



SCOTTISH EXECUTIVE

FABER MAUNSELL | AECOM



METOC

Note: This document is only a section of the Final Environmental Report

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Glossary & Abbreviations

Byelawed area	An area in which access and activities may be restricted by legislation usually in the interests of safety and security.
MoD	Ministry of Defence
PEXA	Practice and Exercise Areas

C13 Military Activities

C13.1 Introduction

Military activities occur throughout the SEA study area. This chapter of the report summarises the available information on these activities and, as far as possible, assesses the potential effects on military activities in the study area.

Although the Ministry of Defence (MOD) were able to provide some information on military activities, it was not possible to provide detailed information on the nature and extent of military activity throughout the SEA study area. However, when developers undertake site selection studies, consultation with the MOD will need to be undertaken to obtain more detailed site specific information.

Figures C13.1 and C13.2 accompany this chapter.

C13.2 Baseline Environment

C13.2.1 Available Information

The assessment of military activities in the study area is informed by the distribution and classification of Practice and Exercise Areas (PEXA) and information provided by the MOD.

The PEXA information is produced by the UK Hydrographic Office and shows areas around the UK which are in use or available for use by the MOD for practice and exercises – which may be with or without the use of live ammunition. PEXA sites occur extensively throughout the SEA study area and it was not possible for the MOD to provide information on the varying importance or levels of use of each of these sites. Activities occurring in these sites range from submarine and shipping activities, to firing and bombing activities. Figure C13.1 indicates the location of PEXA sites in the SEA study area.

The PEXA information was supplemented by information provided by the MOD on specific “danger areas” and “byelawed” areas.

Byelaws are a form of delegated legislation, used mostly by local authorities and government departments; they cover a defined geographical area, normally regulating certain activities in the interests of safety and security (MOD, 2007). Civilian activity is restricted or managed in “byelawed” areas. Byelaws can be used to allow civilian access to MOD land, but in the case of the marine exercise and practice areas in the study area they are used to restrict civilian access. Therefore, the marine byelawed areas that exist in the study area can typically be considered to be “no-go areas” for marine renewable energy development (Pers. Comm. Iain Robertson, MOD). These are shown on Figure C13.1.

The MOD is currently undertaking a review of its practice and exercise areas under byelaw and is also considering increasing the number of sites that are byelawed. This proposed increase in the number of byelawed sites is partly due to increasing pressures from other users of the marine environment (Pers. Comm. Iain Robertson, MOD). Figure C13.1 illustrates the location of danger areas, and byelawed sites which are currently under review. No information is yet available on the location of proposed new byelawed sites.

In addition to the sites noted above it is known that joint forces exercises (involving the army, navy and air force) have taken place in the study area in the Kirkudbright, Luce Bay and Cape Wrath areas in recent years. However, such exercises are locationally flexible and change from year to year so are not likely to be seriously constrained by marine renewable energy development (Pers. Comm. Iain Robertson, MOD).

C13.3 Potential Key Effects

C13.3.1 Installation Effects

Temporary disruption to military exercises and activities during installation of devices and arrays. When installation is underway there will be safety areas around activities which may cause military vessels to have to modify their routes and activities around the installation area. It is also possible that other activities such as firing practice could be disrupted during installation activities.

C13.3.2 Operation Effects

Long term disruption to military exercises and activities during operation of device arrays. It is not expected that cables from the array to the shore will have any noticeable long term effect on military activities. However, if a device array is located close to or within a practice or exercise area this could potentially have a long term effect on military activities, depending on how these activities are distributed within the exercise area. Operating devices could cause vessels involved in military exercises to use alternate locations within the area, or cause longer journey times due to the need to avoid operating devices.

One potential effect that was raised informally by a member of the MOD was the potential effect of the acoustic output of devices upon military sonar. The MOD was unable to provide further information on this potential issue for this project.

C13.3.3 Summary of Potential Effects

A summary of the potential effects identified for military activities is given below.

Table C13.1: Summary of Potential Effects - Military Exercise Areas

Effect	Development Phase	Direct/Indirect	Duration	Extent
Disruption to activities during installation	CC CD	Direct	Temporary (during installation)	Cable and device installation areas
Disruption to activities during operation	OD	Direct	Long term (device life)	Array size (4 km ² – wave; 0.5 km ² – tidal) and potentially cable swathe

CD = Construction/decommissioning impact – devices

CC = Construction/decommissioning impact - cables

OD = Operation impact – devices

OC = Operation impact – cables

C13.4 Sensitivity of Receptors

As discussed above there is very limited information available on activities undertaken in the study area and the sensitivities of the various sites. However, the fact that byelawed areas are designated in order to ensure that civilian activities can be regulated/limited in such sites and areas have been determined by the MOD to be danger areas, strongly suggests that these are the areas most sensitive to change within the SEA study area.

C13.5 Potential Significance of Effects

C13.5.1 Assessment Criteria

The assessment of effect significance has been undertaken based on the criteria below. These have been developed specifically for the SEA and take into account the information available to inform the assessment of significance.

Table C13.2: Significance Assessment Criteria – Military Exercise Areas

Significance Level	Determining Criteria
Major	Long term (for the life time of the development) disruption to military activities which cannot be adapted or relocated.
Moderate	Long term (for the life time of the development) disruption to military activities causing activities to be adapted or relocated or short term disruption to military activities which cannot be adapted or relocated.
Minor	Temporary (during installation) disruption to military activities causing activities to be adapted or relocated.
Negligible/No Impact	Military activities will be able to take place un-hindered.

C13.5.1.1 Mapping of Significance of Effects

Significance of key effects on military activities has been mapped and the results are shown on the figure noted in the table below.

It should be noted that that the assessment of significance has been undertaken at a strategic level, based on maximum estimated effects on the key known locations important in the area.

Table C13. 3: Potential Significance of Effects – Military Exercise Areas

Potential Effects	Device Characteristics	Development Phase	Receptor	Potential Significance of Effects	Likely Impact Extent	Confidence	Source	Figure Number
Disruption to activities during installation	All devices and cables	CC CD	General Military activities Activities in "byelawed" sites	Moderate – negligible Major	Cable and device installation area	High	Estimate based on expert knowledge	C13.2
Disruption to activities during operation	All devices	OD	General Military activities Activities in "byelawed" sites	Major – Negligible Major	Array size (4 km ² – wave; 0.5 km ² – tidal) and potentially cable swathe	High	Information from developers	C13.2

CD = Construction/decommissioning impact – devices

CC = Construction/decommissioning impact - cables

OD = Operation impact – devices

OC = Operation impact – cables

C13.6 Likelihood of Occurrence

Generally it can be assumed that the standard mitigation of carrying out site selection in conjunction with liaison with the MOD and avoidance of byelawed sites will result in a low likelihood of occurrence. However, there is large degree of overlap between military exercise areas and areas of interest for development in the study area and therefore some degree of effect upon military activities is likely to occur.

C13.7 Mitigation Measures

Where potentially significant effects have been identified for a specific receptor, the following mitigation measures are appropriate for reducing/mitigating effects.

Table C13.4: Mitigation Measures

Potential effect	Project Phase	Mitigation Measure
Disruption to activities during installation	CC	Avoidance of byelawed and danger sites
	CD	Carry out site selection studies in conjunction with liaison with MOD
Disruption to activities during operation	OD	Avoidance of byelawed and danger sites
		Carry out site selection studies in conjunction with liaison with MOD

C13.8 Confidence and Knowledge Gaps

Confidence in the assessment for PEXA areas that are not byelawed or noted as danger areas is low as the specific activities and effects of renewable energy development in these sites is not known.

The effects of the acoustic signatures of devices upon sonar activities are not currently known. This should be discussed with the MOD as appropriate on a case by case basis for individual developments.

C13.9 Residual Significance of Effects

The tables in this sub-section summarise the overall predicted significance of the potential effects identified for military activities in the study area.

Table C13.5 below summarises the potential effect significance, and confidence for the key potential effects identified in the preceding sub-sections, and provides an overview of effects over the entire study area.

Table C13.5: Potential and Residual effect Significance – Military Exercise Areas

Potential Effect	Device Characteristic	Development Phase	Receptor	Potential Significance of Effects	Industry Good Practice Mitigation	Likelihood of Occurrence	Residual Significance of Effects	Confidence
Disruption to activities during installation	All devices and cables	CC CD	General Military activities Activities in “byelawed” sites	Moderate – negligible Major	See table C13.4 Avoid	Low	Negligible	Low High
Disruption to activities during operation	All devices	OD	General Military activities Activities in “byelawed” sites	Major – Negligible Major	See table C13.4 Avoid	Low	Negligible	Low High

CD = Construction/decommissioning impact – devices

CC = Construction/decommissioning impact - cables

OD = Operation impact – devices

OC = Operation impact – cables

C13.10

Recommendations for Survey and Monitoring

No issues have been identified for survey and monitoring.

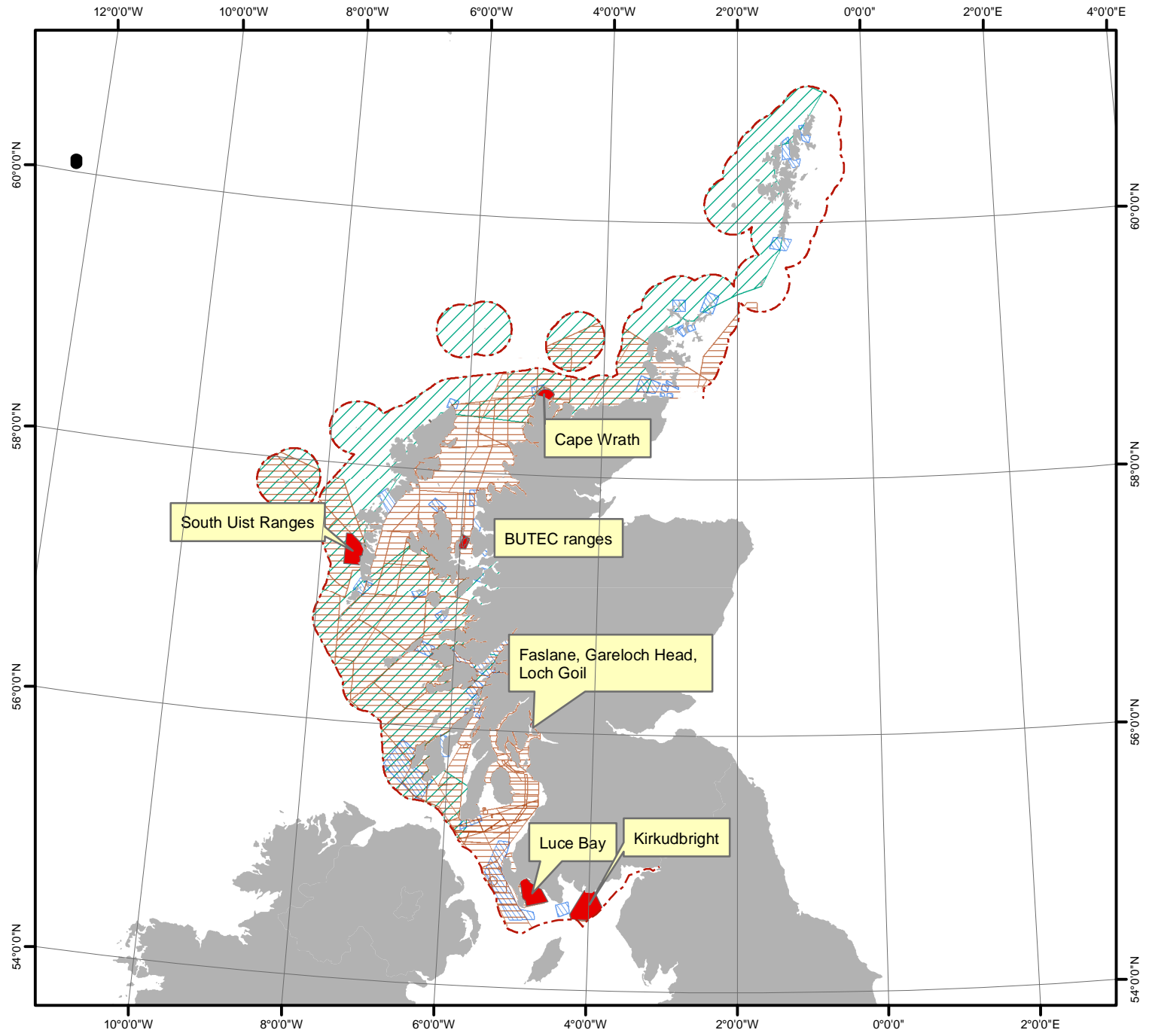
References

MOD. (2007). Available from: <http://www.defence-estates.mod.uk/byelaws/Internet/Intro.html>.
[Accessed: 20/02/07]






Seazone, 2005. Practise and Exercise Areas (PEXA) GIS data

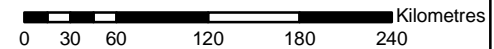
Figures

Figure C13.1: Military practice and exercise areas



Legend

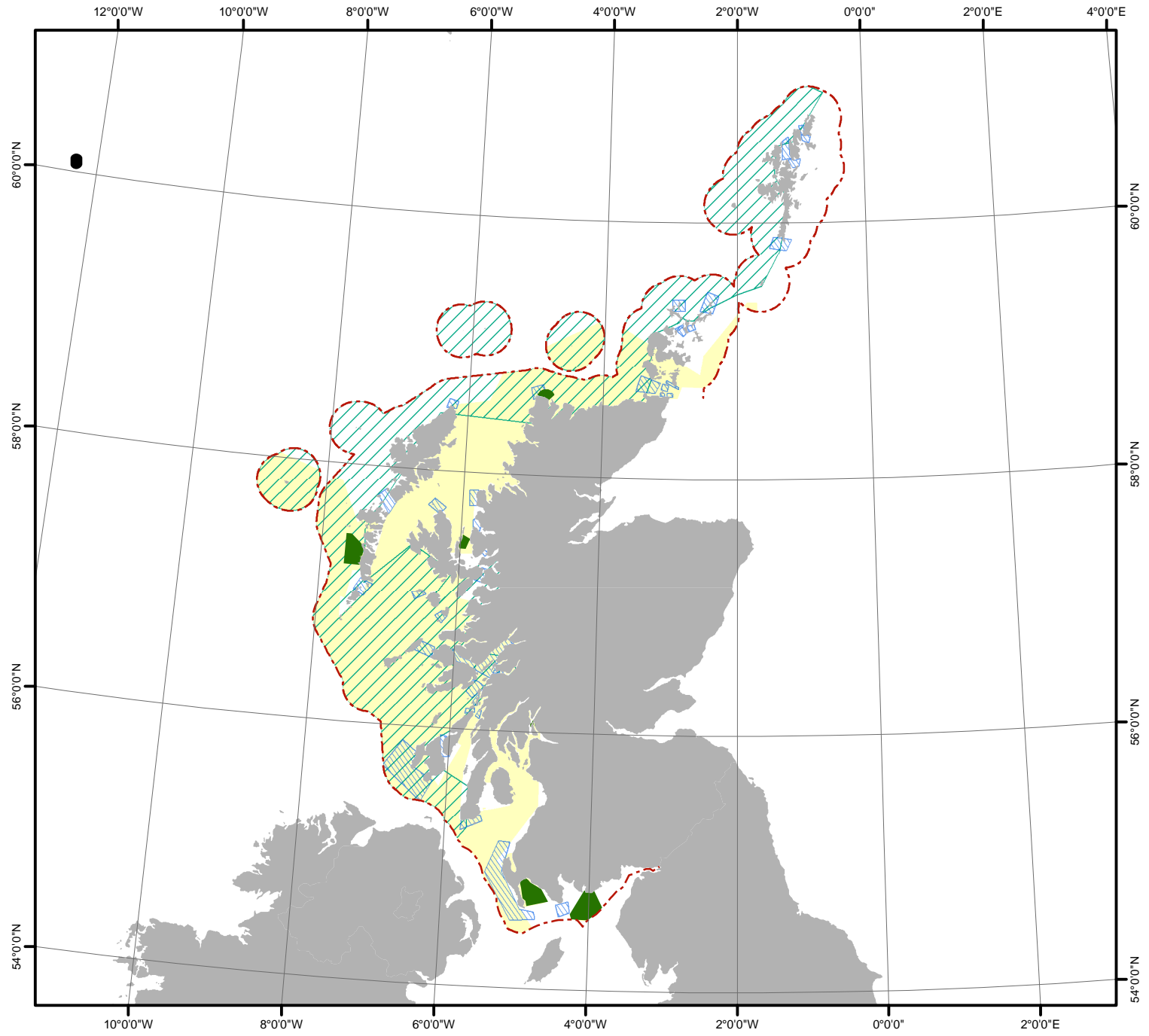
- Military Practice and Exercise Areas
-  Military Practice and Exercise Areas
 -  Areas under byelaw review and danger areas
- Potential development area
-  Tidal resource
 -  Wave resource
 -  12 Nautical mile limit (study area only)



Date	21 February 2007	
Projection	Transverse Mercator	
Spheroid	Airy	
Datum	OSGB36	
Data Source	SeaZone Solutions Ltd; PEXA	
File Reference	P736\GIS\Mxd\SEA\baseline	
Checked	RM	GIS Specialist
	FLB	Project Manager

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Figure C13.2: Significance of effects military practice and exercise areas



Legend

- Potential development area
 - Tidal resource
 - Wave resource
- Significance of potential impacts**
- Disruption
 - Major
 - Moderate
 - Minor
 - Not significant
 - Unknown
- 12 Nautical mile limit (study area only)

Date	21 February 2007	
Projection	Transverse Mercator	
Spheroid	Airy	
Datum	OSGB36	
Data Source	SeaZone Solutions Ltd; PEXA	
File Reference	P736\GIS\Mxd\SEA\baseline	
Checked	RM	GIS Specialist
	FLB	Project Manager

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