

Advice on Operations Guidance

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Advice on Operations

The Advice on Operations presented in here is site-specific i.e. only provides information for the site's designated features. The advice is provided within an Excel workbook and covers the pressures associated with the types of marine activities which can occur in or near the site. It sets out a broad scale assessment of the feature's sensitivity to a range of pressures. These assessments are based on available sensitivity evidence ([APEM 2016](#), [MarLIN 2014](#)). The supporting information underpinning the pressures and activities descriptions and linkages provided in this workbook was developed by JNCC and Natural England.

The Advice on Operations should be used in conjunction with the specific details of a proposed plan or project (e.g. indirect and/or additive impacts, activity duration, time of year, scale etc.), along with the remainder of the conservation advice for the site. The broad scale assessment provided in the workbook, can be supplemented with more detailed biotope level sensitivity for this habitat which is found in this [MarLIN](#) webpage. Here you can find information on the biotopes present on the different sediment types which comprises the features within the site and further detail on the methodology underpinning the sensitivity scores provided here.

The sensitivity information provided here must be used at an early stage of a plan or project when considering the potential impacts of an activity. The Advice on Operations must be used in conjunction with the specific details of a proposed plan or project (e.g. indirect and/or additive impacts, activity duration, time of year, scale etc.), along with the remainder of the conservation advice for the site.

How to use the Advice on Operations workbook

The Advice on Operations workbook is available to download on the Site Information Centre under the Conservation Advice Tab. It presents the outputs of the sensitivity analysis, accompanied by a set of worksheets containing the evidence base underlying those decisions and keys to the output. The worksheets included in the workbook are as follows:

1. Readme

In the 'readme' tab (worksheet no.1) you can find a link to this guidance note.

2. Advice on Operations output

Worksheet no.2 lists all the activities associated with a marine operation and the pressures which they can cause. For each of protected feature, a sensitivity score is provided for each activity and pressure combination.

A user can search for information relating to a specific activity by applying a filter. Each operation theme (e.g. fishing) is subdivided into associated sub-activities (e.g. demersal trawling). Using the drop-down arrow over column B (Fig. 1) you can select the activity that best suits your proposal or a range of activities to support an assessment of in-combination effects. Note that all activities that could reasonably occur in or near the site have been listed here. If, however, you find that there are no activities listed which are suited to your proposal please contact JNCC who can advise further.

The screenshot shows an Excel spreadsheet with a filter menu open over column B. The filter menu includes options for sorting (A to Z, Z to A, by Color) and filtering. The 'Text Filters' section is expanded, showing a list of activities with checkboxes: (Select All), Aggregate dredging, Anchored nets/lines, Demersal seines, Demersal trawl (checked), Dredges, Electrofishing, and Hydraulic dredges. The spreadsheet table below shows the following data:

	Operation	Pressure	Justification	Annex I habitat						
					Reefs	Sandbanks which are slightly covered by sea water all the time				
					Intertidal biogenic reef: Sabellaria sap.	Subtidal coarse sediment	Subtidal mixed sediments	Subtidal mud	Subtidal sand	
4	AGGREGATE EXTRACTION	Aggregate dredging	Above water noise	190						
5	AGGREGATE EXTRACTION	Aggregate dredging	Abrasion/disturbance of the substrate on the surface of the seabed	302	S	S	S		S	
6	AGGREGATE EXTRACTION	Aggregate dredging	Barrier to species movement	40						
7	AGGREGATE EXTRACTION	Aggregate dredging	Changes in suspended solids (water clarity)	712	NS	S	S	S*	S	
8	AGGREGATE EXTRACTION	Aggregate dredging	Collision ABOVE water with static or moving objects not naturally found in the marine environment (e.g., boats, machinery, and structures)	1428						
8	AGGREGATE EXTRACTION	Aggregate dredging	Collision BELOW water with static or moving objects not naturally found in	1435						

Figure 1. A screen-shot of an Advice on Operations output worksheet being filtered for an operation.

The output table from your search will show the sensitivity¹ scores (S, NS, IE, NA, NR) of an activity against a specific habitat. Justification is provided as to why we think an

¹ The sensitivity of a feature to activity-derived pressures has been assessed using information collected on their resilience (an ability to recover) and resistance (the level of tolerance) to physical, chemical and biological pressures (MarLIN 2014).

activity can cause a pressure. Justifications are coded by number in column D (Fig. 2; See 'Justification' tab for explanation of the justification codes) and available to view in tab 6 as described further down in section 6.

	Justification	Atlantic salt meadows (C maritima)	Atlantic salt meadows (C Puccinellietalia maritima)	Intertidal coarse sedime
Above water noise	69			
Abrasion/disturbance of the substrate on the surface of the seabed	186	S	S	
Barrier to species movement	189	S	S	
Changes in suspended solids (water clarity)	65	S	S	NS*
Emergence regime changes – local,				

Figure 2. A screen-shot of the Advice on Operation output worksheet identifying the location of the Activity- Pressure justification code.

We would like to emphasize that the Advice on Operations provided is only an initial assessment of whether a proposed plan or project (or ongoing activity) may have an impact on a feature in the site. It forms the first step of a potentially iterative pathway of sensitivity assessments that may be needed through the lifetime of a plan or project.

3. Table key

Contains the key (worksheet no.3), for interpreting the Advice on Operations output. This information is essential for you to interpret the information. When the sensitivity of an activity is set at 'Insufficient evidence to assess (IE)', 'Not Assessed (NA)' or 'Not sensitive at the benchmark (NS)' the best available evidence relevant to the activity in question at the time of application, must be sourced and considered in any further assessment.

It is important to note that a feature considered "Not sensitive at a benchmark (NS)" may become sensitive if the pressure benchmark is exceeded. Therefore, users must use the information in the sensitivity assessments in the context of the planned activity. Please see section no. 5, "Pressures Benchmarks" for more information.

Table 1. The Advice on Operations sensitivity key.

SENSITIVITY CATEGORY DESCRIPTION	INTERACTION TYPE	
	DIRECT ¹	INDIRECT ²
SENSITIVE (S): The evidence base suggests the feature is sensitive to the pressure at the benchmark. This activity-pressure-feature combination should therefore be taken to further assessment.	S	S*
INSUFFICIENT EVIDENCE TO ASSESS (IE): The evidence base is not considered to be developed enough for assessments to be made of sensitivity at the pressure benchmark. This activity-pressure-feature combination should therefore be taken to further assessment.	IE	IE*
NOT ASSESSED (NA): A sensitivity assessment has not been made for this feature to this pressure. However, this activity-pressure-feature combination should not be precluded from consideration.	NA	NA*
NOT SENSITIVE AT THE BENCHMARK (NS): The evidence base suggests the feature is not sensitive to the pressure at the benchmark. However, this activity-pressure-feature combination should not be precluded from consideration (e.g. thought needs to be given to activity specific variations in pressure intensity and exposure, in-combination and indirect effects).	NS	NS*
NOT RELEVANT (NR): The evidence base suggests that there is no interaction of concern between the pressure and the feature OR the activity and the feature could not interact.		

¹ An activity which exerts pressures that interact with a feature within the spatial and/or temporal footprint of the operation.

² An activity which exerts pressures that interact with a feature not associated with the immediate spatial and/or temporal footprint of the operation.

4. Activity descriptions

Worksheet no.4 provides 'Activity descriptions' for the operations and activities used in this advice. This information is useful if you are not sure which category an activity may come under. The worksheet contains the operation (column A), activity (column B) and the description of the activity (column C).

5. Pressures benchmarks

Worksheet no.5, 'Pressures and benchmarks', provides the descriptions of pressures and information on the benchmarks used to assess feature sensitivity. A benchmark is a reference point used to assess sensitivity. It is not a threshold and does not indicate a triggering of Likely Significant Effect (LSE) for Habitats Regulation Assessments (HRA) nor triggers any equivalent test in EIA processes.

Worksheet 5 contains descriptions of the feature type (column A), the pressures (column B), their associated benchmarks and descriptions (columns D and E respectively) and route of impact (column E) describing the type of impact (mostly used for birds, fish and mammal features). The benchmarks were intentionally set without consideration of feature resistance to a pressure, to allow judgments of relative pressure sensitivities to be made across

features. Further information about benchmarks and how they are set can be found on the [MarLIN](#) website.

6. Justifications

Worksheet no.6 provides 'justifications' for why we believe an activity can produce a particular pressure. The worksheet contains the Activity-Pressure justification ID (column A) and the Activity-Pressure justification text (column E). Use the filter toggle over column A of this worksheet (Activity-Pressure justification ID) and select the number which matches the number you are interrogating from column D of the 'Advice on Operation output' worksheet (Fig. 3). The Activity-Pressure justification is shown in column E.

Literature used to support the linkage between a pressure and an activity is cited. The citations are coded within the activity-pressure justification text (Fig. 4). As with locating the activity pressure justification text, to locate the references used, users are required to take a note of the relevant reference codes (e.g. [3111; 3149]) and navigate to the 'References' worksheet. As before, use the filter toggle over column A of this work sheet (Activity-Pressure justification comment ID) and select the reference ID(s) that relate to your query.

A	B	C	D	E
Activity-Pressure_Justification ID	Activity	Sub-activity	Pressure	Comment
64	AGGREGATE EX Aggregate dredging	Aggregate dredging	Abrasion/disturbance of the substrate on the surface	Aggregate
65	AGGREGATE EX Aggregate dredging	Aggregate dredging	Changes in suspended solids (water clarity)	Marine ag
66	AGGREGATE EX Aggregate dredging	Aggregate dredging	Habitat structure changes - removal of substratum	Aggregate
67	AGGREGATE EX Aggregate dredging	Aggregate dredging	Penetration and/or disturbance of the substrate below	Aggregate
68	AGGREGATE EX Aggregate dredging	Aggregate dredging	Physical change (to another seabed type)	Aggregate
69	AGGREGATE EX Aggregate dredging	Aggregate dredging	Removal of non-target species	Suction dr
70	AGGREGATE EX Aggregate dredging	Aggregate dredging	Siltation rate changes (Low), including smothering (de	During ma
71	AGGREGATE EX Aggregate dredging	Aggregate dredging	Water flow (tidal current) changes – local, including s	Marine ag
72	AGGREGATE EX Aggregate dredging	Aggregate dredging	Wave exposure changes - local	Seabed lo
73	AGGREGATE EX Aggregate dredging	Aggregate dredging	Above water noise	Noise can
74	AGGREGATE EX Aggregate dredging	Aggregate dredging	Barrier to species movement	The pressu
75	AGGREGATE EX Aggregate dredging	Aggregate dredging	Collision ABOVE water with static or moving objects n	Bird collis
76	AGGREGATE EX Aggregate dredging	Aggregate dredging	Collision BELOW water with static or moving objects n	Species ca
77	AGGREGATE EX Aggregate dredging	Aggregate dredging	Emergence regime changes – local, including tidal leve	The loweri
78	AGGREGATE EX Aggregate dredging	Aggregate dredging	Hydrocarbon & PAH contamination. Includes those pr	The prima
79	AGGREGATE EX Aggregate dredging	Aggregate dredging	Introduction of light	The pressu
80	AGGREGATE EX Aggregate dredging	Aggregate dredging	Introduction or spread of non-indigenous species	Aquatic or
81	AGGREGATE EX Aggregate dredging	Aggregate dredging	Litter	Marine lit
82	AGGREGATE EX Aggregate dredging	Aggregate dredging	Siltation rate changes (High), including smothering (de	During ma
83	AGGREGATE EX Aggregate dredging	Aggregate dredging	Synthetic compound contamination (incl. pesticides, a	Antifoulin
84	AGGREGATE EX Aggregate dredging	Aggregate dredging	Transition elements & organo-metal (e.g. TBT) contami	The prima
85	AGGREGATE EX Aggregate dredging	Aggregate dredging	Underwater noise changes	Shipping i
24	AGGREGATE EX Aggregate dredging	Aggregate dredging	Vibration	The pressu
25	AGGREGATE EX Aggregate dredging	Aggregate dredging	Visual disturbance	Vessels, ve
26	AGGREGATE EX Beach sand extraction	Beach sand extraction	Above water noise	Noise can
27	AGGREGATE EX Beach sand extraction	Beach sand extraction	Abrasion/disturbance of the substrate on the surface	Beach san

Figure 3. A screen-shot of the 'Justification' worksheet being filtered by Activity-Pressure justification ID (column A) to locate the Activity-Pressure.

Noise can arise from many activities in the marine environment. The use of machinery, vessels, explosives, people will result in an increase of above water noise. Some examples of sources of airborne noise are drilling rigs and support [3111; 3149], vessels used to service aquaculture facilities [2834; 3151], vessels used in coastal developments and flood defences [2817; 3085; 2838; 3136; 3153; 3154; 3132], military activities, aggregate extraction [3152], cabling operations [3158; 3164], pilling [1329; 3082], etc. However, the magnitude of pressure would depend on the scale, intensity and duration of the activity.

Figure 4. A screen-shot of the Activity-Pressure justification text displaying reference codes.

7. References

In worksheet no. 7 you can find the list of references which underpin the evidence used in the Advice on Operations by matching the code supplied in the justification text (i.e. column E of 'Justification' worksheet).

If you have any questions relating to the use and functionality of this workbook, please [contact](#) JNCC for assistance.