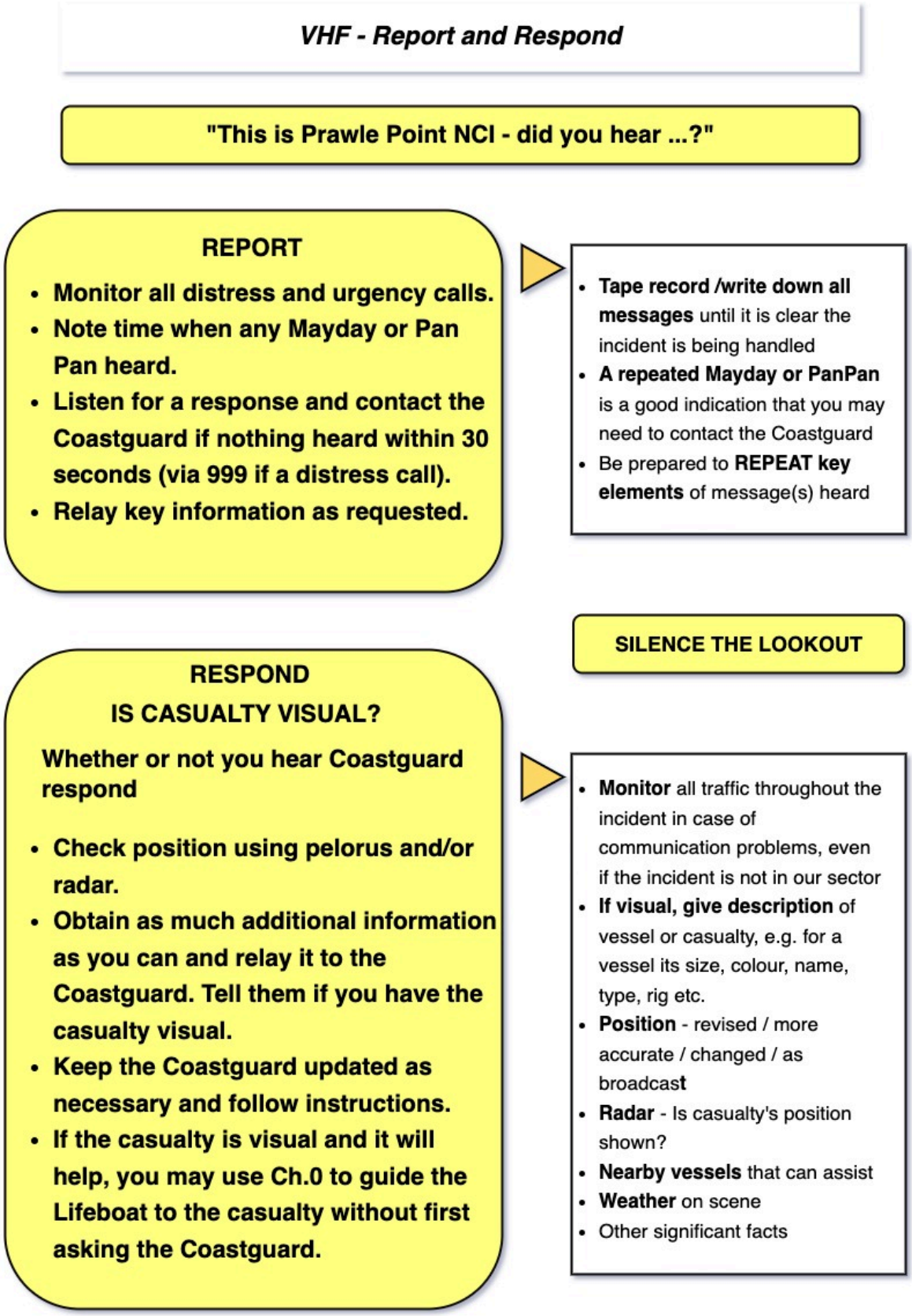


Figure 3-2 VHF Report and Respond Summary

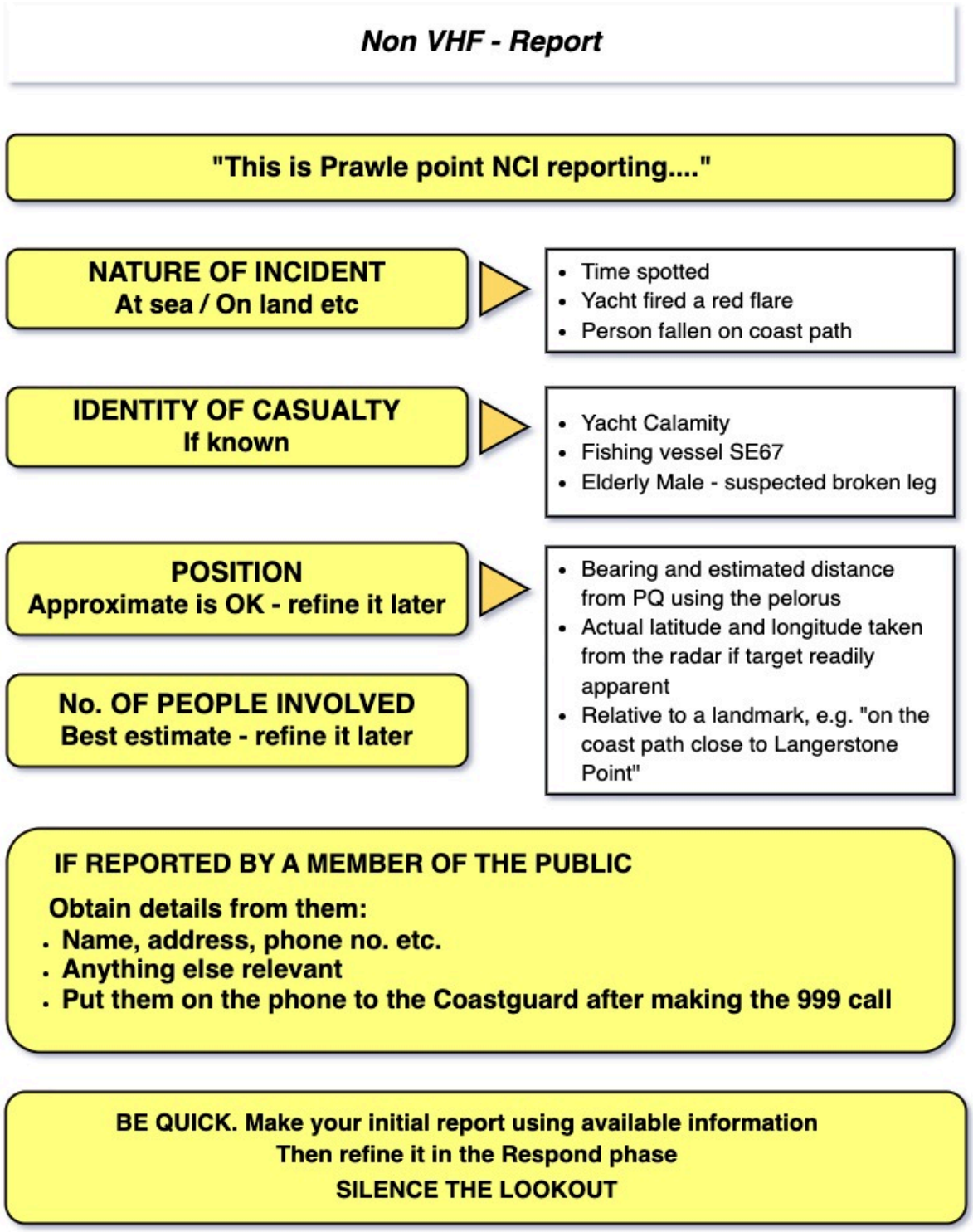


Figure 3-3 Non VHF Report Summary

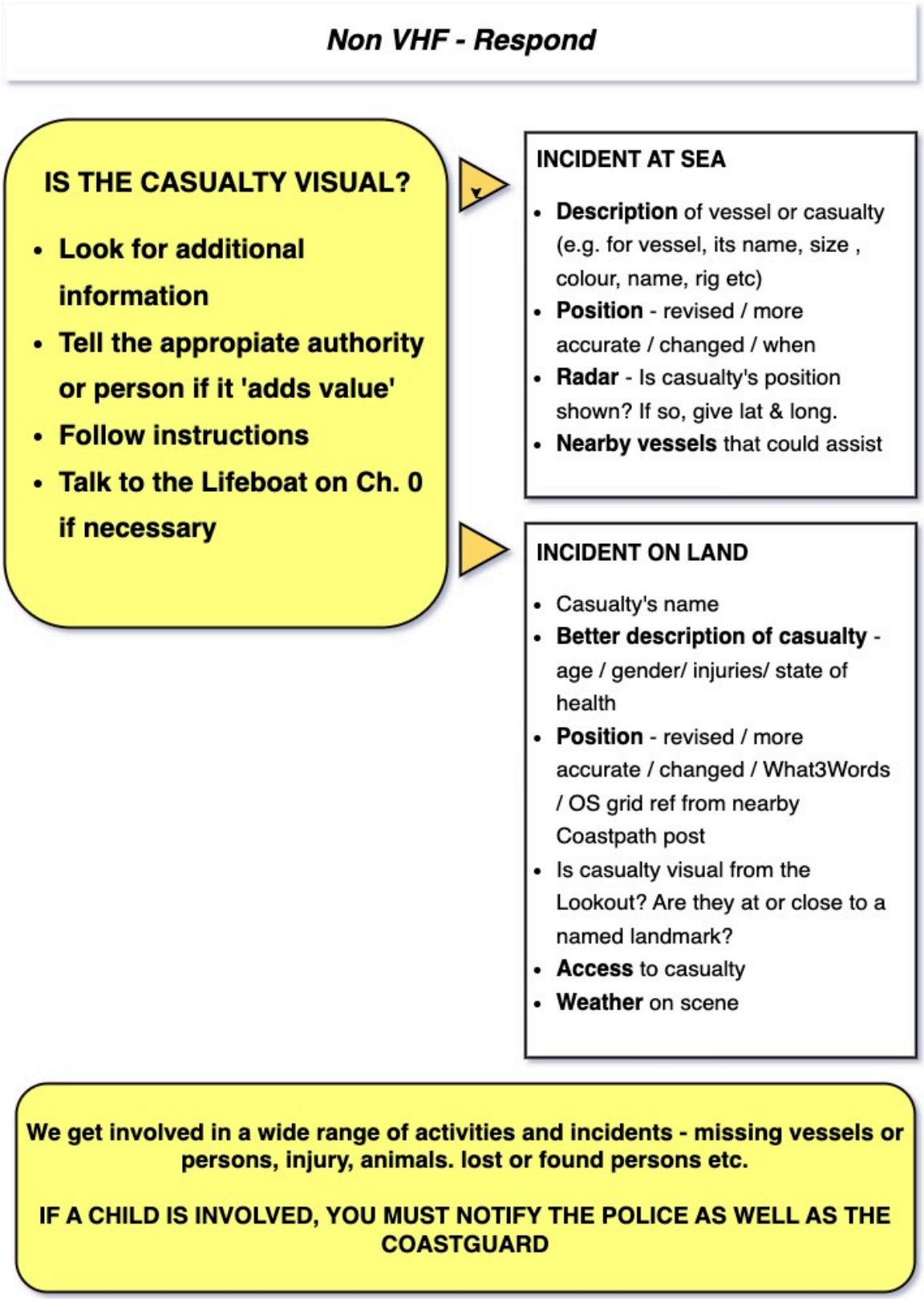


Figure 3-4 Non-VHF Respond Summary

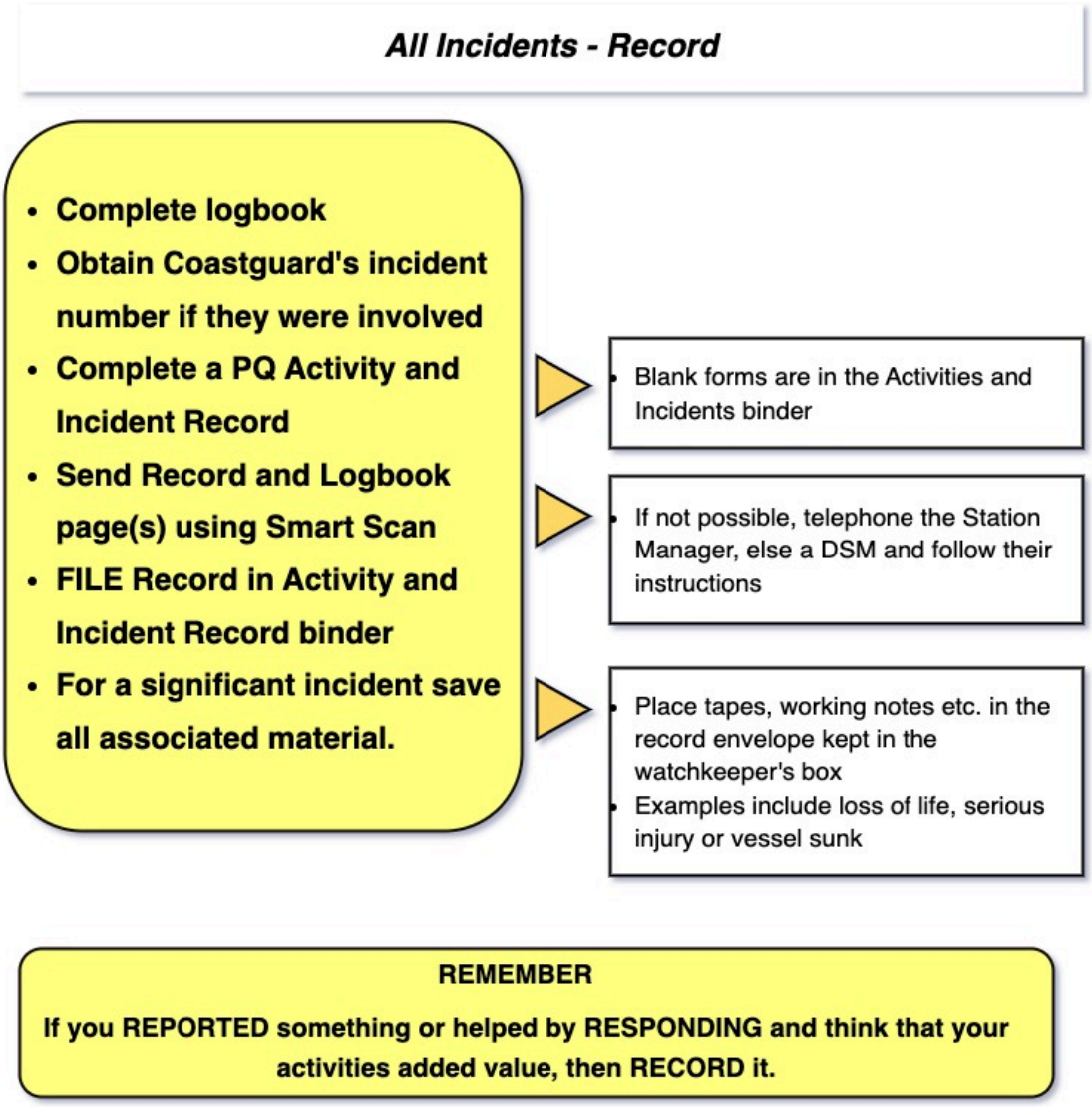


Figure 3-5 All Incidents - Record Summary

## 3.11 NCI notifiable incidents

(Based on NCI National Guidelines)

**Category 1: Radio relay.** A radio MAYDAY, PANPAN or other distress/urgency call not received by the Coastguard but intercepted by PQ and RELAYED to the Coastguard.

**Category 2: Casualty sighted/identified by PQ or member of public and reported by PQ to the Coastguard:**

1) Vessels in distress (e.g. sinking, on fire or loss of power) flares sighted or emergency signals from sea. Also includes canoeists or other small craft which may be in potential trouble with an offshore wind.
2) Persons in distress (e.g. divers or swimmers being washed out to sea or exhausted; member of the public injured or suddenly taken ill).
3) Aircraft/gliders/hang gliders/ hot air balloons apparently in difficulties.

**Category 3: Significant information supplied by PQ to the Coastguard in connection with an ongoing or potential SAR incident:**

1) Radio traffic heard from (potential) casualty to the Coastguard without a response.
2) Casualty reported by PQ as visual by eye or by radar/AIS.
3) Any other information of value reported by PQ to the SAR authorities, e.g. vessels nearby, what's happening on scene.
4) Direct contact with Lifeboat.

**Category 4: Lost/found child or children directly involving PQ reported to Police and/or the Coastguard.**

**Category 5: Fire whether on shoreline or inland requiring attention of Fire and Rescue Service.**

**Category 6: Objects sighted/found and reported to the Coastguard:**

1) Potentially dangerous objects, e.g. chemical containers containing any liquid, munitions found on beach - suspected live or inert.
2) Beach debris or floating objects indicating possible distress or hazard. E.g. life raft, lifebelt or emergency clothing, large parts of boats, or very large debris.

**Category 7: Animal welfare incidents:**

1) Whale, dolphin, porpoise harassed or washed up – alive or dead. N.B. Cases of seal harassment or dead seals are NOT reportable to the Coastguard.
2) Three or more dead birds observed in one place, reported to DEFRA.
3) Livestock or other animals in serious distress – reported to farmer, the Coastguard and action subsequently taken.

**Category 8: Pollution incidents reported to the Coastguard:**

1) Oil slicks coming ashore.
2) Six or more oiled birds, dead or alive, observed in one place.

**Category 9: Suspected illegal activity reported and action taken**:

1) Suspected crime observed afloat or on shore and reported to Coastguard.
2) Suspicious vessels/activity reported to the Coastguard.
3) Unauthorised diving observed on historic wreck site (i.e. no prior notification given by the Coastguard or licence holders) and reported to SWMAG.

## 3.12 Example completed PQ Activity and Incident Records

In both cases these record forms summarise but do not replace the entries made in the logbook. The 'Send_Incident_Activity_Report' function mentioned on the forms has been replaced by the Smart Scan printer function (See paragraph 11.13 *Printer* on page 11:8).

### *3.12.1 Simple activity*

**PQ ACTIVITY and INCIDENT RECORD** PRAWLE POINT NCI

| | | | |
|---|---|---|---|
| **DATE** *1 January 2018* **LOCAL time** *1030* | | **WEATHER** | |
| **TYPE – Mayday, Pan Pan, At sea, On land, Lost/Found person, Criminal activity, Dolphins, Historic wreck etc.** | *Farm animal stuck on slope* | **Wind Dir.** *W* | **Visibility** *16 nm* |
| | | **Wind Force** *2* | **Cloud** *0/8* |
| **RESPONSE INITIATED BY PQ, HMCG or other emergency service †** | *PQ* | **Sea State** *N/A* | **Weather** *fair* |
| | | **Sea Swell** *N/A* | **Barometer** *1016.7* |
| **IDENTITY/TYPE/ DESCRIPTION of casualty** | *Sheep* | | |

| ***SUMMARY, CONCLUSION AND OUTCOME*** |
|---|
| **What happened, Location, Assistance required, People involved etc.** |
| *Mr Smith came into the Lookout to report a sheep stuck on the slope up by the wall* |
| *Reported by phone to Mrs Wotton* |
| |
| |
| |
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| |
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| |
| |
| **Page** *1* **of** *1* **.** **Continue overleaf if necessary** |

| ***COMPLETION*** | **Complete as applicable** |
|---|---|
| **COASTGUARD INCIDENT NUMBER (Enter N/A if not applicable):** *N/A* | |
| **WATCHKEEPERS INVOLVED** *John Smith and Jane Jones* | **LOGBOOK PAGE NO.*** *24* |
| **ACTIONS BY WATCHKEEPER(S)** | **Initial when done** |
| Log book completed | *JS* |
| Email scanned copies of this form and applicable log book pages using the 'Send_Incident_Activity_Report' function on the Lookout PC. **Remember to scan both sides of this form if you've continued overleaf.** | *JS* |
| **Now file this report in the PQ Activity and Incident Record binder in the Lookout** | |
| **ACTIONS BY STATION MANAGER/ PRO** | |
| | |
| | |

In the logbook underline incidents in red and activities in black.

† Enter incident reported to PQ by member of public as 'PQ'
* Enter the logbook page on which the activity or incident is first recorded.

**PQ NCI Activity and Incident Record. Document owner: Richard Cropper** **Version: - 04/09/2017**

Figure 3-6 PQ Activity & Incident Record - Simple activity

### 3.12.2 PAN PAN Record

In Figure 3-7 below the times have been omitted in the summary section. This is perfectly acceptable PROVIDED that you have written up the log correctly AND include the applicable log page(s) with the Record when you send it to the Station Manager.

**PQ ACTIVITY and INCIDENT RECORD** PRAWLE POINT NCI

| | | | |
|---|---|---|---|
| **DATE** *1 January 2018* **LOCAL time** *1130* | | **WEATHER** | |
| **TYPE – Mayday, Pan Pan, At sea, On land, Lost/Found person, Criminal activity, Dolphins, Historic wreck etc.** | *PAN PAN* | **Wind Dir.** *W* | **Visibility** *16 nm* |
| | | **Wind Force** *2* | **Cloud** *0/8* |
| **RESPONSE INITIATED BY PQ, CG or other emergency service †** | *CG* | **Sea State** *2 smooth* | **Weather** *fair* |
| | | **Sea Swell** *1 slight* | **Barometer** *1016.7* |
| **IDENTITY/TYPE/ DESCRIPTION of casualty** | *Yacht 'Blue Gull'* | | |

| ***SUMMARY, CONCLUSION AND OUTCOME*** |
|---|
| **What happened, Location, Assistance required, People involved etc.** |
| *PAN PAN heard from Blue Gull requesting assistance to enter harbour due to steering damage* |
| *Falmouth Coastguard responded and tasked Salcombe ILB* |
| *Advised Falmouth that we had the casualty visual in reported position (4 nm 160° from Lookout)* |
| *ILB met up with casualty and escorted her into Salcombe. Bar crossed at 1246* |
| |
| |
| |
| |
| |
| |
| **Page** *1* **of** *1* **.** **Continue overleaf if necessary** |

| ***COMPLETION*** | **Complete as applicable** |
|---|---|
| **COASTGUARD INCIDENT NUMBER (Enter N/A if not applicable):** *1234* | |
| **WATCHKEEPERS INVOLVED** *John Smith and Jane Jones* | **LOGBOOK PAGE NO.*** *25* |
| **ACTIONS BY WATCHKEEPER(S)** | **Initial when done** |
| Log book completed | *JJ* |
| Email scanned copies of this form and applicable log book pages using the 'Send_Incident_Activity_Report' function on the Lookout PC. **Remember to scan both sides of this form if you've continued overleaf.** | *JJ* |
| **Now file this report in the PQ Activity and Incident Record binder in the Lookout** | |
| **ACTIONS BY STATION MANAGER/ PRO** | |
| | |
| | |

In the logbook underline incidents in red and activities in black.

† Enter incident reported to PQ by member of public as 'PQ'

* Enter the logbook page on which the activity or incident is first recorded.

**PQ NCI Activity and Incident Record. Document owner: Richard Cropper Version: - 04/09/2017**

Figure 3-7 PQ Activity & Incident Record – Pan Pan

## 3.13 Guidance on communications during an Incident



### *3.13.1 Introduction*

1. The primary function of all NCI Watchkeepers is to spot any vessel or person in difficulty or at risk, whether on land or at sea, and immediately report the essential facts to HMCG.

2. A lifeboat crew is working at sea level and does not have the visual advantage of height and so their view of a rescue scene can be limited. Even with moderate waves, the lifeboat crew may not be able to locate a target.

3. Watchkeepers have the advantage of height and may be able to see the whole scene. In these circumstances, they may be asked by the lifeboat crew or HMCG to assist by directing the lifeboat onto the target. This is commonly called 'conning on'.

4. A pilot disc is available to assist in providing directions to the lifeboat.

### *3.13.2 Guiding principles – HM Coastguard*

The Coastguard is responsible for coordinating SAR operations and they must be kept informed of what is happening on scene.

ALWAYS report everything material to the Coastguard and let them inform the lifeboat. This is our preferred communication path. E.g. phone the Coastguard on the routine number to report:

1) a change in position of the casualty;
2) an incorrect position broadcast; or
3) a life raft launched, boat sinking or people falling overboard.

If you feel that an ongoing dialogue with the Lifeboat would be helpful, you may without first having to obtain the Coastguard's permission radio a lifeboat on Ch.0 to say:

1) that the lifeboat is going wrong way;
2) that the lifeboat is about to overshoot casualty or very close and still going at full speed;
3) that the casualty's new or correct position has not been passed on by the Coastguard; or
4) the casualty's position relative to the lifeboat.

You may also use Channel 0 during an incident to update the Coastguard with important information where it would be more expedient to do so than using the telephone.

### *3.13.3 RNLI Salcombe*

The Salcombe station comprises a full-time coxswain and mechanic together with volunteer crew members (including a medic) and land-based volunteers.

Its SAR (Search and Rescue) vessels include:

- A Tamar Class all weather lifeboat (AWLB) 'Baltic Exchange III', reg. 16-09, (VHF call sign: *Salcombe Lifeboat*) with a maximum operating speed of 25 knots and a range of 250 nautical miles. The normal crew complement is 7, but it can operate with 5. There is secure all-weather accommodation for 44 survivors (self-righting) or up to 118 survivors (non-self-righting) depending on need and conditions.
- An Atlantic 85 B Class inshore lifeboat (ILB) 'Gladys Hilda Mustoe', reg. B905, (VHF call sign: *Salcombe ILB*) with a maximum operating speed of 35 knots and endurance of three hours. Crew of 4. It has capacity for 24 survivors.
- A D-class and a Y-class boat, but these inflatable boats only operate inside the harbour as boarding and landing boats and so do not concern us.

When they are on "shouts" the lifeboats will monitor channels 16 and 0 on VHF. They also do exercises on Sundays and Tuesdays and might listen or even contact us on Ch. 65!

### *3.13.4 Communicating with the lifeboats*

When communicating with the lifeboats on VHF, after the initial call up:

'*Salcombe Lifeboat, Salcombe Lifeboat THIS IS Prawle Point NCI, Prawle Point NCI, OVER'*,

Salcombe RNLI are happy for this to be shortened to:

'*Salcombe Lifeboat, Prawle Point NCI ……., OVER'*,

especially when where there is likely to be a lot of to-and-fro radio traffic (on a "shout" or for example, or an exercise such as DFS).

Both lifeboats have radar and are similarly equipped as far as Prawle Point NCI is concerned:

- They are equipped with AIS and so we can identify and track them. This also helps them to locate any vessel equipped with an operational transponder.
- On board electronic navigation equipment allows them to work effectively with a bearing and distance from the Lookout. They do not need a latitude and longitude although the Coastguard may require one.

### *3.13.5 Giving Directions*

During an emergency it is vital that clear, concise and accurate instructions are passed to the lifeboat crew using standard phrases and terminology.

On first contact it is suggested you give the bearing and distance of the casualty from the Lookout, e.g.

> *'Salcombe ILB, Salcombe ILB THIS IS Prawle Point NCI, Prawle Point NCI. The casualties are on a bearing of one five zero degrees and estimated distance of two decimal five miles from the Lookout. There are two people in the water. We have both visual. OVER'*

Later, the lifeboat may need to be told the position of the casualty relative to it. The Salcombe Lifeboat coxswain prefers the use of '*port, starboard, bow, beam* and *quarter'* and so it is important that you understand the meaning of these terms. You may find using the Pilot Disk useful in these circumstances.

Distances under 0.5 nm should be given to the lifeboat in **cables** which is what their electronics use. A cable is a tenth of a nautical mile or about 200 yards.

Table 3 Conversion table: cables to nautical miles and lifeboat lengths

| Cables | Nautical miles | Metres | AWLB lengths | ILB lengths |
|---|---|---|---|---|
| 1 | 0.1 | 185 | 10 | 20 |
| 2 | 0.2 | 370 | 20 | 40 |
| 3 | 0.3 | 555 | 30 | 60 |
| 4 | 0.4 | 740 | 40 | 80 |
| 5 | 0.5 | 925 | 50 | 100 |

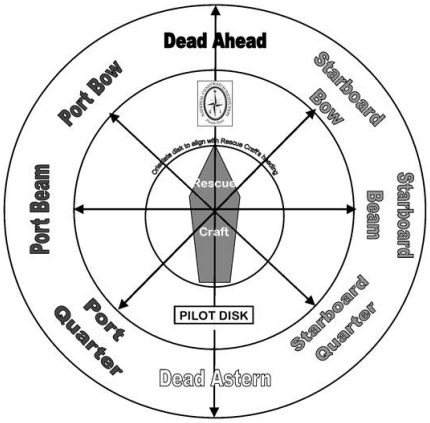
So, for example:

> '*Salcombe ILB, Prawle Point NCI. The casualty is currently about four cables on your starboard beam. OVER'*

DO NOT be scared to tell the lifeboat to '*slow down'* or '*stop*'. They would prefer that to repeated overruns of the casualty.

### *3.13.6 Pilot disk*

A pilot disk can be a useful aid to conning.




Here's how to use it:

1) Hold the disk at arm's length in the direction of the rescue boat and visually align the disk with the rescue boat's forward heading, i.e. with the vertical axis parallel to the boat's fore-aft axis.
2) Without moving the disk, take a line of sight from the centre of the disk to the casualty and read off its position relative to the rescue boat, e.g. on the rescue boat's Port Beam.
3) Estimate the distance of the casualty from the rescue boat - in nautical miles down to about ½nm, then in cables
4) Give the rescue boat the course to steer, e.g. 'the casualty is dead ahead at about 2 cables'.

### *3.13.7 Communicating with other rescue vessels*

There may be rare instances when a craft other than a lifeboat needs to go to the aid of a casualty. In some circumstances the Coastguard may ask for any vessel nearby to go to the immediate assistance of the casualty if they are able to do so without risk to themselves. Watchkeepers should therefore be aware of this eventuality.

The circumstances under which PQ may be required to direct or con a rescue craft are identical to those leading to the direction or conning of the lifeboats However, the execution may differ in the following ways:

1) Permission from the Coastguard to contact the rescue vessel on a channel designated by them will always be required.
2) The rescue vessel may need first to be directed on to the “bearing from PQ” and guided along it.
3) If the rescue vessel is a fishing boat or yacht it is likely that the directions shown on the Pilot Disk will be familiar to them, but they may be less familiar with “cables” as a unit of distance. Watchkeepers will need to make sure that the skipper of the rescue vessel, whatever its type, clearly understands the guidance being provided.

#### *3.13.8 Communicating with Coastguard helicopters*

The procedure for communicating with a helicopter will generally be the same as that applicable for communicating with a lifeboat. Helicopters are particularly interested in the bearing of the casualty from PQ as they can then fly over the Lookout and follow that course to the casualty

## 3.14 Confidential support for watchkeepers

If you feel distressed or would just like to talk about anything after managing a serious incident, you can contact, in confidence, your Station Manager, your Sector Manager or Head of HR & Admin. Contact details are available in the Internal Telephone Directory (ITD) in the password-protected section of NCI’s national website.

## 3.15 NCI Incident Response Guide

Part three of the NCI Manual contains a guide that summarises the action to take and the points to borne in mind in a wide variety of situations.

## 3.16 An overview of PQ incident reporting procedures

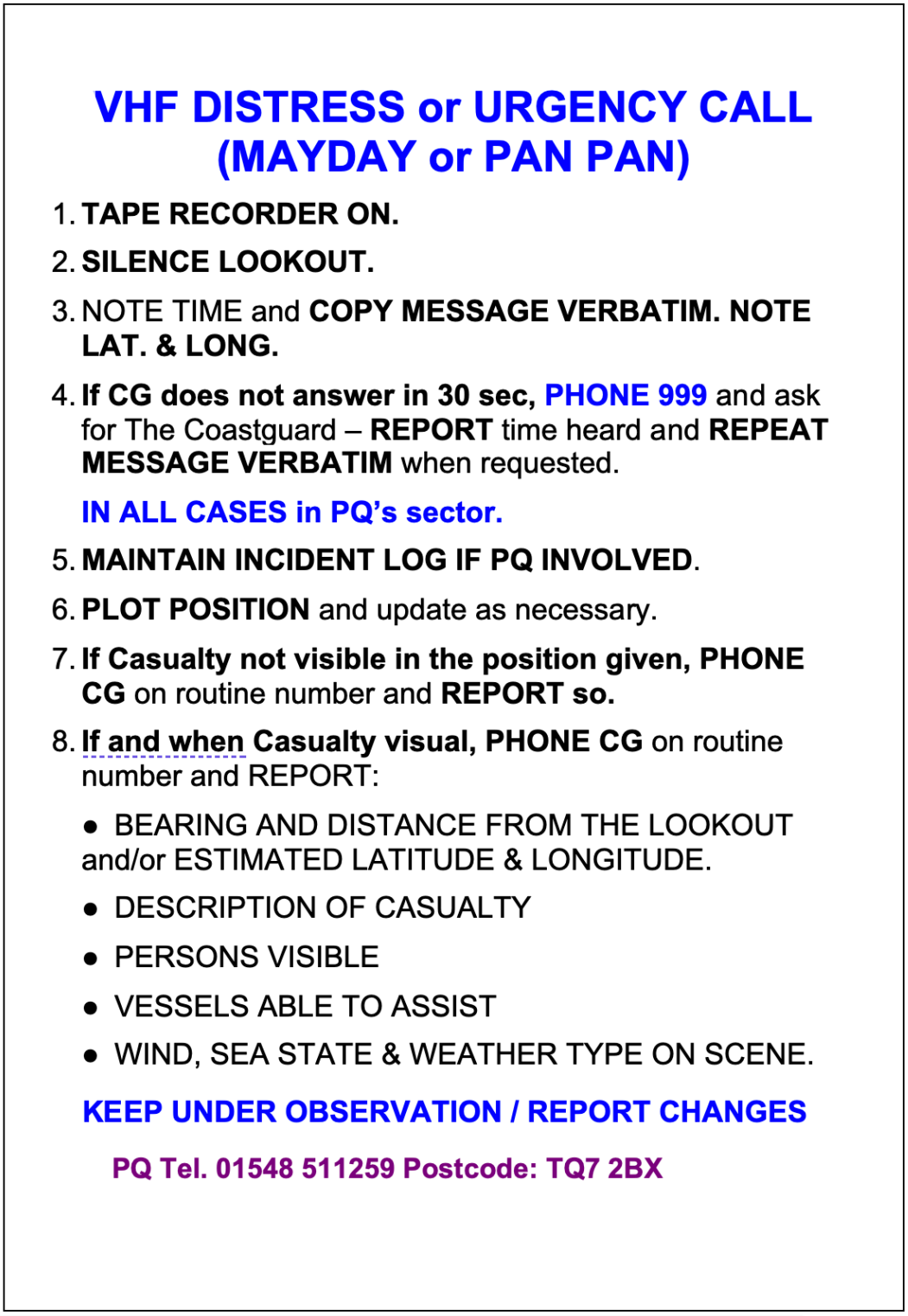


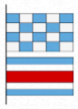

Figure 3-8 Wall poster - VHF Distress or Urgency Call

# CASUALTY at SEA
# (spotted or reported)

1. **ESTABLISH KEY FACTS** by observation or questioning. If reported by member of the public, ask them to stay in the Lookout.
2. **START INCIDENT LOG** and NOTE TIME.
3. **PHONE 999** and ask for the Coastguard. If reported, put the member of the public on the phone to them.
4. If spotted, or reported but member of public doesn't speak to the Coastguard, **REPORT KEY FACTS**:
   - TIME SPOTTED
   - NATURE OF DISTRESS
   - BEARING AND DISTANCE FROM THE LOOKOUT and/or ESTIMATED LAT. & LONG.
   - IDENTITY OR TYPE OF CASUALTY
   - PERSONS VISIBLE.
5. **BE READY TO:**
6. DESCRIBE CASUALTY and what's happening
7. IDENTIFY nearby craft able to assist
8. GIVE WIND, SEA STATE & WEATHER TYPE ON SCENE.
9. **PLOT POSITION and update as necessary.**


EXPLOSIONS


RED FLARES


NOVEMBER OVER CHARLIE


BLACK SQUARE UNDER/OVER BLACK BALL


FIRE


RED PARACHUTE FLARE


ORANGE SMOKE


ARM WAVING


LASER FLARE (RED OR GREEN)


FOGHORN SOUNDING CONTINUOUSLY


(MORSE)

**KEEP UNDER OBSERVATION / REPORT CHANGES**

**PQ Tel. 01548 511259 Postcode: TQ7 2BX**

Figure 3-9 Wall poster - casualty at sea

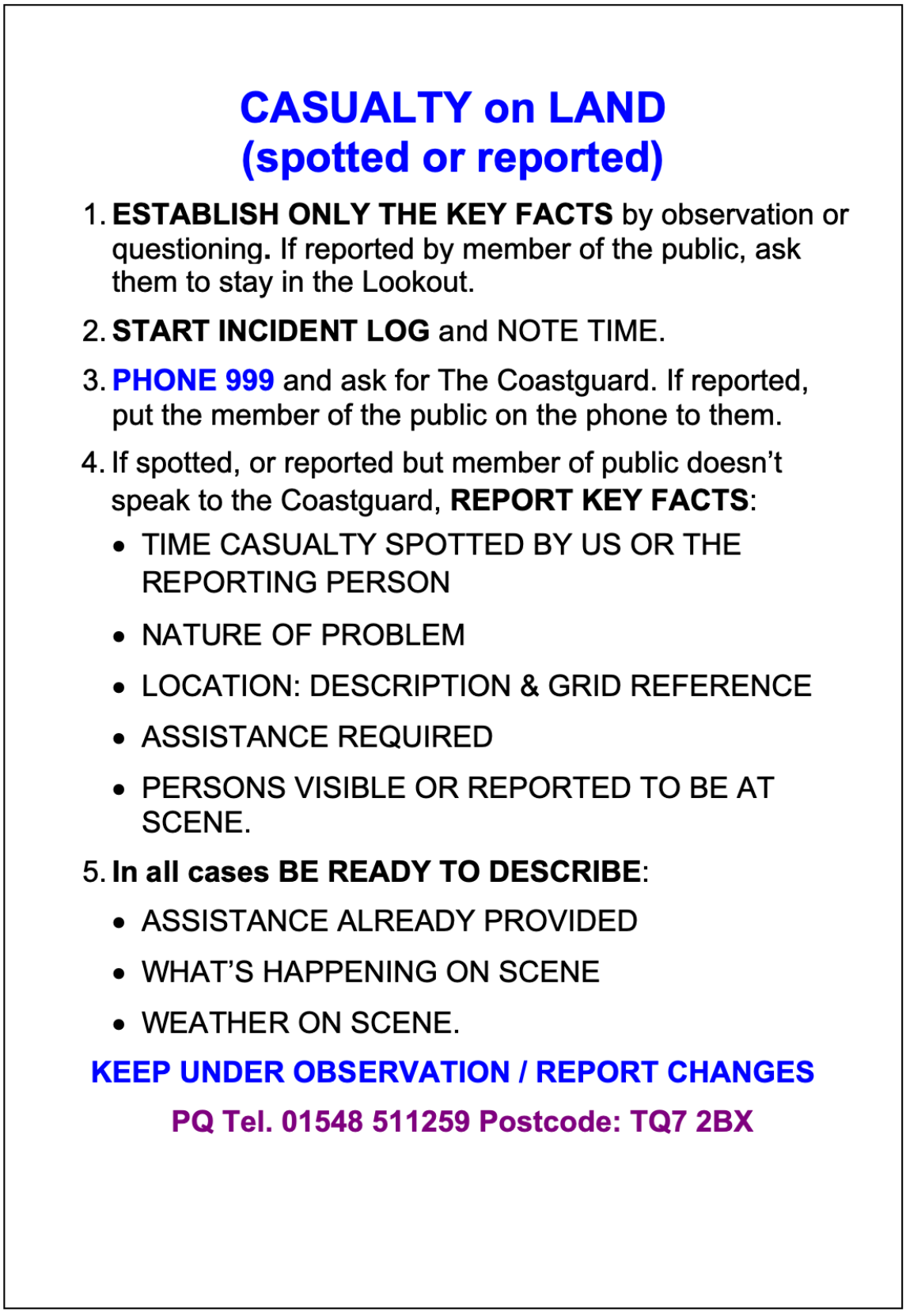



Figure 3-10 Wall poster - casualty on land

# CLOUD BASE INDICATORS

| | LANDMARK (Top of unless otherwise stated) | HEIGHT Above mean sea level |
|---|---|---|
| | Lobeater Rock | 150 ft |
| | Peartree Point | 200 ft |
| **To the** | Start Point Headland | 400 ft |
| **EAST** | BBC Radio Masts (base) | 400 ft |
| | BBC Radio Masts (mid) | 630 ft |
| | BBC Radio Masts (top) | 860 ft |
| | PRAWLE POINT | 200 ft |
| | Bar Lodge | 140 ft |
| | Gammon Head | 170 ft |
| **To the** | Bolt Head (cliff) | 300 ft |
| **WEST** | Bolt Head Headland (top) | 430 ft |
| | Sharp Tor | 430 ft |
| | Higher Rew Mast | 580 ft |

**Illustrated guide in Charts folder and in Watchkeepers' Handbook**

Figure 3-11 Wall poster - cloud base indicators

# 4 Special types of Incident and Activity

## 4.1 Introduction

The sections that follow are additional to the general actions to be taken for an Activity or Incident. Except for sightings of live dolphins or porpoises and matters reportable to the Harbour Authority, they are all recordable as Incidents.

## 4.2 Special checklists

There are special checklists in the Activity and Incident Record binder to help you take the correct actions in respect of incidents concerning a lost or found child or vulnerable adult. If you are ever involved with a lost / found child or vulnerable adult, you **should complete the checklist** and follow the correct procedure (see paragraphs 4.6 *Missing child or vulnerable adult reported by member of the public* and 4.7 *Found child or vulnerable adult* starting on page 4:3).

## 4.3 Missing vessel / Person alerts initiated by the Coastguard.

Follow the guidance below if:

1) you hear an All Stations PAN PAN from the Coastguard on Ch. 16 requesting details of any sightings of a vessel reported missing; or
2) the Coastguard asks if you have logged a missing vessel; or
3) the Coastguard asks if you have spotted a missing person; or
4) the Coastguard asks you to look out for a missing vessel or person.

Actions to take:

1) Copy down the details of the alert issued by the Coastguard on a rough pad.
2) Look back in the Log to see if we have recorded the missing vessel since the 'last seen time'.
    a) Advise the Coastguard if there are any relevant log entries.
    b) Notify the Coastguard if you sight the missing vessel or person during your watch, comply with their instructions and complete an 'Activity and Incident Record' form.
3) If you consider that there is a possibility that the missing vessel/person could be found within our watch area or the Coastguard has specifically requested us to look out for it:
    a) Enter details of the alert in the log.
    b) Enter a notice on the whiteboard. E.g. "*Missing vessel alert – yacht Mirage – see log entry 20 Feb 2018 for 1020hrs".*
    c) If you are handing over to oncoming watchkeepers, ensure they are briefed to look out for the missing vessel/person.
    d) If / when an (already logged) alert is cancelled by the Coastguard make a log entry to this effect and wipe off any notice on the whiteboard.
4) Complete an Activity and Incident Record if you were asked or were able to assist in some way. It is an incident

## 4.4 Missing adult reported by member of the public

1) Check whether the missing person(s) can be seen from the Lookout. If this is the case, verify the details and then only if necessary, contact the Coastguard using the routine number.
2) Otherwise, collect the facts as quickly and as efficiently as possible. See below for special actions with regard to a missing vulnerable adult.
3) Contact the Coastguard via 999.
4) Log events and complete Activity and Incident Record Form. It is an incident.

## 4.5 Vulnerable adults

A vulnerable adult is a person aged 18 years or over who is, or may be, for any reason unable to take care of themself, or unable to protect themself against significant harm or exploitation.

We use the same procedure for a lost or found vulnerable adult that we do for a lost or found child.

## 4.6 Missing child or vulnerable adult reported by member of the public

1) **Use 'Lost Child' form** in the Activity and Incident Record binder to record facts as quickly and as efficiently as possible.
2) Insist that the person reporting remains at the Lookout to meet Police and/or the Coastguard.
3) Report lost child or vulnerable adult immediately to the Police by 999 and to the Coastguard on the routine number.
    a) Do not assume the Police will advise the Coastguard.
    b) Do not leave the station to carry out a search – it is not our remit.
4) Log events and complete a PQ Activity and Incident Record form. It is an incident.
5) Consider paragraph 4.17 *Safeguarding and Wellbeing Concerns* on page 4:12 if appropriate.

## 4.7 Found child or vulnerable adult

1) **Use 'Found Child' form** in the Activity and Incident Record Binder to record facts as quickly and as efficiently as possible. References below to a child apply equally to a vulnerable adult.
2) If an adult comes to the Lookout with a found child ask them to stay until the Police arrive. If the finder refuses to stay, try and obtain the following information about them:
    a) Name, address, phone no. and account of where and how child was found if possible.
    b) Record a full description of the person including age, gender, how dressed, distinguishing features, direction of leaving.
3) Report found child immediately to the Police by 999 and to the Coastguard by phoning routine number – do not assume the Police will advise the Coastguard.
    a) Under normal circumstances the Police would aim to be with us within 15 to 20 minutes of receiving such a call. They will then take custody of the child.
4) For your own protection try to ensure that another adult is present whilst the child is in the Lookout and whilst waiting for the Police to arrive. In general:
    a) Avoid making any physical contact with the child.
    b) If the child appears to have (or has) suffered injuries do not physically examine or give first aid unless they appear life threatening, e.g. severe blood loss.
5) Ensure that the Police are made aware of injuries ASAP. You may need to call an ambulance.
6) If the child refuses to stay until the Police arrive you must respect their wishes as you would an adult. Try to persuade the child to stay by being reassuring.
    a) Tell the child that the police are on their way and that meanwhile they are safe.
    b) Take the child's mind off the situation by showing them the radar, etc.
7) Ask the child if they are carrying a mobile phone.
8) If an adult arrives to claim the child, ask for their name and address and the person to confirm the child's name. Get them to sign the Found Child form.
9) Observe the child's reaction when confronted with the claimant. If hostile or unreceptive and you are unsure for any reason – refuse permission for the child to be repatriated until uniformed Police are present.
10) If a child arrives to claim the child, insist that they wait until the police arrive.
11) Log events and complete a PQ Activity and Incident Record. It is an incident.

12) Consider paragraph 4.17 *Safeguarding and Wellbeing Concerns* on page 4:12 if appropriate.

## 4.8 Cardiac arrest – Use of the defibrillator

If you encounter or hear of someone who is not breathing at all, or only in intermittent gasps, and is not responsive:

1) **Call 999** and tell the Coastguard that the person is unresponsive and not breathing normally. Give the person's location. You may be asked for information about them, e.g. their age and medical history, if known.
2) Our automated external defibrillator (AED) (see paragraph 11.15 on page 11:13.) may also be needed as a precaution for someone who is thought to be in danger of suffering a cardiac arrest, e.g. because they may be having a heart attack. Again, call 999.
3) Take the AED from the First Aid cupboard to the patient. If the patient is unresponsive and not breathing normally, switch it on and follow its spoken instructions.
4) If the AED is needed outside the Lookout, a watchkeeper should take it, together with the First Aid grab bag and the handheld radio. Obviously, a member of a Coastguard Rescue Team or other emergency service may take it on their own. Otherwise, only if the watch is single manned should a member of the public be allowed to take it on their own. In either case, when the AED is returned, you need to ask if it was used.
5) If the AED pads have been used whether or not a shock has been delivered, then after the AED has been turned off with the permission of the emergency services attending, remove the grey case with spare set of pads from under the bottom flap on the left-hand side of the red AED case. **Do not open the grey pads case** but draw sufficient cable from it to connect the pads to the AED. The pads case then goes under the top flap on the left-hand side of the red AED case (where you found the pads that were used to treat the patient).
6) Put the AED in its case back in the First Aid cupboard.
7) Call SW Ambulance Service Helpline on 0300 369 0494 to inform them of the use of the AED to shock a patient (not otherwise). They will offer support if you need it.
8) Record the incident in the logbook and complete an Activity and Incident Record. It is an incident.
9) In all cases, scan and send off the Activity and Incident Record and logbook page using the 'Smart Scan' function on the computer (see page 11:8).

A copy of the above instructions will be found inside the AED case. Do not open that case unless you are going to treat a suspected cardiac arrest.

## 4.9 Suspicious activities - crimes in progress

**NOTE: Whilst the reporting of suspicious activities and crimes in. progress is encouraged, a watchkeeper may opt not to originate a report themself, if they do not wish to be involved. They must nevertheless pass on reports received from third parties as described below.**

If you see something which you suspect could involve criminal activity, e.g. the smuggling of illicit goods or people:

1) Please note the details: time, location, name of vessel, registration number, colour(s), people involved and a brief description of what you observed.
2) Unless a crime is thought to be in progress, please call Crimestoppers with the above information, their number is displayed on the radio console. It is a special Border Force Crimestoppers number. Do not call the Coastguard. You may speak anonymously but you should say you are from Prawle Point NCI and give our telephone number. Mention our

ability to track using radar, if appropriate; our webcams may also be relevant but we are not part of the NCI National CCTV Website / Portal, if you are asked.

3) Crimes in progress needing immediate action should be reported to the Coastguard via 999. Note that you may be required to testify in court in the event of a prosecution.
4) The best person to speak to Crimestoppers or the Coastguard is the one who observed the suspicious activity or crime.
   If a member of the public (MoP) makes a report to us, note it for entering in the log and:
   a. Try to get a visual on the situation yourself and note the details.
   b. If reported at the Lookout:
      i. The MoP should be asked to call Crimestoppers or 999 themself, emphasising that they may call anonymously; they should be given a Project Kraken leaflet.
      ii. We can make the 999 or Crimestoppers call on our phone and then introduce the MoP.
      iii. If the MoP says they will use their own phone, call Crimestoppers or the Coastguard a little later to confirm the details; this is to provide a backup.
      iv. If the MoP declines to make the call themself, pass on the details reported using the Crimestoppers number or 999 as appropriate.
   c. If reported via Ch. 65 or telephone:
      i. Suggest calling the Crimestoppers number themself (if calling on 65, as and when they have a mobile signal) or if a crime is in progress and they already have a mobile signal, calling the Coastguard via 999 themself.
      ii. If they agree to do that, call Crimestoppers or the Coastguard as appropriate a little later to confirm the details.
      iii. Otherwise, the details should be passed on using the Crimestoppers number or 999 as appropriate.
      iv. Remember that VHF traffic may be overheard by anyone, so keep it brief.
5) Make a full note in the log.
6) Complete and send off an Activity and Incident Record. It is an incident.

DO NOT contact Border Force direct. If a Border Force officer visiting the Lookout suggests this and leaves his card, report the occurrence to the Station Manager.

### *4.9.1 What to look for*

ON SHORE:

- Large inflatable boats (RIBs) at remote locations where they are not normally seen.
- Persons on shore signalling to vessels at sea.

AT SEA:

- Small craft anchored in coves and remote bays unloading goods.
- Vessels with unusually large numbers of crew, especially if they do not appear to be involved in sailing or operating the boat.
- Vessels alongside one another at sea.
- Small vessels arriving or sailing at unusual times/tides and in adverse weather conditions.
- Goods being dumped overboard.
- Buoys in unusual places not normally associated with fishing activity.
- Vessels being towed in by other than the lifeboat without a problem having been declared.
- A commercial vessel behaving unusually by stopping, looping or making a large change of course or speed.

Note: the list is not exhaustive.

### *4.9.2 Dealing with the media*

If you are approached by the media as regards NCI and our role in detecting illegal immigrants:

1) Politely decline to comment, take their telephone number and say the Station Manager will get in touch. Do not give them his number.
2) Do not allow them to take photos or video within the Lookout; you cannot stop them outside.

If the media are persistent and there is no alternative, you may make a statement in the following terms. You should not depart from or add to this wording:

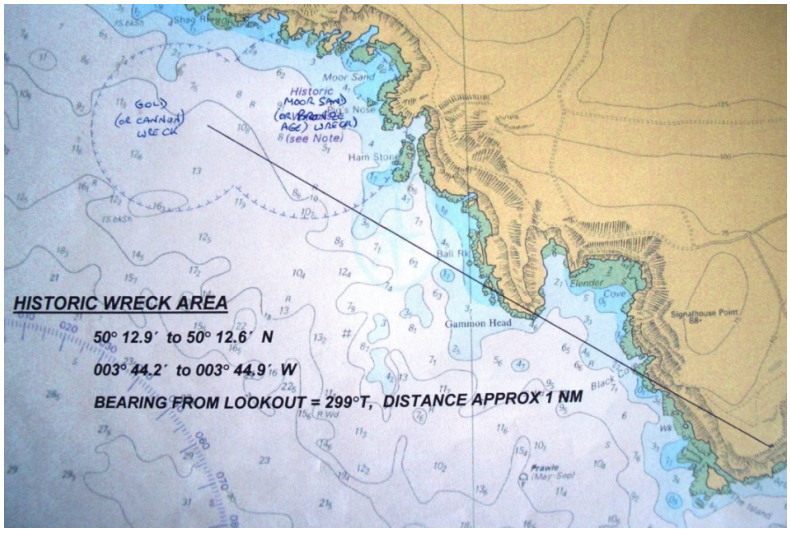
> "*The National Coastwatch Institution is a charity started in 1994 to restore a visual watch around the UK coastline. Operating over 50 Lookout stations in England and Wales, NCI is manned by more than 2,000 volunteers who assist in saving lives at sea and along the coastline, working primarily in support of HM Coastguard.*
>
> *NCI volunteers have instructions to inform HM Coastguard of anything they view as suspicious activity along the coast. HM Coastguard will then pass that information on to such other Government agency as it considers appropriate."*

## 4.10 Diving on the Historic Wreck Site

The Historic Wreck Site is divided into two:

1) The "Gold" or "Cannon" wreck to the West.
2) The "Moor Sand" or Bronze Age" wreck to the East.

### *4.10.1 Location*




50° 12.6′to 50° 12.9′N

003° 44.2′ to 003° 44.9′W

Bearing from Lookout: 292°T (south of Bar Lodge) to 302°T (Limebury Point)

Range: 1 nautical mile.

Refer to Charts 1613 or 28 for largest chart presentation.

Figure 4-1 Historic Wreck Area map

### *4.10.2 Notification procedure for authorised diving*

1) Upon leaving Salcombe Harbour SWMAG dive boats visiting the protected wreck sites will inform the Coastguard by radio where diving, number of divers and personnel, type and number of craft and ETA at Salcombe after diving ceased.
2) They will request that this information is relayed to PQ. Do not assume that this will happen and if you hear SWMAG making the request to the Coastguard, then note and log it. SWMAG

skippers have now been told that they should pass this information direct to PQ using channel 65.

3) The duty watchkeeper should log this information and, if diving is to continue after the watch is completed, make an entry on the whiteboard.
4) Note: The following three 'Call Signs' will be used to identify a boat or boats, 'GRENADIER', 'NORTHAMPTON, 'SHAMU'.

### *4.10.3 Recording and reporting procedure*

If any diving vessel is observed in the restricted areas without prior notification, it is to be assumed to be diving illegally. It is not necessary to observe divers in the water; the sighting of a stationary dive boat within the defined wreck site area is sufficient justification for making a report.

The reporting procedure is as follows:

1) Record
    a) Time,
    b) Position of the vessel,
    c) Description of vessel and
    d) Number of divers involved.
2) Report
    a) Report the above information to one of our contacts in SWMAG. Their names and telephone numbers are in the Station Operating Manual. That person will then inform the Police and Salcombe Harbour Master if the diving is illegal.
    b) Also, report the above information to the Coastguard on the routine number.
3) Complete an Activity and Incident Record. It is an incident.

NOTE: If English Heritage or the police decide to prosecute, they will need a written account of the incident to include in their report. Send this to the Station Manager.

## 4.11 Hazards to navigation / Pollution

If you observe a possible hazard to navigation such as a large floating object or objects (whether natural, such as a large dead animal, or man-made), or if you spot evidence of pollution on land or at sea, contact the Coastguard with a description of what has been seen and where it is. Then follow instructions and complete an Activity and Incident Record. It is an incident.

## 4.12 Unlawful trawling

Under the terms of an Inshore Potting Agreement (IPA) trawling is prohibited in a large part of the sea visible from the Lookout although in certain areas it is allowed for part of the year.

Unlawful trawling can damage pots and fishing gear and our help in reporting transgressions would be much appreciated by local fishermen.

Watchkeepers may report transgressions at their own discretion after 30 mins observation, but they must be very certain of the location, that trawling is taking place and that the nets are not being washed. You might be required to testify in court. Trawling takes place at low speeds (under 4 knots). Nets may be towed at higher speeds for washing.

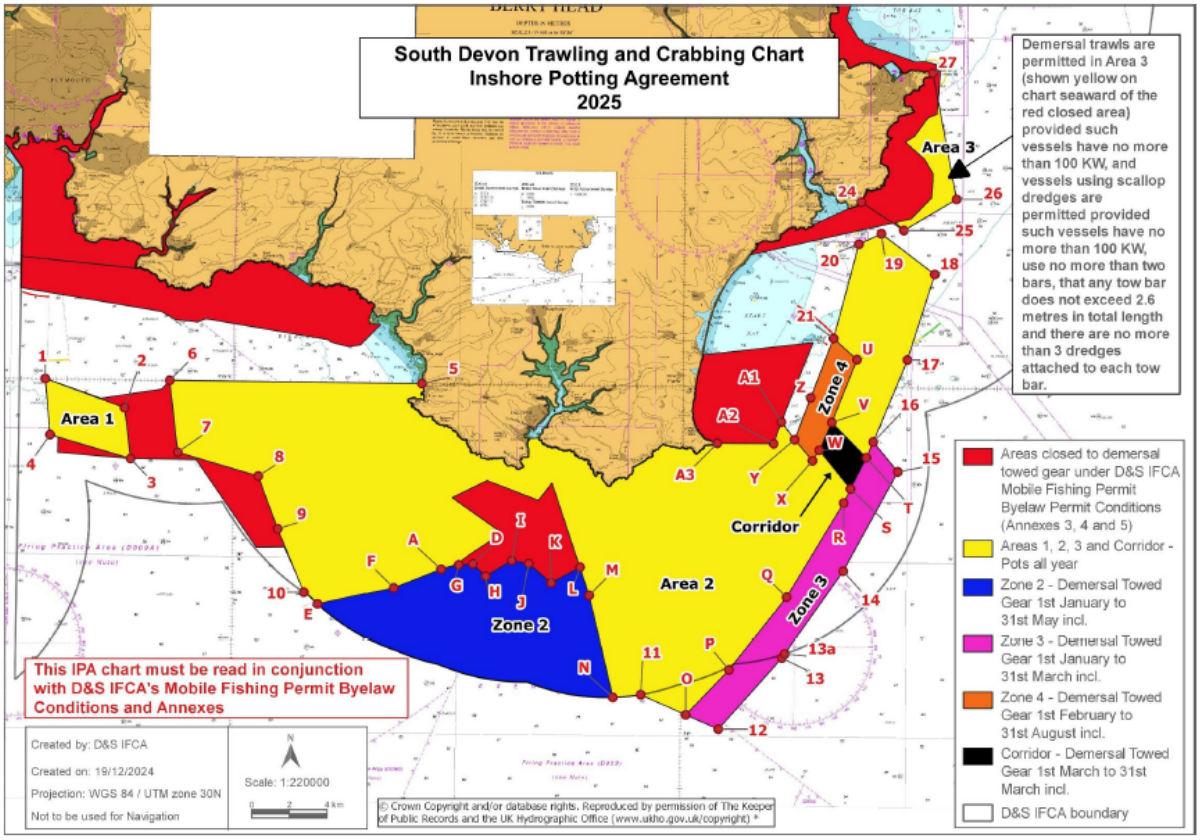



Figure 4-2 South Devon Inshore Potting Agreement Chart

Trawling is prohibited throughout the year in the areas shown coloured yellow and red on the chart and between 1st June and 31st December in the area shown coloured blue. Anywhere else is considered too far from PQ to monitor accurately.

Recording and reporting procedure

1) Plot the position of the suspect vessel as accurately as possible, ideally using the radar.

Note the time and position plotted. Check whether trawling is permitted in this position at this time of year or if its course indicates that it is likely to move into an area where trawling is not allowed. A copy of the IPA chart (

2) Figure 4-2 on page 4:8) is kept in the drawer under the chart table. There is also an overlay kept in the same drawer which can be placed over our 1613 Chart.
3) Note as much information as you can regarding the suspect vessel, its appearance, name and what it is doing. Continue to plot and note the position of the vessel and its activities as often as reasonably possible for at least 30 minutes.
4) If you have camera or smartphone with you and it is possible to take a picture showing the vessel at sea and/or its position on the radar screen, do so.
5) If there has been a significant transgression, then you may report the case by telephone. Minor or borderline cases should not be reported. The telephone number to call is listed in the List of Useful Telephone Numbers in the Station Operating Manual. The Devon and Severn Inshore Fisheries and Conservation Authority (IFCA) are legally responsible for illegal fishing activity within six miles of the shore and maintain a 24-hour duty line.
6) Log events. Complete a PQ Activity and Incident Record. It is an activity, not an incident.
7) Don't forget to continue maintaining a safety watch out to sea and on the Coastal Footpath.

## 4.13 Incidents involving farm animals

Refer to the map kept in the Watchkeepers' Box in the secure cupboard to establish whose land the casualty is on and then telephone the appropriate farmer. Figure 4-3 is a copy but with the key to the names removed so as to comply with GDPR. **The Watchkeeper' Box copy is clearly marked as such and should be returned to the Box after use.**

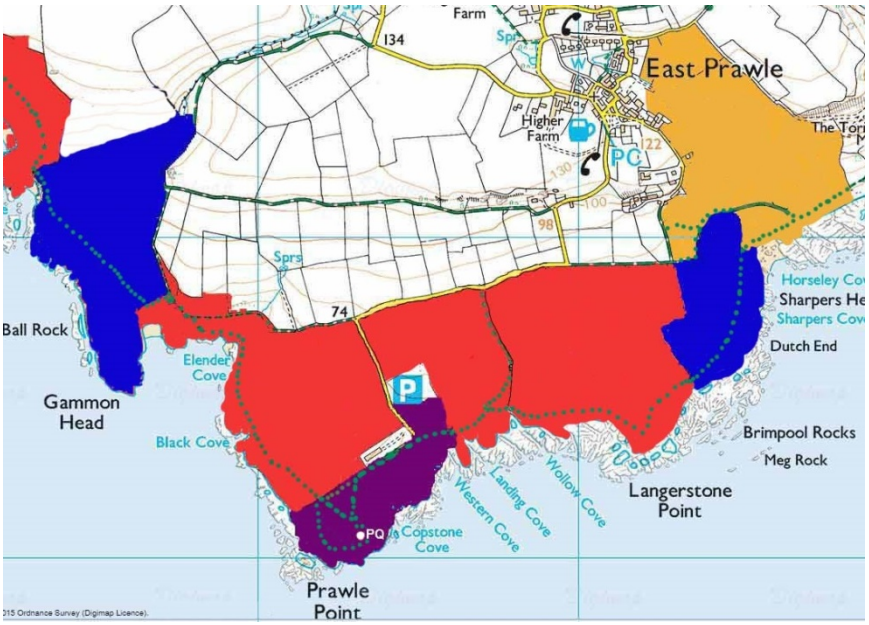



Figure 4-3 Farmers' map

### *4.13.1 Recording and reporting procedure*

1) Note
    a) Time,
    b) Grid reference,
    c) Nature of problem,
    d) Assistance required,
    e) Any assistance already provided and
    f) If reported by a member of the public, verify the details if the incident is visible.
2) Telephone the farmer. Their numbers are on the map in the Watchkeepers' Box and in the Station Operating Manual.
3) Complete an Activity and Incident Record. It is an activity, not an incident.

If dogs are observed off the lead where stock are grazing, inform the farmer and avoid confronting the dog owner unless the livestock is clearly about to be attacked or driven over the cliff. It might be handy to store the farmers' telephone numbers on your mobile phone in case you observe livestock at risk when walking down after going off watch.

## 4.14 Dolphins, porpoises and other cetaceans

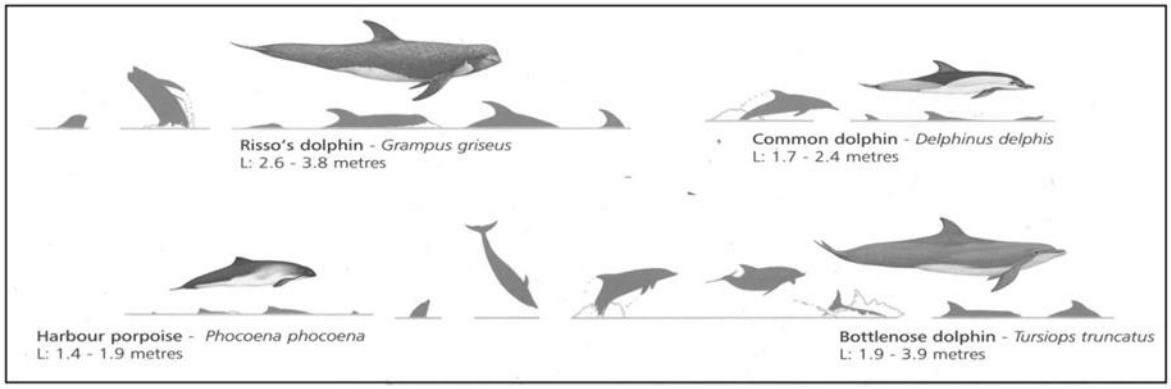



Figure 4-4 Cetacean identification guide

**Telephone numbers for the people to contact are on the Useful Telephone Numbers List in the Station Operating Manual.**

### *4.14.1 Sighting of dolphins or porpoises – Activity (if alive) – Incident (if dead)*

1) Report by telephone to LINDY HINGLEY (Brixham Sea Watch).
2) If alive, report when first seen, how many, for how long, bearing and distance, direction of travel. Contact Lindy again if they re-appear or their direction of travel changes.
3) If stranded or dead, report location to the CETACEANS STRANDINGS INVESTIGATION PROGRAMME (CSIP). Also inform Lindy.
4) Complete and send off an Activity and Incident Record. There is no need to also scan the logbook in the case of sightings of live dolphins etc. reported to Lindy.
5) Sightings of live dolphins or porpoises are activities. Reports of dead or stranded cetaceans are incidents but see also paragraph 4.11 *Hazards to navigation / Pollution* on page 4:7.

### *4.14.2 Harassment of dolphins, porpoises, sharks, etc. - Incident*

1) The harassment of dolphins, porpoises or basking sharks is an offence and instances should be reported to the Coastguard who should be asked to inform the Marine Management Organisation.
2) Complete an Activity and Incident Record. Cases of harassment are incidents although the Coastguard does not keep incident numbers for such cases.

## 4.15 Incidents involving other animals

If a dog is reported having fallen over the cliff, this should be reported to the Coastguard on the routine number. The name of the owner may be requested. Arrangements will have to be made for the owner to meet up with the Coastguard Rescue Team (CRT). An Activity and Incident Record should be completed. This is an incident.

Other non-farm animals in distress, for example wild animals, should be reported to the RSPCA. The RSPCA's telephone number is on the Useful Telephone Numbers List in the Station Operating Manual. An Activity and Incident Record should be completed. This is an activity.

However reprehensible, the harassment of seals is not an offence and is not reportable. Sightings of dead or stranded seals can be reported to CSIP (paragraph 4.14.1 *Sighting of dolphins or porpoises – Activity*) in spite of the name of the programme. The intentional injury or killing of a seal is usually an offence and a member of the public can report it to the police on 101; we are unlikely to witness such cases from PQ.

Three or more dead birds found in one place are incidents reportable to DEFRA. Their number is in the Station Operating Manual. An Activity and Incident Record should be completed. This is an activity.

In all cases note the following information on the Activity and Incident Record:

1) Time,
2) Grid reference,
3) Nature of problem,
4) Assistance required,
5) Any assistance already provided and
6) If reported by a member of the public, verify the details if the incident is visible.

## 4.16 Matters reportable to the Salcombe Harbour Authority

You may sometimes sight a vessel approaching Salcombe Harbour that you think should be reported to the Salcombe Harbourmaster, the situation not being within the remit of the Coastguard.

Possible examples are:

1) a RIB at high speed about to pass north of the line between Limebury Point and Bar Lodge that might be a danger to itself or others or create unnecessary wash;
2) a heavily loaded RIB approaching the Harbour at speed with children aboard not wearing lifejackets.

The Harbourmaster welcomes such reports and has suggested that the most efficient way is to call the Salcombe water taxi (operational 07:30 to 23:00 in the summer) and ask it to pass on the information to the relevant boatman. If the water taxi does not answer call the Harbour Office.

The telephone numbers for the Harbour Office and the Water Taxi are on the Useful Numbers List in the Station Operating Manual under ‘Salcombe Harbourmaster’.

This would be an incident and you should complete an Activity and Incident Record as well as logging the telephone call.

## 4.17 Safeguarding and Wellbeing Concerns

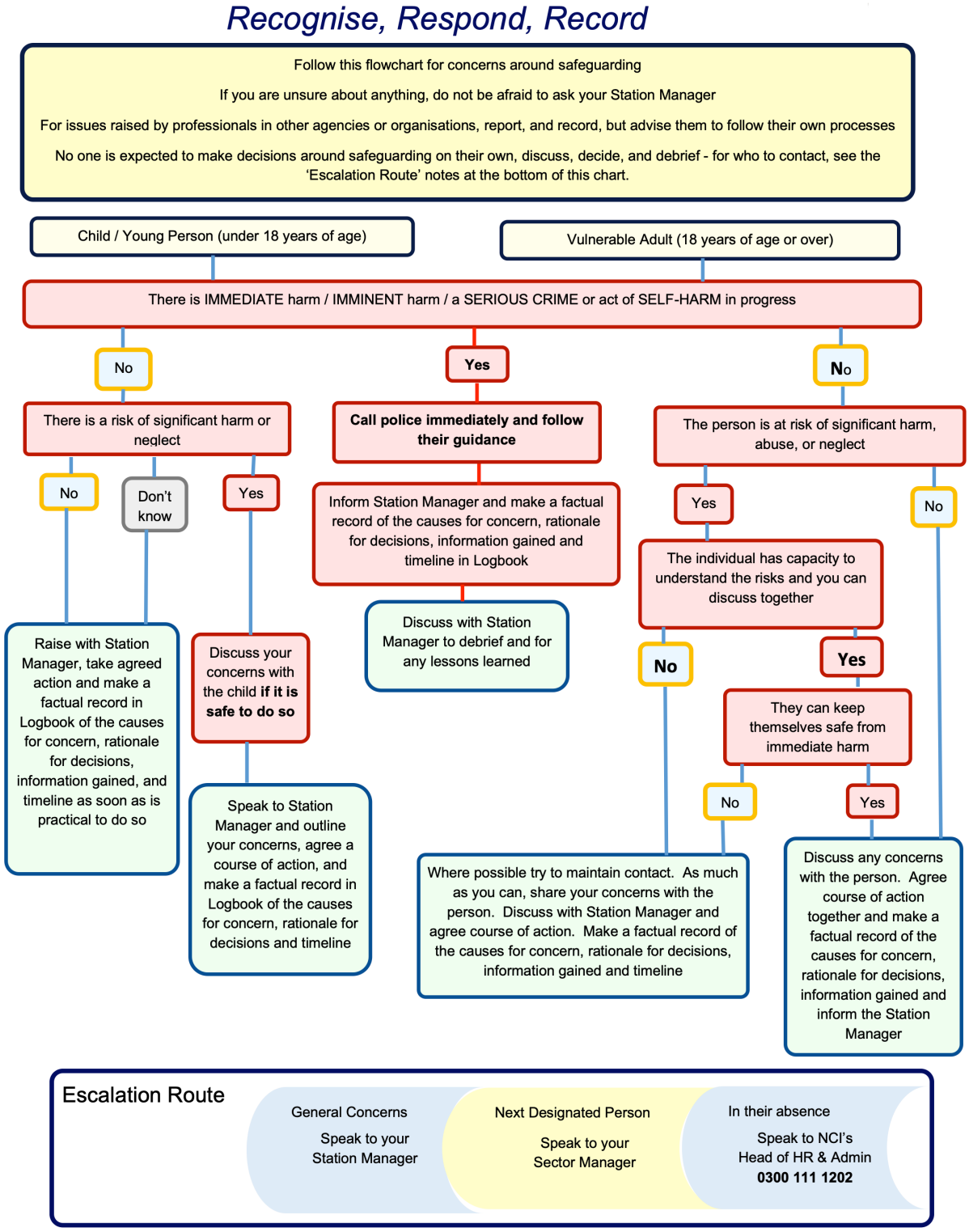



Figure 4-5 NCI Safeguarding flowchart

# 5 Distress, urgency and other signals

## 5.1 Introduction

Whilst most communications at sea are by radio, a wide range of other sound and visual signals are given to alert a distress or urgency situation or to ensure safe navigation.

Even when a radio message is being transmitted, vessels will sometimes employ a second visual back up in case their radio transmission goes unheard or to alert other vessels within visual range.

You need to be able to recognise a distress and urgency signal, however given, as well as any locally important day and night signals used by vessels to prevent collision.

## 5.2 Distress signals

**'Distress'** is the most serious form of emergency and means that a vessel, vehicle, aircraft or person is in **grave and imminent danger and requires immediate assistance**.

Distress may be signalled in a number of ways as shown in Figure 5-1. For divers, see paragraph 5.7 *Divers' signals* on page 5:8.

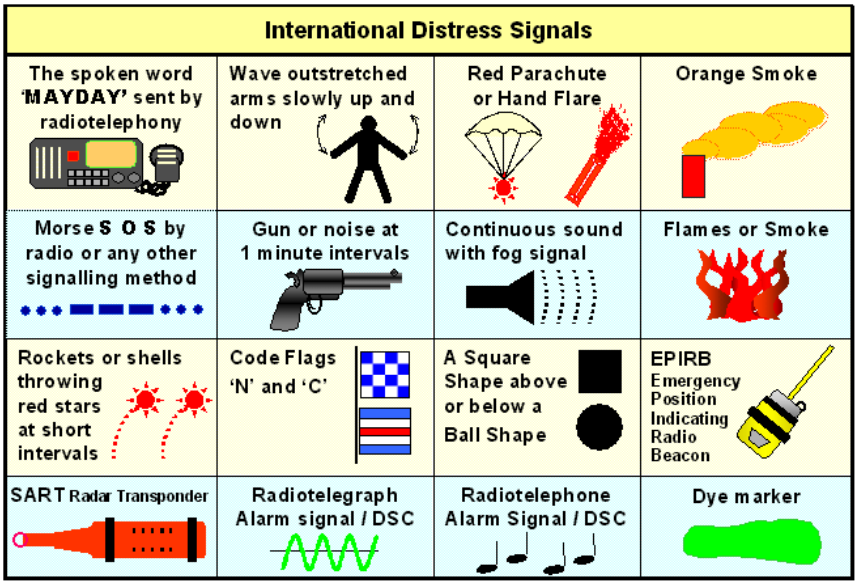



Figure 5-1 International Distress Signals

### 5.2.1 By radio

Radios with DSC (Digital Select Calling) may first receive a Digital Distress Alert sent on VHF channel 70. When such an alert is received, an alarm sounds and details of the distress appear on the radio's LCD panel. A voice distress message then follows. PQ's radios do not currently have DSC enabled.

Radio distress voice messages are prefixed by the word **MAYDAY** spoken three times. This is the distress call which indicates that the sender is in **grave and imminent danger and requires immediate assistance**. A Mayday message has absolute priority over all other transmissions.

The format of distress calls and messages given by radio is shown on page 5:3 in Table 4 and Table 5. In practice, the sequence may not be followed exactly. Call signs are seldom given and MMSI numbers often omitted.

The details of any Mayday heard, even if not from within our operational area should be logged and, if we speak to the Coastguard and it becomes an incident, underlined in red. See also paragraph 3.4.1.A *Spot* on page 3:3.

Table 4 MAYDAY example

| Information | Content | Example |
|---|---|---|
| ***Distress Call:*** | **MAYDAY, MAYDAY, MAYDAY**<br>*This is* ….vessel name, call sign and MMSI (repeated three times) | ***MAYDAY, MAYDAY, MAYDAY***<br>***THIS IS*** Yacht Calamity, Calamity, Calamity, Mike Victor Yankee Quebec Seven MMSI 234001234 |
| ***Distress Message*** | | |
| **M**ayday | *Mayday!* | ***MAYDAY*** |
| **I**dentity | Vessel name, call sign and MMSI | Yacht Calamity, Mike Victor Yankee Quebec Seven, MMSI 234001234 |
| **P**osition | Lat/long or bearing and distance from a charted position | My position is 50° 11'N 003° 46' W |
| **D**istress | Nature of distress | Swamped in a rough sea and sinking |
| **A**ssistance Required | *Request Immediate assistance* | I require immediate assistance |
| **N**umber of persons | Number of people involved | I have five persons on board |
| **I**nformation | Other information which might help rescuers | Abandoning to life raft |
| **O**ver | *Over* | ***OVER*** |

A MAYDAY RELAY is given where the station transmitting is not the vessel in distress.

Table 5 MAYDAY RELAY example

| Information | Content | Example |
|---|---|---|
| **M**ayday Relay | **MAYDAY RELAY, MAYDAY RELAY, MAYDAY RELAY**<br>*This is* …. name, call sign and MMSI of vessel calling (repeated three times) | ***MAYDAY RELAY, MAYDAY RELAY, MAYDAY RELAY***<br>***THIS IS*** Yacht Vigilant, Vigilant, Vigilant Alpha Bravo Charlie One MMSI 234003456 |
| **I**dentity | *Mayday*! Name call sign and MMSI of vessel in distress | ***MAYDAY*** Yacht Calamity Mike Victor Yankee Quebec Seven, MMSI 234001234 |
| **P**osition | Position of vessel in distress | Reported as position 50° 11'N 003° 46' W |
| **D**anger | Nature of distress | She is swamped in rough sea and sinking |
| **A**ssistance | *Request immediate assistance* | She requires immediate assistance |
| **N**umber of persons | Number of person involved | Five persons reported on board |
| **I**nformation | Other information that may help rescuers | Reported as abandoning to life raft |
| Time (optional) | Time when Mayday heard | Mayday heard at 1245 UTC but no response heard |
| **O**ver | | ***OVER*** |

### 5.2.2 Distress flares and smoke signals

These serve two purposes: to raise the alarm and to pinpoint the casualty's position. There are a number of different types.

Table 6 Flare and smoke signal characteristics

| Distress Signals | | |
|---|---|---|
| **Type** | **Characteristics** | **Remarks** |
| Red hand-held flares | Burn for one minute and visible up to 7 miles. | Used at night or in dull conditions during the day, close to the shore. |
| Red parachute rockets | Rise to about 300 metres before burning. Then the red flare floats down on a small parachute for about 40 seconds, leaving a smoke trail. Visible up to 25 miles. | Long range signal for use offshore. If the rocket flares and leaves a trail as it goes up, it is probably a firework! |
| Mini flares | Burn for six seconds and rise to about 60 metres. | Used by windsurfers, jet-skiers, kayakers, dinghy sailors& military aircrew. |
| Day/night flares | A red flare that burns for 20 seconds at one end with smoke at the other. | Used by divers and others. |
| Orange smoke signals | Burn for 1-3 minutes. The floating smoke is visible up to 5 miles. | By day these are more effective than flares although the smoke disperses quickly in a strong wind. |
| LED and laser 'flares' | Reputedly operate continuously for over 5 hours being visible 20 miles at night and 1.5 miles during the day. | Not officially recognised as distress signals but will likely be increasingly used due to their long life and range. |
| **Not intended to be a Distress Signal** | | |
| White flares | Used for illumination purposes as a collision warning or to advise the sender of a distress signal that the signal has been seen. | If there is any doubt as to their colour or purpose, phone the Coastguard. |

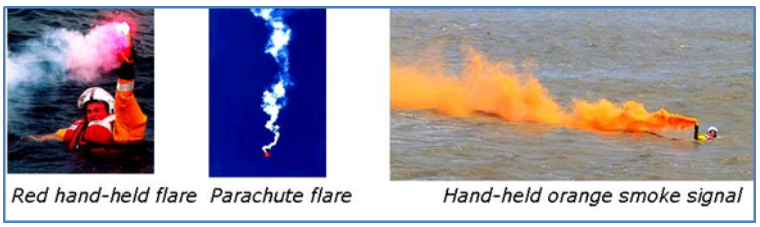



Figure 5-2 Photos of flares and smoke signals

### 5.2.3 Unofficial means of signalling distress

These include a piece of material waved on the end of an oar or similar and the national flag hoisted upside down. The upside-down Union Jack is often mentioned but in reality, it will difficult to spot and is rarely used.

Shouts for '*HELP*', flashing lights (torch at night, mirror or strobe in daylight), repeated blowing of a whistle and various other methods may all be used to attract attention.

So, remember that **any unusual activity you observe could well be a distress sign or signal. If in doubt contact the Coastguard.**

## 5.3 Urgency signals

**Urgency** is a lesser degree of emergency than a distress and means that a vessel, vehicle, aircraft or person is in **urgent but not imminent danger,** i.e. the danger is not immediately life threatening, but could become so if assistance is not forthcoming. It would apply to a vessel which is disabled but not sinking or in any immediate danger, or when urgent medical advice or attention is needed.

Urgency messages given over the radio are prefixed by the words **PAN PAN** spoken three times and indicate that a vessel or station has a very urgent message concerning the safety of a ship or person.

PanPans from within our operational area or if they might drift into it should be logged and, if we speak to the Coastguard and it becomes an incident, underlined in red.

An ideal format for a **PAN PAN** is shown in Table 7. Again, call signs and MMSI numbers are often omitted.

Table 7 PAN PAN example

| Information | Content | Example |
|---|---|---|
| ***Urgency Call***: | **PAN PAN, PAN PAN, PAN PAN**<br>All stations, all stations, all stations (or _ _ _ _ _ Coastguard x3)<br>*This is*…. vessel name (repeated three times) | ***PAN PAN, PAN PAN, PAN PAN***<br>Falmouth Coastguard, Falmouth Coastguard, Falmouth Coastguard ***THIS IS*** Motor Yacht Unfortunate, Unfortunate, Unfortunate, X-Ray, Yankee Zulu Six MMSI 234002345 |
| **Urgency message** | | |
| **P**an Pan | *Pan Pan!* | PAN PAN |
| **I**dentity | Name of vessel, call sign and MMSI | Motor Yacht Unfortunate, , X-Ray, Yankee Zulu Six MMSI 234002345 |
| **P**osition | Lat/long or bearing and distance from a charted position | My position is 50° 10’N 003° 45’ W |
| **D**istress | Nature of problem | Total engine failure and drifting |
| **A**ssistance Required | Nature of help requested | I require a tow |
| **N**umber of persons | Number of people involved | I have five persons on board |
| **I**nformation | Other information which might help rescuers | I am a 20 metre motor yacht with a flying bridge and a white hull |
| **O**ver | *Over* | ***OVER*** |

## 5.4 Safety signals

**Safety** messages given over the radio are prefixed by the word **SECURITÉ** (pronounced SAY-CURE-E-TAY) spoken three times (or the displayed words ‘All Ships’ Safety’ when digitally alerted on the DSC radio). They indicate that the station is about to transmit an important navigational or meteorological warning.

The message is transmitted on a working channel after an announcement on VHF Channel 16. See Table 8 on page 5:6. You should note what is said and, if it affects our watch sector, log any relevant information.

Safety messages may be broadcast by a vessel at sea, either to warn that the activities/position of the sender pose a risk to other vessels in the vicinity, or of a local navigational hazard. Examples are:

- Vessels engaged in underwater operations or survey work.

- Live firing by warships.
- Warnings of floating obstructions such as a partially submerged container.

Table 8 SECURITE example

| | |
|---|---|
| **Example of the Channel 16 message** | ***SECURITÉ, SECURITÉ, SECURITÉ***<br><br>All Stations, All Stations, All Stations<br>***THIS IS*** Falmouth Coastguard, Falmouth Coastguard, Falmouth Coastguard<br>For an urgent navigational warning, listen Channel 67. ***OUT*** |
| **Example of message following on the working channel** | ***SECURITÉ, SECURITÉ, SECURITÉ***<br><br>All Stations, All Stations, All Stations<br>***THIS IS*** Falmouth Coastguard, Falmouth Coastguard, Falmouth Coastguard<br>Large drifting container reported in position 50° 10'N 003° 45' W<br>Considered to be a danger to surface navigation<br>Time of origin 1230 UTC. ***OUT*** |

## 5.5 Signal flags

The International Code of Signals (ICS) lists over six hundred single letter and two-letter signals, which can be sent in Morse code, by light, sound, or arm signals; or by using the dedicated International Code flags.

International Code flags can be identified using quick reference charts in the Lookout. Try to memorise those shown in Figure 5-3, particularly those that denote urgency situations, i.e. **F**oxtrot, **O**scar, **V**ictor and **W**hiskey.

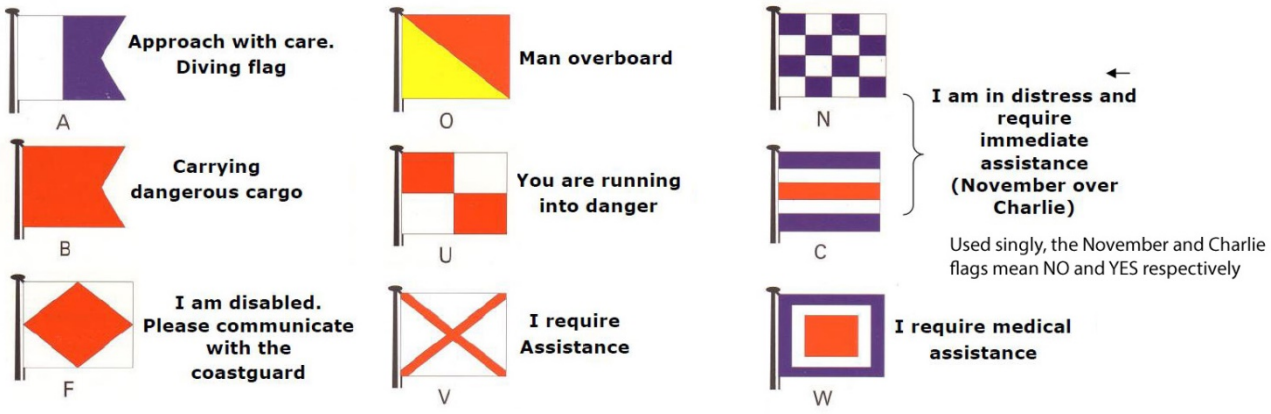



Figure 5-3 Signal flags

The almost universal use of marine radio means that nowadays the ICS flags, other than flags Alpha and Bravo, are not regularly seen. However, nearly all ships and many leisure vessels carry flags and they may be used if radio communications cannot be established.

## 5.6 Use of signals to warn of danger

### *5.6.1 Light signals*

In addition to the SOS distress signal (Figure 5-1 on page 5:2), you should know the Morse code for, and the meaning of, the single letter signal **U.**


Figure 5-4 U - You are running into danger

Using the station's Aldis Signalling Lamp you can flash this '*dot, dot, dash*' warning to a vessel which is observed to be on a course that will bring it into danger, e.g. drifting onto rocks or shoals. (Even if the recipients do not know the signal's meaning, just being signalled may alert them to the danger.)

See also paragraph 11.5 *Aldis signalling lamp* on page 11:4.

The Aldis lamp may be used to indicate to an already stricken vessel that its situation has been seen and help is on the way. This should only be done after the Coastguard has been contacted and SAR assets have been tasked. Follow the instructions of the Coastguard. The usual signal is three long flashes.

### *5.6.2 Sound signals*

Sound signals are used by vessels in poor visibility every two minutes:

1) A short blast = one second; a long blast = 4 to 6 seconds.
2) A fog signal with a deep bass tone will be from a large vessel; a higher pitch tone is likely to be from a vessel of less than 20 metres.
3) Small craft under 12 metres may use any sort of noise to attract attention including shouting!

See Figure 5-5.

| Vessel status | Signal | Morse |
|---|---|---|
| Power vessel making way through the water | One long blast | — |
| Underway and not making way | Two long blasts | — — |
| Power/sailing: all vessels with 'restricted manoeuvrability' | One long and two short blasts | — ● ● |
| Vessel under tow (if manned) | One long and three short blasts | — ● ● ● |

Figure 5-5 Sound signals

Note: A vessel is underway when not at anchor or moored to the shore.

## 5.7 Divers' signals

The recognised '*I require assistance'* signal used by divers is one arm extended with a clenched fist waved from side to side over the head.

If this signal is observed, you should look for the attendant dive boat which should be flying flag **A**lpha. If the dive boat has clearly not seen the diver, then the Coastguard should be alerted immediately.

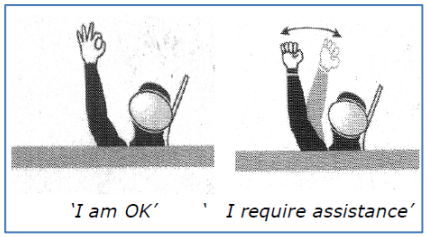



Figure 5-6 Divers' signals

Figure 5-7 Diver's surface marker buoy

**Note:** many divers routinely use surface marker buoys (DSMB's) that look like inflated sausages to mark their position.

The marker buoy **does not** indicate that the diver is in distress.

## 5.8 Day/Night signals

To prevent collision all vessels must display navigation lights at night and in restricted visibility. In addition, vessels engaged in certain activities, such as towing or fishing, or in other situations, such as at anchor or not under command, must also show distinguishing lights by night and shapes (day signals) by day.

Identification charts regarding navigation lights are kept on the counter and the left hand door of the secure cupboard. Day signals are illustrated in Figure 5-8 on page 5:9. All signals except the 'diver down' flag are black.

You should be able to recognise the 'diver down', 'Not under Command' and 'Vessel Aground' day signals and also identify other locally important signals.

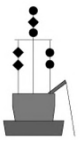
<table>
<tr>
<td>  <br>Diver down<br>A rigid International Code ‘A’ flag (white/blue).</td>
<td>  <br>Vessel fishing or trawling<br>Two black cones vertically, point to point.</td>
<td>  <br>Motor sailing<br>Black cone pointing down placed forward.</td>
</tr>
<tr>
<td>  <br>At anchor<br>Black ball placed forward.</td>
<td>  <br>Vessel not under command<br>Two black balls vertically.</td>
<td>  <br>Vessel aground<br>Three black balls vertically.</td>
</tr>
<tr>
<td>  <br>Vessels towing/being towed<br>Both vessels display a black diamond if the tow is over 200m. An inconspicuous towed object should display one or more black diamonds even if the tow is less than 200m.</td>
<td colspan="2">A handy phrase for remembering the ‘At Anchor’, ‘Not Under Command’ and ‘Vessel Aground’ day signals is:<br>• ‘at anchor’ is not a balls up (1 ball),<br>• ‘not being under command’ is a definite balls up (2 balls), but<br>• ‘being aground’ is a triple balls up (3 balls)!</td>
</tr>
<tr>
<td>  <br>Vessel restricted in ability to manoeuvre<br>Black ball, diamond, ball vertically.</td>
<td>  <br>Vessel engaged in underwater operation<br>Black ball, diamond, ball, vertically with two black balls on the obstruction side and two black diamonds on the clear side.</td>
<td>  <br>Vessel constrained by draught<br>A black cylinder</td>
</tr>
</table>

Figure 5-8 Vessel day signals

## 5.9 EPIRBs, SARTs, PLBs and MOB devices

These devices are all used to signal distress and some may show up on the radar. Some use AIS (see para 10.4.11 *AIS* on page 10:9). Some are activated manually, others automatically.

Figure 5-9 Examples of an EPIRB (left) and MOB device (right)

**N.B.** Unless being tested, an activated device spotted on the radar, should be reported as an incident to the Coastguard by 999, although in the case of an AIS device, they may already be aware. Before doing so, you should check if the casualty is visual in case you can pass on additional information.

### *5.8.1 EPIRBs and PLBs*

**E**mergency **P**osition **I**ndicating **R**adio **B**eacons and **P**ersonal **L**ocator **B**eacons indicate that the vessel or person to which it is registered is in distress. Each communicates by satellite with ground stations which calculate its position and relay the information direct to HM Coastguard. No indication is received by other mariners or ourselves unless the device is an AIS enabled model when, *in addition*, it will behave as an AIS-SART (see para 5.8.3 below) and generate a target on the radar display.

### *5.8.2 Radar SARTs*

Radar **S**earch **A**nd **R**escue **T**ransponders are intended for mounting on vessels and life rafts. They do not use AIS but instead when activated, display a distinctive pattern of 12 dots *on the radar screen.* Figure 5-10 shows radar displays of an activated SART fat a distance of (a) 5-6 NM, (radar range 12NM), (b) 2-3NM (radar range 6NM) and (c) > 1NM (radar range 6NM). Do not confuse with our radar's depiction of a target's direction of travel; see para 10.6.3 *Dotted line emanating from target* on page 10:10.

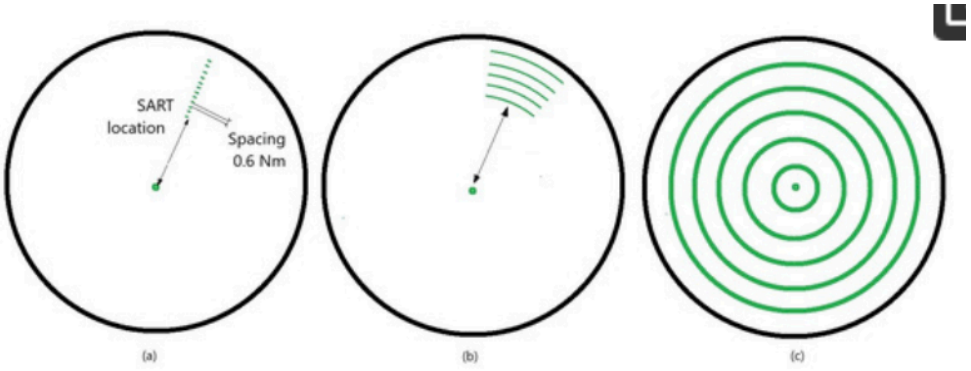



Figure 5-10 Activated radar SART as displayed on a radar screen

### *5.8.3 AIS-SARTs*

AIS **S**earch **A**nd **R**escue **Tr**ansmitters are intended for mounting on vessels and life rafts and, when activated, display as an AIS target *on the radar screen* with a special symbol (a red cross inside a circle) and an MMSI number. An alert message also appears at the top of the Lookout radar screen. A green cross inside a circle means that the AIS-SART has been activated in test mode only. Target properties will give you its position; see para 10.4.8 *Target Information* on page 10:7.

Figure 5-11 Activated AIS-SART

### *5.8.4 MOB devices*

Personal **M**an **O**ver **B**oard devices are carried on the person but operate and display on the radar in the same way as AIS-SARTs.

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# 6 Logging and vessel identification

## 6.1 Introduction

All NCI Stations use the same standard Logbook . It is an official document which may need to be produced as evidence – by the courts, coroner, HMCG, police and other official agencies. It must be complete , accurate, legible, up to date, factual and meet the criteria set out in this Handbook.

**Completeness** is essential. A vessel that has been recorded may be involved in an incident elsewhere/ at another time or HMCG may asked for information on a vessel that is missing or overdue. **Accuracy** means recording only what you see and hear and **factual** means you must not include assumptions, guesswork or opinions.

A key function of the Logbook is to record the identity and details of craft and persons observed. The information in the Logbook may be relayed to others who may assist during an incident. The reliability of such information underpins NCI's professionalism.

## 6.2 Using the logbook

The basic rules of log-keeping are as follows:

1) Use a pen or ballpoint with black ink (not pencil).
2) Write entries clearly in print rather than in handwriting.
3) Times are local clock time (i.e. BST or GMT/UTC as appropriate).
4) All watchkeepers must enter their names in the log at the beginning of the entries and initial them. At the end of a watch remember to sign your name in the box provided.
5) Do not erase mistakes:
    a) They should be crossed out with a single line. Scribbling over them or using correcting fluid is not allowed.
    b) Do not tear pages out or make any changes or additions to preceding watch entries or in a logbook which is full.
6) The first watch of the day must start on a new page. Subsequent watches on the same day will directly follow on from the previous entries but separated by a ruled line.
7) Entries relating to incidents should be underlined in red.
8) Entries relating to activities or the inshore waters forecast/gale warnings should be underlined in black.
9) At the end of the last watch of the day the log should be closed with a ruled line and spare space on the page crossed out with a single diagonal line.
10) Except for weather information, you should not disclose information from the logbook or the contents of a radio message to anyone other than the police or HM Coastguard without the permission of the Station Manager or his deputy.

New and completed logbooks are kept in the top right-hand cupboard in the kitchen. Completed logbooks are retained for at least two years in case of need. Older logbooks have been archived. The cupboard is locked for GDPR reasons; the key is in the key safe in the secure cupboard.

## 6.3 What to log

See paragraph 6.5 *Example log page* on page 6:8. The logbook is a record of what was seen and happened at the Lookout, so it is not possible to specify in detail everything that should be logged. The sections below cover the most common entries but the actual log content is at the duty watchkeeper's discretion.

### *6.3.1 At the top of every page*

1) The day, date and names of the watchkeepers. The first named is not necessarily in charge.
2) The watch identifier M, A or E (Morning, Afternoon or Evening).
3) Enter the times and heights of applicable high and low tide in the space provided.

### 6.3.2 At the start of a watch

1) The time of opening, taking over or closing the watch. All watchkeepers must initial against their name at the beginning of a watch.
2) Equipment status (morning watches only):
   a) Checked and functioning or
   b) A note of defects that affect PQ's DFS status and that the Coastguard has been advised.
3) Cleanliness of Lookout (see the section on The Lookout and Visitor Centre):
   a) Enter in log at the start of each watch 'Lookout and VC clean and tidy' or otherwise list items needing attention and then attend to those items yourself during the watch. Enter serious deficiencies in cleanliness in the Deficiencies Book.
   b) Enter in log at the end of each watch 'Lookout and VC clean and tidy' or otherwise as appropriate.

### 6.3.3 Actual weather

This is noted at the start and end of the watchkeeping day and every two hours starting at 0945. For more information see paragraph 6.5 *Example log page* on page 6:8 and Chapter 8 *Weather* .

When visibility is less than 2 miles, a radar watch should be kept and this should be noted in the log.

NOTE - When nothing is seen in the space of one hour (or if there is nothing to record), this should be noted in the log, whether or not visibility is less than 2 miles.

### 6.3.4 Met. Office weather forecasts

They are obtained from the Internet and / or from the Coastguard's VHF broadcasts.

1) The Inshore Waters Forecast (not the outlook) must be recorded in the log at the start of each morning watch and underlined in BLACK. The log should also include Gale Warnings and Strong Wind Warnings.
2) At each update broadcast the content should be noted and the logbook updated with any changes, a full new forecast or a 'no change' entry depending on the circumstances.

See paragraph 8.3 *Recording Inshore Waters and Shipping Forecasts* on page 8:2.

### 6.3.5 Distress signals

All such signals - visual or radio – and whether or not they relate to an incident initiated by or directly involving Prawle Point must be underlined in RED if they are in or close to the limits of our watch sector.

### 6.3.6 Smaller vessels

Watchkeepers should attempt to log all such vessels passing or working within eight nautical miles of the Lookout. Other vessels may be logged at the watchkeeper's discretion (e.g. small craft in the Range or Lannacombe areas).

Many leisure craft are difficult to identify but **it is PQ's policy that ALL small craft and working fishing vessels passing PQ are to be logged even if they cannot be specifically identified.**

**Priority should always be given to logging vessels without AIS. You may even choose not to log vessels with AIS during busy periods.**

### 6.3.7 Larger vessels

Merchant and naval vessels are not high priority and time should not be wasted in trying to identify them at a distance when there may be more vulnerable craft inshore. Accordingly, larger vessels should only be logged when:

- you are not busy observing more vulnerable craft and people; and
- they are visible, within a range of 8 nautical miles and identifiable.

The reasons for logging larger vessels are (a) they may be a vessel in the vicinity able to assist a casualty and (b) they could be involved in an incident such as a collision with a smaller craft. So watchkeepers may choose to give such vessels passing within about three miles of the Lookout a higher priority than those further off.

The Lookout has a number of publications including the regularly updated Naval Vessel identification book to help watchkeepers identify vessels of this type.

**Remember that large vessels will always be a low priority for watchkeepers.**

#### *6.3.8 Vulnerable craft and people*

1) Swimmers, canoeists, sailboards, surfboards, paddleboards, small inflatables.
2) Dive boats and divers.
    a) Count the number before and after diving.
    b) Is the dive boat flying the appropriate flag?
    c) Is it near historic wrecks?
3) Open boats, small fishing boats, yachts, sports motorboats and water-skiers.
4) Any vessel behaving erratically or suspiciously.

#### *6.3.9 Working fishing boats*

These may remain in a small area for some hours. They should be logged with the time, distance off and the bearing (entered in degrees true or as a compass point) in the 'Position, Bearing and Range or Location' column).

Their position should be checked from time to time and a note made on a rough pad of any changes.

There is a binder with detailed information about fishing vessels. It is updated regularly but changes are frequent. Watchkeepers are asked to notify the Station Secretary if they notice any changes.

#### *6.3.10 Aircraft and helicopters*

Log their type and whether military, commercial or private plus their identification number, if possible. Give direction and approximate height.

#### *6.3.11 Race fleets*

Large fleets of similar yachts may either be logged individually or as group indicating the number of vessels, the identity of any guard boat and other relevant information (e.g. 'Fastnet yachts').

#### *6.3.12 Walkers and scramblers*

Watchkeepers must use their judgment as to whether walkers should be just kept under observation or logged. Most walkers remain on the coastal path but any that stray should be observed more rigorously, particularly children and people scrambling or climbing on the cliffs and rocks.

#### *6.3.13 Telephone calls*

All incoming and outgoing telephone calls must be logged.

Watchkeepers are reminded not to give out a watchkeeper's phone number or email address to an unknown person however plausible the request. Instead take the caller's name and number and pass it on to the watchkeeper for them to handle. For station business, contact the Station Manager. In all cases log the caller's name and number and details of the request.

#### *6.3.14 VHF*

Radio traffic between the Lookout and our handheld radio (see section 8: *Radio*) need not be logged unless it is during the course of an incident where one watchkeeper leaves the Lookout.

All other radio traffic with PQ must be logged:

- For Channel 0 (and any other channels as authorised by the Coastguard) it will usually be incident related. Each transmission on this channel must be logged. Incoming traffic to the Lookout should also be logged.
- For Channel 65 the traffic is likely to be more free form and watchkeepers are asked to log it in general. An entry is shown in the Sample Log Page on page 6:8. Maintaining a radio log is an OFCOM requirement for channels such as 0 and 16. For 65 we want to keep track of its usage.

#### *6.3.15 Activities and incidents*

These are covered extensively in Chapters 3 and 4. Watchkeepers must complete the PQ Activity and Incident Record AND make a full set of entries in the log.

#### *6.3.16 Visitors to the Lookout*

Casual visitors to the Lookout and Visitor Centre and walkers on the coastal path are not logged unless they are considered by the watchkeeper to be of concern.

The arrival and departure times of other visitors to the Lookout must be logged together with the person's name and the purpose of the visit (e.g. 'Station Business'). This includes watchkeepers, members of the station management team, organisers of formal group visits, Police, Coastguard, etc.

## 6.4 Completing the logbook

Laminated cards at the console give watchkeepers easy access to vessel and weather coding and the general standards to adopt. Excerpts are included as relevant in this section of the WKH.

Please refer to paragraph 6.5 *Example log page* on page 6:8 when reading the remainder of this section.

#### *6.4.1 The columns of the logbook*

The columns and their usage are straightforward. Table 9 is a summary. The first two columns (shown in italics) should never be left blank when making a log entry.

Table 9 Logbook column usage

| Column | What to enter |
|---|---|
| ***Time*** | Use local clock time. |
| ***Type of Vessel*** | Use this column to record vessel type, incoming and outgoing phone calls and VHF channels. The vessel codes to use are explained on the following pages. |
| **Name, MMSI or Call Sign** | Identify the vessel in one of these ways. If she has AIS, it is not necessary to record her MMSI number as well as her name unless there is some confusion as to it, e.g. the name is shown differently on Vesseltracker and the radar or on the vessel herself. |
| **Registration or Sail no** | Record hull no. or sail no. if available. |
| **Position, Bearing and Range or Location** | Use as appropriate. See paragraph 7.4 *Give a position as a bearing and distance from PQ* on page 7:4. |
| **Course / heading** | Minimum for a vessel passing the Lookout is E(ast) or W(est). Gives scope for more accurate direction recording if appropriate. |
| **Speed** | Complete at your discretion when data from radar or AIS is available. Round speed to whole knots |
| **VRA** | With a purely visual sighting enter V. If information is also (or only) obtained through radar or AIS, add A and/or R. |

| Column | What to enter |
|---|---|
| **PV** | Persons visible. |
| **Remarks** | Complete at your discretion. Where a small boat has no identifiable name or number enter any relevant identification information here.<br>Use to note comms (phone and VHF) details, visitors etc.. |
| **Weather section** | Enter required information. See paragraph 8.6 *Actual weather* on page 8:6. |

It is NCI's policy that a vessel is logged in sufficient detail that it can be identified to the SAR authorities as clearly as possible.

### 6.4.2 Generic codes

NCI has adopted a set of standard vessel codes. Table 10 shows the generic codes to use.

Table 10 Vessel and aircraft generic codes

| Generic Code | Meaning |
|---|---|
| **L** | Leisure vessels. |
| **C** | Commercial vessels. |
| **FFS** | Fishing vessels. |
| **S** | Service or support vessels. |
| **A** | Aircraft and helicopters. |
| **O** | For use where no other code applies. |

However, particular types of vessel have their own specific code.

**You should whenever possible use one of the specific codes for leisure vessels and lifeboats.** See Table 12 on page 6:9 and Table 15 on page 6:12.

In other cases, the generic code will suffice and only use the specific code if time permits and you are sure that it is right.

The specific codes that we commonly use at PQ are listed in the aide-memoire kept by the console. The full NCI list is on the inside cover of the logbook and duplicated in Table 16 on page 6:13.

### 6.4.3 Colour codes

There are times when the colour of a vessel, crew's clothing etc. needs to be logged. Either write the colour in full or use the codes below. These are also listed in the inside cover of the logbook.

Table 11 Colour codes

| Code | Colour | Code | Colour | Code | Colour |
|---|---|---|---|---|---|
| **bk** | Black | **g** | Green | **w** | White |
| **bl** | Blue | **o** | Orange | **y** | Yellow |
| **c** | Cream | **r** | Red | **d** | Dark (shade) |
| **cg** | Carbon/Grey | **s** | Silver | **l** | Light (shade) |

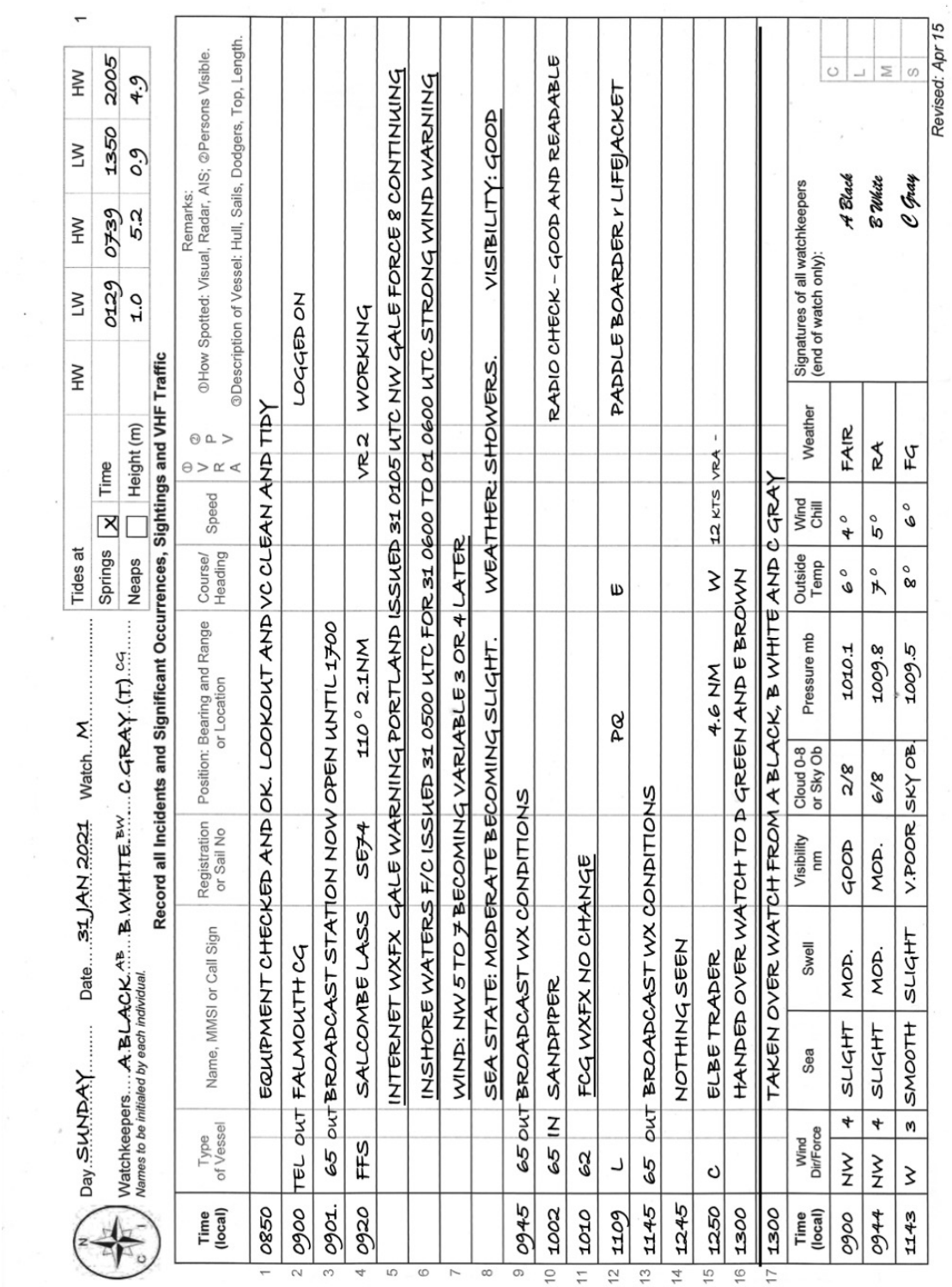
### 6.4.4 Signature Box

Watchkeepers sign this at the end of their watch.

Within the signature box there is another box marked "C,L,M,S". This is for subtotalling the numbers of commercial, leisure, military and service vessels logged. It is best left alone as, unlike other

stations, we separately record the numbers of fishing vessels and do not differentiate between civilian and military aircraft.

## 6.5 Example log page



Day SUNDAY Date 31 JAN 2021 Watch M

Watchkeepers A BLACK (A) B WHITE (BW) C GRAY (T) CG

*Names to be initialed by each individual.*

Tides at: Springs ☒ Neaps ☐ | Time | Height (m) | LW 0129 1.0 | HW 0739 5.2 | LW 1350 0.9 | HW 2005 4.9

1

**Record all Incidents and Significant Occurrences, Sightings and VHF Traffic**

| | Time (local) | Type of Vessel | Name, MMSI or Call Sign | Registration or Sail No | Position: Bearing and Range or Location | Course/ Heading | Speed | ① VRA ② P V | Remarks: ①How Spotted: Visual, Radar, AIS; ②Persons Visible. ③Description of Vessel: Hull, Sails, Dodgers, Top, Length. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 0850 | | EQUIPMENT CHECKED AND OK. LOOKOUT AND VC CLEAN AND TIDY | | | | | | |
| 2 | 0900 | TEL OUT | FALMOUTH CG | | | | | | LOGGED ON |
| 3 | 0901. | 65 OUT | BROADCAST STATION NOW OPEN UNTIL 1700 | | | | | | |
| 4 | 0920 | FFS | SALCOMBE LASS | S674 | 110° 2.1NM | | | VR 2 | WORKING |
| 5 | | | INTERNET WXFX GALE WARNING PORTLAND ISSUED 31 0105 UTC NW GALE FORCE 8 CONTINUING | | | | | | |
| 6 | | | INSHORE WATERS F/C ISSUED 31 0500 UTC FOR 31 0600 TO 01 0600 UTC STRONG WIND WARNING | | | | | | |
| 7 | | | WIND: NW 5 TO 7 BECOMING VARIABLE 3 OR 4 LATER | | | | | | |
| 8 | | | SEA STATE: MODERATE BECOMING SLIGHT. WEATHER: SHOWERS. VISIBILITY: GOOD | | | | | | |
| 9 | 0945 | 65 OUT | BROADCAST WX CONDITIONS | | | | | | |
| 10 | 1002 | 65 IN | SANDPIPER | | | | | | RADIO CHECK – GOOD AND READABLE |
| 11 | 1010 | 62 | FCG WXFX NO CHANGE | | | | | | |
| 12 | 1109 | L | | | PQ | E | | | PADDLE BOARDER r LIFEJACKET |
| 13 | 1145 | 65 OUT | BROADCAST WX CONDITIONS | | | | | | |
| 14 | 1245 | | NOTHING SEEN | | | | | | |
| 15 | 1250 | C | ELBE TRADER | | 4.6 NM | W | 12 KTS | VRA - | |
| 16 | 1300 | | HANDED OVER WATCH TO D GREEN AND E BROWN | | | | | | |
| 17 | 1300 | | TAKEN OVER WATCH FROM A BLACK, B WHITE AND C GRAY | | | | | | |

| Time (local) | Wind Dir/Force | | Sea | Swell | Visibility nm | Cloud 0-8 or Sky Ob | Pressure mb | Outside Temp | Wind Chill | Weather |
|---|---|---|---|---|---|---|---|---|---|---|
| 0900 | NW | 4 | SLIGHT | MOD. | GOOD | 2/8 | 1010.1 | 6° | 4° | FAIR |
| 0944 | NW | 4 | SLIGHT | MOD. | MOD. | 6/8 | 1009.8 | 7° | 5° | RA |
| 1143 | W | 3 | SMOOTH | SLIGHT | V.POOR | SKY OB. | 1009.5 | 8° | 6° | FG |

Signatures of all watchkeepers (end of watch only):

A Black

B White

C Gray

C L M S

Revised: Apr 15

**Figure 6-1 Example log page**

## 6.6 Leisure vessels

Table 12 Leisure vessel codes

**L** **Leisure generic code** Use remarks column if using **L** code.

| Code | Sailing vessel | Code | Small motor vessels |
|---|---|---|---|
| **YBC** | Bermudan cutter | **MC** | Motor cruiser |
| **YBK** | Bermudan ketch | **MCF** | Motor cruiser with flying bridge |
| **YBS** | Bermudan sloop | **MDY** | Dory – motor boats with a 'square' bow. |
| **YBY** | Bermudan yawl | **PWC** | Jet ski or personal watercraft |
| **YGC** | Gaff cutter | **MLI** | Launch with inboard engine |
| **YGK** | Gaff ketch | **MLO** | Launch with outboard engine |
| **YGS** | Gaff sloop | **RIB** | Rigid hulled inflatable boat (RIB) |
| **YGY** | Gaff yawl | **SB** | Sports or Power Boat |
| **MS** | Motor sailer | **MCAT** | Motor catamaran |
| **YC** | Catamaran | **D** | Dinghy with outboard |
| **YT** | Trimaran | | **Other craft** |
| **YS** | Schooner | **KC** | Canoe or kayak |
| **STC** | Square rigged training craft | **RB** | Rowing boat |
| **SD** | Sailing dinghy | **INF** | Inflatable |

Figure 6-2 open dory. NB Some have a cuddy or prominent console

Figure 6-3 overleaf illustrates the rigs of some of the sailing vessels that pass PQ.

Watchkeepers should be able to identify without reference to identification charts the combinations of:

- Bermudan
- Gaff
- Sloop
- Cutter
- Ketch
- Yawl

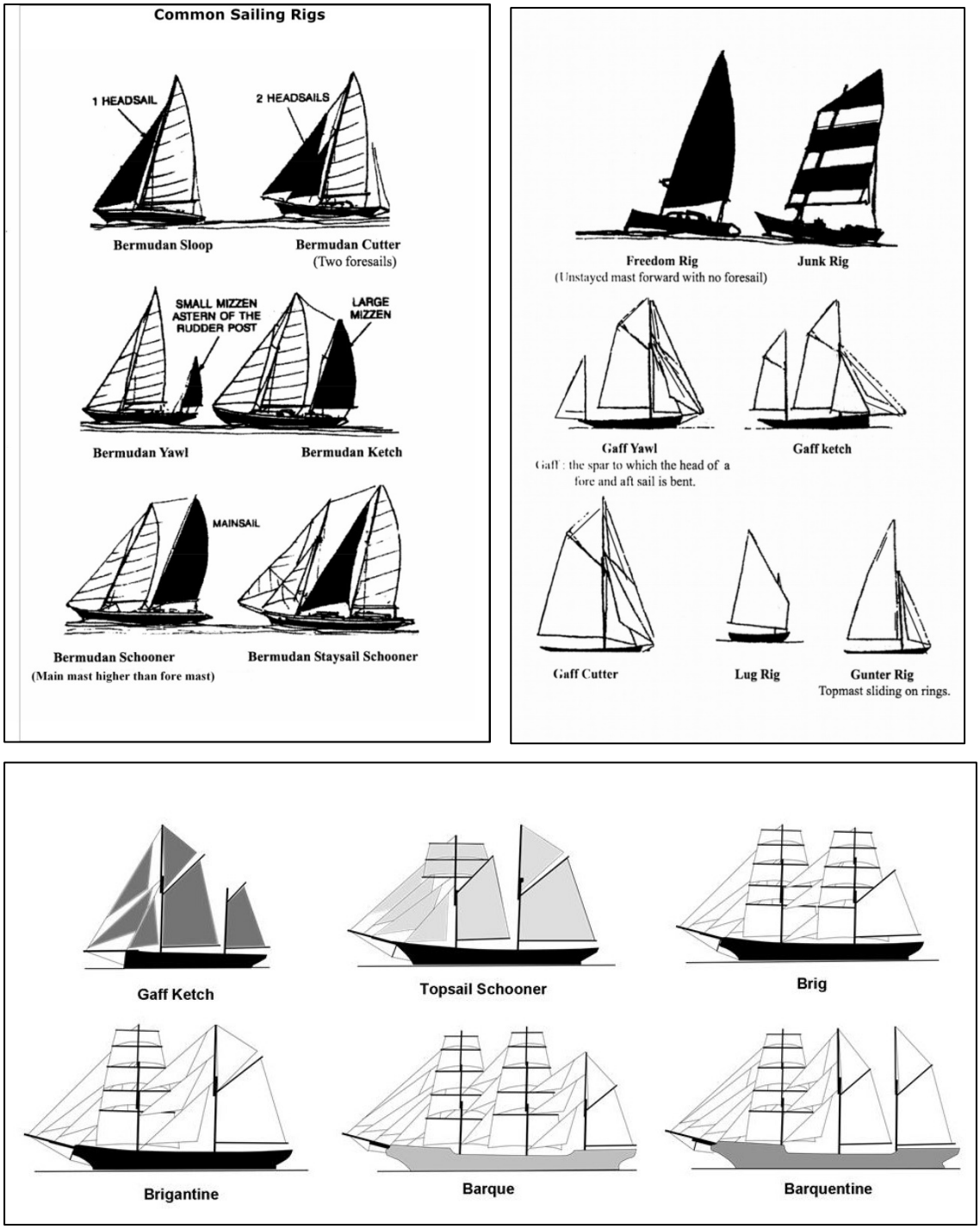



Figure 6-3 Sailing rigs

## 6.7 Fishing vessels

Table 13 Fishing vessel codes

**FFS** **Registered fishing vessel generic**

| Code | Vessel type | Code | Vessel type |
|---|---|---|---|
| **POT** | Potter | **TFV** | Trawler |

Figure 6-4 shows types of fishing vessel often observed off PQ. If a vessel does not have one of the two special codes then, if you are sure of its type, enter it in the remarks column.

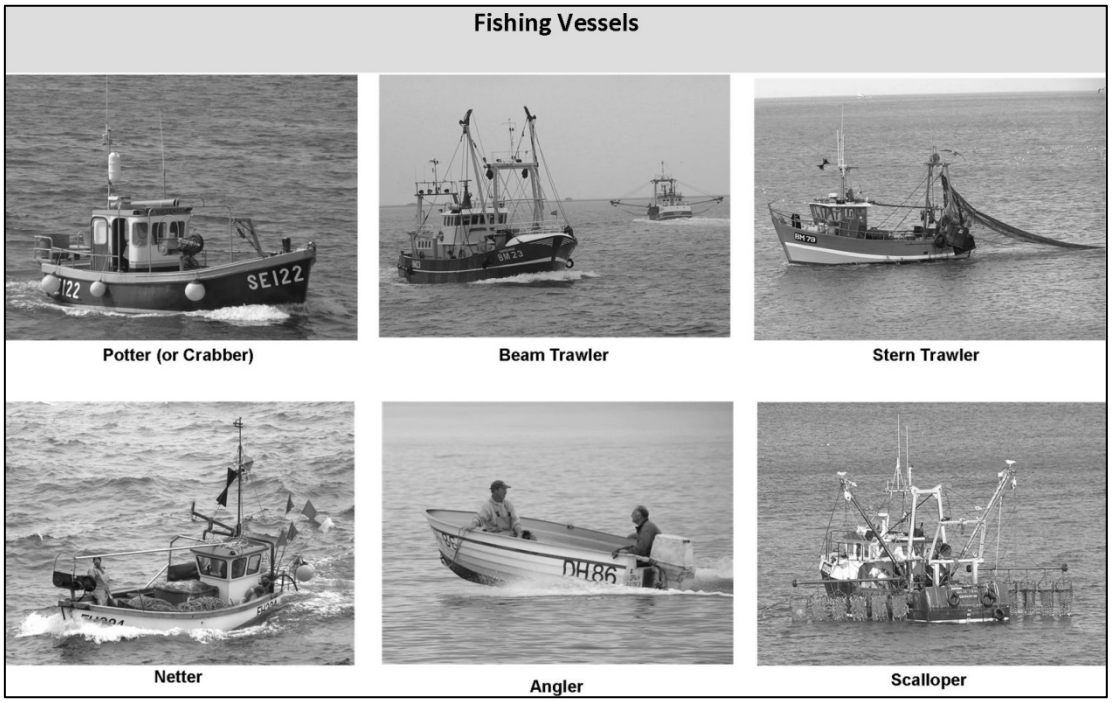



Figure 6-4 Photos of fishing vessels

## 6.8 Commercial vessels

These are generally of low significance for PQ. The generic code should be used for all vessels that are not classified as leisure fishing, military or service. Specific codes relevant to PQ are shown in Table 14. The codes in the NCI full set shown in Table 16 on page 6:13 are for use only if you are sure and have the time to use them.

Table 14 Commercial vessel codes

**C** **Commercial generic code**

| Code | Vessel type | Code | Vessel type |
|---|---|---|---|
| **PEF** | Passenger Day Excursion Ferry | **PST** | Passenger speed/trip boat (e.g. SeaN'Shore RIBs) |
| **CAC** | Angling Charter (e.g. Anglo Dawn III) | **DVC** | Diving Charter |

Figure 6-5 on page 6:12 shows some of the more common larger merchant vessels we see.


Figure 6-5 Photos of merchant vessels

## 6.9 Military and service vessels and aircraft

Use the military generic code for all UK or foreign military vessels, e.g. Royal Navy, foreign navy, Royal Fleet Auxiliary, Royal Marines etc. The specific codes below are optional.

Lifeboats must always be identified by using the specific code. In all other cases, the generic service code will suffice, although in that case the vessel should be described in the Name or Remarks column.

Table 15 Military, service and aircraft codes

**M** ***Military generic code***

| Code | Vessel type | Code | Vessel type |
|---|---|---|---|
| **WHMS** | Royal Navy warship | **RFA** | Royal Fleet Auxiliary |

**S** **Service generic code**

| Code | Vessel type | Code | Vessel type |
|---|---|---|---|
| **AWLB** | All weather lifeboat | **ILB** | Inshore lifeboat |
| **CG** | Coastguard vessel | **FFP** | Fisheries Protection vessel - not RN |
| **UKBF** | Border Force vessel | **POL** | Police launch |

**AC** **Fixed wing aircraft generic code** **HELO** **Helicopter generic code**

| Code | Helicopter type | Code | Helicopter type |
|---|---|---|---|
| **AHELO** | Air Ambulance | **CGHELO** | Coastguard helicopter |

## 6.10 Full NCI vessel code set

The full set of vessel codes used by NCI is shown in Table 16 on page 6:13 and on the inside cover of the logbook. Only if you have the knowledge and, more importantly, the time then use them.

**Table 16 Full NCI vessel code set**

**Use these codes for Vessel Types only where they are helpful, otherwise all log entries must be written in full. Others may not understand your abbreviations.**

| Commercial Vessels and Craft (C) | | Leisure Vessels and Craft (L) | | Military & Military Auxiliaries (M) | | RNLI, FPV, UKBF, Harbour Patrols, etc. (S) | |
|---|---|---|---|---|---|---|---|
| BBU | Bulk Carrier | Y | Yacht Mono-Hull (add rig code) | WHMS | Warship British (RN) | AWLB | All Weather Lifeboat |
| GGC | General Cargo (incl. Coasters) | YC | Yacht Catamaran | W - - - | Warship Foreign (eg WUSN) | ILB | Inshore Lifeboat (incl. ACV) |
| MVE | Vehicle Carrier (ocean going) | YT | Yacht Trimaran | RFA | Royal Fleet Auxiliary | IRC | Inshore Rescue Craft |
| TTA | Tanker (all types) | YS | Schooner | AUX | Other Military Auxiliary | CG | Coastguard Vessel |
| UCC | Container Carrier (incl. Feeders) | MS | Motor Sailer | MAC | Military Fixed Wing Aircraft | CGHELO | Coastguard Helicopter |
| MPR | Cruise Liner | STC | Square Rigged Sail Training Craft | MHELO | Military Helicopters | POL | Police Boat or RIB |
| PRR | Passenger Ro/Ro | SD(M) | Sailing Dinghy (Monosail) | **Sailing Rigs** | | PHELO | Police Helicopter |
| PHF | Passenger Hydrofoil | MCAT | Motor Catamaran | BC | Bermudan Cutter | AHELO | Air Ambulance |
| PFF | Passenger Ferry | SP | Speedboat (no cabin) | BK | Bermudan Ketch | UKBF | UKBF HM Cutter or other craft |
| PEF | Passenger Day Excursion Ferry | MC(F) | Motor Cruiser (Flybridge) | BS | Bermudan Sloop | PIL | Pilot Vessel |
| PST | Passenger Speed/Trip Boat | CC | Cabin Cruiser | BY | Bermudan Yawl | (Q)HM | (Queen's) Harbour Master |
| OCL | Cable Ship | SB | Sports or Powerboat | GC | Gaff Cutter | FFP | Fishery Protection Vessel |
| DDR | Dredger (all types) | MDB | Motor Dayboat with cuddy | GK | Gaff Ketch | FPAC | Fishery Protection Aircraft |
| OSV | Offshore Support Vessel | MLI | Motor Launch with inboard | GS | Gaff Sloop | RSB | Range Safety Boat |
| PBW | Pontoon/Barge/Work Boat | MLO | Motor Launch with outboard | GY | Gaff Yawl | | |
| RRE | Research Ship | MDY | Motor Dory | **Other Abbreviations** | | | |
| XTG | Tug (all types) | D | Dinghy with outboard | H | Hull | VAA | Vessel at Anchor |
| ACV | Air Cushioned Vessel | RIB | Rigid Hull Inflatable Boat | S | Sails | VAG | Vessel Aground |
| AC | Fixed Wing Aircraft | INF | Inflatable (incl. Toys) | D | Dodgers | | |
| HELO | Helicopter | RB | Rowing Boat with oars or scull | T | Top | **Colours** | |
| DVC | Diving Charter | GIG | Gig/Racer | LOA | Length Overall | c | Cream s Silver |
| CAC | Angling Charter | PWC | Personal Watercraft (eg Jet Ski) | DD | Divers Down | cg | Carbon/Grey w White |
| FFS | Fishing Vessel (non specific) | KC | Kayak or Canoe | NUC | Not Under Command | bk | Black y Yellow |
| **Alternatives** | | WS | Windsurfer | NUW | Not Underway | bl | Blue d Dark (Shade) |
| POT | Potter | KS | Kitesurfer | PV | Persons Visible | g | Green l Light (Shade) |
| TFV | Trawler | (M)HG | (Motorised) Hang Glider | UPO | Under Power Only | o | Orange t Teak |
| Add any further amplification necessary under 'Remarks' | | | | UPS | Under Power & Sail | r | Red v Varnish |

*Revised: Apr 15*

## 6.11 Vessel Search

Vessel Search is a PQ spreadsheet on the computer that enables you identify a fishing vessel's name or Royal Navy or Royal Fleet Auxiliary ship's name from its number and vice versa. It also has information about RNLI lifeboats and Coastguard and Devon Air Ambulance helicopters.

To access Vessel Search, click on the icon on the computer desktop.

When you are finished, **do not close** the spreadsheet but minimize it (the '-' button, not the 'x' button). If you close it by mistake and need to use it again, click on the desktop icon.

## 6.12 Watch Summary

At the end of every watch an entry should be made in the Watch Summary. This is straightforward and has two purposes:

1) As a station we want to keep track of how busy we have been.
2) PQ has to provide annual statistics to NCI which are then collated at a national level.

If your entry completes a page, and time permits, fill in the 'totals' row.

# 7 Plotting

## 7.1 Introduction

Watchkeepers MUST be able to work quickly and accurately to give a position as both a 'bearing and distance from the Lookout' (for the lifeboats) and a latitude and longitude (for the Coastguard and routinely used by vessels in distress).

Whilst an approximate position is all that is required when making an initial report (speed is more important), the giving of a more exact position will be valuable as the incident progresses.

Knowing the bearing and distance is important as it enables you to look in the right place with the binoculars and /or pelorus to locate a casualty visually. So, converting a lat/long positon to a bearing and distance is a useful skill.

Our radar may well provide the necessary information in many cases, but not always, and the techniques for plotting a position "by hand" are simple and quick to use.

## 7.2 The chart

The chart covering our patch that we use is Admiralty chart 1613.

Figure 7:1 shows typical symbols found on an Admiralty chart. A complete list may be found in the booklet entitled Admiralty Chart 5011 (It's in the secure cupboard).

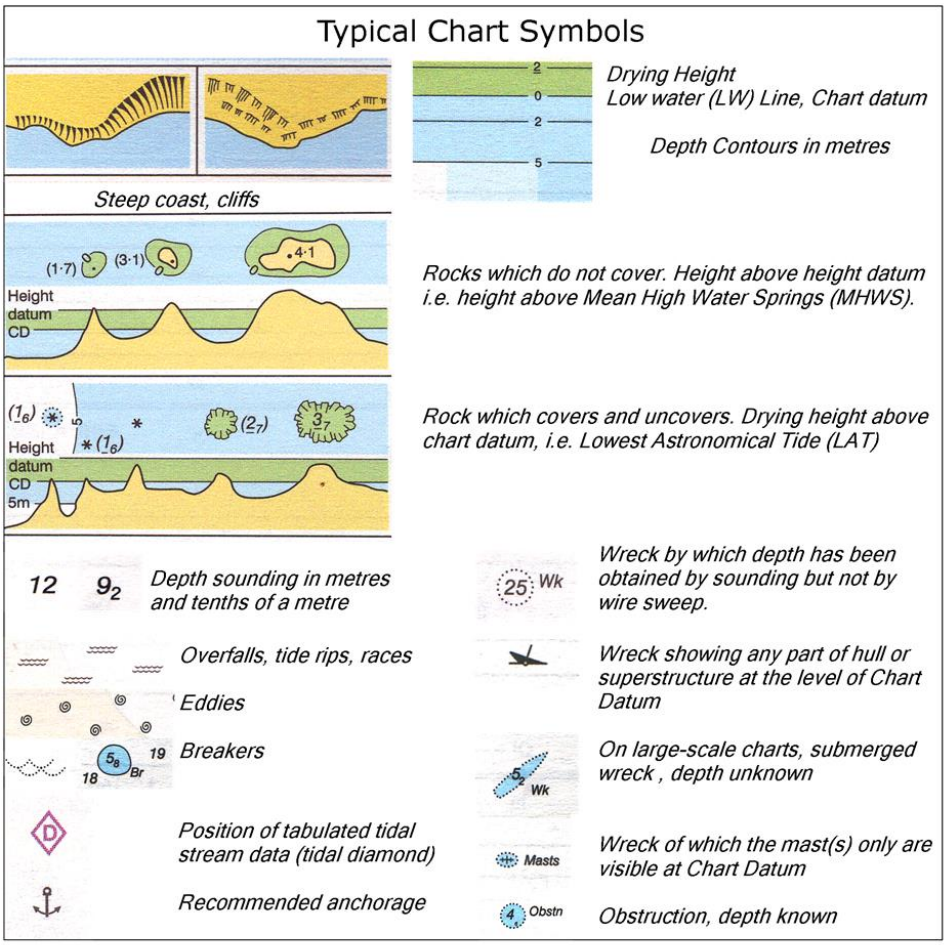



Figure 7-1 Chart symbols

## 7.3 Key plotting skills

1) Reporting and plotting a position in the two ways mentioned above.
2) Refining the original position to minimise the search area for a lifeboat or helicopter.
3) Understanding reciprocal bearings and the bearing and distance between two objects.
4) Predicting the future position of a casualty at sea allowing for wind and tide. We don't have to be precise but do need to know the factors involved and how to apply them.

## 7.4 Give a position as a bearing and distance from PQ

Watchkeepers MUST be able to do this within about two minutes. Bearings are easy to establish quickly and accurately. Distance is harder to get right and will often have to be refined.

The position will be expressed as a:

1) bearing in degrees (0-360°) from the Lookout and normally read from the pelorus); and
2) distance (nautical miles).

### *7.4.1 Magnetic or true*

Bearings are stated in degrees measured clockwise from True North using a 360° notation. Thus east is 090°, south 180°, and west 270°. All should be expressed as true or magnetic and, except zero degrees, as three figures.

A Magnetic bearing means that it is relative to the earth's magnetic North Pole which moves over time. A True bearing is relative to the true North Pole which is fixed.

- The compass binoculars and the radar give Magnetic bearings (suffix M, e.g. 189° M).
- The pelorus and chart are both give True (suffix T, e.g. 187° T) bearings.

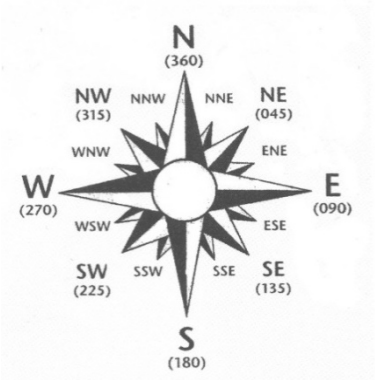



Figure 7-2 Compass rose

We therefore have to work with both True and Magnetic bearings and the difference between them is called the Magnetic Variation.

Magnetic Variation was estimated to be 0° 32' in June 2021.

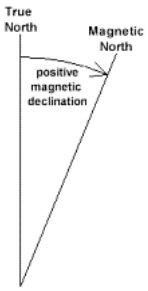



Figure 7-3 True and Magnetic North

With the variation so low its significance is minimal. When giving an initial position it can be safely ignored. However, it could possibly matter when the variation is greater in order to give a really accurate position, or locate a small object such as a diver's head, using binoculars after sighting it by pelorus.

### 7.4.2 Taking a visual bearing

To give a vessel's position you need to establish its direction, i.e. its bearing relative to True North.

Figure 7-4 The pelorus

The station is equipped with a **pelorus** (or azimuth circle) for taking bearings. This is a fixed compass card (permanently aligned to True North) on which is mounted a sighting vane. By pointing the sighting vane to the target, its TRUE bearing can be quickly read off the card.

The pelorus is marked with both degrees and points of the compass and so provides a quick means of converting one to the other.

The pelorus is only accurate in its set position and then only if it is properly calibrated to True North. Great care needs to be taken when using the small, moveable 'peloruses' in the Lookout to ensure that they remain aligned to true north.

### 7.4.3 Estimating distance

Distance at sea is measured in nautical miles (nm).

One nautical mile equals 1,852 metres, 6,076 ft or 1.15 statute miles.

Estimating distance takes practice. The following are useful tools:

1) The distances to key local land and sea marks are marked on quick reference charts or diagrams in the Lookout. Wherever possible they should be memorised, as they provide valuable yardsticks for estimating the distance of positions in their vicinity.
2) Another useful yardstick is the theoretical distance from PQ to the horizon (16 nm).
3) The radar also provides a useful means of establishing the range or distance of a target. It is good practice to check your visual estimate with the distance shown on the radar.
4) Consult the photographs on page 7:22.

The radar returns distances of less than 0.5 nautical miles in metres.

0.5 nm = 926 metres  0.25 nm = 463 metres

The following table may be useful for logging distances in nautical miles or giving distances in cables to the Lifeboat. Conversions are to the nearest 0.1 nm and 5 m. There's a copy on the chart table.

Table 17 Conversion table: metres to nautical miles and cables

| Metres | Nautical miles | Cables |
|---|---|---|
| 835 - 925 | 0.5 | 5 |
| 650 - 834 | 0.4 | 4 |
| 465 - 649 | 0.3 | 3 |
| 370 - 464 | 0.2 | 2 |
| <370 | PQ | <2 |

## 7.5 The PQ customized Portland Plotter

This is the primary plotting tool for watchkeepers. It is a standard Portland Plotter with scales modified to match the chart we use. There are two scales on each of the long sides of the plotter. One measures distance in nautical miles and the other exactly aligns with the chart's latitude scale.

This single instrument can therefore be used to measure and plot bearings and distance AND to establish the latitude and longitude of a point on the chart or plot a position from its latitude and longitude. There is no need to use any other plotting tool such as dividers or parallel rulers.

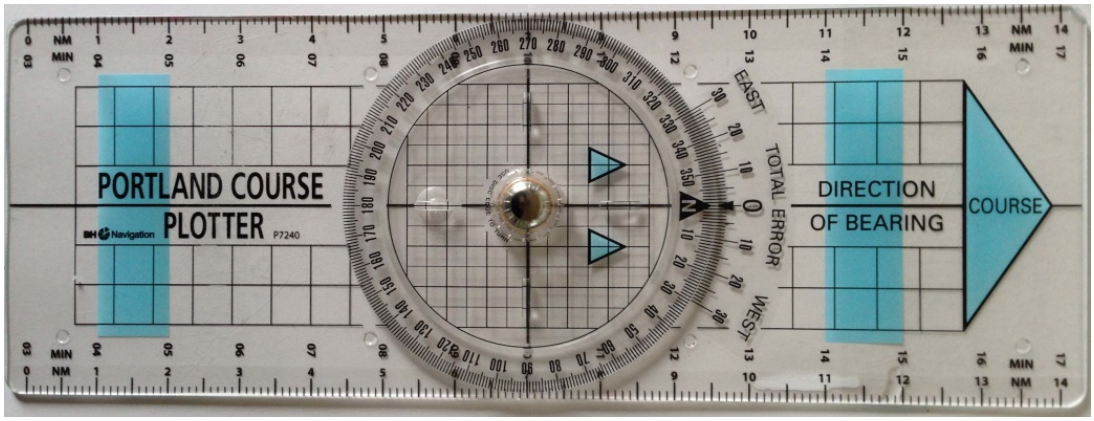



Figure 7-5 PQ's customized Portland Plotter

***The body of the plotter***

1) The blue arrow at one end marked 'course' gives the 'Direction of bearing'.
2) There is a grid of lines running along and across the plotter's body.
3) There are two blue rectangles. These help you to align the plotter correctly with the latitude scale of the chart. In Figure 7-5 the left hand one aligns with the 5 minute grid line on the chart and the right hand one with the 15 minute grid line. Thus, they are 10 miles apart on the chart's scale.
4) There are two scales on each side of the plotter. The outer scale is for measuring distance and is in nautical miles (nm). The inner scale aligns with the chart's latitude scale using the blue rectangles and then the longitude can be read directly off the chart. The width of the plotter makes it easy to align it correctly.
5) There is a section marked 'Total Error'. For True bearings only the 0 (zero) is important.

**The rotating centre**

1) The outer ring is marked in degrees and has a black triangle indicating North. Two blue triangles also help indicate north.
2) There's a grid of lines to help align this part of the plotter when required.

**General guidance**

1) You will find it best and easiest to always use one edge or the other of the plotter when doing chartwork.
2) If you rely on the centre line you will NOT be able to plot directly onto the chart

## 7.6 Latitude and longitude

Latitude and longitude is essentially a grid reference system based on the angles between the object and the Equator (Parallels of Latitude) and between the 'Prime Meridian' (which runs through Greenwich) and the object (Meridians of Longitude).

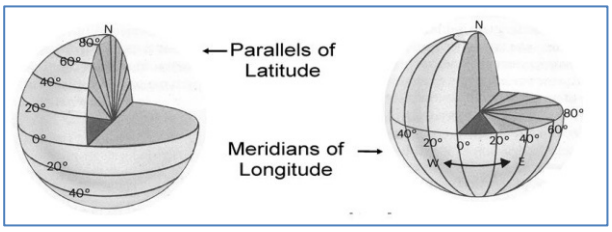



Figure 7-6 Latitude and longitude

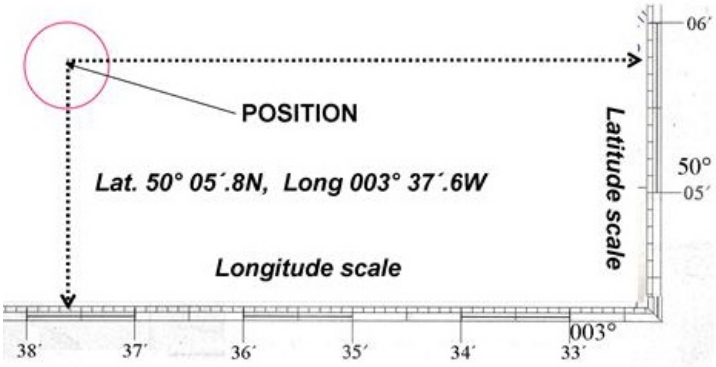



Figure 7-7 Latitude and longitude scales

Measurement of latitude is related to distance – one minute of latitude (60th of a degree) equals one nautical mile. This is true for all distances even those measured in an east-west direction.

On a nautical chart latitude is shown as a vertical scale at the sides of the chart and longitude as a horizontal scale at top and bottom.

In giving a lat /long position the vertical scale is always read before the horizontal scale and the position presented in this way. At Prawle Point latitudes are suffixed with N (north) and longitudes suffixed with W (west), e.g. 50° 05.8' N 003° 37.6' W.

**It is vital that you give positions in this format – latitude followed by longitude. Thus the position above would be presented as "Five zero degrees zero five decimal eight minutes north, zero zero three degrees three seven decimal six minutes west".**

At our latitude one minute of latitude is about 30% 'longer' than one minute of Longitude **so it is always wrong to use the longitude scale to measure distance.**

## 7.7 Reading a lat/long position using the PQ Portland Plotter – an example

1) The required position is shown on Figure 7-8 by the red cross which is partially obscured by the plotter.
2) Align the plotter (A) with the chart's latitude scale.
3) Read off the latitude of the position from the latitude scale on the plotter (B).
4) Read off the longitude from the chart (C).

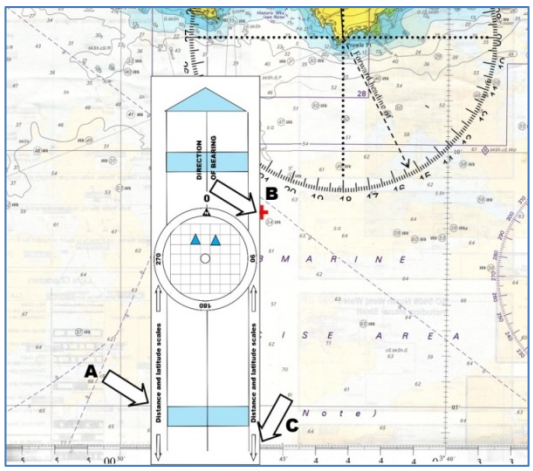



Figure 7-8 Reading a lat/long position using PQ's Portland Plotter

## 7.8 Plotting a bearing and distance

Once a casualty's bearing and estimated distance from PQ has been reported to the Coastguard, it should be plotted on the chart.

Once its position has been plotted by marking it with with a dot on the chart using a non-permanent marker pen, put a small cross centred on it and write the time, bearing and distance (Figure 7-9). This will help you both to find it and know that you have the correct position if several have been left on the chart.

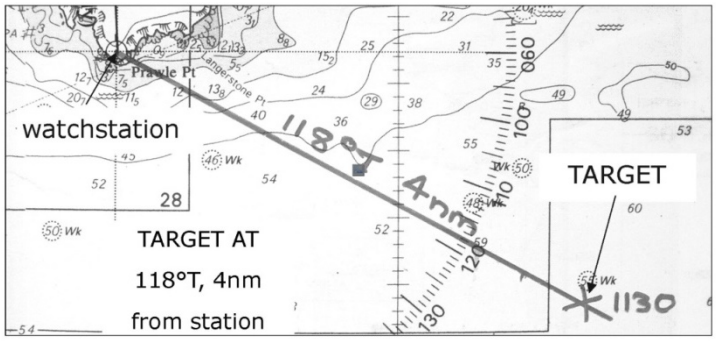



Figure 7-9 Plotting a target on the chart

**When plotting the bearing/distance or the 'lat/long' of a target on a chart it is always a good idea to do a 'gross error check' by looking out at the target to see if the plotted position 'looks right' relative to charted features.**

### *7.8.1 Plotting on the chart using the chart's compass rose*

Place the PQ's customised Portland Plotter with edge and its zero mileage scale on the Lookout's position and rotate it until the bearing on the compass rose is correct. Use the plotter to draw a line passing through PQ.

Read off the right distance from the mileage scale and mark the position on the chart with a small 'dot'. Annotate the line with the bearing and distance as shown in Figure 7-9.

### *7.8.2 Plotting on the chart using just the Portland Plotter – a worked example*

The casualty is on a bearing of 135°T 2 miles from the Lookout. The left hand plotter in Figure 7-10 is the one to look at.

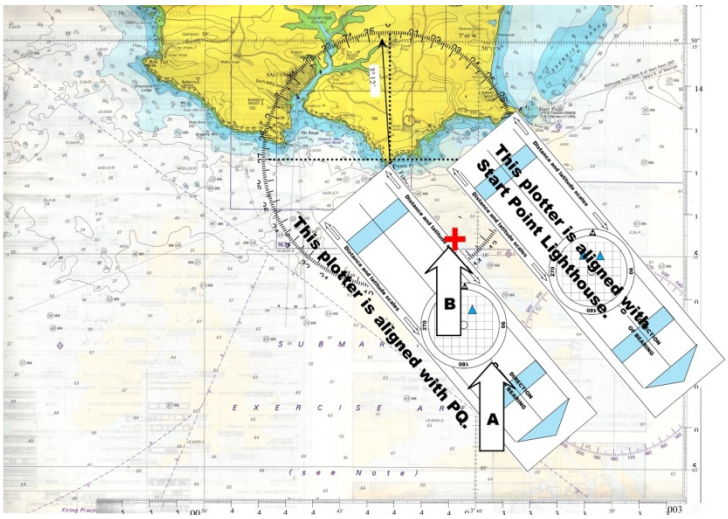



Figure 7-10 Plotting a bearing and distance on the chart

1) Rotate the centre so its 135° is aligned with the zero on the plotter's body. The plotter's body is now aligned on a bearing of 135°T – **step A**.

2) Position the plotter so that the two small blue arrows in the centre point north and the edge passes through the Lookout's location with the zero on the distance scale at the Lookout.

3) Read off 2nm from the mileage scale on the plotter and mark the position on the chart with a dot– **step B**.

This is a versatile tool. The position and bearing may be given from a different location. In the example the right-hand plotter is aligned on a bearing of 135°T from Start Point lighthouse. The

procedure is identical way apart from using the lighthouse as a reference point rather than our Lookout.

## 7.9 Plotting a known position by radar

The screen always shows the position of the cursor as both its bearing and distance from the Lookout and its latitude and longitude. Figure 7-11 shows this. So with practice you can move the cursor to the known bearing and distance or latitude and longitude and then mark the position (paragraph 10.4.6 *Marking a position* on page 10:6).


Figure 7-11 Cursor information on the radar

In reality, whilst it is fairly easy to get the cursor to **APPROXIMATELY** the right position, it can be very time consuming to get it to **PRECISELY** the right position. Remember that an approximate position within a degree or so and a few tenths of a mile are often quite adequate. DON'T WASTE TIME.

One advantage of this method is that if you find the correct latitude and longitude given, the bearing and distance is automatically shown.

## 7.10 Plotting a known latitude and longitude using the chart and Portland Plotter

Plotting on the chart is a core skill and is preferable. Watchkeepers must be able to plot a latitude and longitude within two minutes and be accurate. It takes practice.

The procedure is the same as for reading a latitude and longitude (paragraph 7.7 *Reading a lat/long position using the PQ Portland Plotter – an example* on page 7:7 ) but in reverse.

Align the Plotter's latitude scale with the chart's scale and make sure it points due North (i.e. to the top of the chart and parallel with any of the chart's North South grid lines).

1) Move the plotter until the side with the latitude scale is at the correct longitude.
2) Work along the latitude scale on the rule until you reach the required value and mark the chart with a dot with a non-permanent marker pen.
3) Then put a small cross centred on the dot and write the time, bearing and distance

## 7.11 Reciprocal bearings

The convention and correct practice is to give the bearing **FROM** a land object to the vessel.

You may find however that a bearing is given FROM a vessel to a land object.

Assume the target vessel is 118°T (roughly ESE) from the Lookout. The Lookout, when viewed from the target vessel, is in the opposite direction, roughly WNW, on a bearing of 298°T, (118°+180°). This is its reciprocal or back bearing.

The conversion process is easy and there are three ways to do it:

1) If mental arithmetic is not your strong point simply place a ruler or the Portland Plotter on the chart on the compass rose, passing through its centre. You can then see both the correct bearing and its reciprocal at a glance.
2) A reciprocal bearing is always plus or minus 180° of the forward bearing. A bearing must have a value between 000° and 359° and so if the forward bearing is less than 180°, you add 180° to get the reciprocal and if it is more than 180°, you deduct 180°.
3) Use the conversion chart in the drawer below the chart table.

It is quite common for a vessel to give its position over the radio in terms of bearing and distance **to** the fixed position and so it is important to be able to tell when this is the case and make the necessary ± 180° conversion. **There's a simple check – if the stated position is on land then try looking down the reciprocal bearing!**

Always check the given position by plotting it on the chart (or radar) and sighting along the given or reciprocal bearing (as appropriate) using the pelorus. If the vessel is visible along or near that bearing tell the Coastguard that you have 'casualty visual' and give an updated bearing if necessary.

## 7.12 Refining the original position

Once an initial position has been established it may well be possible to improve on it, particularly the distance off. Vessels will drift due to tide and wind and this too will mean that the initial position may have to be modified.

The goal is to minimise the SAR search area.

### *7.12.1 Bearing changes*

These are relatively straightforward to establish by using the pelorus as part of maintaining a continuous visual watch on a casualty. The casualty's bearing from PQ is very useful to SAR because, even if the distance estimate is in error, it gives them a line to run down and along which the casualty is known to lie. Keeping the casualty's bearing up to date and passing changes to the Coastguard is one of the most useful actions we can take.

### *7.12.2 Distance changes*

Visual estimates of distance off PQ are always going to be fairly approximate. The two main ways to improve them are:

1) Use the radar. Look for a target on the bearing visually established at the distance you have estimated. This may be difficult if not impossible in the case of small craft which do not give a radar echo.
2) Techniques such as the proximity of land features and the proximity of the casualty to an identifiable radar target (including a rain squall) help refine the distance of the casualty from the Lookout.

Remember that once the SAR process has been initiated it will take some time for the lifeboat or helicopter to get to the casualty. This is where PQ can be really useful by using that time to get the most accurate position possible.

## 7.13 The bearing and distance between two points

From time to time it may be necessary to provide the bearing and distance from one vessel to another. For example, we might have to advise the lifeboat that *'the casualty is on a bearing of 165° True and distance 5 miles from your current position'*. This can arise if the lifeboat has passed the wrong initial position or confuses the casualty with another vessel.

### *7.13.1 Using the chart and Portland Plotter – a worked example*

1) Vessel 1 is marked red (arrowed B) on Figure 7-12 and Vessel 2 is marked blue (arrowed D). We want to know the bearing and distance FROM 1 TO 2.
2) Align the plotter so one edge runs between the two vessels and the large blue arrow on the plotter points the right way (in this case towards Vessel 2) – **step A**.
3) Ensure that the 0 on the miles scale is at the position of the Vessel 1 – **step B**.
4) Rotate the centre of the plotter so it is aligned north and read off the bearing – **step C**. In this case it is 225°T.
5) Read off the distance between the two from the plotter's distance scale – **step D**.

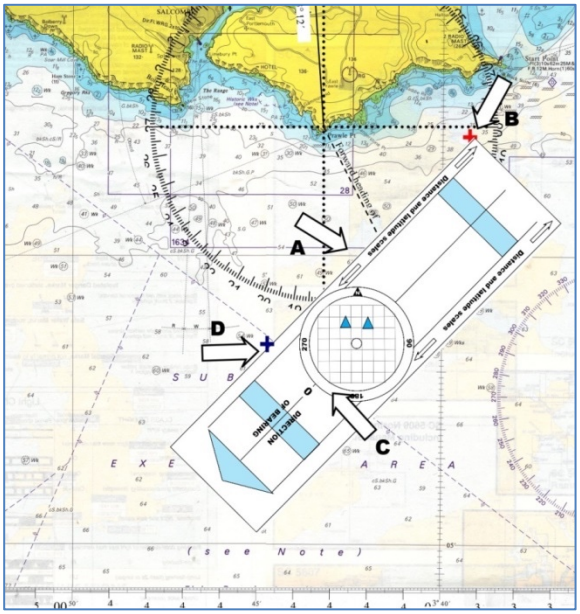



**Figure 7-12 Plotting the bearing and distance between two points**

This is a general technique that can be applied to all problems of this sort. If you don't use the zero on the miles scale in step B remember to adjust your calculation accordingly.

### *7.13.2 By radar*

Once again, the radar does it for us if we know what steps to take. See paragraph 10.4.9 *Bearing and range between two objects* on page 10:8.

If the casualty is a very small vessel (e.g. a kayak) or a person in the water (e.g. a diver) then it may not be detectable on the radar. The radar can still be used because we can put a marker on the screen that corresponds to the casualty's estimated visual position and then work out the bearing and distance using the marker in place of the target's radar echo.

## 7.14 Predicting casualty movement

This can be required if visibility or wave height make it difficult to maintain a continuous visual watch. We want to answer the question, 'How far and in which direction has it moved and so where do we direct our visual search?'

**The watchkeeper's task is to be able to estimate as accurately as possible the effect of the tidal stream and wind on a casualty over the time it would take for assistance to arrive.**

Essential Knowledge required:

- The state of the tide at any time, i.e. rising, falling, slack, springs, neaps.
- The general direction of flow in the Channel at the time, i.e. Westerly, Easterly.
- The local tidal streams close to the coast in our sector.
- The position of the local tide races.
- The effect of the wind as it acts with or against the tide.

With an understanding of the effect of wind and tide you can estimate the future position of a drifting vessel (paragraph 7.18 *Plotting drift – The combined effect of wind and tide – a worked example* on page 7:19).

## 7.15 Tidal drift

We need to know the general direction of the tidal stream and approximately how fast it is moving.

Tools to do the job:

- Tide Tables (kept by the radio console).
- The laminated PQ Tidal Stream Guide (filled in daily and kept on the radio console) or the full Tidal Stream Atlas (kept in the Watchkeepers' Box).
- Observation.
- An understanding of the radar tidal stream arrows.
- The laminated Drift Calculator (kept in the drawer under the chart table).

### *7.15.1 Definitions*

**Chart Datum:** This is the reference level used for soundings, drying heights and tidal predictions that are found in tide tables and on charts. Chart datum is approximately the level of the Lowest Astronomical Tide (LAT) which is the lowest predictable water level due to the effect of sun and moon. The level will also be affected by atmospheric pressure and local winds.

**Tide Tables:** The Salcombe tide tables we use at the Lookout are based on the tidal predictions for the 'Standard Port' of Plymouth. They give the times and heights for high water and low water every day. The times change continuously and High Water times on average are roughly 50 minutes later every day. Tide times are shown as UTC (GMT) and so an hour must be added to give local time during British Summer Time.

**Height of Tide:** The vertical distance between chart datum and sea level at a given time. The heights also change every day on a 14 day cycle driven by the Moon. The greater the tidal range (the difference between the heights of High Water and Low Water), the faster the tidal streams run. Spring tides have the greatest tidal range and neap tides the least. See paragraph 7.19 *Tides and moon phases – Springs and neaps* on page 7:20 for more information.

**Charted depths:** The vertical distance from chart datum to the seabed - metres and tenths of metres.

**Actual Depth:** The sum of the charted depth and the height of the tide at a time and place. In effect, the depth that would be obtained by using a lead line.

**Set:** The direction in which a tidal stream flows measured in degrees true (expressed in three figures e.g. 060 degrees true). Note: the wind's direction is FROM where it blows. However, a tidal set indicates the direction the stream flows TOWARDS. Thus if the wind is SW and the tidal set is 225°T (SW'ly) then 'wind is against tide.'

**Rate:** The speed in knots at which a tidal stream flows.

**Drift:** The distance the stream carries in a period of time.

**Flood:** The rising or incoming tide.

**Ebb:** The falling or receding tide.

**Slack Tide:** The interval at the turn of the tide when little or no stream flows.

**Tidal stream:** The horizontal movement or flow of the sea which is caused by the rise and fall of the tide. In the English Channel for instance, tidal streams flow up-channel, i.e. eastward on a flood tide and down-channel on an ebb tide.

### *7.15.2 Tidal streams*

Off Prawle Point the tidal streams flow:

- Eastward (up-channel) during the period two hours either side of High Water, and
- Westward during the period two to three hours either side of Low Water.

Tidal streams run more strongly past Prawle Point, Start Point and Bolt Head. Close in, with an east-going stream, the tidal flow at may reach 3 knots off Prawle Point and 4 knots off Start Point during spring tides. The streams are weaker in the intervening bays where counter currents or back eddies may form in the tidal lee of the headland.

### *7.15.3 Tidal conditions to be aware of*

Overfalls are rough water caused by tide flowing strongly over an uneven seabed.

These effects will be less marked during neap tides when the rate of stream is about half the spring rate.

Also note that the rate of the surface current of tidal streams will generally increase when tide and wind are from the same direction and decrease when wind is against tide.

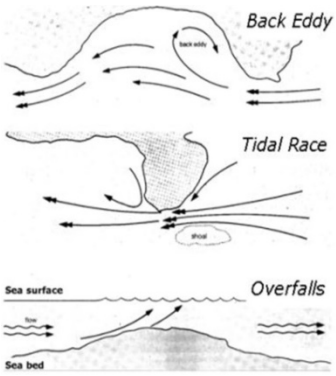



Figure 7-13 Back Eddies, Tidal Races and Overfalls

High tides can cover hazards, such as Meg Rock off Langerstone Point, which uncover at low tide. You must be able to recognise these on the chart and appreciate their danger to inshore vessels. Figure 7-14 illustrates the danger.

Figure 7-14 Views to the east at high and low tide

Pay particular attention to small craft in the following cases:

1) The faster the tidal stream, the rougher the sea off the major headlands. This is made much worse when the wind is blowing in the opposite direction to the tidal stream. Conditions can

become extremely dangerous for small craft off Prawle Point, Bolt Head and Start Point when it is 'wind against tide' and spring tides combine with strong winds.

2) Salcombe Bar is a sandy ridge at the mouth of the Salcombe Estuary which can have a depth of little more than one metre at low water spring tides. It can be very dangerous in strong S or SE winds after half-tide on the spring ebb with large breaking seas and shallow water. At such times a line of breakers can often be seen from the Lookout and it is no place for a small boat. There are fewer problems three hours or more either side of high water and during neap tides. Vessels using the deeper water to the west close to the rocks are at risk in an E or SE wind in the event of a steering and power problem.

### *7.15.4 Rule of thumb*

You will not go far wrong at PQ if you use these assumptions in working out the effect of the tidal stream on a casualty:

1) The tidal set from Bolt Head to a mile or so east of the Lookout is either 'east' or 'west'.
2) The tidal set off Start Point is generally NE or SW.
3) The tidal rate is either zero (for an hour or so at about three hours after or before HW) or 1 knot at all other times. This assumption breaks down a bit off Start Point but there are easy ways to get a more accurate set and rate (see below).

We can get the basic information on direction from the green laminated card.

**For a 'rough and ready' calculation just take the vessel's last known position and move it in the right general tidal stream direction at an assumed speed of one knot (1 nautical mile for one hour) for the required time.**

### *7.15.5 When to be careful*

The only exceptions to this are if the casualty is very close to the shore and around the times when the tidal stream reverses direction. The 'rule of thumb' will then be inaccurate and watchkeepers must check the PQ Tidal Stream Guide (paragraph 7.15.6 on page 7:14).

The tide off PQ generally flows east or west and north east / south west off Start Point.

Look at the HW +3 chartlet in Figure 7-16 on page 7:16 (when the tidal stream is about to reverse) and there's a very different picture. You can see that the assumptions in the rule of thumb are totally wrong and this is and so you must use the PQ Tidal Stream Guide **when necessary.**

The thickness of the arrows indicates the speed of the tidal stream. The thicker the line the faster it flows. There's a simple explanation on the Guide to help you work it out.

### *7.15.6 The PQ Tidal Stream Guide*

The PQ Tidal Stream Guide (Figure 7-16 on page 7:16) is the best way to assess the tidal set and rate.

The tidal diamonds on the chart and radar information can also be used but they are likely to give the wrong answer around headlands and close inshore.

The Guide has two sides each with a number of "chartlets".

- One side with north-up chartlets has the ready reckoner and will give the right tidal set.
- The other side has a pink border as a warning and lacks the ready reckoner. Its chartlets are oriented 'south up' and **must not be used for plotting**. They are provided solely for those watchkeepers who prefer their tidal stream atlas to match the world as you see it from the Lookout. However, you are encouraged to use the 'north up' side.

The chartlets refer to the 'midpoint' time so you should use a chartlet for half an hour either side of that time before turning to the next one.

The actual local times for HW, HW+1 etc. should be written on the chartlets using a *non-permanent* marker pen at the start of the morning watch.

The Guide is a modified extract from the Tidal Stream Atlas kept by the console but is easier to use than the atlas itself:

- Range rings help work out what tidal stream applies for a given bearing and distance from the Lookout.
- The arrows directly show you the set and normally an 'eyeball' assessment of its bearing will be good enough. The Portland Plotter can be used to get a more accurate assessment if required since the charts are oriented with true north at the top.
- The weight and width of the arrow gives you the rate for spring tides and we've added a simple 'ready reckoner' to the Guide to help you work out the rate if the tide is springs, neaps or midway.

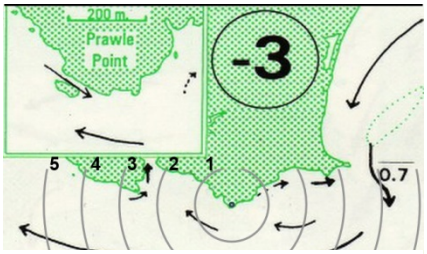


Figure 7-15 Range rings and tidal stream arrows on the Tidal Stream Guide

This is normally good enough for our purposes and gives a very quick way to work out the tidal set, rate and drift.

PQ's Drift Calculator (paragraph 7.17 *Drift Calculator* on page 7:18) makes it easy to calculate both tidal and wind drift. It may be found in the drawer under the chart table.

### *7.15.7 Judging tidal streams from visual observation*

Visual clues and local knowledge should be used alongside the tidal stream atlas and the Tidal Stream Guide when assessing local tidal streams.

The water swirling around a buoy, for instance, will indicate the turn of the tide more accurately.

Other visual clues to local tidal streams are lines of foam on the surface of the water trailing away from rocks (often a good indicator of back eddies).

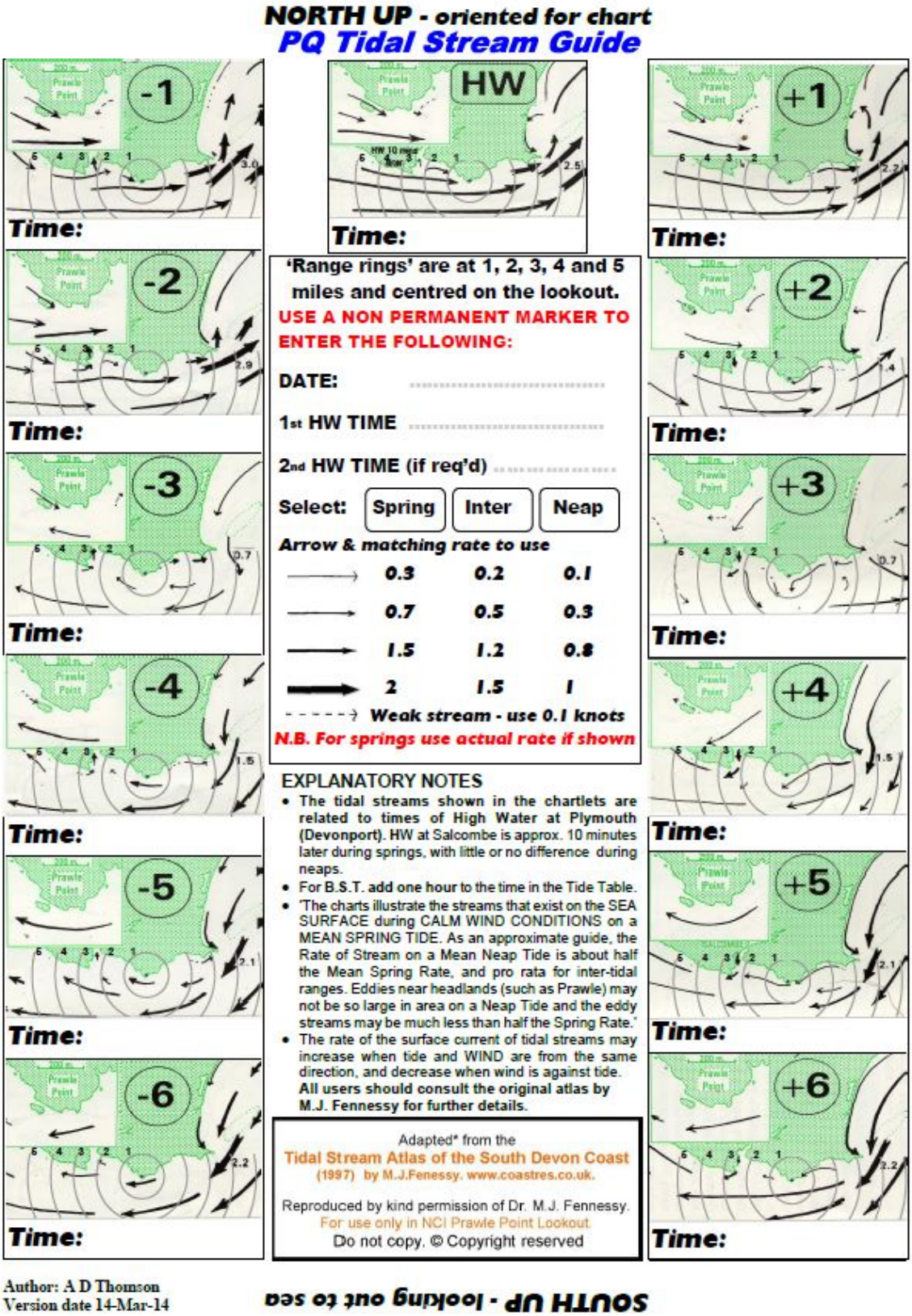



Figure 7-16 Tidal Stream Guide

## 7.16 Wind drift

All objects on the water move as the wind blows. Some types of boat are more affected than others.

Dinghies, inflatables and high freeboard motor cruisers are the most affected. Sailing yachts with deep keels, people in the water and semi submerged boats of all sorts are least affected.

We will not go far wrong by assuming that wind drift will be 1/20 of the wind speed and that boats move downwind. So in a SW 20 knot strong wind a boat will be blown at 1 knot in a NE direction.

It's not precise but is easy to work out (take the wind speed, divide by ten and then halve it) and will serve until it can be refined to take better account of the type of boat and by observation.

Once we have the wind induced direction and rate of drift simply add it to the plot in the same way as the tidal stream's set and drift. Appreciable wind must always be allowed for.

PQ's Drift Calculator (paragraph 7.17 overleaf) is a good way to do this.

## 7.17 Drift Calculator

**Drift Calculator** for establishing where a drifting casualty will be in *x* minutes

### Table 1- Tidal Drift Ready Reckoner

Table 1 indicates the possible **distance in nautical miles** that a drifting craft or person may be carried by the tide from the last known position (LKP) over a set time. Establish the rate and direction of the tidal flow from the tidal stream atlas or the tidal diamonds on the chart.

| Time elapsed | Rate of tide in knots (Drift calculations in nautical miles) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0.25kt | 0.4kt | 0.5kt | 0.75kt | 1.0kt | 1.25kt | 1.5kt | 1.75kt | 2.0kt | 2.25kt | 2.5kt | 2.75kt | 3.0kt | 3.5kt | 4.0kt | 4.5kt |
| **5 mins** | - | - | - | - | 0.1 | 0.1 | 0.1 | 0.15 | 0.2 | 0.2 | 0.2 | 0.2 | 0.25 | 0.3 | 0.33 | 0.4 |
| **10 mins** | - | - | 0.1 | 0.1 | 0.15 | 0.2 | 0.25 | 0.3 | 0.33 | 0.4 | 0.4 | 0.5 | 0.5 | 0.6 | 0.66 | 0.75 |
| **15 mins** | - | 0.1 | 0.125 | 0.2 | 0.25 | 0.3 | 0.4 | 0.4 | 0.5 | 0.6 | 0.6 | 0.7 | 0.75 | 0.9 | 1.0 | 1.1 |
| **20 mins** | 0.1 | 0.1 | 0.16 | 0.25 | 0.33 | 0.4 | 0.5 | 0.6 | 0.66 | 0.75 | 0.8 | 0.9 | 1.0 | 1.2 | 1.33 | 1.5 |
| **30 mins** | 0.125 | 0.2 | 0.25 | 0.4 | 0.5 | 0.6 | 0.75 | 0.9 | 1.0 | 1.1 | 1.25 | 1.3 | 1.5 | 1.8 | 2.0 | 2.25 |
| **45 mins** | 0.2 | 0.3 | 0.4 | 0.6 | 0.75 | 0.9 | 1.1 | 1.3 | 1.5 | 1.7 | 1.9 | 2.1 | 2.25 | 2.6 | 3.0 | 3.4 |
| **1 hour** | 0.25 | 0.4 | 0.5 | 0.75 | 1.0 | 1.25 | 1.5 | 1.75 | 2.0 | 2.25 | 2.5 | 2.75 | 3.0 | 3.5 | 4.0 | 4.5 |
| **1¼ hr** | 0.3 | 0.5 | 0.6 | 0.9 | 1.25 | 1.6 | 1.9 | 2.2 | 2.5 | 2.8 | 3.1 | 3.4 | 3.75 | 4.4 | 5.0 | 5.6 |
| **1½ hr** | 0.4 | 0.7 | 0.75 | 1.1 | 1.25 | 1.9 | 2.25 | 2.6 | 3.0 | 3.4 | 3.7 | 4.1 | 4.5 | 5.2 | 6.0 | 6.7 |
| **2 hours** | 0.5 | 0.8 | 1.0 | 1.5 | 2.0 | 2.5 | 3.0 | 3.5 | 4.0 | 4.5 | 5.0 | 5.5 | 6.0 | 7.0 | 8.0 | 9.0 |

### Table 2- Wind Drift (leeway) Ready Reckoner

Table 2 indicates the possible **distance in nautical miles** that a drifting craft may be blown by the wind (leeway) from the last known position (LKP) over a set time. Leeway can vary between 0% and 7% of wind speed, depending on the type of casualty. Wind drift will be negligible for a person in the water, whilst a boat with a low resistance rig/deep keel will drift less than one with a high windage rig/shallow draught. As a 'rule of thumb' this table is **based on 5% of wind speed for boats and manned liferafts.** (Note: the effect of wind drift on an empty liferaft or inflatable will be much greater). Establish the wind direction from the weather station (see overleaf for conversion of compass points to degrees).

Note 1) *Divergence* of up to 60° either side of wind direction may occur because of the casualty 'sailing' across the wind.

2) a further complicating factor is *wind driven current.* When the wind has been being blowing in the same direction for a day or so, a current of up to 2.5% of wind speed and to the right of the wind direction may develop. If this applies 'add a bit on' (perhaps half as much again) to the distances below.

| Time elapsed | Wind speed in knots (Drift calculations in nautical miles and based on 5% of wind speed) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5kt F2 | 7kt F3 | 10kt F3 | 15kt F4 | 18kt F5 | 20kt F5 | 22kt F6 | 25kt F6 | 30kt F7 | 35kt F8 | 40kt F8 | 45kt F9 | 50kt F10 | 55kt F12 | 60kt F12 | 65kt F12 |
| **5** mins | - | - | - | - | - | - | 0.1 | 0.1 | 0.125 | 0.15 | 0.15 | 0.2 | 0.2 | 0.25 | 0.25 | 0.3 |
| **10** mins | - | - | 0.1 | 0.125 | 0.15 | 0.15 | 0.2 | 0.2 | 0.25 | 0.3 | 0.33 | 0.4 | 0.4 | 0.5 | 0.5 | 0.5 |
| **15** mins | - | 0.1 | 0.125 | 0.2 | 0.2 | 0.25 | 0.3 | 0.3 | 0.4 | 0.4 | 0.5 | 0.6 | 0.6 | 0.7 | 0.75 | 0.8 |
| **20** mins | 0.1 | 0.1 | 0.15 | 0.25 | 0.3 | 0.33 | 0.4 | 0.4 | 0.5 | 0.6 | 0.7 | 0.75 | 0.8 | 0.9 | 1.0 | 1.1 |
| **30** mins | 0.125 | 0.2 | 0.25 | 0.4 | 0.4 | 0.5 | 0.5 | 0.6 | 0.75 | 0.9 | 1.0 | 1.1 | 1.25 | 1.4 | 1.5 | 1.6 |
| **45** mins | 0.2 | 0.25 | 0.4 | 0.6 | 0.7 | 0.75 | 0.8 | 0.9 | 1.1 | 1.3 | 1.5 | 1.7 | 1.9 | 2.1 | 2.25 | 2.4 |
| **1 hour** | 0.25 | 0.3 | 0.5 | 0.75 | 0.9 | 1.0 | 1.1 | 1.25 | 1.5 | 1.8 | 2.0 | 2.25 | 2.5 | 2.75 | 3.0 | 3.25 |
| **1¼ hr** | 0.3 | 0.4 | 0.6 | 0.9 | 1.1 | 1.25 | 1.4 | 1.6 | 1.9 | 2.2 | 2.5 | 2.8 | 3.1 | 3.4 | 3.75 | 4.1 |
| **1½ hr** | 0.4 | 0.5 | 0.75 | 1.1 | 1.3 | 1.5 | 1.6 | 1.9 | 2.25 | 2.6 | 3.0 | 3.4 | 3.75 | 4.1 | 4.5 | 4.9 |
| **2 hours** | 0.5 | 0.7 | 1.0 | 1.5 | 1.8 | 2.0 | 2.2 | 2.5 | 3.0 | 3.5 | 4.0 | 4.5 | 5.0 | 5.5 | 6.0 | 6.5 |

Figure 7-17 Wind & tidal drift calculator

## 7.18 Plotting drift – The combined effect of wind and tide – a worked example

We wish to predict the position in 30 minutes' time of a drifting yacht 'Saucy Sue' currently one nautical mile due south of PQ. It is now 1200. N.B. The predicted position will only ever be an estimate rather than precisely right.

There are spring tides today and according to the Tide Tables, High Water was at 0700. That should also be already noted in the space provided in the Logbook.

According to our weather station, the wind is north easterly currently blowing 40 knots.

According to the PQ Tidal Stream Guide (page 7:16), the tidal stream 1 nm south of PQ at High Water + 5 hours flows due west at a rate of 0.7 knot.

So armed with this information, consult the Drift Calculator (page 7:18):

- Table 2 predicts that the a wind speed of 40 kt (F8) results in a wind drift of 1.0 nm in 30 minutes and
- Table 1 predicts that a 0.75 kt spring tide results in a tidal drift of 0.4 nm over the same time.

The tidal stream is flowing due west which is 270° T and, as the wind is blowing from the north east, it is blowing towards the south west which is 225° T.

You then just use the customized Portland Plotter to plot on the chart with a non-permanent marker pen the position of the vessel at 1200 and then the above bearings and drifts. See Figure 7-18.

It doesn't matter whether you plot the wind drift first and then the tidal drift or vice versa.

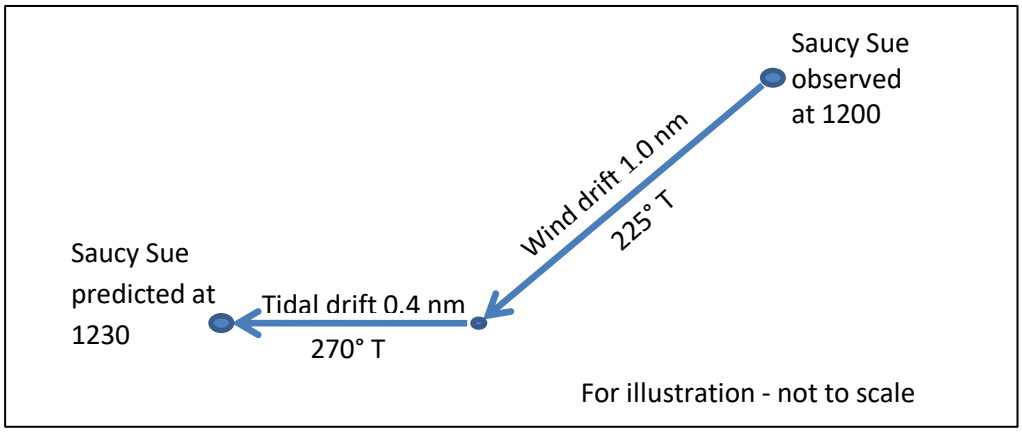



Figure 7-18 Plotting wind and tidal drift

## 7.19 Tides and moon phases – Springs and neaps

Along our section of coast, the tide rises and falls between 2 and 5 metres twice a day. That rise and fall gives rise to tide-induced currents, known as tidal streams which, off headlands such as Prawle Point, Start Point and Bolt Head, can run at 3 or 4 knots.

Tides are due to gravitational attraction of the moon and sun on the earth. In North-West Europe this effect produces two complete tidal cycles in a lunar day (about 24 hours 50 minutes). The gravitational effect of the moon causes the sea level to 'bulge' producing a high tide at the nearest and further sides of the earth. High water, at any given place, occurs about 12 hours 25 minutes after the preceding high water. High water gets progressively later by almost an hour a day. Low water also occurs at intervals of about 12 hours 25 minutes but not necessarily mid-way between high waters.

When the moon and sun line up with the earth, their combined gravitational effect produces greater 'bulges' and higher tides than usual. These are called **spring tides**.

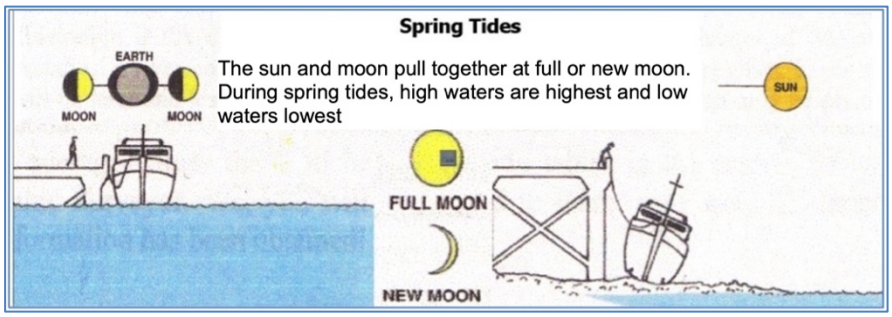



Figure 7-19 Spring tides

Spring tides have higher than average high waters and lower than average low waters: they occur about once every 14-15 days, 2-3 days after full and new moon. At Prawle, high water springs nearly always occur between 0600 and 0730 hours and between 1830 and 1950 hours GMT (UTC). Particularly large spring tides occur around the equinoxes in March and September.

When the sun and moon are not in line but at 90°, their gravitational effect is least and high tides are at their lowest. These are known as **neap tides**.

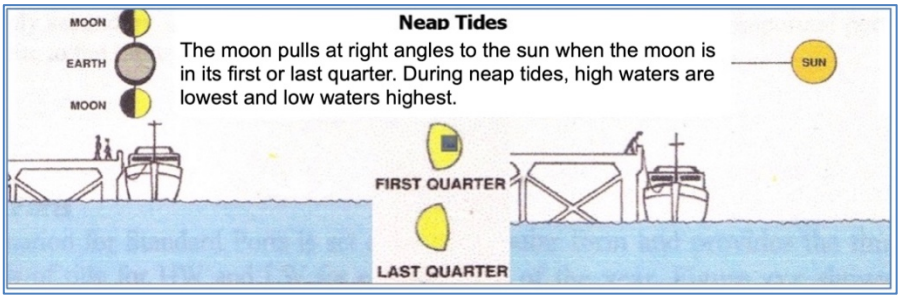



Figure 7-20 Neap tides

Neap tides have lower than average high waters and higher than average low waters. They occur about once every 14-15 days, 4-5 days before full and new moon. At Prawle, daytime high water neaps nearly always occur between 1200 and 1400 hours GMT (UTC).

## 7.20 The importance of calculating drift due to wind and tide

When visibility is poor or when a casualty is a small object, such as a diver on the surface, visual contact may easily be lost.

To plot the drift of a casualty the Coastguard use a program called **THEMIS** which defines the search area for rescue craft.

However, the Coastguard's calculations are not always available to NCI watchkeepers, nor are they always sufficiently sensitive to local tidal effects, particularly within one mile of the shore (as in Figure 7-21 where the prediction based on offshore stream information was wrong and the diver was found due to the lifeboat coxswain's local knowledge).

If a search is being made for a casualty in or near our watch sector, you will want to know where to scan. Your trained eyes, combined with powerful optics and the Lookout's elevated viewpoint, may make all the difference.

Even when the casualty's position is known, it is sometimes useful to be able to anticipate roughly where it may have drifted to by a certain time - perhaps the time when the lifeboat is expected on scene.

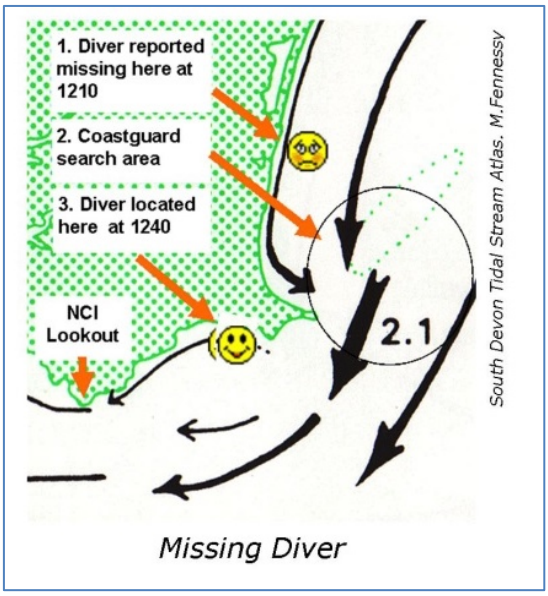



Figure 7-21 Missing diver scenario

It is important to emphasise, however, that **the priority will always be to keep the casualty in visual contact.**

If your watch is single-manned, you should be keeping the casualty under close observation rather than spending time 'head down' at the chart table. If visual contact is lost, you will need to make a mental calculation of the likely drift - based on an awareness of the current state of tide and wind and local tide and wind effects - whilst continuing to carry out systematic scanning sweeps from the last known position.

When two watchkeepers are on duty, one can plot the drift on the chart whilst the other continues to scan. If the casualty remains visual, then its likely position when the SAR asset is due on scene can be established by:

- plotting its track from regular bearing/distance plots, say every 2 minutes; and then
- extrapolating or extending the track line to the position at the end of the elapsed time.

If visual contact is lost, it will then be necessary to establish an area of search by calculating the likely drift from the last known position based on the current speed and direction of wind and tide.

## 7.21 Estimating a vessel's position

Figure 7-22 shows the Salcombe Lifeboat at known distances from PQ. Conditions were as follows:

- Sea state 3 – Slight.
- Swell 2 - Moderate.
- Visibility: 2 to 3 NM at various bearings.
- Cloud 8/8.

0.5 nm (5 cables)

1 nm

1.5 nm

**Figure 7-22 Photos illustrating distances from PQ**

## 7.22 Estimating time of arrival

We often work out our time of arrival at a destination using speed and distance. For example, if driving at 60 mph, we might estimate that we will reach a location 30 miles away after half an hour. In doing so, we have just used a simple formula and divided the distance in miles by the speed in mph.

Similarly, it may be useful during an incident to calculate the time it will take the lifeboat or other rescue vessel to arrive on scene.

This can be easily calculated using the same principle because:

- the radar gives us the vessel's speed in knots (SOG) (See paragraph 10:4.8 *Target Information* on page 10:7);
- the distance in nautical miles (NM) between the 2 vessels can be established by either:
    - using the radar (See paragraph 10.4.9 Bearing and range between two objects on page 10:8); or
    - plotting (See paragraph 7.13 *The bearing and distance between two points* on page 7:11); and
- 1 knot = 1 NM per hour.

To work out how long the rescue vessel will take to arrive, divide the distance between the vessels by the rescue vessel's speed and, to give the time in minutes rather than hours, multiply the answer by 60.

So, for the mathematically minded, the formula is:

$$time(minutes) = \frac{60 \times distance(NM)}{speed(knots)}$$

For example, if the Salcombe AWLB is travelling at 20 knots and the casualty is 6.4 NM away from it, then:

$$time = \frac{60 \times 6.4}{20} = 19.2 \text{ minutes} \quad \text{i. e. } 19 \text{ minutes } 12 \text{ seconds}$$

As a "common sense" check, the distance travelled is about 1/3 of the AWLB's speed in knots, so you would expect it to take approximately 1/3 of an hour i.e. 20 minutes.

The ready reckoner is kept in a drawer under the chart table can be used to read off the estimated time of arrival for a given speed and distance.

## 7.23 Positions on land

### *7.23.1 Introduction*

If a casualty is on the land rather than at sea (such as an injured walker) we need to report an accurate position to the Coastguard.

Such a position will either be a known named location (such as Langerstone Point) or a six figure grid reference read off the local Ordnance Survey map located in the Lookout. A grid reference position looks like this – **SX 975053**.

Thumbnail laminated OS maps of our watch area are kept on top of the chest under the chart table, along with a large-scale walking/cycling map of the coast in our area.

A 1:25,000 scale OS map is kept in the Secure Cupboard.

### *7.23.2 Working out an OS Grid Reference*

The Ordnance Survey National Grid is divided into 100 kilometre squares (Figure 7-23) each identified by a **two letter prefix. At Prawle Point the suffix is SX**.

The position given by a six figure grid reference could be in any one of the squares. So, you MUST include the SX prefix when giving a grid reference, e.g. *Sierra X-ray* 773351.

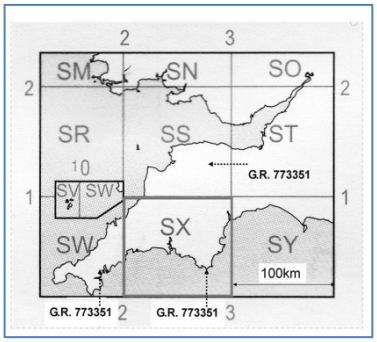



Figure 7-23 OS National Grid

For land based incidents it is usual to give the position in the form of a **six figure Grid Reference** taken from an Ordnance Survey map.

The two digit numbers along each scale are one kilometre apart and the ten sub-divisions between these numbers 100 metres apart. So, it follows that a six figure reference should be accurate to 100 metres.

On the hook above the radar there are satellite photographs with the grid references of locations close to the Lookout marked. There's also a copy of these photographs on page 2:18 and a map on page 2:17 with the grid references of a few features further away listed.

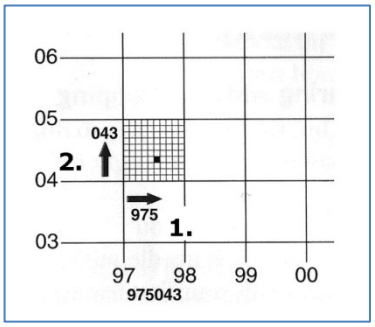



Figure 7-24 Grid reference

**Remember** that grid references are taken off the map in the opposite order to a 'lat/long' position taken off a nautical chart. With grid references you must first '*go along the hall before going up the stairs*', i.e. start with:

1) The *Eastings* - move eastwards and read off from the scale at the bottom or top edge of the map – 975 in Figure 7-24; and then
2) The *Northings* - move north and read from the scale on the side of the map – 043, giving the 6 figure reference 975043 in this case.

## 7.24 What3Words

NCI promotes What3Words as an easy way of giving your precise location to the emergency services.

What3Words is a system by which each 3 metre square in the world (whether on land or at sea) is given a unique three word address that will never change. People can find the three words attributed to their location by using an app on their smartphone; no phone signal or data connection is required.

One such square in PQ has the address **windmill.rooftop.urgent** and that is our location if the Coastguard or someone else asks for it in a What3Words format. In case this is needed, there's a label with the three words on the radio console at the Lookout.

Likewise, if someone with the app on their phone gives you a What3Words location of an incident, it can be passed to the Coastguard.

# 8 Weather

## 8.1 Introduction

As watchkeepers, we are interested in the weather for two main reasons:

1) An important part of our duties is to log the inshore waters forecast for our area and local weather conditions. This helps us provide both factual and forecast weather information to members of the public who contact the Lookout. We also broadcast the actual weather conditions on Channel 65 every two hours.
2) A little knowledge helps watchkeepers to be more effective in anticipating possibly hazardous conditions.

This section of the WKH covers both in that order. Actually, there's a third since our Lookout is so beautifully situated for weather observation. The weather can be spectacular and many watchkeepers want to know a little more about weather systems and what they are seeing.

Weather and tides have such a decisive impact on the safety of those who venture along the coast that the ability to assess and record current weather/tidal conditions is a vital requirement for effective watchkeeping.

## 8.2 Jargon

Weather has jargon and Table 18 shows some examples.

**Table 18 Weather jargon**

| Acronym | Meaning |
|---|---|
| **hPa** | Hectopascal = millibar (air pressure) |
| **mb** | Millibar = hectopascal (air pressure) |
| **MCA** | Maritime and Coastguard Agency |
| **MRCC** | Marine Rescue Co-ordination Centre (Coastguard) |
| **MSI** | Maritime Safety Information broadcast |
| **SAR** | Search and Rescue |
| **UTC** | Co-ordinated Universal Time = Greenwich Mean Time |
| **WxFx** | Weather Forecast |
| **211458 or 21 1458 UTC** | Date/time group (1458 hrs GMT on the 21st) |

## 8.3 Recording Inshore Waters and Shipping Forecasts

We aim to have the full current version of both these forecasts displayed on the magnetic board on the west door of the secure cupboard. We may relay them if asked in certain limited circumstances (paragraph 9.12.1 *Broadcasting the Inshore Waters Forecast and/or Shipping Forecast* on page 9:12).

Try to bring a printout of these forecasts with you. It saves time, particularly in the morning when opening the Lookout. The forecasts are available at https://www.nci-prawlepoint.org.uk/pqweather There is a bookmarked tab 'PQ Weather' on the Lookout computer's web browser as well as a shortcut on the desktop. Right click anywhere on the forecasts and then left click on 'Print' on the next menu to print.

The WxFx_auto spreadsheet that used to be available on PQ's website and which also displayed the forecasts is no longer supported as it requires the latest version of Excel.

### 8.3.1 Shipping Forecast vs. Inshore Waters Forecast

The Shipping Forecast and Inshore Waters Forecast are issued by the Meteorological Office four times a day and cover a period of 24 hours from 0000, 0600, 1200 and 1800 UTC. They are issued about an hour beforehand.

The Shipping Forecast is designed for vessels at sea and gives a very tightly controlled uniform summary of the expected weather for very large areas of the sea. PQ lies almost exactly on the boundary between areas Portland and Plymouth. The forecast for each area is concise, compressed and too general to be of much use to us.

The Inshore Waters Forecast also has a standardised format but is for an area up to 12 miles offshore and in our case covers Lyme Regis to Land's End including the Isles of Scilly. It is the one we log. Remember that PQ is towards the east of the area covered.

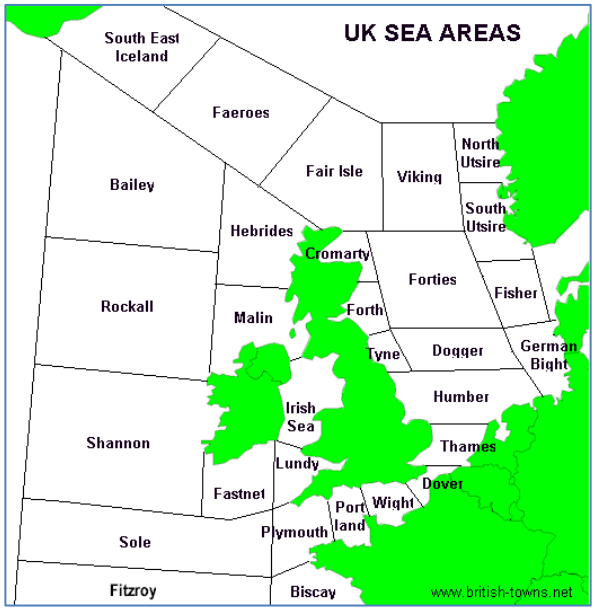



Figure 8-1 UK Sea Areas

### 8.3.2 When and what to log

You should bring with you to a morning watch the 0600 forecast, or download and print it using the "PQ Weather" browser tab on the Lookout computer at the start of the watch, and enter it in the log. The printout should be posted on the left door of the secure cupboard.

You should also download and print the 1200 and 1800 forecasts during the watch when they are issued, enter them in the log and post the printouts on the secure cupboard door.

The shorthand for Weather Forecast is WxFx and it is perfectly acceptable to use it in the logbook.

The following WxFx information should be logged:

1) **Gale Warnings** for sea areas Portland and/or Plymouth.
   a) Log date/time of issue, sea area(s), wind direction, wind force and when expected.
2) **Inshore Waters Forecast** for 'Lyme Regis to Land's End including Isles of Scilly'.
   a) Log the period of the forecast.
   b) Log any Strong Wind Warning given.
   c) Log the forecast wind direction and force, sea state, weather and visibility.
   d) Ignore the Outlook.

See Figure 8-2 on page 8:4 for an example log entry.

**Gale Warnings** relate to sea areas and are issued when winds of Force 8+ plus are forecast. They are also issued for winds less than force 8 but when gusts to force 9 or higher are expected. The warnings state the time of issue and remain in force until they are amended or cancelled. They are re-issued if the gale persists for more than 24 hours.

**Strong Wind Warnings** are given in the Inshore Waters Forecast when winds of Force 6-7 are expected. In many ways they are more important to us at PQ since we have so many small boats operating in our area.

If winds of Force 6 or more are expected but have not been included in the current Inshore Waters Forecast, a Strong Wind Warning may be issued at other times and broadcast by the Coastguard; in such cases full details should be logged.

**Inshore Waters 24 hours forecast.** The forecasts state when they are valid from and valid to. They comprise four elements: Wind, Sea State, Weather and Visibility. A typical forecast might be:

Wind: *North West 5 to 7 becoming variable 3 or 4*
Sea state: *Moderate or rough becoming slight*
Weather: *Showers*
Visibility: *Good*.

When included in an MSI broadcast only the words in italics are spoken.

The preferred format for the log is shown below and the definitions used are given in paragraph 8.5.

| Time (local) | Type of vessel | Name, MMSI or Call Sign | Reg'n or Sail No. | Position, Bearing and Range or Location | Course/ Heading | Speed | V R A | P V | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| *1310* | *62* | *FCG WXFX GALE WARNING PORTLAND ISSUED 29 0105 NW GALE FORCE 8 CONTINUING.*<br>*INSHORE WATERS F/C ISSUED 29 0500 UTC FOR 29 0600 TO 30 0600 UTC STRONG WIND WARNING*<br>*WIND: NW 5 TO 7 BECOMING VARIABLE 3 0R 4*<br>*SEA STATE: MOD. OR ROUGH BEC. SLIGHT*<br>*WEATHER: SHOWERS VISIBILITY: GOOD* | | | | | | | |

Figure 8-2 Example MSI log entry

For the rules as to when we may and how we relay these forecasts see paragraph 9.12.1 *Broadcasting the Inshore Waters Forecast and/or Shipping Forecast* on page 9:12.

## 8.4 Maritime Safety Information (MSI) Broadcasts

The forecasts are broadcast by the Coastguard on VHF every three hours as part of their MSI service. The initial announcement is on Channel 16 and the forecast is transmitted on Channel 62 in our area.

There are three types of MSI broadcast.

Table 19 MSI broadcast times

| Type | Local time | Content |
|---|---|---|
| A. Full | 0710, **1910** | Shipping, Inshore Waters Forecast & Outlook, Gale Warnings, Navigation Warnings, Subfacts and Gunfacts, 3-day Forecast. |
| B. New Inshore | 0110, **1310** | New Inshore Waters Forecast, Outlook, Gale and Strong Wind Warnings. |
| C. Repeat Inshore | 0410, **1010, 1610**, 2210 | Inshore Waters Forecast (repeated from previous MSI broadcast), Gale Warnings plus new Strong Wind Warnings (SWW). |

The times of forecasts broadcast during PQ's morning, afternoon and evening watches are highlighted. If a forecast is not heard within 15 minutes of the time when it is due, this should be noted in the log and a note entered in the Watch Summary. If two consecutive broadcasts are not heard the Coastguard should be informed.

Correct procedure when noting an MSI broadcast is to:

1) Make an audio recording of the forecast (to ensure accuracy).
2) Tick off the entries on the printed copy of the previous forecast as they are broadcast and note any changes.
3) Enter the WxFx information in the log in black and underline (as in Figure 8-2 on page 8:4). Any changes reported in these broadcasts from the previous forecast logged should be recorded in the log. Otherwise log 'no change'.
4) Post the latest copy of PQWeather on the left had door of the secure cupboard.

## 8.5 Definitions used in weather forecasts

Table 20 Weather broadcast terminology

| | |
|---|---|
| **Gale warnings** | |
| Gale | Winds of at least Beaufort force 8 (34–40 knots) or gusts reaching 43–51 knots. |
| Severe gale | Winds of force 9 (41–47 knots) or gusts reaching 52–60 knots. |
| Storm | Winds of force 10 (48–55 knots) or gusts reaching 61–68 knots. |
| Violent storm | Winds of force 11 (56–63 knots) or gusts of 69 knots or more. |
| Hurricane force | Winds of force 12 (64 knots or more). |
| Note: The term used is 'hurricane force. The term 'hurricane' on its own means a true tropical cyclone, not experienced in British waters. | |
| Imminent | Expected within six hours of time of issue. |
| Soon | Expected within six to 12 hours of time of issue. |
| Later | Expected more than 12 hours from time of issue. |
| **Visibility** | |
| Very poor | Visibility less than 1,000 metres. |
| Poor | Visibility between 1,000 metres and 2 nautical miles. |
| Moderate | Visibility between 2 and 5 nautical miles. |
| Good | Visibility more than 5 nautical miles. |
| **Movement of pressure systems** | |
| Slowly | Moving at less than 15 knots. |
| Steadily | Moving at 15 to 25 knots. |
| Rather quickly | Moving at 25 to 35 knots. |
| Rapidly | Moving at 35 to 45 knots. |
| Very rapidly | Moving at more than 45 knots. |

| | |
|---|---|
| **Wind** | |
| Wind direction | Indicates the direction from which the wind is blowing. |
| Becoming cyclonic | Indicates that there will be considerable change in wind direction across the path of a depression within the forecast area (see pages 8:8 and 8:15). |
| Veering | The changing of the wind direction clockwise, e.g. SW to W (see page 8:7). |
| Backing | The changing of the wind in the opposite direction to veering (anticlockwise), e.g. SE to NE (see page 8:7). |
| **Sea state** | |
| Smooth | Wave height less than 0.5 m. |
| Slight | Wave height of 0.5 to 1.25 m. |
| Moderate | Wave height of 1.25 to 2.5 m. |
| Rough | Wave height of 2.5 to 4.0 m. |
| Very rough | Wave height of 4.0 to 6.0 m. |
| High | Wave height of 6.0 to 9.0 m. |
| Very high | Wave height of 9.0 to 14.0 m. |
| Phenomenal | Wave height more than 14.0 m. |
| **Pressure tendency in station reports** | |
| Rising (or falling) more slowly | Pressure rising (or falling) at a progressively slower rate through the preceding three hours. |
| Rising (or falling) slowly | Pressure change of 0.1 to 1.5 hPa in the preceding three hours. |
| Rising (or falling) | Pressure change of 1.6 to 3.5 hPa in the preceding three hours. |
| Rising (or falling) quickly | Pressure change of 3.6 to 6.0 hPa in the preceding three hours. |
| Rising (or falling) v. rapidly | Pressure change of more than 6.0 hPa in the preceding three hours. |
| Now rising (or falling) | Pressure has been falling (rising) or steady in the preceding three hours, but at the time of observation was definitely rising (falling). |
| Note: For those more familiar with the millibar, 1 hPa = 1 mb. | |

Use the NCI codes in respect of wave height (Table 22 *Sea state* on page 8:10) when logging actual weather.

## 8.6 Actual weather

Brief reports on local weather conditions may be asked for by the Coastguard when logging on or off but should not be offered unless requested. Also, be ready to give them actual weather if they ask for it as part of handling an incident.

Local sea-users also telephone for this information or call the Lookout on VHF channel 65. It is imperative that you only report actual conditions and never give general advice on whether conditions are safe for sailing, diving, etc.

Real time weather information is available on the station website.

### 8.6.1 Recording and logging

At the bottom of each page of the station logbook there's a table for the Actual Weather Log. This should be completed before logging on and off with the Coastguard and also at 0945, 1145, 1345, 1545 and during an evening watch at 1745. Doing this has two purposes:

1) It helps us to spot trends such as a rapid fall or rise in pressure, gradual alterations in wind direction or strength, etc.
2) We need this information in order to broadcast it on Channel 65. See paragraph 8.7 *Broadcasting actual weather and sea conditions* on page 8:12.

The log format is shown in Figure 8-3 and paragraphs 8.6.2 to 8.6.10 give explanations for each column. A laminated guide kept at the console helps with correct completion of this section of the logbook.

| Time (local) | Wind Dir/Force | | Sea | Swell | Visibility nm | Cloud 0-8 or Sky Ob | Pressure mb | Outside Temp | Wind Chill | Weather |
|---|---|---|---|---|---|---|---|---|---|---|
| 0900 | NW | 4 | SLIGHT | MOD | GOOD | 2/8 | 1000.1 | 6° | 4° | FAIR |
| 0944 | NW | 4 | SLIGHT | MOD | MOD. | 7/8 | 1000.2 | 7° | 5° | RA |
| 1143 | W | 3 | SMOOTH | SLIGHT | V. POOR | SKY OB | 1000.4 | 8° | 6° | FG |

Figure 8-3 Logging the actual weather

### 8.6.2 Wind direction

This is reported and recorded by use of the points of the compass (South, North East etc.) and must be given as the direction from which the wind is blowing. The weather station in the Lookout gives both current wind direction and speed **but beware. It is easy to misread the wind direction until you are used to the display since it shows, for example, a West wind at 9 o'clock on the display.**

The current wind direction is shown by the solid arrow within the compass rose on the weather console. The outlined arrow(s) indicate the dominant wind direction(s) over the past hour and can be ignored. If the current wind direction shown seems atypical, wait and see if it changes.

You should be able to judge wind direction without reference to the weather station and the most useful indicator in this respect is the station flag. You can practise judging the direction of the windward side of the flag relative to true north by using the WSW-ENE alignment of the front wall of the Visitor Centre as guide. Remember that the Lookout does not face due south but at 153°T.

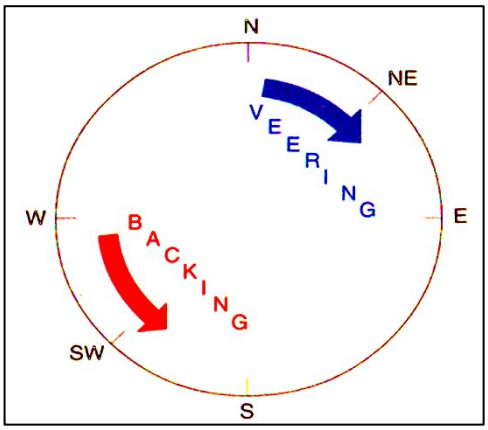



Figure 8-4 Wind backing and veering

When the wind changes direction it will back or veer:

- *Veering*: The wind direction changes clockwise, e.g. N to NE.
- *Backing*: The wind direction changes anti-clockwise, e.g. W to SW.

Wind direction can change abruptly as a frontal system passes over. The wind will often back as a warm or cold front approaches before veering as it passes.

Sometimes it is necessary to convert the compass point direction to degrees, e.g. SW to 225°T or vice versa. To do this you can either change the units on the weather station or use the pelorus. This has the points of the compass, as well as degrees, inscribed on the fixed compass card.

**Cyclonic**

You will sometimes hear the word 'Cyclonic' mentioned in a forecast and it has a very specific meaning. The key to understanding it is to remember that the wind circulation around an area of low pressure is in an anti-clockwise direction.

Officially 'Becoming cyclonic' indicates that 'there will be considerable change in wind direction across the path of a depression within the forecast area'. See paragraph 8.9.2 *Weather associated with a depression* on page 8:15.

The significance for PQ is that if a small low pressure system tracks in an easterly direction and passes south of the Lookout in mid Channel, we will experience a period of generally south easterly winds backing easterly and then north westerly as the depression moves east up the channel.

Contrast this with the more typical pattern as a low pressure system passes north of the Lookout. We then see a south easterly wind veering south then south west and finally north west.

### *8.6.3 Wind speed*

The Beaufort scale is the usual way to describe wind speed. We log it using this scale and there's a table on page 8:9 giving more detail. It ranges from Force 0 (Calm) to Force 12 (Hurricane).

Note that the weather station in the Lookout gives the wind speed in knots (nautical miles per hour) and a quick conversion table is available at the console to convert it to the Beaufort scale.

The wind speeds in the Beaufort scale refer to sustained wind speed, not transient gusts or lulls. As a result of the funnelling effect of the exposed headland the wind speed at Prawle Point will, generally, be greater than at sea level - perhaps by as much as one point on the Beaufort scale.

**Keep a close eye on walkers near the cliff edge when the wind is strong!**

Figure 8-5 Flying in a strong wind!

With practice we should be able to estimate the force of the wind without reference to the weather station. The table on page 8:9 describes the appearance of the sea relative to the Beaufort wind force.

### *8.6.4 Beaufort Wind Force Scale*

This is an elegant way to describe wind strength and is universally used for this purpose. Its main benefit is that each force covers a spread of wind speeds and the average pressure exerted by the wind roughly doubles with each force. This affects small boats due both to the increase in force on the boat and the change in sea state. It means that an increase from Force 4 to 6 can be very dangerous for some boats. The scale is shown in Table 21 on page 8:9.

**BEAUFORT WIND FORCE SCALE**

Table 21 Beaufort wind force scale

| Force | Speed Knots | Description | Appearance of the Sea |
|---|---|---|---|
| **0** | 0-1 | Calm | Sea like a mirror |
| **1** | 1-3 | Light Air | Ripples only |
| **2** | 4-6 | Light Breeze | Small wavelets, not breaking |
| **3** | 7-10 | Gentle Breeze | Large wavelets, crests begin to break, a few white horses |
| **4** | 11-16 | Moderate Breeze | Small waves growing longer, frequent white horses |
| **5** | 17-21 | Fresh Breeze | Moderate waves, many white horses, perhaps some spray |
| **6** | 22-27 | Strong Breeze | Large waves, white foam crests more extensive, some spray |
| **7** | 28-33 | Near Gale | Sea heaps up, white foam streaks begin blowing from crests |
| **8** | 34-40 | Gale | Moderately high waves, crests break into spindrift with foamy streaks |
| **9** | 41-47 | Severe gale | High waves with tumbling crests, dense streaks of foam, spray may affect visibility |
| **10** | 48-55 | Storm | Very high waves, heavy tumbling sea, visibility affected by spray |
| **11** | 56-63 | Violent storm | Exceptionally high waves, sea completely covered with long white patches of foam, visibility affected |
| **12+** | 64+ | Hurricane | Air filled with foam & spray, sea white with driving spray, visibility seriously affected. |

### *8.6.5 Sea state*

This is a measure of the state of the sea relative to the size of the waves. It is expressed in a scale which runs from *calm* to *phenomenal*, but in UK coastal waters it is more usually within a range: *calm* to *very rough*.

It is difficult to estimate wave height from our elevated position and whilst waves breaking on the rocks give an indication, it is normal to relate sea state to wind force (Table 22 on page 8:10).

This table relates sea state to wind strength. It is helpful but can be misleading at PQ because we can have unusually rough conditions off Prawle Point when the tides are running strongly against the wind and calmer than expected when tidal stream and wind are both in the same direction.

There is no precise correlation between wind strength and sea state and so judging sea state is a skill which comes from practical observation. The sea state will be worse if:

1) The wind is blowing onshore;
2) It is against the tide;
3) It has been blowing for a long time; or
4) The water is shallow.

**Table 22 Sea state**

| Sea State | Wave height (m) | Beaufort Wind Force | Description | Effect of sea state on: Sailing vessels | Power Vessels |
|---|---|---|---|---|---|
| **CALM -** glassy | 0 | 0 | Sea like a mirror | Sailing vessels becalmed | Ideal for motor boating |
| **CALM -** rippled | 0-0.1 | 0-1 | A smooth sea with ripples. No foam. | Sailing vessels effectively becalmed | Ideal for motor boating |
| **SMOOTH** | 0.1-0.5 | 1-3 | Small wavelets not breaking. | Pleasant conditions for light boats with plenty of sail area. Full main, large headsail. | Ideal for motor boating |
| **SLIGHT** | 0.5-1.25 | 3-4 | Large wavelets. Crests begin to break. | Pleasant conditions for most cruising yachts. Full main, may need to reduce headsail. | Fast planing conditions down-wind but some boats need to slow into wind or sea. |
| **MODERATE** | 1.25-2.5 | 4-6 | Moderate waves. Many crests break. Whitecaps. Some wind-blown spray. | Smaller vessels reduce sail, larger vessels will reef. | Operating limit for most power driven small craft lies within this range. |
| **ROUGH** | 2.5 – 4.0 | 7-8 | Waves heap up forming foam streaks and spindrift. | Unpleasant for all but largest sailing vessels- survival conditions for small vessels. Sail drastically reduced. | Considerable care and skill needed. Course and speed of most small craft dictated by waves. |
| **VERY ROUGH** | 4.0-6.0 | 9 | A high sea. Sea begins to roll forming very definite foam streaks and considerable spray. | | |
| **HIGH** | 6.0-9.0 | 10 | Very high, steep waves with wind driven overhanging crests. Sea surface whitens due to dense coverage with foam. Visibility reduced due to wind-blown spray. | | |
| **VERY HIGH** | 9.0-14.0 | 11 | Mountainous seas. Very high rolling breaking waves. Sea surface foam covered. Very poor visibility. | | |
| **PHENOMENAL** | 14.0+ | 12+ | Air filled with foam. Sea surface white with spray. | | |

World Meteorological Organisation Sea State Scale derived from the Douglas Scale. Source: RNLI Handbook

### 8.6.6 Swell

This differs from Sea State and is the wave motion originating from storms or high winds usually hundreds of miles offshore. It is characterised by long, regular undulations on the sea surface.

The length of the open water covered by the waves before they reach the coast is known as the *fetch* and the longer the fetch the greater the swell in terms of both wave height and length between wave crests. Like Sea State, swell can be difficult to judge. Some indication can be obtained by observing the roll and pitch of any vessel in sight.

It is quite common to see a swell with wind induced waves superimposed on it and even sometimes running in a different direction.

Table 23 Sea swell

| Swell | Wave Height (m) | | Length between wave crests (m) | |
|---|---|---|---|---|
| **NONE** | | | | |
| **SLIGHT** | Low | 0-2 | Short | 0-100 |
| **MODERATE** | Moderate | 2-4 | Average | 100-200 |
| **LARGE*** | Heavy | > 4 | Long | >200 |

* A large swell is never seen from PQ.

### 8.6.7 Visibility

This is the distance or range you can see. Although the log specifies nautical miles, we now use the Met. Office's definitions. See Table 24. You can omit the letters in brackets if space does not allow.

Table 24 Logging visibility

| Log entry | Visibility |
|---|---|
| **V(ERY) POOR** | Less than 0.5 nautical mile (approx. 1,000 metres) |
| **POOR** | 0.5 to 2 nautical miles |
| **MOD(ERATE)** | 2 to 5 nautical miles |
| **GOOD** | More than 5 nautical miles |

Your estimate should be based on the poorest visibility to seaward. The radar can be a useful tool - a radar echo or AIS plot from a vessel observed at the limits of visibility will help define the range.

The theoretical distance of the horizon from the Lookout is 16 nm in good visibility under normal atmospheric conditions.

### 8.6.8 Cloud cover

Measured in oktas (eighths) with 0 being clear sky and 8 being full cloud cover. However, if you cannot see the cloud because of fog, you should record either 9 or 'Sky Ob.' for obscured.

### 8.6.9 Barometric pressure

This is expressed in millibars (mb) (which are the same as hectopascals (hPa). The average pressure is 1013.2mb (the dividing line between high and low pressure) with a range in the UK of between 985mb (very low) and 1045 (very high). Recording barometer readings every 2 hours enables the rise or fall in pressure - the pressure tendency - to be established:

- A steady fall indicates the approach of a depression or frontal system with worsening conditions and increasing winds.
- A steady rise usually indicates the above systems are moving away.

The following can be expected if, within a 3 hour period, pressure changes by:

- 3mb: strengthening winds.
- 5mb: a force 6 (yachtsmen's gale). If already force 7, a full gale within the hour.
- 8mb: a force 8 gale.

Whether the pressure is steady, rising or falling is indicated on the weather console by the arrow next to the word 'Barometer'. Rises and falls are reported as being slow or rapid.

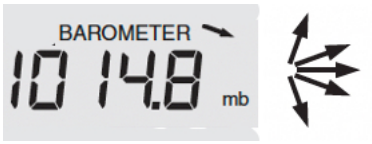



Figure 8-6 Barometer display

Figure 8-6 indicates that the barometric pressure is falling slowly. Steeper sloping arrows indicate a rapid rise or fall; this is defined by our weather station as being by more than 2mb over the past 3 hours.

### *8.6.10 Weather codes*

Use the Beaufort letters shown in Table 25 (or in the quick reference folder on the console and inside cover of the logbook) to describe current weather conditions.

Table 25 Weather codes

| Code | Meaning | Code | Meaning |
|---|---|---|---|
| **Fair** | Fair (no precipitation) | **TS** | Thunderstorm |
| **DZ** | Drizzle | **HZ** | Haze |
| **RA** | Rain | **BR** | Mist - visibility >1000 metres |
| **SN** | Snow | **FG** | Fog - visibility <1000 metres |
| **GR** | Hail | **SQ** | Squall |

## 8.7 Broadcasting actual weather and sea conditions

As a service to local seafarers (as well as giving us valuable radio practice) we broadcast the following information on Channel 65 at 0945, 1145, 1345, 1545 and during evening watches at 1745:

1) Wind force according to the Beaufort Scale.
2) Wind direction.
3) Sea state and the typical range of wave height.
4) The time of next low or high water.
5) The visibility
6) The barometric pressure and whether it is steady, rising or falling / slowly or rapidly.

The script for the broadcast is on a laminated card which should be kept on the console.

The pressure is reported as a whole number, rounding up or down as necessary.

The procedure is to:

1) log the actual weather as mentioned in paragraph 8.6 *Actual weather* on page 8:6;
2) copy the relevant information onto the laminated card using a non-permanent marker pen;
3) broadcast the script on Channel 65, speaking slowly and clearly; and
4) record the broadcast as an entry in the log, e.g.

| Time (local) | Type of vessel | Name, MMSI or Call Sign | Reg'n or Sail No. | Position, Bearing and Range or Location | Course/ Heading | Speed | V R A | P V | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| *0945* | *65 out* | *Broadcasting Wx conditions* | | | | | | | |

Figure 8-7 Log entry - broadcasting actual weather

## 8.8 Local weather and sea conditions

The weather 'officially' forecast often differs from the weather actually experienced at Prawle Point:

- The wind is often stronger due to our elevated position and the funnelling effect of the promontory.
- Local sea mist often limits visibility.
- The sea state can be variable because of the effect of the promontories of Prawle, Start and Bolt Head on the tidal currents.

The situation of 'wind over tide' can produce dangerous over-falls, with breaking, chaotic short seas extending several miles out to sea along the whole area from Bolt Head to Start Point but especially in the vicinity of the three headlands. These are more marked with a SE wind and rising spring tide.

The Bar at the entrance to Salcombe Harbour (least charted depth 0.7m at Lowest Astronomical Tide) is particularly dangerous with a SE wind and a falling tide.

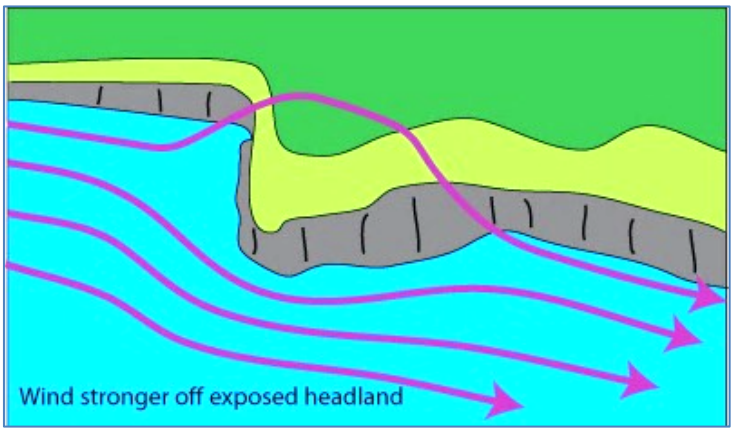



Figure 8-8 Winds stronger over headlands

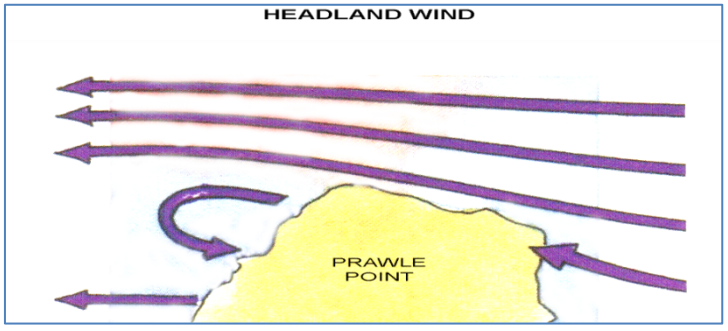



Figure 8-9 Headland wind leeward of Prawle Point

Land oriented forecasts such as the ones for Salcombe are rarely useful in coastal waters due to factors such as these.

**Always use the Inshore Waters Forecast and DON'T fall into the trap of relying on land forecasts.**

Local effects can also mean that the weather at the Lookout differs from the weather at sea level and, again, wind strength and direction, temperature and visibility are the main factors to consider.

This is another reason to be familiar with the PQ Tidal Stream Guide (page 7:14) since it gives us a sense of where the strongest tidal streams are going to be at any moment. So, it tells us where we should expect rough seas, especially when the wind is blowing against the tide.

## 8.9 Additional information

### *8.9.1 Clouds*

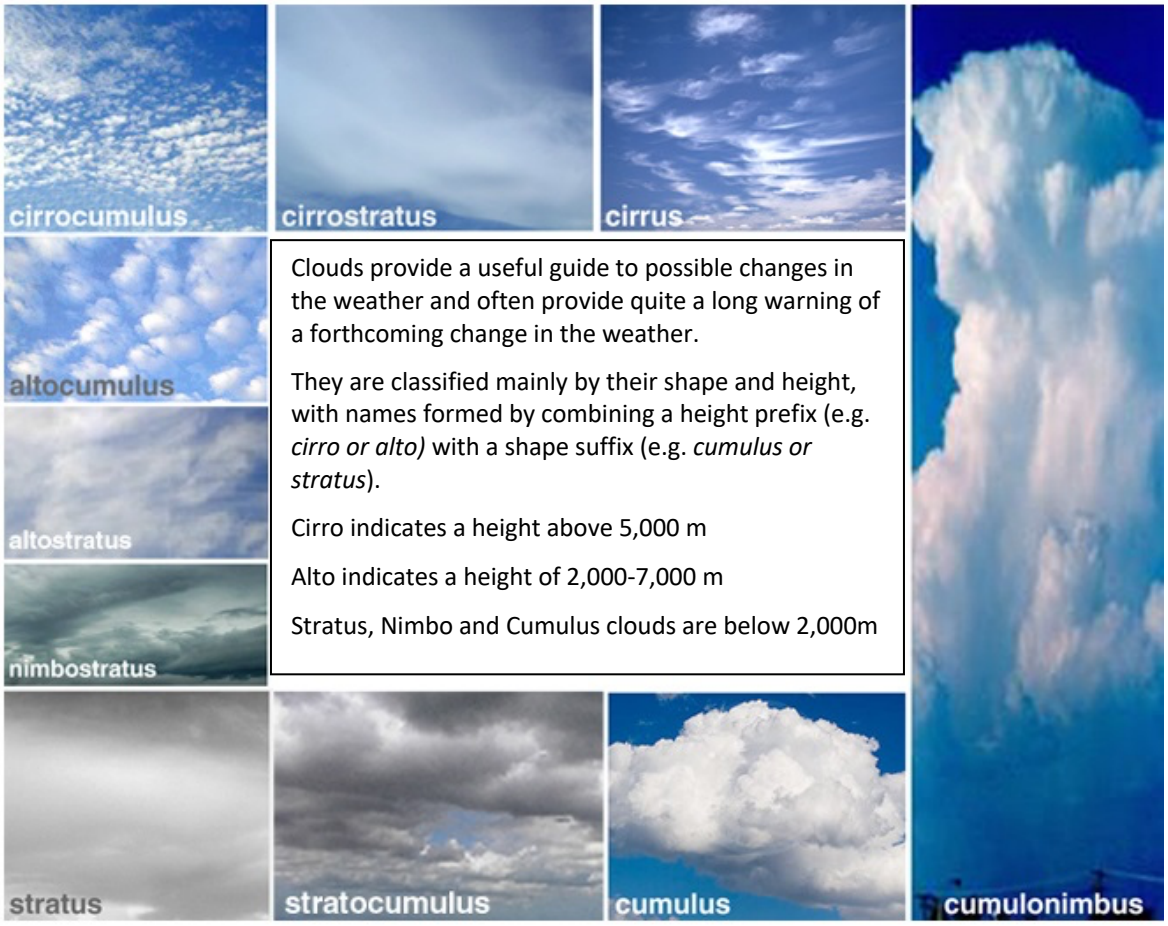



Figure 8-10 Cloud types

The Meteorological Office has more about clouds, their formation and their weather implications on its website at https://tinyurl.com/metoffclouds

### 8.9.2 Weather associated with a depression

Depressions bring strong winds, rough seas and lots of rain. If you understand how weather changes as depressions pass, particularly at the warm and cold fronts, you will be able to anticipate when vulnerable craft are likely to be at risk.

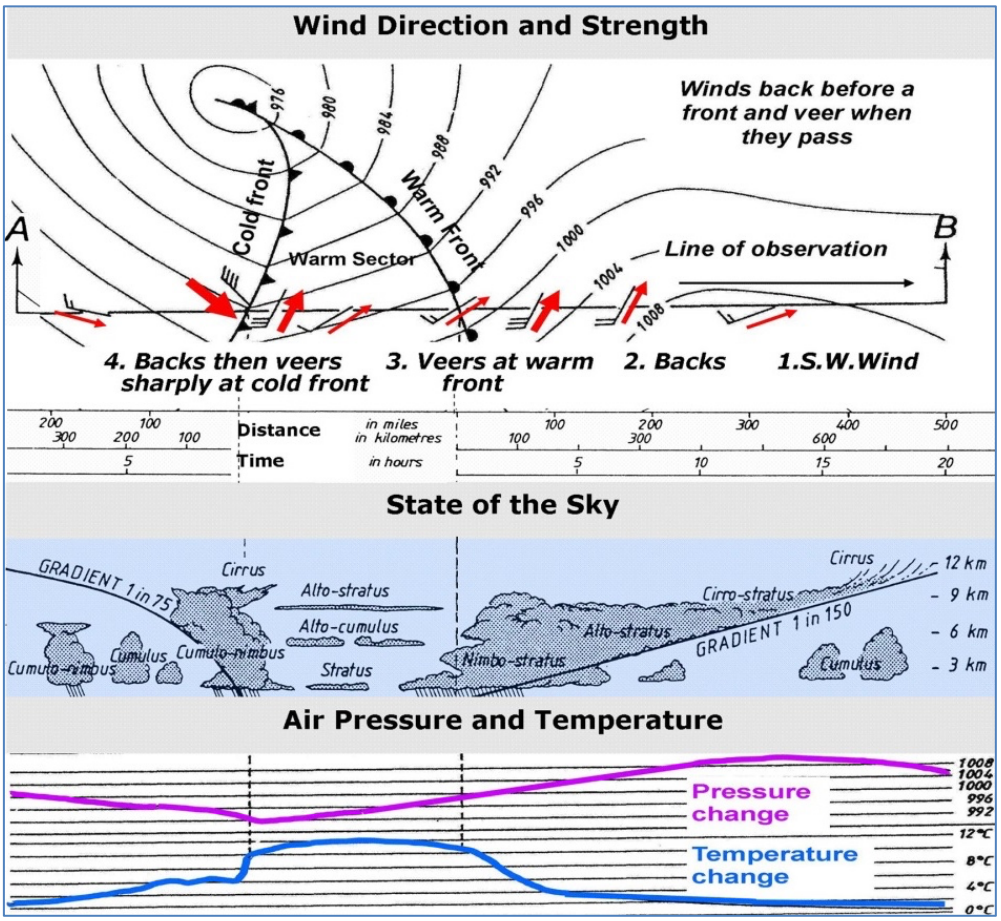



Figure 8-11 Changes in the weather as a depression passes

**Early indications:** high cirrus clouds • wind backs between S and E depending on observer's position relative to depression • barometer begins to fall.

**Approaching warm front:** cloud thickens and lowers • starts raining, even heavily and persistently • barometer falls steadily - the faster the fall, the stronger the wind • the wind gradually veers as the front approaches • visibility becomes poor in the rain.

**The warm front arrives and passes:** sky lightens on windward horizon • break in the rain • wind veers from S to SW • barometer steady • air temperature rises.

**Warm sector:** steady wind usually from the SW • steady pressure • low cloud, some breaks • warmer than before • may be damp and drizzly • moderate or poor visibility • fog possible.

**The cold front passes:** wind may back a few degrees then increase and veer to W or NW • likely to be a squall, can be violent, sometimes with thunderstorms • heavy rain ahead of the front gives way to clearing sky • pressure starts to rise, often with a kick • visibility poor in rain, becoming very good.

**After the cold front:** light winds • clearer sky, but possibly some showers • often a ridge of high pressure, but if no showers expect another depression.

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# 9 Radio

## 9.1 Introduction

One of the more significant changes to watchkeeping at PQ has been the increased use of marine VHF by small craft. It is now the first choice for yachts and motor cruisers that carry the equipment if they are in distress or need assistance.

NCI has been allocated its own VHF channel (65) and this allows us to communicate with passing vessels and respond to their requests for information. There are rules with which we must comply as this is a very public aspect of NCI's operations.

Salcombe is very much a 'small boat' harbour and we can never assume that the craft we see have a VHF radio.

For PQ it means that we must maintain both a good visual watch and an effective VHF listening watch. Many significant incidents are now initiated by radio and / or mobile phone and it is quite common for PQ to become involved after hearing a radio message.

Watchkeepers must be proficient in the use of marine VHF and hold the applicable VHF authority to operate. There is more information on this later in this chapter.

This chapter of the Watchkeeping Handbook is not a full VHF course. Its intention is to give you key facts and notes on 'good radio practice'.

## 9.2 PQ's VHF installation

The Lookout has four identical ICOM VHF sets mounted in the console. They are powered through a low voltage system, have a battery backup in the event of a power failure and are simple to operate.

They MUST be set to their assigned channels. These settings should NOT be changed unless necessary due to equipment failure or to handle an incident.

## 9.3 Operating the radios

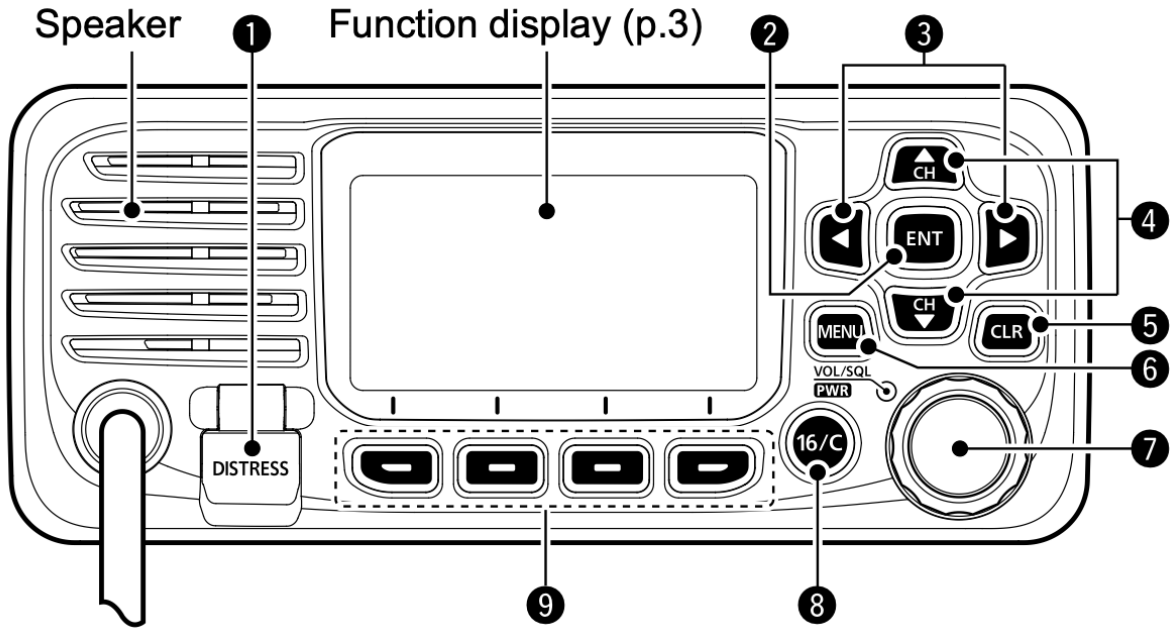



Figure 9-1 ICOM IC-M330 radio

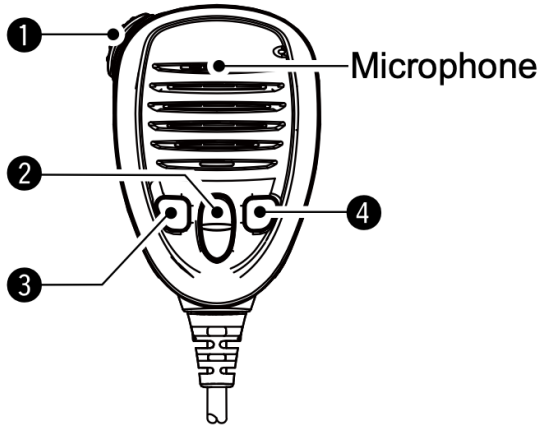
To switch on, press and hold 7 (VOL/SQL/PWR) until the screen lights up, wait for three beeps and then press 5 (CLR) twice. To switch off, press and hold 7 until the screen goes blank.

The controls as numbered in Figure 9-1 are as follows:

(1) DISTRESS. **DO NOT lift this flap**. It is for use to declare a Mayday or Pan Pan.
(2) ENT. Do not touch.
(3) ◀ and ▶. Do not touch.
(4) CH ▲ and CH ▼. Use these to change channels.
(5) CLR. Pressing this key returns the radio to the home screen from all functions. Press it twice when switching on the radio to skip the option to install an MMSI number.
(6) MENU. Do not touch.
(7) VOL/SQL/PWR. Rotate to adjust the volume. Press and hold for one second to power the radio on or off. See below as regards squelch.
(8) 16/C. This switches the radio to Channel 16.
(9) Software keys. Do not touch.

Squelch is a term used to describe the suppression of the radio's sensitivity. Too much squelch and faint or distant transmissions will not be heard. Too little and the radios will suffer from interference. **It should not be necessary to adjust the squelch as these radios set it automatically.**

If some reason the squelch does need adjusting, press 7 (VOL/SQL/PWR) twice and rotate the dial to adjust. Once set, press 5 (CLR) to return to the home screen. **Please do not adjust the squelch unless absolutely necessary.**




(1) PTT (Press to talk)
(2) Ch up and down
(3) Transmit power (Hi/Lo)
(4) Ch 16

Figure 9-2 ICOM microphone

Power Output. Our radios can transmit on either high or low power. Normally PQ will use low power and it is important to check the setting on the channel 0 and 65 radios by looking at the display. Button 3 on the microphone toggles the power output between 'Hi' and 'Lo'.

Only switch to high power if your message is not received on low power and it is important that it gets through. Testing has shown that our radios transmit perfectly well on low power.

**Be careful not to accidentally press button 4 (16/C) on the microphone as you could find yourself transmitting on Channel 16 and receiving a consequent reprimand from the Coastguard.**

**At the start of each watch, check that each radio's volume is turned up and it is tuned to the correct channel.**

## 9.4 Channel allocation

Marine VHF uses a number of channels and at PQ we normally monitor four, with a fifth being used for inshore weather forecasts. The channels and their uses are shown in Table 26. Note that, except in grave emergencies, the only channel we are normally allowed to transmit on without permission of the Coastguard is channel 65.

**Table 26 Marine VHF Channel descriptions**

| Channel | Use and comment |
|---|---|
| **16** | The primary initial calling and emergency channel and can be heavily used at busy times. It is constantly monitored by the Coastguard for distress signals and used by them for general broadcasts and announcements of the channel to shift to for vital information such as weather and navigational warnings.<br><br>When launched, Search and Rescue services make an initial call on Channel 16 before switching to Channel 0. |
| **0 (Zero)** | Reserved for UK Search and Rescue services. PQ is allowed to monitor it and in certain circumstances qualified watchkeepers may use the channel to communicate with the Coastguard or a Search and Rescue asset, such as a lifeboat or Coastguard Rescue Team. |
| **62** | MSI (Maritime Safety Information) broadcasts by the Coastguard are heard on this channel at Prawle after an announcement on Ch. 16. See page 8:4. |
| **65** | This channel is dedicated for use by NCI stations in the UK. Used to provide vessels with weather information and other useful functions such as radio and AIS checks.<br><br>65 is a duplex channel and so shore stations cannot hear other shore stations and vessels cannot hear other vessels. On our radio, channel P1 has been configured to transmit on Ch.65 as a shore station.<br><br>See paragraph 9.11 *Using Channel 65* on page 9:10 and paragraph 9.12 *Mandatory Channel 65 rules* on page 9:12. |
| **67** | The main 'Small Ship Safety' channel on which the Coastguard will speak to vessels after an initial call on Ch. 16 or by DSC.<br><br>It is quite common for callers to be reluctant to declare a MAYDAY or PAN PAN and their problem will only become apparent when the conversation takes place on channel 67. This is why it is important that we continuously monitor Channel 67. |
| **70** | A digital (i.e. not voice) channel used for Digital Selective Calling (DSC). The Lookout's radios do not monitor it. |

## 9.5 Security of messages received on VHF

All marine VHF traffic is strictly confidential. Any relevant information must be logged and if necessary be given to your relief watchkeeper, but under no circumstances should it be passed to an outside body other than the Police or the Coastguard – either verbally or in writing.

## 9.6 Call signs and Radio Prowords (Procedure Words)

Marine VHF communication is built around the use of Call Signs and Prowords. They help identify stations and control communication in the event of a broken or lost transmission.

At PQ it is important to use the radio professionally when communicating with the Coastguard and SAR assets such as Salcombe lifeboat. They have high standards and expect the same from us.

It is also important to use it correctly and professionally when transmitting on Channel 65, even though radio procedures from amateur yachtsmen and women often leave a lot to be desired!

A watchkeeper can silence the Lookout, is unlikely to be feeling seasick and we have very good quality radios and aerials. On the water there is likely to be lots of surrounding noise (waves, engines, flapping sails, etc.), the user could well be feeling seasick, and many boats have a poor quality installation or battery. Someone with a problem on a boat may well be stressed.

**Watchkeepers should always aim to be calm, professional and use the correct radio procedures.**

### *9.6.1 Call signs*

Vessels licensed to use Marine VHF will have an official five character call sign allocated, e.g. 'MEEG6'. This is not normally used unless requested by the Coastguard.

In practice, vessels use their name as their call sign when using VHF and that is what is meant by 'call sign' in this Handbook.

Search and Rescue has different conventions and Table 27 shows some of the more important call signs we encounter and may have to use

Table 27 SAR VHF Call signs

| Call sign | SAR asset | |
|---|---|---|
| SALCOMBE LIFEBOAT | All Weather Lifeboat ON STATION / ON SAR | |
| LIFEBOAT 16-09 | All Weather Lifeboat ON PASSAGE | |
| SALCOMBE ILB | Inshore Lifeboat ON STATION/ON SAR | |
| RESCUE 106/924 | Helicopter ON SAR | |
| COASTGUARD 106/924 | Helicopter NOT ON SAR | |
| FALMOUTH COASTGUARD | Coastguard Operations Room | |
| HOPE COVE LIFEBOAT | HOPE COVE's ILB (not RNLI) | |
| KINGSBRIDGE MOBILE | CRT Response Vehicle | KINGSBRIDGE COASTGUARD RESCUE TEAM |
| KINGSBRIDGE ALPHA/BRAVO | STATION OFFICER/DEPUTY STATION OFFICER | |
| KINGSBRIDGE OSCAR | OFFICER IN CHARGE | |
| KINGSBRIDGE 03/04 etc. | CRT TEAM MEMBERS | |
| SIERRA 10 ALPHA/BRAVO etc. | COASTGUARD SENIOR COASTAL OPERATIONS OFFICERS | |
| ALPHA CHARLIE 10 | COASTGUARD AREA COMMANDER | |
| PRAWLE POINT NCI | PQ | |
| PQ1 | PRAWLE POINT NCI'S HANDHELD RADIO | |

### *9.6.2 Calling another station*

When making a call, **give the call sign of the station you are calling**, repeated once or twice **followed by** the procedure words (Prowords) ***'THIS IS'* and your own call sign (Prawle Point NCI)**.

VHF channels can be heard by anyone monitoring them and so we first need to alert the vessel we are calling before we identify ourselves. **After the initial contact has been made, do not repeat either callsign, just say them only once.**

The Prowords '*OVER*' or 'OUT' indicate the end of a message and that a reply either is or is not awaited.

Here is an example of a typical call and response:

- *'PRAWLE POINT NCI, PRAWLE POINT NCI, PRAWLE POINT NCI,* ***THIS IS*** *SAUCY SUE, SAUCY SUE, SAUCY SUE.* ***OVER****.'*
- *'SAUCY SUE,* ***THIS IS*** *PRAWLE POINT NCI. Go ahead.* ***OVER****.'*
- *'PRAWLE POINT NCI,* ***THIS IS*** *SAUCY SUE. Radio check please.* ***OVER****.'*
- *'SAUCY SUE,* ***THIS IS*** *PRAWLE POINT NCI. You are loud and clear.* ***OVER****.'*
- *'PRAWLE POINT NCI,* ***THIS IS*** *SAUCY SUE. Thank you very much.* ***OUT****.'*

If the Coastguard authorises use of Ch.16 to respond to a Mayday or Pan Pan, preface each call with the word, "Mayday" or "Pan Pan" as the case may be, e.g.

- ***MAYDAY****. CALAMITY,* ***THIS IS*** *PRAWLE POINT NCI. Please describe your vessel.* ***OVER****.'*

### *9.6.3 Prowords*

These control the flow and often dictate the meaning or significance of the word(s) that follow.

Some of the more generally used Prowords that you will hear and / or use are shown in Table 28 and watchkeepers need to be familiar with them. In these examples the Proword (s) are in ***BOLD ITALIC CAPITALS***. There's a fuller list in the RYA VHF handbook

**Table 28 VHF Prowords**

| Proword | Meaning and usage |
|---|---|
| CORRECT/WRONG | To confirm whether a message read back is correct or not<br>Example: If Salcombe ILB asks, 'Did you say 3 cables on my port beam' and you did, the correct response is:<br>*'SALCOMBE ILB* ***THIS IS*** *PRAWLE POINT NCI* ***CORRECT OVER'*** |
| CORRECTION | To correct a mistake.<br>Example: '*The wind is South East* ***CORRECTION*** *South West*' |
| I SPELL | Followed by a word spelt out phonetically.<br>Example: '*The vessel's name is Saros.* ***I SPELL*** *Sierra, Alpha, Romeo, Oscar, Sierra – Saros.'*<br>Saying the word before and after spelling makes it easier to understand. |
| NOTHING HEARD | The response when you do not hear a reply to your communication. To be used after waiting a couple of minutes for a reply. Often used by the Coastguard.<br>Example: '*MUMBLER* ***THIS IS*** *PRAWLE POINT NCI.* ***NOTHING HEARD. OUT.***' |

| Proword | Meaning and usage |
|---|---|
| OUT | My transmission has ended and no response is expected<br>Example: '*PRAWLE POINT NCI, **THIS IS** SAUCY SUE. You are loud and clear also. Thank you. **OUT**.*'<br>'Over and Out' is nonsense and should never be used. |
| OVER | I have finished transmitting and expect a response.<br>Example: '*PRAWLE POINT NCI, **THIS IS** SAUCY SUE. Can you see me on AIS? **OVER**.*' |
| RADIO CHECK | Please report the strength and clarity of my radio signal (See page 9:13). |
| RECEIVED | I have received and understood your message (not 'Roger' even if often heard).<br>Example: '*FALMOUTH COASTGUARD, **THIS IS** PRAWLE POINT NCI. **RECEIVED. OUT**.*' |
| SAY AGAIN | I have not understood tour message. Please repeat.<br>Example: '*SAUCY SUE, **THIS IS** PRAWLE POINT NCI. Your last transmission was over-spoken. **SAY AGAIN. OVER.***' |
| SEELONCE MAYDAY | Used by the Coastguard and the On Scene SAR Commander for major incidents. It means "Maintain radio silence unless you are involved in the current or another Mayday". |
| SEELONCE FEENEE | Used by the Coastguard or SAR commander to end SEELONCE MAYDAY instruction. |
| STANDBY | I will respond to you shortly.<br>Example*: 'SALCOMBE LIFEBOAT, **THIS IS** PRAWLE POINT NCI. Understand you require the lat/long position of the casualty. **STANDBY. OVER**.*' |
| STATION CALLING | I did not hear your call sign.<br>Example '***STATION CALLING** Prawle Point NCI, **THIS IS** PRAWLE POINT NCI, **SAY AGAIN** your vessel name. **OVER**.*' |
| THIS IS | Used after giving the call sign of the station being called and prefaces the call sign of the station calling.<br>Example: '*SAUCY SUE, **THIS IS** PRAWLE POINT NCI. **OVER**.*'<br>Note: After the initial contact as above, Salcombe RNLI encourages speedy communication by saying each call sign just once and omitting 'THIS IS'. Again, the station being called is said first followed by the station calling.<br>Example: '*SALCOMBE ILB, PRAWLE POINT NCI The casualty is two cables dead ahead of you. **OVER**'* |

| Proword | Meaning and usage |
|---|---|
| WAIT | I must pause for a few seconds, standby for further transmission. I will call back.<br><br>Example: You have been asked for a lat/long and need time to plot the position '*SALCOMBE ILB **THIS IS** PRAWLE POINT NCI **WAIT** one minute **OVER**'* |

## 9.7 Phonetic Alphabet

A basic requirement is that you can spell words and articulate numbers fluently using the International Phonetic Alphabet. You may need it on the phone as well as on the radio and an example might be passing the name of a vessel to the Coastguard.

See on Table 29 *Phonetic alphabet* page 9:8

**Table 29 Phonetic alphabet**

| | | | | | |
|---|---|---|---|---|---|
| **A**LPHA | **B**RAVO | **C**HARLIE | **D**ELTA | **E**CHO | **F**OXTROT |
| **G**OLF | **H**OTEL | **I**NDIA | **J**ULIET | **K**ILO | **L**IMA |
| **M**IKE | **N**OVEMBER | **O**SCAR | **P**APA | **Q**UEBEC | **R**OMEO |
| **S**IERRA | **T**ANGO | **U**NIFORM | **V**ICTOR | **W**HISKY | **X**-RAY |
| **Y**ANKEE | **Z**ULU | | | / DIAGONAL | . STOP |
| **1** WUN | **2** TWO | **3** THREE | **4** FOWER | **5** FIFE | **6** SIX |
| **7** SEVEN | **8** AIT | **9** NINER | **0** ZERO | • DECIMAL | |

## 9.8 Voice procedure - Basic guidelines

Here are a few general pointers

1) Listen before you transmit to make sure you will not interfere with another call.
2) Hold the microphone a few inches from your mouth and imagine that you are addressing a group of people. When doing this you automatically speak slower, raise the pitch of your voice and articulate words more clearly.
3) Think before you speak - plan what you are going to say. Write salient points down if that will help.
4) Present a professional image. ALWAYS use the right procedures including:
    a) Using OVER and OUT correctly.
    b) Never swearing or getting cross.
5) Use the correct initial sequence "[Vessel name] THIS IS PRAWLE POINT NCI" for all transmissions that you make. See meaning of 'THIS IS' in Table 28 *VHF Prowords* on page 9:7 as to when it may be omitted.
6) Use low power for the initial response. If you are not heard and the vessel calls again switch to high power and try again. For most traffic on this channel we will be working fairly close to the Lookout and low power should suffice.

When using channel 65 the situation is slightly different because we are no longer working within the disciplines of a Search and Rescue environment. It means that in a busy period you might get a

number of calls and you should follow the general procedures in paragraph 9.11 *Using Channel 65* starting on page 9:10. Here are some points to remember:

1) If you receive several calls in quick succession you can either ignore all but the one you are dealing with or, perhaps better, respond to other calls by saying for example, "SAUCY SUE THIS IS Prawle Point NCI. Please call us again in five minutes' time OUT".
2) We may receive requests for direct assistance that should have been directed to the Coastguard and must be referred to them. No matter what the provocation, never get annoyed or flustered but sound professional and use the correct procedure.
3) Know the rules and how to handle requests that are outside our competence correctly. We do not wish to accidentally endanger lives by being too dogmatic but at the same time we do not wish to act as a distress and urgency message handling centre. The sample dialogues in Table 32 starting on 9:14 are intended to help you with this.

## 9.9 Using Channels 0 & 16

Only use Channel 0, 16 or indeed any channel other than 65, as directed by the Coastguard. There are just FOUR permitted exceptions to this.

1) If PQ is called by the Coastguard at any time or an SAR asset during an incident, you MUST respond to their call.
2) Direct communications between PQ and SAR assets on Channel 0 is permitted where you have visual of a casualty or target and can guide the asset to the location.
3) It is also permitted during an incident to use Channel 0 to give a necessary update to the Coastguard where it would be more expedient than using the telephone.
4) If we have a landline failure *and* there is no signal on the Lookout mobile phone, you may use Channel 16 to contact the Coastguard to report that the Lookout's capability has been downgraded. As the Coastguard do not routinely monitor Channel 0, the call must made on Channel 16.

**In all three circumstances, be sure to properly log and record what you did and why.**

**Channel 0 is not a replacement for routine telephone calls and should not be used casually to contact the Coastguard.**

If one of the permitted exceptions does not apply, you will need to request the Coastguard's direction to transmit on Channel 0 or 16.

The initial call to the Coastguard should always be by telephone and normally the only occasions when Channel 0 will be used to transmit will be:

1) For a routine radio check every 8 days - the whiteboard will indicate when the next check is due. See paragraph 9.13.1 *Radio checks with the Coastguard* on page 9:14.
2) During an exercise with the Coastguard's prior approval.

With the Coastguard's prior permission if a vessel is heard calling 'Coastwatch' on Channel 16. The rules and parameters for this are set out in paragraph 9.12.2 *Calls to Prawle Point NCI or Coastwatch on Channel 16* on page 9:13.

Before transmitting check that the radio you are using is set to channel 0 (C0 or 00 on its display) and the power output is set to LOW. Only transmit on HIGH if the Coastguard asks you to or you cannot get a response at low power.

## 9.10 DSC and MMSI (Maritime Mobile Service Identity)

DSC (Digital Select Calling) is a feature of some marine radios which enables the caller to 'dial' the number of the station to be called and suggest a working channel. The recipient then just hits a button to acknowledge the call and switch to that channel. All this is done digitally on Ch. 70 and nothing is heard on Ch. 16 and so if a vessel calls the Coastguard in this way, we shall know nothing until the conversation takes place on Ch. 67 or possibly 16.

DSC radios have a text display and special features for distress, urgency and safety messages.

An MMSI is the unique nine digit 'telephone' number that identifies a particular ship or shore station and is used to make the DSC call to it. Those for ship stations are entered into the DSC radio set on purchase. Each MMSI starts with a three digit country code (Maritime Identification Digits – MID).

There's a full list of the country codes (MIDs) in the Lookout hung from a hook above the radar and some 'local' ones are listed in Table 30 on page 9:10.

**Table 30 MMSI country codes (MIDs)**

| Code | Country | Code | Country |
|---|---|---|---|
| 232, 233, 234 or 235 | UK | 244, 245, 246 | Netherlands |
| 205 | Belgium | 257, 258, 259 | Norway |
| 219,220 | Denmark | 263 | Portugal |
| 226, 227, 228 | France | 224, 225 | Spain |
| 211, 218 | Germany | 265, 266 | Sweden |
| 250 | Ireland (some Irish craft are also registered with the UK Codes) | | |

Shore-based radio stations with authority to transmit using DSC also have nine digits long MMSI numbers but they begin with 00 and are followed by a country code and four more numbers. Falmouth Coastguard's MMSI is 002320011. NCI stations do not currently have MMSIs.

## 9.11 Using Channel 65

Prawle NCI's primary mission is to maintain a visual and electronic watch on our sector and to assist with SAR situations. At a secondary level we provide weather information to the public to help enhance general safety at sea and along the coast.

We use VHF Channel 65 to enhance our capability in three main ways:

1) Provide an additional way for vessels to obtain weather information since we are in an area with limited mobile phone coverage. We also broadcast the local weather and sea conditions at certain times during the day. See paragraph 8.7 *Broadcasting actual weather and sea conditions* on page 8:12.
2) Provide a useful 'safety' related service by providing radio and AIS transponder checks on demand.
3) Maintain and develop watchkeeper skills in usage of VHF to help improve our SAR capability on the occasions when watchkeepers have to use VHF.

### *9.11.1 Watchkeeper qualification*

1) If you have the RYA Short Range Certificate (SRC) or the older VHF Authority to Operate (pre DSC) you can use the channel with PQ's radio.

2) If you are not qualified to use it:
    a) you may still do so under the supervision of a radio qualified watchkeeper; and
    b) you should still respond to an incoming call.

### *9.11.2 Usage guidelines*

PQ's guideline is that all watchkeepers should respond to all incoming calls on Channel 65 in case there is a safety at sea issue.

Under normal circumstances there is no point in initiating a call to a vessel as most do not monitor Ch. 65. However, you may receive a call asking for a radio (and AIS) check or the actual weather conditions at Prawle.

The NCI publicity talks of NCI offering advice on local harbours, water taxis, etc. In such a case you are advised to tell the caller that once inside the harbour they should contact 'Salcombe Harbour' on channel 14 to obtain the information they need. Avoid going into more detail if only because we do not have the latest information and so risk being wrong.

You must not act as an alternative Coastguard station

The following must be avoided:

1) Providing advice about a planned passage or plan of action.
2) Accepting a vessel's passage plan or notification of safe arrival for onward transmission by phone to the Coastguard. The caller MUST be advised that he / she should contact the Coastguard and that we will not log or act on information of this sort.
    a) A possible exception might be where the vessel has called the Coastguard several times without success and calls PQ in desperation.
3) Taking any action other than notifying the Coastguard by phone if a vessel calls PQ on channel 65 to report a problem unless the Coastguard instructs you otherwise.
4) Where a vessel calls Prawle Point NCI, Coastwatch or a variant thereof on Channel 65 having tried to contact the Coastguard on Channel 16 without success, you should:
    a) note the passage plan, problem or requirement;
    b) advise the vessel that you will inform the Coastguard and ask the vessel to stand by on Channel 65 to await your call;
    c) contact the Coastguard on the routine number or 999 as appropriate and act as instructed; and
    d) report back to the vessel that you have done so and that either (i) all future communication should be direct to the Coastguard or (ii) otherwise as the Coastguard instructs you.

### *9.11.3 Channel usage*

Channel 65 is a duplex channel. If a vessel calls 'Prawle Point NCI' and we respond in the usual way, there are no changes to the way the radio operates.

However, it may not be clear which NCI station is being called. Vessels sometimes call just 'Coastwatch' (or similar) as this is how NCI is often referred to.

Here's the problem:

1) There is radio overlap between NCI stations.
2) A duplex channel works in this way:
    a) Any NCI station within range will hear the calling vessel.

b) We will not hear another NCI station responding to the call. The only sure way to find out is to monitor the caller's subsequent transmissions. It will then be obvious whether or not they have made contact.

What this means for us:

1) If the incoming call to 'Coastwatch' is clear then respond immediately.
2) If the call is relatively weak and broken then wait. It may indicate that the calling station is some way away. If the calling station calls repeatedly and it is clear that nobody has responded then call them using our correct call sign (Prawle Point NCI).

### *9.11.4 Duplex channels – technical details and implications*

A duplex channel uses two frequencies. If both stations using it have the right equipment (and two aerials suitably far apart) then a duplex channel can be used just like a phone with both parties able to talk and hear each other at the same time.

In practice this is rarely the case. All NCI stations have one aerial for the channel and normally communicate with small boats that also have just one aerial. Communication must therefore be one way at a time and so the normal 'over' and 'out' procedures must be employed.

Unfortunately, even operating in this mode, the radio on a ship will transmit on one frequency (call it frequency A) and receive on the other (frequency B). To make the channel work, a shore station radio fairly obviously has to work in reverse; so it transmits on frequency B and receives on frequency A.

This means that when using a duplex channel, a shore station (e.g. PQ) can never hear another shore station broadcasting on the channel (channel 65 in our case). This is why there's a chance that a vessel broadcasting a generic call to 'Coastwatch' without specifying the station (e.g. Prawle Point NCI) will receive multiple responses.

It also means of course that a vessel using a duplex channel will not hear other vessels when they broadcast though she will hear broadcasts from all shore stations. There is therefore a chance that a vessel will be over spoken by another and not know that this has happened unless we tell them. You need to know and have practice in using the correct radio procedures.

### *9.11.5 Recording Channel 65 traffic in the logbook*

The PQ logbook must be correctly maintained.

There's no need to log every part of a dialogue but all transactions must be logged.

| Time (local) | Type of vessel | | Name, MMSI or Call Sign | | | | | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| *0945* | *65* | *in* | *Saucy Sue* | | | | | | | *Radio check. Loud and clear* |

Figure 9-3 Logging radio traffic

## 9.12 Mandatory Channel 65 rules

You MUST understand and comply with these two rules.

### *9.12.1 Broadcasting the Inshore Waters Forecast and/or Shipping Forecast*

NCI is not allowed to broadcast the shipping forecast or inshore waters forecast either in part or in full except that they may be relayed on Channel 65 to meet a request from someone who has missed the regular marine safety information broadcast by the Coastguard.

When complying with a request as above, the laminated script on the reverse of the current weather conditions script **must be followed**.

### *9.12.2 Calls to Prawle Point NCI or Coastwatch on Channel 16*

NCI and the Coastguard have agreed the following procedure that we must observe.

1) If a vessel calls 'Prawle Point NCI' or 'Coastwatch' rather than 'Coastguard' on channel 16, you should wait for the Coastguard to respond.
2) If the Coastguard does not respond to two such calls, you should telephone the Coastguard on the routine number and ask if they would like us to call the vessel on Channel 16 and switch them to Channel 65. **You must not take the initiative and reply to the vessel on Channel 16 without the Coastguard's prior authority.**

The usual override applies. If, in your opinion, the situation is so grave that on safety grounds you have to break the rules then:

1) phone the Coastguard and explain to them what you have done and why;
2) fully complete the PQ log; and
3) complete an Activity and Incident Record to notify the Station Manager and provide him with appropriate information.

## 9.13 Radio check procedure

When it is considered necessary to check the signal strength and readability of a station, the calling station will initiate the procedure by use of a full call and the Prowords 'RADIO CHECK'.

Example: *PRAWLE POINT NCI **THIS IS** SARAH JANE, **RADIO CHECK. OVER***
*SARAH JANE **THIS IS** PRAWLE POINT NCI, you are **LOUD AND CLEAR. OVER***

The response should consist of a combination of the Prowords in Table 31 that indicate the transmission's (a) signal strength and (b) readability.

It is good practice to enter the result of the radio check in the log entry.

**It is important that watchkeepers understand and use the defined range of responses and do not automatically respond with 'Loud and Clear'!**

Table 31 Radio check Prowords

**A Signal Strength**

| Correct word to use | Meaning |
|---|---|
| LOUD | Your signal is very strong. |
| GOOD | Your signal strength is good. |
| WEAK | Your signal strength is weak. |
| FADING | At times your signal strength fades to such an extent that continuous reception cannot be relied upon. |

**B Readability**

| Correct word to use | Meaning |
|---|---|
| CLEAR | Very good. |
| READABLE | Satisfactory. |
| UNREADABLE | Quality of your transmission is so bad that it cannot be read. |
| DISTORTED | Having trouble reading you because your signal is distorted. |

| | |
|---|---|
| WITH INTERFERENCE | Having trouble reading you due to interference. |
| INTERMITTENT | Having trouble reading you because your transmission is intermittent. |

The initial calling station may also indicate the strength and readability of PQ's signal in its response.

### *9.13.1 Radio checks with the Coastguard*

1) Call Falmouth Coastguard on their routine phone number.
2) Introduce yourself as Prawle Point NCI.
3) Ask whether it would be convenient for them to give you a radio check on Channel Zero.
4) If they are too busy, ask if there is a better time when you can call back.
5) If they agree, thank them and make the radio call as soon as possible. For example:
   *"FALMOUTH COASTGUARD, FALMOUTH COASTGUARD,* ***THIS IS*** *PRAWLE POINT NCI, PRAWLE POINT NCI. MAY I HAVE A* ***RADIO CHECK*** *PLEASE?* ***OVER****."*
6) They will reply, giving your signal strength and readability. For example:
   *"PRAWLE POINT NCI,* ***THIS IS*** *FALMOUTH COASTGUARD. YOU ARE* ***LOUD AND CLEAR. OVER****."*
7) You will then reply, giving their signal strength and readability. For example:
   *"FALMOUTH COASTGUARD,* ***THIS IS*** *PRAWLE POINT NCI. YOU ARE* ***LOUD AND CLEAR*** *ALSO. THANK YOU.* ***OUT****."*

## 9.14 Sample dialogues (mainly for Channel 65)

Table 32 gives some examples of possible situations and how to respond.

You must use our call sign in full in voice transmissions. There's the full dialogue for a radio check and all others only have a sample response.

**Table 32 Sample VHF dialogues**

| Event | Response to a call to Prawle Point NCI |
|---|---|
| | All transmissions except for an unintelligible call should start with the normal procedural response, e.g. "*VOYAGER* ***THIS IS*** *PRAWLE POINT NCI"* |
| Radio Check | "*PRAWLE POINT NCI, PRAWLE POINT NCI* ***THIS IS*** *SAROS, SAROS.* ***RADIO CHECK*** *please,* ***OVER***"<br><br>"*SAROS* ***THIS IS*** *PRAWLE POINT NCI. You are* ***LOUD AND CLEAR, OVER****"*<br><br>*"PRAWLE POINT NCI* ***THIS IS*** *SAROS. Thank you,* ***OUT***"<br><br>Your response should comply with the guidelines on page 9:13. |
| AIS check | Initial response: "***STANDBY. OVER***".<br><br>Then call the vessel and tell them that: "*We have / do not have your vessel on our AIS screen,* ***OVER***"<br><br>You may need to ask the caller for his position or MMSI first. |
| General chat call | General chat should be discouraged. Be polite and maybe offer weather.<br><br>If you need to be firm, say "*We are busy at present and cannot talk any more.* ***OUT***" |

| Event | Response to a call to Prawle Point NCI |
|---|---|
| Unintelligible Call | *"**STATION CALLING** PRAWLE POINT NCI **THIS IS** PRAWLE POINT NCI. **SAY AGAIN, OVER**."*<br><br>If you get a response proceed as normal, if not then after a few minutes<br><br>"***STATION CALLING** PRAWLE POINT NCI. **NOTHING HEARD, OUT**."* |
| Weather request | E.g. "*The current wind strength is SW force 5 and visibility is moderate. There are rain squalls in sight, **OVER***" |
| Request for passage advice | "*Sorry but we are not permitted to offer you passage or safety advice or opinions, **OVER***." |
| Request to accept or notify Coastguard of a passage plan | "*Sorry but we are not permitted to accept / relay your passage plan. You must call the Coastguard on Channel 16 or 67, **OVER."*** |
| Angry Caller | Explain that National Coastwatch Institution is a charity and not part of the Coastguard and we are under strict constraints as to what we may do.<br><br>Those wishing to complain should email us with their telephone number. Our email address is on our website which may be found through any search engine. They should be told that the Station Manager will then contact them by telephone. If asked for our email address, it is mail@nci-prawlepoint.org.uk.<br><br>If you overhear a complaint being made to the Coastguard about our 'unhelpfulness', ring the Coastguard to put our side of the story.<br><br>In any case, write it up in the logbook / record it as an activity and ring the Station Manager.<br><br>Rest assured that the Station Committee will back you fully provided that you've followed our guidelines for Channel 65. |
| Request that we keep an eye on a particular boat | *"We have logged your transmission. We will include you in our normal watch. **OVER."***<br><br>This will depend on the circumstances so respond at your discretion. |
| Request that we contact somebody ashore | *"Sorry but we are not allowed to provide a service of this sort, **OVER**."*<br><br>You could offer to inform the Coastguard and, if they've been unable to contact the Coastguard, then act at your discretion. |

| Event | Response to a call to Prawle Point NCI |
|---|---|
| Call for help | Requests for help should be passed onto the Coastguard after establishing the position and relevant facts as best you can. Then tell the vessel in distress what you are doing, e.g.<br><br>"***We are talking to the Coastguard now on the phone****. Please switch to Channel 16 and wait for their call. Please acknowledge on this channel that you understand before doing so. Otherwise* ***stay on Channel 65 and wait for our call****.* ***OVER***"<br><br>If you are not sure whether the vessel has understood or is capable of switching channel you should broadcast only the bold sections, tell the Coastguard what you have done and follow their instructions. You may then be asked by the Coastguard to keep on communicating with them. |

As regards distress, urgency and safety messages, see Chapter 5 *Distress, urgency and other signals*

## 9.15 Handheld radio

There is a marine VHF handheld radio by the console at the Lookout. Callsign "PQ1".

This radio is normally tuned to Channel 65 and has a range of several kilometres. It is for communication outside the Lookout in the event of an incident. If a watchkeeper has to leave the Lookout then it is good practice to use this radio to communicate with the watchkeeper in the Lookout. It is also good practice for the watchkeeper outside to wear a 'high-vis' jacket for reasons of ID and safety.

Operation is straightforward and there is a user guide in the Lookout.

A Channel 65 radio check should be carried out between the handheld radio and the console radio each morning. This can be done simply by pressing the PTT button on each (see Chapter 13 *Glossary*) and listening for a click on the other.

Place it in front of the console at the end of the day, not on the floor.

The marine VHF Standard Horizon handheld radio must not be used for training. Use the training radios instead.

## 9.16 Troubleshooting

### *9.16.1 Constant interference*

Turn up the squelch slightly. **NB** No more than two bars should be showing.

## 9.17 Call Connect

Call Connect enables the Coastguard to connect a caller to a vessel using their telephone but via Marine VHF Radio. It is far inferior to direct radio communication.

It is conceivable that we might be asked to use it if our own radio is inoperative.

Only two points to remember:

- Call Connect is voice activated. So, ensure that all background noise in the Lookout is suppressed.
- Follow usual radio protocols, using 'Over' and other prowords.

# 10 Radar

## 10.1 Introduction

The Lookout is equipped with a combined Radar/Plotter unit comprising a radar and electronic chart plotter superimposed with AIS (Automatic Identification System) information on the identity and position of vessels fitted with a transponder.

The Lookout's computer accesses the website which provides additional information about AIS equipped vessels; see paragraphs 10.4.11 *AIS* on page 10:9.

In these chapter, "clicking" means clicking with the left button unless otherwise stated.

This picture below shows the radar screen with the local chart displayed. At a range of 8 nm each green circle indicates 2 nm from PQ. At other ranges they may indicate different distances. Nine AIS targets (marked by triangles) can be seen. Radar contacts are shown as red blobs. A faint echo from another target is shown as a green blob about 7nm from PQ within the compass rose.

Think of the radar as a very powerful way to locate vessels and find out not only where they are but also how fast they are moving, what course they are on and, in some cases, information such as their name and radio identity. It also has limitations and restrictions of which we all need to be aware. The plotter is an electronic chart, together with basic plotting tools, which can be used in its own right to work out bearings, distances and positions.

In this section you'll find some non-technical guidance on how best to use the equipment followed by some background on how radar works and what key controls actually do. Both parts will help you to understand and use PQ's radar effectively.

Our radar is a powerful but fairly straightforward unit provided that you use it correctly. **P*lease do not* adjust any of the settings** other than those mentioned in the following instructions as you may make it difficult for others to operate the radar.

Remember that whilst the radar can be a useful aid, it is not a substitute for visual watchkeeping whether by eyeball, binoculars or telescope. The only exception is when visibility is extremely poor, when it may become a primary watchkeeping tool. Such a watch must be logged as a radar watch. Stay focused on what is to be seen out of the window rather than on the radar screen.

## 10.2 Core functions for PQ

We use the radar primarily:

1) As a plotting aid to establish a vessel's
    a) bearing from PQ;
    b) distance from PQ; and/or
    c) lat/long position
2) To track a vessel using AIS or the radar's own system for those craft without AIS.
3) To establish the bearing and distance between two targets.
4) To obtain tidal stream information.

## 10.3 Radar principles

### *10.3.1 Basics*

Radar detects targets in a manner similar to the way we see things when using a flashlight in total darkness. The only objects we can see are those illuminated by the flashlight's beam. Radar operates in a similar manner, except that it sends out a rotating beam of microwave pulses and detects extremely small amounts of reflected energy.

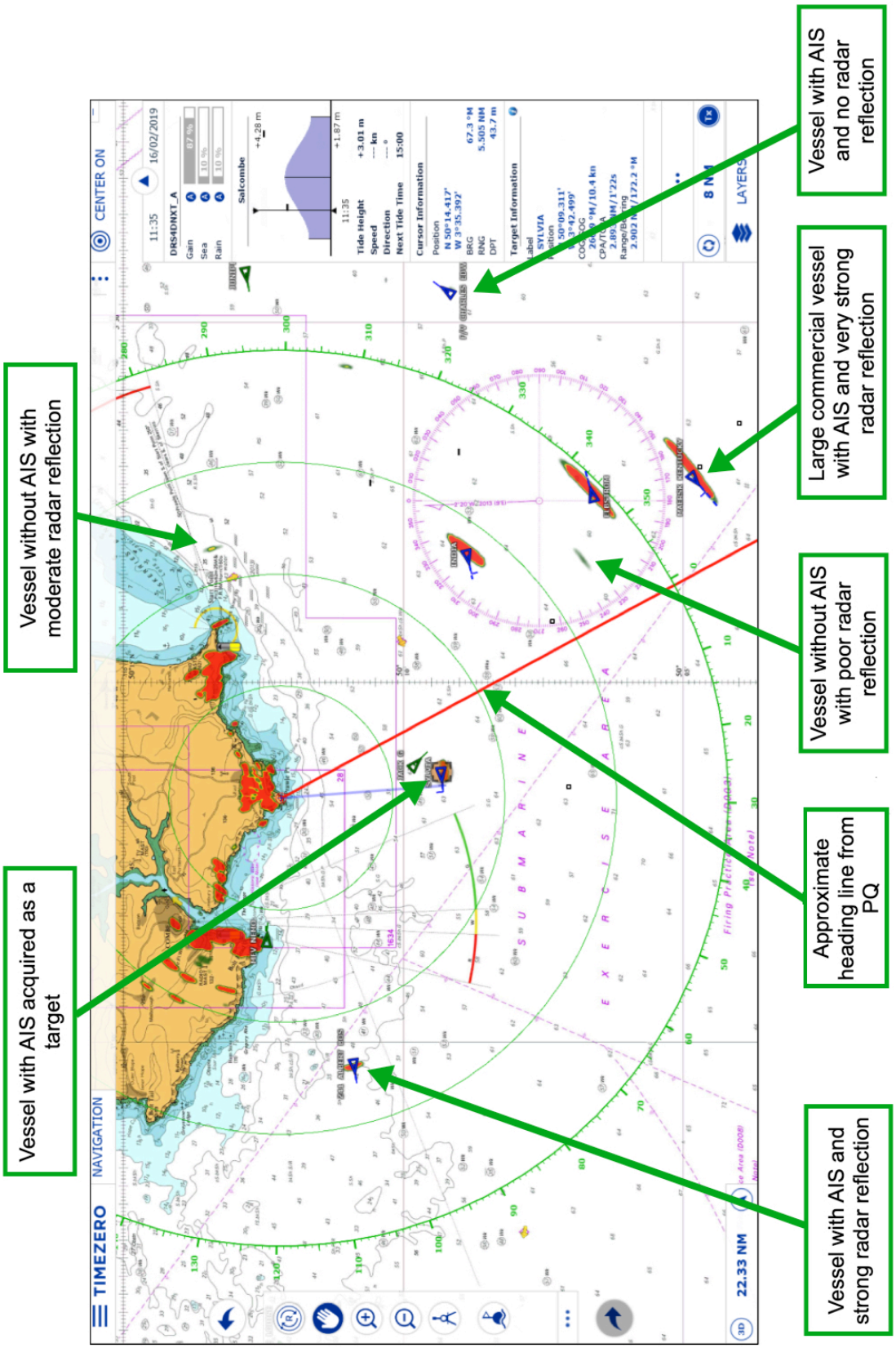



Figure 10-1 Radar screen

A reflection will be shown on the screen on the bearing of the antenna when it was received. The distance at which the target is shown is calculated from the time that elapsed between sending and receiving the pulse. The intensity of the target displayed depends on how much energy was reflected by a target and in PQ's case strong echoes are red and weaker ones green or blue. Only information that is reflected back from a target (vessel, cliff, etc.) is shown on the radar screen.

#### *10.3.2 Targets*

The target we see on the display is affected by a number of things but the main ones are what it is made of and its size. Generally speaking a large target will give a more powerful echo than a small one, although a small, highly radar reflective object may actually give a stronger return than a larger, less reflective one.

Targets are like mirrors. Flat metal surfaces are generally the best reflectors provided they are angled correctly, while wood and fibreglass are extremely poor radar reflectors.

This means that radar has more difficulty picking up small yachts and fishing vessels a mile or so away than more distant larger ships. It is why many small vessels fit radar reflectors and also why AIS for small boats is proving so popular (and effective).

Cliffs tend to have quite rough surfaces and so generally provide a good return.

Large commercial vessels such as oil tankers will provide very strong echoes and, if the radar is only detecting such ships when smaller ones are around, the 'tuning' of the radar needs to be examined.

In normal conditions the radar should detect yachts and motor cruisers.

It may even be possible to detect small open boats if you zoom in.

#### *10.3.3 Radar range*

Radar energy travels in a more or less straight line. This means that, like VHF, if our antenna at PQ cannot 'see' a target, it cannot ever get a reflection from it. At PQ the radar horizon is about 16 miles with a greater effective radar range for large high vessels. For small vessels it is likely to be much less.

For PQ a good working radar range is usually about six miles but remember that it is absolutely correct to adjust it up or down depending on how far off the target of interest happens to be. Whenever you alter the range, you need to synchronize the radar (see *Figure 10-2 Radar left hand panel* on page 10:5)

#### *10.3.4 How accurate?*

The diameter of its antenna is crucial in determining a radar's overall performance.

The radar beam is akin to that of a searchlight but focused differently and is squarer rather than circular.

Our antenna is on a cliff top and because of the extent to which the beam points downwards, the radar is not very effective on targets very close to the Lookout.

#### *10.3.5 Technology*

PQ's radar antenna, transmitter and receiver are packaged as a single unit, enclosed in a housing mounted on the Lookout's roof. The rest of the equipment is inside the Lookout.

## 10.4 Using the radar

To 'start' the radar, follow the instructions (3) – (6) starting on page 10:11

1) 'Centre' the chart by clicking on the "CENTER ON" button at the top right of the screen and then 'synchronize' it using the button on the left-hand panel.

2) Ensure that the sea and rain settings have been left in automatic mode (see paragraph 10.4.3 *Right hand panel: Settings* on page 10:5)

To close down the radar:

1) Ensure that the chart is centred.
2) Ensure that the gain, sea and rain settings are in automatic mode (see paragraph 10.4.3 *Right hand panel: Settings* on page 10:5)
3) Click on 'Time Zero' (top-left) and then on 'Exit'. Now close down Windows in the same way as you do the desktop PC. You may find the toolbar displayed vertically with the Windows button at the top.

### *10.4.1 Controls*

The only controls you should be concerned about are those on the left-hand panel.

### *10.4.2 Left hand panel*

Click anywhere on the screen to make this appear. The menu items may be shown in a different order.

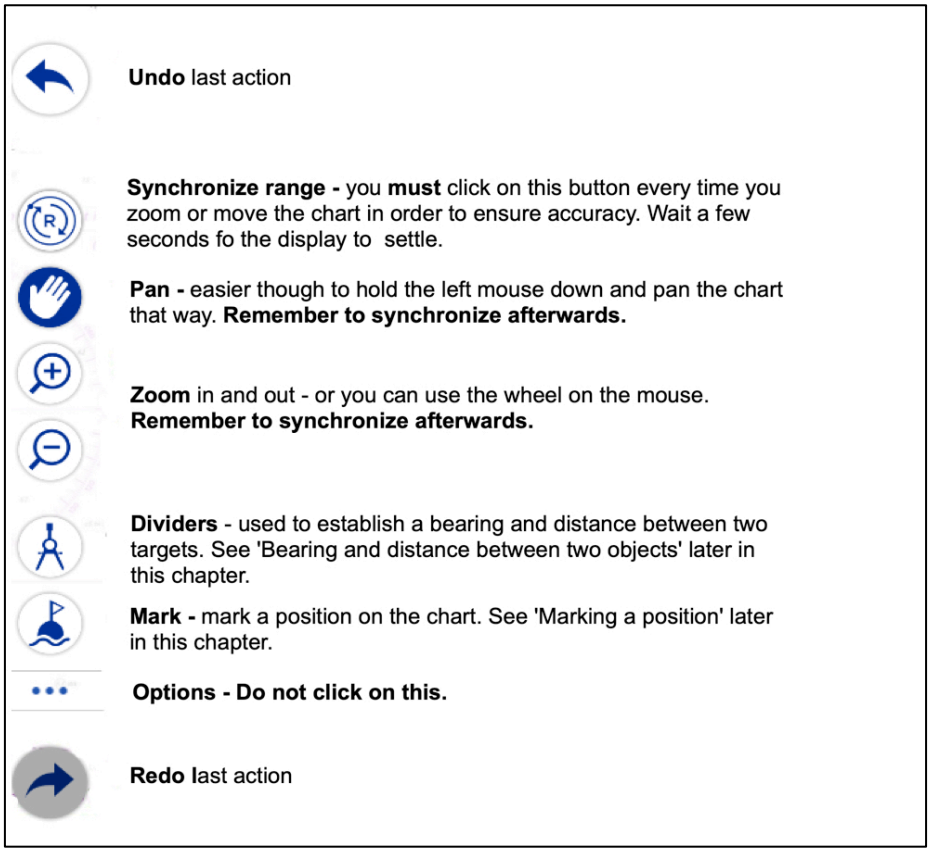



Figure 10-2 Radar left hand panel

### *10.4.3 Right hand panel: Settings*

The radar can be adjusted for gain and has filters (clutters) for sea state and rain.

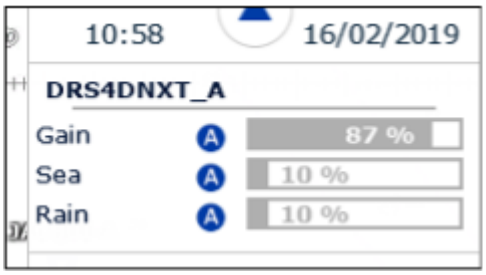



Figure 10-3 Radar: Gain and clutter controls in automatic mode

**These should be left in automatic mode as shown in Figure** 10-3 **and must not be set manually.**

**Do not add or remove any of the items in this panel.**

### *10.4.4 Right hand panel: Cursor Information*

The lat/long, bearing and range of (and depth at) the position shown by the cursor is shown on the right-hand panel under "Cursor Information".

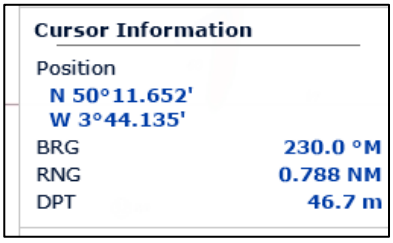



Figure 10-4 Radar: Cursor information

When passing this information to the Coastguard or lifeboat, a lesser degree of accuracy is required rounding up or down as appropriate, e.g. from Figure 10-4 "*Five zero degrees one one decimal seven minutes North, zero zero three degrees four four decimal one minutes West*" or "*On a bearing from Prawle Point of two three zero degrees at a range of eight cables*".

### *10.4.5 Controls to avoid*

**Do not touch:**

- The Time Zero controls marked by three horizontal bars in the top left-hand corner of the screen.
- The word 'Navigation' at the top of the screen.
- Any control on the screen marked by three dots whether shown vertically or horizontally.
- The Layers control in the bottom right hand corner (Figure 10-12 on page 10:10).
- The status bar at the foot of the screen.

These are for configuring the radar or Windows and should be left alone.

### *10.4.6 Marking a position*

Use the 'mark' button to mark a fixed position on the chart, for example where a casualty was first spotted before drifting.

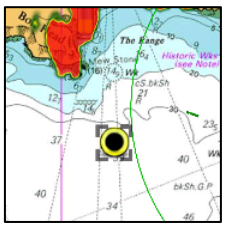


Figure 10-5 Radar: Marked Position

A yellow circle appears on the screen. Left click on that circle will show its range and bearing from PQ. Right clicking and selecting 'Properties' will give its lat. and long.

To cancel, right click on it and select 'Delete mark'.

If an error message appears when trying to mark a position, see paragraph 10.6.4 *Unable to mark a position* on page 10:10

### *10.4.7 Acquiring a target*

Click on an AIS target (marked by a triangle) to display its position, bearing, CPA and COG

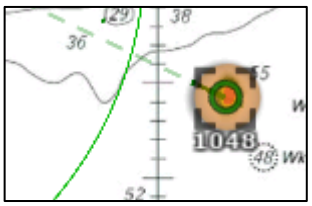



Figure 10-6 Radar: Acquired target

Right click on an echo. Select ‘Acquire’ and a circle will appear as the radar acquires the target.

To cancel, right click and select ‘Cancel ARPA target’.

### *10.4.8 Target Information*

If you click on a non-AIS target that you have acquired, the CPA, COG and after a few minutes SOG will display.

Information about any target selected (AIS or not) will also appear and remain on the right-hand panel (Figure 10-7).

The target’s course will be recorded and a predicted course shown (Figure 10-8).


Figure 10-7 Radar: Target information

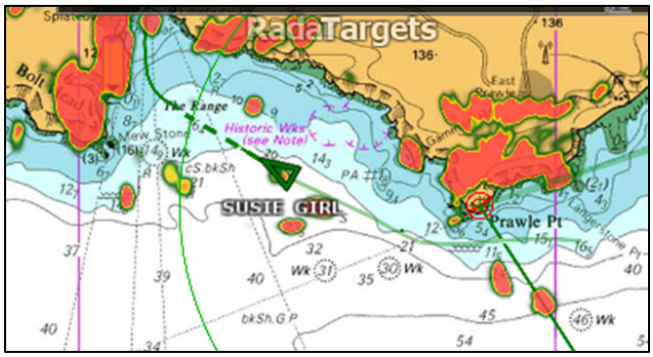



Figure 10-8 Radar: Target's course on chart

### *10.4.9 Bearing and range between two objects*

Click on 'Dividers' on the left-hand panel and then click on the first object (A) (Tenacious in Figure 10-9).

When you click on the second object (B) (Claire Louise) the bearing and distance from A to B will be displayed over B.

To cancel, right click on the arrow (middle of the line) and select 'Erase divider'.

Very useful, for instance advising the Coastguard of the bearing and distance of another vessel relative to the casualty.

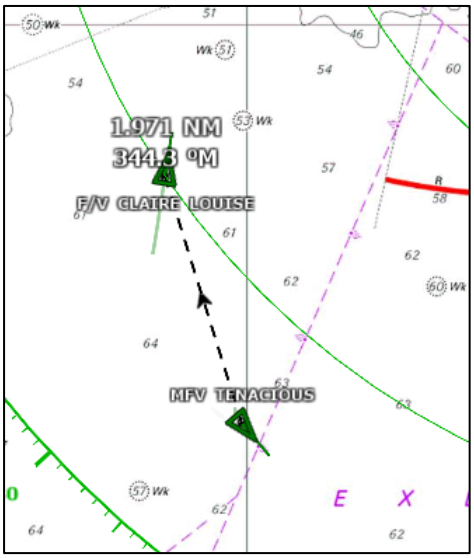



Figure 10-9 Radar: Bearing and range between two objects

### *10.4.10 Tidal information*

**Note that the tidal information given by the radar may be at variance with that given by our tide tables.** On the examples shown in the figures below the tide tables gave the next tide time as 1514, not 1500.

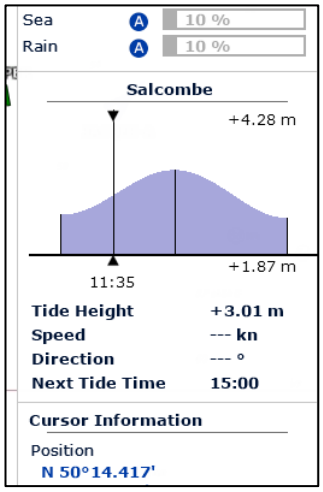



Figure 10-10 Tidal information on the side bar

Basic tidal information may be seen at a glance on the right-hand panel (Figure 10-10).

The tidal diamonds on the paper chart are reproduced on the screen and touching them will give information as to the direction and speed of the tide.

You can display tidal graphs by right clicking (a) on a tidal diamond and selecting 'Open current graph' or (b) anywhere and selecting 'Open tide graph' (Figure 10-11).


Figure 10-11 Tide graph

### *10.4.11 AIS*

AIS (Automatic Identification System) forms part of the Global Maritime Distress and Safety System (GMDSS). AIS is digital information transmitted on VHF giving a vessel's name, position and other prescribed information. All vessels over 300 gross tons on international voyages or over 500 gross tons non-international, and all passenger ships must have an AIS transponder fitted.

It is increasingly the case that smaller vessels are fitted with AIS transponders, even though not a requirement.

Class A transponders (on larger vessels) broadcast information about the ship (name, MMSI, length, beam, last port, destination and status (under way, anchored etc.). At PQ we can pick up key information on the radar, and rather more on Vesseltracker, using the Lookout computer.

Class B transponders (mainly on smaller vessels) broadcast basic information about the vessel (her name and MMSI and generic type, e.g. a Class B leisure vessel) plus her speed, course and position.

Our radar displays the name of vessels with both Class A and B transponders but Vesseltracker on the computer usually has far more easily accessible information including the MMSI number and sometimes a photograph.

This is a very useful aid in identifying small vessels. We can therefore very often respond to a request from the Coastguard on the lines of 'do you have Twister in sight about 3 miles south of Bolt Head?' much more positively.

NB A red or green cross in a circle on the radar screen indicates an activated AIS-SART. See para 5.8.3 *AIS-SARTs* on page 5:10 for the action to take.

### *10.4.12 Meteograms*

This facility is not available as it relies on an internet connection. The radar PC is not connected to safeguard it from cyberattacks. A firewall would prevent the PC receiving data from the radar.

## 10.5 Jargon Busting

Table 33 Radar jargon

| Acronym | Meaning | Acronym | Meaning |
|---|---|---|---|
| **BRG** | Bearing | **COG** | Course Over Ground |
| **CPA** | Closest Point of Approach | **DPT** | Depth |
| **RNG** | Range | **SOG** | Speed Over Ground |
| **TCPA** | Time of Closest Point of Approach | | |

## 10.6 Troubleshooting

### *10.6.1 Radar apparently not working - no echoes shown off headlands*

1) Check that gain, sea and rain are set to automatic.
2) Check that the radar is transmitting.
   If you see a blue 'TX' on a white background in the bottom right-hand corner of the screen, click on that to set the radar going.
   When the radar is going, it is shown by a white TX on a blue background as shown in Figure 10-12.

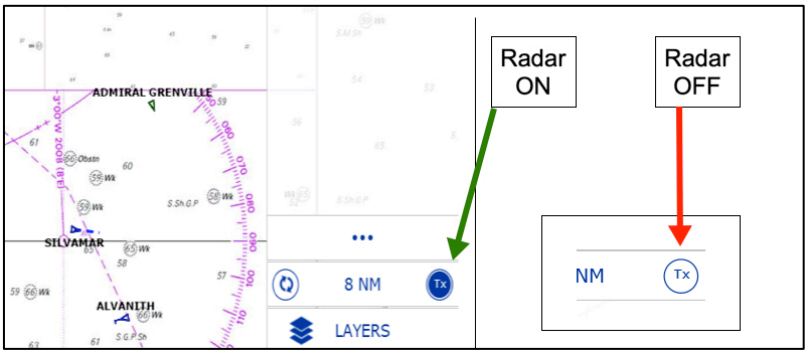



Figure 10-12 Radar: Transmit (Tx) button

### 10.6.2 Distorted screen

You can accidentally switch to 3D mode and the display will appear distorted.

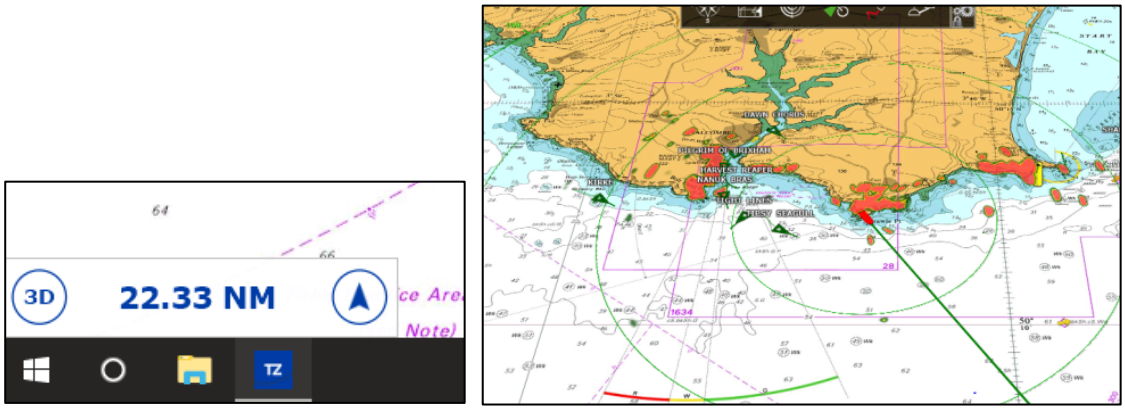



Figure 10-13 Radar in 3D mode

To correct this, click on the 3D button found at the bottom left of the screen.

### 10.6.3 Dotted line emanating from target

If there's an arrow on the line, right click on it and select 'Erase divider'.

If there's no arrow, right click on the line and select 'Unselect all' and 'Cancel all ARPA targets'.

NB 12 dots or arcs indicate an activated Radar SART. See para 5.8.2 *Radar SARTs* on page 5:10.

### 10.6.4 Unable to mark a position

If when trying to mark a position on the chart, a message appears that the limit for creating objects has been reached,

1) Click on ☰ in the top left-hand corner of the screen and then select 'Options'.
2) From the options menu, select 'Marks and Boundaries'
3) Click 'Delete All Routes, Marks & Objects'
4) Click 'Close'

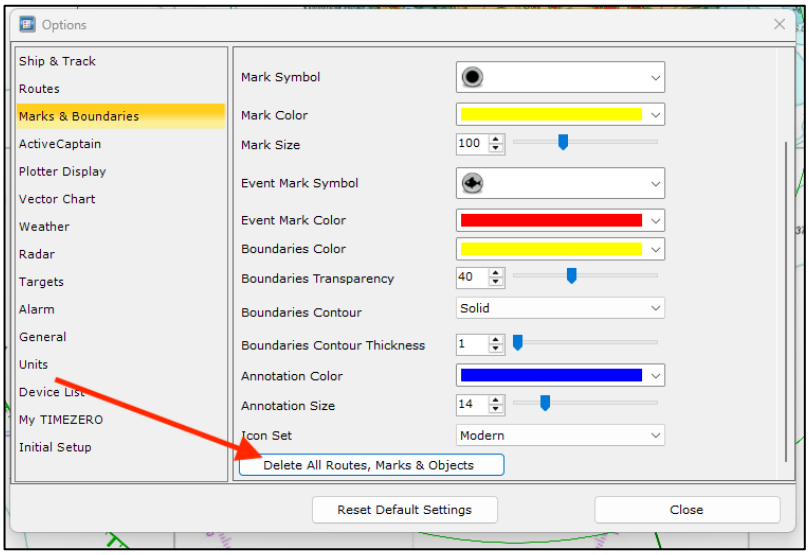



Figure 10-14 Delete All Routes, Marks & Objects

### *10.6.5 Power cut – Restarting the radar*

These are the step by step actions to take if the radar needs to be restarted.

1) To restart the radar the GPS unit may need to be switched on first. Open the cupboard on the wall above the printer (see Figure 10-15). You may need to use the step stool.

   If the unit's display is as that shown in the third picture in Figure 10-15, close the cupboard and continue as instructed in step 3.

   If the screen is blank, switch it on by pressing the power button arrowed.


Figure 10-15 Radar GPS unit

2) Once the GPS unit is switched on, you will see a display as shown in the third picture of Figure 10-15 . Close the cupboard and continue with these instructions.

3) Switch the radar PC on by pressing the button at the back of the screen on the right-hand side (both computers are switched on this way). The screen may take 30 seconds to come to life after the button is pressed. Then double click on the TZ button after Windows starts. It should be in the centre of the screen.
4) When a box appears as shown in Figure 10-16 click on the 'Navigation' button.

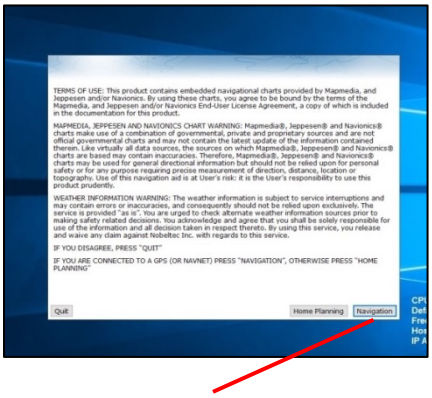



Figure 10-16 Radar PC Navigation button

5) The radar chart screen will be displayed after a few moments but with no red radar echo. **The transmitter must now be turned on by clicking on the round Tx button in the bottom right-hand corner**. This is shown arrowed in Figure 10-17.

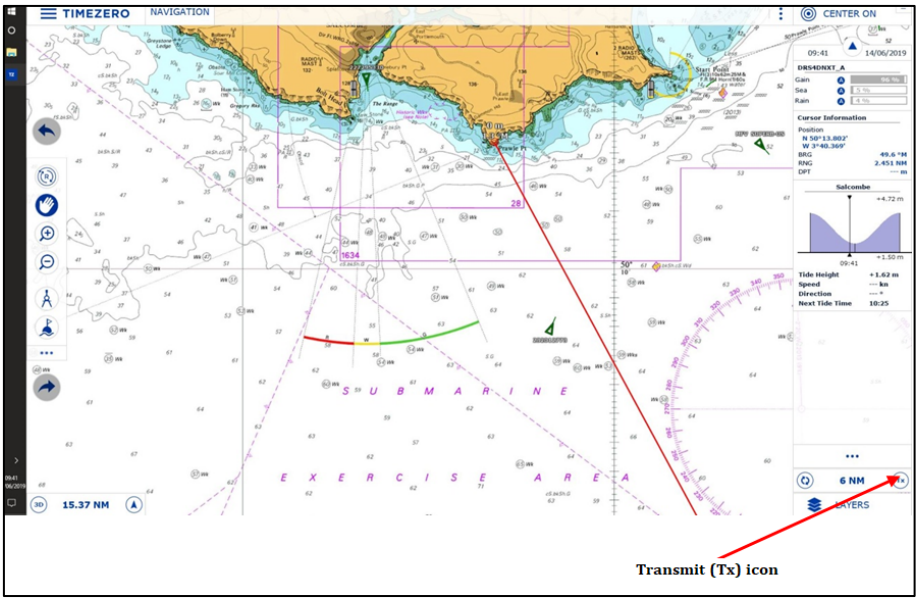



Figure 10-17 Radar PC Location of Tx button

The button will change to a solid blue (Figure 10-12 on page 10:10) to indicate it is transmitting and the red echoes will begin to appear. The radar is now working.

If you do not see the chart at all, check that the 'Navigation' tab at the top of the screen selected. The 'Radar' tab is not intended to show the chart.

# 11 The Lookout and Visitor Centre

## 11.1 Introduction

This chapter contains practical instructions as regards the Lookout and Visitor Centre and the equipment in them.

See Chapters 9 *Radio* and 10 *Radar* for instructions as regards those items of equipment.

## 11.2 Telescopes

The Lookout has three telescopes although only two (Swarovski) are used at any one time. The other (Leica) is used as a spare. Each has a zoom facility and an extendable sunshade.

### *11.2.1 Precautions when using any telescope*

Jolts and knocks will damage the internal inert gas seals or the optics***. Handle the telescopes with care, especially when removing them or placing them back in the box.***

Ensure that the telescope is mounted securely on the stand before removing the lens covers.

Remember to attach the lens and eyepiece caps before putting the telescopes away.

### *11.2.2 The Swarovski telescopes*


Figure 11-1 A Swarovski telescope and its parts

**Do not force the eye cup in and out; a gentle twist is all that is required.**

For those who wear glasses it may be worth trying using the telescopes without them, as the telescope optics are far more efficient in correcting differences in individuals' eyesight than glasses. Also, without glasses, you gain a larger field of view which makes it easier to acquire a target. Just focus the telescope as normal to try.

Most of the time the telescopes can be left on minimum zoom as this will be more than adequate. However, they will zoom to 70+ but be aware that the field of view is much reduced and the focus is very fine at this magnification.

If you have difficulty in locating objects with these telescopes, try the following technique:

1) Turn the zoom ring fully anticlockwise to minimize the magnification and the eye cup fully clockwise. This will give the widest field of view.

2) Find a prominent landmark, e.g. Langerstone Point and ensure that the sighting stalk (if fitted) is vertical and line it up with the target. Otherwise, line up the two raised lines on the sunshield with it
3) Now to acquire a vessel, merely line up the sighting stalk or the two raised lines on the sunshield with it and you should find it easier to locate with the telescope.

An alternative technique is to set the sighting stalk (if fitted) vertical, look along the top of the telescope towards the vessel you are interested in and adjust the telescope so that the stalk (if fitted) or the raised lined are just below the vessel. You should then find that the vessel of interest is in view through the telescope or very nearly so.

You may also find, particularly with a vessel leaving a large wake, that it is easier to find the wake and then track along it to the vessel itself.

## 11.3 Binoculars

There are three pairs of binoculars available all with a magnetic compass built in. Optical cleaning material may be found in a drawer in the secure cupboard. The eyepieces have adjustments so that differences in eyesight can be compensated for.

**Binoculars should always be laid flat**, preferably on one of the cushions, with the compass housing uppermost. They should *never* be stood on end since this is a proven way to damage them – they fall over! Do not fold back the eye cups as they get damaged.

## 11.4 Foghorn

This may be used to signal persons on land, or to warn craft running into danger, but not when it is foggy! The foghorn plus a spare gas canister is kept on the top shelf in the secure cupboard.

## 11.5 Aldis signalling lamp

This may be used to warn a vessel that it is running into danger or, by direction of the Coastguard, to signal to a casualty that help is on its way. It is kept on the floor of the secure cupboard where it should remain connected to its supply socket.

To operate, aim the lamp at the casualty using the sight; the beam is highly focused and it must be accurately targeted. Then squeeze the long lever and then the small lever to flash a message.

It is worth repeating the exercise a few times, aiming the lamp close to the casualty in case you missed the target the first time.

The lamp should **never** be flashed at anyone in the Lookout or near vicinity as eye damage could result. See also paragraph 5.6.1 *Light signals* on page 5:7.

## 11.6 Telephones

Our telephone number is **01548 511259**.

The cordless phone on the console connects via the internet.

- To make a call, **dial** the number including the area code even for local numbers **and then** press the green button.
- To end a call, **press the red button**.

A guide to the phone is kept on the end of the console. This phone requires a power supply to function.

See also paragraph 6.3.13 *Telephone calls* on page 6:4.

### *11.6.1 Telephone/ Broadband failure*

**Try troubleshooting first.** Unless the failure is due to a power outage, disconnect the power cables from the Draytek and TP-link routers, wait 20 seconds and then plug them back in. Now wait for 5 minutes and see if the connection is resumed.

There is a mobile phone at the Lookout kept charged for use in the event of a power or broadband failure. Its number is shown on a label stuck to its cradle; use it within clear sight of the East facing window. Subject to observing the following protocol, internet/telephone failure should not stop the watch from being maintained:

1) **Notify the Coastguard** using the mobile phone; inform them of the mobile number. Only if that does not work for some reason *and* there is a watchkeeper qualified to transmit, call the Coastguard on Channel **16**. It does not routinely monitor Channel 0.
2) **File a deficiency report** using the 'Smart Scan' function on the printer (see page 11:8) if there is power and internet but no phone. **Otherwise, telephone** the Station Manager using the mobile, failing whom a Deputy Station Manager, to inform them of the failure.
3) **Make entries in the log**.

### *11.6.2 Telephone resumption*

**1) Telephone the Coastguard**
2) If a deficiency notice was sent off, mark the original report as resolved with the time and date and use the Smart Scan function to send it off again.
3) If a station officer was telephoned, then call the same station officer to update them.
**4) Make an entry in the log.**

## 11.7 People Safe Alarm

This is to be always worn when on solo watch.


Figure 11-2 People Safe alarm

If you set off the alarm in error, press the power button on the side 3 times in quick succession. If nevertheless you are connected to the operator, say "Test call" when they answer. You will then be asked a few questions to ensure there is no emergency.

To test the device, press the "Call 2" button for 3 seconds. An amber LED will flash and you will be asked to record an activation message. Speak clearly into the device and say your name followed by "Prawle Point NCI, watchkeeper". You should then hear your recording played back. If it isn't, file a deficiency notice.

A member of the Station Committee will be called in the event of a genuine alarm and so it is important that your next of kin is recorded on Dutyman so they may be informed.

## 11.8 Smoke alarms

There is a smoke alarm in the kitchen of the Lookout. There is another in the Visitor Centre. These two alarms are wirelessly linked, so if the Visitor Centre alarm is activated the Lookout alarm will be sound as well (but not vice versa).

On hearing the alarm sound the cause of the alarm should be investigated and, if safe to do so, any fire tackled with the appropriate fire extinguisher. Otherwise, both the Lookout and the Visitor Centre should be evacuated immediately and the fire brigade summoned. Do not risk your own or others' safety trying to put out a fire.

The alarms should be tested monthly according to the rota on the whiteboard. As the wireless link needs to be tested, two watchkeepers must be present in order to do this. If you are on your own, you should write a note on the whiteboard that the test has not been carried out.

Testing the alarms is simple. It is just a matter of pressing the test button on each of the two smoke alarms in turn until the alarm sounds and verifying with your colleague that the Visitor Centre alarm also sounds in the Lookout.

Use a step ladder or kick stool if necessary, in order that you may reach the alarm or ask your fellow watchkeeper if they are taller. There is guidance regarding working at heights and with ladders in the Health and Safety manual.

If an alarm does not work, complete a deficiencies notice and follow the deficiencies procedure (see paragraph 11.23 *Defects* on page 11:20).

When the test has been completed, the date of that test and when the next is due should be entered on the whiteboard.

## 11.9 Weather station

This is mounted in the console and the settings should not be altered. It should be used for logging wind direction, wind speed, barometric pressure, temperature and wind chill. There is a chart on the console to convert knots to Beaufort wind force.

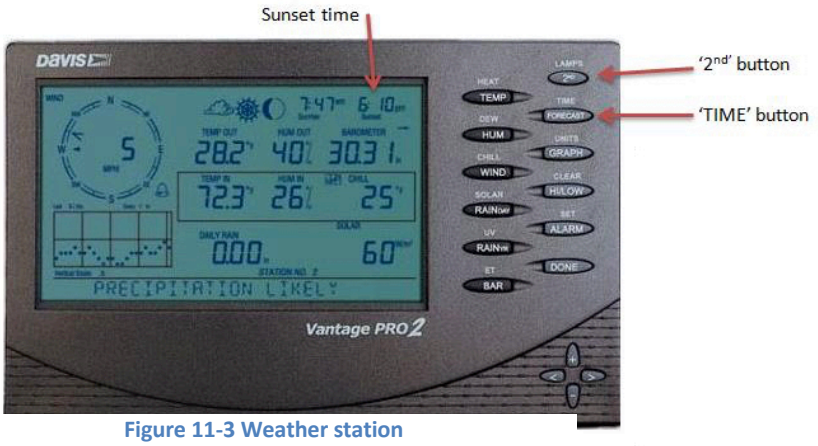



Figure 11-3 Weather station

It is linked to the station's website and provides it with real time weather information.

Leave it switched on at all times.

### *11.9.1 Troubleshooting*

Each button has two functions. One is marked on the button itself and the other above the button. These buttons should be left alone unless you are following these troubleshooting instructions.

After a power interruption, the console will start in set up mode. To exit set up mode, press and hold the 'Done' button until the normal display appears.

If the sunset time is not displayed and instead you see just the time and date,

1) press the '2nd' button (also marked 'Lamps' above) once; and then
2) press the 'TIME' button (marked 'Forecast') once and the sunrise and sunset times will reappear.

## 11.10 Cassette recorder

A mains powered cassette recorder is kept by the console and is used to record urgency and distress messages, radio traffic in the event of an incident and weather forecast broadcasts. Check that it has power and is rewound at the beginning of each watch.

## 11.11 Pelorus

See paragraph 7.4.2 *Taking a visual bearing* on page 7:5.

## 11.12 Computers

The power button on each computer is at the back of the screen on the right-hand side. Lightly press it for 2 seconds to start it. Then wait for about 20 seconds. The computers run on Windows 11.

Log in to the left-hand computer as 'Watchkeeper'. The password is *spotplotreport*.

The right-hand computer is for the radar. You should be logged in automatically. In the unlikely event that you are not, the password is *radar.*

To shut down either computer, click on blue Windows icon at the foot of the screen, then on the power button icon and select 'shut down'.

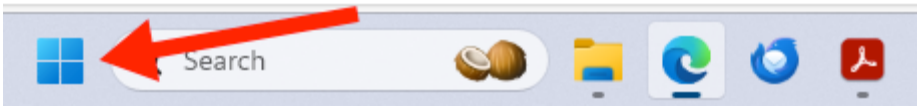



Figure 11-4 Windows 11 toolbar

Documents such as the activity and incident record and deficiency notice may be found in a folder on the left-hand computer's desktop and may be printed from there if the supply has run out.

Only certain websites may be accessed as the PC must only be used for strictly NCI purposes. They are bookmarked, e.g.

- NCI
- NCI Prawle Point
- Met Office

### *11.12.1 Email*

We have an email address for use by the Coastguard and the Police (see 2.6.2 *Email* on page 2:11). It is **not** necessary to routinely monitor this account. You should receive a telephone call to advise that an email has been sent.

To view the email, click on the Mail app icon (Figure 11-5 *Mail app icon*) on the bottom right of the desktop. **N.B. You will have to wait for up to 15 minutes for it to appear.**

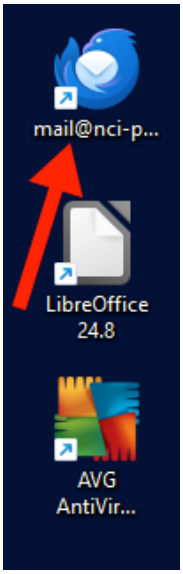



Figure 11-5 Mail app icon

#### *11.12.2 Wood Mackenzie Vesseltracker™*

Vesseltracker is a useful aid in identifying some vessels that cannot be visually identified. It displays AIS information on a map.

The name of each vessel is shown. Clicking on a name will bring up a box with basic information. Click on the vessel's name in that box for more detailed information including its MMSI number (its unique DSC radio "telephone number").

The Vesseltracker login is *ncipq* and the password s*potplotreport*.

For more information see paragraph 10.4.11 *AIS* on page 10:9.

PQ hosts an AIS receiver which sends information on local shipping to Vesseltracker. Occasionally this receiver goes offline and needs to be rebooted. If you see a message at the foot of the browser window that the antenna is offline, please the unplug the power cable from the Vesseltracker receiver in the computer cupboard (it is labelled as such), count to 10 and plug it back in again.

#### *11.12.3 Dutyman*

This is our online rostering system which you can also access at home. See paragraph 1.12 *Rostering - Dutyman* on page 1:7.

#### *11.12.4 Monthly quizzes*

Multiple choice monthly quizzes are set over the 'quiet season'. There's a link to them on the bookmarks bar on Google Chrome. Just follow the on-screen instructions.

#### *11.12.5 Interruption to power supply*

See paragraph 11.22.1 *Power failure* on page 11:19

### 11.13 Printer

The printer has a 'Smart Scan' function which will not only scan a page but also email it to certain members of the Station Committee.

The same function is used for Activity & Incident Records, Deficiency Reports, AED Reports, etc.

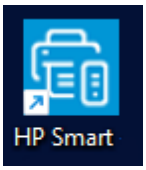
**Summary**

1) Double click on '*HP Smart*' on PC desktop

2) Click *'Shortcuts'*
3) Click '*Combined Report Scan'*
4) Place document on scanner glass and click '*Scan*'
5) Rotate and/or add another page if necessary
6) Click '*Start Combined Report Scan'*
7) Click '*Home*' and then exit the app by clicking on the 'x' top-right

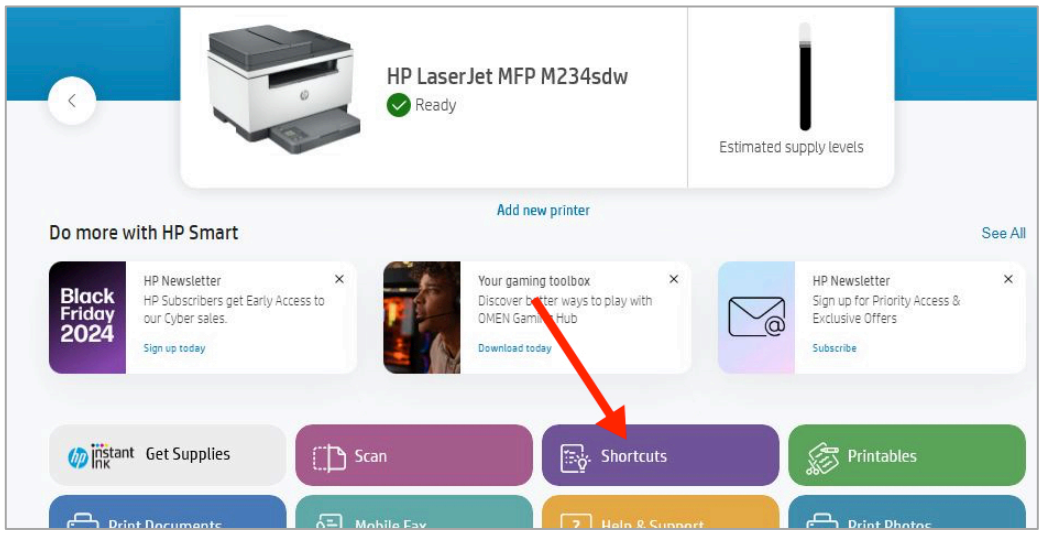
**Step 1**

Double click printer icon as indicated on home screen. If you are asked to login, go to paragraph 11.13.1.B *HP Smart demands a login and password*. on page 11:12.


**Step 2**

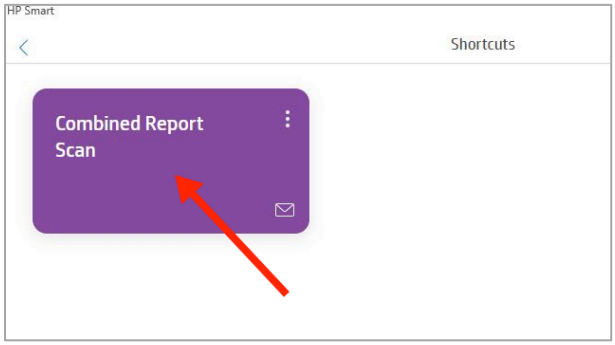
Click "Shortcuts" as indicated.



**Step 3**

Place report on glass in the usual way (the top of a portrait page aligned with the left-hand edge of the glass) and click “Combined report scan” as indicated.

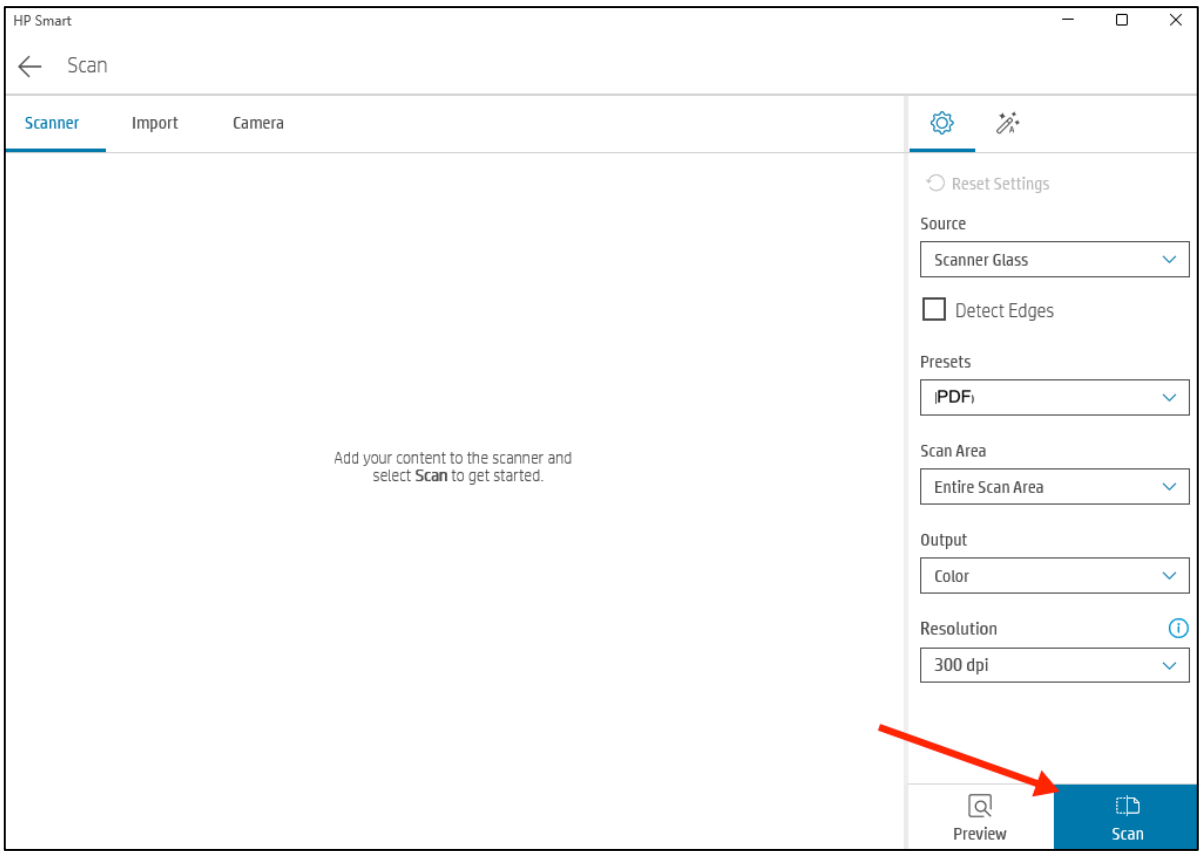
If you see a message “Scanner not found”, go to Paragraph 11.13.1.A *‘Scanner not found’.* on page 11:12.




**Step 4**

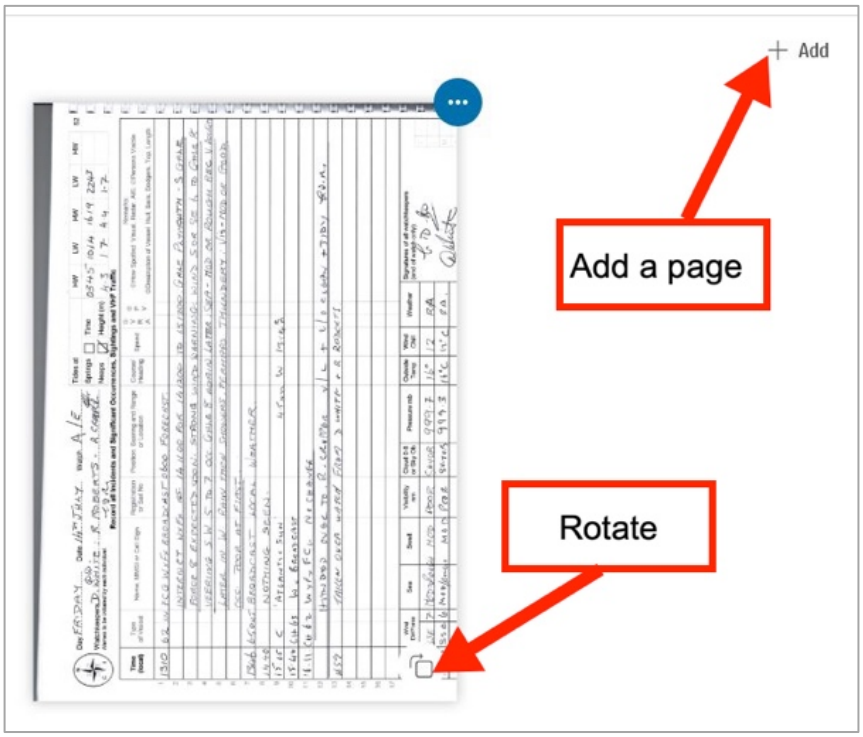
Click “Scan” as indicated.

DO NOT alter the settings in the right-hand panel

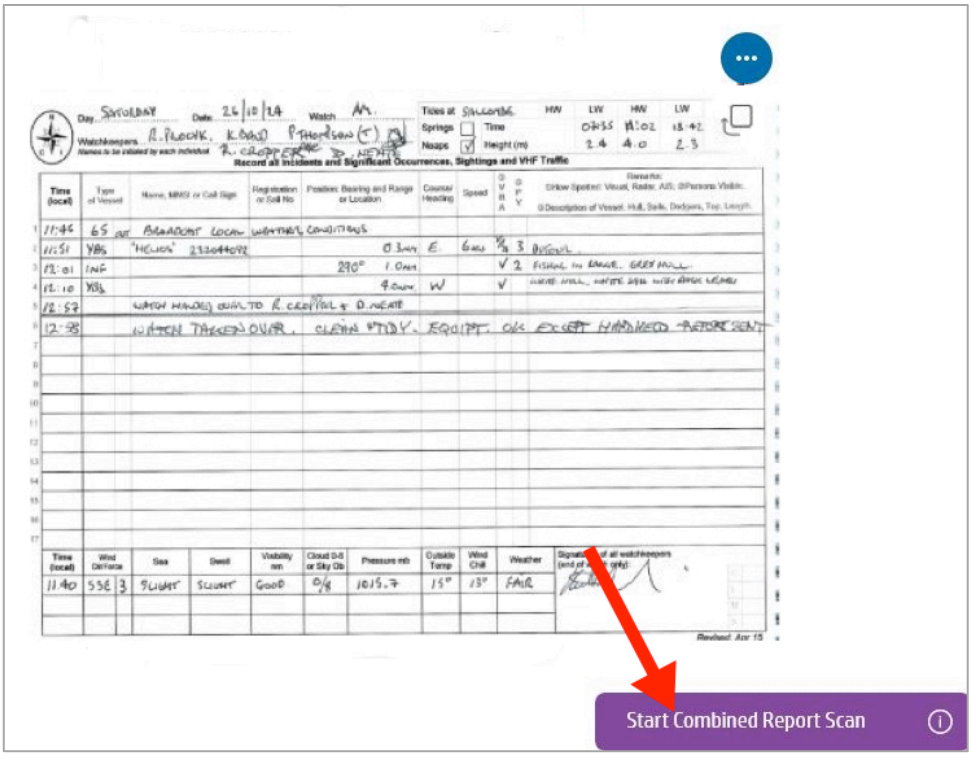


**Step 5**

The report then appears. If it is not showing the right way up, you can rotate it 9O° at a time by clicking on the little icon on the bottom right-hand corner of the image. If there are further pages to scan, (e.g. the logbook as well as the activity and incident report), click on '+ Add' on the top right of the screen, place the document to be scanned on the glass and go back to Step 4.

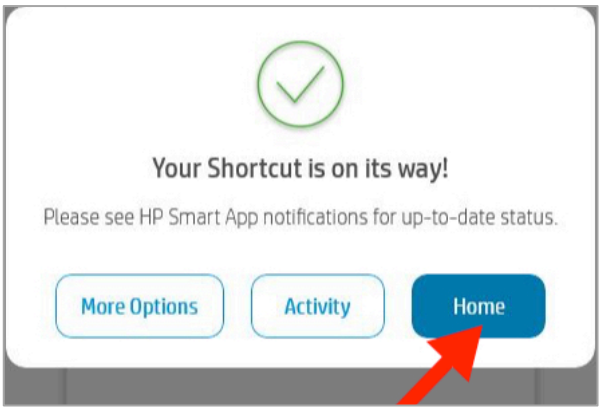



Otherwise, click on "Start Combined Report Scan" as indicated.



**Step 6**

Click “Home” and exit. **N.B. DO NOT LOG OUT.**




Click ‘x’ (top-right) to close the app.

#### *11.13.1 Troubleshooting*

**11.13.1.A ‘Scanner not found’.**

Open HP Smart as per step 1. Click on the picture of the printer and click on ‘Hide printer’. Click ‘OK’ to confirm. Now select the add printer icon in the top right corner. Select our printer. Return to the HP Smart’s home screen and the scanner should work.

**11.13.1.B HP Smart demands a login and password.**

These details may be found in the Equipment folder.

**11.13.1.C Printer not working and doesn’t seem to connect to the computer/internet.**

Reboot the TP-Link router by unplugging the power cable, waiting 30 seconds and plugging it back in again. Wait for up to 5 minutes. If the printer still does not work, try the actions prescribed above for “Scanner not found”.

## 11.14 Webcams

Our website displays two webcams, one facing east and the other west. They should require no routine attention.

#### *11.14.1 Troubleshooting*

Occasionally, you may find that a webcam is not displaying an image on the website. The first and hopefully only remedial step is to reboot the webcams

To do this, open the computer cabinet – the door just lifts out. Then unplug the two *black* data cables from the front of the silver coloured box (see Figure 11-6) **and wait a full minute**. Then plug them in again and wait a couple of minutes before checking the website again. If this does not work, send a deficiency notice.


Figure 11-6 Computer cupboard

## 11.15 AED (Automated External Defibrillator)

This is located in the First Aid cupboard (under the printer) and is for use on a person who is unresponsive and not breathing normally (i.e. not breathing at all or only in intermittent gasps). It detects whether the person has suffered a cardiac arrest and, if so, will deliver an electric shock to 'reboot' the heart.

Attached to the case is a plastic bag containing scissors, a razor and a Vent Aid face shield for use when giving rescue breaths.

The AED will not deliver a shock unless it is needed and so may be used by someone with no experience without danger. Furthermore, someone who is not breathing is to all intents dead and so no harm could be caused to the person anyway.


Figure 11-7 AED

If the casualty is unresponsive and not breathing normally, open the case, press the power button and follow the oral instructions that the machine gives you.

Once switched on, the AED instructs the user exactly what to do. It even tells you how to perform CPR (Cardiac Pulmonary Resuscitation). However, there is no substitute for being trained in CPR and having practised the technique and so the station organizes courses from time to time. The 'Lifesaver' and Lifesaver VR' apps are also worth a look.

Nevertheless, lack of training should not stop you from using the AED if presented with someone who has lost consciousness and is not breathing normally.

There is a video on the desktop computer which explains the actions to take and demonstrates the use of this model of AED.

Note that the casualty's clothing (including a bra, if applicable) will need to be removed in order to affix the pads.

***Prompt* use of an AED dramatically improves the chances of surviving a cardiac arrest.**

**Do not open the AED case to 'have a look'. The AED should only be switched on in order to deal with a casualty and NEVER otherwise. The video mentioned above shows you what's inside.**

The AED must be checked every eight days as follows:

1) It is not necessary to open the case.
2) Check that you can see a green blinking light through the circular window in the top right of the case. That signifies that the device is operational.
3) If there is no blinking green light or if the AED chirps, there is a fault of some kind.
4) Enter in the log 'AED checked and OK' or 'AED checked but faulty' as the case may be. If the unit is chirping indicate whether in single chirps or in burst of two or three.
5) In all cases, i.e. whether the AED is faulty or not, send a copy of the logbook page to the Health and Safety Officer using the 'Smart Scan' function on the printer (see page 11:8).
6) Mark up the whiteboard with the dates of the test and the next due date.

If you need to use the AED, this is what you can expect to have to do:

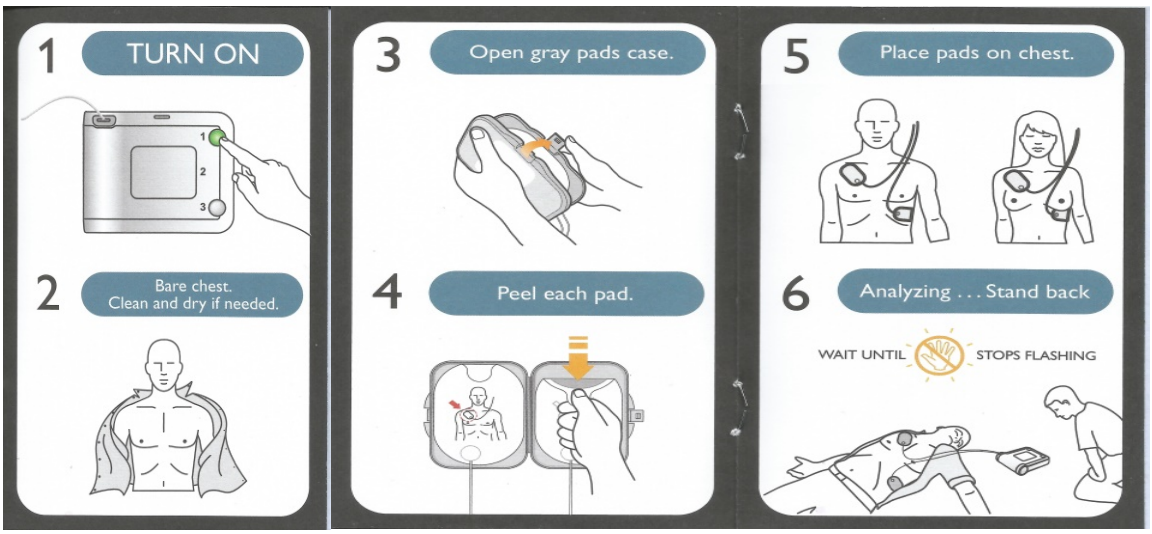



Figure 11-8 Using the AED, Steps 1-6

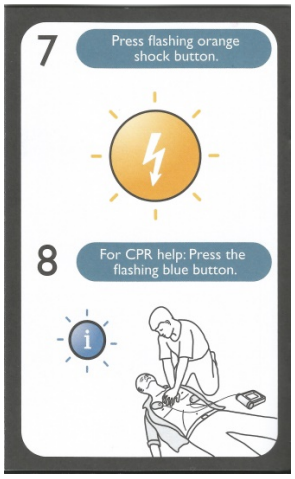



Figure 11-9 Using the AED, Step 7

## 11.16 Reference material

The secure cupboard has a controlled selection of useful books and publications. The operational ones that are used more regularly are kept on the left-hand shelf and reference material is kept on the right-hand shelf. Additional reading material is kept in the Reference Library which is in one of the kitchen cupboards.

Every book has a sticker indicating where it should be stored and it is important that books are put back in the right place when finished with.

The left-hand side of the secure cupboard has the following binders containing NCI material:

- Station Operating binder.
- Watchkeeper's Handbook x 2.
- Health and Safety binder.
- Watch Summary binder.
- Activity and Incident binder containing blank and completed Record forms and specialised checklists / forms.
- Fishing vessels binder.
- Vessel identification binder.
- Local Knowledge binder.

The right-hand side of the secure cupboard has less frequently used material including:

- National Training Manual.
- NCI Stations Manual.
- Equipment binder.

On the left-hand door of the secure cupboard is a holder containing information on cetacean identification, international flags, distress signals, navigation lights, troubleshooting guides and guidance regarding pollution.

All watchkeepers are expected to know what information is available in the secure cupboard and where to find it.

There is further material in the drawer under the chart table:

- Guides to the operation of the radar, Visitor Centre information kiosk, computer and associated software.
- Cloud Base Indicator.
- Pilot Disk.
- Chart folder.
- Inshore Potting Agreement chart and 1613 overlay.

Instructions for the operation of the radios, weather station and telephone are kept on the ends of the console together with the aide–memoire on vessel codes, weather logging, sea state/swell definitions and radio check prowords.

A supply of activity and incident records, incident worksheets and deficiency notices is kept in one of the kitchen cupboards.

## 11.17 Keeping PQ clean and tidy

The Lookout and Visitor Centre do not clean themselves. PQ has a set of Minimum Housekeeping Standards with which the Lookout should comply at the start and end of every watch

**It is the duty of each watchkeeper to ensure that the Lookout and Visitor Centre satisfy the Minimum Housekeeping Standards set out on the Opening and Closing the Lookout checklists at the end of his or her watch. These checklists are kept on the right-hand door of the secure cupboard.**

Watchkeepers are asked to volunteer to carry out a “deep clean” every month.

There are cleaning materials under the sink, brooms, etc., in the broom cupboard by the east door and disposable gloves in the roller shutter cupboard to the left of the computer. Please use paper towels rather than j-cloths wherever possible. Used j-cloths should be thrown away after use as otherwise they may cause a health hazard. Use water from the tank by the East door for cleaning.

If you use one of the washable towels/rags under the sink to mop up window leaks, please take it home, launder it and return it to the station.

You should take all rubbish home with you.

## 11.18 Doors and security

The locks on the West and East doors of the Lookout and on the Visitor Centre door each have their own key. It is important that all these doors are unlocked when the Lookout is manned.

The West door and Visitor Centre keys should be kept in the key cabinet in the secure cupboard when not being used to lock or unlock a door. The East door key should also be kept there when the Lookout is open. Overnight, it is kept in the key safe on the East door. If any of these keys are missing when opening the Lookout in the morning tell the Facilities Manager or, in his absence, the Station Manager as soon as possible.

**For insurance purposes the key safe must be kept closed and locked at all times other than when extracting the key. The Lookout must be left securely locked with all windows shut.**

Our insurers also insist that the code to open the key safe is changed regularly. Watchkeepers are emailed when this is about to happen and must refer to the Notices Book to learn the new code.

If, and only if, there is no key in the East door safe or it cannot be opened, there is a spare key in another safe on the stump in front of the Visitor Centre. Keys to the West door are also kept there. This has a combination lock with a different code which also may be found in the Notices Book.

When closing either safe, please remember to set the dials to a random number and close the cover.

In the morning, take the key fob from the key safe and use it to open the East door. Then put the key in the key safe in the secure cupboard. Unlock the Visitor Centre door and the West door using the keys kept in in the secure cupboard key safe.

On closing the Lookout, relock the East and West doors of the Lookout and the Visitor Centre door and replace the keys in the relevant key safes.

If leaving the East door open during a watch, please secure it with the hook and eye to prevent slamming and possible resultant damage. The inner door should be left shut overnight.

The West door is a fire door and emergency exit and must be kept unlocked whilst the Lookout is manned. This is particularly important as the Lookout is open to the public. It has a push bar on it for quick opening from the inside in case of emergency.

If access cannot be obtained from the outside through the East door, access through the West door may be obtained using the Yale key and, if necessary, the mortise key from the 'stump' key safe. The Yale key in the key safe will operate the push bar from the outside once the door has been unlocked using the mortise key (this may have already been done from the inside).

The old 'Yale type' lock on the Visitor Centre door should be left on the latch.

**If it is raining and there's a strong wind from the west consider locking the Visitor Centre door if it swings open and lets water into the Centre.**

**If the wind is from the east or south east and it rains then CLOSE the east door and secure it with the small bolt on its inside. Omitting this will cause the porch to flood.**

## 11.19 Prawle Point Visitor Centre

**During strong westerly wind and rain, please ensure that the Visitor Centre door is closed so as to prevent flooding.**

Part of the opening and closing routine is to switch the radar screen on/off and to raise/lower the blind.

The information kiosk requires no attention other than to ensure that it is on when opening the Centre in the morning. **Most faults in the kiosk are resolved by the software after 10 minutes.**

Any problem with the equipment in the Visitor Centre that persists should be reported to the Visitor Centre Manager or the Facilities Manager.

**Please ensure that the floor is swept clean when closing the Centre.**

## 11.20 Toilet

The toilet is <u>not</u> for use by members of the public as it cannot cope with any increase of waste products. The easiest reply to a toilet request is to explain that we don't have running water so it is not for public use.

The key to the toilet is attached to a large green triangular fob kept on the inside of the inner eastern door. Do not put it in your pocket and take it home with you!

Apart from the obvious, do not put anything in the toilet bowl other than toilet paper; otherwise, a blockage may be caused.

Alcoholic handwash solution is available in the toilet and there is also some in the kitchen. Toilet paper is kept in the plastic box in the toilet to keep it dry.

To flush the toilet, move the red lever on the left of the toilet to a horizontal position and then press the button over the toilet to flush. If there are solids/paper to flush, hold down the button a few seconds until you hear a change in note. The water used is from the rainwater tank on the north side of the Lookout and is precious; so do not flush for any longer than is necessary.

**After flushing return the red lever to the vertical position.** Failure to do so will result in the tank being drained. Also ensure that the door is locked and the key returned to the inner eastern door.

If the 'north' water tank is low, take the hose from the generator room, attach it to the tap on the tank by the east door and run it round to the north tank to top it up.

## 11.21 Water

The Lookout does not have a mains water supply.

Drinking water is kept in two plastic canisters which are refilled from the outside tap on the Coastguard Cottages. If a canister is empty, take it with you at the end of your watch, fill it up to the marked line and leave it by the car park entrance; the next watchkeeper on duty should then bring it up to the Lookout.

The rainwater tanks are for flushing the toilet and cleaning; this is **NOT** drinking water. The kitchen sink drains into the rainwater tank used to flush the toilet. No milk, cream or food waste should therefore be flushed down the sink, otherwise unwanted smells will result. If you need to get rid of unwanted milk etc., you should pour it down the outside drain by the toilet.

## 11.22 Power supply

The consumer unit and mains switch are in the broom cupboard. See *Figure 11-10 Broom cupboard* on page 11:19. There is a red indicator light that shows that the mains power is on. In the event of a power cut this red light will no longer be lit and there will be no display on the electricity meter, even if you press the 'Select' button.

If there is a problem with the electricity supply but there *is* a display on the meter, check that none of the circuit breakers on the electricity consumer units have tripped and are in the down position.

**N.B. The electricity meter is very awkward to access. Always use the step ladder if you need to read the meter and be sure that it is steadily placed on the ground before ascending. Take great care.**

The Lookout also has a 12v circuit powered off the mains to operate the radios, windscreen wipers, toilet flush and radar (the radar screen is mains, as is the weather station, although the latter has its own battery backup).

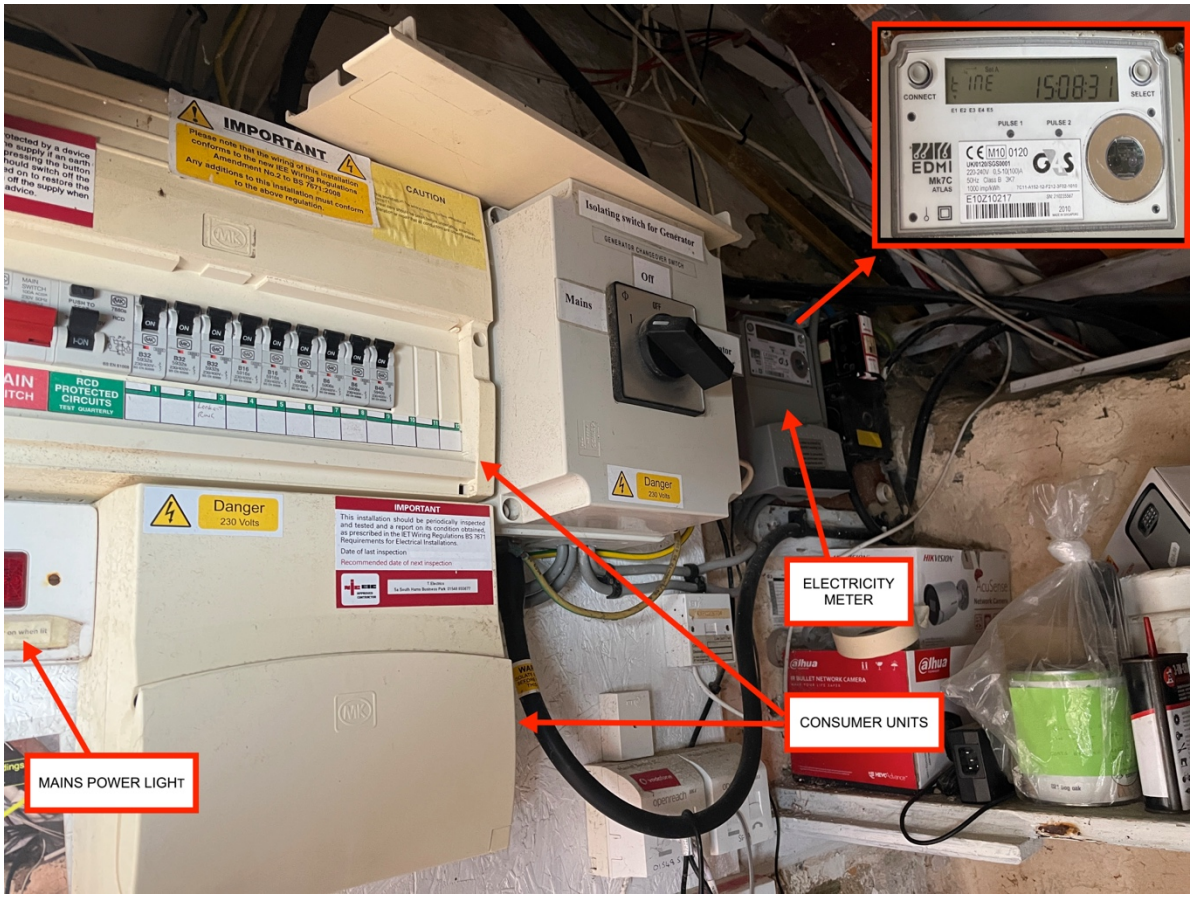



Figure 11-10 Broom cupboard

### *11.22.1 Power failure*

In the event of a power failure, the battery backup system inside the east lobby will automatically cut in and power essential equipment.

An interruption in the power supply may cause broadband and/or telephone issues. This could happen even when the battery back-up cuts in or out. See paragraph 11.6.1 *Telephone/ Broadband failure on* page 11:5.

Report power failures to National Grid. The telephone number is in the Station Operating Manual.

**You must also inform Falmouth Coastguard and advise them of our reserve mobile number** (displayed on the console) in case the battery backup runs out.

On resumption of mains power:

- **Inform Falmouth Coastguard of the resumption of power**
- If there is no telephone or no broadband, reboot the router affected by unplugging its power cable, waiting 10 seconds and reconnecting it
- Reset the time clock under the flap of the lower consumer unit in the broom cupboard so that the heating goes on and off at the correct times. See Figure 11-11 *Time clock* on page 11:20.
- If necessary, exit set up mode on the weather station console. See paragraph 11.9 *Weather station* on page 11:6 of the Watchkeeper's Manual

- Check the Visitor Centre information kiosk and if necessary, using the key kept in the secure cupboard key safe, open the kiosk cupboard door and press the computer's power button to start it up.

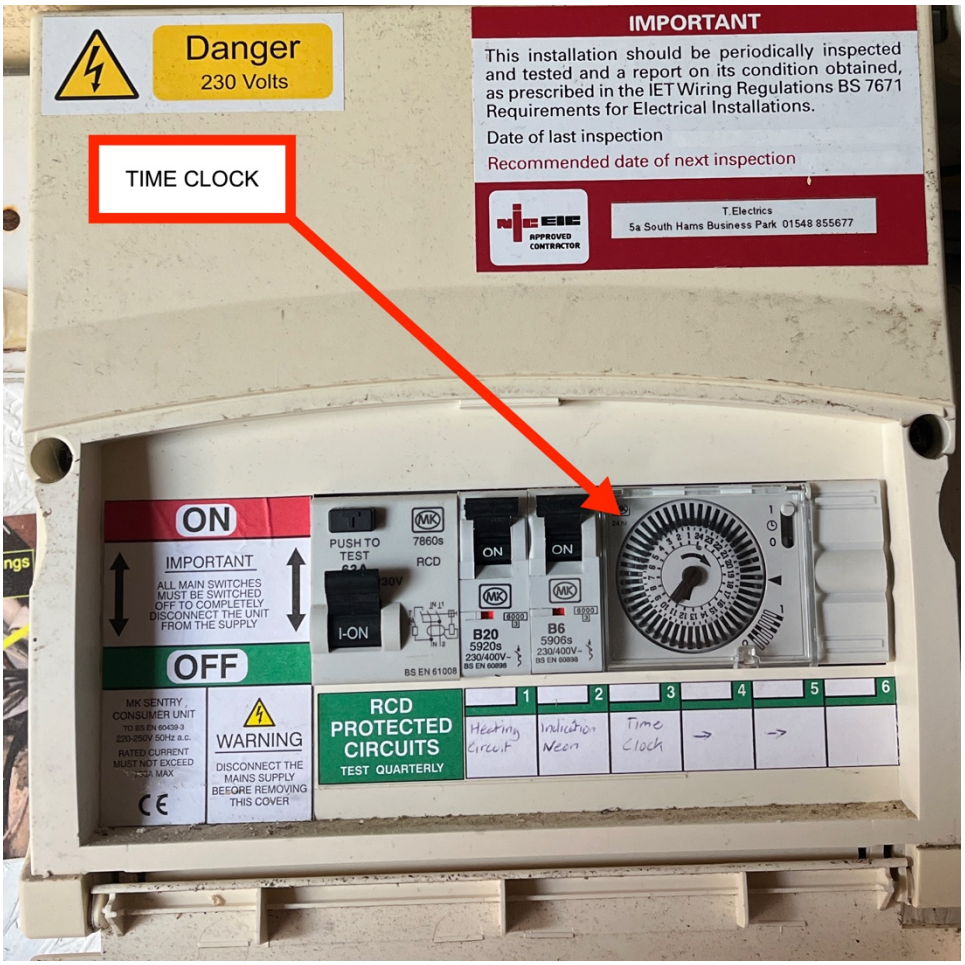



Figure 11-11 Time clock

An Uninterruptable Power Supply has been installed to protect the computer in the Visitor Centre. This is a box marked 'TRUST' inside the blue cabinet; it should not be switched off. If the mains supply fails, the box will bleep to indicate that they are running on battery power. The bleeping will stop when the power supply is restored.

## 11.23 Defects

Inspect the Deficiencies Notices which are kept in a binder in the secure cupboard before commencing any watch. If you discover a defect in an item of equipment or the fabric of the Lookout or Visitor Centre which has not already been reported, you should:

- complete a Deficiencies Notice;
- send it off using the 'Smart Scan' function on the printer (see page 11:8) and then
- file it in the binder.

**If it is within your capability to put right the defect yourself, then please do so and enter details of the action taken on the Deficiencies Notice.** If the defect creates an urgent or serious problem, then and only then, inform the Facilities Manager failing which the Station Manager or a Deputy Station Manager by telephone.

# 12 NCI Documents

## 12.1 Operational relationship between NCI and the MCA

**MEMORANDUM OF UNDERSTANDING CONCERNING THE OPERATIONAL RELATIONSHIP BETWEEN THE NATIONAL COASTWATCH INSTITUTION AND THE MARITIME AND COASTGUARD AGENCY**

**Revised February 2019**

### I*NTRODUCTION*

**1.** This Memorandum of Understanding (MOU) sets out the operating procedures between the National Coastwatch Institution (NCI) and the Maritime and Coastguard Agency (MCA) in particular, HM Coastguard (HMCG).

**2.** The following provides a list of key objectives and defines the operating procedures for all NCI stations when involved with the HMCG national network, Coastal Operations Area Commanders and Coastguard Rescue Teams.

### *KEY OBJECTIVES*

**3.** The key objectives of the MOU are to:

(i) To maintain a high level of operational co-operation between the NCI and HMCG.
(ii) To provide for a timely exchange of accurate information between the NCI and HMCG prior to and during Search and Rescue (SAR) operations where appropriate. This may include the monitoring of appropriate VHF Marine Band frequencies; the use of VHF Channel 0 and other suitable and authorised conference call facility (Teleconnect).
(iii) To provide an exchange of intelligence that supports HMCG's responsibility within the multi-agency National Maritime Information Centre (NMIC).
(iv) To improve the understanding of each organisation's responsibilities, operating procedures, methods and structures.

### *RESPONSIBILITIES*

#### *The Maritime and Coastguard Agency/HM Coastguard (MCA/HMCG)*

**4.** By order of the Secretary of State for Transport laid before Parliament on 9 March 1992, Her Majesty's Coastguard is responsible for the initiation and co-ordination of all civil maritime search and rescue measures within the United Kingdom Search and Rescue Region (UKSRR) **Annex A** . This includes the mobilisation, organisation and tasking of adequate resources to respond to persons either in distress at sea or to persons at risk of injury or death on the cliffs or shoreline of the United Kingdom.

**5.** To this end HMCG can call upon and co-ordinate the activities of Declared and Additional SAR facilities (see paras 10 and 12) either of which may include NCI Stations.

**6.** The MCA is also responsible for the implementation of HM Government's strategy for marine safety and the prevention of pollution from ships. This includes the development, promotion and enforcement of high standards of marine safety and a responsibility to minimise the risk of pollution from ships.

### *National Coastwatch Institution (NCI)*

**7.** The National Coastwatch Institution is a voluntary organisation committed to providing a network of Coastal Lookout Stations around the shoreline of the United Kingdom. It undertakes to keep HMCG fully informed of the location and opening hours of each NCI Station.

**8.** The core task of an NCI Station is to visually identify, locate and report to the HMCG national network any incident which may require SAR action by, or through, HMCG. The NCI will ensure that its stations will report the following to HMCG:

(i) Any occurrence which involves or may involve coastal or offshore SAR
(ii) Any distress signal observed at sea
(iii) Any Distress, Urgency or Safety signal intercepted on VHF radio, where it appears there has been no response
(iv) Any persons apparently cut off by the tide, or stranded on cliffs
(v) Any occasion upon which there is concern for craft or persons overdue or missing at sea or on the shore
(vi) Any occurrence at which SAR resources are considered necessary
(vii) Any suspicious objects sighted on the shore line
(viii) Any significant changes in weather or sea conditions
(ix) Any radar information (where fitted in a station) that may be requested by HMCG, or grounds for concern regarding the safety of any persons or vessels at sea
(x) Any reports or a visual sighting of any marine pollution, including visible discharges from a vessel at sea
(xi) Any suspicious or unusual activity that may be criminal related that can be immediately disseminated by HMCG to law enforcement partners

### *HM Coastguard*

**9.** HMCG is to:

(i) Decide upon what SAR facilities will be called upon to deal with any incident reported to them and co-ordinate all effort
(ii) Inform other Agencies as may be necessary during the course of the incident; and
(iii) Provide, on request, the reporting NCI lookout with copies of all incident reports involving that NCI Lookout Station
(iv) HMCG will not task the NCI to attend any incident which would necessitate the loss of functionality of the NCI facility.

### *DECLARED AND ADDITIONAL FACILITIES*

**10.** Declared facilities are facilities that have been designated as being available for civil maritime SAR according to specific standards or set criteria. For the purpose of this MOU the authorities which agree these standards are HMCG with the NCI also agreeing to the implementation around the standards of training required by the NCI personnel to meet these standards. Each authority declaring a facility is responsible for:

(i) Defining and declaring the standard of capability and availability of each facility
(ii) Maintaining each facility to the declared standard
(iii) Informing HMCG immediately, whenever there is any change in the declared standard or availability of each facility
(iv) Informing HMCG of any reason for not making available any declared facility which has been requested by HMCG

### *STANDARDS FOR DECLARED FACILITIES*

**11.** The standards are under constant review and can be obtained from HMCG.

### *ADDITIONAL FACILITIES*

**12.** Additional facilities are facilities which may be available from time to time, but not to any specific standard or criteria.

**13.** NCI expects to have every Station up to the standard of Declared Facility Status (DFS) within 18 months to 2 years of opening. However, there may be some Stations that, for particular reasons, might not be able to reach the required standard within the timescale. NCI will inform HMCG of these stations and the Stations themselves will achieve as much of the DFS standard that is operationally possible but remain as Additional Facilities for the purposes of SAR operations.

**14.** Where appropriate and in agreement with MCA estates and ICT, the MCA will consider opportunities to "site share" non-operational buildings to ensure that best value and output is achieved in delivering the functions of both the MCA and the NCI. Applicable costs will be agreed through the MCA estates and/or ICT team as appropriate. This will only be considered if there is no operational or security impact or loss of service to MCA activity at the specific site.

### *JOINT OPERATIONS*

**15.** As part of the DFS Assessment process; for maintenance of competencies; to ensure the effectiveness and efficiency of NCI/HMCG operations and liaison, the two organisations should exercise jointly on a regular basis. Such exercises will, of course be subject to operational requirements.

### *INDEMNITY AND LIABILITY*

**16.** In all cases indemnity and liability for the NCI Stations rests with the NCI, and not with MCA/HMCG. The decisions to undertake any task requested by HMCG also rests with the NCI.

### *COSTS*

**17.** The MCA/HMCG and the NCI involved in any joint activity under the terms of this MOU will bear its own costs. No organisation will be liable for any of the others' costs, including those required to equip and train to the level required by this MOU.

### *REVIEW*

**18.** Each organisation shall appoint a Liaison Officer, who will meet with each other on an as required basis to:

(i) Review operational experience
(ii) Confirm to the NCI those Lookouts granted Declared Facility status
(iii) Consider options for better operational processes
(iv) Review this Memorandum of Understanding

**19.** Meetings between the Chairman of the NCI and MCA Chief Executive will be arranged as required but usually at least once a year.

**Annex A**

**UK Search and Rescue Region (UK SRR)**


Figure 12-1 UK Search & Rescue Region

## 12.2 Use of VHF Channel 0 by National Coastwatch Institution

**RENEWAL GRANTED BT THE MCA ON 13/12/2019 FOR CONTINUED USE OF VHF CHANNEL ZERO (0) 156.0 mhz NATIONAL COASTWATCH INSTITUTION**

The Maritime and Coastguard Agency (MCA) have now considered your application and are pleased to be able to inform you that we are content for you to continue the use of VHF Channel 0, on your 56 individual maritime radios at your NCI stations stated in your renewal application letter.

VHF Channel 0 is a UK inshore Search and Rescue (SAR) frequency for use when VHF Channel 16 is not appropriate; the following rules for the use of VHF Channel 0 apply:

- VHF Channel 0 is to be used for SAR communications with other UKSAR units during a SAR incident which is being coordinated by a local Maritime Rescue Coordination Centre (MRCC).
- Transmitting on Channel 0 from NCI stations are only to be carried out when being tasked directly by HM Coastguard.
- It must not be used for routine communications with SAR units who might also be fitted with Channel 0. For routine communications, normal rules for the use of the VHF marine band radio apply.
- Your radio operators should hold the Short-Range Certificate (SRC). Those who do not hold the SRC but are required to use the VHF radio should be supervised by those who do hold a certificate.
- The radio must be licensed with Ofcom
- You must relinquish VHF Channel 0 when no longer required, or as directed by the Maritime and Coastguard Agency.
- Any misuse or abuse of VHF Channel 0 will cause that the channel to be confiscated by the Maritime and Coastguard Agency.
- You are not permitted to sell or dispose of Marine Band radios with Channel 0 still fitted.

- This permission is only for 1x fixed VHF radio at each of the 56 stations you stated in your renewal letter dated 12/12/2019, you must contact the MCA if you wish to change this.

The requirement for permission to use VHF Channel 0 will be subject to a 5-yearly review by the Maritime and Coastguard Agency.

## 12.3 Operational relationship between NCI and UK Border Agency

**OPERATIONAL RELATIONSHIP BETWEEN NATIONAL COASTWATCH INSTITUTION AND UK BORDER FORCE (PREVIOUSLY CALLED UK BORDER AGENCY) AGREED IN 2010**

This Memorandum of Understanding (MOU) recognises the important roles of both National Coastwatch Institution (NCI) and UK Border Agency (UKBA) in their individual functions. The NCI is a national maritime safety organisation that maintains a watch on coast traffic and the UKBA has, within its remit, the responsibility for the protection and detection of smuggling of people and illicit goods by sea.

This agreement reflects the NCI's wish to assist UKBA, to the extent that NCI's resources allow and within the legal framework of information exchanges.

**1. INTRODUCTION**

The NCI and UKBA recognise that:

1.1 Offences against Customs and Immigration law are prejudicial to the economic, social, fiscal and security interest of the United Kingdom

1.2 Cross border smuggling, particularly involving people and drugs, is a threat to the security and economy of the UK

1.3 This illicit trade has placed an increased burden upon UKBA, who recognise that to combat it more effectively they will need the co-operation of those parties regularly involved in the maritime environment

1.4 Increased co-operation and understanding between NCI and UKBA will assist UKBA in the gathering of information to enable the separation and targeting of high risk traffic

1.5 This MOU is voluntary and not legally binding on either NCI or UKBA but seeks to establish methods of developing co-operation between two parties

**2. AIMs**

UKBA and NCI agree jointly to:

2.1 Examine and develop ways in which co-operation between them can be improved

2.2 Seek a better understanding of each other's working procedures and responsibilities

2.3 Consider practical ways in which staff of NCI can assist UKBA to discharge their functions to prevent and detect smuggling activities

2.4 Treat all information supplied by UKBA to NCI as confidential

2.5 Treat any information supplied by NCI to UKBA as confidential, subject to the statutory powers to disclose to a third party contained in the Borders, Citizenship and Immigration Act 2009 and other legislation

2.6 Identify liaison representatives who will review arrangements to exchange information, as required

2.7 NCI agrees to set up procedures to encourage staff to alert UKBA to any suspicious circumstances

2.8 UKBA agrees to:

- Provide a contact point for the receipt of information from NCI and to offer advice when requested
- Provide a guide to NCI to assist them to identify the circumstances that might be of interest to UKBA
- Ensure that all of their staff will carry proper means of identification
- Ensure that all requests for information are limited to that which is necessary for the prevention or detection of crime or the assessment or collection of any tax or duty and that it is not disclosed to any third party or used for other purpose, unless lawful authority exists to do so
- Refrain from asking any member of the NCI to act as a law enforcement officer or act in any way that would conflict with the laws, regulations or control requirements of this or any foreign country

## 12.4 Previous guidance on reporting unusual or suspicious coastal activity

**1. Background**

There is a perceived increased threat from serious and organised crime including likely exploitation of routes by migrants/people traffickers from mainland Europe. HMCG has been working with other Government Departments, including UKBF, to streamline the reporting of Unusual or Suspicious Coastal Activity by organisations such as NCI. The reporting system will ensure that any information or intelligence will quickly be passed to the multi-agency National Maritime Information Centre (NMIC) where it will be assessed and acted upon as appropriate. NCI has been working closely with HMCG and UKBF to develop this streamlined and simplified reporting process. This protocol closely mirrors their own procedures and the indicators of suspicious or unusual activity are taken verbatim from their document.

**2. Reporting Protocol**

There will now be a single reporting route for all incidents, whether SOLAS or suspicious activity. It has been agreed by HMCG, UKBF and the other relevant agencies that any Unusual or Suspicious Coastal Activity (see examples in para 4) observed by a NCI Station should be reported to HM Coastguard using the issued telephone numbers defined by the Operational Zones. In other words, stations should report to their normal CG Operations Centre using their normal telephone number in the same way as they would report a potential maritime safety incident, i.e. telephoning the Coastguard on the routine number. This change in reporting protocol removes the need for duty watchkeepers to make a definitive decision on whether they are observing a SOLAS incident or suspicious activity. The CG Operations Centre will ensure the information is passed to NMIC for assessment and action. This means there is now no requirement to report any information directly to UKBF, Project Kraken or Crimestoppers. This change will take effect immediately. See flowchart at Annex B. (In the unlikely event that the CG operating route is not available, the Project Kraken number may be used as a backup. Project Kraken is currently undergoing a relaunch led jointly by Border Force, National Crime Agency and Police.)

Reports should not be made direct to Border Force and if someone from Border Force suggests we do, this should be refused quoting the protocol and the conversation reported to the Station Manager.

### 3. Recording Suspicious Incidents

A record of any unusual or suspicious activity should be entered in the log, including the fact that it was reported to HMCG. An incident report should also be raised summarising what was observed, the fact that it was reported to HMCG and any further contact from HMCG or other agency. Watchkeepers should report on behalf of the station and there is no requirement for them to give their name, nor will HMCG ask for it.

### 4. Indicators of Suspicious Coastal Activity

Watchkeepers should use their experience, local knowledge and judgement to identify anything which arouses their suspicion and should not hesitate to report it, however minor it might seem. It could be the final small piece of a jigsaw which enables the authorities to take action on a known threat. Equally it could be the first indicator of an important, hitherto unknown threat. NCI watchkeepers will never be criticised for using their judgement to report something which arouses their suspicion. HMCG and UKBF attach great value to the local knowledge and expertise of NCI watchkeepers and their ability to spot something which 'looks wrong'. The following indicators are examples only and should not be regarded as an exhaustive list.

#### i. Migrant Indicators.

Indicators that can be considered suspicious and should be reported are as follows (but not limited to):

- Slow moving RIB (indication that it may be in trouble or overloaded)
- Boats with above average number of crew for that size of vessel.
- Single or small crew (four or less most likely, one or more of whom may appear as an inexperienced sailor)
- Any observations of mismatched data (AIS vs. Visual observations etc.; Crew vs Nationality)
- Any activity which is considered to be outside the normal pattern of maritime activity in the area.
- Unusual boat movements late at night or early in the morning.
- RIBS or small craft being loaded / unloaded with people at unusual times or unusual locations in harbours/marinas.
- People not knowing about boat handling, with inappropriate dress for sailing or enquiring about hiring boats.
- Persons apparently fishing but with no line or equipment.
- Unusual increased persons or activity on a beach.

#### ii. General Crime – in harbour;

- Unusual boat movements late at night or early in the morning.
- RIBS or small craft being loaded / unloaded with packages or people at unusual times or locations.
- Strangers acting suspiciously within the marina and packages being transferred to waiting vehicles.
- People not knowing about boat handling, with inadequate dress for sailing or enquiring about hiring boats.
- Boats with above average number of crew for the size of boat.
- Single or small crew (Four or less most likely, one or more of whom may appear as an inexperienced sailor).
- Fuel / water containers on deck (Long voyage ahead and or potential concealment in tanks)

**iii. General Crime – at sea**

- Boats moving around at night time with no navigational lighting.
- Packages being transferred out at sea from larger boats (coopering).
- Boats with extra fuel tanks, water tanks or an abnormal waterline.
- Boats with above average number of crew for the size of boat.
- Single or small crew (Four or less most likely, one or more of whom may appear as an inexperienced sailor).
- Marks on side of vessel, damage to hull, fenders out at sea, dismasted, rescued, distress, towing (potential coopering?)
- The position and identification of any Foreign Warships.
- Any sightings of possible submarine periscopes, antennae of other indications that suggest the presence of a submarine.
- The position and identification of any foreign merchant vessels that appear to have a military or intelligence gathering role (i.e. large amounts of antennae or unusual movements in the vicinity of sensitive areas).
- The position of any vessel that has been identified as a Vessel of Interest (VOI) and notified as such to NCI.
- Any indication to suggest that WMD or Nuclear Material is being transported by maritime means.
- Any indication to suggest there is a terrorist threat to any Offshore, or Near Shore Maritime Infrastructure.
- Any observations of mismatched data (AIS vs. Visual observations etc.; Crew vs nationality).
- Any activity to suggest piracy or other criminal events.
- Any activity which is considered to be outside the normal pattern of maritime activity in the vicinity of MOD establishments or bases.
- Any indication of vessels/people interfering with national infrastructure.

**Protocol Flow Chart**

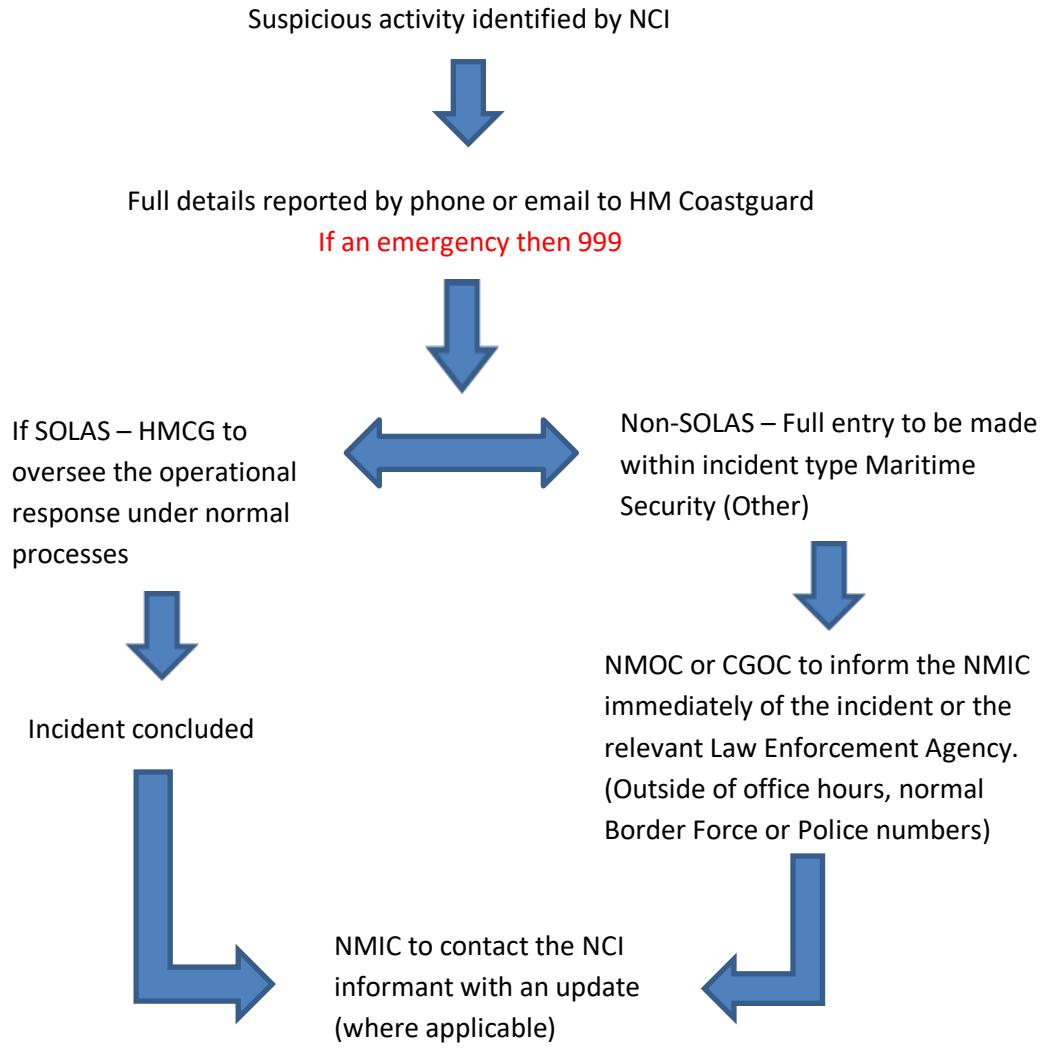



Figure 12-2 Reporting suspicious activity flow chart

# 13 Glossary

| Term | Meaning – sometimes specifically relating to PQ. |
|---|---|
| **Abeam** | Toward the side of a ship: 'The casualty is one cable abeam of you to starboard'. |
| **AED** | Automated External Defibrillator – a device that can be used by anyone to potentially save the life of someone who has suffered a cardiac arrest. |
| **Ahead** | Toward the front of a ship. |
| **AIS** | Automatic Identification System - vessels carrying this equipment broadcast information about their position, course, speed and identity, etc. |
| **AWLB or ALB** | All Weather Lifeboat. AWLB is the NCI code. |
| **ARP or ARPA** | Automatic Radar Plotting Aid. |
| **Astern** | Toward the rear of a ship. |
| **Beam** | Either the width of a boat or used to say that 'something is on your beam 'meaning it is at 90° to the fore and aft line of the boat. |
| **Beaufort** | The Beaufort Scale - a standard way to describe wind speed. |
| **Border Force** | A law enforcement command within the Home Office. Its functions are:<br>• To check the immigration status of people arriving in and departing the UK.<br>• To prevent the smuggling of illicit goods or illegal immigrants at ports and airports and with its fleet of cutters.<br>• To gather intelligence to protect and collect customs revenues for trade crossing the border.<br>• To alert the police and security services to people of interest attempting to enter or depart the UK |
| **Bow** | The front of a ship. Also used to mean a direction 'on your port bow' means looking to the left side of your boat and somewhere between ahead and on your beam. |
| **Call Connect** | See ICCS. |
| **CD** | Chart Datum - the level of water that charted depths displayed on a nautical chart are measured from. |
| **CG** | Coastguard. |
| **Ch.** | Abbreviation for VHF radio channel. |
| **CRT** | Coastguard Rescue Team. Volunteers in our case based at Kingsbridge. |
| **CSIP** | Cetaceans Strandings Investigation Programme to whom sightings of dead or stranded dolphins, porpoises etc. should be reported. |
| **Coastguard** | Generic term used in PQ Watchkeeper's Handbook for HM Coastguard and Falmouth Coastguard to whom we report. |
| **Dead** | Used in this sense: 'The casualty is 5 boat lengths dead ahead of you' i.e. right in front of your boat. |
| **DEFRA** | Department of Environment, Food and Rural Affairs |
| **DFS** | Declared Facility Status – see page 1:4 |
| **DSC** | Digital Selective Calling – a way to partially automate marine VHF procedures and send a Distress or Urgency alert. |
| **DSMB** | Delayed Surface Marker Buoy - an inflatable buoy used by SCUBA divers to indicate where they are. |
| **Duplex** | Allows a VHF user to simultaneously listen and talk – rather like a telephone. |
| **Dutyman** | The software PQ uses to manage the watch roster. |

| Term | Meaning – sometimes specifically relating to PQ. |
|---|---|
| **EPIRB** | An Emergency Position Indicating Radio Beacon is used to alert search and rescue services in the event of an emergency. |
| **FCG** | Our abbreviation for Falmouth Coastguard to whom we report. |
| **GMDSS** | The Global Maritime Distress and Safety System (GMDSS) – the internationally agreed set of safety procedures, equipment types and communication protocols used to increase safety and make it easier to rescue distressed vessels and aircraft. |
| **GDPR** | General Data Protection Regulation – rules that aim to protect citizens from privacy and data breaches. |
| **GPS** | Global Positioning System – a satellite-based navigation system. |
| **HMCG** | Her Majesty's Coastguard. |
| **hPa** | Hectopascal (hPa) – a unit of pressure equivalent to about 1/1000 of 1 atmosphere. |
| **HW** | High Water – the top of the tide. |
| **ICCS** | Integrated Communications Control System. A system to enable someone on the telephone to talk via VHF to a ship. Also called 'Call Connect' and 'Teleconnect'. |
| **ICT** | Information and communications technology. |
| **IFCA** | Inshore Fisheries and Conservation Authority. There is one for Devon and Severn. |
| **ILB** | Inshore Lifeboat. |
| **JMOCC** | Joint Maritime Operations Coordination Centre - this utilises cutting edge technology to provide 24/7 monitoring of UK waters. Utilising a staff drawn from across government it can swiftly identify maritime security incidents and enable the effective coordination of the UK's aerial and at-sea assets to respond. Part of the JMSC |
| **JMSC** | Joint Maritime Security Centre – the Government's multi-agency organisation responsible for ensuring the UK maintains its understanding of the UK maritime domain and develops the cross-government coordination frameworks to respond to threats to security, law and order, and the marine environment. It incorporates the JMOCC and the NMIC. |
| **kn or kt** | Knot – one nautical mile per hour. |
| **LAT** | Lowest Astronomical Tide – the height of the water at the lowest possible theoretical tide. |
| **Lat.** | Latitude – an angular coordinate specifying the north-south position of a point on the Earth's surface. |
| **Lee** | Lee shore – one onto which the wind is blowing. |
| **Long.** | Longitude - an angular coordinate specifying the east - west position of a point on the Earth's surface. |
| **Lookout** | In our case the main building at Prawle Point. |
| **LW** | Low Water – the bottom of the tide. |
| **M** | Suffix to indicate a bearing that is relative to the earth's Magnetic North Pole. |
| **Mb** | Millibar – same as hPa. |
| **MCA** | Maritime and Coastguard Agency. |
| **MHWN** | Mean High Water Neaps – the long-term average height of neap tides at high water. |
| **MHWS** | Mean High Water Springs – as MHWN but for spring tides. |

| Term | Meaning – sometimes specifically relating to PQ. |
|---|---|
| **MMO** | The Marine Management Organisation - contributes to sustainable marine development and promotes the UK government's vision for clean, healthy, safe, productive and biologically diverse oceans and seas. |
| **MMSI** | Maritime Mobile Service Identity - a nine digit number which uniquely identifies a suitably licenced vessel or shore station. PQ does not have its own MMSI. |
| **MOB device** | Man Over Board device. Like an AIS-SART, this device indicates the wearer is in distress by creating a special AIS target on the radar display. |
| **MoU** | Memorandum of Understanding. |
| **MRCC** | Maritime Rescue Coordination Centre - Search and rescue operations are coordinated from local MRCCs and Coastguard operations centres. See also NMOC. |
| **MSI** | Maritime Safety Information – weather and safety information broadcast by the Coastguard. |
| **NCI** | National Coastwatch Institution. |
| **Neaps** | Neap tides have the smallest tidal range, the highest low waters and lowest high waters. |
| **nm or nM** | Nautical mile – 1 nm = 1852 metres = 1.151 miles. |
| **NMIC** | National Maritime Information Centre – a Government centre that provides a mechanism for the UK's civilian and military maritime and law enforcement organisations to fuse intelligence, data and capabilities thus maximising operational impact at home and abroad. Now part of the JMSC |
| **NMOC** | National Maritime Operations Centre – This centre in Fareham, Hants is the headquarters of HM Coastguard and has national responsibility for coordinating search and rescue operations. It is also the home of Solent Coastguard. |
| **OS** | Ordnance Survey. |
| **Pelorus** | A fixed compass with rotating sight that remains at any at any *relative* direction to which it is set. At PQ our pelorus gives a True bearing. |
| **PLB** | Personal Locator Beacon. A type of EPIRB worn on the person. |
| **Port** | The left-hand side (looking forward) of a vessel or the side of the boat on which something lies. 'The casualty is on your port beam'. |
| **PQ** | Abbreviation for Prawle Point. |
| **PTT** | Push to Talk or Press to Transmit button on a radio. |
| **Quarter** | The sides of a boat aft of amidships. |
| **R/T** | Radio Telephone |
| **RIB** | Rigid Inflatable Boat – specific type of high speed usually open boat. |
| **Rx** | The radio abbreviation for "receive". |
| **SAR** | Search and Rescue. |
| **SART** | Search and Rescue Transponder - a self-contained, waterproof radar transponder intended for emergency use. It works by creating. either a series of dots or a special AIS symbol on a radar display. |
| **Simplex** | When a VHF radio has one aerial it can only either transmit or receive at any one time – this is Simplex operation. |
| **SOLAS** | Saving of Lives At Sea |
| **Springs** | Spring tides have the greatest tidal range, the lowest low waters and the highest high waters. |
| **Starboard** | The right-hand side (looking forward) of a vessel – also see port. |

| Term | Meaning – sometimes specifically relating to PQ. |
|---|---|
| **SWMAG** | The South West Maritime Archaeological Group. They are authorised to dive on the Historic Wrecks. |
| **SWW** | Strong Wind Warning. |
| **T** | Suffix to indicate a bearing that is relative to the earth's True North Pole. |
| **Teleconnect** | Se ICCS. |
| **Tx** | The radio and radar abbreviation for "transmit". |
| **UKBA** | The UK Border Agency was disbanded in 2013. |
| **UKBF** | Border Force - see its definition above. |
| **UKSRR** | United Kingdom Search and Rescue Region (from MoU). |
| **UTC** | Coordinated Universal Time (UTC) is the basis for civil time in many places worldwide. It is the same as Greenwich Mean Time and is also known as UT or Zulu. |
| **VHF** | Very High Frequency (marine) radio. |
| **VOX** | Voice Operated Relay – at the heart of ICCS/Call Connect. |
| **WKH** | PQ Watchkeeper's Handbook. |
| **WMD** | Weapons of Mass Destruction. |
| **WxFx** | Common abbreviation for Weather Forecast. |

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# Indices

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# Tables

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# Photographs and Figures

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