



**Statement of Intent between the UK SNCBs and Navy Command Headquarters regarding the use and maintenance of the Environmental Protection Guidelines (Maritime) (EPG(M)) and Maritime Environmental and Sustainability Assessment Tool (MESAT)**

The EPG(M) is an interactive set of generic guidance which is used to enhance Royal Navy and Royal Fleet Auxiliary ship, submarine and associated units' standard operating procedures when they operate in the vicinity of Marine Protected Areas. MESAT provides additional guidance to MOD personnel planning maritime activities for which EPG(M) are not appropriate or when EPG(M) are followed, remain significant enough to merit the completion of a specific environmental impact assessment.

**Roles and responsibilities**

Navy Command undertakes to maintain these tools so that they remain available and current for operational and training purposes.

The JNCC (Joint Nature Conservation Committee), on behalf of the UK SNCBs<sup>1</sup> (Statutory Nature Conservation Bodies), undertakes to support the maintenance of these tools with advice and guidance, and will review them at agreed intervals.

All parties will cooperate to maintain the functionality of the tools without compromising either the SNCBs' statutory regulatory roles or Navy Command's operational and strategic Defence roles.

**Dialogue**

Principle dialogue between parties regarding the EPG(M) and MESAT will be co-ordinated through the MOD/JNCC bi-lateral meeting held twice annually with separate specific meetings when required. Navy Command Headquarters will be represented in this dialogue by the Chief Environment and Safety Officer.

This should in no way discourage the entirely appropriate interaction of SNCB representatives and MOD personnel when dealing with local conservation issues not affecting the overall functionality of the tools.

Signature 	Signature 
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Position <b>Marine Advice Director</b>	Position <b>Chief of Staff (Headquarters)</b>
Organisation <b>JNCC</b>	Organisation <b>NCHQ</b>
Date <b>9<sup>th</sup> DECEMBER 2013</b>	Date <b>9 DEC 13</b>

<sup>1</sup>The UK's statutory nature conservation bodies include Natural England, Scottish Natural Heritage, Natural Resources Wales, and Northern Ireland DOENI Marine Division.



An Agency within the Department of the  
**Environment**  
[www.doeni.gov.uk](http://www.doeni.gov.uk)



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## **NAVY COMMAND– ENVIRONMENTAL ASSESSMENT OF MILITARY ACTIVITIES AT SEA - PROCESS STATEMENT OF INTENT ENDORSED BY THE UK STATUTORY NATURE CONSERVATION BODIES**

### **INTRODUCTION**

1. Navy Command Headquarters (NCHQ) has developed processes for assessing the environmental impact of Naval activities at sea. They are set out in full in the Royal Navy (RN) Maritime Environmental and Sustainability Assessment Tool (MESAT) which incorporates the Environmental Protection Guidelines (Maritime) (EPG(M)) for RN maritime Units. They have been developed in consultation with:
  - The Joint Nature Conservation Committee (JNCC)
  - Natural England (NE)
  - Scottish Natural Heritage (SNH)
  - Natural Resources Wales (NRW)<sup>1</sup>
  - Department of Environment Northern Ireland (DOENI)<sup>2</sup>
2. These groups are collectively titled the Statutory Nature Conservation Bodies (SNCBs). A summary of the NCHQ/SNCB consultation and decision process is at Annex A. A full list of MOD and SNCB key stakeholders is at Annex E.
3. This Statement of Intent (SoI) summarises the processes developed to aid assessment of the environmental impact of Naval activities at sea. They complement but do not supersede the Standard Operating Procedures (SOPs) and processes set out in the documents listed at Annex D.

### **EPG(M) - PURPOSE AND SCOPE**

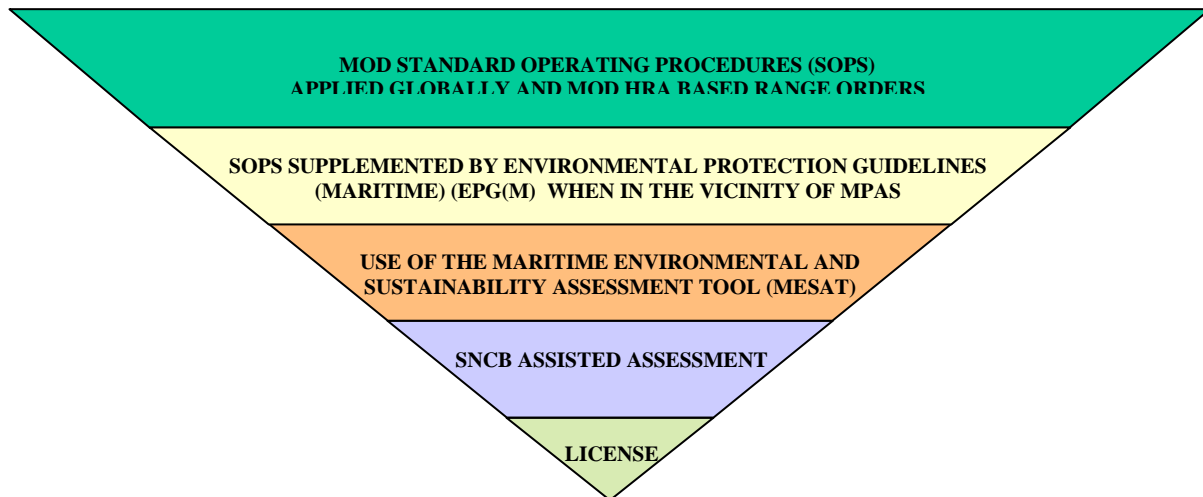
4. EPG(M) list restrictions and controls which, when applied to the conduct of military activities at sea, will effectively minimise the associated risks to the environment and thus avoid likely significant effect. They are designed to enable RN Units to meet their obligations for Environmental Protection (EP) in accordance with MOD Policy and legislation including:
  - Wildlife and Countryside Act 1981
  - The Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007
  - The Marine and Coastal Access Act 2009
  - The Conservation of Habitats and Species Regulations 2010
  - The Marine (Scotland) Act 2010
  - Wildlife and Natural Environment Act (Northern Ireland) 2011
  - The Marine (Northern Ireland) Act 2013
5. The development and use of EPG(M) are set out in MESAT documentation which is available by request to CESO(RN), Navy Command HQ. Together EPG(M) and MESAT:

<sup>1</sup> Formerly Countryside Council for Wales (CCW)

<sup>2</sup> As well as Northern Ireland Environment Agency before the Marine Division of DOENI was established

- a. Enable the responsible conduct of exercises and operations at sea whilst maintaining the optimal freedom of operation for maritime commanders.
- b. Form key elements of the RN layered Environmental Protection regime for maritime units as illustrated below. A full description of the layered approach to Environmental Protection is set out in the MESAT documentation.

### **LAYERED MARITIME ENVIRONMENTAL PROTECTION**



### **EPG (M) STRUCTURE**

#### 6. The EPG (M):

- a. Captures all military maritime activities on, under and above the seas, including operations across the intertidal regions.
- b. Facilitates the Environmental Assessment process by taking into account the many forms of legislated protected areas and species in UK waters and along the UK coastline, including:
  - Special Protection Areas (SPAs) - selected for rare, threatened or vulnerable bird species, for regularly occurring migratory birds listed in the Birds Directive, and their habitats.
  - Special Areas of Conservation (SACs) - selected for a number of particular habitats and species of fauna and flora which are listed in the Habitats Directive.
  - Ramsar Sites – designated for wetlands of international importance in terms of ecology, botany, zoology, limnology or hydrology.
  - Sites of Special Scientific Interest (SSSIs)/Areas of Special Scientific Interest (SSSIs) - coastal land areas selected by JNCC in collaboration with the national SNCBs which in their opinion are of special interest. They are managed under Government direction by landowners (including the MOD in some instances), occupiers and local planning authorities.
  - European Protected Species (EPS) – in UK and North Atlantic waters these consist of several species of cetaceans, turtles, otters and the Atlantic Sturgeon.
  - National MPAs – as identified through the Marine Conservation Zone (MCZ) Project, MCZ Project Wales, Scottish Marine Protected Areas (SMPA) Project and Northern Ireland MCZ Project.
- c. Provides guidance on the management of activities and controls or restrictions applicable to those activities in order to safeguard the environmental status of protected areas on a site by site basis.
- d. Reflects NCHQ's opinion on suitably precautionary measures at each site so that, when followed in conjunction with MOD Standard Operating Procedures (SOPs) and MOD Habitat Regulations Appraisal (HRA) based Range Orders, should obviate the necessity for any further Environmental Assessment by the operator for routine levels of naval activity.

7. A description of each type of military activity with possible durations and locations, together with correlation of the associated combined Natura 2000 pressure categories, is at Annex B. A description of the Pressure Categories is at Annex C.

## **MANAGEMENT**

8. EPG(M) will be managed and maintained as an element of the RN MESAT by the Chief Environmental Safety Officer (CESO) Staff within NCHQ. Revisions will occur as necessary should sites, activities or legislation change. There will be an annual opportunity for revision of the EPG(M) whilst high priority changes will be promulgated by Naval Temporary Memorandum. An effective revision process will be ensured by NCHQ engagement with the SNCBs and other appropriate environmental stakeholders through:

- The UK Marine Biodiversity Policy Steering Group
- The MOD/JNCC Bilateral meetings.
- The Maritime Under Water Sound Forum (MUSSF).
- A full MESAT and EPG(M) review 12 months after the live application of these processes across the RN, followed by further reviews as agreed between NCHQ and the SNCBs.

9. Revisions will be submitted to relevant SNCBs for their advice prior to release. If changes require implementation at short notice this will be done by NCHQ, normally through Notices to Mariners (NTM) or Notices to Airmen (NOTAM) without delay, informing SNCBs on completion.

10. Wherever possible assessments of Naval maritime activities shall take account of the possible cumulative or combined effects of Naval and commercial activities in the same or adjacent sea areas, particularly in respect to noise generation. Pending the development of a coherent register of such commercial activities, NCHQ will use their best endeavours to ensure notice of commercial activities is promulgated through the Military NTM and NOTAM systems. For large exercises like the Joint Warrior exercises, a process is in place for considering other marine activities while determining the environmental impact of the planned exercise.

## **UTILISATION**

11. EPG(M) will be available to all departments and units fitted with the RN electronic charting systems and through the Defence internal information system networks for those not so fitted.

12. All planning and execution of RN maritime activities in UK waters will be informed and tempered by the package of supporting environmental documentation and procedures as set out in the layered maritime EP process (Para 4). This package will include:

- a. Environmental protection elements of MOD SOPs.
- b. The MESAT and associated EPG(M).
- c. MOD Estate management processes, including Range orders and Management Plans for established MOD owned or operated coastal land sites.
- d. MOD processes for regulating activities on coastal land sites in private ownership.

13. Whenever RN planning authorities are unable to work within this package for both the planning and conduct of exercises or operations, further assessment will be conducted on the potential impacts and risks as set out in the Layered EP (Para 6). In such circumstances NCHQ will consult JNCC as early as possible in the assessment process prior to the activity to ensure that SNCBs have the opportunity to comment and advise. Such consultation is subject to operational constraints and may not be possible in the event of urgent short notice operations. In these instances, NCHQ will inform JNCC as soon as reasonably possible after the operation has taken place.

## ANNEXES

- A. EPG(M) Consultation Process.
- B. Description of Military Activities and Correlation with Natura 2000 Pressures.
- C. JNCC Natura 2000 Pressure Categories.
  - Appendix 1 to Annex C – List of Conglomerated Natura 2000 Pressure Categories.
- D. List of Key MOD Documents.
- E. List of MOD and SNCB Environmental Stakeholders.
- F. EPG(M) Tables.

## **ANNEX A to MESAT & EPG(M) SOI**

### **EPG(M) CONSULTATION PROCESS**

This Annex provides a summary of how the MOD has produced the EPG(M) utilising advice from the SNCBs and outlines the advice which the MOD has received.

#### ***Introduction***

In order to fulfil legislative requirements outlined earlier, NCHQ have developed a Maritime Environment Sustainability Appraisal Tool (MESAT) which will enhance consideration of the impact of military activities on the marine environment during planning of military exercises and as such minimise any resulting impact from military activities. Part of this tool is a suite of operational guidance associated with Marine Protected Areas (MPAs).

To ensure that this tool is meeting certain environmental standards, the MOD have sought the advice of the SNCBs who, through a series of meetings and reviews of draft documents, have provided advice on the possible impacts of military activities on the marine environment and how those impacts can be mitigated in order to avoid any significant effects on the marine environment.

#### ***Summary of key points from the meetings between the MOD and the SNCBs***

The first meeting between the SNCBs and the MOD took place in February 2011. This meeting provided a strategic discussion about the purpose of the MESAT and how it would comply with the legislative requirements of the Birds and Habitats Directives. It was explained that the purpose of the MESAT was to ensure that military activities could be undertaken anywhere in the UK without having a significant impact on an MPA or a European Protected Species (EPS). This would be achieved by following standard operational procedures and further moderating them in the vicinity of an MPA when activity could cause a negative impact on designated features. If it is necessary for MOD to operate contrary to this UK wide guidance then a fuller environmental assessment will be undertaken and the SNCBs consulted for their advice.

Key points from the first meeting:

- Marine Conservation Zones (MCZs) and Scottish Marine Protected Areas (SMPAs)<sup>3</sup> will be added into the EPG(M) once designated, and prior to that, the MOD will seek SNCBs advice over whether their activities may impact those sites;
- MOD need to consider impacts of their activities in combination with other non military activities and that the relevant licensing authority should be consulted as they can provide information on other plans/projects to consider;
- Integrated Rural Management Plans (IRMPs) are produced for all MOD designated firing ranges / danger areas and these IRMPs are subject to Habitats Regulations Appraisal (HRA) with advice provided by the relevant SNCB about possible impacts.

Prior to the second meeting, the MOD produced a table which explained what each maritime military activity involved, its likely locations and estimated frequencies (see Annex B), what the possible pressures each activity may have on the marine environment and whether the MOD thought they were significant or not. These pressures were based on a paper produced by JNCC which combined relevant terrestrial and marine Natura 2000 pressure categories (see Annex C). These outputs were then discussed at the second meeting in order for the SNCBs to advise, on a feature by feature basis, whether each activity could have a significant effect on the marine environment and if so what mitigation would be necessary to minimise that impact.

A summary of the second meeting held in March 2011 and the key advice from the SNCBs is included below:

- With current military commitments abroad and with decreasing Government spending, the scale and frequency of military activities in the UK marine environment is reducing;

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<sup>3</sup> Including, where relevant, Historic MPAs, Nature Conservation MPAs and Research & Demonstration MPAs

- With this in mind, the SNCBs made the following advice about military activities against each type of ecological receptor, noting that in some instances a general approach may not avoid a significant effect on the marine environment owing to seasonality/unfavourable condition issues. It was agreed that the SNCBs would advise on any sites where it may be necessary to add additional mitigation measures to avoid a significant impact;
- Birds – For low flight aircraft activities (particularly hovering) the SNCBs advised that seal and seabird sites might require further considerations such as seasonality. Particular sites might need restrictions and this was to be discussed in more detail at a specific MOD – SNCBs meeting on the Military UK Low Flying System (brief notes on this meeting is included below);
- Benthic – Most firing activities seldom occur and if they do then they normally occur within designated MOD firing ranges which are subject to IRMPs/HRA. Therefore the impact on any marine features outside of these ranges was felt to be negligible as the debris falling on to the sea is of small dimension/amount. The SNCBs however agreed that this was only the case if debris was at current limited levels. A considerable increase in firing activity could result in a significant effect on, for example, benthic habitats. However it was acknowledged that such increase is highly unlikely during this time of reduced Government spending.
- Marine Mammals – It was noted that MOD have their own tool called s2117 which regulates the use of sonar and that this tool is subject to annual review by a range of interested parties including the JNCC. Outside of sonar use, it was highlighted that any noise resulting from firing activities will be of very short duration and mostly above the surface of the water. Furthermore, if using explosives underwater, the explosive guidelines JNCC has produced are adapted as appropriate and applied<sup>4</sup>. The SNCBs advised that all firing activities in the vicinity of seal SACs should be avoided where possible but if firing activities were needed in these areas then there should be further consideration of seal pupping seasons, as the animals might be particularly sensitive to disturbance at this time. A standard exclusion distance from haul out sites might be appropriate.
- Coastal – It was highlighted that activities such as amphibious landing, explosive activities and anchoring could impact sites with coastal qualifying interest features.

A third meeting was convened in July 2011 in order to discuss the UK Military Low Flying System and the advice that the SNCBs had provided in the second meeting. A summary of the key points from the meeting are:

- The entire UK airspace is open to low flying training and that this training is essential in the interest of national security;
- The UK Military Low Flying system is used in order to 'book' aircraft into airspace so that the health and safety of airmen is ensured. This system is updated on a daily basis so that activities can be planned to take account of variable factors such as weather, training requirements and any temporary airspace restrictions;
- The UK Military Low Flying System includes a 'bird concentration' data set which is regularly updated using data from the British Trust for Ornithology and used to present a possible hazard to airmen. Areas where there are significant concentrations of birds are largely avoided for low-flying activities due to the inherent safety risk they present;
- The SNCBs noted that MOD would be likely to avoid subjecting those areas with high bird concentrations to low-flying activities, and would therefore be unlikely to have a significant effect on any SPAs within those areas;
- However the SNCBs highlighted that the bird concentration areas may not include SPAs which have small or declining populations which are at a level that is not considered a large aggregation for hazard mapping. These SPAs would be the most sensitive areas to low-flying activities and therefore it was felt these should possibly be better reflected within the low-flying system. It was agreed that the MOD would share the bird aggregations information with SNH and JNCC to see if there are any gaps in the areas avoided.

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<sup>4</sup> Available from: <http://jncc.defra.gov.uk/page-4900>

### ***Key advice from the SNCBs***

- Any significant increase in the frequency and duration of military activities in the marine environment (above that outlined in Annex B) will be discussed with the SNCBs in order to assess whether previous advice requires amending;
- The EPG(M) will be subject to constant review on the basis that the conditions of features and species may change and new scientific evidence may come to light. Furthermore any new sites submitted to the MOD through the UK Marine Biodiversity Policy Steering Group (UKMBPSG) will be included within the MESAT and e-charting system as soon as practicably possible and appropriate mitigation will be discussed with the SNCBs through JNCC;
- The MOD should consult with the relevant licensing authority during the planning of exercises in order to consider possible cumulative impacts of their activities with other plans/projects. The SNCBs will provide advice on this wherever it is deemed necessary;

The SNCBs do not currently agree with the EPG (M) when the Military UK Low Flying System is mentioned because the SNCBs do not believe that in its current format, it is possible to conclude that there will not be a significant effect on an SPA or SAC with seals as a qualifying interest feature. The Military UK Low Flying System is under review (as of Q3, 2013) through a process initiated via the MOD/JNCC bi-lateral meeting. Progress of the review and its outcomes will be monitored and SNCB involvement facilitated via this forum.



**DESCRIPTION OF MILITARY ACTIVITIES AND CORRELATION WITH NATURA 2000 PRESSURE CATEGORIES**

<b>MESAT - DESCRIPTION OF MARITIME ACTIVITIES</b>						
<b>GROUPING</b>	<b>ACTIVITIES</b>	<b>DESCRIPTION</b>	<b>IMPACT ZONE</b>	<b>IMPACT POTENTIAL</b>	<b>PRESSURE CATEGORY - IMPACT TO BE DEBATED</b>	<b>PRESSURE CATEGORY - IMPACT INSIGNIFICANT</b>
<b>R</b>	Aerial towed target or target towing aircraft (TT)	Towing or deployment of towed aerial target. These are streamed behind a towing aircraft as a target for ships anti-aircraft guns.	Aerial Activity	Air -Noise and visual disturbance associated with any aircraft. The towing of a target does not materially change the impact potential. The extent of disturbance at or near ground level will depend on aircraft height.		17, 20
	Air general (AIR)	Flying activity not including the release of weapons. This encompasses general flying activity by RN aircraft with no specific military component.	Aerial Activity	Air - Noise and visual disturbance associated with any aircraft. The extent of disturbance at or near ground level will depend on aircraft height. All air operations will conform to the MOD Low Flying Handbook which is based on the UK Low Flying System.		17,20
	Air to air firing (AAF)	Aircraft firing at an air target	Aerial Activity	Air - Noise, visual and physical disturbance. The actual weapon firing will generate a temporary increase in noise and flash. Very minor debris deposition. With the demise of the Sea Harrier this type of firing under RN auspices will not occur for some years.	17,20	5,15

Air to sea or ground firing (inert) (ASPF)	Any aircraft firing at a sea surface or land based target using practice weapons (not exploding).	Air & surface activity	Air, Surface & Water Column - Noise, visual and physical disturbance. The actual weapon firing will generate a temporary increase in noise and flash. The ground or sea impact will generate temporary local disturbance but no explosion. Very minor debris deposition. This form of firing by RN aircraft will be very rare and confined to helicopter missile armament with the demise of the Harrier force.	17,20	5,15
Air to sea or ground firing (exploding) (ASLF)	Aircraft firing at a sea surface or land based target using explosive weapons.	Air & surface activity	Air, surface & Water Column - Noise, visual and physical disturbance. The missile firing will cause a temporary increase in noise and flash. The ground or sea impact area will be subject to temporary noise and flash from the explosive impact. This form of firing is very rare and will only take place within designated and established MOD ranges.	17,20	5,6,15
Missile Firing (inert) (MFI)	Launch of missiles from ship launching platforms - inert missiles (not exploding).	Air/surface activity.	Air, surface & Water Column - Noise, visual and physical disturbance. The aircraft will cause normal air noise and disturbance. The missile firing will cause a temporary increase in noise and flash. The ground or sea impact area will be subject to temporary noise and disturbance from the impact but no explosion. Minor debris deposition. On land, firings will only take place in designated and established MOD ranges.	17,20	5,15
Missile firing (exploding) (MFE)	Launch of missiles from ship launching platforms - live missiles (exploding).	Air & surface activity	Air, surface & Water Column - Noise, visual and physical disturbance. The missile firing will cause a temporary increase in noise and flash. The ground or sea impact area will be subject to temporary noise and flash from the explosive impact. This form of firing is very rare and will only take place within designated and established MOD ranges. There will be minor debris on the sea bed at impact point.	17,20	5,6,15
Pilot less target aircraft (PTA)	A pilot less target aircraft is a small remotely controlled air target normally used in anti-aircraft firing exercises by ships. The presence of the PTA itself will generate very minor environmental impact.	Aerial Activity	Air - very minor noise and visual disturbance depending on PTA operating height.		17, 20

Air dropped torpedo (explosive) (ADTE)	Torpedoes are carried by fixed wing maritime patrol aircraft and by naval helicopters. Practice drops may be carried out using live torpedoes with explosive warheads.	Air and surface for weapon drop. Sub-surface or surface explosion.	Air, surface & Water Column - Noise, visual and physical disturbance. The aircraft will cause normal air noise and disturbance. The torpedo drop will cause very minor air and surface temporary disturbance. The impact area will be subject to temporary noise and flash from the explosion. Very minor debris deposition. This form of firing is very rare and will only take place within designated and established MOD ranges with established environmental protection practices.	17,20	15, 5, 6
Air dropped torpedo (inert) (ADTI)	Torpedoes are carried by fixed wing maritime patrol aircraft and by naval helicopters.	Air/surface/Sub-surface activity	Air, surface & Water Column - Noise, visual and physical disturbance. The aircraft will cause normal air noise and disturbance. The torpedo drop will cause very minor air and surface temporary disturbance. The torpedo is inert and its run will cause only very minor surface and upper water column disturbance. The weapon will be recovered after the drop.	17,20	5,15
Star shell (SS)	Firing of star shell or similar within sea areas. Star shell is fired from medium calibre guns. It produces a flare which is used to illuminate potential targets during practice engagements between surface ships.	Medium calibre-Flares/Smoke	Air - noise, visual and physical disturbance. As with all gunnery firings, there is local temporary noise and flash as the gun fires. The flare produced will illuminate an area of sea and silhouette a potential target. It will last for a few minutes.	17,20	5,6,15
Anti Aircraft firings - small or medium calibre (AA)	Gunnery practice for protection against aircraft or missile attack. All calibres of weapons can be used from medium calibre single shot guns to closer range small calibre weapons with very high rates of fire.	AA weapons-all calibres	Air/Water surface - Noise, visual & physical disturbance. During actual firings there will be temporary noise and flash from the gunfire. There will also be expended munitions falling into the sea at the end of the projectiles' path, causing very minor seabed deposition.	17,20	5,6,15
Anti Air Warfare (AAW)	Anti-Air Warfare Training - no firings. This normally involves fixed wing aircraft flying towards the ship adjusting height and speed to simulate the flight path of an anti-ship missile. The aircraft will therefore be flying at low altitude	Air & surface	Air/Water surface - Noise, visual & physical disturbance. The aircraft will cause normal visual and noise disturbance along its flight path, increasing as its height reduces. MOD low flying rules will be followed in all such exercises. There are no weapon firings in this form of exercise.	17,20	

	during the later parts of its attacking runs.				
Machine gun firing (MG)	Machine gun/small arms firings. These are normally against small temporary targets launched from the ship and recovered on completion.	Small calibre weapons firing	Air/Water surface - Noise & physical disturbance. As with all gunfire, there is temporary noise and minor flash disturbance at the instant of firing. There will also be minor seabed deposition from spent munitions. There is no explosive element to such firings.	17,20	5,6,15
Surface target towing (STT)	This involves the use of a small vessel (often a tug) to tow a target which is then fired at by other ships.	Surface activity	Water surface - very minor noise & vibration as with the movement of any vessel.		17,20
Surface to surface gun or missile firings (inert) (SUI)	Surface firing at a surface target using inert shells or missiles. This normally involves the firing of medium calibre weapons or a surface to surface missile against a towed target.	Surface activity	Air/Water surface - Noise, visual & physical disturbance. During actual firings there will be temporary noise and flash from the gunfire or missile launch. There will also be expended munitions falling into the sea at the end of the projectiles' path.	17,20	5,15
Surface explosions (SX)	Explosion occurring at or immediately above the water surface.	Surface explosions	Air & water Surface-Noise, physical & visual disturbance. This will be a very rare occurrence which will take place under tightly controlled conditions within designated and established MOD ranges and in accordance with BRd 5063 and JNCC protocols. The explosion will generate temporary noise, raised water column and shock waves. The duration and intensity will depend on the size of the explosion.	17,20	5,6,15
Surface to surface gun or missile firing (exploding) (SUE)	Surface firing at a surface target using shells or missiles armed with explosives	Surface explosions	Air/Water surface - Noise, visual & physical disturbance. During actual firings there will be temporary noise and flash. This will be a very rare occurrence which will take place under tightly controlled conditions within designated and established MOD ranges and in accordance with JNCC protocols. The explosion will generate temporary noise, raised water column and shock waves. The duration and intensity will depend on the size of the explosion.	17,20	5,6,15
Naval gunfire support (inert)	Firing of naval guns above 75mm (3") using inert shells against shore	Land targets - medium calibre	Surface, air & land-noise and physical disturbance. The shore target is designated by a shore based	17,20	5,15

	(NGSI)	targets. This exercises ships in attacking shore targets up to 5 miles inland in support of land forces. The ship is supported by a shore based 'spotter' who corrects fall of shot to bring it onto the target. Such firings typically last only a few minutes spread in bursts across perhaps 1 or 2 hours.		'spotter'. Such firings take place only on established MOD ranges. There is the usual element of temporary noise and flash with each firing, and the disturbance caused by the impact of the munitions. Minor debris deposition around land targets. Note: For purely exercise purposes, some NGS ranges consist of specially laid target buoys. In these circumstances the ship is firing into the sea. There will be minor disturbance and sea bed deposition of expended munitions in the vicinity of the buoys. NGS buoys are only laid in designated MOD range sites.		
	Naval gunfire support (exploding) (NGSE)	Firing of naval guns above 75mm(3") using shells armed with explosives. This exercise is exactly the same as for inert NGS above except, of course, there is an explosion at the end of each firing.	Land targets - medium calibre	Surface, air & land-noise and physical disturbance. The shore target is designated by a shore based 'spotter'. Such firings take place only on established MOD ranges. There is the usual element of temporary noise and flash with each firing, and the disturbance caused by the explosion on impact with minor debris deposition in the explosion area.	17,20	5,6,15

<b>SUBMARINE &amp; ANTI-SUBMARINE</b>	Anti submarine warfare exercises (active) (ASWA)	Surface or air ASW training using sonar. These exercises normally last between 2 and 4 hours and involve surface ships, submarines, helicopters and, occasionally, maritime patrol aircraft. The ships and some helicopters will transmit intermittently on sonar. No explosive devices are used. Ships may operate at high speed and helicopters will fly at low altitudes (around 200 feet) and hover at 50 to 100 feet.	Sonar	Air & Water Column - Noise, visual and physical disturbance. There will be minor surface and sub-surface disturbance from ship and submarine movement. There will be some noise and disturbance from aircraft flying in the locality but low flying rules will always be observed. There will be noise disturbance in the water column from sonar transmissions. Use of sonar will always be governed by BRd 4985 and s2117.	17,20	15
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	Sonobuoy dropping (active sonar) (SD)	Surface or air deployed sonar buoys. With the recent force reductions use of sonobuoys will be rare. In any event they are small and represent an insignificant presence in the water.	Sonar	Air & Water Column - Very minor noise, visual and physical disturbance. Use will be subject to BRd 4985 and s2117 assessments.	17,20	5,15
	Submarine exercises (active) (SMA)	General s/m training using sonar <b>(no ships or aircraft)</b> . Submarines will conduct a variety of under water activities independent of other forces which will have no environmental affect. Submarines rely on stealth and if they transmit on sonar they will be detected. Therefore submarine sonar transmissions will be very rare.	Sonar	Water Column - very minor disturbance except on very rare occasions when very short duration sonar transmissions are made. In this case BRd 4985 and s2117 will be used.	17	
	Anti submarine warfare exercises (passive) (ASWP)	Surface or air ASW training (not using sonar). This could involve surface, sub-surface and air units but with no use of active sonar any environmental disturbance will be minimal and temporary.	Air/surface/sub activity	Air & water column - very minor physical disturbance.	17,20	
	Ship launched mortar firing (inert) (MOI)	Firing of inert mortars into the sea. Mortars fire anti-submarine depth charges which are inert and will land on the sea bed. If used on established mortar firing ranges the munitions will be recovered. No RN ships have mortars now but some NATO ships may use them under controlled circumstances in UK waters, though this will be very rare.	Air/surface/sub activity	Air & Water Column - Noise, visual and physical disturbance. The disturbance from an inert mortar firing is very temporary and minor. This is not a capability currently in service.	17,20	5,15

Depth charge dropping/firing (inert) (DCI)	Surface or air deployed inert depth charge. Criteria as above. No RN ships are fitted with depth charges but they may on very rare occasions be dropped by aircraft.	Air/surface & Sub-surface activity	Air & Water Column - Noise, visual and physical disturbance. The disturbance from a mortar firing is very temporary and minor.	17,20	5,15
Submarine exercises (passive) (SMP)	General s/m training without using sonar. Submarines will conduct a variety of under water activities independent of other forces which will have no environmental affect. No use of sonar so minimal environmental disturbance.	Sub-surface activity	Water Column - very minor and temporary physical disturbance as the submarine manoeuvres.		
Surface or sub-surface launched torpedo (inert) (STI)	Torpedo firings may be exercised by surface ships and submarines. The firings do not involve explosions and the torpedoes are recovered on completion.	Surface & Sub-surface activity	Water Column - very minor disturbance as the torpedo tracks up to 20,000 yards before floating for recovery.	17,20	5,15
Towed Array (Active) (TAD)	Operation of active towed array equipment (including surveying). Towed arrays may be deployed by surface ships or submarines. This involves letting out and towing a cable which contains sensors designed to detect the noise made by other vessels. Towed array is rarely used as an active sensor.	Sub-surface activity and sonar	Surface and water column - very minor noise & physical disturbance during streaming and recovery of the cable. If transmitting, units will use BRd 4985 and s2117.	17,20	5,15
Towed Array (passive) (TAP)	Streaming of passive towed arrays. As above but with no transmissions.	Sub-surface activity	Water Column - very minor physical disturbance during the streaming and recovery of the cable.	17,20	15

	Mortar firing (exploding) (MOE)	Ship firing of mortars armed with explosives. As noted for inert mortar firings above, no RN ships have this weapon. However it is possible that a NATO ship may be cleared for such a firing under close control in an area suitably cleared or established as a MOD range.	Surface/sub surface activity.	Air & Water Column - major but very temporary disturbance as the mortar explodes, depending on depth settings. Such firings will be managed under the JNCC protocols in BRd 5063 Ch.3 Sec. 9. ?? This is a diving BR.	17,20	5,15
	Depth charge dropping/firing (inc mortar fired DC) (DACE)	Surface or air deployed depth charge armed with explosives	Surface/Sub-surface activity.	As above.	17,20	5,6,15
	Surface/sub-surface launched torpedo (exploding) (STE)	Torpedo firings may be exercised by surface ships and submarines. If the firings involve explosions they will be carried out in a suitable established and controlled MOD range.	Sub-surface explosions	As above.	17,20	5,6,15
GENERAL AND INSHORE	Acoustic trials (AT)	Acoustic trials are carried out to determine the amount of under water noise created by a ships propulsion systems at various speeds. The trials are carried out over fixed sea bed ranges where the operation will be conducted in accordance with local range orders.	Fixed location trials	Sea bed - Fixed equipment. Environmental disturbance will be limited to temporary effects from the noise of ships' movements. The ranges are fixed and permanent so the area of activity is static and firmly controlled.	17,20	5
	Degaussing (DG)	Degaussing is carried out by ships to detect and compensate for the magnetic field generated by the ships' structure. It is carried out by passing over fixed seabed measuring devices which measure the ships' magnetic signature and enable calculation of compensating measures. The degaussing ranges are	Fixed location trials	Sea bed - Fixed equipment. Environmental disturbance will be limited to temporary effects from the noise of ships' movements. The ranges are fixed and permanent so the area of activity is static and firmly controlled.	17,20	5



	permanent features and their use is governed by local range orders.				
Noise ranging (NR)	Noise Ranging is carried out to determine the amount of under water noise created by a ships propulsion systems at various speeds. The trials are carried out over fixed sea bed ranges where the operation will be carried out in accordance with local range orders.	Fixed location trials	Sea bed - Fixed equipment. Environmental disturbance will be limited to temporary effects from the noise of ships' movements. The ranges are fixed and permanent so the area of activity is static and firmly controlled.	17,20	5
Hydrographic Surveying (HS)	Survey operations including use of active sonar. Surveying is one of the very few activities that may take RN vessels into protected areas without option. Surveys are subject to detailed advanced planning and consultation with appropriate authorities in order to minimise environmental impact. Most of the survey work will require the ship to move at very slow speed to cover the required area in 'laps'. Work close inshore is done by smaller vessels.	Sonar	Water column - noise. The ships' activities will have negligible environmental impact unless transmitting on sonar which will be a necessary activity for most of the survey task. The ship will use BRd4985 and s2117 to ensure sonar usage is optimised for the environment. Surveys which have to take place within protected areas will be submitted to statutory bodies well in advance for consultation and clearance.	17,20	5,15

	Sea bed sampling (SBS)	Removal of samples inc flora and fauna for testing. This is part of survey operations and provides essential scientific data for other government agencies. Sampling plans will take account of local benthic communities.	Sea bed sampling	Sea bed - very minor physical disturbance. Sampling practices will take account of the sea bed environment and communities.	20	5,11
	Diving (D)	Diving, not associated with mine or ordnance clearance. Diving operations to exercise general divers' duties can take place anywhere. Their influence on the environmental is very minor but any diving tasking will evaluate the local environment and ensure no damage is caused to any level of community.	Diving	Water column - Very minor physical disturbance.		17,20
	Para dropping (P)	Deployment of personnel, weapons or equipment by parachute. Para dropping may take place anywhere. The potential impact is generally very minor. Even the parachuting of heavy equipment into the sea (small boats etc) has little impact.	Surface/sub-surface activity	Air/Surface/Water Column - very minor and temporary physical disturbance. Prior to planning any operation account will be taken of the local environment.		17,20
	Fast inshore attack craft (FIAC).	FIAC are operated by UK special forces. In addition to their own training they will often be used to simulate terrorist or piratical water bourn attacks on surface vessels. Their activity will involve very high speed manoeuvres and possibly blank munitions firings.	Surface activity	Surface (and water column/sea bed in very shallow waters) -minor noise and physical disturbance. All FIAC operations will take due account of protected areas, especially where high speed manoeuvres and gunfire could disturb benthic or sea mammal communities.	12,17,19,20	

Weapons trials (inert) (WTRI)	Weapons trials which do not involve detonation of any explosives. All new or modified naval weapons systems have to be tested before accepted for service. Trial planning will conform to the considerations set out above for each type of activity.	Surface/sub-surface activity	Air & Water Column - Noise, visual and physical disturbance. Planning will conform to the criteria set out above for in service equipment.	17,20	5,15
Weapons trials (exploding) (WTRE)	Weapons trials involving detonation of explosives. All new or modified naval weapons systems have to be tested before accepted for service. Trial planning will conform to the considerations set out above for each type of equipment.	Sub-surface explosions	Air & Water Column - Noise, visual and physical disturbance. Planning will conform to the criteria set out above for in service equipment. Activities will be confined to established MOD ranges and will be conducted in accordance with JNCC and BRd 9063 protocols.	17,20	5,6,15
Flares (F)	Deployment of air or surface flares. These can range from hand held devices used in search and rescue to illuminations used by ships and aircraft to help identify other vessels or activity. Their use is infrequent and their effects are minor and transitory.	Flares/Smoke	Air - minor temporary visual disturbance.	17,20	5,6,15
Smoke (S)	Use of smoke generator. Most unlikely to be used in any scenario at sea. If used, the effect will be entirely local to the vessel and temporary. The smoke is not harmful to any species.	Flares/Smoke	Air - very minor temporary visual disturbance.	17,20	5,6,15

<b>MCM &amp; EOD</b>	Mine counter measures (active sonar-inert mines) (MCM)	Exercising the detection, removal and making safe of mines. MCM operations are taking place constantly around the world, removing live ordnance left from earlier conflicts. This is still the case in UK waters. The actual process of mine sweeping involves streaming wires with cutters on them designed to sever the mooring cables of moored mines. Minehunters, in contrast, use sonar to detect and investigate mine-like objects on the sea bed. Live mines found on the sea bed cannot be moved and must be subjected to controlled explosions in situ. MCM exercises may involve use of sonar and use of small explosive devices.	Surface/sub-surface & sonar	Water Column - ship movements cause only minor disturbance. Live mines will only be exploded in operational circumstances subject to the strict controls in BRd 5063 which comply with JNCC protocols. On exercise, any explosive devices used will be very small and will be designed to test the placement of charges to destroy live mines. These activities will also conform to JNCC and BRd 5063 protocols. High frequency mine hunting sonar will be operated in accordance with BRd4985 and s2117.	17,20	5,15
	Mine laying (practice - inert) (ML)	Laying practice minefields (inert) for MCM exercises. This is carried out occasionally in order to lay a 'dummy' minefield for MCM vessels to hunt and clear. All such operations will be planned well clear of any protected areas.	Surface & sub-surface	Water Column & seabed - minor physical disturbance. Mines are recovered.	17,20	5,15
	Remotely Operated Vehicle (ROV)	Unmanned submersible activity (MCM/Survey/Deep Diving). These vessels are used to investigate underwater objects located by sonar. Their actual deployment has no significant environmental affect. However they may be used to lay an explosive charge next to an identified mine which requires destruction. See above.	Sub surface activity	Water Column - very minor physical disturbance. If used to lay explosive charges in an operational or exercise scenario the activity will be closely controlled under the protocols laid down by JNCC and reflected in BRd 5063. Control wire may be left on the seabed.	15	5,17,20

	Demolition of unexploded ordnance (DUO).	Underwater or shoreline EOD activity - MCM or EOD Teams. This will always take place in established and closely controlled MOD ranges unless it is the operational destruction of live ordnance which cannot be moved.	Surface/sub-surface explosions	Air & Water Column - Noise & physical disturbance. In all circumstances explosions will be controlled in accordance with JNCC protocols in BRd 5063.	12,15,17,20	5,6
	Explosives trials (ET)	Underwater or shoreline explosives trials. All new or modified naval weapons systems have to be tested before accepted for service. Trial planning will conform to the considerations set out above for managing activities involving explosions. Such trials will only take place if licensed by the Naval Authority Explosives (NAEXP).	Surface/sub-surface explosions	Air & Water Column - Noise & physical disturbance. All explosive operations will be conducted in accordance with the JNCC protocols set out in BRd 5063 and will be strictly controlled within MOD established ranges.	12,15,17,20	5,6
<b>BEACH</b>	Amphibious (A)	Beach or other coastal landing by sea and/or air. A small number of sites on the UK coastline are set aside for practicing amphibious landings. These are invariably over MOD land or ranges, or over privately owned land where a formal agreement is in place with the landowner. The operations will be small scale but will typically involve the use of troops, vehicles, small landing craft and helicopters. The troops and vehicles may be landed by sea or air transport directly onto the beach areas.	Coastal Landing	Air, Seabed & beach - noise & physical disturbance. All operations will be subject to detailed planning and will only take place outside protected areas.	10,12,17,20,21,23	5

<b>MISC</b>	Miscellaneous.	General activities (may be concurrent with other listed activities). There are many other minor activities which are carried out frequently by RN ships in many locations. If not covered by the specific activity details above they will only involve the ships' own assets, working close to that unit and causing very minor and temporary environmental impact.	Various activities.	Very minor and temporary surface and water column disturbance.	17,20	
<b>OFFSHORE</b>	Ship, submarine and aircraft offshore operations.	The basis of RN exercise planning is that activities will, in all but the most exceptional circumstances, take place well outside designated protected areas. Where this cannot happen the environmental mitigation measures identified through the RN MESAT will be employed. In all waters outside protected areas measures will be taken to avoid environmental impact using the established protocols for controlling noise generation, air activities, explosions and any other activity that may disturb the environment.	Air, Surface & sub-surface	Air, water column & seabed noise & disturbance, subject to the controls set out in the RN MESAT.	17,20	5,6,15

List of conglomerated Natura 2000 pressure categories	NCHQ Comments
1. Changes in thermal regime (e.g. cooling water discharges)	ALL SHIPPING - COOLING WATER DISCHARGES - CONSIDERED INSIGNIFICANT.
2. Changes in salinity (e.g. outfalls from rigs, ships)	ALL SHIPPING - COOLING WATER DISCHARGES - CONSIDERED INSIGNIFICANT.
3. Hydrological changes (local)	N/A
4. Changes in turbidity (e.g. laying of pipelines, aggregate dredging)	N/A

5. Introduction of non-synthetic compounds (e.g. heavy metals, crude oil spills)	RESIDUAL DEPOSITION FROM WEAPONS FIRINGS OR EXPLOSIONS - CONSIDERED INSIGNIFICANT.
6. Introduction of synthetic compounds (e.g. TBT, PCBs, industrial chemical discharge, produced water, fuel oils)	ALL SHIPPING - IN LINE WITH SHIPPING STANDARDS. ALSO POSSIBLE DEPOSITION FROM EXPLODING MUNITIONS. CONSIDERED INSIGNIFICANT.
7. Introduction of radionuclides (e.g. nuclear energy industry)	N/A
8. (Direct) deoxygenation (e.g. ballast water & power plant outflows)	VERY OCCASIONAL DISCHARGE OF BALLAST WATER BY AMPHIBIOUS SHIPPING - CONSIDERED INSIGNIFICANT.
9. Changes in nutrient loading (e.g. outfalls, nitrogen & phosphorus, organic enrichment – sewage, discards etc.)	ALL SHIPPING - DISCHARGES IN LINE WITH CURRENT SHIPPING STANDARDS - CONSIDERED INSIGNIFICANT.
10. Smothering (e.g. drill cuttings, beach replenishment)	POSSIBLE MINOR BEACH GRADING DURING AMPHIBIOUS OPERATIONS - IMPACT TO BE DEBATED.
11. Removal or physical loss (e.g. aggregate dredging, isolated rock dump, through infrastructure development)	SEA BED SAMPLING DURING OCEANOGRAPHIC AND SURVEY WORK - CONSIDERED INSIGNIFICANT.
12. Physical disturbance or abrasion (e.g. mobile benthic fishing, anchoring, windfarm scour pits, pipeline burial, potting)	MINOR SEABED ABRASION DURING ANCHORING - IMPACT TO BE DEBATED.
13. Smothering (e.g. Drill cuttings, sediment plumes from dredging) - sediment falling from water column	N/A
14. Changes in suspended sediment (e.g. screening plumes from aggregate dredging) - Does not include changes in turbidity	N/A
15. Introduction of litter (e.g. plastic containers, fishing nets)	DEPOSITION OF SPENT OR FRAGMENTED MUNITIONS, STORES EG BATHYTHERMOGRAPH AND SOME WASTE - CONSIDERED INSIGNIFICANT.
16. Electromagnetic disturbance (e.g. submarine cables)	N/A-SHIPS DEGAUSSSED.
17. Noise (e.g. boat activity, seismic)	ALL SHIPPING - NORMAL MOTION NOISE. MILITARY SOURCES - SONAR; MUNITIONS; LOW FLYING; EXPLOSIONS. IMPACTS TO BE DEBATED.
18. Obstruction (passive) to movement (habitat e.g. sandbank migration & species e.g. species migration)	N/A
19. Collision (e.g. cetaceans being struck by vessels; birds being struck by wind turbines etc) (active)	ALL SHIPPING - IMPACT TO BE DEBATED.
20. Visual presence (e.g. recreational activity)	ALL SHIPPING AND SURFACE OR AIR MILITARY ACTIVITY - IMPACT TO BE DEBATED.
21. Introduction of non-native species & translocation (e.g. Ballast water, hull fouling)	VERY OCCASIONAL DISCHARGE OF BALLAST WATER BY AMPHIBIOUS SHIPPING. IMPACT TO BE DEBATED.
22. Genetic Changes (e.g. GM modified and /or genetically different salmon from aquaculture)	N/A
23. Introduction of microbial pathogens (e.g. outfalls)	VERY OCCASIONAL DISCHARGE OF BALLAST WATER BY AMPHIBIOUS

	SHIPPING. IMPACT TO BE DEBATED.
24. Selective extraction of species (e.g. <i>bioprospecting, scientific research, fishing (target and non-target catch)</i> )	N/A

**NOTES:**

- 1. COLUMNS 5 AND 6 ABOVE ONLY LIST PRESSURE CATEGORIES ATTRIBUTABLE TO MILITARY ACTIVITIES. PRESSURE CATEGORIES 1, 2, 9 AND 19 RELATE TO ALL SEA GOING VESSELS AND ARE ADDRESSED IN THE NCHQ COMMENTS ABOVE.**
- 2. THE IMPACTS OF PRESSURE CATEGORIES HIGHLIGHTED IN YELLOW AND LISTED IN THE YELLOW COLUMN 5 REQUIRE FURTHER DEBATE.**



## **JNCC NATURA 2000 PRESSURE CATEGORIES**

This Annex contains a copy of a paper on Natura 2000 pressure categories. It was produced by the JNCC in order to assist NCHQ in identifying possible pressures each maritime military activity may have on the marine environment and assist the SNCBs in understanding how military activities interact with the marine environment. The outputs from this paper are explained in Annex B. This paper has not been amended from its original format and therefore the context in which it was written should be understood before deriving any conclusions from it.

### ***Introduction***

Below (Appendix 1 to Annex C) is a list of the Natura 2000 pressure categories that JNCC believes the Ministry of Defence (MOD) would need to assign to each of their activities in order to help the SNCBs understand how each activity interacts with the marine environment. These are pressure categories that the SNCBs use when considering the impacts an activity may have on Natura 2000 sites in the (marine) environment. Note that more than one category can be assigned to an activity. Examples of an activity which could fall within the pressure categories have been added in italics.

When assigning a pressure category to an activity, it does not necessarily imply that the activity requires mitigation to avoid an impact on the environment. It is simply to help aid the SNCBs in understanding how the activity interacts with the marine environment. The clearer the SNCBs understanding of MOD's activities, the more confident they will be in providing advice as to whether the mitigation, if any, MOD proposes for each activity will avoid a likely significant effect on a Natura 2000 site.

The list of Natura 2000 pressure categories is a mix of the pressure themes taken from an Offshore Natura 2000 and a general Natura 2000 pressure categories list. The Natura 2000 pressure categories list was originally derived from The Marine Life Information Network (MarLIN). This is further explained within the '*Guidelines for Developing Conservation Objectives for Marine SACs - Learning from the UK Marine SACs Project 1996-2001*' document<sup>5</sup>

The Offshore Natura 2000 pressure categories list is based on the Natura 2000 pressure categories list but has been adapted in light of the work the Centre for Environment, Fisheries and Aquaculture Science (Cefas) have done on pressures. See footnoted report for more information<sup>6</sup>.

If more information is required on each of these pressure categories then contact Ollie Payne ([Ollie.payne@jncc.gov.uk](mailto:Ollie.payne@jncc.gov.uk)) in the first instance.

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<sup>5</sup> EN, SNH, CCW, EHS (DoE(NI)), JNCC & SAMS (2001). *Guidelines for Developing Conservation Objectives for Marine SACs - Learning from the UK Marine SACs Project 1996-2001*. Peterborough, English Nature. Available online from: [http://www.ukmpas.org/pdf/Practical\\_guidance/conservation\\_obj.pdf](http://www.ukmpas.org/pdf/Practical_guidance/conservation_obj.pdf)

<sup>6</sup> EASTWOOD, P. D., MILLS, C. M., ALDRIDGE, J. N., HOUGHTON, C. A., & ROGERS, S. I. 2007. Human activities in UK offshore waters: an assessment of direct, physical pressure on the seabed. *ICES Journal of Marine Science*, 64: 453–463.

**List of conglomerated Natura 2000 pressure categories**

1. Changes in thermal regime (e.g. cooling water discharges)
2. Changes in salinity (e.g. outfalls from rigs, ships)
3. Hydrological changes (local)
4. Changes in turbidity (e.g. laying of pipelines, aggregate dredging)
5. Introduction of non-synthetic compounds (e.g. heavy metals, crude oil spills)
6. Introduction of synthetic compounds (e.g. TBT, PCBs, industrial chemical discharge, produced water, fuel oils)
7. Introduction of radio nuclides (e.g. nuclear energy industry)
8. (Direct) deoxygenation (e.g. ballast water & power plant outflows)
9. Changes in nutrient loading (e.g. outfalls, nitrogen & phosphorus, organic enrichment – sewage, discards etc.)
10. Smothering (e.g. drill cuttings, beach replenishment)
11. Removal or physical loss (e.g. aggregate dredging, isolated rock dump, through infrastructure development)
12. Physical disturbance or abrasion (e.g. mobile benthic fishing, anchoring, wind farm scour pits, pipeline burial, potting)
13. Smothering (e.g. Drill cuttings, sediment plumes from dredging) - sediment falling from water column
14. Changes in suspended sediment (e.g. screening plumes from aggregate dredging) - Does not include changes in turbidity
15. Introduction of litter (e.g. plastic containers, fishing nets)
16. Electromagnetic disturbance (e.g. submarine cables)
17. Noise (e.g. boat activity, seismic)
18. Obstruction (passive) to movement (habitat e.g. sandbank migration & species e.g. species migration)
19. Collision (e.g. cetaceans being struck by vessels; birds being struck by wind turbines etc) (active)
20. Visual presence (e.g. recreational activity)
21. Introduction of non-native species & translocation (e.g. Ballast water, hull fouling)
22. Genetic Changes (e.g. GM modified and /or genetically different salmon from aquaculture)

23. Introduction of microbial pathogens (*e.g. outfalls*)

24. Selective extraction of species (*e.g. bio prospecting, scientific research, fishing (target and non-target catch)*)

## **KEY MOD DOCUMENTS**

1. All listed MOD documents are held on the RN Intranet. The MESAT has been delivered electronically to all SNCBs and future updates to this document will be delivered in the same way. Relevant extracts of all other documents may be obtained from NCHQ through JNCC.
2. Environmental elements of all listed documents have been developed under the HRA umbrella. They all have lead sponsors in Navy Command who are responsible for their continual review and maintenance. In general, updated versions are loaded to the RN Web annually. These documents together provide the SOPs which apply globally and form the basis of the conduct of RN vessels and Commands in discharging their responsibilities for environmental protection.

## **LIST OF KEY MOD DOCUMENTS**

- A. The RN Maritime Environmental and Sustainability Assessment Tool (RN MESAT).** The MESAT has been developed by NCHQ in consultation with other government departments. It incorporates an overview of the environmental SOPs contained in the documents listed below, together with wide ranging advice on the conduct of vessels at sea and the process of environmental assessments. It provides a standard format for RN EAs and is the recommended tool for EA production. The MESAT incorporates the EPG(M) and explains their development and use.
- B. BRd 167 – The Safety, Health and Environment Manual – October 2009.** The Safety Health and Environment Manual (SHE Manual) is issued for the guidance of Fleet units. It provides a focal point for Safety, Health and Environment information and instructions. It is developed under the auspices of the Safety Health and Environment Committee (SHEC) whose members are required to read the Manual on joining and every 6 months thereafter; Ship and establishment Heads of Department are required to read the Manual on joining and annually thereafter. This is a live document and recommendations for changes to the SHE Manual are submitted to CESO(RN)) (for the attention of FSHEO (AFLOAT).
- C. BRd 4985 – Underwater Environment Handbook – Volume 5 - Managing the Impact of RN Acoustic operations on the marine environment - January 2010.** The Tactical Exploitation of the Environment (underwater Battlespace) (TEE(UWB)) maintains BRd 4985 Volume 5; the (TEE(UWB)) meets six monthly under the Chairmanship of FLEET-CAP HMEE SO2. The (TEE(UWB)) aims to ensure BR 4985 Volume 5 is modified as necessary to maintain its value as the key single source reference for managing the impact of RN acoustic operations on the marine environment. This publication is designed to hold information relating to the policy, guidance and implementation of measures to manage the impact of RN acoustic operations upon the Marine Environment and provide direction and guidance to Commanding Officers and those responsible for the operation of active sonars.
- D. BRd 5063 – Clearance Diving Operations – Ch.3 Section 9 – Protection of Marine Mammals and the Environment when using explosives – February 2010.** The purpose of this manual, which is sponsored by the Commander-in-Chief Fleet, is to provide instructions for the administration and general conduct of Royal Navy Clearance Diving Groups, Units and Elements. It contains specific regulations and standard operating procedures (SOPs) for Clearance Diving and Explosive Ordnance Disposal (EOD) in the maritime environment. It also includes historical and background information, which remains relevant to current practice. Clearance Diving in its strictest sense is a part of Explosive Ordnance Disposal and refers to the clearance of mines by divers in situations where mine hunting or minesweeping is impracticable or uneconomic. Clearance Diving Operations, however, cover all those activities for which Divers are responsible,

that is the whole field of Diving and Explosive Ordnance Disposal in the Royal Navy. The protocols for managing EOD activity at sea conform to those set out in the JNCC Underwater Explosions Guidelines.

E. **ATP 16(D) – Replenishment at Sea.** This is a NATO publication which sets out the standard operating procedures for the safe transfer of fuel, equipment and personnel between vessels whilst under way. The regulations and procedures have been developed over many years in consultation with all NATO Navies and they incorporate best practice for the safe conduct of such operations. ATP 16(D) is subject to constant review through the NATO Committee processes and is updated annually.

F. **BRd 9424 - Fleet Operating Orders (FLOOS) VOL 1 – 0218.** The two volumes of Fleet Operating Orders cover operational instructions to the Fleet which are not detailed elsewhere in specialist Fleet Publications. Commanding Officers, Officers and Ratings of the Fleet are required to be aware, as appropriate, of the orders contained in FLOOS which is updated every 6 months. Article 0218 gives general advice to Naval planning authorities on the requirements for environmental protection and the use of the MESAT. FLOOS also contains a complete list of established MOD ranges with a maritime component, together with details of range use and controlling authorities.

G. **MOD UK Low Flying Handbook.** The UK Military Low Flying System (incorporating the Low Flying Handbook) is web based, accessed via a user password. This contains the rules for low flying and shows areas hazardous to flight owing to concentrations of wildlife.

**ANNEX E to  
MESAT & EPG(M) SOI**

**LIST OF MESAT AND EPG(M) ORIGINAL STAKEHOLDERS**

**Please note that these contacts may no longer be correct or up to date. In case of queries, please contact either Rod Jones ([NAVYSSM-CESOEPMSO2C@mod.uk](mailto:NAVYSSM-CESOEPMSO2C@mod.uk)) at RN or Ollie Payne ([ollie.payne@jncc.gov.uk](mailto:ollie.payne@jncc.gov.uk)) at JNCC.**

<b>ARM</b>	<b>ORGANISATION</b>	<b>CONTACT</b>	<b>TELEPHONE</b>	<b>E-MAIL</b>	<b>NOTES</b>
<b>NAVY COMMAND</b>	FLEET N STAFF	LT CDR DAVID POLLITT	02392625348	FLEET-CAPSCNAVSMO2@mod.uk	NAVIGATION STAFF
	FOST	LT CDR AMBROSE MCDONOUGH	01752557777	FOST-DSOO@mod.uk	SOUTH COAST SEA TRAINING AREAS
	CESO RN EP	MR ANDY WITHERS MR ROD JONES	02392625981 02392625979	FLEET-CAPCESOEPSO1@mod.uk NAVYSSM- CESOEPMSO2C@mod.uk	CHIEF ENVIRONMENTAL AND SAFETY OFFICER (CESO) (ROYAL NAVY) ENVIRONMENTAL PROTECTION (EP) TEAM
<b>ARMY</b>	CESO ARMY	WILLIAM BARKER- WYATT	01980 678585	LF-CESO-A-EP-SO1@mod.uk	
	LAND FORCES	SIMON MORRISS	03067701250	LF-DINFRA-SO2SDLANDS@mod.uk	
<b>RAF</b>	CESO RAF	SUE ORME	01494497024	SUE.ORME960@mod.uk	
	AIR WEAPONS RANGES	SQN LDR TONY TRICCAS	01494 497795	1GP-RANGESSO2@mod.uk	AIR WEAPONS RANGES
	AIR COMMAND	WG CDR JON TAYLOR	02072183461	CAS-ASLF@mod.uk	RAF LOW FLYING STAFF
<b>DTE</b>	HQ DTE	LT COL (RETD) BOB LLOYD	01985 222842	DE OPS DTE-HQESTDEL8@mod.uk	MILITARY OVERVIEW – MOD RANGES
<b>DE</b>	DE NORTH	STUART OTWAY PIPPA MORRISON SARAH JUPP ANDREW MOFFAT	01980 67 4820 01383 648695 01383 648695 01480 52151	deopsnorth-pts13j@mod.uk deprop-susdevgroup@mod.uk SARAH.JUPP@de.mod.uk DEOpsNorth-Proj10d@mod.uk	
<b>CTLB</b>	MOD CENTRE	BOB PLUNKETT	01179139248	CTLBSSBC- CESOENVIRONMENT1@mod.uk	
<b>JTEPS</b>	JTEPS	LT CDR TOBY WAITE	019239 58789	JTEPS-ASWMCM-SO2@mod.uk	JOINT WARRIOR

					PLANNING STAFF
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ARM	ORGANISATION	CONTACT	TELEPHONE	E-MAIL	NOTES
OGDs	JNCC	OLLIE PAYNE SONIA MENDES	01733 866943 01224 266588	ollie.payne@jncc.gov.uk sonia.mendes@jncc.gov.uk	JNCC TO BE COPIED INTO ALL CORRESPONDENCE ON MESAT OR EPG(M) RELATED TOPICS.
	NE	KEVAN COOK	0300 0601316	Kevan.cook@naturalengland.org.uk	
	SNH	FIONA MANSON	01738 458641	fiona.manson@snh.gov.uk	
	CCW/NRW	ANDREW HILL	01352 706629	andrew.hill@naturalresourceswales.gov.uk andrew.hill@cyfoethnaturiolcymru.gov.uk	Note JNCC have been given delegated responsibility from CCW for Welsh inshore waters on all matters related to the MESAT
	DOENI	GARY BURROWS		<a href="mailto:Gary.burrows@doeni.gov.uk">Gary.burrows@doeni.gov.uk</a>	
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**ENVIRONMENTAL PROTECTION GUIDELINES (MARITIME)**

**EPG(M) GROUP 1 – Prevailing concern – Birds.**

**RESTRICTED ACTIVITIES**

**AIR:**

1. No activity involving air launch of live or inert munitions is to take place inside or within 500 yards of the MPAs unless such firings are programmed within an established MOD air weapons range when local range orders are to be observed.

**ANTI-AIR AND ANTI-SURFACE WARFARE:**

1. No activity involving the firing of live or inert munitions is to take place inside or within 500 yards of the MPAs.

**SUBMARINE AND ANTI-SUBMARINE WARFARE:**

1. No activities involving live or inert firings or exploded ordnance are to take place inside or within 500 yards of the MPAs.

**GENERAL AND INSHORE ACTIVITIES:**

1. No activities involving live firings, exploding ordnance, smoke or flares are to take place inside or within 500 yards of the MPAs.

**MCM and EOD:**

1. No activities involving exploding ordnance are to take place inside or within 500 yards of the MPAs unless cleared as operationally essential (See Note 3).

**CONTROL MEASURES REQUIRED**

**AIR:**

1. All flying operations to be in accordance with the UK Military Low Flying System (UKLFS) (Note 1).

**GENERAL AND INSHORE ACTIVITIES:**

1. Activities involving the use of fixed sea bed arrays for acoustic trails, noise ranging and degaussing are to be conducted within the established range limits and in accordance with range orders (Note 2).
2. Parachuting is not to take place within the MPA area limits without prior approval of the Unit's operational commander. Such approval must be informed by the Environmental Protection (EP) staff of Defence Training Estates (DTE).
3. Fast Inshore Attack Craft (FIAC). When operating inside these MPAs where rafting aggregations of sea birds have been sighted operators are to moderate speed and proceed in such a manner as to eliminate risk of unnecessary disturbance. This control applies equally to high speed/power manoeuvres by any vessel.

**AMPHIBIOUS:**

1. Landing operations may take place across any shoreline within the area limits of the MPAs, but must have the prior approval of the Unit's operational commander. Such approval must be informed by the Environmental Protection (EP) staff of Defence Training Estates (DTE) (See Note 4).

**PERMITTED**

**SUBMARINE AND ANTI-SUBMARINE WARFARE:**

1. All activities not involving weapon firings or exploding ordnance.

**ANTI-AIR AND ANTI-SURFACE WARFARE:**

1. All activities not involving weapon firings.

**GENERAL/INSHORE ACTIVITIES:**

1. Survey operations.
2. Sea bed sampling and human diving operations.

**MCM and EOD:**



**1. All activities not involving weapon firings or exploding ordnance.**  
**MISCELLANEOUS: (E.G. RAS; Boarding; Anti-piracy; High speed/power manoeuvres; Sea-boat drills; Anchoring).**

**1. No additional restrictions.**

**Notes:**

**1. Seasonal avoidance of specific Schedule 1 nesting and breeding sites may be required and will be promulgated by UKLFS CAT Y NOTAM.**

**2. The following activities will only take place within established MOD air weapons ranges, firing ranges, danger areas or fixed facilities:**

**Live and inert missile firings.**

**Live and inert torpedo firings.**

**Live and inert depth charge firings.**

**Noise Ranging, Acoustic Trials and Degaussing.**

**3. Operationally essential is defined as activities conducted during hostilities or activities for which there is an overriding public interest – in which case a full MESAT assessment is required.**

**4. For all amphibious activities outside established MOD Ranges, planners are to check the status of the area and the presence of any SSSIs through NCHQ CESO EP. NCHQ will consult the MOD Training Over Private Land (TOPL) Cell in formulating the response.**

## EPG(M) GROUP 2 – Prevailing concern – General Coastal Features.

### RESTRICTED ACTIVITIES

#### **AIR:**

1. No activity involving air launch of live or inert munitions with land or sea surface impact is to take place inside or within 500 yards of the MPAs unless such firings are programmed within an established MOD air weapons range when local range orders are to be observed.

#### **ANTI-AIR AND ANTI-SURFACE WARFARE:**

1. No activity involving firing of live or inert munitions is to take place inside or within 500 yards of the MPAs.

#### **SUBMARINE AND ANTI-SUBMARINE WARFARE:**

1. No activities involving live or inert firings or exploding ordnance are to take place inside or within 500 yards of the MPAs.

#### **GENERAL AND INSHORE ACTIVITIES:**

1. No live or inert weapon trials are to take place inside or within 500 yards of the MPAs.

#### **MCM and EOD:**

1. No MCM or mine laying operations are to take place within 0.5 nm of the MPAs.
2. No activities involving exploding ordnance are to take place inside or within 500 yards of the MPAs unless cleared as operationally essential (see Note 3).

#### **MISCELLANEOUS: (E.G. RAS; Boarding; Anti-piracy; High speed/power manoeuvres; Sea-boat drills; anchoring).**

1. Anchoring is never to take place in or within 0.5 nm of the MPAs.

### CONTROL MEASURES REQUIRED

#### **AIR:**

1. All flying operations to be in accordance with the UK Military Low Flying System (UKLFS) (Note 1).

#### **GENERAL AND INSHORE ACTIVITIES:**

1. Activities involving the use of fixed sea bed arrays for acoustic trials, noise ranging and degaussing are to be conducted within the established range limits and in accordance with range orders (Note 2).
2. Use of sonar in surveying is to be in accordance with command guidance in BRd 4985 Vol.5 and s2117 assessment tool.

#### **AMPHIBIOUS:**

1. Landing operations may take place across any shoreline within the area limits of the MPAs, but must have the prior approval of the Unit's Operational Commander. Such approval must be informed by the Environmental Protection (EP) staff of Defence Training Estates (DTE). (see Note 4).

### PERMITTED

#### **AIR:**

1. Air to air weapon firings.

#### **ANTI-AIR AND ANTI-SURFACE WARFARE:**

1. Any activity not involving firings.

#### **SUBMARINE AND ANTI-SUBMARINE:**

1. Any activity not involving firings.

#### **GENERAL/INSHORE ACTIVITIES:**

1. Use of flares or smoke.
2. Parachuting of personnel and stores or equipment.
3. Surveying operations (see control measures for use of sonar).
4. Sea bed sampling and human diving operations.
5. Fast Inshore Attack Craft (FIAC).

#### **MCM and EOD:**

1. Use of ROV.

## **MISCELLANEOUS:**

- 1. No restrictions on miscellaneous activity except anchoring as stated above.**

### **Notes:**

- 1. Seasonal avoidance of specific Schedule 1 nesting and breeding sites may be required and will be promulgated by UKLFS CAT Y NOTAM.**
- 2. The following activities will only take place within established MOD air weapons ranges, firing ranges, danger areas or fixed facilities:  
Live and inert missile firings.  
Live and inert torpedo firings.  
Live and inert depth charge firings.  
Noise Ranging, Acoustic Trials and Degaussing.**
- 3. Operationally essential is defined as activities conducted during hostilities or activities for which there is an overriding public interest – in which case a full MESAT assessment is required.**
- 4. For all amphibious activities outside established MOD Ranges, planners are to check the status of the area and the presence of any SSSIs through NCHQ CESO EP. NCHQ will consult the MOD Training Over Private Land (TOPL) Cell in formulating the response.**

## EPG(M) GROUP 3 – Prevailing concern – Benthic features.

### RESTRICTED ACTIVITIES

#### **AIR:**

1. No air launched firings involving sea surface or water column impact or explosions are to take place inside or within 500 yards of the MPAs unless such firings are programmed within an established MOD air weapons range when local range orders are to be observed.

#### **ANTI-AIR AND ANTI-SURFACE WARFARE:**

1. No activity involving sea surface or water column explosions are to take place inside or within 500 yards of the MPAs.

#### **SUBMARINE AND ANTI-SUBMARINE WARFARE:**

1. No activities involving exploding ordnance are to take place inside or within 500 yards of the MPAs.

#### **GENERAL AND INSHORE ACTIVITIES:**

1. No activities involving live firings or exploding ordnance are to take place inside or within 500 yards of the MPAs.
2. Anchoring is never to take place within 0.5 nm of the MPAs.

#### **MCM and EOD:**

1. No MCM or mine laying activities are to take place within 0.5 nm of the MPA.
2. No activities involving exploding ordnance are to take place inside or within 500 yards of the MPAs unless cleared as operationally essential (see Note 2).

#### **AMPHIBIOUS:**

1. Landing operations are prohibited across any shoreline within the area limits of the MPAs without the prior approval of the Unit's Operational Command in consultation with DTE EP, unless within an established MOD site when local orders are to be observed (See Note 3).

#### **MISCELLANEOUS: (E.G. RAS; Boarding; Anti-piracy; High speed/power manoeuvres; Sea-boat drills; Anchoring.)**

1. Anchoring is never to take place in or within 0.5 miles of the MPAs.

### CONTROL MEASURES REQUIRED

#### **AIR:**

1. All flying operations to be in accordance with the UK Military Low Flying System (UKLFS).

#### **SUBMARINE AND ANTI-SUBMARINE WARFARE:**

1. All activities involving the use of active sonar are to be in accordance with the Command Guidance in BRd 4985 Vol.5 and s2117 assessment tool.

#### **GENERAL AND INSHORE ACTIVITIES:**

1. Activities involving the use of fixed sea bed arrays for acoustic trials, noise ranging and degaussing are to be conducted within the established range limits and in accordance with range orders (Note 1).
2. Use of sonar in surveying is to be in accordance with the Command Guidance in BRd 4985 Vol.5 and s2117 assessment tool.
3. Activities relating to seabed sampling or human diver activities on the seabed are not permitted.
4. Fast Inshore Attack Craft (FIAC). When operating inside these MPAs and in shallow waters operators are to moderate speed and proceed in such a manner as to avoid disturbance of the seabed.

## PERMITTED

### **AIR:**

1. Air to air and air to land surface firings.

### **ANTI-AIR AND ANTI-SURFACE WARFARE:**

1. All activities not involving sea surface or water column explosions.

### **SUBMARINE AND ANTI-SUBMARINE:**

1. All activities not involving exploding ordnance.

### **GENERAL/INSHORE:**

1. Parachuting of personnel and stores or equipment.
2. Use of flares and smoke.
3. Surveying operations (see control measures for use of sonar).

### **MCM/EOD:**

1. Use of ROV.

### **MISCELLANEOUS:**

1. No restrictions on miscellaneous activity except on anchoring as stated above.

### **Notes:**

1. The following activities will only take place within established MOD air weapons ranges, firing ranges, danger areas or fixed facilities:

Live and inert missile firings.

Live and inert torpedo firings.

Live and inert depth charge firings.

Noise Ranging, Acoustic Trials and Degaussing.

2. Operationally essential is defined as activities conducted during hostilities or activities for which there is an overriding public interest – in which case a full MESAT assessment is required.

3. For all amphibious activities outside established MOD Ranges, planners are to check the status of the area and the presence of any SSSIs through NCHQ CESO EP. NCHQ will consult the MOD Training Over Private Land (TOPL) Cell in formulating the response.

## EPG(M) GROUP 4 – Prevailing concern – Marine mammals.

### RESTRICTED ACTIVITIES

#### **AIR:**

1. No activity involving the air launch of live or inert munitions with land or sea surface impact is to take place inside or within 500 yards of the MPAs unless such firings are programmed within an established MOD air weapons range when local range orders are to be observed.

#### **ANTI-AIR AND ANTI-SURFACE WARFARE:**

1. No activity involving firing of live or inert munitions is to take place inside or within 500 yards of the MPAs.

#### **SUBMARINE AND ANTI-SUBMARINE WARFARE:**

1. No activities involving live or inert firings or exploding ordnance is to take place inside or within 500 yards of the MPAs.

#### **GENERAL AND INSHORE ACTIVITIES:**

1. No activities involving live firings, exploding ordnance, smoke or flares are to take place inside or within 500 yards of the MPAs.

#### **MCM and EOD:**

1. No MCM or mine laying operations are to take place within 0.5 nm of the MPAs.
2. No activities involving exploding ordnance are to take place inside or within 500 yards of the MPAs unless cleared as operationally essential (see Note 4).

#### **MISCELLANEOUS: (E.G. RAS; Boarding; Anti-piracy; Sea-boat drills; anchoring).**

1. Anchoring is never to take place in or within 0.5 nm of the MPAs.

### CONTROL MEASURES REQUIRED

#### **AIR:**

1. All flying operations to be in accordance with the UK Military Low Flying System (UKLFS) (Note 1).

#### **SUBMARINE AND ANTI SUBMARINE WARFARE:**

1. All activities involving the use of active sonar are to be in accordance with the Command Guidance in BRd 4985 Vol.5 and s2117 assessment tool.

#### **GENERAL AND INSHORE ACTIVITIES:**

1. Activities involving the use of fixed sea bed arrays for acoustic trials, noise ranging and degaussing are to be conducted within the established range limits and in accordance with range orders.
2. Surveying operations are not to take place inside or within 500 yards of the MPAs unless prior agreement has been reached with appropriate authorities. Use of sonar in surveying is to be in accordance with the Command Guidance in BRd 4985 Vol.5 and s2117 assessment tool.
3. Activities relating to sea bed sampling or human diver activities on the seabed are permitted. Such activities are to be moderated to take account of any marine mammals in the close vicinity.
4. Parachuting is not to take place within the MPA area limits without prior approval of the Unit's operational commander. Such approval must be informed by the Environmental Protection (EP) staff of Defence Training Estates (DTE).
5. Fast Inshore Attack Craft (FIAC). When operating inside these MPAs where aggregations of marine mammals have been sighted operators are to moderate speed and proceed in such a manner as to eliminate risk of collision. This control applies equally to high speed/power manoeuvres by any vessel.

#### **AMPHIBIOUS:**

1. Landing operations may take place across any shoreline within the area limits of the MPAs, but must have the prior approval of the Unit's operational commander. Such approval must be informed by the Environmental Protection (EP) staff of Defence Training Estates (DTE) (See Note 5).

## PERMITTED

### **ANTI-AIR AND ANTI-SURFACE WARFARE:**

1. All activities not involving weapon firings or explosions.

### **SUBMARINE AND ANTI-SUBMARINE:**

1. All activities not involving weapon firings, explosions or the use of active sonar.

### **MCM AND EOD:**

1. Use of ROV.

### **MISCELLANEOUS: (E.G. RAS; Boarding: Anti-piracy; Sea-boat drills; anchoring).**

1. No restrictions on miscellaneous activities except for anchoring as stated above.

### **Notes:**

1. Seasonal avoidance of specific Schedule 1 nesting and breeding sites may be required and will be promulgated by UKLFS CAT Y NOTAM.
2. The following activities will only take place within established MOD air weapons ranges, firing ranges, danger areas or fixed facilities:  
Live and inert missile firings.  
Live and inert torpedo firings.  
Live and inert depth charge firings.  
Noise Ranging, Acoustic Trials and Degaussing.
3. A new MCZ has been established covering an area within 1 mile radius of Lundy Island. This area coincides with the original Lundy Island Marine Nature Reserve. The MCZ interests do not affect the SAC guidelines listed above.
4. Operationally essential is defined as activities conducted during hostilities or activities or for which there is an overriding public interest – in which case a full MESAT assessment is required.
5. For all amphibious activities outside established MOD Ranges, planners are to check the status of the area and the presence of any SSSIs through NCHQ CESO EP. NCHQ will consult the MOD Training Over Private Land (TOPL) Cell in formulating the response.

## EPG(M) GROUP 5 – Prevailing concern - Open Waters

### PERMITTED

#### AIR:

1. Firings, both live and inert, are to be managed in accordance with established MOD clear range procedures.
2. Caution is to be exercised when flying over sighted aggregations of cetaceans, avoiding hovering or low level operations overhead.

#### ANTI-AIR AND ANTI-SURFACE WARFARE:

1. All forms of anti air and anti surface firings, both live and inert, are to be conducted in accordance with established MOD clear range procedures. Smoke and flares may be used with caution after prior observation of wildlife aggregations in the operating area.

#### SUBMARINE AND ANTI-SUBMARINE WARFARE:

1. All activities involving the use of active sonar are to be in accordance with the command guidance in BRd 4985 Vol.5 and s2117 assessment tool.
2. All activities involving live or inert firings are to be conducted in accordance with established MOD clear range procedures.

#### GENERAL ACTIVITIES:

1. No activities involving exploding ordnance on the seabed or in the water column are to take place before applying BRd 5063 Ch.3 Sec 9 protocols and established MOD clear range procedures.
2. Use of sonar in surveying is to be in accordance with the command guidance in BRd 4985 Vol.5 and s2117 assessment tool.

#### MCM AND EOD:

1. Use of sonar in MCM is to be in accordance with the command guidance in BRd 4985 Vol.5 and s2117 assessment tool.
2. No activities involving exploding ordnance on the seabed or in the water column are to take place before applying BRd 5063 Ch.3 Sec 9 protocols and established MOD clear range procedures.

#### MISCELLANEOUS:

(E.G. RAS; Boarding; Anti-piracy; High speed/power manoeuvres; Sea-boat drills; Anchoring.)

1. No restrictions (see 'GENERAL' below).

#### GENERAL:

1. Units are to remain vigilant at all times and moderate activities in accordance with SOPs whenever random encounters with marine mammals or rafting aggregates of seabirds occur.

#### Notes:

1. European Protected Species (EPS). EPS are specified under the Habitats Regulations 2007. In UK and North Atlantic waters these include several species of cetaceans, turtles and the Atlantic Sturgeon. The EGLs above, together with RN SOPs, are to be observed at all times with particular reference to the management of risk through random encounters with EPS.