Monitoring and Evaluation of Spatially Managed Areas

Application of the MESMA Framework.
Case Study:
Skagerrak sub-area

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Step 6 Evaluate management effectiveness

The aim of step 6 is to evaluate the success of existing or planned management measures in terms of achieving the operational objectives (implemented or recommended). Where there is no management plan in place, existing management measures can be evaluated to ascertain how they might contribute to achieving operational objectives. This will identify possible gaps where new management measures might be needed.

Step 6 involves assessment of the success of the management measures (as defined in step 2c) in light of the objectives (step 1b) and discussion about why individual management measures were or were not successful in achieving operational objectives (as listed in step 5). The output of this step will be a table showing which management measures were/were not/were partly successful in meeting their objectives. The table will be accompanied by explanatory text that focuses on the objectives that have not or only partly been met and will consider possible reasons for these outcomes, with respect to management measures in place.

It is important to recognise that management effectiveness in achieving the goal/objectives for each SMA will be evaluated on a scientific basis and this evaluation will examine the key pressures from particular sectoral activities, identified through previous steps of the MESMA framework. To complement this scientific evaluation, it is important to understand the views of different stakeholders (governance, management, operational and others) on the validity of objectives and effectiveness of existing management measures in achieving those environmental goals/objectives. It is also important to understand the process by which those stakeholders interact with each other. To some extent this is explored through WP6 governance research. The Governance Analytical Structure will include discussions of the effectiveness of existing governance approaches and incentives used. The final output of this step should identify where adaptation to current management is needed and this will feed into step 7.

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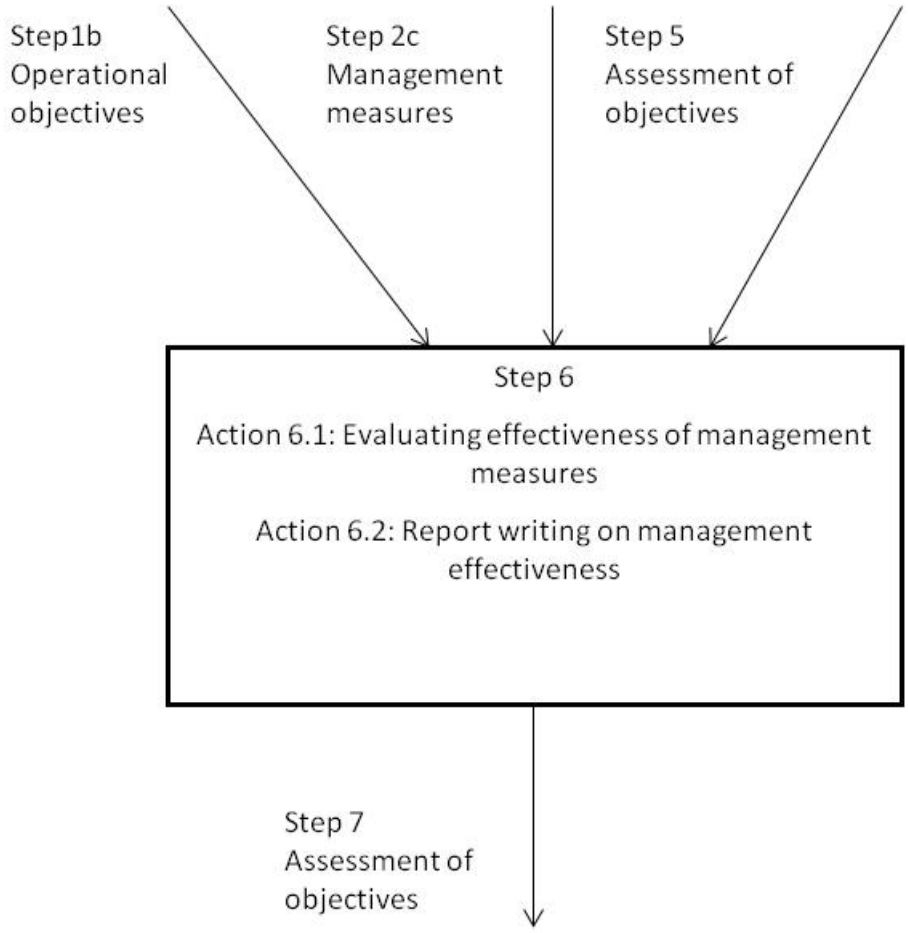

Figure 6.1. Work flow for step 6.

Action 6.1 Evaluate effectiveness of management measures

Using the outputs from steps 1b, 2c and 5, summarise the management measures that are being used to help achieve the respective operational objectives. Where a management plan or initiative exists, populate table 6.1 with the relevant management measures and operational objectives. Where there is no management plan or initiative in place and no measures are set for specific objectives, enter information about existing management measures in table 6.1 and link these to how they might contribute to the operational objectives. You may wish to amend the table to accommodate any additional information.

We look at current options in operation to avoid bycatch

Table 6.1.

Operational objective	Management measure	Useful? yes/no/partly	Achieved yes/no/partly
Favourable conservation status/ bycatch reduction	*Pingers*	*Yes, but it is a concern that many pingers may create noise levels that may effectively expel porpoises from the sites*	*Not implemented*
Favourable conservation	*Area closure*	*Maybe, but this*	*Not implemented*

status/ bycatch reduction		*will increase fishing effort in other areas (in particular around MPA boundaries) and might result in the same number of bycatches*	
Favourable conservation status/ bycatch reduction	*Close fisheries*	*Yes, but will have high economic and social costs*	*Not implemented*

Where the effectiveness of an existing management plan or initiative is evaluated, table 6.1 should be used to discuss for each operational objective which management measures have contributed most to the success or failure of an objective. This exercise is largely based on expert judgement, so it is important to select individuals with the relevant background and expertise (and it may be helpful to keep a record of who is completing the evaluation). It is also important to integrate expert opinion with stakeholder views to give a full picture of the effectiveness of each management measure, together with their distributional effects. Since stakeholders' views and perspectives on the effectiveness of management measures are explored through governance research, please refer to section 5.1 in the Governance Analytical Structure. This section, in particular, summarises the key incentives that have been applied to promote the achievement of the priority operational objective and addresses related conflicts in the existing initiative under evaluation; also included is an indication of how a particular individual or combination of incentives has been particularly effective or ineffective. The exercise lists and elaborates on the incentives drawn from Appendix III of the 'Guidelines for MESMA WP6 Governance Research'. However, only incentives that are applicable / relevant to the initiative under evaluation are listed and evaluated. Note that in WP6, the effectiveness of incentives may be determined from expert judgement, interviews with stakeholders or other information.

In cases where no existing management plan is evaluated the assessor should list the suggested management measures in relation to the assessed operational objectives and provide some narrative as to why certain management measures are expected to be successful. This narrative should be directly extracted from the results of the risk analysis (step 4a).

Action 6.2 Write a report on the management effectiveness & 7. Recommend adaptations to current management

Overall bycatch avoidance strategy

Since harbour porpoises have a large home range and a wide distribution area, it can be discussed whether or not Natura 2000 areas or other protected areas are the most appropriate method of protection, given that the animals likely do not remain in such sites. All currently designated protected areas are based on data showing high densities of porpoises in these areas. Although this sounds like a reasonable strategy for site selection, the areas might not be the areas in which the highest risk of fatal encounters between gillnets and porpoises may be found. It can therefore be discussed if the areas of high risk of bycatch should be included in the selection criteria for harbour porpoise protected areas. If not, it is advisable to implement parallel, broad measures to reduce or eliminate bycatches in areas outside MPAs. This might include mandatory acoustic deterrents on gears (such as pingers), gear restrictions, temporal closures etc.

SMA Boundaries

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As mentioned above, porpoise density has been the main factor in the selection of the Natura 2000 area boundaries. However, looking at the actual density maps it is rather apparent that the selected areas are not the areas of highest densities of porpoises since the high density areas around Skagen are centred more towards the east.

The area Store Rev which has also been designated to protect harbour porpoises shows no indication of being a high density area for porpoises. The initial reason for designation of this site therefore may have been for protection of stone reefs and bubbling reefs, i.e. with harbour porpoises being added to the list subsequently. The underlying reasoning behind the Ministry of Environment's decision not to select the actual areas of highest porpoise densities is not known.

Risk analysis

As seen from the maps there is overlap between areas of gillnet fishery and porpoises. There is therefore a possible risk of bycatch in all areas where the two overlap. We are still in the process of the risk analysis using novel GIS approaches to determine the nature and scope of the conflict in the area and results will be included in MESMA reporting for WP3, WP4 and WP6.