



The Use of LFA Sonar under International Law

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March 4, 2003

Commissioned by the ASMS (Marine Mammal Protection),
Waedenswil – Switzerland

The U.S. Navy and the navies of other NATO States are using or planning to use low frequency active sonar (LFAS) and to deploy it in 80% of the world's oceans. LFAS is a military technology designed to detect and track quiet enemy submarines at long range. A ship sends out a very loud low frequency signal, which bounces back off of the submarine. The effective source level is expected to reach 240 decibels (dB).

Scientists and organizations have expressed concern about the potential impact of LFAS (including Deafness, tissue rupture and stranding) in marine mammals, fish and other marine life because it is transmitted at very high decibel levels and travels over long distances. This concern has become more serious since many of the strandings of whales occurred during the last years happened while the US Navy was proceeding to low frequency sound tests around the concerned area.

Upon demand of the Natural Resources Defense Council of the US, the Navy instituted in 1997 and 1998 a scientific research program to test the effects of low levels of LFAS on biologically significant behaviours of marine mammals. They studied 4 species of whales for 1 month each. During these tests the Navy's scientists never exposed animals to levels above 155 dB. No tests have ever been undertaken and no scientific evidence is available concerning the nature and scope of the effects of LFAS at a level over 155 dB. However, the Navy intends to use the LFAS system up to a level of 240 dB.

This Legal Opinion is written under the assumption that the LFAS is affecting the marine life and is indeed endangering the survival of marine acoustic animals, in particular the marine mammals. The aim of the present Legal Opinion is to lay down some of the most important and relevant obligations of the States under international law with regard to the preservation, protection and/or exploitation of marine environment and to analyse whether the implementation of the LFAS technology constitutes a violation of any such obligations.

The present Legal Opinion is not to be considered exhaustive but aims at giving a short overview of the legal situation.

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I. Introduction

1. Source of International law are diverse, including mainly international conventions, international customs and general principles of law recognized by Civilized Nations (so-called “general principles of international law”). Thus, international conventions do not constitute the only source of international law, but norms deriving from international customs and general principles of law have also binding character.

2. The aim of the present legal advice is to lay down the general obligations of States deriving from international customary law and general principles and their specific obligations resulting from existing international conventions. It shall then be determined whether such obligations apply in case of use of LFAS by military warships and whether the implementation of the LFAS technology may violate such obligations.

II. Obligations of States under International Law with Regard to the Preservation, Protection or Exploitation of the Marine Environment

1. The common concern of the world’s nations

3. As attested by the different international conventions and declarations in relation with the protection and preservation of the environment, the international community has become aware of the need to handle its natural resources in an equitable and efficient way in order to guarantee the conservation of their living resources and has recognized that the marine area as well as its resources being the common heritage of mankind, its exploration and exploitation shall be carried out for the benefit of mankind as a whole, irrespective of the geographical location of States.

4. As a consequence thereof, the number of International Rules and Principles aiming at protecting and preserving the marine environment and ecosystem is increasing, multiplying thereby the number and types of obligations.

2. The general obligations

5. Besides specific obligations States undertake by concluding international conventions, some obligations already derive from international customary law and general principles of international law and have an universal binding effect (Art. 38 ICJ Statute). Whereas international customary law is defined by the ICJ Statute as “general practice accepted by law” and consists in clearly defined obligations (Art. 38 par. 1 lit. b), “general principles of international law” are of a more general nature and refer to general principles recognized as binding by the “Civilized Nations” (Art. 38 par. 1 lit. c). In other words, international customary law and general principles of international law reflect rules and general principles, which States comply with because they regard themselves as legally obliged to do it.

6. From the large body of international agreements and other acts, attesting the willingness of the International Community to integrate environmental issues in the decision-making process, it is possible to discern general rules and principles. Some of them have received such broad, if not even universal, support and are so widely endorsed in practice, that they have reached the status of international customary law, or at least the status of a general principle of international law.

Following principles constitute general principles of customary law¹, whereby some of the elements of these principles might even be considered as international customary law, binding thereby each State, irrespective whether the latter has adopted any specific convention:

- Principle of sovereignty over natural resources and the responsibility not to cause damage to the environment of other States or of areas beyond the limits of national jurisdiction;
- Principle of preventive action;
- Principle of sustainable development;
- Precautionary principle

2.1 Sovereignty over natural resources and the responsibility not to cause damage to the environment of other states or of areas beyond the limits of national jurisdiction

7. This Principle is stated in the Stockholm Declaration of 1972, which was adopted by the General Assembly of the United Nations during the UN Conference on the Human Environment held in Stockholm on 16 June 1972,:

“States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction”

This principle constitutes the “cornerstone”² of international environmental law and is restated in Principle 2 of the Rio Declaration of 1992 and in several treaties, as for example the Lima Convention of 1981 and the United Convention on the Laws of the Seas of 1982 (hereinafter referred to as “UNCLOS”) (Art. 193, 194). Said principle comprises two elements: 1) the sovereign right of States to exploit their own natural resources, and 2) the obligation not to cause damage to the environment of other States or of areas beyond the limits of national jurisdiction. This principle has been accepted as an obligation by all States and constitutes a rule of customary international law binding the entire international community³.

8. In fact, this principle is an extension of the well-accepted principle of good neighbourliness and international co-operation stated, *inter alia*, in art. 74 of the UN-Charter. The principle of good neighbourliness underlies the dicta of the ICJ that the principle of sovereignty embodies “the obligation of every State not to allow its territory to be used for acts contrary to the rights of other States⁴”.

9. As a consequence thereof, States are neither allowed to cause damages to the environment of another State or of an area beyond the limits of national jurisdiction, nor shall they permit another State to conduct such damaging activities within the limits of their own jurisdiction.

2.2 Principle of preventive action

10. Considering the support and the endorsement in practice of the preventive principle, the latter has also to be considered as a general principle of international law. Contrary to the above-mentioned principle, the principle of preventive action states an obligation to take appropriate regulatory, administrative and other measures in order to prevent damages to the environment within each State’s own jurisdiction.

The preventive approach has been endorsed, directly or indirectly, by the 1972 Stockholm Declaration (Principles 6, 7, 15, 18, 24), the 1978 UNEP Draft Principles (Principle 1), the 1982 World Charter for Nature, the 1992 Rio Declaration (Principle 11, 14, 15) and by a large number of environmental treaties⁵, such as Art. 194(1) UNCLOS, Art. 1(1) ENMOD, Art. 2(2)(b) Vienna Convention 1985, Art. III(4b) of the Convention on the Conservation of Migratory Species of Wild Animals, etc.

11. The preventive principle prohibits an activity which does or will cause damage to the environment in violation of the standards established under the rules of international law, and has been described as being of “overriding importance in every effective environmental policy, since it allows action to be taken to protect the environment at an earlier stage. It is no longer primarily a question of repairing damage after it has occurred⁶”. The principle of preventive action includes the need to carry out environmental impact assessments in relation to the conduct of certain planned activities. The requirement to establish environmental impact assessments is endorsed by a large number of international treaties, such as the 1985 EC Environmental Assessment Directive, the 1991 UN ECE Convention on Environmental Impact Assessment in a Transboundary Context (1991 Espoo Convention), the 1974 Nordic Environmental Protection Convention, the UNEP Regional Seas Conventions, the 1982 UNCLOS (Art. 206), the 1985 ASEAN Agreement, etc.

12. As a consequence thereof, it is a principle of international customary law, that each State shall, before proceeding to activities likely to seriously damage the environment, have to conduct an Environmental Impact Assessment determining the effective effects of such activities.

2.3 Principle of sustainable development

13. The principle of sustainable development has emerged more recently, but must be given the utmost importance. It reflects the awareness of the international community of the need to ensure a development meeting the needs of the present, especially the needs of the world’s poor, without compromising the ability of future generations to meet their own needs. This principle comprises four elements, as reflected in international agreements: 1) the need to preserve natural resources for the benefit of future generations, 2) the aim of exploiting natural resources in a manner which is sustainable, wise and appropriate, 3) the equitable use of natural resources, which implies that use by one State must take account of the needs of other States, and 4) the need to ensure that environmental considerations are integrated into economic and other development plans, programmes and projects, and that development needs are taken into account in applying environmental objectives⁷. The implementation of the fourth element implies the collection and dissemination of environmental information, and the conduct of environmental impact assessments. This last element is of crucial importance, as not proceeding to such assessments and scientific research would seriously risk to void the principle of sustainable development. Thus, a State taking advantage of the lack of scientific information and conducting hazardous activities without prior risk assessment, avoiding thereby the collection of evidence of the damages, would be totally contrary to the spirit of sustainable development and would therefore not only constitute a violation of the principle of sustainable development, but also of the world-wide-accepted general principle of “Good Faith”.

14. The principle of sustainable development is stated in Principle 4 of the Rio Declaration on Environment and Development of 12th August 1992 (referred to as "Rio Declaration"). Since then, the different elements of the principle of sustainable development have been implemented in a very large number of international treaties, including the 1946 International Whaling Convention, the 1968 African Conservation Convention, the 1972 World Heritage Convention, the 1977 ENMOD Convention, the 1979 Convention on the Conservation of Migratory Species of Wild Animals, the 1985 ASEAN Convention, the 1992 Transboundary Waters Convention, the 1992 Biodiversity Convention, the 1992 Climate Change Convention, etc.

15. With respect to the marine living resources, a large number of commitments to limit catches or productivity to "maximum sustained levels" or "optimum sustainable yields" have been agreed, such as the 1949 Tuna Convention (Preamble), the 1966 Tuna Convention, the North Pacific Fisheries Convention (Preamble and Art. IV par. 1 lit. B ii), the 1976 Pacific Fur Seals Convention (Preamble and Art. II 1 a), the 1982 UNCLOS (Art. 61 par. 3 and 64 par. 1), the 1958 High Seas Fishing and Conservation Convention, the 2001 European Convention on the Conservation and Management of Fishery Resources in the South-East Atlantic Ocean, etc. By ruling the fishing and other capturing methods, these treaties aim at ensuring a minimum level of conservation of marine living resources. If the signatory States were allowed to endanger such conservation by other means, these treaties would be rendered void and useless. According to the world-wide-accepted general principle of "Good Faith", signatory States have to act in order not to impede the efficiency of such treaties. Therefore, whereby these treaties directly oblige signatory States to limit and rule the fishing and capturing methods, they also indirectly oblige these States to protect marine living resources from any other kind of endangering activity.

16. The principle of sustainable development has reached the status of general principal of international law, binding thereby the entire international Community. As a consequence thereof, States are not allowed to conduct activities, which seriously endanger the sustainable development, i.e. long-term preservation, of natural resources. Therefore, it is crucial to first determine on the basis of an Environmental Impact Assessment whether a certain activity does or does not endanger such sustainable development. Conducting hazardous activities without prior risk assessment and taking thereby advantage of the lack of scientific evidence would not only constitute a violation of the principle of sustainable development, but also of the principle of "Good Faith".

2.4 The precautionary principle

17. As the principle of sustainable development, the precautionary principle is recent and has mainly emerged in the last two decades. The precautionary principle

aims at providing guidance in the development and application of international environmental law, where there is no scientific certainty. The core of the principle, which is still evolving, is reflected in Principle 15 of the Rio Declaration providing that:

“Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.”

In other words, the states shall not wait for proof of harmful effects before taking action. The aim of precautionary principle goes far beyond simply limiting the States freedom of action with regard to the environment by prohibiting certain activities, and obliges the States to intervene and take appropriate protective measures.

18. The precautionary principle has been adopted in an ever growing number of international environmental treaties such as the 1985 Vienna Convention for the Protection of the Ozone Layer (Preamble), the 1987 Montreal Protocol on Substances that Deplete the Ozone Layer (Preamble), the 1987 Ministerial Declaration of the Second North Sea Conference, the 1991 Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa (Art. 4 par. 3 lit. f), the 1992 Transboundary Watercourses Convention (Art. 2 par. 5 lit. a), the 1992 Biodiversity Convention (Preamble), the 1992 Baltic Sea Convention, the 1992 Climate Change Convention, the 1992 Oskar Convention, the 1992 Amsterdam Treaty (Art. 130r par. 2), the 1995 Agreement on the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (Art. 6), etc.

19. The legal status of the precautionary principle is still evolving. However, state practice has developed in such way that the precautionary principle is to be considered reflecting a principle of international law⁸.

3. Specific obligations

20. Besides the general obligations deriving from international customary law and general principles, each State may adopt international conventions and thereby oblige itself to respect specific rules, undertake specific measures or abstain from certain specific activities. Because rules of international customary law or general principles of law are often of a general nature making it difficult to determine their exact scope and content, international conventions often serve to precise and endorse the content of such general principles and rules.

21. The following list of applicable international treaties is not exhaustive, but only intends to give a foretaste of the number and nature of measures, which the States parties to such conventions obliged themselves to undertake.

The 1982 United Nations Convention on the Law of the Sea⁹ (UNCLOS)

22. Part XII of the convention rules the protection and preservation of the marine environment establishing following obligations:

“States have the obligation to protect and preserve the marine environment” (Art. 192)

“States shall take, individually or jointly as appropriate, all measures consistent with this Convention that are necessary to prevent, reduce and control pollution of the marine environment from any source, using for this purpose the best practicable means at their disposal and in accordance with their capabilities, and they shall endeavour to harmonize their policies in this connection.” (Art. 194 par. 1)

“States shall take all measures necessary to ensure that activities under their jurisdiction or control are so conducted as not to cause damage by pollution to other States and their environment, and that pollution arising from incidents or activities under their jurisdiction or control does not spread beyond the areas where they exercise sovereign rights in accordance with this Convention.” (Art. 194 par. 2)

“States shall take all measures necessary to prevent, reduce and control pollution of the marine environment resulting from the use of technologies under their jurisdiction or control, or the intentional or accidental introduction of species, alien or new, to a particular part of the marine environment, which may cause significant and harmful changes thereto.” (Art. 196)

“When a State becomes aware of cases in which the marine environment is in imminent danger of being damaged by pollution, it shall immediately notify other States it deems likely to be affected by such damage, as well as the competent international organizations” (Art. 198)

“States shall, consistent with the rights of other States, endeavour, as far as practicable, directly or through the competent international organizations, to observe, measure, evaluate and analyse, by recognized scientific methods, the risks or effects of pollution of the marine environment. In particular, States shall keep under surveillance the effects of any activities which they permit or in which they engage in order to determine whether these activities are likely to pollute the marine environment.” Further, according to Art. 205, “States shall publish reports of the results obtained pursuant to article 204 or provide such reports at appropriate intervals to the competent international organizations, which should make them available to all States.” (Art. 204)

“When States have reasonable grounds for believing that planned activities under their jurisdiction or control may cause substantial pollution of or significant and harmful changes to the marine environment, they shall, as far as practicable, assess the potential

effects of such activities on the marine environment and shall communicate reports of the results of such assessments in the manner provided in article 205". (Art. 206)

23. As a consequence thereof, states parties to the Convention:

- may not introduce new technologies, which may cause significant and harmful changes to the marine environment, whereby the states parties may not content themselves with obvious pollution risks, but are obliged to assess the risks or effects of any potentially polluting activities;
- shall reduce and control already existing pollution of the marine environment from any source, using for this purpose the best practicable means at their disposal and in accordance with their capabilities;
- conduct Environmental Impact Assessments in case that a certain activity may cause substantial pollution of or significant and harmful changes to the marine environment.

24. Art. 194 par. 3 lists, on a non-exhaustive basis, different kinds of pollution. Although the "acoustic pollution" was not expressly mentioned, it derives from the preamble, from the wording of Art. 194 par. 3 ("*all sources of pollution of the marine environment*") and of Art. 195 ("*pollution of the marine environment resulting from the use of technologies*"), that the convention aimed at preventing any kind of pollution encompassing thereby new kinds of pollution arising out of new technologies, i.e. also acoustic pollution.

The 1992 Convention on Biological Diversity¹⁰

25. Through said Convention, the Contracting States recognized that it is vital to anticipate, prevent and attack the causes of significant reduction or loss of biological diversity at source and that, where there is a threat of significant reduction or loss of biological diversity, lack of full scientific certainty should not be used as a reason for postponing measures to avoid or minimize such a threat (Precautionary Principle).

26. In accordance with the relevant provisions:

"States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction". (Art. 3)

“Each Contracting Party shall, as far as possible and as appropriate, ...

d) promote the protection of ecosystems, natural habitats and the maintenance of viable populations of species in natural surroundings; ...

f) rehabilitate and restore degraded ecosystems and promote the recovery of threatened species, inter alia, through the development and implementation of plans or other management strategies”. (Art. 8)

“Contracting Parties shall implement this Convention with respect to the marine environment consistently with the rights and obligations of States under the law of the sea” (Art. 22)

27. Through this Convention, the States parties thereto undertook to abstain from conducting or allowing to conduct activities, which may endanger the biological diversity of natural living or non-living resources. The use of LFAS sonars, insofar as it causes serious harm to marine living resources and even endangers the survival of some of them, does clearly violate the obligations stated in the Convention on Biological Diversity, which are actually a mere concretisation of the precautionary principle, which is one of the universally binding general principles of international law.

The 1979 Convention on the Conservation of Migratory Species of Wild Animals¹¹

28. This Convention establishes following fundamental principles to be followed by the Contracting States parties:

“Article II Fundamental Principles

1. The Parties acknowledged the importance of migratory species being conserved and of Range States agreeing to take action to this end whenever possible and appropriate, paying special attention to migratory species the conservation status of which is unfavourable, and taking individually or in co-operation appropriate and necessary steps to conserve such species and their habitat.

2. The Parties acknowledge the need to take action to avoid any migratory species becoming endangered (Art. II par. 2)

3. In particular, the Parties:

a) should promote, co-operate in and support research relating to migratory species;

b) shall endeavour to provide immediate protection for migratory species included in Appendix I; and

c) shall endeavour to conclude Agreements covering the conservation and management of migratory species included in Appendix II.

Article III **Endangered Migratory Species: Appendix I**

...

4. Parties that are Range States of a migratory species listed in Appendix I shall endeavour:

a) to conserve and, where feasible and appropriate, restore those habitats of the species which are of importance in removing the species from danger of extinction;

b) to prevent, remove, compensate for or minimize, as appropriate, the adverse effects of activities or obstacles that seriously impede or prevent the migration of the species; and

c) to the extent feasible and appropriate, to prevent, reduce or control factors that are endangering or are likely to further endanger the species, including strictly controlling the introduction of, or controlling or eliminating, already introduced exotic species. ...”

29. As a consequence thereof, through this convention, the States parties thereto undertook to abstain from conducting or allowing to conduct activities, which may endanger the conservation of endangered migratory species, such as specific kinds of whales and dolphins (blue whales, right whales, beluga whales, humpback dolphins, etc.)

The 1991 Agreement on the Conservation of Small Cetaceans of the Baltic and North Seas (ASCOBANS)¹²

30. This convention prescribes following measures to be taken by the States parties:

“2. Purpose and basic arrangements

1.1 The Parties undertake to cooperate closely in order to achieve and maintain a favourable conservation status for small cetaceans.

1.2 In particular, each Party shall apply within the limits of its jurisdiction and in accordance with its international obligations, the conservation, research and management measures prescribed in the Annex. ...”

The Annex referred to in Art. 2 prescribes following relevant measures:

“The following conservation, research, and management measures shall be applied, in conjunction with other competent international bodies, to the populations defined in Art. 1.1:

1. Habitat conservation and management

Work towards ... d) the prevention of other significant disturbance, especially of an acoustic nature. ...

3. Use of by-catches and strandings

Each Party shall endeavour to establish an efficient system for reporting and retrieving by-catches and stranded specimens and to carry out, in the framework of the studies mentioned above, full autopsies in order to collect tissues for further studies and to reveal possible causes of death and to document food composition..”

31. Through this convention, the States parties thereto undertook to abstain from conducting, and thereby also from allowing another State to conduct activities causing significant disturbance, especially of an acoustic nature. They further obliged themselves to proceed to the necessary assessments in order to determine the causes of death, especially of strandings, of small cetaceans within the area of the Baltic and North Seas, as delimited by the convention.

The 1995 Agreement on the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks¹³

32. This convention aims at ensuring the conservation of fish stocks in accordance with the principle of sustainable development. Part II of the convention establishes following specific obligations of the States parties:

Article 5 General Principles

In order to conserve and manage straddling fish stocks and highly migratory fish stocks, coastal States and States fishing on the high seas shall, in giving effect to their duty to cooperate in accordance with the Convention:

a) adopt measures to ensure long-term sustainability of straddling fish stocks and highly migratory fish stocks and promote the objective of their optimum utilization;

- b) ensure that such measures are based on the best scientific evidence available and are designed to maintain or restore stocks at levels capable of producing maximum sustainable yield, ...*
- c) apply the precautionary approach in accordance with article 6;*
- d) assess the impacts of fishing, other human activities and environmental factors on target stocks and species belonging to the same ecosystem or associated with or dependent upon the target stocks;*
- e) adopt, where necessary, conservation and management measures for species belonging to the same ecosystem or associated with or dependent upon target stocks, with a view to maintaining or restoring populations of such species above levels at which their reproduction may become seriously threatened;*
- f) minimize pollution, waste, discards, catch by lost or abandoned gear, catch of non-target species, both fish and non-fish species, (hereinafter referred to as non-target species) and impacts on associated or dependent species, in particular endangered species, through measures including, to the extent practicable, the development and use of selective, environmentally safe and cost-effective fishing gear and techniques;*
- g) protect biodiversity in the marine environment;*
- h) take measures to prevent or eliminate overfishing and excess fishing capacity and to ensure that levels of fishing effort do not exceed those commensurate with the sustainable use of fishery resources;*
- i) take into account the interests of artisanal and subsistence fishers;*
- j) collect and share, in a timely manner, complete and accurate data concerning fishing activities on, inter alia, vessel position, catch of target and non-target species and fishing effort, as set out in Annex I, as well as information from national and international research programmes;*
- k) promote and conduct scientific research and develop appropriate technologies in support of fishery conservation and management; and*
- l) implement and enforce conservation and management measures through effective monitoring, control and surveillance.*

Article 6
Application of the precautionary approach

1. States shall apply the precautionary approach widely to conservation, management and exploitation of straddling fish stocks and highly migratory fish stocks in order to protect the living marine resources and preserve the marine environment.

2. States shall be more cautious when information is uncertain, unreliable or inadequate. The absence of adequate scientific information shall not be a reason for postponing or failing to take conservation and management measure. ...

5. Where the status of target stocks or non-target or associated or dependent species is of concern, States shall subject such stocks and species to enhanced monitoring in order to review their status and the efficacy of conservation and management measures. They shall revise those measures regularly in the light of the new information.

33. Through this convention, the States parties thereto undertook to abstain from conducting, and thereby also from allowing another State to conduct activities endangering the conservation of the straddling and migratory fish stocks. They further obliged themselves to assess the impact of any activity affecting the target stocks, based on the best scientific evidence. Moreover, this convention endorses the principle of the precautionary approach, obliging the States parties to undertake conservatory measures without waiting for the proof of harmful effects.

The Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area of 24 November 1996¹⁴ (ACCOBAMS)

34. This convention entered in force on 1 June 2001. It aims at ensuring the conservation of the cetaceans¹⁵ within the area of the Black Sea and the Mediterranean and their gulfs and seas implementing the principle of sustainable development and the precautionary approach (Preamble of the Convention).

35. The Convention provides for following obligations:

“Article II
Purpose and Conservation Measures

1. Parties shall take co-ordinated measures to achieve and maintain a favourable conservation status for cetaceans. To this end, Parties shall prohibit and take all necessary measures to eliminate, where this is not already done, any deliberate taking of cetaceans and shall co-operate to create and maintain a network of specially protected areas to conserve cetaceans.

2. Any Party may grant an exception to the prohibition set out in the preceding paragraph only in emergency situations as provided for in Annex 2, paragraph 6, or, after having obtained the advice of the Scientific Committee, for the purpose of non-lethal in situ research aimed at maintaining a favourable conservation status for cetaceans. The Party concerned shall immediately inform the Bureau and the Scientific Committee, through the Agreement secretariat, of any such exception that has been granted. The Agreement secretariat shall inform all Parties of the exception without delay by the most appropriate means.

3. In addition, Parties shall apply, within the limits of their sovereignty and/or jurisdiction and in accordance with their international obligations, the conservation, research and management measures prescribed in Annex 2 to this Agreement, which shall address the following matters:

- a) adoption and enforcement of national legislation;
- b) assessment and management of human-cetacean interactions;
- c) habitat protection;
- d) research and monitoring;
- e) capacity building, collection and dissemination of information, training and education; and
- f) responses to emergency situations.

Measures concerning fisheries activities shall be applied in all waters under their sovereignty and/or jurisdiction and outside these waters in respect of any vessel under their flag or registered within their territory.

4. In implementing the measures prescribed above, the Parties shall apply the precautionary principle.”

36. Annex 2 to this Convention clearly establishes the Parties' obligation to “undertake, to the maximum extent of their economic, technical, and scientific capacities, the following measures for the conservation of cetaceans...”. It further lists a number of specific measures such as the obligation of the Parties to require impact assessments to be carried out in order to provide a basis for either allowing or prohibiting the continuation or the future development of activities that may affect cetaceans or their habitat in the Agreement area (Annex II Para. 1 lit. c). It also obliges the Parties to regulate the discharge at sea of, and adopt within the framework of other appropriate legal instruments stricter standards for, pollutants believed to have adverse effects on

cetaceans (Annex II Para. 1 lit. d)

37. Although Art. 2 par. 2 of the Convention provides for an exception to par. 1 of the same article, the Parties are not liberated from their obligations of warranting the conservation of the cetaceans even in emergency situations as provided for in para. 6 of Annex II:

"6. Responses to emergency situations

Parties shall, in co-operation with each other, and whenever possible and necessary, develop and implement emergency measures for cetaceans covered by this Agreement when exceptionally unfavourable or endangering conditions occur. In particular, Parties shall:

a) prepare, in collaboration with competent bodies, emergency plans to be implemented in case of threats to cetaceans in the Agreement area, such as major pollution events, important strandings or epizootics; and

b) evaluate capacities necessary for rescue operations for wounded or sick cetaceans; and

c) prepare a code of conduct governing the function of centres or laboratories involved in this work.

In the event of an emergency situation requiring the adoption of immediate measures to avoid deterioration of the conservation status of one or more cetacean populations, a Party may request the relevant Co-ordination unit to advise the other Parties concerned, with a view to establishing a mechanism to give rapid protection to the population identified as being subject to a particularly adverse threat."

38. Thus, through this convention, the Parties undertook themselves to take appropriate preventive, protecting and even emergency measures in order to conserve cetaceans as an integral part of the marine ecosystem for the benefit of present and future generations.

Convention on the Conservation and Management of Fishery Resources in the South-East Atlantic Ocean of 2001

39. This convention, which is not yet in force, again endorses the principle of sustainable development in relation with all living marine resources in the South-East Atlantic Ocean and their environment and marine ecosystems, recognizing that there exists an urgent and constant need for effective conservation and management of

the fishery resources in the high seas of the South-East Atlantic Ocean. Moreover, this convention aims to implement the precautionary approach in the management of fishery resources.

40. The convention states following specific obligations:

**“Article 3
General Principles**

In giving effect to the objective of this Convention, the Contracting Parties, where appropriate through the Organisation, shall, in particular:

(a) adopt measures, based on the best scientific evidence available, to ensure the long-term conservation and sustainable use of the fishery resources to which this Convention applies;

(b) apply the precautionary approach in accordance with Art. 7;

(c) apply the provisions of this Convention relating to fishery resources, taking due account of the impact of fishing operations on ecologically related species such as sea-birds, cetaceans, seals and marine turtles;

(d) adopt, where necessary, conservation and management measures for species belonging to the same ecosystem as, or associated with or dependent upon, the harvested fishery resources;

(e) ensure that fishery practices and management measures take due account of the need to minimise harmful impacts on living marine resources as a whole, and

(f) protect biodiversity in the marine environment. ...

**Article 7
Application of the precautionary approach**

1. The Commission shall apply the precautionary approach widely to conservation and management and exploitation of fishery resources in order to protect those resources and preserve the marine environment.

2. The commission shall be more cautious when information is uncertain, unreliable or inadequate. The absence of adequate scientific information shall not be used as a reason for postponing or failing to take conservation and management measures.

Article 13 **Contracting Party obligations**

1. Each Contracting Party shall, in respect of its activities within the Convention area:

(a) collect and exchange scientific, technical and statistical data with respect to fisheries resources covered by this Convention;

(b) ensure that data are collected in sufficient detail to facilitate effective stock assessment and are provided in a timely manner to fulfil the requirements of the Commission;

(c) take appropriate measures to verify the accuracy of such data;

(d) ...

4. Each Contracting Party shall take appropriate measures, in accordance with the measures adopted by the Commission and international law, in order to ensure the effectiveness of the measures adopted by the Commission. ...”

The 1985 EC Environmental Assessment Directive

41. The duty to conduct appropriate assessments is also endorsed in the EEC Council Directive 85/337 (1985 EC Environmental Assessment Directive). According to its Art. 2(1):

“Member States shall adopt all measures necessary to ensure that, before consent is given, projects likely to have significant effects on the environment by virtue, inter alia, of their nature, size or location are made subject to an assessment with regard to their effect.”

42. Thus, all member States of the European Union have not only the obligation to abstain from conducting, and thereby also from allowing another State to conduct activities endangering the conservation of the fishery resources, but have to take conservation and management measures applying the principle of the precautionary approach. According to the EC Environmental Assessment Directive, the EU Member States before allowing another State to conduct certain activities likely to endanger the conservation of fishery resources, shall proceed to an environmental impact assessment. According to the precautionary principle, which EU Member States have to comply with, they are to take preventive conservative measures without waiting for the results of such assessment.

As a consequence thereof, the member States of the European Union have to conduct Environmental Impact Assessment in order to determine the effects of the LFAS

technology on fishery resources. Moreover, they shall immediately take conservative measure to ensure the survival of endangered species without waiting for the result of the assessment.

III. Application to Military Instruments

43. The issue which arises concerns the applicability of the various rules of international environmental law to military activities, including preparatory activities.

1. Applicability of general rules of international law

44. It is a well-accepted general rule of international law that the methods and means of warfare are not unlimited¹⁶. Methods and means are limited to activities necessary to achieve military objectives, which prevent unnecessary suffering and superfluous injury and which are proportionate.

45. Under the Protocol Additional to the Geneva Conventions of 12 August 1949¹⁷ (1977 Additional Protocol I), the Contracting Parties undertook to respect and to ensure respect for this Protocol in all circumstances (Art. 1 par. 1). This Convention States following principles, reflecting now rules of customary international law:

“Article 35 – Basic Rules

- 1. In any armed conflict, the right of the Parties to the conflict to choose methods or means of warfare is not unlimited.*
- 2. It is prohibited to employ weapons, projectiles and material and methods warfare of a nature to cause superfluous injury or unnecessary suffering.*
- 3. It is prohibited to employ methods or means of warfare which are intended, or may be expected, to cause widespread, long-term and severe damage to the natural environment.”*

“Article 55 – Protection of the natural environment

- 1. Care shall be taken in warfare to protect the natural environment against widespread long-term and severe damage. This protection includes a prohibition of the use of meth-*

ods or means of warfare which are intended or may be expected to cause such damage to the natural environment and thereby to prejudice the health or survival of the population.

2. Attacks against the natural environment by way of reprisals are prohibited.”

46. Moreover, Art. 36 obliges the Parties to assess new methods of warfare:

“Article 36 – New weapons

In the study, development, acquisition or adoption of a new weapon, means or method of warfare, a High Contracting Party is under an obligation to determine whether its employment would, in some or all circumstances, be prohibited by this Protocol or by any other rule of international law applicable to the High Contracting Party.”

47. The increased importance attached by the international community to the protection of the environment in terms of armed conflict is also reflected in the work of the ILC. The Draft Code of Crimes Against the Peace and Security of Mankind 1996 restates and endorses some obligations and provision of the 1977 Additional Protocol: whereas violations of the provisions of such protocol are not characterized as a grave breach entailing individual criminal responsibility under the Protocol, such violations constitute, under the conditions specified in Art. 20, a war crime under such Code. According to lit. g of Art. 20, *“in the case of armed conflict, using methods or means of warfare not justified by military necessity with the intent to cause widespread, long-term and severe damage to the natural environment and thereby gravely prejudice the health or survival of the population and such damage occurs”* constitutes such war crime against the peace and security of mankind, when committed in a systematic manner or on a large scale (Art. 20 lit. g).

Another indication for the importance of the protection of the environment lies in the 1976 Convention on the prohibition of military or any hostile use of environmental modification techniques¹⁸ (ENMOD Convention). It prohibits parties from engaging in *“in military or any other hostile use of environmental modification techniques having widespread, long-lasting or severe effects as the means of destruction, damage or injury to any other State Party”* (Art. I). Further, *“each State Party to this Convention undertakes not to assist, encourage or induce any State, group of States or international organization to engage in activities contrary to the provisions of paragraph 1 of this article”*. The notion of *“Environmental modification techniques”* refers to techniques for changing – through the deliberate manipulation of natural processes – the dynamics, composition or structure of the Earth. However, these terms are not clear enough to determine whether the act must be deliberately intended to manipulate natural processes, or whether it is sufficient to show that natural processes have been manipulated as the result of an act which was intended to manipulate non-natural processes¹⁹.

48. As a consequence thereof, States are not allowed to use methods of warfare causing widespread, long-term and severe damage to the natural environment. Nor are they allowed to employ methods of warfare of a nature to cause superfluous injury or unnecessary suffering. This prohibition is valid in wartime and aims at preserving the environment despite the existence of armed conflicts. If, even in wartime, the protection of the environment is given the priority limiting the States' freedom to use any warfare methods during armed conflicts, it is evident that, in peacetime, the environment deserves the utmost protection and shall in no way be seriously damaged by the use of any warfare method.

49. Therefore, it can be stated that the rules and principles of international customary law are applicable to the use of military instruments by military authorities, especially in peacetime.

Thus, States are not liberated from their duty not to cause damages to the environment of other States or of areas beyond the limits of their national jurisdiction, to apply the preventive principle proceeding to all the appropriate environmental impact assessments and the principle of sustainable development.

2. Applicability of the specific conventions

50. As to the specific obligations deriving from the different conventions, their application will often be ruled by the treaty itself. In case of silence of the convention as to its applicability to military activities, it must be analysed whether the convention aims at prohibiting a certain activity or at ensuring the conservation of a certain natural resource independently of the cause of danger. Whereas the first kind of conventions might not be applicable, the second type is to be applied, otherwise the effectiveness of such convention would be impeded.

- The scope of application of the 1982 United Nations Convention on the Law of the Sea (UNCLOS) is defined in Art. 236:

"the provisions of this Convention regarding the protection and preservation of the marine environment do not apply to any warship, naval auxiliary, other vessels or aircraft owned or operated by a State and used, for the time being, only on government non-commercial service. However, each State shall ensure, by the adoption of appropriate measures not impairing operations or operational capabilities of such vessels or aircraft owned or operated by it, that such vessels or aircraft act in a manner consistent, so far as is reasonable and practicable, with this Convention"

Thus, if the measures prescribed in this convention are not directly applicable to warships, States shall in any case ensure that such warships act in a manner

consistent, so far as is reasonable and practicable, with this convention. The application of the preventive principle and the conduct of environmental impact assessments are to be considered reasonable and practicable measures in the sense of Art. 236, wherefore the States are still bound by such obligations.

- According to Art. 4 of the 1992 Convention on Biological Diversity, the provision of such convention apply, in relation to each Contracting Party in the case of processes and activities, regardless of where their effects occur, carried out under its jurisdiction or control, within the area of its national jurisdiction or beyond the limits of national jurisdiction. In consideration of the general and broad wording of said article, the provisions of this convention are also applicable to military activities and processes. As a consequence thereof, the States are not liberated from their obligations deriving from the Convention on Biological Diversity.
- The 1979 Convention on the Conservation of Migratory Species of Wild Animals, the 1991 Agreement on the Conservation of Small Cetaceans of the Baltic and North Seas (ASCOBANS), the Agreement on the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area and the future Convention on the Conservation and Management of Fishery Resources in the South-East Atlantic Ocean of 2001, contain no provision specifying whether they are or not applicable to military activities and processes. In consideration of the above and taking into account that these conventions aim at ensuring the conservation of endangered species independently of the cause of danger, it must be deduced there from that the measures prescribed therein apply to any kind of activity and process, thus also to military activities.

51. As a consequence thereof, the obligations stated in the above mentioned conventions and exposed above are applicable to military activities. This is also valid with regard to NATO operations: NATO States remain bound by their international obligations, based on a specific treaty or on international customary law or principles. Therefore, they may not deploy on their own or on the territory of another State, military activities, which would cause serious and long-lasting damages to the environment.

IV. Conclusion: Violation of International Law

52. The use of LFAS violates international law in two main different respects: 1) by the damages it causes to marine living resources and 2) by its way and context of use.

1. Through the damages caused by LFAS to marine living resources the use of the LFAS constitutes a violation of international law

1.1 Violation of specific conventions

53. If the assessment leads to the result that the planned activity, i.e. the implementation of the LFAS, causes serious damages to the environment, in particular to the marine acoustic animals, such activity would be prohibited by rules international customary law:

- Such activity would constitute a violation of the obligation not to cause damage to the environment of another State or of an area beyond the limits of national jurisdiction would be violated;
- If such activity endangers the preservation of natural resources with regard to future generations, it would violate the principle of sustainable development.

Moreover, such activity would in particular violate following specific obligations resulting from the above-mentioned conventions, if conducted by a Party State to such convention:

- violation of Art. 194 (2) of the UNCLOS;
- violation of Art. 3 of the 1992 Convention on Biological Diversity;
- violation of Art. II of the Annex to the 1979 Convention on the Conservation of Migratory Species of Wild Animals;
- violation of Art. 2 of the Annex to the 1991 ASCOBANS Convention;

- violation of Art. 5 of the 1995 Agreement on the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks;
- violation of Art. 2 of the 1996 ACCOBAMS Convention;
- violation of Art. 3 lit. (e) of the 2001 Convention on the Conservation and Management of Fishery Resources in the South-East Atlantic Ocean.

The implementation of LFAS clearly constitutes a violation of such obligations.

1.2 Violation of international customary law and/or of general principles of international law

54. According to the preventive principle and the principle of sustainable development, which constitute general principles of international law and are endorsed in most of the above cited conventions, a State intending to conduct activities, which are likely to cause damage to the environment, such as the LFAS implementation, is obliged to conduct an Environmental Impact Assessment determining the effects of such activities, based on the best scientific evidence available. The same obligation applies to a State allowing another to conduct such activity within the limits of its jurisdiction.

55. As the LFAS system has never been tested with such low frequencies, there is a lack of evidence as to the nature and scope of the effects of such sonar. However, many indications exist, that the use of LFAS would cause severe damages to acoustic marine animals, provoking even strandings. As a consequence thereof, each State, before using this technology or allowing to use it by another State within the limits of its national jurisdiction, is obliged to conduct a full environmental impact assessment. This duty is moreover expressly stated in the 1982 UNCLOS Art. 206, in the Annex (Art. 2) of 1991 ASCOBANS, in the Agreement on the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (Art. 5), the Convention on the Conservation and Management of Fishery Resources in the South-East Ocean of 2001 (Art. 13) and the 1985 EX Environmental Assessment Directive (Art. 2 par. 1).

56. Shall a State violate such obligation by not proceeding to such assessment, in order to avoid the collection of evidence of environmental damages, and shall that State take advantage of the lack of scientific evidence by nevertheless conducting the hazardous activities, it would also violate the principle of Good Faith.

1.3 The obligation to take appropriate measures

57. The principle of sustainable and the precautionary principle development does not only oblige the States to abstain from certain activities, but further obliges them undertake all necessary measures to prevent, control or reduce damages to the environment. Thus, a State being aware of severe damages to the environment has the obligation to undertake such appropriate measures.

Moreover, the above-mentioned conventions oblige the States parties to take specific conservatory measures within the scope of application of each convention:

- Art. 194 of the 1982 UNCLOS;
- Art. 8 of the Biodiversity Convention;
- Art. II and III of the 1979 Convention on the Conservation of Migratory Species of Wild Animals;
- Art. 2 of the Annex to the 1991 ASCOBANS Convention;
- Art. 5 of the 1995 Agreement on the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, in particular lit. a, b, e, f, g, k and i.
- Art. 2 of the 1996 ACCOBAMS Convention and of Para. 1 and – according to the specific circumstances - 6 of Annex II of said Convention;
- Art. 3 lit. a, d and f of the 2001 Convention on the Conservation and Management of Fishery Resources in the South-East Atlantic Ocean.

The international community, based on international customary law, and the specific States parties to the mentioned conventions, based on the corresponding convention, have the obligation to take appropriate measures to protect and preserve the marine acoustic animals from acoustic pollution resulting from the LFAS implementation.

2. The way of using the LFAS already constitutes a violation of international law irrespective of the damage caused thereby

58. Finally, States parties to a convention prescribing the application of the precautionary approach have the immediate obligation to undertake all measures to prevent the endangering of marine species, without waiting for the results of an environmen-

tal assessment in relation to the LFAS implementation. The use of LFAS without prior risk assessment by a State constitutes a serious breach of said principle, as the concerned State does not only fail to comply with its duty to take appropriate measures to protect marine lives, but actively participates to its destruction.

Following conventions provide for the application of the precautionary approach:

- Preamble of the 1992 Convention on Biological Diversity;
- Art. 6 of the 1995 Agreement on the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks;
- Art. 1 para. 1 of the 1996 ACCOBAMS Convention and Annex II to said Convention;
- Art. 7 of the Convention on the Conservation and Management of Fishery Resources in the South-East Atlantic Ocean of 2001.

In this respect, States should co-operate in order to jointly take appropriate measures according to the principle of good neighbourliness and international co-operation.

Notes

- 1 Hunter/Salzman/Zaelke, *International Environmental Law and Policy*, 1998, p. 318 fol.; Epiney, *Le concept de développement durable en droit international public*, in: SZIER 1997 p. 247 fol.; Sands, *Principles of international environmental law*, 1995, p. 183 fol.; Verdross/Simma, *Universelles Völkerrecht*, 1984, p. 382 fol.;
- 2 Sands, *Principles of international environmental law*, 1995, p. 186.
- 3 Cf. *Trail Smelter Case*; 1985 ASEAN Convention, Art. 20; cf. Sands, *Principles of international environmental law*, 1995, p. 194.
- 4 Cf. *Corfu Channel Case*.
- 5 Sands, *Principles of international environmental law*, 1995, p. 196.
- 6 L. Krämer, *EEC Treaty and Environmental Protection*, 1990, p. 61.
- 7 Sands, *Principles of international environmental law*, p. 199.
- 8 Sands, *Principles of international environmental law*, 1995, p. 213.
- 9 As per 27th September 2002, the Convention on the Law of the Sea counted 138 Contracting States Parties, including Austria, Belgium, Cyprus, Czech Republic, Egypt, the European Community, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Monaco, Netherlands, Norway, Poland, Portugal, Russian Federation, Spain, Sweden, United Kingdom, etc.
- 10 The Convention has been adopted by 186 Parties, including Austria, Belgium, Canada, Cyprus, Czech Republic, Denmark, Egypt, the European Community, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Liechtenstein, Luxembourg, Monaco, Norway, Poland, Portugal, Russian Federation, Spain, Sweden, Switzerland, Netherlands, Turkey, United Kingdom, etc.
- 11 The Convention on the conservation of migratory species of wild animals has been adopted by 80 States, including Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Liechtenstein, Luxembourg, Monaco, Morocco, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom etc.
- 12 There are 8 States Parties to the Agreement: Belgium, Denmark, Finland, Germany, Netherlands, Poland, Sweden and the United Kingdom.
- 13 32 States ratified the Convention: Australia, Bahamas, Barbados, Brazil, Canada, Cook Islands, Costa Rica, Cyprus, Fiji, Iceland, Iran, Maldives, Malta, Mauritius, Micronesia, Monaco, Namibia, Nauru, New Zealand, Norway, Papua New Guinea, Russian Federation, Saint Lucia, Samoa, Senegal, Seychelles, Solomon Islands, Sri Lanka, Tonga, United Kingdom, United States of America, Uruguay.
- 14 Following States of the area covered by this Agreement ratified the Convention: Albania, Bulgaria, Croatia, Spain, Georgia, Libya, Malta, Morocco, Monaco, Romania, Syria and Tunisia. Following States signed, but did not yet ratify the Convention: Cyprus, France, Greece, Libanon and Portugal.
- 15 Such as the common dolphin, rough-toothed dolphin, Risso's dolphin, bottlenose dolphin, striped dolphin, short-broke common dolphin, false killer whale, killer whale, long-finned pilot whale, beaked whale, sperm whale, northern right whale, humpback whale, etc. (see Annex I to the Convention). The Agreement further applies to any other cetaceans not already listed in the Annex I, but which may frequent the Agreement area accidentally or occasionally.
- 16 Sands, *Principles of international environmental law*, 1995, p. 232.
- 17 This convention has been accepted by 129 States, including Austria, Belgium, Canada, Cyprus, Czech Republic, Denmark, Egypt, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Liechtenstein, Luxembourg, Monaco, Netherlands, Norway, Poland, Portugal, Russian Federation, Spain, Sweden, Switzerland, United Kingdom etc.
- 18 This Convention has been adopted by 67 States, including Austria, Belgium, Canada, Cyprus, Czech Republic, Denmark, Egypt, Finland, Germany, Greece, Hungary, Ireland, Italy, Netherlands, Norway, Poland, Russian Federation, Spain, Sweden Switzerland, United Kingdom, United States of America etc.
- 19 Sands, *Principles of international environmental law*, 1995, p. 234-5.