High-level Conservation Advice for Public Authorities on Highly Protected Marine Areas

Natural England and JNCC

November 2022

This document should be cited as:

Natural England & JNCC. 2022. High-level Conservation Advice for Public Authorities on Highly Protected Marine Areas. Natural England and JNCC. https://hub.jncc.gov.uk/assets/d12633b1-b123-4738-a594-b53c183aee68

This report is a joint publication between JNCC and Natural England. It can be accessed from the Natural England Access to Evidence Catalogue and JNCC's Resource Hub.

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Summary

Pilot HPMAs in English waters would be designated as Marine Conservation Zones (MCZs) under the Marine and Coastal Access Act 2009 (MCAA). At the point of consultation on the candidate pilot HPMAs, the candidate sites become a material consideration.

The high-level conservation advice in this document has been provided by Natural England and the Joint Nature Conservation Committee in response to a commission from the Department of Environment Food and Rural Affairs. It is provided under Section 127 of the Marine and Coastal Access Act, advising on matters which are capable of damaging or otherwise affecting the protected feature and thereby likely to hinder the conservation objective of a Highly Protected Marine Area.

The purpose of this advice is to support Public Authorities to exercise their functions in a manner that furthers or least hinders the conservation objective stated for HPMAs. It will support Public Authorities in the delivery of their duties under Section 125 (General duties of public authorities in relation to MCZs) and Section 126 (Duties of public authorities in relation to certain decisions) of MCAA.

Contents

1. Introduction

Highly Protected Marine Areas (HPMAs) are defined in the Benyon Review into HPMAs and the Government response to the HPMA review as: “Areas of the sea that allow the protection and recovery of marine ecosystems by prohibiting extractive, destructive and depositional uses and allowing only non-damaging levels of other activities to the extent permitted by international law”.

Pilot HPMAs in English waters would be designated as Marine Conservation Zones (MCZs) under the Marine and Coastal Access Act 2009 (MCAA). At the point of consultation on the candidate HPMAs, the candidate sites become a material consideration.

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The purpose of this advice is to support Public Authorities to exercise their functions in a manner that furthers or least hinders the conservation objective stated for HPMAs. It will support Public Authorities in the delivery of their duties under Section 125 (General duties of public authorities in relation to MCZs) and Section 126 (Duties of public authorities in relation to certain decisions) of MCAA.

The advice in this document is high-level i.e., generic across all candidate HPMAs in English waters. More detailed site-specific advice will be provided by Natural England and JNCC should candidate sites be designated. The advice in this document has been produced following an assessment using best available evidence. As new evidence becomes available, this would be reflected in further site-specific conservation advice. The advice is based on current provisions within MCAA.

As HPMAs would be MCZs, designated under MCAA, Natural England and JNCC advise Public Authorities that the statutory duties applicable to MCZs apply to HPMAs and the same assessment and decision-making processes should be followed.

Public Authorities should use this advice in conjunction with the specific details of a proposed activity (e.g. indirect and/or additive impacts, activity duration, time of year, scale etc.) in order to assess impacts to an HPMA. When site-specific advice becomes available, this should be also used in conjunction with this high-level advice.

1.1. How are HPMAs different to existing Marine Protected Areas (MPAs)?

Existing MPAs have been designated to protect specific habitats and species of conservation interest i.e. the features of the site. The ambition for existing MPAs is set out in their conservation objectives, which state that each protected feature in the site is to be in a favourable condition.

In contrast, HPMAs would be designated to protect one feature, which is the whole ecosystem within the site boundary. This includes the seabed, water column and sea surface and everything living within. This is reflected in the definition of a HPMA set out in Section 3 and the protected feature definition in Section 4 of this advice. In contrast to existing MPAs the ambition is to go further i.e. full recovery to a natural state. This ambition is reflected in the HPMA conservation objective set out in Section 5 of this advice.

For these reasons, a more precautionary approach to the management of activities is advised for HPMAs than is the case for existing MPAs i.e. to seek to prohibit all extractive, destructive, and depositional activities.

2. Content of High-level Conservation Advice

The remaining high-level conservation advice provided in this document has been divided into four main parts:

1. Definition of HPMAs and their protected feature
2. The HPMA conservation objective
3. Activities which are likely to hinder the conservation objective of an HPMA and should be avoided, unless the Public Authorities' MCZ Assessment Process determines otherwise
4. Activities which may not hinder the conservation objective of an HPMA but must be assessed to establish non-damaging levels

The conservation objective for HPMAs will be furthered or least hindered by applying the advice in this document and any subsequent site-specific advice provided by Natural England and JNCC following designation.

Public Authorities should follow the MCZ Assessment Process to determine whether **Section 126** of MCAA applies to an application and whether the conservation objective of the HPMA set out in Section 5 of this advice, will be hindered where a pressure impact pathway exists (please also refer to the MMO MCZ Assessment Guidance).

3. Definition of Highly Protected Marine Areas

Highly Protected Marine Areas (HPMAs) are areas of the sea that allow the protection and recovery of marine ecosystems by prohibiting extractive, destructive and depositional uses and allowing only non-damaging levels of other activities to the extent permitted by international law.

4. Designated feature definition

The proposed feature description for pilot HPMAs as would be listed in the designation order is:

'The marine ecosystem, habitats and species of flora and fauna, abiotic elements, and their supporting ecosystem function and processes, including the seabed, water column and sea surface, within the site boundary.'

5. HPMA Conservation Objective

The site's conservation objective applies to the whole HPMA.

The proposed conservation objective for all candidate HPMAs is:

'To achieve full natural ecosystem recovery of the structure and functions, features, qualities and composition of characteristic biological communities present within HPMAs and prevent further degradation and damage to the marine ecosystem subject to natural change.'

Natural England and JNCC advise within an HPMA:

1. The ecosystem is allowed to fully recover in the absence of damaging activities such that:
    - The ecosystem structure consists of a diverse range of benthic and pelagic communities, habitats and species, including biotic and abiotic components of the ecosystem. These fulfill a variety of functional roles, including supporting key life cycle stages and/or behaviours of marine species.
    - The physical, biological and chemical ecosystem processes and functions proceed unhindered, so that the site realises its full ecological potential to deliver goods and services, including habitats and species considered important to the long-term storage of carbon, and habitats and species important for flood and erosion protection.
    - The ecosystem is resilient to change and stressors.
2. Any ecosystem changes brought about by the process of removing anthropogenic pressures should be considered in the context of a naturally recovering ecosystem.
3. The HPMA supports our understanding of how marine ecosystems change and recover in the absence of impacting activities.

Note it would be necessary for monitoring to be undertaken by or on behalf of the relevant Statutory Conservation Nature Body in HPMAs to improve our understanding of ecosystem health and functioning and to determine whether the above objectives are being met. Natural England and JNCC would work to ensure any impacts to the HPMA are minimised as to least hinder the achievement of the conservation objective.

The conservation objective should be read in conjunction with the rest of the advice and information in this document.

6. Advice on activities

The advice in this section has been provided under Section 127 of MCAA, advising on matters which are capable of damaging or otherwise affecting the protected feature and thereby likely to hinder the conservation objective of an HPMA.

This section provides advice on which activities:

- are likely to hinder the conservation objective of an HPMA and should be avoided, unless the Public Authorities' MCZ Assessment Process determines otherwise;
- may not hinder the conservation objective of an HPMA but must be assessed to establish non-damaging levels.

To provide this advice Natural England and JNCC have carried out an assessment using the best available evidence (Natural England, 2022; JNCC, 2022). This included Natural England's Advice on Operations database which combines, amongst other things, Natural England's Marine & Coastal Operation & Activity dataset, associated Activity-Pressure interactions and sensitivity assessment datasets including (but not limited to) the Marine Evidence-based Sensitivity Assessment (MarESA) data: MarLIN – The Marine Life Information Network – Marine Evidence based Sensitivity Assessment (MarESA) (October 2021 data extract).

The advice in this section is based on an assessment of the most commonly occurring activities and their associated pressures, and the current understanding of the sensitivity of marine habitats and species to these pressures, to determine whether an activity is likely to hinder the achievement of the HPMA conservation objective.

The advice in this section applies to activities within the HPMA boundary and any activities occurring outside of the site which are capable of impacting the HPMA, if a pressure impact pathway exists. For example, this may include activities in the air above the site e.g. flying of drones or in the water column adjacent to the HPMA e.g. sonar (defined as the use of echo sounders underwater for research or exploratory purposes as well as military purposes).

Sensitivity assessments are available for all MPA habitats and species features of conservation importance. As the conservation objective is to recover an entire marine ecosystem, it was necessary to consider the sensitivity assessments for all

the MPA habitat and species features of conservation interest which could possibly occur in HPMAs.

A precautionary approach was taken to identify activities which are likely to hinder the conservation objective. In summary:

- where species or habitats were sensitive to any pressures associated with an activity, and where any of those pressures were commonly caused, the activity was categorised as likely to hinder the conservation objective; and
- where evidence showed an activity does not commonly cause any pressures to which species and habitats were sensitive, it was categorised as may not hinder the conservation objective.
- Expert review of the assessment process and outputs was then undertaken.

6.1. Activities likely to hinder the conservation objective of an HPMA and should be avoided, unless the Public Authorities' MCZ Assessment Process determines otherwise

Through the above assessment process, Natural England and JNCC advise that the activities listed in Table 1 are likely to hinder the conservation objective of an HPMA and should be avoided, unless the Public Authorities' MCZ Assessment Process determines otherwise.

The list of activities is not exhaustive and will be subject to change should new evidence become available. Please note that some of the activities listed are very broad categories with several activities within each category. Table 1 also details activity descriptions to provide further clarity however, the descriptions may not include every possible sub-activity.

It is acknowledged that there may be instances where activities need to proceed to ensure public safety, or to further the conservation objective of the site to support natural recovery. Where such activities are necessary, we advise they are undertaken in a way which least hinders the conservation objective i.e., minimises impacts to the site as much as possible.

Natural England and JNCC advise that only scientific survey activities for example physical sampling and scientific sampling, which directly informs HPMA monitoring, reporting and evaluation should be undertaken for the purposes of understanding whether the conservation objective of HPMAs has been achieved.

Table 1. Activities likely to hinder the conservation objective of an HPMA and should be avoided, unless the Public Authorities' MCZ Assessment Process determines otherwise.

Activity	Sub-activity	Description
Fishing	Anchored nets/lines	Sub-activity includes gill nets, trammel nets & tangle nets, and long lines, that are fixed/anchored to, or come into contact with, the seabed. Also includes handlines and rod & line angling (where anchoring of the vessel occurs).
	Electrofishing	Sub-activity that includes trawls that interact with the seabed and use electric fields to fish for shellfish e.g. razor shells, shrimp or fish e.g. plaice, sole.
	Traps	Sub-activity includes pots, creels & traps, as well as fyke nets and other similar gear.
	Pelagic fishing (or fishing activities that do not interact with seabed)	Sub-activity includes gears that do not interact with the seabed e.g. pelagic/mid water trawls, drift nets, pelagic seines and pelagic long lines. Also includes handlines and rod & line angling (vessel-based) (where no anchoring occurs).
	Demersal trawl	Sub-activity includes beam trawls, demersal otter trawls, demersal pair trawls (excludes electronic pulse fishing).
	Demersal seines	Sub-activity includes demersal anchor/Danish seines and Scottish seines, as well as beach seines that come into contact with the seabed.
	Dredges	Sub-activity includes dredging (non-hydraulic) for shellfish e.g. scallops, oysters, mussels (including seed), clams & cockles. Includes dredges towed by vessels and tractors.
	Hydraulic dredges	Sub-activity includes hydraulic/suction dredging e.g. clams, cockles, razor shells.

Activity	Sub-activity	Description
Fishing	Fishing shore-based activities	Sub-activity includes crab tiling, bait digging, shellfish collection (including seed mussel) e.g. by hand (with or without digging apparatus), rake or through the use of 'tiles'. Also includes rod & line angling. The setting of pots and nets from the shore is also included. Vehicles or vessels may be used to access the shoreline.
	Commercial diving and recreational diving for fishing	Collection of target species by divers, snorkelers. Includes recreational diving.
Recreation	Wildfowling	Concerns the use of firearms to shoot wild fowl. This does take into account the use of punts - the impact of use of boats from this activity should be considered within the separate relevant category. This does not take into account the use of dogs during wildfowling activities – the impact of dogs should be considered within the separate relevant category.
	Powerboating or sailing with an engine: mooring and/or anchoring	Includes impacts from installed moorings, impacts from anchors and impacts of boat when at anchor or mooring. Impacts from boats getting to and from moorings should be assessed in the 'participation' category.
	Sailing without an engine: mooring and/or anchoring	Includes impacts from installed moorings, impacts from anchors and impacts of boat when at anchor or mooring. Impacts from boats getting to and from moorings should be assessed in the 'participation' category.
	Anchoring of non-motorised watercraft (e.g. kayaks, windsurfing, dinghies, paddleboards)	Activity type examples: Kayaks, windsurfing, kite surfing, dinghies, canoes, row boats, paddle boards. This includes anchoring of any small craft and/or mooring.
Beach and coastal management	Herbicide spraying & vegetation removal	Considers the use of sprayers (vehicle/person) mounted and the removal of vegetation from sand, shingle, muddy beaches. Does not consider salt marsh.

Activity	Sub-activity	Description
Beach and coastal management	Strandline clearance	Considers the removal of marine litter and organic material such as seaweed that has been deposited on the beach. Where this material is considered unsightly it is often removed by individuals.
	Sand raking	Considers the use of sand rakes deployed from a vehicle or an individual to groom the beach for aesthetic reasons and to remove marine debris such as seaweed or litter.
	Grazing	The management of coastal vegetation using livestock e.g. cattle on saltmarsh to maintain sward height.
Coastal Infrastructure	Slipway (maintenance/construction)	Considered the ongoing maintenance (washing down, clearing mud) and construction of a slipway. This does not consider the operational usage of a slipway which is covered by ports and recreation activities. Includes consideration of vessels/machinery/vehicles and materials associated with construction and maintenance of infrastructure.
	Outfalls/ Intake pipes maintenance	This considers the maintenance of outfalls and intakes pipes. Includes consideration of vessels/machinery/vehicles and materials associated with maintenance of infrastructure.
	Outfalls/ Intake pipes construction	This considers the construction of outfalls and intakes pipes. Includes consideration of vessels/machinery/vehicles and materials associated with construction of infrastructure.
	Outfalls/ Intake pipes operation *	This considers the operation of outfalls and intakes pipes. The outfalls pipe could discharge liquids at varying temperatures, salinities, oxygen, nutrient concentrations.
Oils, gas and carbon capture storage	Oil and gas exploration and installation	Includes seismic surveys, the installation of structures above and below the sea surface followed by drilling operations. Also includes operations by supporting vessels.

Activity	Sub-activity	Description
Oils, gas and carbon capture storage	Oil and gas production	Operation of production platforms including operations by supporting vessels.
	Oil and gas decommissioning	The plugging and abandonment of wells, removal of structures and associated habitat, use of explosives, cutting, drilling. Disturbance of drill arisings and cuttings. Placement of rock to cover remaining structures or to provide base for jack-up legs. Includes operation by supporting vessels, vessel discharges, use of ROVs, lifting and jack-up rigs.
	Gas storage operations (carbon capture and natural gas storage)	The deposition/ injection of natural gases or carbon into identified submarine storage sites.
	Pipelines	Installation, maintenance and removal of pipeline including operations by supporting vessels.
Cables	Power cable: laying, burial and protection	Cables can be laid directly on the seabed, covered with material for protection, or buried (usually by trenching through ploughing and hydraulic jetting). The method used will depend on the area, water depth, cable diameter (70 to 450 mm), health and safety/economic/operational risks and environmental impacts. The activity includes any seabed preparation activities (e.g., preparatory dredging, pre lay grapnel runs, boulder removal, UXO clearance etc.), vessel movements and anchoring within the footprint.
	Power cable: operation and maintenance	Cables are often retrieved or accessed for repairs or maintenance, and then reburied. Additional cable protection can also be fitted during this process. Other specific pressures can also arise from power cable operation such as local temperature changes and electromagnetic field emission. The activity includes possible localised changes in physical environment as well as hydrodynamic changes through exposed cable/structures on the seabed, as well as vessel movement and anchoring during the operation.

Activity	Sub-activity	Description
Cables	Power cable: Decommissioning	Cables are often retrieved or accessed for repairs or maintenance, and then reburied. Additional cable protection can also be fitted during this process. Other specific pressures can also arise from power cable operation such as local temperature changes and electromagnetic field emission. The activity includes possible localised changes in physical environment as well as hydrodynamic changes through exposed cable/structures on the seabed, as well as vessel movement and anchoring during the operation.
	Telecommunication cable: Laying, burial and protection	Cables can be laid directly on the seabed, covered with material for protection or buried (usually by trenching through ploughing and hydraulic jetting). The method used will depend on the area, water depth, cable diameter (17–50 mm with wire armour), health & safety/economic/operational risks and environmental impacts. Activity includes seabed preparation activities (e.g. preparatory dredging, pre lay grapnel runs, boulder removal, UXO clearance etc.), vessel movements and anchoring within the footprint.
	Telecommunication cable: Operation and Maintenance	Cables sometimes need to be retrieved or accessed for repairs or maintenance and are then reburied or protected. Additional cable protection can also be added where cable becomes unburied. The activity also includes vessel movement and anchoring during the operation.
	Telecommunication cable: Decommissioning	When a cable is no longer needed or in use the general rule is the complete removal. However, this is often not feasible or appropriate and alternative approaches exist. When removal is deemed appropriate, cables are retrieved through grabbing and raising. Cables are also frequently disconnected and left buried to minimise environmental effects when the safe use of the seabed for other users is possible. The decommissioning process includes vessel movements and anchoring along the cable route.

Activity	Sub-activity	Description
Cables	Cables: Horizontal Directional Drilling (HDD)	Horizontal Directional Drilling (HDD) is a method of installing underground pipelines, cables and service conduit through trenchless methods. This involves drilling underground and installing a series of ducts for the cables to be pulled through afterwards. The method may be used where the topography of a landfall site makes it difficult to achieve a conventional landfall by trenching, to avoid impacting infrastructure such as sea walls or as a form of mitigation to avoid damage to habitats, particularly in the intertidal and landfall areas where habitats may be more sensitive. In the marine environment the activity may include excavation of exit pits, installation of coffer dams, use of cable protection over ducts or ends of cables, use of jack up rigs or barges and vessels with associated anchors.
Ports and Harbours	Clearance slipways, similar structures and water ways	Periodic, regular or discrete clearance of structures and waterways or debris, sediment, algal growth or similar. Includes consideration of vessels/machinery/vehicles associated with activity.
	Construction of port and harbour structures	Construction, expansion and new and re development of and within ports and harbours including new port facilities, quaysides, berths, redevelopment of existing infrastructure or construction of new port, marina, harbour. Includes consideration of vessels/machinery/vehicles, and materials associated with activity e.g. jack-up barges, piling plant, dredgers, barges.
	Maintenance of port and harbour structures	Maintenance of all port/harbour structures including quay walls, jetties, slipways, navigation markers, coastal defence structures etc. Includes consideration of vessels/machinery/vehicles associated with activity.
	Operation of ports and harbours	Day-to-day operational use of ports and harbours including use of quay sides, port estate, movement of vessels, navigation markers, and lights, supply of fuel/bunkering operations. Includes consideration of vessels/machinery/ vehicles associated with activity.

Activity	Sub-activity	Description
Ports and Harbours	Shoreside industry and operations	Shoreside industry and associated operations includes industries found within, close to or in association with port estate e.g. chemical works, oil refineries, factories, processing plants, and other maritime industry. Includes consideration of vessels/machinery/vehicles associated with activity.
	Cargo operations and landward transportation	Includes trans-shipment of cargo, loading and unloading of vessels, landside handling, logistics and on-ward transportation e.g., road, rail within port estate. Includes handling of hazardous cargo. Includes consideration of vessels/machinery/vehicles associated with activity.
	Piling	Pile driving is the process of forcing a pile (tube, stake, beam or sheet) into substrate to create a foundation for a structure. Commonly used for construction of foundations for structures e.g. quay walls, coastal defences, moorings, pontoons, jetties etc. Includes consideration of vessels/machinery/vehicles and materials associated with activity.
	Capital dredging	Removal of material which has not previously been dredged or has not been dredged for > 10 years. Material often more consolidated that maintenance dredging, method of dredging may vary. Includes consideration of vessels/machinery/vehicles associated with activity.
	Capital dredging disposal *	Disposal of capital dredged material at a designated disposal site either offshore, in estuary or at the coast. Includes the beneficial use/ reuse of dredged material. Includes consideration of vessels/machinery/vehicles associated with activity.

Activity	Sub-activity	Description
Ports and Harbours	Maintenance dredging	Periodic or regular removal of material from previously dredged areas e.g. berths, channels, marinas, can be every few weeks to < 10 years apart. Method of dredging may vary, and material may be removed for disposal elsewhere or redistributed within the immediate area. Includes consideration of vessels/machinery/vehicles associated with activity.
	Maintenance dredging disposal *	Disposal of maintenance dredged material at a designated disposal site either offshore, in estuary or at the coast. Includes the beneficial use/ reuse of dredged material. Includes consideration of vessels/machinery/vehicles associated with activity.
	Land reclaim	Reclamation of land from below the high-water mark to create new land potentially for new quaysides, coastal defences, port estate. Often involved creation of new wall or hard coastal defence and infilling behind to raise height. Includes consideration of vessels/machinery/vehicles and materials associated with activity.
	Operation of Berths/moorings/ anchorages	Operational use of berths, moorings, anchorages including the presence of these structures and vessels using them. Includes consideration of vessels when berthing/berthed, mooring/moored, anchoring/anchored.
	Creation of new Anchorages/ moorings	Creation of new anchorage areas and laying of new moorings (intertidal or subtidal). Includes consideration of vessels/machinery/vehicles and materials associated with activity.
	Habitat creation	Creation of new areas of intertidal, transitional, freshwater, or terrestrial habitat often as a component of a mitigation/compensation scheme could also be for protected species. Includes consideration of vessels/machinery/vehicles associated with activity.

Activity	Sub-activity	Description
Commercial shipping	Vessel moorings	Use of vessel moorings and activity associated with mooring of vessel. Mooring is a temporary or permanent structure to which a vessel may be secured e.g. swing mooring, trot, fore and aft mooring, pile mooring. Includes consideration of vessels when mooring or moored.
	Vessel anchorages	A place where a vessel is anchored. Covers activity of anchoring generically and use of allocated anchorage areas where ships are permitted to anchor inside and outside harbours/ports. Including consideration of vessels when anchoring, anchored or weighing anchor.
	Vessel discharges/ emissions *	Includes operational, incidental and accidental discharges/emissions from all types of vessels, including exhaust fumes, wastes and wastewater, sewerage, oils, lubricants and chemicals, marine litter and other flotsam and jetsam.
	Vessel maintenance	Vessel maintenance and repair on land and afloat, operation of ship/boatyards, lay-ups, dry docks, designated anchorages, includes hull cleaning. Includes consideration of vessels/machinery/vehicles associated with activity.
	Navigation markers/lights	Operation and presence of navigation marks and lights, including navigation buoys, posts, towers, transit marks, onshore and offshore. Includes maintenance of these structures. Includes consideration of vessels/machinery/vehicles and materials associated with activity. This includes Markers for European marine sites and marine conservation zones.
	Salvage operations	Includes salvage of vessels or infrastructure (e.g. from oil and gas) wrecked on or near the coast. This activity considers the pressures associated with salvaging, including the removal of wrecked structures and pressures caused by supporting vessels.

Activity	Sub-activity	Description
Aggregate Extraction	Beach sand extraction	The process of extracting sand from the beach using diggers. Sand is transported via trucks to be used usually for construction. Sand extraction involves a large number of vehicle movements and can result in morphological alterations to the beach.
	Aggregate dredging	The regular excavation of aggregates (a mixture of sand and/or gravel sediments) for use generally in construction and beach recharge. Seabed sediments are removed through trailing suction or static grab dredgers. Dredging is associated with numerous vessel movements, sediment alteration and resuspension. **Note**: This assessment does **not** include aggregate dredging in the intertidal. Please contact Natural England for advice on intertidal aggregate dredging.
Coastal development and flood erosion risk management	Construction of coastal flood and erosion risk management schemes	Construction of new coastal defence structures/schemes including seawalls, bunds, revetments, dykes, ditches, beach recharge, groynes, breakwaters etc. Includes consideration of construction works, plant and materials, plus vessels/machinery/vehicles associated with activity.
	Operation of coastal flood and erosion risk management schemes	Operational effects of coastal defence schemes including accretion of sediment, erosion of intertidal, coastal habitats, on-going sediment recycling schemes, coastal squeeze, operation of sluices etc. Includes consideration of vessels/machinery/vehicles associated with activity.
	Construction and operation of offshore coastal defence structures (wave screens/ breakwaters)	Construction and operation of offshore or detached coastal defence structures (intertidal or subtidal) including wave-screens, breakwaters. Includes consideration of vessels/machinery/vehicles and materials associated with activity.

Activity	Sub-activity	Description
Coastal development and flood erosion risk management	Intertidal recharge	The recharge of intertidal areas for coastal defence schemes or for habitat creation/ mitigation, including beach recharge and recycling of material, recharge of intertidal mud and sandflats, beneficial use of dredged material. Includes consideration of vessels/machinery/vehicles associated with activity. This activity does not include the act of dredging material from outside of the site.
	Reclaim and land take (e.g. the footprint of coastal defences)	Reclamation of land from below the high-water mark to create new land or as a result of coastal defence footprint. Includes consideration of vessels/machinery/vehicles associated with activity.
	Managed realignment	Managed realignment/retreat of coastline or defences to allow exposure to flooding by the sea or sea water intrusion. In estuaries or open coast, includes controlled/active breaches of defences and uncontrolled breaches by policy of no active management of defence (consciously allowing defences to fail). Includes consideration of vessels/machinery/vehicles and materials associated with activity.
	Maintenance of soft coastal defences	Maintenance of 'soft' coastal defences including management of beaches, bunds, ditches/drainage, managed realignment sites, beach/sediment recharge or on-going sediment feeding, management of vegetation, sand dune stabilisation. Includes consideration of vessels/machinery/vehicles and materials associated with activity.
	Maintenance of hard coastal defences	Maintenance of 'soft' coastal defences including management of beaches, bunds, ditches/drainage, managed realignment sites, beach/sediment recharge or on-going sediment feeding, management of vegetation, sand dune stabilisation. Includes consideration of vessels/machinery/vehicles and materials associated with activity.

Activity	Sub-activity	Description
Electricity from renewable energy sources	Tidal stream: during construction	Seabed preparation (possibly dredging), cuttings/dredging disposal, piling, drilling, anchoring, mooring, vessel movement, vessel discharges/emissions, installation of scour protection, introduction of artificial substrate, cabling (see separate activity).
	Tidal stream: operation and maintenance	Vessel movement, vessel discharges, rotor sweep or other device operation, lighting.
	Tidal stream: decommissioning	Vessel movement, vessel discharges, removal of structures/ cables and associated habitat, use of explosives, cutting, drilling.
	Tidal lagoon/impoundment: during construction	Seabed preparation (possibly dredging), cuttings/dredging disposal, piling, drilling, anchoring, mooring, vessel movement, vessel discharges/emissions, installation of scour protection, introduction of artificial substrate, cabling (see separate activity).
	Tidal lagoon/impoundment: operation and maintenance	Vessel movement, vessel discharges, lighting, operation of devices and changing water levels.
	Tidal lagoon/impoundment: decommissioning	Vessel movement, vessel discharges, removal of structures/cables and associated habitat, use of explosives, cutting, drilling.
	Wave Energy development: during construction	Seabed preparation (possibly dredging), cuttings/dredging disposal, mooring, anchoring, piling, drilling, vessel movement, vessel discharges/emissions, installation of scour protection, introduction of artificial substrate, cabling (see separate activity).
	Wave Energy development: operation and maintenance	Vessel movement, vessel discharges, lighting, operation of devices.
	Wave Energy: decommissioning	Vessel movement, vessel discharges, removal of structures/cables and associated habitat, use of explosives, cutting, drilling.

Activity	Sub-activity	Description
Electricity from renewable energy sources	Offshore wind: during construction (if relevant see Cables also)	Seabed preparation (possibly dredging), cuttings/dredging disposal, piling, drilling, anchoring, mooring, vessel movement, vessel discharges/emissions, installation of scour protection, introduction of artificial substrate. Also includes presence of turbine structures and foundations – large offshore windfarms will be constructed over many years and the pressures due to the presence of turbines will be present during the construction phase. For cabling please see and include the separate activity.
	Offshore wind: operation and maintenance (if relevant see Cables also)	Regular vessel movement, vessel discharges, rotor sweep, lighting, presence of turbine and foundation structures. Also includes use of jack up barges for maintenance and deposition of additional scour protection. For cabling please see and include the separate activity.
	Offshore wind: decommissioning (if relevant see Cables also)	Vessel movement, vessel discharges, use of jack up barges, removal of structures/scour protection and associated habitat, use of explosives, cutting, drilling, excavation of seabed close to foundations. Also includes the presence of the turbine structures and foundations – large offshore windfarms may be decommissioned over long time scales and the pressures due to the presence of turbines will therefore be present during the decommissioning phase. For cabling please see and include the separate activity.
Aquaculture	Shellfish aquaculture: suspended rope/net culture	Shellfish (mussels, oysters) grown on ropes/nets suspended from surface structures or lines. These structures may be anchored to the seabed.
	Shellfish aquaculture: bottom culture	Relaying and harvesting of shellfish (e.g. mussels, oysters, scallops) on suitable areas of intertidal and subtidal substrate. Includes dredging for seed.
	Shellfish aquaculture: trestle culture	Shellfish (e.g. oysters) grown on racks or trestles in the intertidal zone.
	Finfish aquaculture	Finfish grown in cages/nets suspended from surface structures or lines. These structures may be anchored to the seabed.

Activity	Sub-activity	Description
Aquaculture	Seaweed aquaculture: suspended rope/net culture	Seaweed grown on ropes/nets suspended from surface structures or lines. These structures may be anchored to the seabed.
Other	Physical sampling	Sampling of the seabed, foreshore (intertidal) and/or water column in situ using a variety of marine survey techniques. Includes complete removal of one or more individual animals to land, for example for use in an aquarium. Collection methods will vary dependent on species but may include hand removal or capture via net or other fishing equipment. May be permanent or temporary removal. May include live or dead species.
	Scientific sampling	The taking of parts, 'harmful' tagging and in some instances consequential killing of individuals for study and identification, particularly marine invertebrate animals. Also includes Home Office tagging of fish; tissue sampling of birds, mammals, and other vertebrates.
	Activities associated with cultural and heritage sites (e.g. wrecks, sculptures, foundations, etc.)	Presence of historic anthropogenic structures such as wrecks, sculptures, and foundations.
	Reintroduction of species	Reintroduction of a species that are declining/ lost from an area for conservation purposes. Species may be from another marine area, or from husbandry. Methods dependant on species.
	Translocation of species	Removal of species from one area, for reintroduction in another. For example, the moving of protected invertebrates to avoid being dredged. Species may be moved in bulk within sediment or removed individually by hand. May be local (i.e. within a few 100 m, or long distance).
	Sonar *	The use of echo sounders underwater for research or exploratory purposes as well as military purposes.

Activity	Sub-activity	Description
Other	Marine archaeological research	Marine archaeological research; including the removal of artefacts, the use of vessels and the presence of people (including subtidal tool use and ROVs).

* These are examples of activities which could impact the HPMA if carried out a distance from the site if a pressure impact pathway exists. Such indirect pressures should be taken into consideration when assessing impacts from these activities.

The regulation of commercial shipping and telecommunications cables not associated with a plan or project sits out with UK competence. JNCC will support the liaison of Defra with these sectors in seeking to ensure the impacts of their activities on English HPMAs are minimised as much as possible.

JNCC will continue to work with the Ministry of Defence (MoD) to ensure operational and strategic defence roles are not compromised as per the Statement of Intent between Navy Command Headquarters and the UK Statutory Nature Conservation Bodies. This statement concerns the use and maintenance of Environmental Protection Guidelines (Maritime) (EPG(M)) and the Maritime Environmental and Sustainability Assessment Tool (MESAT). The EPG(M) are an interactive set of generic guidance which are 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. JNCC will work with the MoD to update these tools to support standard operating procedures within the vicinity of HPMAs to collectively establish appropriate mitigation practices.

6.2. Activities which may not hinder the conservation objective of an HPMA but must be assessed to establish non-damaging levels

This section lists the activities which may not hinder the conservation objective of an HPMA, but Natural England and JNCC advise that in order to establish non-damaging levels in alignment with the HPMA definition, an assessment must be undertaken, as per the MCZ (Screening) Assessment. This advice is based on the most commonly occurring activities and their associated pressures, and current understanding of the sensitivity of marine habitats and species to these pressures. It is important to note this understanding is limited and a level of precaution has been applied which reflects the proposed conservation objective for HPMAs.

Table 2 provides examples of activities that will require a case-by-case assessment to determine whether they occur at non-damaging levels. Please note this is not an exhaustive list and may be subject to change as new evidence becomes available and activities arise. Table 2 also details a list of activity descriptions to provide further clarity however, the descriptions may not include every possible sub-activity.

Whether these activities can occur at non-damaging levels will be dependent on the nature and intensity of the activity and the habitats and species present within a specific HPMA's ecosystem.

Natural England and JNCC are developing further advice on non-damaging levels. We advise that these activities are considered on a case-by-case basis and a precautionary approach is applied to ensure the conservation objective of an HPMA is not hindered.

Table 2. Activities which may not hinder the conservation objective of an HPMA, but must be assessed to establish non-damaging levels.

Activity	Sub-activity	Description
Recreation	Recreational diving (with no collection or fishing), snorkelling, free diving.	Recreational diving. Please note 'Commercial diving and recreational diving for fishing' is a separate activity and listed in Table 1 of this advice.
	Horse riding & dog walking	This considers activities that involve horses and dogs. When dogs are used for wildfowling, this sub-activity should also be considered. Please note Wildfowling is listed in Table 1 of this advice.
	Powerboating or sailing with an engine: launching and recovery, participation	Participation is when underway/making way. Launching or recovery is referring to slipway or beach/shore launching (this may include the use of trailers) - this aspect of the activity and associated pressures will not apply to boats kept on the water. This activity includes any motorised boat (includes Personal Watercraft (PWC)) and would also include powerboating races and events.
	Non-motorised land craft (e.g. sand yachting, kite buggying)	Activities that are actually occurring on the beach and involve craft. Includes events and competitions.
	Non-motorised watercraft (e.g. Kayaks, windsurfing, kite surfing, dinghies, canoes, row boats, paddle boards)	Activity type examples: Kayaks, windsurfing, kite surfing, dinghies, canoes, row boats, paddle boards. This includes participation, launching/recovery (may include shore access and may be with trailers). Please note anchoring/mooring of non-motorised watercraft is a separate activity.
	Leisure (e.g. swimming, rock pooling, surfing, beach cleans, large gatherings of people requiring a licence e.g. concert)	Includes activities where a vessel is not used. Includes surfing but excludes paddle boarding as this activity enables the participant to range over greater distances – reduced site fidelity. Consider event type activities also in this category e.g. beach cleans and large gatherings of people, but consider different scales of impacts.

Activity	Sub-activity	Description
Recreation	Sailing without an engine: launching and recovery, participation	Participation is when underway/making way. Launching or recovery is referring to slipway or beach/shore launching (this may include trailers) – this aspect of the activity and associated pressures will not apply to boats kept on the water. This activity includes sailing races and events.
	Firework displays *	Include both public and private firework displays. This sub activity only covers shore-based displays. Vessel based displays whereby fireworks are set off from a vessel such as a floating barge are not considered.
	Light aircraft and drones *	Could include all types of craft used for recreation in the air e.g. small planes and helicopters, microlights, paramotors, hand gliding, parascending (on beach), parasailing (by boat – impacts from boat should be considered in powerboating). Also includes recreational drones.
	Hovercraft	Includes during travel, launching and when stationary (may be beached when not in use).
Commercial shipping	Commercial hovercraft	Use and operation of commercial/non recreational hovercraft. Singled out from generic vessels due to unique ability to transit across any flat surface land and sea including intertidal, plus noise and speed associated.
	Vessel movements	Movement of all commercial or 'non-recreation' vessels of all scales, from container ships, tankers, cruise liners to pilot vessels, tugs and small watercraft (Including fishing vessels when not fishing).
	Oil spills and response activities *	Oil spills can originate from terrestrial sources, sub-sea or on the surface. These spills can occur nearshore, inshore or within offshore waters. Oil spill response includes, but is not limited to, the use of dispersants, in-situ burning, mechanical recovery and physical removal, the drilling of relief wells or plugging of wells. Other spills associated with oil and gas production, e.g. hydraulic fluids, are not specifically included, but similar pressures may result.

Activity	Sub-activity	Description
Other	Land based agricultural and industrial activities *	Land based agricultural and industrial activities with associated marine pressures e.g. activities resulting in runoff causing water quality issues in the marine environment.
	Remote sensing	This includes methods of obtaining data or images from a distance, e.g. from satellites or aircraft and includes LIDAR.

* These are examples of activities which may require particular attention where they occur outside of the site, if a pressure impact pathway exists.

7. Cumulative impacts

While the Marine and Coastal Access Act 2009 does not explicitly require consideration of in-combination or cumulative effects when assessing the impacts of licensable activities upon an MCZ, Natural England and JNCC advise it is necessary to do this in order to fully understand the range of pressures potentially impacting an HPMA. This is particularly important in light of the high ambition for recovery as set out in the conservation objective and the HPMA definition respectively. Natural England and JNCC advise that Public Authorities make best efforts to fully consider in-combination and cumulative effects, as much as this is possible, in order to be confident in the conclusions of assessments

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