INTERNATIONAL PLAN OF ACTION FOR REDUCING INCIDENTAL CATCH OF SEABIRDS IN LONGLINE FISHERIES

INTERNATIONAL PLAN OF ACTION FOR THE CONSERVATION AND MANAGEMENT OF SHARKS

INTERNATIONAL PLAN OF ACTION FOR THE MANAGEMENT OF FISHING CAPACITY

Food and Agriculture Organization of the United Nations

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PREPARATION OF THIS DOCUMENT

This document contains the texts of three International Plans of Action (IPOA):

- the IPOA for reducing incidental catch of seabirds in longline fisheries;
- the IPOA for the conservation and management of sharks; and,
- the IPOA for the management of fishing capacity.

The IPOAs were developed as the COFI Members in 1997 found that it would be necessary to have some form of international agreement in order to manage the concerned issues in compliance with the Code of Conduct for Responsible Fisheries. The most suitable instrument for each of the three issues was found to be a voluntary International Plan of Action. The three texts were developed in the course of two intergovernmental meetings, open to all FAO Members, held in 1998. The IPOAs were adopted by the twenty-third session of the FAO Committee on Fisheries in February 1999 and endorsed by the FAO Council at the session it held in June 1999.

The Governments of Japan, Norway, the United States of America as well as the European Commission financed the intergovernmental meetings and most of the preparatory activities.

FAO.
International Plan of Action for reducing incidental catch of seabirds in longline fisheries. International Plan of Action for the conservation and management of sharks. International Plan of Action for the management of fishing capacity.
Rome, FAO. 1999. 26p.

ABSTRACT

The **IPOA-SEABIRDS** is a voluntary instrument that applies to all States whose fishermen engage in longline fisheries. The text sets out a set of activities which implementing States are expected to carry out, including an assessment of whether a problem exists with respect to the incidental catch of seabirds in its longline fishery, adopting a National Plan of Action for reducing the incidental catch of seabirds in longline fisheries (NPOA-SEABIRDS) as well as procedures for national reviews and reporting requirements. The calendar years by when these actions preferably should have been taken, are indicated .

The **IPOA-SEABIRDS** also provides a summary description of appropriate mitigation measures which States that determine that they have a problem with the incidental catch of seabirds in their longline fisheries, should consider for inclusion in the NPOA-SEABIRDS. The mitigation measures described are either already used or in an early stage of development. References to appropriate literature are provided.

The **IPOA-SHARKS** is a voluntary instrument that applies to all States whose fishermen engage in shark fisheries. The text sets out a set of activities which implementing States are expected to carry out, including an assessment of whether a problem exists with respect to sharks, adopting a National Plan of Action for the conservation and management of sharks (NPOA-SHARKS), as well as procedures for national reviews and reporting requirements. The calendar years by when these actions preferably should have been taken, are indicated.

The **IPOA-CAPACITY** is a voluntary instrument that applies to all States whose fishermen engage in capture fisheries. The first part of the text describes the nature and scope of the International Plan of Action, the underlining principles and defines the objective of the IPOA. The remainder of the text describes urgent actions and identifies mechanisms to promote implementation. The urgent actions include *assessment and monitoring of fishing capacity* and the *preparation and implementation of national plans.* The text on mechanisms to promote implementation describes *scientific and technical co-operation*, national and international *reporting*, and, *the role of FAO*. The calendar years by when recommended actions should be completed, have been identified.

CONTENTS

INTERNATIONAL PLAN OF ACTION FOR REDUCING INCIDENTAL CATCH OF SEABIRDS IN LONGLINE FISHERIES

Introduction

1. Seabirds are being incidentally caught in various commercial longline fisheries in the world, and concerns are arising about the impacts of this incidental catch. Incidental catch of seabirds may also have an adverse impact on fishing productivity and profitability. Governments, non-governmental organizations, and commercial fishery associations are petitioning for measures to reduce the mortality of seabirds in longline fisheries in which seabirds are incidentally taken.

2. Key longline fisheries in which incidental catch of seabirds are known to occur are: tuna, swordfish and billfish in some particular parts of oceans; Patagonian toothfish in the Southern Ocean, and halibut, black cod, Pacific cod, Greenland halibut, cod, haddock, tusk and ling in the northern oceans (Pacific and Atlantic). The species of seabirds most frequently taken are albatrosses and petrels in the Southern Ocean, northern fulmars in the North Atlantic and albatrosses, gulls and fulmars in the North Pacific fisheries.

3. Responding to the need to reduce the incidental catch of seabirds in commercial fisheries in the Southern Ocean, the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) adopted mitigation measures in 1992 for its 23 member countries to reduce incidental catch of seabirds.

4. Under the auspices of the Commission for the Conservation of Southern Bluefin Tuna (CCSBT), Australia, Japan and New Zealand have studied and taken seabird mitigation measures in their southern bluefin tuna longline fishery since 1994, and in 1995 CCSBT adopted a recommendation relating to ecologically related species, including the incidental mortality of seabirds by longline fishing. The recommendation stipulates a policy on data and information collection, mitigation measures, as well as education and information dissemination. All member nations of CCSBT have made the use of bird scaring lines (tori poles) mandatory in their fisheries.

5. The United States of America also adopted, by regulation, measures for reducing incidental catch of seabirds for its groundfish longline fisheries in Seabirds are being incidentally caught in various commercial longline the Bering Sea/Aleutian Islands and Gulf of Alaska in 1997, and for its halibut fishery in 1998. The United States is currently developing measures to mitigate the incidental catch of seabirds in the Hawaiian pelagic longline fisheries. Several other countries with longline fisheries have likewise adopted similar mitigation measures.

Origin

6. Noting an increased awareness about the incidental catch of seabirds in longline fisheries and its potential negative impacts on seabird populations, a proposal was made at the Twenty-second Session of the Committee on Fisheries (COFI) in March 1997 that FAO organize an expert consultation, using extra-budgetary funds, to develop Guidelines leading to a Plan of Action to be submitted at the next Session of COFI aiming at a reduction in such incidental catch.

7. The *International Plan of Action for reducing incidental catch of seabirds in longline fisheries* (IPOA-SEABIRDS) has been developed through the meeting of a Technical Working Group in Tokyo 25-27 March 1998[1]and the Consultation on the Management of Fishing Capacity, Shark Fisheries and Incidental Catch of Seabirds in Longline Fisheries held 26-30 October 1998 and its preparatory meeting held in Rome 22-24 July 1998[2].

Nature and Scope

8. IPOA-Seabirds is voluntary. It has been elaborated within the framework of the Code of Conduct for Responsible Fisheries as envisaged by Article 2 (d). The provisions of Article 3 of the Code of Conduct apply to the interpretation and application of this document and its relationship with other international instruments. All concerned States[3] are encouraged to implement it.

9. The IPOA-SEABIRDS applies to States in the waters of which longline fisheries are being conducted by their own or foreign vessels and to States that conduct longline fisheries on the high seas and in the exclusive economic zones (EEZ) of other States.

Objective

10. Taking into account in particular the objectives of articles 7.6.9 and 8.5 of the Code of Conduct, the objective of the IPOA-SEABIRDS is to reduce the incidental catch of seabirds in longline fisheries where this occurs.

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[1] See “Report of the FAO Technical Working Group Meeting on Reduction of Incidental Catch of Seabirds in Longline Fisheries”. Tokyo, Japan, 25-27 March 1998. FAO Fisheries Report No. 585.

[2] See "Report of the Preparatory Meeting for the Consultation on the Management of Fishing Capacity, Shark Fisheries and Incidental Catch of Seabirds in Longline Fisheries”. Rome, Italy, 22–24 July 1998. FAO Fisheries Report No. 584.

[3] In this document the term “State” includes Members and non-members of FAO and applies *mutatis mutandis* also to “fishing entities” other than States.

Implementation

11. In implementing the IPOA-SEABIRDS States should carry out a set of activities. This should be done as appropriate in conjunction with relevant international organizations. The exact configuration of this set of activities will be based on an assessment of the incidental catch of seabirds in longline fisheries.

12. States with longline fisheries should conduct an assessment of these fisheries to determine if a problem exists with respect to incidental catch of seabirds. If a problem exists, States should adopt a National Plan of Action for reducing the incidental catch of seabirds in longline fisheries (NPOA-SEABIRDS). (See below the "Technical note on developing a National Plan of Action for reducing the incidental catch of seabirds in longline fisheries".) When developing the NPOA-SEABIRDS experience acquired in regional management organizations should be taken into account as appropriate. FAO should provide a list of experts and a mechanism of technical assistance to countries for use in connection with development of NPOA-SEABIRDS.

13. States which determine that an NPOA-SEABIRDS is not necessary should review that decision on a regular basis, particularly taking into account changes in their fisheries, such as the expansion of existing fisheries and/or the development of new longline fisheries. If, based on a subsequent assessment, States determine that a problem exists, they should follow the procedures outlined in paragraph 12, and implement an NPOA-SEABIRDS within two years.

14. The assessment should be included as a part of each relevant State's NPOA-SEABIRDS.

15. Each State is responsible for the design, implementation and monitoring of its NPOA-SEABIRDS.

16. States recognize that each longline fishery is unique and the identification of appropriate mitigation measures can only be achieved through on-the-spot assessment of the concerned fisheries. Technical and operational mitigation measures are presently in use or under development in some longline fisheries where incidental catch of seabirds occurs. Measures developed by different States are listed in a Technical Note inserted at the end of this document (Technical note on developing a National Plan of Action for reducing the incidental catch of seabirds in longline fisheries). This list does not prejudice the right of States to decide to use any of these or other suitable measures that may be developed. A more comprehensive description and discussion of the mitigation measures currently used or under development can be found in FAO Fisheries Circular No. 937.

17. States should start the implementation of the NPOA-SEABIRDS no later than the COFI Session in 2001.

18. In implementing their NPOA-SEABIRDS States should regularly, at least every four years, assess their implementation for the purpose of identifying cost-effective strategies for increasing the effectiveness of the NPOA-SEABIRDS.

19. States, within the framework of their respective competencies and consistent with international law, should strive to cooperate through regional and subregional fisheries organizations or arrangements, and other forms of cooperation, to reduce the incidental catch of seabirds in longline fisheries.

20. In implementing the IPOA-SEABIRDS States recognize that cooperation among States which have important longline fisheries is essential to reduce the incidental catch of seabirds given the global nature of the issue. States should strive to collaborate through FAO and through bilateral and multilateral arrangements in research, training and the production of information and promotional material.

21. States should report on the progress of the assessment, development and implementation of their NPOA-SEABIRDS as part of their biennial reporting to FAO on the Code of Conduct for Responsible Fisheries.

Role of FAO

22. FAO will, as and to the extent directed by its Conference and as part of its Regular Programme activities, support States in the implementation of the IPOA-SEABIRDS.

23. FAO will, as and to the extent directed by its Conference, support development and implementation of NPOA-SEABIRDS through specific, in-country technical assistance projects with Regular Programme funds and by use of extra-budgetary funds made available to the Organization for this purpose.

24. FAO will, through COFI, report biennially on the state of progress in the implementation of the IPOA-SEABIRDS.

TECHNICAL NOTE ON DEVELOPING A NATIONAL PLAN OF ACTION FOR REDUCING THE INCIDENTAL CATCH OF SEABIRDS IN LONGLINE FISHERIES (NPOA-SEABIRDS)

This is not an exclusive or necessarily all-encompassing list but provides guidance for preparation of the NPOA-SEABIRDS.

The NPOA-SEABIRDS is a plan that a State designs, implements and monitors to reduce the incidental catch of seabirds in longline fisheries.

I. Assessment

1. The purpose of the assessment is to determine the extent and nature of a State's incidental catch of seabirds in longline fisheries where it occurs.

2. The assessment may include, but is not limited to, the collection and analysis of the:

- Criteria used to evaluate the need for an NPOA-SEABIRDS.
- Fishing fleet data (numbers of vessels by size).
- Fishing techniques data (demersal, pelagic, methods).
- Fishing areas.
- Fishing effort by longline fishery (seasons, species, catch, number of hooks/year/fishery).
- Status of seabird populations in the fishing areas, if known.
- Total annual catch of seabirds (numbers per 1000 hooks set/species/longline fishery).
- Existing mitigation measures in use and their effectiveness in reducing incidental catch of seabirds.
- Incidental catch of seabirds monitoring (observer program, etc.).
- Statement of conclusions and decision to develop and implement an NPOA-SEABIRDS.

II. NPOA-SEABIRDS

The NPOA-SEABIRDS may contain the following elements:

1. Prescription of mitigation measures

The NPOA-SEABIRDS should prescribe appropriate mitigation methods. These should have a proven efficiency, and be cost-effective for the fishing industry. If effectiveness of mitigation measures can be improved by combining different mitigation measures or devices, it is likely that each State will find it advantageous to implement a number of different measures that reflect the need and particular circumstances of their specific longline fishery.

2. Research and development

The NPOA-SEABIRDS should contain plans for research and development, including those aiming: (i) to develop the most practical and effective seabird deterrent device; (ii) to improve other technologies and practices which reduce the incidental capture of seabirds; and (iii) undertake specific research to evaluate the effectiveness of mitigation measures used in the longline fisheries, where this problem occurs.

3. Education, training and publicity

The NPOA-SEABIRDS should prescribe means to raise awareness among fishers, fishing associations and other relevant groups about the need to reduce the incidental catch of seabirds in longline fisheries where this occurs; National and International

Plans of Action and other information on the incidental catch of seabirds in longline fisheries; and to promote the implementation of the NPOA-SEABIRDS among national industry, research and its own administration.

Provide information about technical or financial assistance for reducing the incidental catch of seabirds.

Preferably design and implementation of outreach programmes for fishers, fisheries managers, gear technologists, maritime architects, shipbuilders, and conservationists and other interested members of the public should be described in the plan. These programmes should aim at improving the understanding of the problem resulting from incidental catch of seabirds and the use of mitigation measures. The outreach programme may include educational curricula, and guidelines disseminated through videos, handbooks, brochures and posters. The programme should focus on both the conservation aspects of this issue and on the economic benefits of expected increased fishing efficiency *inter alia* by eliminating bait loss to seabirds.

4. Data Collection

Data collection programmes should collect reliable data to determine the incidental catch of seabirds in longline fisheries and the effectiveness of mitigation measures. Such programmes may make use of onboard observers.

TECHNICAL NOTE ON SOME OPTIONAL TECHNICAL AND OPERATIONAL MEASURES FOR REDUCING THE INCIDENTAL CATCH OF SEABIRDS IN LONGLINE FISHERIES

I. INTRODUCTION

To reduce the incidental catch of seabirds, it is essential to reduce the number of encounters between seabirds and baited hooks. It should be noted that, if used in combination, the options could improve mitigation effectiveness.

For each of the measures, the effectiveness and the cost involved for fishers are briefly presented. In this presentation, “effectiveness” is defined as to what extent the measures reduces incidental catch of seabirds; “cost” is defined as the initial cost or investment and any ongoing operational costs.

Other technical options are currently under development and fishers and researchers in the field may develop new mitigation measures, so the list of measures is likely to increase over time.

If effectiveness of mitigation measures can be improved by combining different mitigation measures or devices, each State may find it advantageous to implement different measures that are more suitable for their conditions and reflect the needs of their specific longline fisheries.

The list below should not be considered mandatory or exhaustive and FAO shall maintain a data base of measures that are in use or under development.

II. TECHNICAL MEASURES

1. Increase the sink rate of baits

a) Weighting the longline gear

*Concept***:** Increase the sinking speed of baited hooks and reduce their exposure time to seabirds.

Effectiveness: Studies have shown that appropriate line-weighting can be highly effective in avoiding bait loss to birds.

Cost The cost is the initial purchase of the weighting material (either heavier gear or weights) and any ongoing replacement of weights lost during fishing.

b) Thawing bait

Concept: Overcome buoyancy problems in bait by thawing and/or puncturing swim bladders.

Effectiveness: Rate of incidental catch of seabirds is reduced when thawed baits are used. It has also been shown that bait fish with deflated swim bladders sink more quickly than those with inflated swim bladders did.

Cost: Possible costs include bait thawing rack, or extra weight to compensate flotation resulting from the air bladder.

c) Line-setting machine

Concept: Increase line sinking rate by removing line tension during gear deployment.

Effectiveness: Although no quantitative assessments have been done, this practice would result in the line sinking more rapidly thereby reducing availability of baited hooks to seabirds.

Cost: For some fisheries, initial costs may include purchase of a line-setting device.

2. Below-the-water setting chute, capsule, or funnel

Concept: Prevent access by seabirds to baited hooks by setting line under water.

Effectiveness: Underwater setting devices are still under development but could have high effectiveness.

Cost: Initial cost would include purchase of the underwater setting device.

3. Bird-scaring line positioned over or in the area where baited hooks enter the water

Concept: Prevent seabirds access to baited hooks where they enter the water. The bird scaring line is designed to discourage birds from taking baited hooks by preventing their access to baited hooks. Design specifications may vary by vessel,

fishing operation, and location and are critical to its effectiveness. Streamer lines and towing buoys are examples of these techniques.

Effectiveness: A number of studies and anecdotal observations have demonstrated significant effectiveness of these devices when properly designed and used.

Cost: Low initial cost for the purchase and installation of bird scaring line.

4. Bait casting machine

Concept: Places bait in area protected by a bird scaring line and outside the turbulence caused by the propeller and the ships wake.

Effectiveness: Deployment of bait under the protection zone of the bird-scaring line reduces the availability of baited hooks to seabirds. The extent to which bait loss is reduced by the use of bait casting machines, used either without a bird-scaring line or in such a manner that baits are not protected by a bird-scaring line, is yet to be determined.

Cost: High, initial costs may include purchase of a bait-casting device.

5. Bird-scaring curtain

Concept: To deter seabirds from taking baited hooks during the haul by using a bird scaring curtain.

Effectiveness: Anecdotal evidence indicates that the bird-scaring curtain can effectively discourage birds from seizing baits in the hauling area.

Cost: Low, cost for materials.

6. Artificial baits or lures

Concept: Reduce palatability or availability of baits.

Effectiveness: New baits are still under development and effectiveness has yet to be resolved.

Cost: Currently unknown.

7. Hook modification

Concept: Utilize hook types that reduce the probability of birds getting caught when they attack a baited hook.

Effectiveness: Hook size might effect the species composition of incidental caught seabirds. The effect of modification of hooks is, however, poorly understood.

Cost: Unknown.

8. Acoustic deterrent

Concept: Deterring birds from the longline using acoustic signals, such as high frequency, high volume, distress call, etc.

Effectiveness: Low probability of being effective as background noises are loud and habituation to noises is common among seabirds.

Cost: Unknown.

9. Water cannon

Concept: Concealing baited hooks by using high pressure water.

Effectiveness: There is no definite conclusion about the effectiveness of this method.

Cost: Unknown.

10. Magnetic deterrent

Concept: Perturbing the magnetic receptors of the birds by creating magnetic fields.

Effectiveness: No indication of effect in practical experiments.

Cost: Unknown.

III. OPERATIONAL MEASURES

1. Reduce visibility of bait (night setting)

Concept: Set during hours of darkness and reduce illumination of baited hooks in the water.

Effectiveness: This method is generally recognized as being highly effective. However, effectiveness can vary between fishing grounds and also seasonally according to the seabird species. Effectiveness of this measure may be reduced around the full moon.

Cost: A restriction of line setting to the hours of darkness may affect fishing capacity, especially for smaller longliners. Small costs may be incurred to make vessel lighting appropriate.
Such restriction can also entail investing in costly technology for maximizing fishing efficiency in a shorter period of time.

2. Reduce the attractiveness of the vessels to seabirds

Concept: Reducing the attractiveness of vessels to seabirds will reduce the potential for seabirds being incidentally caught. Materials (e.g. fish discards, garbage) discharged from vessels should be at a time or in a way that makes them least available to birds or least likely to cause them harm. This includes avoidance of the dumping of discarded fish, offal, fish heads, etc. with embedded hooks. If dumping

offal is unavoidable, it should be done on the opposite side of the vessel to where lines are being set or in such a manner that birds are not attracted to the vessel (e.g. at night).

Effectiveness: The issue of offal discharge is a complex one, and there have been conflicting results regarding effects of various procedures in the studies done to date.

Cost: Low; in some situations costs may be associated with providing for offal containment or reconfiguration of offal discharge systems on the vessel.

3. Area and seasonal closures

Concept: Reduce incidental catch of seabirds when concentrations of breeding or foraging seabirds can be avoided.

Effectiveness: Area and seasonal closures could be effective (such as in high density foraging areas or during the period of chick care when parental duties limit the distances adults can fly from breeding sites) although displacement of fishing fleet to other seabird areas needs to be considered.

Cost: Unknown, but a restriction on fishing by area or season may effect fishing capacity.

4. Give preferential licensing to vessels that use mitigation measures that do not require compliance monitoring

*Concept***:** Incentive provided for effective use of mitigation measures that do not require compliance monitoring.

Effectiveness: May be highly effective in stimulating the use of mitigation measures and development of fishing systems that reduce incidental catch of seabirds.

Cost: Unknown.

5. Release live birds

Concept: If despite the precautions, seabirds are incidentally caught, every reasonable effort should be made to ensure that birds brought onboard alive are released alive and that when possible hooks should be removed without jeopardizing the life of the birds.

Effectiveness: Depends on the number of birds brought onboard alive and this is considered small by comparison to the numbers killed in line setting.

Cost: Unknown.

INTERNATIONAL PLAN OF ACTION FOR THE CONSERVATION AND MANAGEMENT OF SHARKS

Introduction

1. For centuries artisanal fishermen have conducted fishing for sharks sustainably in coastal waters, and some still do. However, during recent decades modern technology in combination with access to distant markets have caused an increase in effort and yield of shark catches, as well as an expansion of the areas fished.

2. There is concern over the increase of shark catches and the consequences which this has for the populations of some shark species in several areas of the world's oceans. This is because sharks often have a close stock-recruitment relationship, long recovery times in response to over-fishing (low biological productivity because of late sexual maturity; few off-spring, albeit with low natural mortality) and complex spatial structures (size/sex segregation and seasonal migration).

3. The current state of knowledge of sharks and the practices employed in shark fisheries cause problems in the conservation and management of sharks due to lack of available catch, effort, landings and trade data, as well as limited information on the biological parameters of many species and their identification. In order to improve knowledge on the state of shark stocks and facilitate the collection of the necessary information, adequate funds are required for research and management.

4. The prevailing view is that it is necessary to better manage directed shark catches and certain multispecies fisheries in which sharks constitute a significant bycatch. In some cases the need for management may be urgent.

5. A few countries have specific management plans for their shark catches and their plans include control of access, technical measures including strategies for reduction of shark bycatches and support for full use of sharks. However, given the wide-ranging distribution of sharks, including on the high seas, and the long migration of many species, it is increasingly important to have international cooperation and coordination of shark management plans. At the present time there are few international management mechanisms effectively addressing the capture of sharks.

6. The Inter-American Tropical Tuna Commission, the International Council for the Exploration of the Sea, the International Commission for the Conservation of Atlantic Tunas, the Northwest Atlantic Fisheries Organization, the Sub-regional Fisheries Commission of West African States, the Latin American Organization for Fishery Development, the Indian Ocean Tuna Commission, the Commission for the Conservation of Southern Bluefin Tuna and the Oceanic Fisheries Programme of the Pacific Community have initiated

efforts encouraging member countries to collect information about sharks, and in some cases developed regional databases for the purpose of stock assessment.

7. Noting the increased concern about the expanding catches of sharks and their potential negative impacts on shark populations, a proposal was made at the Twenty-second Session of the FAO Committee on Fisheries (COFI) in March 1997 that FAO organize an expert consultation, using extra-budgetary funds, to develop Guidelines leading to a Plan of Action to be submitted at the next Session of the Committee aimed at improved conservation and management of sharks.

8. This International Plan of Action for Conservation and Management of Sharks (IPOA-SHARKS) has been developed through the meeting of the Technical Working Group on the Conservation and Management of Sharks in Tokyo from 23 to 27 April 1998[4] and the Consultation on Management of Fishing Capacity, Shark Fisheries and Incidental Catch of Seabirds in Longline Fisheries held in Rome from 26 to 30 October 1998 and its preparatory meeting held in Rome from 22 to 24 July 1998[5].

9. The IPOA-SHARKS consists of the nature and scope, principles, objective and procedures for implementation (including attachments) specified in this document.

Nature and Scope

10. The IPOA-SHARKS is voluntary. It has been elaborated within the framework of the Code of Conduct for Responsible Fisheries as envisaged by Article 2 (d). The provisions of Article 3 of the Code of Conduct apply to the interpretation and application of this document and its relationship with other international instruments. All concerned States[6] are encouraged to implement it.

11. For the purposes of this document, the term "shark" is taken to include all species of sharks, skates, rays and chimaeras (Class *Chondrichthyes*), and the term "shark catch" is taken to include directed, bycatch, commercial, recreational and other forms of taking sharks.

12. The IPOA-SHARKS encompasses both target and non-target catches.

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[4] See: "Report of the FAO Technical Working Group on the Conservation and Management of Sharks". Tokyo, Japan, 23-27 April 1998. FAO Fisheries Report No. 583.

[5] See "Report of the Preparatory Meeting for the Consultation on the Management of Fishing Capacity, Shark Fisheries and Incidental Catch of Seabirds in Longline Fisheries." Rome, Italy, 22-24 July,1998. FAO Fisheries Report No. 584.

[6] In this document, the term "State" includes Members and non-members of FAO and applies *mutatis mutandis* also to "fishing entities" other than States.

Guiding principles

13. *Participation*. States that contribute to fishing mortality on a species or stock should participate in its management.

14. *Sustaining stocks*. Management and conservation strategies should aim to keep total fishing mortality for each stock within sustainable levels by applying the precautionary approach.

15. *Nutritional and socio-economic considerations*. Management and conservation objectives and strategies should recognize that in some low-income food-deficit regions and/or countries, shark catches are a traditional and important source of food, employment and/or income. Such catches should be managed on a sustainable basis to provide a continued source of food, employment and income to local communities.

Objective

16. The objective of the IPOA-SHARKS is to ensure the conservation and management of sharks and their long-term sustainable use.

Implementation

17. The IPOA-SHARKS applies to States in the waters of which sharks are caught by their own or foreign vessels and to States the vessels of which catch sharks on the high seas.

18. States should adopt a national plan of action for conservation and management of shark stocks (*Shark-plan*) if their vessels conduct directed fisheries for sharks or if their vessels regularly catch sharks in non-directed fisheries. Suggested contents of the *Shark-plan* are found in Appendix A. When developing a *Shark-plan*, experience of subregional and regional fisheries management organizations should be taken into account, as appropriate.

19. Each State is responsible for developing, implementing and monitoring its *Shark-plan*.

20. States should strive to have a *Shark-plan* by the COFI Session in 2001.

21. States should carry out a regular assessment of the status of shark stocks subject to fishing so as to determine if there is a need for development of a shark plan. This assessment should be guided by article 6.13 of the Code of Conduct for Responsible Fisheries. The assessment should be reported as a part of each relevant State's *Shark-plan*. Suggested contents of a shark assessment report are found in Appendix B. The assessment would necessitate consistent collection of data, including *inter alia* commercial data and data leading to improved species identification and, ultimately, the establishment of abundance indices. Data collected by States should, where appropriate, be made available to, and discussed within the framework of, relevant subregional and regional fisheries organizations and FAO. International collaboration on data collection and data

sharing systems for stock assessments is particularly important in relation to transboundary, straddling, highly migratory and high seas shark stocks.

22. The *Shark-plan* should aim to:

- Ensure that shark catches from directed and non-directed fisheries are sustainable;
- Assess threats to shark populations, determine and protect critical habitats and implement harvesting strategies consistent with the principles of biological sustainability and rational long-term economic use;
- Identify and provide special attention, in particular to vulnerable or threatened shark stocks;
- Improve and develop frameworks for establishing and co-ordinating effective consultation involving all stakeholders in research, management and educational initiatives within and between States;
- Minimize unutilized incidental catches of sharks;
- Contribute to the protection of biodiversity and ecosystem structure and function;
- Minimize waste and discards from shark catches in accordance with article 7.2.2.(g) of the Code of Conduct for Responsible Fisheries (for example, requiring the retention of sharks from which fins are removed);
- Encourage full use of dead sharks;
- Facilitate improved species-specific catch and landings data and monitoring of shark catches;
- Facilitate the identification and reporting of species-specific biological and trade data.

23. States which implement the *Shark-plan* should regularly, at least every four years, assess its implementation for the purpose of identifying cost-effective strategies for increasing its effectiveness.

24. States which determine that a *Shark-plan* is not necessary should review that decision on a regular basis taking into account changes in their fisheries, but as a minimum, data on catches, landings and trade should be collected.

25. States, within the framework of their respective competencies and consistent with international law, should strive to cooperate through regional and subregional fisheries organizations or arrangements, and other forms of cooperation, with a view to ensuring the sustainability of shark stocks, including, where appropriate, the development of subregional or regional shark plans.

26. Where transboundary, straddling, highly migratory and high seas stocks of sharks are exploited by two or more States, the States concerned should strive to ensure effective conservation and management of the stocks.

27. States should strive to collaborate through FAO and through international arrangements in research, training and the production of information and educational material.

28. States should report on the progress of the assessment, development and implementation of their *Shark-plans* as part of their biennial reporting to FAO on the Code of Conduct for Responsible Fisheries.

Role of FAO

29. FAO will, as and to the extent directed by its Conference, and as part of its Regular Programme activities, support States in the implementation of the IPOA-SHARKS, including the preparation of *Shark-plans.*

30. FAO will, as and to the extent directed by its Conference, support development and implementation of *Shark-plan*s through specific, in-country technical assistance projects with Regular Programme funds and by use of extra-budgetary funds made available to the Organization for this purpose. FAO will provide a list of experts and a mechanism of technical assistance to countries in connection with development of *Shark-plan*s.

31. FAO will, through COFI, report biennially on the state of progress in the implementation of the IPOA-SHARKS.

Appendix A

SUGGESTED CONTENTS OF A *SHARK-PLAN*

I. BACKGROUND

When managing fisheries for sharks, it is important to consider that the state of knowledge of sharks and the practices employed in shark catches may cause problems in the conservation and management of sharks, in particular:

- Taxonomic problems
- Inadequate available data on catches, effort and landings for sharks
- Difficulties in identifying species after landing
- Insufficient biological and environmental data
- Lack of funds for research and management of sharks
- Little coordination on the collection of information on transboundary, straddling, highly migratory and high seas stocks of sharks
- Difficulty in achieving shark management goals in multispecies fisheries in which sharks are caught.

II. CONTENT OF THE SHARK-PLAN

The Technical Guidelines on the Conservation and Management of Sharks, under development by FAO, provide detailed technical guidance, both on the development and the implementation of the *Shark-plan*. Guidance will be provided on:

- Monitoring
- Data collection and analysis
- Research
- Building of human capacity
- Implementation of management measures

The *Shark-plan* should contain:

A. Description of the prevailing state of :

- Shark stocks, populations;
- Associated fisheries; and,
- Management framework and its enforcement.

B. The objective of the *Shark-plan*.

C. Strategies for achieving objectives. The following are illustrative examples of what could be included:

- Ascertain control over access of fishing vessels to shark stocks
- Decrease fishing effort in any shark where catch is unsustainable
- Improve the utilization of sharks caught
- Improve data collection and monitoring of shark fisheries
- Train all concerned in identification of shark species
- Facilitate and encourage research on little known shark species
- Obtain utilization and trade data on shark species

Appendix B

SUGGESTED CONTENTS OF A SHARK ASSESSMENT REPORT

A shark assessment report should *inter alia* contain the following information:

- Past and present trends for:
    - Effort: directed and non-directed fisheries; all types of fisheries;
    - Yield: physical and economic
- Status of stocks
- Existing management measures:
    - Control of access to fishing grounds
    - Technical measures (including by-catch reduction measures, the existence of sanctuaries and closed seasons)
    - Others
    - Monitoring, control and surveillance
- Effectiveness of management measures
- Possible modifications of management measures.

INTERNATIONAL PLAN OF ACTION FOR THE MANAGEMENT OF FISHING CAPACITY

Introduction

1. In the context of the Code of Conduct for Responsible Fisheries and its overall objective of sustainable fisheries, the issues of excess fishing capacity in world fisheries is an increasing concern. Excessive fishing capacity is a problem that, among others, contributes substantially to overfishing, the degradation of marine fisheries resources, the decline of food production potential, and significant economic waste.

2. The Code of Conduct provides that States should take measures to prevent or eliminate excess fishing capacity and should ensure that levels of fishing effort are commensurate with sustainable use of fishery resources.

3. At its last Session in 1997, the Committee on Fisheries (COFI), requested FAO to address the issue of fishing capacity. FAO organized a Technical Working Group on the Management of Fishing Capacity in La Jolla, USA, from 15 to 18 April 1998. A subsequent FAO consultation was held in Rome from 26 to 30 October 1998, preceded by a preparatory meeting from 22 to 24 July 1998.

PART I - NATURE AND SCOPE OF THE INTERNATIONAL PLAN OF ACTION

4. The International Plan of Action is voluntary. It has been elaborated within the framework of the Code of Conduct for Responsible Fisheries as envisaged by Article 2 (d). The provisions of Article 3 of the Code apply to the interpretation and application of this International Plan of Action and its relationship with other international instruments.

5. This document is in furtherance of the commitment of all States[7] to implement the Code of Conduct. States and regional[8] fisheries organizations should apply this document consistently with international law and within the framework of the respective competencies of the organizations concerned.

6. The International Plan of Action constitutes an element of fishery conservation and sustainable management.

PART II - OBJECTIVE AND PRINCIPLES

7. The immediate objective of the International Plan of Action is for States and regional fisheries organizations, to achieve world-wide preferably by 2003,

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[7] In this document, the term "State" includes Members and non-members of FAO and applies *mutatis mutandis* also to "fishing entities" other than States.

[8] In this document, the term "regional" includes sub-regional, as appropriate.

but not later than 2005, an efficient, equitable and transparent management of fishing capacity. *Inter alia*, States and regional fisheries organizations confronted with an overcapacity problem, where capacity is undermining achievement of long-term sustainability outcomes, should endeavour initially to limit at present level and progressively reduce the fishing capacity applied to affected fisheries. Where long-term sustainability outcomes are being achieved, States and regional fisheries organizations nevertheless need to exercise caution to avoid growth in capacity undermining long-term sustainability objectives.

8. The above objective may be achieved through a series of actions related to four major strategies:

i. the conduct of national, regional and global assessments of capacity and improvement of the capability for monitoring fishing capacity;

ii. the preparation and implementation of national plans to effectively manage fishing capacity and of immediate actions for coastal fisheries requiring urgent measures;

iii. the strengthening of regional fisheries organizations and related mechanisms for improved management of fishing capacity at regional and global levels;

iv. immediate actions for major transboundary, straddling, highly migratory and high seas fisheries requiring urgent measures.

These strategies may be implemented through complementary mechanisms to promote implementation of this international Plan of Action: awareness building and education, technical co-operation at the international level, and co-ordination.

9. The management of fishing capacity should be based on the Code of Conduct for Responsible Fisheries and take into consideration the following major principles and approaches:

i. *Participation*: The International Plan of Action should be implemented by States either directly, in co-operation with other States, or through FAO in co-operation with other appropriate intergovernmental organizations, including regional fisheries organizations. States and regional fisheries organizations, as appropriate, are encouraged to give effect to it and to inform FAO of actions taken to implement it. FAO will regularly provide information about its implementation.

ii. *Phased implementation:* The management of fishing capacity on the basis of national and regional plans should be achieved through the following three phases: assessment and diagnosis (preliminary analysis to be completed by the end of 2000),

adoption of management measures (preliminary steps to be adopted by the end of 2002) and periodic adjustment of such assessment and diagnosed measures, as appropriate. States and regional fisheries organizations should complete these steps and progressively implement by 2005 the complementary measures specified in the International Plan of Action.

iii. *Holistic approach:* The management of fishing capacity should consider all factors affecting capacity in both national and international waters;

iv. *Conservation.* The management of fishing capacity should be designed to achieve the conservation and sustainable use of fish stocks and the protection of the marine environment consistent with the precautionary approach, the need to minimize by-catch, waste and discard and ensure selective and environmentally safe fishing practices, the protection of biodiversity in the marine environment, and the protection of habitat, in particular habitats of special concern.

v. *Priority:* Priority should be given to managing the fishing capacity in those fisheries in which there already unequivocally exists overfishing;

vi. *New technologies:* The management of fishing capacity should be designed so that it takes into account the incorporation of environmentally sound and evolving technology in all areas of capture fisheries.

vii. *Mobility:* The management of fishing capacity should encourage efficient use of fishing capacity and discourage mobility when it negatively affects sustainability and take due account of socio-economic performances in other fisheries;

viii. *Transparency*: The International Plan of Action should be implemented in a transparent manner in accordance with Article 6.13 of the Code of Conduct.

10. The implementation of the International Plan of Action should be based on the Code of Conduct, particularly Article 5, in relation to enhancing the ability of developing countries, to develop their own fisheries as well as to participate in high seas fisheries, including access to such fisheries, in accordance with their legitimate rights and their obligations under international law.

PART III - URGENT ACTIONS

Section I: Assessment and monitoring of fishing capacity

Measurement of fishing capacity

11. States should support coordinated efforts and research at national, regional and global levels to better understand the fundamental aspects of issues related to the measurement and monitoring of fishing capacity.

12. States should support the organization by FAO of a technical consultation to be held as early as possible in 1999 on the definition and measurement of fishing capacity and the subsequent preparation of technical guidelines for data collection and analysis, noting that the result of this consultation should provide specific guidance for preliminary assessments of fishing capacity and excess fishing capacity at national, regional and global levels.

Diagnosis and identification of fisheries and fleets requiring urgent measures

13. States should proceed, by the end of 2000, with a preliminary assessment of the fishing capacity deployed at the national level in relation to all the fleets of principal fisheries and update this assessment periodically.

14. States should proceed, by the end of 2001, with the systematic identification of national fisheries and fleets requiring urgent measures and update this analysis periodically.

15. States should cooperate, within the same time frame, in the organization of similar preliminary assessments of fishing capacity at the regional level (within the relevant regional fisheries organizations or in collaboration with them, as appropriate) and at the global level (in collaboration with FAO) for transboundary, straddling, highly migratory and high seas fisheries, as well as in the identification of regional or global fisheries and fleets requiring urgent measures.

Establishment of records of fishing vessels

16. States should support FAO in the development of appropriate and compatible standards for records of fishing vessels.

17. States should develop and maintain appropriate and compatible national records of fishing vessels, further specifying conditions for access to information.

18. While awaiting the entry into force of the Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas (Compliance Agreement), States should support the establishment by FAO by the end of 2000 of an international record

of fishing vessels operating in the high seas, following the model indicated in the Compliance Agreement.

Section II: Preparation and implementation of national plans

Development of national plans and policies

19. States should develop, implement and monitor national plans of action for managing fishing capacity, taking into account, *inter alia*, the effect of different resource management systems on fishing capacity.

20. States should develop the means to monitor fishing capacity systematically and accurately, and to regularly assess any imbalance with available fishery resources and management objectives.

21. States should develop, adopt and make public, by the end of 2002, national plans for the management of fishing capacity and, if required, reduce fishing capacity in order to balance fishing capacity with available resources on a sustainable basis. These should be based on an assessment of fish stocks and giving particular attention to cases requiring urgent measures and taking immediate steps to address the management of fishing capacity for stocks recognized as significantly overfished.

22. States should give due consideration, in the development of national plans, to socio-economic requirements, including the consideration of alternative sources of employment and livelihood to fishing communities which must bear the burden of reductions in fishing capacity.

23. When it has been found that a national plan to manage capacity is not necessary, States should ensure that the matter of fishing capacity is addressed in an ongoing manner in fishery management.

24. At least every four years, States should review the implementation of their national plans to manage capacity for the purpose of identifying cost effective strategies for increasing effectiveness.

Subsidies and economic incentives

25. When developing their national plans for the management of fishing capacity, States should assess the possible impact of all factors, including subsidies, contributing to overcapacity on the sustainable management of their fisheries, distinguishing between factors, including subsidies, which contribute to overcapacity and unsustainability and those which produce a positive effect or are neutral.

26. States should reduce and progressively eliminate all factors, including subsidies and economic incentives and other factors which contribute, directly or indirectly, to the build-up of excessive fishing capacity thereby undermining the sustainability of marine living resources, giving due regard to the needs of artisanal fisheries.

Regional considerations

27. States should cooperate, where appropriate, through regional fisheries organizations or arrangements and other forms of co-operation, with a view to ensuring the effective management of fishing capacity.

28. States should strive to collaborate through FAO and through international arrangements in research, training and the production of information and educational material aiming to promote effective management of fishing capacity.

Section III: International considerations

29. States should consider participating in international agreements which relate to the management of fishing capacity, and in particular, the Compliance Agreement and the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks.

30. States should support co-operation and the exchange of information among all regional fisheries organizations in accordance with their procedures.

31. States should take steps to manage the fishing capacity of their vessels involved in high seas fisheries and cooperate, as appropriate with other States, in reducing the fishing capacity applied to overfished high seas stocks.

32. States should improve, through regional fisheries organizations where appropriate, and in collaboration with FAO, the collection of data on catches on the high seas as well as in the coastal area by their fleet.

33. States should recognize the need to deal with the problem of those States which do not fulfil their responsibilities under international law as flag States with respect to their fishing vessels, and in particular those which do not exercise effectively their jurisdiction and control over their vessels which may operate in a manner that contravenes or undermines the relevant rules of international law and international conservation and management measures. States should also support multilateral co-operation to ensure that such flag States contribute to regional efforts to manage fishing capacity.

34. States should be encouraged to become members of regional fisheries organizations or arrangements, or agree to apply the conservation and management measures established by such organizations or arrangements to their vessels.

35. States should promote, with the assistance of FAO, the exchange of information about the fishing activity of vessels which do not comply with conservation and management measures adopted by regional fisheries

organizations and arrangements, consistent with Article VI of the Compliance Agreement.

36. Anticipating the entry into force of the Compliance Agreement, States should strive to apply the provisions of Article III of that Agreement.

37. States should ensure that no transfer of capacity to the jurisdiction of another State should be carried out without the express consent and formal authorization of that State.

38. States should, in compliance with their duties as flag States, avoid approving the transfer of vessels flying their flag to high seas areas where such transfers are inconsistent with responsible fishing under the Code of Conduct.

Section IV: Immediate actions for major international fisheries requiring urgent measures

39. States should take immediate steps to address the management of fishing capacity for international fisheries requiring urgent attention, with priority being given to those harvesting transboundary, straddling, highly migratory and high seas stocks which are significantly overfished.

40. Within the framework of their respective competencies, States should act individually, bilaterally and multilaterally, as appropriate, to reduce substantially[9] the fleet capacity applied to these resources as part of management strategies to restore overfished stocks to sustainable levels considering, in addition to the other relevant provisions of the International Plan of Action:

i. the economic importance of the fleets catching overfished stocks and the need to limit these fleets to a level commensurate with stock sustainability and economic viability; and

ii. the use of appropriate measures to control the transfer of overcapacity to fully exploited or overexploited fisheries, taking into consideration the condition of the fish stocks.

PART IV - MECHANISMS TO PROMOTE IMPLEMENTATION

41. States should develop information programmes at national, regional and global levels to increase awareness about the need for the management of fishing capacity, and the cost and benefits resulting from adjustments in fishing capacity.

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[9] The required reduction would vary from fishery to fishery; e.g. a 20 to 30% reduction was mentioned for large-scale tuna long line fleet (Report of the FAO Technical Working Group on the Management of Fishing Capacity. La Jolla, United States of America, 15-18 April 1998. FAO Fisheries Report No. 586).

Scientific and technical cooperation

42. States should support the exchange of scientific and technical information on issues related to the management of fishing capacity and promote its world-wide availability using existing regional and global fora.

43. States should support training and institutional strengthening and consider providing financial, technical and other assistance to developing countries on issues related to the management of fishing capacity.

Reporting

44. States should report to FAO on progress on assessment, development and implementation of their plans for the management of fishing capacity as part of their biennial reporting to FAO on the Code of Conduct.

Role of FAO

45. FAO will, as and to the extent directed by its Conference, collect all relevant information and data which might serve as a basis for further analysis aimed at identifying factors contributing to overcapacity such as, *inter alia*, lack of input and output control, unsustainable fishery management methods and subsidies which contribute to overcapacity.

46. FAO will, as and to the extent directed by its Conference, and as part of its Regular Programme activities, support States in the implementation of their national plans for the management of fishing capacity.

47. FAO will, as directed by its Conference, support development and implementation of national plans for the management of fishing capacity through specific, in-country technical assistance projects with Regular Programme funds and by use of extra-budgetary funds made available to the Organization for this purpose.

48. FAO will, through COFI, report biennially on the state of progress in the implementation of the International Plan of Action.

International plans of action are voluntary instruments that apply to states. The text of each international plan of action sets out the activities that implementing states are expected to carry out, including an assessment of whether a problem exists, the procedure for adopting a national plan of action as well as procedures for national reviews and reporting requirements. Dates for the implementation of the measures stipulated in each plan of action are also indicated.

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