

Agenda Item 4.7

Review of New Information on Threats to  
Small Cetaceans

Emerging Issues

Document 4.7

**Managing Cumulative  
Anthropogenic Impacts on the  
Marine Environment**

**Action Requested**

- Take note
- Decide whether to prepare a draft resolution

Submitted by

Secretariat



**NOTE:  
DELEGATES ARE KINDLY REMINDED  
TO BRING THEIR OWN COPIES OF DOCUMENTS TO THE MEETING**



## Managing Cumulative Anthropogenic Impacts on the Marine Environment

1. In the Essay “Practical management of cumulative anthropogenic impacts with working marine examples”, published in *Conservation Biology*<sup>1</sup> and as [AC22/Inf.4.7.d](#), authors Wright and Kyhn outline tools for managers and regulators that allow them to make decisions addressing cumulative anthropogenic impacts on cetaceans and the wider marine environment.
2. Human activities introduce numerous threats and pressures into the marine environment. Not considering directed takes, impacts on marine mammals can range from incidental take (e.g. through ship strikes, bycatch and exposure to severe noise), to injury (e.g. resulting from surviving such events), to fitness impacts (e.g. from chronic exposure to noise or toxins), and to disturbance (e.g. from masking of sounds and avoidance behaviour). In addition, indirect impacts may also increase mortality risk and reduce fecundity, thus compromising fitness. Such impacts may include reduced prey availability, the energetic consequences of responses to disturbance, and increased stress levels, and thus should be taken into account when assessing population consequences of disturbance. To date, none of these direct or less direct impacts can be quantified to a satisfactory degree, making it very hard for managers to take them into account adequately when making decisions on the use of the marine environment.
3. In order to address the need for practical guidance for mitigating and minimizing cumulative impacts from multiple human activities, the authors outline several practical options that can help managers of various human activities in their decision-making. The options outlined include:
  - a) **Minimizing Exposure:**  
Reduction of exposure through early planning and environmental impact assessments (EIA) that take into account potential consequences beyond the immediate physical location of that activity (e.g. noise or oil spills)
  - b) **Management Cycles:**  
Introduction of management cycles, such as an annual application deadline, enabling managers to review project proposals and related EIAs collectively. This has the advantage also of making it possible to require companies intending to submit applications to produce one aggregated EIA, or at least provide a joint overview, thereby reducing time and resources required in the management agencies
  - c) **Cross-Company Collaboration:**  
Requiring cross-company collaboration, such as mitigation measures for activities occurring in one area at the same time, or the requirement that all seismic survey data be made public in order to eliminate duplicate surveys by competitive companies
  - d) **Zero-Sum Management:**  
Introduce zero-sum management, i.e. consider the current level of impact from human activities as the maximum allowable (or to be already beyond the maximum allowable), thus requiring a reduction of impacts before additional activities can be permitted; this type of management regime has the advantages of providing constant incentive for industries to reduce their environmental impacts, and of encouraging baseline monitoring and controlled impact studies prior to planning new activities in an area (and should not prevent efforts to reduce overall impacts)

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<sup>1</sup> Wright, A, Kyhn, LA. 2015. Practical management of cumulative anthropogenic impacts with working marine examples. *Conservation Biology*, Volume 29, No. 2, 333-340. DOI: 10.1111/cobi.12425

- e) Uncertainty Built into Thresholds:  
Integrating uncertainty into management frameworks setting environmental limits/triggers or recovery/conservation targets
  - f) Facilitating Future Management:  
Requiring collection of data to determine the extent to which the ecosystem will be altered and the likely resulting impacts, and mandatory publication of the data to facilitate management decisions and EIAs in both the short- and the long-term
4. Discussions are currently ongoing within ASCOBANS to define a position with respect to the use of environmental limits/triggers for 'unacceptable interactions'. While the ultimate aim of the Agreement remains to minimize, i.e. ultimately reduce to zero, all anthropogenic removals, focus so far is to a large degree on bycatch. The question of how impacts of other activities, including chronic or cumulative impacts, can be taken into account is a key issue that needs to be addressed.
  5. The Advisory Committee may wish to consider how the management options outlined in [AC22/Inf.4.7.d](#) can assist managers and whether a draft resolution on the subject, recommending that cumulative anthropogenic impacts on cetaceans and the wider marine environment be taken into account in decision-making, should be developed for consideration by ASCOBANS MOP8.