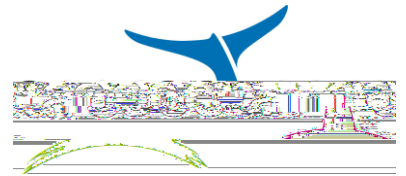


5. ~~Proposed criteria for non-piercing drives such as Arneson~~ during inappropriate low-stroke outboard engines appear less impactful to some marine species compared with two-stroke engines.
6. ~~Proposed measures to reduce noise from supply ships, among other vessels. Alternative operation or technologies should be promoted.~~
7. All sonars, echosounders, and multibeam should use frequencies above at least 200 kHz.
8. ~~Proposed measures to reduce noise from recreational boats upon turning on the engine should be established. This may be the case for power boats where the GPS is used.~~
9. ~~Proposed measures to reduce noise from pile driving and vibration through the seabed. Alternative foundations such as suction caissons or gravity-based foundations may effectively eliminate noise during construction. Quieter, new installation methods should be explored and promoted.~~
10. Naval sonar should also be kept away from biologically rich and productive areas. Dipping sonar seems to be particularly problematic for marine mammals and may also be for fish and invertebrates as there is no possibility of habituation.
11. Noise impacts should be incorporated into population modelling for fish and invertebrates.
12. ~~Commercial vessels of all kinds (including cargo-manning) should be required to use the lowest possible source level.~~
13. ~~Commercial vessels should be required to use the lowest possible source level.~~
14. ~~Commercial vessels should be required to use the lowest possible source level.~~
15. ~~Marine Protected Areas should be managed with noise-sensitive disturbance sensitive buffer zones.~~
16. Acoustic refuges of still-quiet biologically important areas for noise-sensitive marine life should be safeguarded and protected from noise.
17. The unproven assumption that all marine life will avoid noise must be jettisoned. Many species and individuals do not consistently avoid even damaging noise if the area is important to them. Even if animals avoid noise, this may result in (a) reduced foraging efficiency; (b) the energetic costs of transiting and interrupted feeding; and (c) increased predation and less efficient foraging in areas that are not a small fraction of the total range.

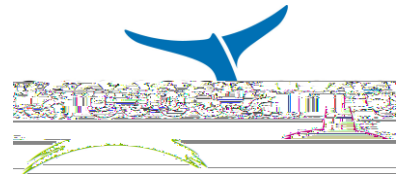
11. GFCM/SC/2019/15. Mediterranean Action Plan (MAP) – 2019-2024 Strategic Action Plan. Adopted by the Commission for the Eastern Mediterranean (CEMED) and the Commission for the Western Mediterranean (COMED) on 21-22 January 2019. The main objectives of the workshop were to: i) review reported anthropogenic underwater noise effects on fish and invertebrates; ii) identify areas in the GFCM area of application where fishing is restricted but other human activities, in particular anthropogenic noise, could impact fisheries with respective socio-economic consequences; iii) address the cooperation of the various parties on fish and fisheries, including through Environmental Impact Assessments; iv) discuss recent developments within UNCLOS in connection with noise in the context of a study on socio-economic impacts on Mediterranean fish stocks. (GFCM/CommCare/2019/15)



Conclusion

The study has shown that the following are the main findings:

- 1.



References

GFCM/OceanCare 2010. List GFCM/OceanCare Workshop on Anthropogenic Underwater Noise and Impacts on Fish, Invertebrates, and Fish Resources. FAO, Rome, Italy, 21-22 February. Available at: <http://www.fao.org/docrep/technical-meetings/detail/en/c/1194253/>

UNCA 2010. UNCA Declaration 7.4.18. Sustainable fisheries, including through the 1995 Agreement for the High Seas of the Eastern Central Pacific Ocean, the 1995 Agreement for the High Seas of the Western Central Pacific Ocean, the 1995 Agreement for the High Seas of the Indian Ocean, the 1995 Agreement for the High Seas of the Southern Oceans, and the 1995 Agreement for the High Seas of the Southern Oceans, and related instruments. Available at: <http://www.unca.org/uncadocs/7.4.18.html>

HydroAcoustic Research for Whaling (2018) The impact of ocean noise pollution on fish and marine mammals. Available at: <https://www.oceancare.org/wp-content/uploads/2018/06/Whaling-2018-06-15-2018-16.pdf>

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About OceanCare:

OceanCare is a Swiss non-profit, government-independent organisation. It was founded in 1989 and has a strong focus on marine pollution, environmental changes, fisheries, whaling, sealing, captivity of marine mammals and public awareness.

OceanCare is a member of the Swiss Association of Environmental NGOs (SAE) and the European Association of Environmental NGOs (EAEN). It is also a member of the European Commission of the Economic and Social Council of the United Nations (ECOSOC) and is a partner of the General Fisheries Commission for the Mediterranean (GFCM), the Convention on Migratory Species (CMS), and the UNEP/CMS Agreement on the Conservation of Migratory Species of Wild Animals (CMS).

OceanCare is also a member of the United Nations Environment Programme (UNEP) and is accredited as a Major Group to the United Nations Environment Assembly (UNEA), which is the highest-level decision-making body of UNEP.

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