

Joint Tactical Exercise Planning Staff



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JTEPS JW121

15 March 2012

JOINT WARRIOR 121 - SUBMARINE, MINEWARFARE AND LIVE FIRING ACTIVITY

1. Joint Warrior (JW) 121, will take place from 15 until 26 April 2012 and will comprise of a programme of exercises conducted by land forces, warships, submarines and aircraft across the UK with the maritime element focussed in the offshore and coastal waters to the north east, north and north west of Scotland. This booklet provides outline information on their scheduled operations as well as details of intended gunnery and aircraft bombing activity at Cape Wrath and in some open ocean areas.
2. The information is correct at the time of going to print but the routine **SUBFACTS** and **GUNFACTS** broadcasts, made during the exercise, will provide updated information.
3. The information provided in this booklet will also be published in Fleet Ops Notice to Fishermen, Defence Training Estate Scotland Notice to Fishermen and Cape Wrath Range Notices. This document is also on the internet at <http://www.qhm.mod.uk/clyde>
4. This booklet contains the following sections:
 - a. Submarine Activity.
 - b. Warship Activity.
 - c. Minewarfare Activity.
 - d. Live Firing and Gunnery Activity.
 - e. Denial of GPS Services.
 - f. Unexploded Ordnance Advice.
5. The warships taking part have been instructed to offer fishing vessels every assistance in their dealings with exercise activity, especially when in the vicinity of submarines or participants conducting live firing. You are invited to contact them as required to ensure that our two activities do not come into conflict.

6. Throughout JW 121 the following points of contact are available to attend to any immediate problems or questions:

Primary - Joint Warrior Duty Controller 01436 674321 ext. 6469

Secondary - Duty Submarine Controller 01923 956366

HM Coastguard at Clyde, Stornoway and Aberdeen can also contact my staff directly and will relay information if necessary.

7. If you have any queries, problems, or suggestions as to how JTEPS can improve this booklet, please do not hesitate to contact my Staff Officer Submarines at the above address.

P J Titterton OBE
Captain Royal Navy
Director JTEPS

Submarine Activity

1. The Submarine Activity Grid on the following page shows the areas and time periods where submarine activity associated with Joint Warrior is forecast. Please note that other submarines that are not part of the exercise may transit the areas north west of Scotland; their activity is not covered in this brief. The daily SUBFACTS broadcast by the Coastguard will provide notification of the actual areas where **all** submarine activity is taking place. During Joint Warrior, in order to keep the SUBFACTS broadcast short, a number Scottish Exercise Areas are grouped together. The groupings are shown in the chartlet and table in this section.
2. Communications can be established with submarines during JW, when they are surfaced or at periscope depth, on VHF Ch 16 (working Ch 73). In the event that they are operating with warships, one of the warships will have been detailed to act as the Fishing Vessel Safety Ship (FVSS) in accordance with the Code of Practice. The FVSS has two overarching duties:
 - a. To make fishing vessels aware of submarine activity in their vicinity and to provide information and advice to minimise the risk of interaction.
 - b. To provide assistance to the participating submarine in compiling a comprehensive surface picture in order to minimise the risk of interaction with non-exercise vessels.
3. It is usually easier to establish communications with the FVSS than with a submarine. However, any warship in the vicinity may be contacted and asked for a report on any exercises involving submarines which are being conducted in the local area. Alternatively, the ship may be used to relay messages or instructions to the submarine if required.

Submarine Activity

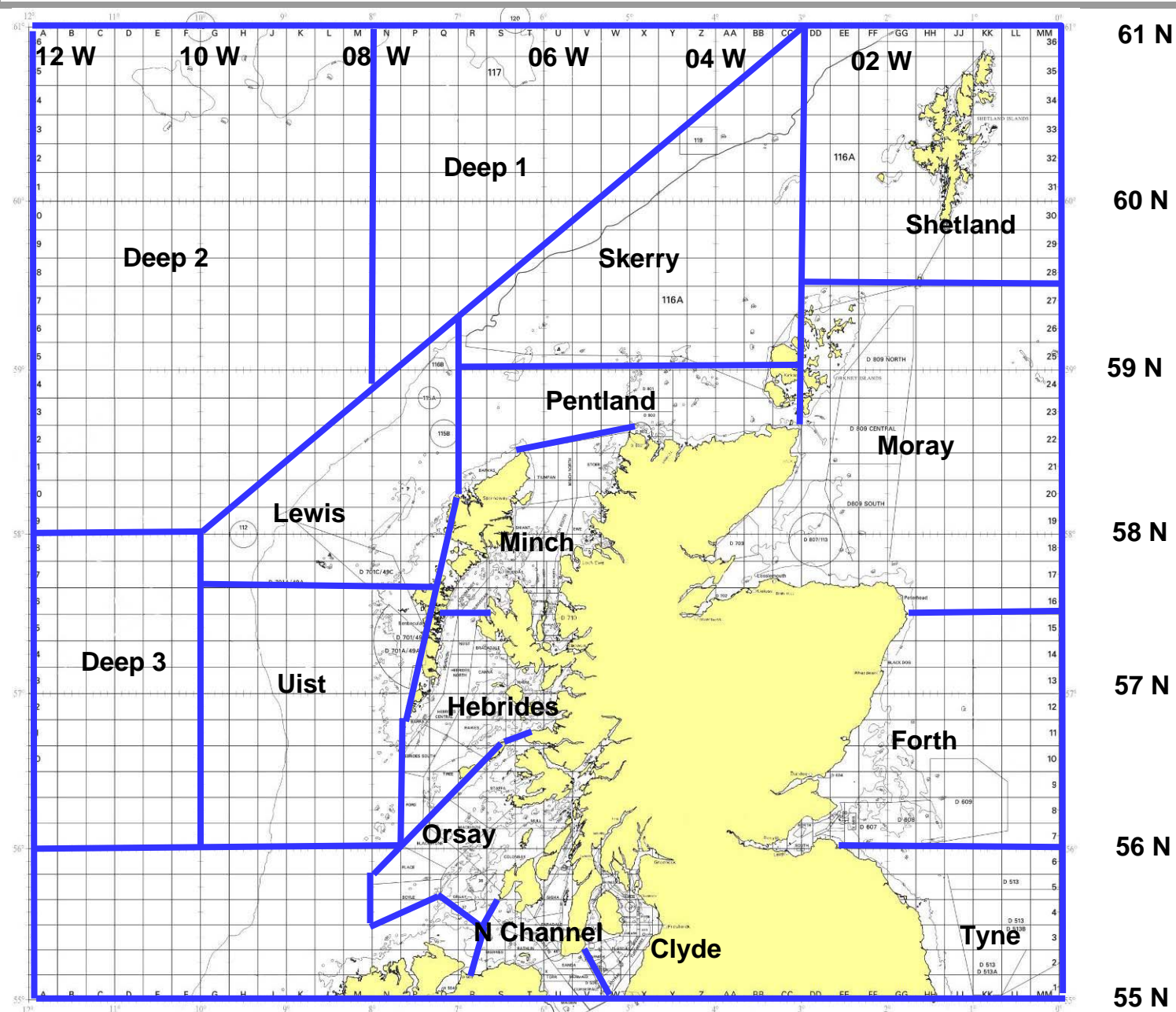
Exercise Joint Warrior 121

SUBFACTS AREAS ACTIVATION GRID

	15 APR			16 APR			17 APR			18 APR			19 APR			20 APR			21 APR			22 APR			23 APR			24 APR			25 APR			26 APR		
	SUN			MON			TUE			WED			THR			FRI			SAT			SUN			MON			TUE			WED			THR		
Active Time Period BST	0001 - 0800	0800 - 1600	1600 - 2359	0001 - 0800	0800 - 1600	1600 - 2359	0001 - 0800	0800 - 1600	1600 - 2359	0001 - 0800	0800 - 1600	1600 - 2359	0001 - 0800	0800 - 1600	1600 - 2359	0001 - 0800	0800 - 1600	1600 - 2359	0001 - 0800	0800 - 1600	1600 - 2359	0001 - 0800	0800 - 1600	1600 - 2359	0001 - 0800	0800 - 1600	1600 - 2359	0001 - 0800	0800 - 1600	1600 - 2359	0001 - 0800	0800 - 1600	1600 - 2359			
ORSAY			A	A	A	A	A	A																					A	A	A	A	A	A		
N.CHANNEL			A	A	A	A	A	A																						A	A	A	A	A		
HEBRIDES				A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A		
MINCH							A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A		
UIST				A	A	A	A	A	A	A	A	A	A	A	A														A	A	A	A	A	A		
LEWIS													A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A								
PENTLAND												A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A		
SKERRY																A	A	A	A	A	A	A	A	A	A	A	A	A								
DEEP 1																A	A	A	A	A	A	A	A	A	A	A	A									
DEEP 2														A	A	A	A	A	A	A	A	A	A	A	A	A	A									
DEEP 3														A	A	A																				
SHETLAND																																				
MORAY																																A	A	A	A	
FORTH																																				
TYNE																																				

The planned activity in the JW SUBFACTS AREAS is indicated by the letter **A** in the grid above. There may be changes to this planned activity. Daily SUBFACTS Broadcasts will contain the most up to date information regarding the activation of the areas.

Submarine Activity



SCOTTISH EXERCISE AREAS – JW SUBFACTS GROUPING**CLYDE**

BALLANTRAE
AILSA
STAFNISH
PLADDA
TURNBERRY
DAVAAR
LAMLASH
GOIL
COVE

AYR
BRODICK
IRVINE
LAGGAN
GARROCH
LOCHRANZA
SKIPNESS
ROSNEATH

TARBERT
MINARD
FYNE
WEST KYLE
EAST KYLE
CUMBRAE
STRIVEN
GARELOCH

ORSAY

STAFFA
MULL
BLACKSTONE
MACKENZIE

EIGG
JURA SOUND
PLACE
ORSAY

COLONSAY
LINNHE
BOYLE

NORTH CHANNEL

ISLAY
EARADALE
RATHLIN
MAGEE
PEEL
TORR

OTTER
KINTYRE
MAIDEN
BEAUFORT
MERMAID

GIGHA
SKERRIES
CORSEWALL
ARDGLASS
SANDA

HEBRIDES

USHENISH
CANNA
HEBRIDES NORTH
TIREE
BARRA

NEIST
RHUM
HEBRIDES CENTRAL
HAWES
FORD

BRACADALE
SLEAT
HEBRIDES SOUTH
EIGG

MINCH

RONA NORTH
RAASAY
SHIANT
MINCH SOUTH
LOCHMADDY

RONA SOUTH
TIUMPAN
EWE
PORTREE
DUNVEGAN

RONA WEST
STOER
MINCH NORTH
TRODDAY
CROWLIN

Warship Activity

VHF Challenges

1. In light of ever changing threats to our Armed Forces, military ships maintain a detailed plot of maritime activity in their vicinity, which includes establishing the identity of small fishing vessels. This can be achieved visually from helicopters or by challenges on IMM VHF radio by ships. Mariners are advised that warships from various Allied Nations will be conducting such reconnaissance and challenges. Areas likely to be affected are the Clyde, North Channel, South of the Sea of Hebrides, the Sea of Hebrides, the Little Minch, North Minch, the area near Cape Wrath, Loch Eriboll and the Outer Hebrides. Mariner's co-operation during this time would be much appreciated. A small number of contracted civilian vessels including high speed craft will be operating in the vicinity of the Minches in support of this training task. Every effort will be made to avoid interference to fishing vessels.

Small Boat Activity

2. There will be a period (16 Apr), within the Clydeport area south of Toward Point, where small boats (both contracted civilian and military) will operate with Warships and helicopters. This activity will remain clear of the main shipping and ferry routes. Small boats taking part in this will indicate their participation by showing a green flag.

Minewarfare Activity

1. Mine Counter Measures (MCM) vessels will conduct minehunting exercises using sonar and towed sweeps to look for potential mines both on the seabed and moored to the seabed that are subsequently investigated by remote controlled submersible vehicles and divers.
2. Towed sweeps for minesweeping will not be used during JW 121.
3. All participating MCM vessels will be thoroughly briefed on local fishing operations in advance of the exercise and are instructed to make early liaison calls to fishing vessels on VHF. Skippers of fishing vessels operating in the vicinity of these ships are encouraged to talk to them and discuss intentions.
4. If any difficulty is experienced a call should be made to the Duty Submarine Controller at CTF 311 OPS ROOM on the "Fishermen's Hotline" number, 01923 956366. This line is permanently manned.
5. The following MCM vessels will participate in Ex JW 121:

Name	Nationality	Pennant No
HMS BANGOR	British	M109
HMS BLYTH	British	M111
HMS GRIMSBY	British	M108
HMS SHOREHAM	British	M112
HMS ATHERSTONE	British	M38
HMS BROCKLESBY	British	M33
HNOMS KARMOEY	Norwegian	M341
HNOMS HINNOEY	Norwegian	M343
FGS SIEGBURG	German	M1098
FGS BAD BEVENSEN	German	M1063

6. Inert mines have been laid for the exercise, in the following areas:

a. **LOCH EWE** (see chartlet 1)

All areas within Loch Ewe between latitudes 57 52.28N and 57 49.20N

b. **MINCHES** (see chartlet 2)

Along the following line:

- | | | |
|----|-----------|------------|
| A. | 57 32.98N | 006 52.06W |
| B. | 57 41.98N | 006 35.06W |
| C. | 57 50.18N | 006 16.06W |

c. **CARN SKERRIES/HORSE ISLAND** (see chartlet 1)

- | | | |
|----|-----------|-------------|
| A. | 57 57.94N | 005 20.08W |
| B. | 57 57.55N | 005 20.57W |
| C. | 57 58.44N | 005 23.08W |
| D. | 57 58.84N | 005 22.58 W |

Minewarfare Activity

- d. **EILEAN DUBH** (see chartlet 1)
- A. 57 59.23N 005 25.60W
 - B. 57 58.85N 005 25.50W
 - C. 57 58.75N 005 26.84W
 - D. 57 59.60N 005 26.90W
- e. **PRIEST ISLAND (SOUTH)** (see chartlet 1)
- A. 57 56.91N 005 31.48W
 - B. 57 56.50N 005 31.82W
 - C. 57 56.83N 005 33.32W
 - D. 57 57.27N 005 33.00W
- f. **GRUINARD BAY APPROACH** (see chartlet 1)
- A. 57 56.24N 005 28.57W
 - B. 57 55.80N 005 28.91W
 - C. 57 56.25N 005 30.70W
 - D. 57 56.68N 005 30.46W
- g. **GRUINARD BAY** (see chartlet 1)
- A. 57 54.00N 005 29.61W
 - B. 57 52.80N 005 29.61W
 - C. 57 52.80N 005 30.80W
 - D. 57 53.02N 005 30.80W
 - E. 67 53.02N 005 30.00W
 - F. 57 54.00N 005 30.00W
- h. **BROAD BAY** (see chartlet 3)
- A. 58 16.60N 006 14.60W
 - B. 58 16.60N 006 12.20W
 - C. 58 15.40N 006 12.20W
 - D. 58 15.40N 006 12.20W
- i. **LOCH ERIBOLL APPROACH** (see chartlet 4)
- A. 58 42.97N 004 42.00W
 - B. 58 34.00N 004 36.72W
 - C. 58 31.96N 004 38.16W
 - D. 58 29.70N 004 41.30W
- j. **LOCH ERIBOLL ANCHORAGE (NORTH)** (see chartlet 4)
- A. 58 33.30N 004 38.00W
 - B. 58 33.30N 004 36.40W
 - C. 58 32.00N 004 36.40W
 - D. 58 32.00N 004 38.00W

Minewarfare Activity

7. The planned minelay and recovery programme:
- Minelay.** Will occur 26-28 March for JW 121.
 - Mine recovery.** Mines will be recovered throughout JW 121.
8. Minehunters will conduct live firings of mine disposal charges in the following area:
- MINE DISPOSAL CHARGE FIRING AREA** (see chartlet 1)
 - 57 57.58N 005 33.93W
 - 57 57.85N 005 33.93W
 - 57 58.25N 005 31.97W
 - 57 57.02N 005 31.97W
 - DIVER PLACED CHARGES FIRING AREA** in Loch EWE will take place within a circle, with a radius of 200m, centred on 57 48.200N – 005 38.900W.
9. No Minesweeping will take place during JW 121. The previously used minesweeping corridor defined below is no longer in use.

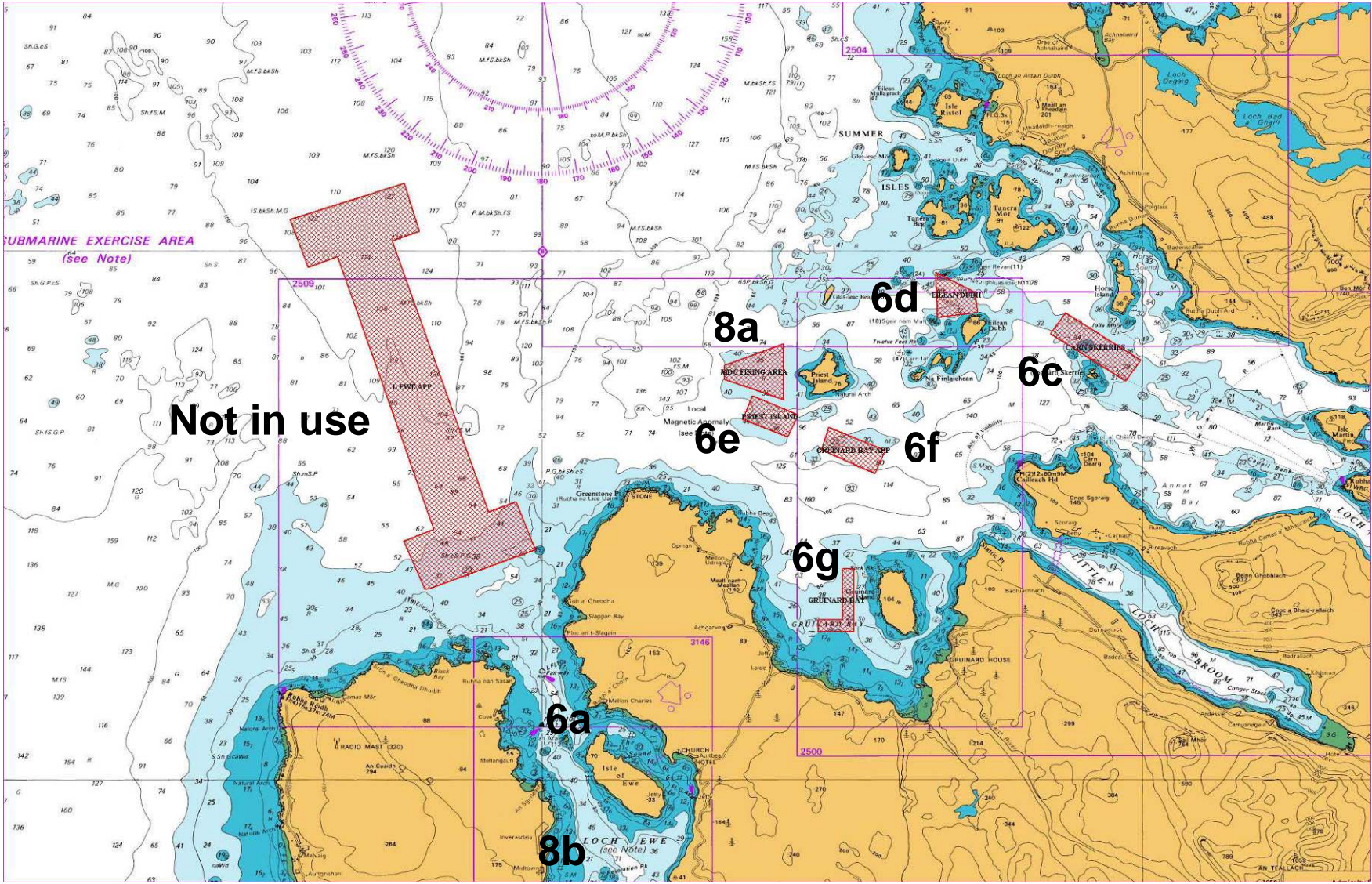
LOCH EWE APPROACH (see chartlet 1/2)

1000 yds either side of a line:

A.	58 00.00N	005 46.00W
B.	57 55.00N	005 43.80W

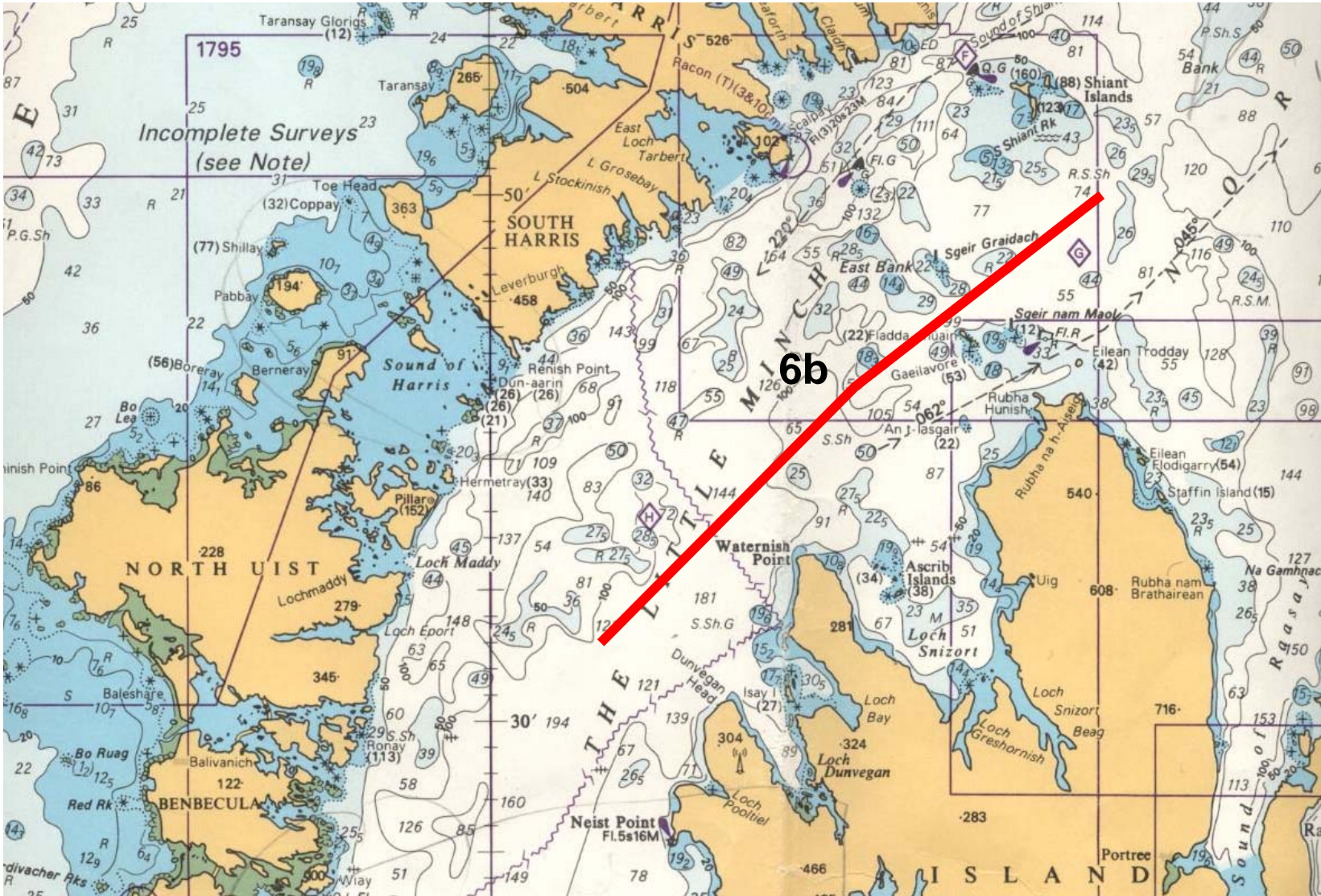
10. Liaison between the MoD and appropriate fishermen's associations/organisations, in some cases with individual owners/skippers, HM Coastguard and Marine Scotland have been made to use the above areas. Should anyone consider that their organisation/association should be included in this process in future please contact Lieutenant Commander Matt Offord (FOSNNI SMCDO) on 01436 674321 extn 6510.
11. All participating MCM vessels will be thoroughly briefed on local fishing operations in advance of the exercise and are instructed to make early liaison calls to fishing vessels on VHF. Skippers of fishing vessels operating in the vicinity of these ships are encouraged to talk to them and discuss intentions.

Minewarfare Activity



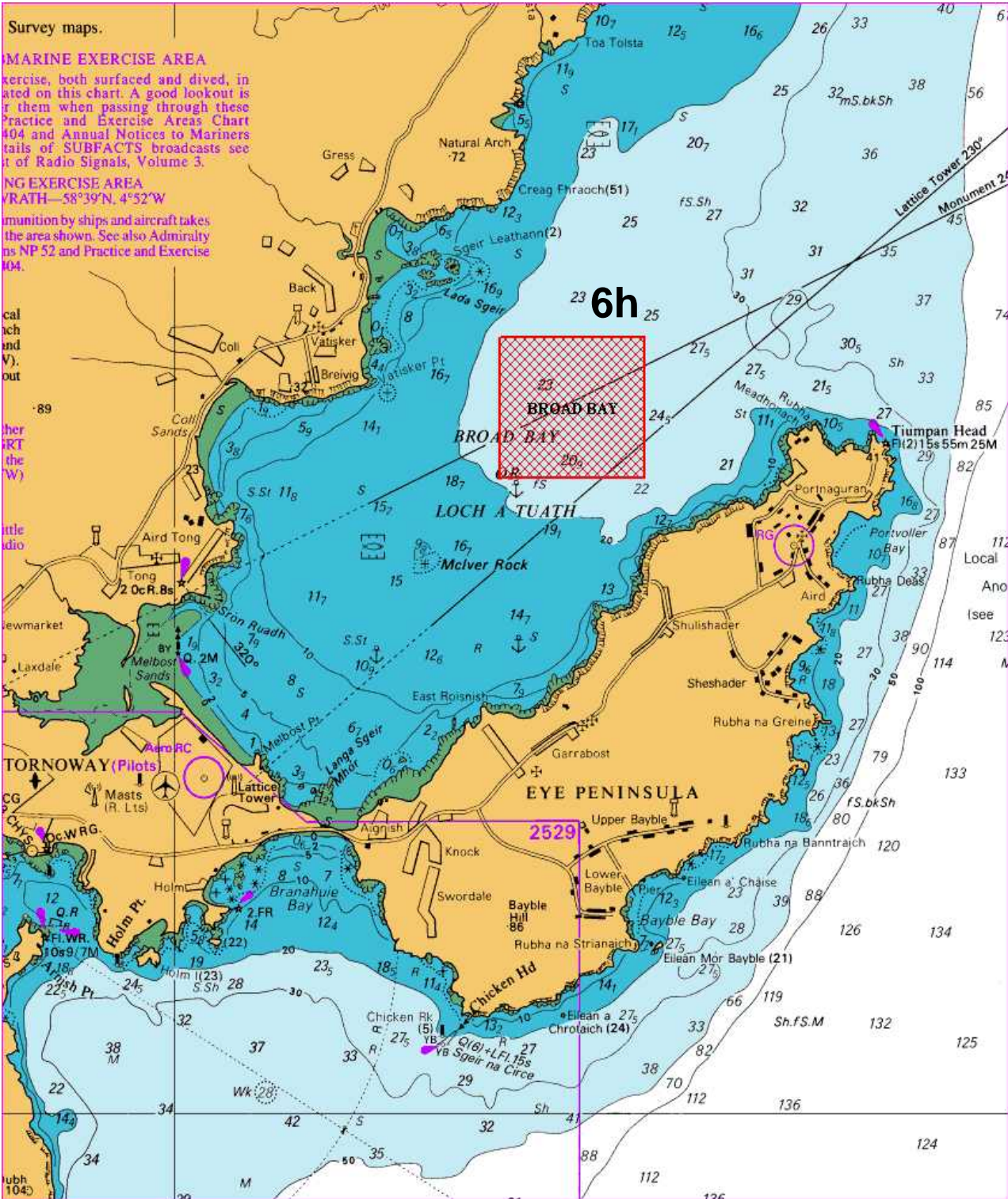
Chartlet 1

Minewarfare Activity



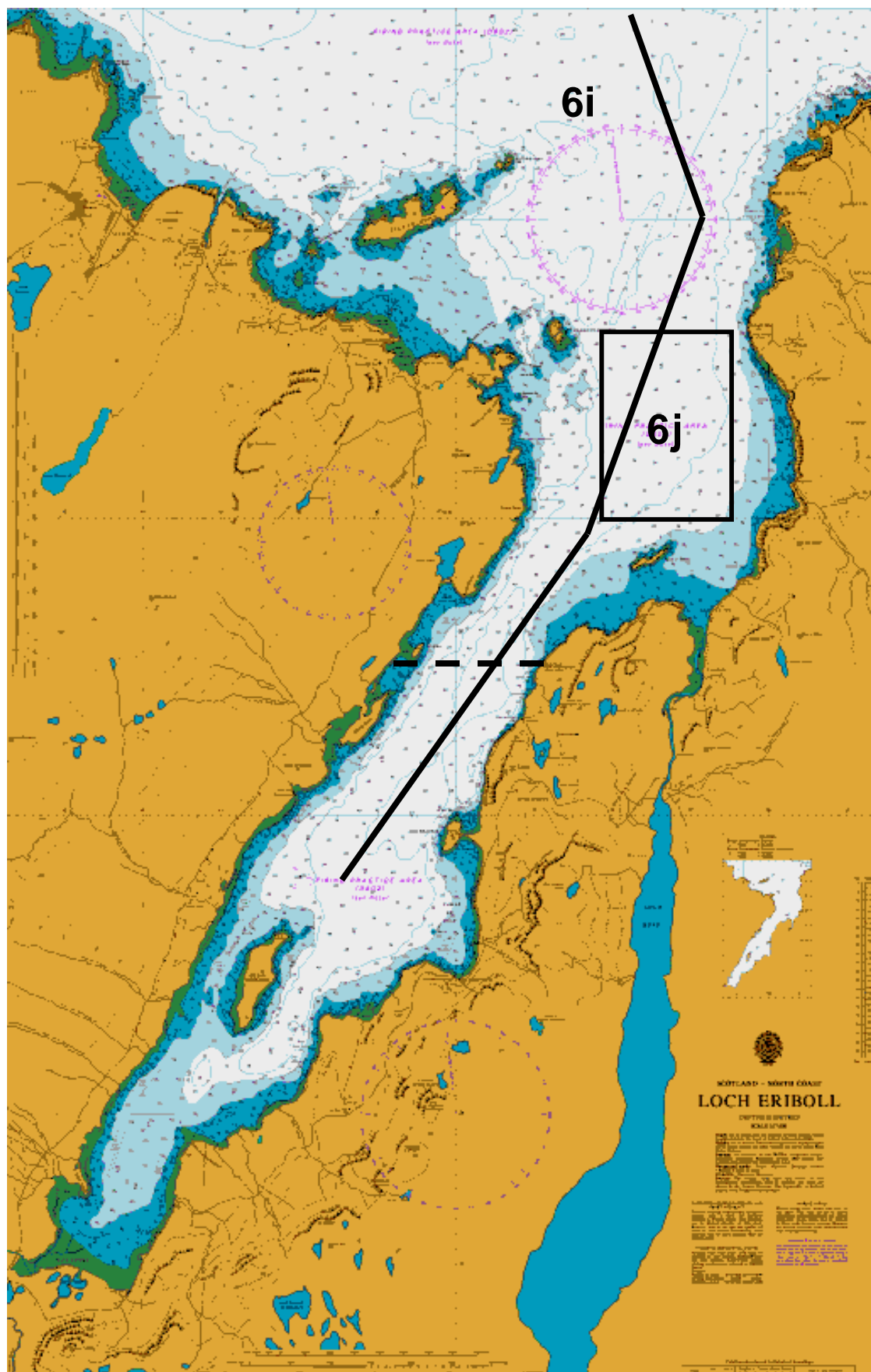
Chartlet 2

Minewarfare Activity



Chartlet 3

Minewarfare Activity



Chartlet 4

Live Firing and Gunnery

1. During Joint Warrior, Cape Wrath Range, including Garvie Island (An Garbh-eilean) will be active with various combinations of air bombardment, naval gunfire support and helicopter operations. In addition a Joint Warrior Firing and Danger Area will be activated for offshore gunnery. The Gunfacts and JW Offshore Firing Areas Activation Grid on the following page shows the areas and time periods where gunnery associated with Joint Warrior is forecast to take place. The daily GUNFACTS Broadcast by the Coastguard and Cape Wrath Range will provide notification of the actual areas where all the gunnery activity is taking place.
2. Joint Warrior Firing and Danger Area coordinates are in the accompanying chartlet.
3. It is mandatory that vessels in the vicinity of the Cape Wrath Range keep a listening watch on VHF Channel 16. Further information regarding firing at can be obtained by telephoning:

**Cape Wrath Information Line on
FREEPHONE 0800 833300.**

or 01862 892185

The number will provide specific information about active/non-active periods and when the Range road (U70) will be open/closed for public access.

Live Firing and Gunnery

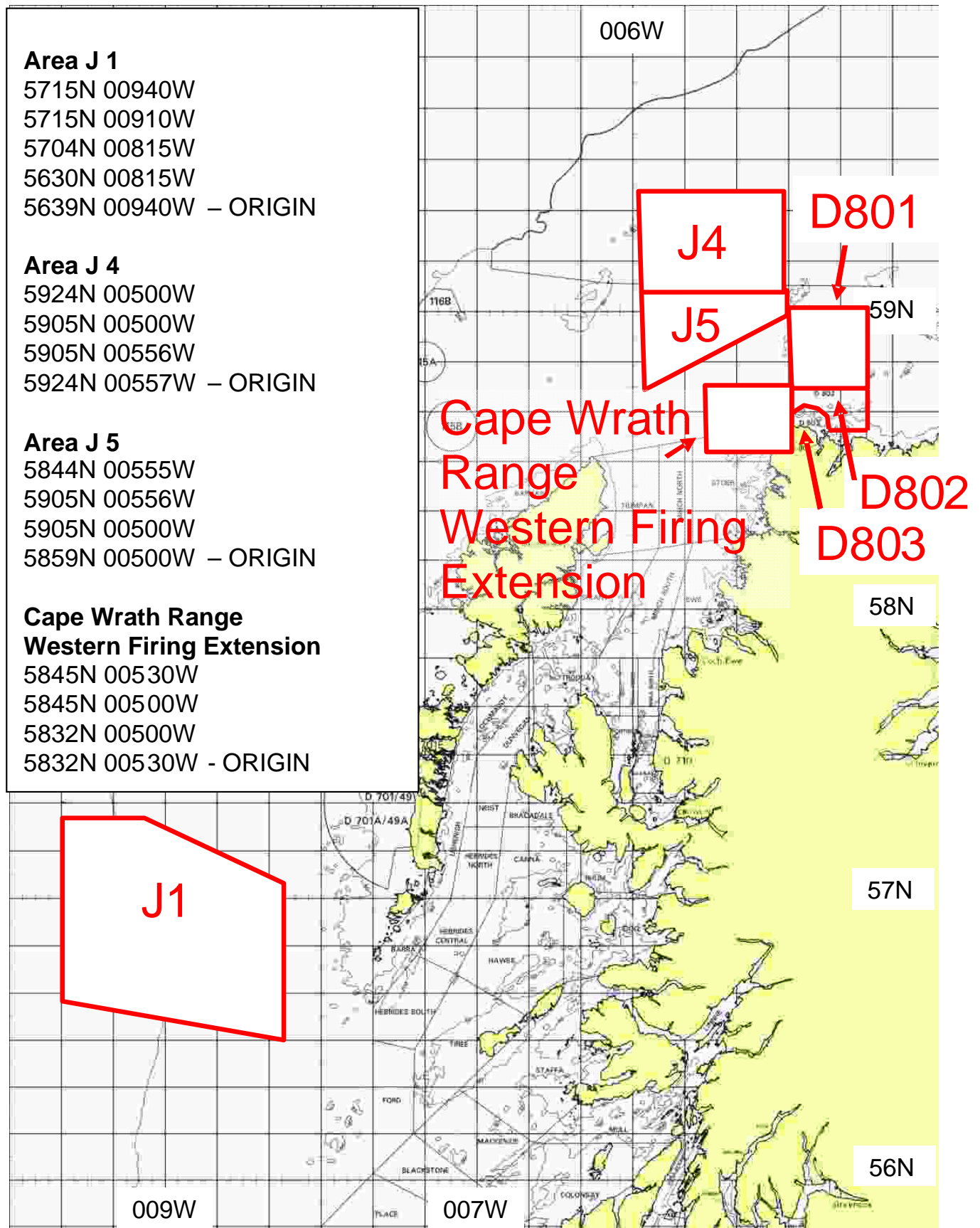
Exercise Joint Warrior 121

GUNFACTS AND JW OFFSHORE FIRING AREAS ACTIVATION GRID

	16 APR	17 APR	18 APR	19 APR	20 APR	21 APR	22 APR	23 APR	24 APR	25 APR	26 APR
	MON	TUE	WED	THR	FRI	SAT	SUN	MON	TUE	WED	THR
Cape Wrath Range (Ashore)	0100-2359	0100-2359	0100-2359	0100-2359	0100-2359	0100-2359	0100-2359	0100-2359	0100-2359	0100-2359	0100-2359
Cape Wrath D801		0800-1200									
Cape Wrath D802		0900-2030	0900-2359	0900-2359	0900-2359	0900-2359		0900-2359	0900-1900	0900-1900	
Garvie Island D803		0900-2030	0900-2359	0900-2359	0900-2359	0900-2359		0900-2359	0900-1900	0900-1900	
JW Danger Area J1		1400-1530	0900-1300 1500-1900								
JW Danger Area J4											
JW Danger Area J5											
Cape Wrath Western Firing Extension			0900-2359								
Clyde Areas D 509	0900-1400 1500-2000										

The planned times of firings at Cape Wrath Range and JW Firing areas is indicated in the grid above. There may be changes to this planned activity. Daily GUNFACTS Broadcasts and Cape Wrath Range Broadcasts will contain the most up to date information regarding the activation of the areas. Times are Local.

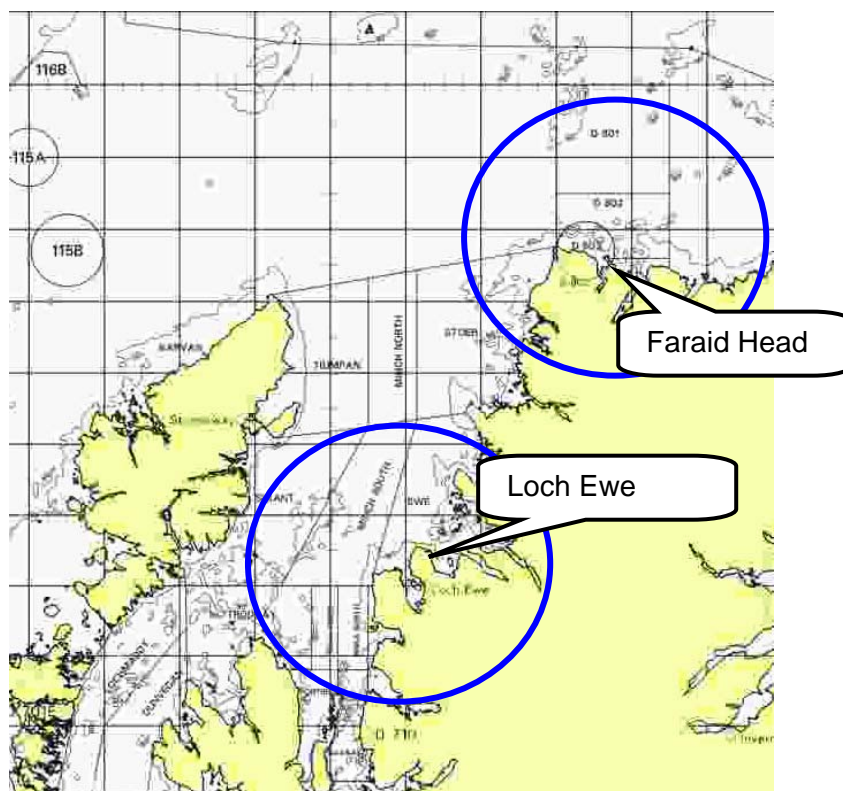
Joint Warrior Firing and Danger Areas



Denial of GPS Service

1. Denial of GPS services through the jamming of the GPS signal is an essential part of preparation for military operations and is a possible risk to both military and civilian maritime and air users. The ability to conduct jamming is spread throughout the modern world. Naval Forces are required to train under such conditions in order to demonstrate the effects it has systems and to train personnel in other modes of operating. The jamming equipment is located at:

- a. Faraid Head - 58 36.2N 004 46.4W
- b. Loch Ewe - 57 51.9N 005 41.1W



2. Jamming of GPS signals may affect equipment using GPS within the North Minch northwards from Rubha Réidh 57-52N 005-48W to Stoer Head 58-14N 005-24W and within 35 nautical miles line of sight from the Faraid Head jamming site, depending on receiver antenna height. Plots showing predictions of areas where interference can be expected are included at the end of this section.

3. Subject to approval from the MOD to conduct GPS denial training the planned times GPS Denial are shown in the time table on the next page. A sécurité message will be broadcast by Stornoway and Shetland CG prior to and on completion of the jamming period, during which time GPS receivers and any related equipment may suffer intermittent/total failure, or give incorrect position info or default to DR mode. If this occurs, DCS is to be manually updated at regular intervals. Crews should be aware of these limitations and use alternative means of navigation during jamming periods to confirm their position and check the equipment on completion. Military vessels in Faraid Head jamming area are as part of their Gunnery clear range procedure to inform civilian vessels in their

Denial of GPS Service

vicinity via VHF that GPS jamming is taking place and that they should manually update their DSC position.

4. All military vessels and aircraft will be ordered to maintain a lookout for any abnormal vessel behaviour during jamming periods and warn vessels as required
Emergency cease jam via Stornoway CG, the jamming station or joint warrior duty controller 01436 674321 ext. 6469

GPS DENIAL TIME TABLE

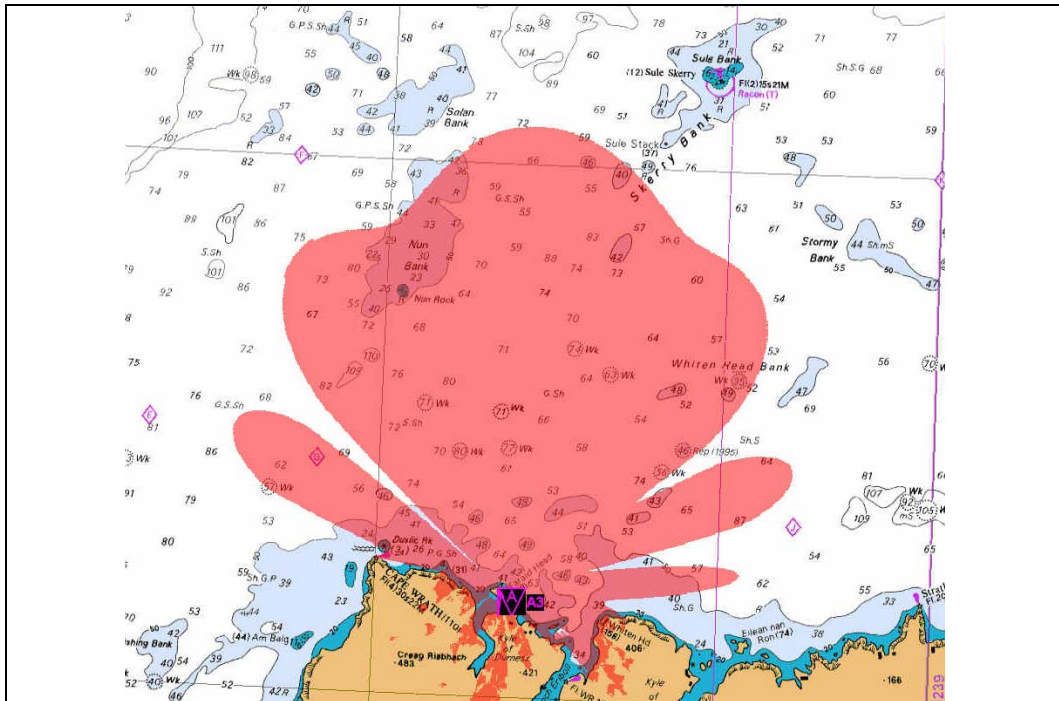
Date	Loch Ewe 57 51.9 N 005 41.1 W	Faraid Head 58 36.2 N 004 46.4 W
Tue 17 Apr 12	1100 – 1200 1600 – 1700	1130 – 1230 1730 – 1830
Wed 18 Apr 12	1100 – 1200 1400 – 1500 1800 – 1900	1500 – 1600 1900 – 2000
Thr 19 Apr 12	1100 – 1200 1400 – 1500 1800 – 1900	1500 – 1600 1900 – 2000
Fri 20 Apr 12	0900 – 1000 1530 – 1630 1900 – 2000	1100 – 1200 1400 – 1500
Sat 21 Apr 12	0900 – 1000 1400 – 1500 2030 – 2130	1030 – 1130 1500 – 1600
Sun 22 Apr 12	1230 – 1330 1900 – 2000	
Mon 23 Apr 12	0800 – 0900 1200 – 1300 1500 – 1600 1800 – 1900	1100 – 1200 1400 – 1500 1600 – 1700
Tue 24 Apr 12	1030 – 1130 1230 – 1330 1600 – 1700 1930 – 2030	1200 – 1300 1500 – 1600 1700 – 1800
Wed 25 Apr 12	0900 – 1000 1300 – 1400 1500 – 1600 1900 – 2000	1100 – 1200 1630 – 1730
Thr 26 Apr 12	0900 – 1000 1200 – 1300	

ALL TIMES LOCAL

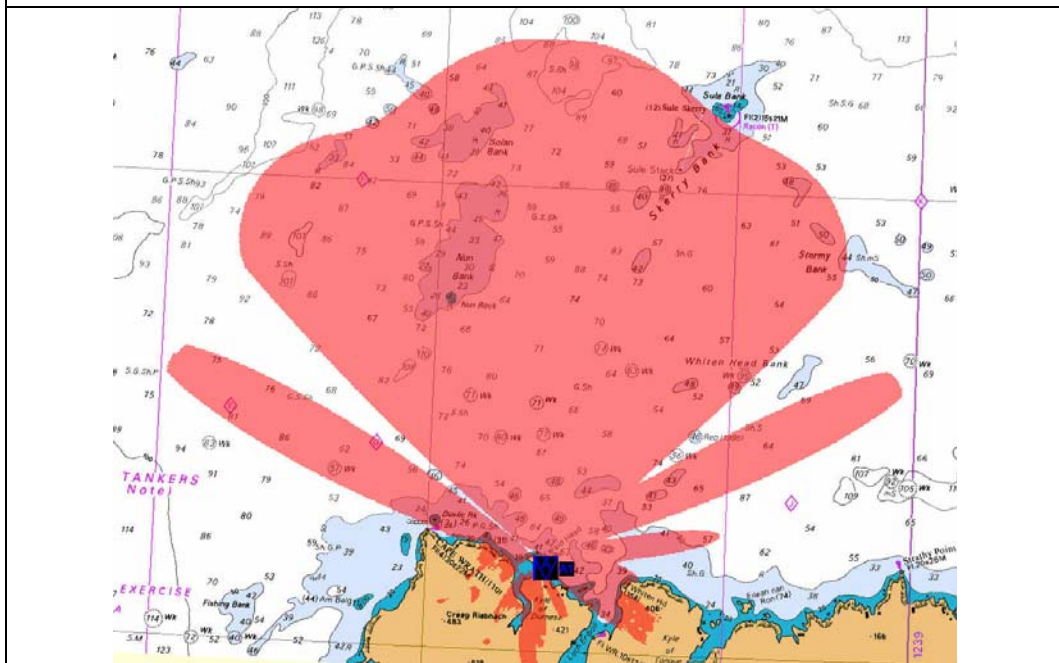
Denial of GPS Service

GPS RECEIVER INTERFERENCE PREDICTION PLOTS FOR FARAIID HEAD

The shaded areas represent the 30dB J/S threshold vs the minimum GPS L1 C/A-Code measured signal strength of -157dBW.



Faraid Head. Receiver antenna height 4m



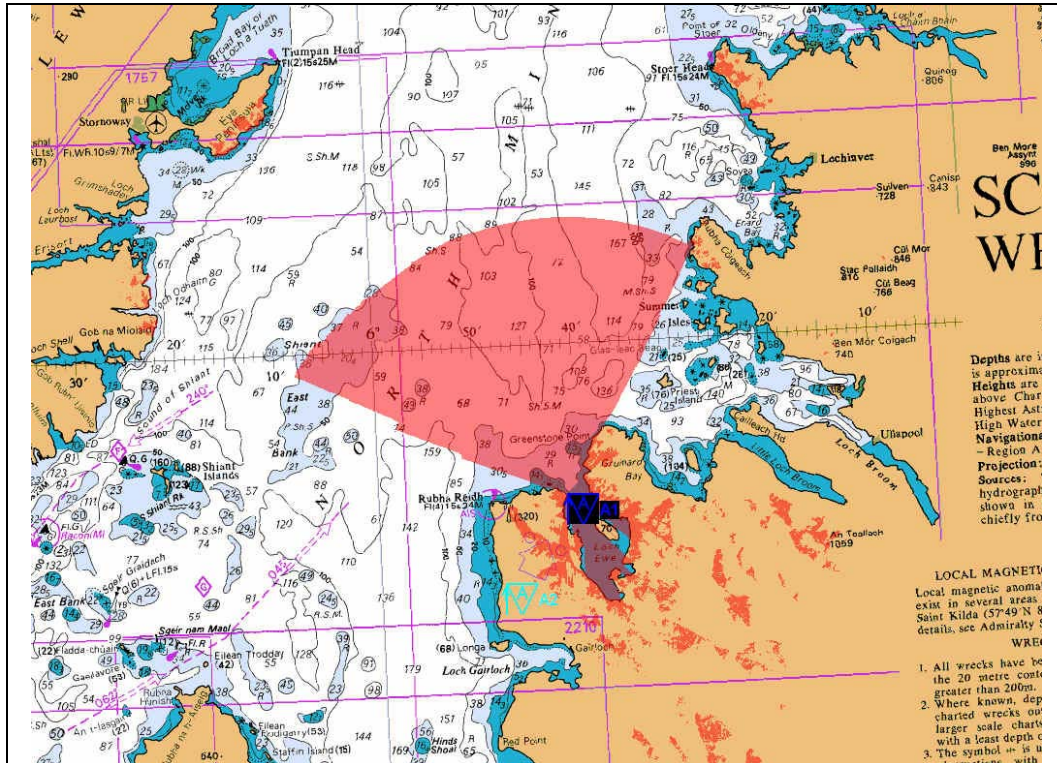
Faraid Head. Receiver antenna height 25m

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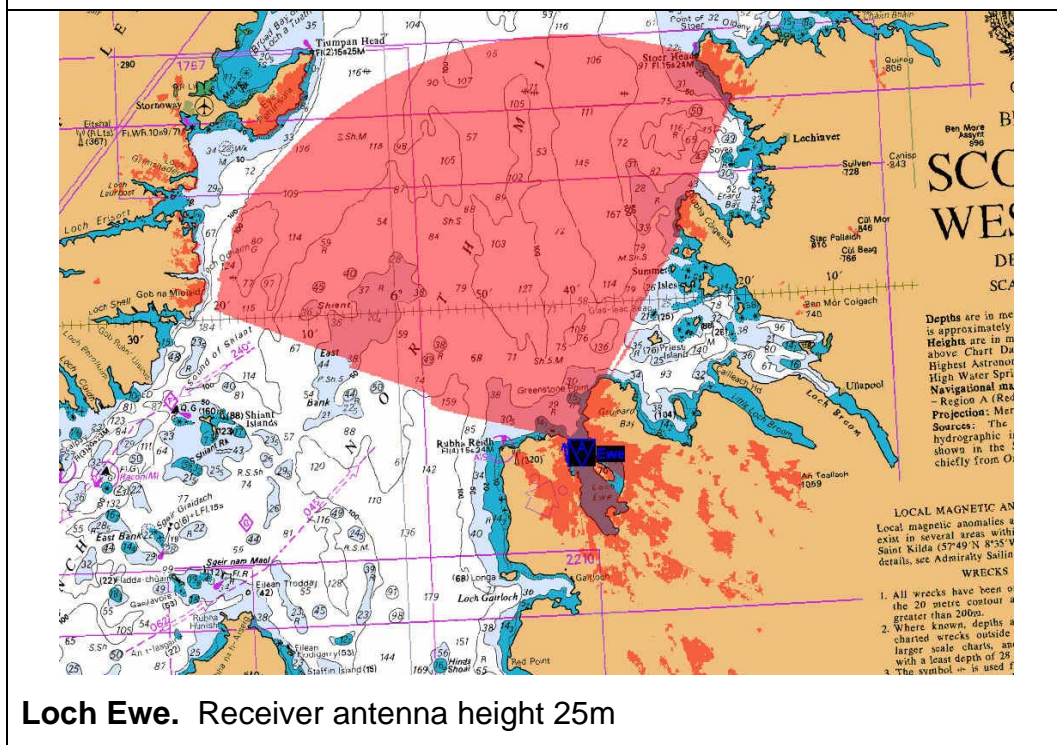
Denial of GPS Service

GPS RECEIVER INTERFERENCE PREDICTION PLOTS FOR LOCH EWE

The shaded areas represent the 30dB J/S threshold vs the minimum GPS L1 C/A-Code measured signal strength of -157dBW.



Loch Ewe. Receiver antenna height 4m



Loch Ewe. Receiver antenna height 25m

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Unexploded Ordnance Advice

1. The following general advice is offered to anyone discovering anything believed to be unexploded ordnance:

DIVERS	DO NOT TOUCH
FISHERMEN	Contact the coastguard. If this is not possible, lay the item in about 60ft of water, away from shipping routes and mark the position with a float.
EVERYONE	DO NOT TOUCH – dial 999 for coastguard or Police.

Contact Telephone Numbers

UNEXPLODED ORDNANCE (FLEET DUTY CONTROLLER)	01923 956366
FISHERMAN'S HOTLINE (FLEET DUTY CONTROLLER) SUBMARINE RELATED	01923 956366
HOTLINE (JOINT WARRIOR DUTY CONTROLLER) GPS JAMMING RELATED	01436 674321 Extn 6469
JOINT WARRIOR CONTROLLER	01436 674321 Extn 4372
CAPE WRATH INFORMATION LINE	FREEPHONE 0800 833300

If future versions of this brief are not required please contact:

Joint Tactical Exercise Planning Staff, JHQ Room 301, Northwood Headquarters,
Sandy Lane, NORTHWOOD, Middlesex HA6 3HP

Telephone: 01923 958788.

E-Mail: JTEPS-SM-SO2@mod.uk