



ocean care

The relation between Ocean Noise Pollution and Food Security...

by Sigrid Lüber

Ocean Noise Pollution (ONP) is a source of marine pollution in the form of acoustic energy or sound waves. ONP has gained global momentum in recent years as the international community has acknowledged the importance of dealing with such a problem in various forums, including the United Nations General Assembly (UNGA), International Maritime Organization (IMO), Agreement on the Conservation of Small Cetaceans of the Baltic and North Seas (ASCOBANS), Agreement on the Conservation of Cetaceans in the Black Sea, Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS) and the International Whaling Commission (IWC).

The responsibility for rules to minimise or eliminate the harmful effects of ONP is placed on the international bodies that are empowered to act on behalf of the international community. Among the various sources of ONP, shipping and seismic airguns are particularly worthy of attention because of their consequences on the world's fish stocks. Studies conducted thus far show that local noise generated by shipping produces behavioural deviations in bluefin tuna schools, affecting the accuracy of their migrations to spawning and feeding grounds, with potentially significant effects on their fitness and survivability (Sarà, 2007). Noise generated by seismic airguns can reduce catch rates by 40 to 80% for fish species such as cod, haddock, rockfish, herring, sand eel and blue whiting. The use of airguns near fish stocks severely affects their distribution, local abundance and trawl and longline catch rates. Many studies (Engas et al 1996, Slotte et al 2004) have concluded that catch rates do not return to normal even days after noise has abated.

Although the full scale of the consequences of ONP is difficult to quantify at present since more studies need to be carried out, ONP is definitively known to adversely affect several fish species considered to be important economic resources to many countries. Consequently, there is a definite connection between ONP and the availability of and access to food within the context of food security as defined by the Food and Agriculture Organization (FAO) of the United Nations: 'Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.' Fish contributes significantly to the diets of people worldwide. Fish is highly nutritious and contains several vitamins and minerals suggested important to maintain good health. As the world's oceans experience a decrease in the catch of fish due to human factors such as illegal, unreported and unregulated (IUU) fishing and overfishing, the potential for ONP to exacerbate the decline of catch rates is significant. For impoverished and developing countries that rely on coastal fishing, the consequences of being unaware of the ONP issue could prove fatal.

After initial efforts aimed at drawing the attention of the international community, the issue of ONP seems to have recently gained momentum even against a fishery background: whereas an operative paragraph that calls upon states to submit studies on this subject to the Division of the United Nations Secretary General has been included since 2005 in the text of the annual General Assembly resolution on 'Oceans and the Law of the Sea', a link between ONP and fisheries has been made only a few months ago in connection to the Resumed Review Conference of the United Nations Fish Stocks Agreement (May 2010, New York). Interestingly, in the report of this meeting it can be read, inter alia, that: '[...] particular reference was made [by delegations] to the need to assess the impacts of pollutions on such target stocks and species. Reference was also made to the impact of ocean noise pollution on target stocks and associated species and one observer suggested that this issue should be dealt with in the context of the annual resolution of the General Assembly on sustainable fisheries. A study on the socioeconomic impacts of ocean noise pollution on fishing catch rates was also proposed.'

It is in fact reported that in the upcoming negotiations for the adoption of this year's annual resolution of the General Assembly on 'Sustainable Fisheries', a proposal will be tabled along the

following lines: '[The General Assembly] Encourages further studies, including by the FAO, on the impacts of anthropogenic acoustic pollution generated underwater on fish stocks and fishing catch rates as well as on associated socio-economic effects.'

Arguably, such a course of action would be useful in two respects: on the one hand it would shed further light on the impacts of ONP on fish stocks. Although, as reported above, there is already evidence suggesting that local noise generated by seismic airguns can be highly detrimental to the conservation of fish stocks, the collection of further data would definitely improve our knowledge of the magnitude of the problem. FAO, which is known to collect data on fisheries from the oceans of the world, would be in the perfect position to look into the problem. At the same time, because of the focus of FAO on food security issues, there is little doubt that this specialised agency of the United Nations would highlight if and how much ONP represents a threat in this respect too and not only in relation to the conservation of fish stocks. However, the conduct of studies or the preparation of reports will ultimately prove of little benefit unless this information is used as a basis for policy-making. Science and management usually go hand-in-hand in matters pertaining to fisheries. Regional fisheries management organisations unfortunately struggle to find a balance between the two because the role of science is often played down by states in order to catch more fish. Ultimately, it is this very approach that causes states to refrain from seriously looking into issues such as the implication of ONP on food security. Experience shows that whenever this happens it is usually because there are other economic interests that are regarded as more important, regardless of the negative impacts they might have on the environment and/or on the livelihood of people.

OceanCare has been working on the conservation of marine ecosystems for over 20 years and focuses on building awareness through public education and outreach programmes. OceanCare is a founding member of the International Ocean Noise Coalition (IONC), which works to build public awareness and urge the international community to take steps to combat ONP. Along with other IONC partners, OceanCare also studies emerging marine conservation issues, such as ONP, in order to anticipate factors that might endanger the conservation of marine ecosystems. OceanCare is committed not only to warn, but also to work with, the international community on tasks such as preventing and reducing the impacts of ONP for the benefit of communities worldwide.

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