REPORT OF THE 1ST MEETING OF THE WORKING GROUP ON CAPACITY
(Raleigh, North Carolina, USA – July 16 to 18, 2007)

1. Opening of the meeting

The meeting was opened by Dr. Bill Hogarth, Chair of ICCAT, who welcomed everyone to Raleigh, North Carolina.

In a brief opening statement, Dr. Hogarth highlighted that over-capacity is a major issue facing all the world's fisheries, leading to over-harvesting and having negative impacts on conservation efforts for both directed and by-catch species. Dr. Hogarth stated that he believes ICCAT can be an example for all other Regional Fisheries Management Organizations (RFMOs) in undertaking this difficult, yet necessary task.

Dr. Hogarth invited all Parties around the table to introduce themselves. Eleven CPCs were present at the Working Group. The List of Participants is attached as **Appendix 1**.

2. Election of the Chair

Dr. Chris Rogers (United States) was elected to Chair the meeting.

3. Appointment of the Rapporteur

Mr. Andrew McMaster (Canada) was appointed rapporteur for the meeting.

The Chair made a brief opening statement to emphasize the relationship between fishing capacity and the achievement of ICCAT's stock management objectives.

4. Review of Working Group Terms of Reference

The Chair presented the Terms of Reference for the Working Group.

5. Adoption of Agenda and meeting arrangements

The EC expressed concern that the agenda was very ambitious in attempting to deal with 9 ICCAT-managed fisheries with varying issues that may be specific to each fishery. The EC also highlighted that the Terms of Reference for the Working Group state that a priority focus be placed on bluefin tuna, including caging activities. The EC suggested that the focus of the discussion be on bluefin tuna at this stage. CPCs agreed that it would be best to focus efforts initially on bluefin tuna. Canada took the opportunity to bring attention to a discussion document on capacity management that was circulated. The United States presented a document on lessons learned with respect to the management of fishing capacity. This document is attached as **Appendix 2**. The Chair agreed with focusing the discussion, in particular under items 8 and 9, on bluefin tuna and the Agenda was adopted. The Agenda is attached as **Appendix 3**.

6. Review by fishery of available data to assess fishing capacity and determination of any additional data needs

The Chair reviewed Document CAP-004/2007 which provided a summary of data on existing fishing capacity for ICCAT CPCs. The Chair noted that responses to ICCAT Circular 115 were limited and encouraged all CPCs to provide the requested information during the Working Group meeting. Many Parties stated that they had brought additional data with them to the meeting and would be submitting this data to the secretariat. CPCs also stated that they would be submitting additional data to the Secretariat after the meeting.

There was a general discussion on the specific types of capacity information which would be beneficial to this process of determining capacity management measures. CPCs mentioned the heavy workload involved with providing the data requested by Circular 115. CPCs also expressed a desire to clarify what data would be used to determine the fishing capacity for each ICCAT-managed species, such as whether fishing vessels directed fishing activity for a species versus those fishing vessels that encounter species as bycatch. It was also stated that differences between gear types must be recognized and taken into account when determining overall fishing capacity. The United States stressed that substantial progress can be made in managing fishing capacity with the data and analyses that are available to the Commission.

Dr. Gerry Scott, Chair of the Standing Committee on Research and Statistics (SCRS) presented information on short and long-term stock conditions and harvest levels in ICCAT fisheries, and data on effort and CPUE by flag, gear, season and area, as requested in ICCAT resolution 06-19. This presentation is attached as **Appendix 4**. The available scientific information indicates there is some degree of over-capacity in the fisheries affecting six stocks of concern to the Commission. Fleet-specific information is not yet fully analyzed to provide quantitative estimates of the full degree of over-capacity for most of these stocks. However, available estimates for Eastern Atlantic and Mediterranean bluefin tuna fisheries indicate fishing capacity substantially exceeds the level which would permit the stock to rebuild to the Convention objective.

It was noted that a lack of specific fleet data on fishing capacity, especially for species other than bluefin tuna, prevents more than a minimal estimate of over-capacity, but that data limitations should not prevent interim steps. It was also noted that the difference between latent capacity and active capacity needed to be clarified. Reference was made to the Indian Ocean Tuna Commission (IOTC) where two separate vessel lists are produced indicating overall number of vessels authorized to fish and the number of vessels actively fishing. It was suggested that a similar approach be taken for ICCAT fisheries regarding the specification of active vessels. In addition, the Working Group noted that refinements to existing vessel and fleet data would be beneficial in determining capacity.

Given the variation in the characteristics of ICCAT fisheries, no consensus was reached on a preferred definition of capacity, under-capacity and over-capacity that could be applied to all situations.

7. Determination of methodologies to measure fishing capacity based on available data by fishery

A general discussion was held on different methodologies that could be used to determine fishing capacity. It was stated that the application of these methodologies may not be consistent across species due to the variation in available data and characteristics between fisheries. It was agreed that flexibility would be needed in deciding what methodologies would be most appropriate for each individual ICCAT fishery, depending on the available data. It was also noted that work on methodologies has already been completed by numerous organizations, such as the Food and Agriculture Organization (FAO) and the Organization for Economic Cooperation and Development (OECD).

8. Review and assessment of the level of fishing capacity for ICCAT-managed species

Discussion concentrated on assessing the level of fishing capacity for eastern Atlantic and Mediterranean bluefin tuna. The Chair of the SCRS presented information on estimated levels of over-capacity in ICCAT fisheries.

Some CPCs stated that managing or controlling the capacity of bluefin tuna farming operations would be difficult. It was also stated that bluefin tuna farming capacity would not need to be directly managed if eastern Atlantic and Mediterranean bluefin tuna harvest levels were effectively managed and controlled, as appropriate, throughout fishing, farming and marketing activities.

9. Evaluation of the relationship between capacity levels and available fishing possibilities

A general discussion was held on the issue of relating fishing capacity with available fishing possibilities. Many CPCs provided an overview of how they manage capacity within their own fisheries. These measures ranged

from restricting numbers of active vessels, to restricting fishing days for vessels and fleets. In particular, many CPCs emphasized that indirect methods to limit capacity (eg. Quotas, seasons, area management and vessel power) provided more flexibility for vessels involved in multiple fisheries. It was agreed that in many ICCAT-managed fisheries there was a difference between the existing fishing capacity and the available fishing possibilities.

Canada presented its discussion document on capacity (CAP-006/2007) along with a proposed capacity management decision tree (CAP-005/2007). These documents are attached as **Appendix 5**. Canada highlighted the importance of effective and transparent capacity control measures, stressing that we must ensure that we do not allow over-capacity to drive the determination of fishing opportunities.

The United States highlighted capacity management approaches taken in its fisheries, as noted in the cover letter attached to the U.S. data submission for this meeting (attached as **Appendix 6**).

The EC stated that it decides on fishing effort limitations or reductions by means of management plans or recovery plans, including those adopted by RFMOs, for each of the relevant stocks. These reductions could be implemented by means of reductions in activity, capacity or both.

It was noted that proper implementation and enforcement of ICCAT management measures would prevent over-harvesting and therefore would negate the need for some direct capacity management and control measures, such as vessel limits. However, it was accepted that capacity management measures could be effective as one of a suite of tools used to effectively manage ICCAT fisheries.

10. Consideration of possible guidelines for managing fishing capacity in ICCAT fisheries

10.1 Concepts for consideration

Under this Agenda item, CPCs discussed a wide variety of concepts that the Commission and CPCs might consider inter alia application of capacity management programs. The general ideas as presented by CPCs are summarized below, but are not prioritized nor were they agreed to by the Working Group.

- Capacity management alternatives may be considered for those fisheries or fishery segments where overcapacity is linked to fishing mortality rates in excess of the level associated with maximum sustainable yield, especially where the likelihood of achieving stock management objectives can be enhanced through capacity reductions.

- CPCs may implement capacity management programs, including fleet restructuring, independent of the Commission and in support of the relevant ICCAT stock management programs.

- Capacity management may be considered on a case by case basis, taking into account inter alia, the full complement of management measures implemented by each CPC in the relevant fishery and its right to develop a fleet. However, the Commission may find that the development of general principles could be helpful in advancing its objectives.

- Potential capacity management measures could be enforced by linking vessel limits and/or effort controls to effective monitoring, control and surveillance schemes to be implemented by the affected CPCs.

- Flag states that exercise effective controls on harvest and report data on vessels, effort and catch as required by the Commission may be afforded greater flexibility when capacity management programs are developed.

- Capacity management may allow for flexibility, in consideration of the many dynamic factors that affect both fishing efficiency and the allocation of fishing possibilities, especially in developing coastal States.

- Capacity management programs may be based on evaluations of stock status together with information on the level of effort and catch by vessels active in the fishery. Fleet reductions could be proportional to each

CPC's authorized catch limit and active vessels could be preferentially selected for reductions in order to match harvesting capacity more closely with allocations.

- In implementing any applicable ICCAT capacity management program, CPCs could ensure that vessels removed from the fishery are not replaced or transferred to other fisheries where capacity problems are known to exist. If replacement is allowed under the capacity management program, CPC's could ensure that authorized vessels are replaced only with vessels that have comparable or lower harvesting capacity.

- CPC's implementing a fleet reduction program could provide information to the Commission on the identity of the vessels removed, the disposition of those vessels, the recent catch history of the vessels, and other relevant information.

- In urgent situations, the Commission may consider capacity management programs that limit or reduce effort as an interim step, even when data are not sufficient to evaluate the relationship between capacity and fishing possibilities.

10.2 Specific concerns for eastern Atlantic and Mediterranean bluefin tuna

The Working Group considered the eastern Atlantic and Mediterranean bluefin tuna fishery to be in a situation where urgent action is needed to complement the multi-annual rebuilding plan. Based on the list of vessels notified to ICCAT for the 2007 eastern bluefin fisheries and the 2007 Report of the SCRS Methods Working Group, the Working Group considered indications of over-capacity contained in the 2006 SCRS Report were well founded. The Working Group requested that the SCRS at its next annual meeting should examine the latest 2007 information on vessels authorized to fish actively for bluefin tuna and to assess, if possible in a refined quantitative manner, the level of overcapacity.

In respect of the current situation of over-capacity in this fishery, the Working Group agreed that the Commission should consider, as an interim measure, the implementation of a freeze on harvesting capacity. Given concerns about the adequacy of controls at some caging facilities, the majority of CPCs emphasized the need to freeze both fishing capacity and farming capacity, while some CPCs asserted that farming need not be included. The Working Group considered that it was important for CPCs to communicate to ICCAT the number of vessels active in the bluefin tuna fisheries in the preceding year, for each segment of their fleet. These reports, which should commence in 2008 for the 2007 fisheries, should also include reporting of the effort applied to realize catches.

Notwithstanding the current unquantified level of over-capacity, the Group considered that it was essential that CPCs manage their fleets in such a manner that fishing effort is commensurate with the level of fishing quotas allocated under Recommendation 06-05 and in conformity with the management and control measures in force.

11. Consideration of potential next steps for the Working Group

In relation to western Atlantic bluefin tuna and the other fisheries indicated in Agenda items 8.2 to 8.8, the Working Group considered that, on the basis of the presentation of the SCRS Chair on stock status, the issue of potential over-capacity in certain fisheries needed to be assessed at a future meeting of the Working Group.

For the Working Group to assess fishing capacity in relation to the stocks, it would require an individual report on each stock outlining the current status of the stock and information on the different fleets actively engaged in the fisheries. Ideally, such reports could be drawn up by the ICCAT Secretariat and the SCRS. However, should it become apparent in advance of the 2007 ICCAT Annual Meeting that the feasibility of producing such reports is compromised by the absence of effort and catch data for the fleets involved in the fisheries, then the Working Group recommends that the Commission adopt a measure to require such annual information from each Party on its vessels active in the above mentioned fisheries.

12. Other matters

No other matters were raised for consideration.

13. Adoption of report

The meeting report was adopted.

The Chair thanked the Rapporteur, Secretariat, and interpreters for their hard work during the meeting. The CPCs expressed their appreciation to the Chair for his hard work in directing the meeting.

14. Adjournment

The meeting was adjourned.

Appendix 1

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Appendix 2

BASIC LESSONS ON MONITORING AND CONTROLLING FISHING CAPACITY

Submitted by United States

Increases in fishing capacity significantly hamper the ability to attain the goal of productive and sustainable marine ecosystems. As a result, fishery managers have increasingly focused efforts on improving the management of fishing capacity where the management of fishing capacity includes monitoring and controlling both the *level* and *use* of fishing capacity. During the process of preparing for and conducting the assessment of fishing capacity in federally-managed commercial fisheries, NOAA's National Marine Fisheries Service (NMFS) compiled a list of basic lessons in addressing overcapacity. Many of these lessons coincide with points made in the report of the March 2007 meeting of the *ICCAT Stock Assessment Methods Working Group* (SAMWG). The lessons are listed below in three categories and then discussed in further detail.

Lessons of a general nature:

1. It is important to understand the *sources* of overcapacity, and its *impacts* on a variety of management problems.
2. Successful management of fishing capacity requires authority, technical capability, resources, and political will to design, implement, and enforce effective management measures.
3. Addressing overcapacity does *not* require good estimates of fishing capacity.
4. Allocations of TACs by party, which are monitored and enforced, can improve the incentives for each party to support sustainable fisheries, including measures to address overcapacity.
5. In general, it is simpler and less costly to *prevent* overcapacity than to *decrease* it.

Lessons concerning technical matters:

6. The first step is to achieve a common understanding of the meaning of capacity and overcapacity.
7. Assessments of overcapacity do not, in and of themselves, indicate how much capacity should be reduced nor how to reduce it.
8. In defining and assessing fishing capacity, it is important to: (a) identify the criteria and the fishery regulations that are included as constraints; and (b) account for discarded catch and the fleets that share a common TAC.
9. A capacity assessment must be based on a specified set of boats, fleets, and fishing activities.
10. Assessments should be limited to commercial fisheries.
11. Comparisons across fisheries should be cautiously interpreted.

Lessons regarding implementation of capacity controls:

12. It is possible, but typically not practicable, to prevent overfishing by controlling the *level* of fishing capacity without also controlling the *use* of fishing capacity.
13. If limits on the number and physical characteristics of the boats are used to control fishing capacity, periodic reductions in the limits will be necessary to prevent increases in fishing capacity.
14. It is important to account for the multispecies and multi-fishery activities and capabilities of fishing boats.

Discussion

1. It is important to understand the sources of overcapacity, and its impacts on a variety of management problems.

Overcapacity can contribute to the problems of overfishing, regulatory compliance, by-catch, adverse habitat impacts by fishing operations, the stability and viability of fishing industries and communities, fishing safety, and fishery management programs that are unnecessarily costly, complex and intrusive. Therefore, overcapacity can make it more difficult to have productive and sustainable marine ecosystems.

There is general agreement that the source of the problem of overcapacity is that most management regimes provide incentives for boat owners and perhaps States to maintain or increase fishing capacity even when there is already overcapacity. Such incentives exist when individual vessel owners or States do not bear the full cost of their decisions to maintain or increase fishing capacity; for example when they do not pay for the fishery resources (e.g., the fish) they use. Limited access privilege programs (LAPPs) have been used effectively in a variety of fisheries in the United States and elsewhere to address simultaneously the source of several management problems including overcapacity. LAPP is the latest term used in the United States to refer to a group of programs that include individual transferable quotas (ITQs), community quotas and cooperative quotas.

For ICCAT, two fundamental and related management problems are over harvest and underreported harvest. Overcapacity can contribute to both problems. Therefore, an effective combination of improved monitoring, control and surveillance (MCS) measures and fishing capacity control measures needs to be designed and implemented, where the latter include controlling the level and use of fishing capacity.

2. Successful management of fishing capacity requires the authority, technical capability, resources, and political will to design, implement, and enforce effective management measures.

The requirements for the successful management of fishing capacity include the authority, technical capability, resources, and political will to design, implement, and enforce effective management measures. Meeting these requirements is challenging for fisheries that are within a single EEZ, but typically it has been more difficult to do so for straddling and high seas fisheries. The additional difficulties for multilateral fisheries include the potential for more diverse interests and the need for bilateral or multilateral agreements among the relevant EEZ States. For high seas fisheries, interests that are even more diverse can occur, more States are involved in the international negotiations and the authority of a RFMO to enforce its fishery regulation on all participants in a fishery on the high seas is less well established than the authority of a State to enforce its fishery regulations in its EEZ.

3. Addressing overcapacity does not require good estimates of fishing capacity

When the problems associated with overcapacity have become sufficiently obvious and important, fishery managers have taken a variety of actions to control the level and use of fishing capacity. Generally, this has been done in the absence of quantitative estimates of fishing capacity. However, capacity analyses can assist in predicting and monitoring the success of such actions.

The methods that can be used to determine if there is overcapacity include rigorous quantitative analysis and simpler quantitative or qualitative analysis. The appropriate method(s) will depend on the data available, the intended use of the assessment and, therefore, the desired qualities of the estimate of fishing capacity. Examples of more rigorous quantitative analysis include data envelopment analysis (DEA), which is a mathematical programming approach, stochastic production frontier (SPF) analysis, peak to peak analysis, and surveys of vessel owners or operators. A less data demanding method is to calculate catch per ton of carrying capacity for fishing boats for which there are good estimates of both carrying capacity and catch, and then to use that result and an estimate of carrying capacity for the entire fleet to estimate the potential catch (i.e., capacity output) of the fleet. That approach was used by the SAMWG to obtain several estimates of fishing capacity in order to provide inputs to the 2007 meeting of the Commission's *Working Group on Capacity*.

Much of the same information is required for a quantitative assessment of fishing capacity and other management issues. Trip specific data on catch, effort (including the variable inputs used) and fishing practices

and vessel specific information on fixed variables or vessel characteristics are among the basic data required for a rigorous quantitative assessment of fishing capacity and other management issues. However, with the addition of information concerning the revenue generated by the catch, the costs of the variable and fixed inputs, the demand for seafood products, and the behavior of fishermen, more useful assessments of fishing capacity and other management issues can be provided.

4. Allocations of TACs by party, which are monitored and enforced, can improve the incentives for each party to support sustainable fisheries, including measures to address overcapacity.

The ICCAT allocation of TACs by party provides each member the opportunity to manage its annual allocation in a way that best addresses its own fishery-specific characteristics and objectives, provided it conforms to the harvesting and data reporting practices established by ICCAT. This, for instance, allows some members to introduce LAPPs (e.g., ITQs) for their flagged fishing boats to increase the economic payoffs from fishing. Other members can adopt different management or regulations provided that annual tuna catches are constrained to the amount of their annual allocations. Allowing for different approaches to management, but within overall controls of annual catches and codes of practice, encourages the diffusion of successful management and best practices among the ICCAT members.

If there were adequate MCS measures, the member-specific quotas would provide each member incentives to invest in the conservation and management of ICCAT stocks. Such an approach offers the promise of mitigating, and possibly overcoming, the twin problems of excessive overcapacity and the overexploitation of ICCAT stocks. In addition, with adequate MCS measures, the level of fishing capacity of each member's fleet principally would affect the extent to which each member's management objectives are met. The effects of its level of fishing capacity on other members and the sustainability of the ICCAT stocks would be diminished substantially.

5. In general, it is simpler and less costly to prevent overcapacity than to decrease it.

Unfortunately, many management actions are reactive; that is, they are a response to an obviously critical problem. For example, the issue of overcapacity usually has not become a sufficiently high priority for action until there is significant overcapacity and the adverse effects cannot be ignored. Analysis of the trends in capacity to demonstrate a growing potential for management problems is most useful when fishery policy and management actions are proactive.

6. The first step is to achieve a common understanding of the meaning of capacity and overcapacity.

There has been general agreement at a number of international consultations and workshops on fishing capacity that fishing capacity should be defined and, therefore, measured in terms of the ability of a fleet to harvest or land fish, which can be stated either in terms of the weight or number of fish or in terms of the associated fishing mortality. Based on the *Report of the FAO Technical Consultation on the Measurement of Fishing Capacity*, Mexico City, December 1999, Pascoe *et al*.[1] define fishing capacity as "the amount of fish (or fishing effort) that can be produced over a period of time (e.g. a year or a fishing season) by a vessel or a fleet if fully utilized and for a given resource condition", where "full utilization in this context means normal but unrestricted use, rather than some physical or engineering maximum."

For the purposes of its ongoing assessment of overcapacity in federally-managed commercial fisheries, NMFS is using the following definitions.

Fishing capacity

The maximum amount of fish over a period of time (year) that a fishing fleet could have reasonably expected to harvest (land) under normal and realistic operating conditions, fully utilizing the machinery and equipment in place, and given the technology, the availability and skill of skippers and crews, the abundance of the stocks of fish, some or all fishery regulations, and other relevant constraints. With this definition, fishing capacity is a measure of the ability of a specific fleet or boat to harvest (land) fish.

[1] Pascoe, S., J.E. Kirkley, D. Gréboval, and C.J. Morrison-Paul. 2003. *Measuring and Assessing Capacity in Fisheries: Issues and Methods.* FAO Fisheries Technical Paper No. 433, Vol. II, Rome: FAO.

Overcapacity

The difference between fishing capacity and a short-term target catch level such as the total allowable catch (TAC) or a TAC proxy.

Excess fishing capacity

The difference between fishing capacity and actual (reported or estimated) landings.

The SAMWG report includes the following statement concerning definitions:

The Group felt that the definitions contained in Appendix 5 of FAO (in press) were a useful starting point. Some of these are given in Table 7 (see attachment), with editorial changes in reference to FAO definitions.

The SAMWG noted that fishing capacity can be expressed either in tons or in fishing mortality and presented a definition of overcapacity that is similar to the one being used by NMFS, which is based on a reference point (e.g., a TAC) that reflects current stock conditions. Such a reference point avoids the substantial difficulties of having to estimate fishing capacity for stock conditions that may not have been observed recently and/or that would take many years to achieve.

With these definitions, the fishing capacity of a fleet is determined by a variety of variables including the number of boats in the fleet and the physical characteristics of the individual boats (e.g., their length, engine power, gross registered tons, hold capacity in metric tons or cubic meters, engine type, refrigeration capability, and hull type). However, the physical characteristics of the fleet are not measures of fishing capacity. Consider the following analogy: the capacity of a room (i.e., the number of people that can exit that room safely in an emergency) is determined in part by the physical characteristics or the room (e.g., its size and the number and width of the exits) but it is *measured* in terms of the number of people, not the physical characteristics of the room.

7. Assessments of overcapacity do not, in and of themselves, indicate how much capacity should be reduced nor how to reduce it.

When there is overcapacity and a command and control management approach is used, a variety of factors should be considered to determine if, by how much, how quickly, and how fishing capacity should be decreased. The factors include: (1) the objectives for fishery management; (2) the weights given to each objective; and (3) how a specific capacity reduction measure will affect the attainment of those objectives. Therefore, when a command and control approach is used, the requirements for capacity analysis and other types of analysis increase. Conversely, an effective LAPP can substantially diminish or eliminate the need for capacity assessments. For example, the explanation provided by Willing[2] of why New Zealand had not developed a National Plan of Action for the Management of Fishing Capacity was basically that with ITQ programs already in place in virtually all of New Zealand's fisheries, such a plan, including the assessment of fishing capacity, is not necessary. The market for ITQs determines the optimal level of capacity.

8. In defining and assessing fishing capacity, it is important to: (a) identify the criteria and the fishery regulations that are included as constraints; and (b) account for discarded catch and the fleets that share a common TAC.

NMFS developed the following criteria for useful assessments of fishing capacity and overcapacity: (1) disaggregated, vessel level data should be used in the assessment models; (2) to the extent practical, the assessment of capacity should reflect the fact that many fishing boats participate in multispecies fisheries or multiple fisheries and account for all of the fishing activities of the fishing boats; (3) to the extent practical, the assessments should recognize the ability and propensity of boats to change the species/stock composition of their annual catch; (4) latent capacity should be addressed; (5) the assessment approach/methods selected should be

[2] Willing, J. 2005. New Zealand's Approach to Managing Fishing Capacity. Unpublished report, International Fisheries Group, New Zealand Ministry of Fisheries, 2 p.

feasible given the data and resources that are expected to be available; and (6) steps should be taken to ensure adequate comparability of the assessments given the purposes of the assessments.

Fishery regulations can affect both the ability of a fleet to catch fish and the extent to which that ability is used. Therefore, having a clear definition of fishing capacity includes being explicit concerning what regulations are included as constraints in defining and assessing fishing capacity. If the target catch level includes mortality for both retained and discarded catch, and if fishing capacity is estimated in terms of retained catch, an adjustment to either the capacity estimate or the target catch level will be necessary to calculate overcapacity. Similarly, if there are not separate quotas for the various fleets that share a common TAC, the overcapacity of the individual fleets cannot be calculated without using a proxy for individual quotas.

9. A capacity assessment must be based on a specified set of boats, fleets, and fishing activities.

Although data availability often will limit the choices made concerning which boats, fleets and fishing activities to include in the assessment, some thought should be given to what should be included and the effects of not being as inclusive as is desirable given the objectives for the assessments. The decisions on what vessels to include can be in terms of gear type, vessel size, type of fishery (e.g., artisanal, sport and industrial), and active vs. all authorized vessels. The decisions on which of their fishing activities or non-fishing activities to include can be made, for example, based on the species landed and the areas of operation. The SAMWG made a similar point in stating that "Another important concept to keep in mind is the population, or set, that one is referring to when evaluating capacity." Similarly, when fishing capacity is to be controlled, it is important to determine if the controls will apply to all fishing vessels and supply vessels.

10. Assessments should be limited to commercial fisheries.

Excess demand in recreational/sport fisheries is similar to overcapacity in the commercial fisheries in that it can make it more difficult to meet the conservation and management objectives for living marine resources. However, due to the important differences in the motivations of commercial and recreational/sport fishermen, more research is required to determine what concepts and analytical methods should be used to assess the recreational/sport fisheries' counterparts to fishing capacity, excess capacity and overcapacity in the commercial fisheries. The need for additional research should not prevent fishery management entities from improving the management of recreational/sport fisheries in a variety of ways when it is appropriate to do so. Based on this lesson, NMFS limited its initial round of assessments of overcapacity to federally-managed commercial fisheries.

11. Comparisons across fisheries should be cautiously interpreted.

Several factors limit the comparability of fishing capacity assessments across fisheries, regions or fleets. The factors include: (1) differences among fisheries in terms of the fishery regulations, and other fishery-specific characteristics and data availability and quality; (2) differences in the type and details of the assessment methods used. As in most empirical assessments, the analyst is required to make many decisions concerning how to address various modeling and data issues. These decisions and therefore, the results will differ by analyst.

The degree of comparability can be evaluated only if there is sufficient information on the estimation processes that were used. That would include information on how the fundamental data and modeling issues were addressed in a specific assessment. In addition, the process for conducting the assessments can be designed to increase comparability.

12. It is possible, but typically not practicable, to prevent overfishing by controlling the level of fishing capacity without also controlling the use of fishing capacity.

There are several common fishery characteristics that make it impractical to prevent overfishing by just reducing the level of fishing capacity. It is not practical because the reduction in fishing capacity required would result in catch levels substantially below the target catch levels for most species and, therefore, the cost of preventing overfishing would be unnecessarily high in terms of the other management objectives. The characteristics include: (1) multispecies boats could readily and substantially change the species composition of their annual catch; (2) part-time boats could become full-time boats; (3) latent boats (i.e., those that could have participated in

a fishery but did not) that could become active boats; (4) boats that are able to catch more than they are willing to catch; (5) fluctuations in the overfishing levels and fishing capacity; (6) uncertainty concerning actual fishing capacity; and (7) multiple conservation and management objectives. The SAMWG report notes that "capacity based management procedures may be insufficient, by themselves, to provide adequate safeguard against the risk of overexploitation of tuna resources". Two implications are as follows: (1) estimates of the reduction in fishing capacity that, by itself, would prevent overfishing for a specific stock or group of stocks are often of limited use; and (2) adequate MCS measures are necessary to ensure that the measures designed to control the use of fishing capacity are effective.

13. If limits on the number and physical characteristics of the boats are used to control fishing capacity, periodic reductions in the limits will be necessary to prevent increases in fishing capacity.

The management of fishing capacity can include setting explicit limits on the number and physical characteristics of the boats in a fishery, where the physical characteristics include such things as the length, beam, carrying capacity, engine power and fish-finding equipment of each vessel. However, without regular decreases in such limits, fishing capacity is expected to increase unless the source of the problem of excessive overcapacity is eliminated. There are two reasons for this. First, technological improvements, which the SAMWG refers to as "technology creep", will occur and will increase fishing capacity. Second, when boat owners and States have incentives to increase the fishing capacity of their boats, they can be quite creative in doing so by taking advantage of the physical and operational characteristics that are not subject to those limits. That creativity can result in fishing boats that often are more costly, perhaps less safe to operate, and have physical or operating characteristics that have been distorted by the limits. For example, when there is a limit on the length of boats, beamier boats will become more popular; or when carrying capacity is limited, the use of tenders and other support vessels or less distant ports will tend to increase.

Basically, it is difficult to control a fleet's fishing capacity by controlling the number and physical characteristics of the boats in a fleet, and if such limits are used, regular decreases will be necessary to prevent increases in fishing capacity. But in some cases, better alternatives may not be feasible. The SAMWG made a similar point. It noted that measures aimed at managing Atlantic tuna fisheries to achieve the Convention objective that are solely based on limiting carrying capacity are likely to be of limited usefulness and ineffective in the long term, unless very conservative limits are established.

Note that limits with exceptions for certain types of boats will tend to increase the number of boats that just meet the exception rule. For example, if the limit on the number of boats in a fishery applies only to boats that are more than 24 meters in length, boats that are only 24 meters but have other physical characteristics that more than compensate for the length restriction will become popular. Therefore, if the limits apply just to larger boats, limits that are more restrictive will be required on the larger boats to attain any specific fishing capacity target for the fishery as a whole.

Limits on the aggregate physical characteristics of the boats in a fleet will be even less effective in controlling the level of fishing capacity because the fishing capacity of a fleet will depend on both the fleet's aggregate physical characteristics and the distribution of those characteristics among the boats in the fleet. For example, if there is a 50,000 horsepower (hp) limit for the fleet as a whole and if the fleet is limited to 100 boats, there are many ways the 50,000 hp limit could be distributed among 100 or fewer boats. Over time the distribution of the 50,000 hp limit would tend to change in a way that would increase fishing capacity. Basically, aggregate limits are less restrictive than limits on each vessel.

This problem is increased when the same boats participate in fisheries under different management entities. Consider the simple example of two fisheries with 100 boats that participate in both fisheries. If the number of boats is limited to 100 in each fishery and if vessel replacements are allowed, the total number of boats could increase to 200 with each vessel participating in only one of the fisheries. This would substantially increase, but not necessarily double, the fishing capacity in each fishery. This example demonstrates the importance of communication and coordination among the RFMOs as they impose measures to control fishing capacity.

14. It is important to account for the multispecies and multi-fishery activities and capabilities of fishing boats.

Another room capacity analogy can be used to explain the potential problems of species-specific assessments of fishing capacity and overcapacity. The capacity of a fishing fleet is similar to the capacity of a room in that often it is a useful measure of potential aggregate, but not disaggregate, output. For example, based on its physical characteristics, the capacity of a room (i.e., the number of people that can exit that room safely in an emergency) could be 100; but its capacity by gender makes no sense because there are 101 possible combinations of numbers of females and males given the aggregate capacity of 100. For a fleet that includes boats that catch two or more species of fish and that can substantially change the species composition of their annual catch, the concept or capacity by species or stock is as ambiguous as room capacity by gender. Therefore, while an analysis of capacity utilization that accounts for all of the activity of the boats in a fleet can be useful as a measure of the economic performance of that fleet, an analysis of capacity by species or stock often will be less useful and potentially misleading. However, this does not preclude focusing on a fishery or stock specific problems that are exacerbated by the current level of fishing capacity.

The following statement in the SAMWG report presents an alternative viewpoint.

> The general lack of available data is a limiting factor for the evaluation of capacity. This impacts the ability to aggregate estimates of capacity into scales that differ substantially from the scale of the information used. For example, while it may be relatively straightforward to estimate overcapacity for purse seine fisheries in terms of bigeye tuna, it is more difficult to estimate overcapacity of purse seine fisheries in terms of bigeye, yellowfin and skipjack combined. This is because the scale of the information used from stock assessments will be at the single-species level.

Unfortunately, data availability often will both preclude an estimate of capacity that accounts for all of the activity of the boats in a fleet and increase the potential for a stock specific estimate to be misleading.

Original: English

Appendix 3

AGENDA

1. Opening of the Meeting
2. Election of Chair
3. Appointment of Rapporteur
4. Review of the working group terms of reference
5. Adoption of Agenda and Meeting Arrangements
6. Review by fishery of available data to assess fishing capacity and determination of any additional data needs
7. Determination of methodologies to measure fishing capacity based on available data by fishery
8. Review and assessment of the level of fishing capacity for ICCAT-managed species
   - 8.1 Bluefin tuna, including issues particular to caging/farming capacity
   - 8.2 Bigeye tuna
   - 8.3 Albacore tuna
   - 8.4 Yellowfin tuna
   - 8.5 Swordfish
   - 8.6 Billfish
   - 8.7 Sharks
   - 8.8 Skipjack tuna
   - 8.9 Other
9. Evaluation of the relationship between capacity levels and available fishing possibilities
10. Consideration of possible guidelines for managing fishing capacity in ICCAT fisheries
11. Consideration of potential next steps for the Working Group.
12. Other matters
13. Adoption of Report
14. Adjournment

ICCAT WORKING GROUP ON CAPACITY

Initial Meeting

(Raleigh, North Carolina, USA
July 16 to 18, 2007)

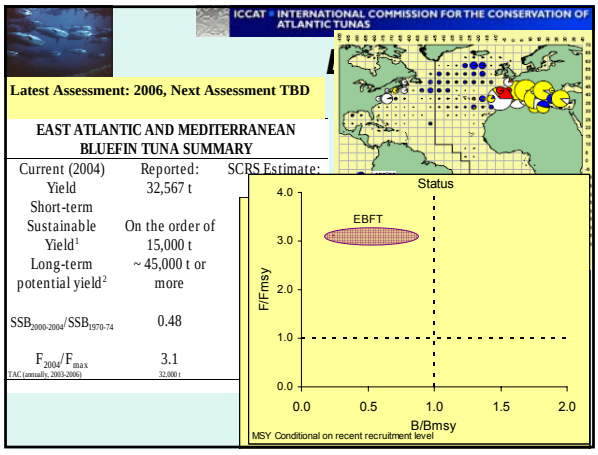
SCRS Advice in Support of the Working Group Discussions

Information Requested from SCRS in [06-19]

- A: Information on short- and long-term stock conditions and harvest levels in ICCAT fisheries for the most recent year(s) available: provided in the 2006 SCRS Report presented to the Commission in 2006.
- B: Data on effort and CPUE by flag, gear, season and area: provided in the 2007 SCRS *ad hoc* Methods Working Group Report .

SCRS Advice

- A: Information on short- and long-term stock conditions and harvest levels in ICCAT fisheries for the most recent year(s).
  - Special focus on BFT



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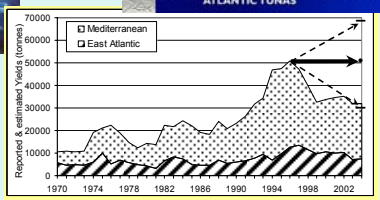

EBFT

Total commercial vessels	**1707**
Total commercial & recreational vessels	**12370**

BFTE Table 2. Med. Capacity Yield Estimates

	Low	Best	Max
Estimated Yield from Commercial vessels	22,228 t	**43,107 t**	60,630 t
Estimated Yield from commercial & recreational vessels	22,376 t	**43,417 t**	61,316 t

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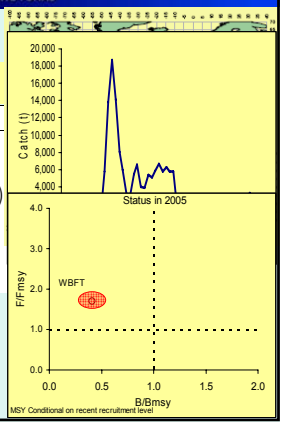
Latest Assessment: 2006, Next Assessment TBD

Western Atlantic Bluefin Tuna Summary	
Current Catch (2005)	~1,800 t
Short-term Sustainble Catch	~2,300 t
MSY|R	3,200 (3,000-3,400)
SSB_{2004}/SSB_{1975}	0.18
$SSB_{2004}/SSB_{MSY|R}$	0.41(0.29-0.54)
$F_{2004}/F_{MSY|R}$	1.7



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	Reference Levels		Draft FIRMS Descriptors (2006)	
STOCK	F/Fmsy	B/Bmsy	Exploitation Rate	Stock abundance
BFT-W	1.7	0.41(0.29-0.54)	High F	Depleted
BFT-E	3.1	~>.25	High F	Depleted/Low
BUM	>1	<<1	High F	Depleted/Low
WHM	Possibly ~>1	<<1	Moderate F	Depleted/Low
ALB-N	1.10 (0.99-1.30)	0.68(0.52-0.86)	Moderate F	Low
YFT	1.13 (0.94-1.38)	0.73-1.10	Moderate F	Intermediate
BET	0.73-1.01	0.85-1.07	Moderate F	Intermediate
SWO-N	0.86(0.65-1.04)	0.99(0.87-1.27)	Moderate F	Intermediate
SWO-S	Likely <1	Likely >1	Moderate F	Intermediate
ALB-S	0.62(0.46-1.48)	1.66(0.74-1.81)	Moderate F	Intermediate
SAI	?	?	Uncertain	Uncertain
SKJ	?	?	Uncertain	Uncertain
SWO-M	?	?	Uncertain	Uncertain
ALB-M	?	?	Uncertain	Uncertain

Fishery **R**esources **M**onitoring **S**ystem – An FAO/RFMO Partnership

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- B: Data on effort and CPUE by flag, gear, season and area.

Capacity:

refers to the potential to catch fish.

- Capacity could be:
  - Based on Catch
  - Based on Fishing mortality
  - Based on vessel characteristics (size, hold)

DEFINITIONS

- **Overcapacity**

  Generic term for excessive levels of capacity in the longer term

  = (Potential short term catch)

  - (target long term catch)

  = (Output capacity - MSY)

  = (F / F_{MSY})

Data Sources

1. **Vessel Record > 24 m**
2. **Informal list of vessels 15-24 m**
3. **Task I Fleet Characteristics**
4. **Task II catch-effort**
5. **Tropical purse seine carrying capacity**
6. **BFT Farming capacity**
7. **From stock assessments**
8. **Additional data – not yet utilized: BFT farming vessels, fishing vessels, traps**

1. Vessel Record > 24 m

- **Established by Rec. [02-22]**

Vessel Type	Total	Avg. GRT	Tot GRT	Carry Capacity (t)
DREDGERS	25			
GILL NETTERS	41	140	5,728	
LINE VESSELS	250	177	44,300	
LONGLINER	1,189	371	440,762	372,839
MULTIPURPOSE VESSELS	29	101	2,915	
(No info)	442	149	65,770	
OTHER FISHNG VESSELS	4	156	626	
POLE & LINE	84	279	23,394	18,937
PURSE SEINERS	467	383	178,628	169,191
RECREATIONAL VESSELS	24	191	4,589	
TRAP SETTERS	7	160	1,120	
TRAWLERS	851	117	99,397	
Grand Total	3,413	254	867,227	

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1. Vessel Record > 24 m

- **Limitations:**
  - **No vessels < 24 m**
  - **Vessels authorized to fish in other oceans**
    - **(Example: 68% of longliners authorized in several Oceans)**
  - **Many records incomplete about GRT, etc**

2. Informal list of vessels 15-24 m

- **From survey after 2005 Meeting in Seville**

	Longliners	Purse seiner	Bait boat	Traw-lers	Hand liners	Other gears	Unclass. Multi-purpose	Sport	Total
Canada	16				70				86
Cape Verde							33		33
Croatia		34							34
European Community							3220		3220
Libya	1								1
Maroc	263	349		21			392		1025
Mexico	24								24
Namibia	7								7
South Africa			150						150
Trinidad & Tobago	10								10
USA	277				291	18		1411	1997
Venezuela	36								36
Chinese Taipei	3								3
TOTAL	637	383	150	21	361	18	3645	1411	6626

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2. Informal list of vessels 15-24 m

- **Limitations:**
  - **Informal list**
  - **No size or hold capacity information**

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3. Task I Fleet Characteristics

- **Together with Task I Statistics Reports**

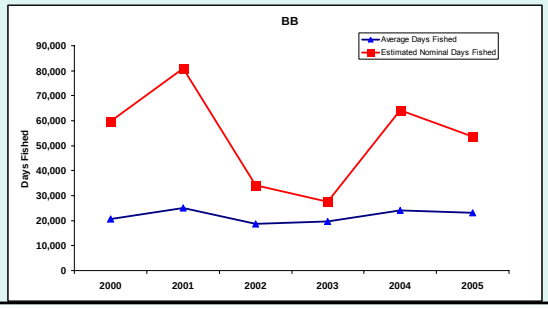
Year	Long liners				Bait boats				Purse seines								Others & unclassified					
					freezer			ice-send	1st boat							2nd boat						
	<50	51-200	201-500	>500	<50	51-150	>150	n/a	<50	51-100	101-200	201-300	301-400	>400	<50	51-150	HAND	R&R	TROL			UNCL
																	n/a	n/a	<50	51-150	>150	n/a
1984	61	204	421	29	825	10	14	44	26	1	64	10	91	122			688	151	103	231	11	185
1985	269	165	444	26	541	19	23	37	25		66	7	8	97			687	201	393	201	34	227
1986	379	210	407	18	528	34	25	46	72		69	9	6	95		1		83	331	206	34	128
1987	32	487	315	17	799	17	43	37	61	9	130	4	5	89			700	59	307	206	34	240
1988	250	188	318	28	819	30	34	38	91		63	7	5	67			747	81	16			227
1989	335	263	371	32	899	45	58	37	24		58	8	2	68			747	269	5	500		698
1990	408	387	350	63	726	50	29	46	24		54	3	1	85			747	248		500		748
1991	536	388	417	24	783	50	8	42	24	5	117	2		87			2102	268	17	582		248
1992	311	192	393	25	553	50	7	49	30	5	72	3	4	51			288	698	155	6		708
1993	688	173	431	64	466	51	7	49	30	5	69	7	2	69				258	37	1		168
1994	541	253	366	68	660	51	16	49	32	5	69	12	2	78				258	78	444		159
1995	816	188	377	78	863	47	11	53	32		71	8	2	64			1488	253	24	442		162
1996	630	197	423	87	709	14	13	46	32		70	7	2	65				192	4	440		173
1997	736	238	402	87	849	50	3	54	33		332	2		42			1580	192	24	441		285
1998	482	193	276	8	165	159	11	46			83	3		38			1490	186	26	834		173
1999	838	149	373	99	521	36	8	37	71		325	3		53			473	266	14	4		198
2000	617	186	448	53	423	9	14	32	28		306	3		36			100	197	50	61	2	118
2001	1131	239	446	142	216	38	28	46	104	24	313	6		25	6	7	100	274	498	2	1	449
2002	600	207	146	69	319	34	15	31	8		15	12		18				63	29	2	1	228
2003	296	169	170	67	177	248	104	49		1		5		40					14		1	177
2004	553	118	146	61	41	228	124	60	15	4	71	12	1	19			124	41				223

3. Task I Fleet Characteristics

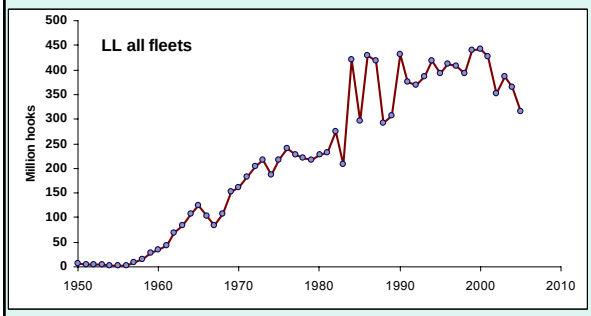
- **Limitations**
  - **Not all CPCs report**
    - **(In 2005, 16 of 42 CPCs reported)**
  - **Reports are not made every year**

4. Task II catch-effort

- **With substitutions, can be used to estimate total effort**



4. Task II catch-effort

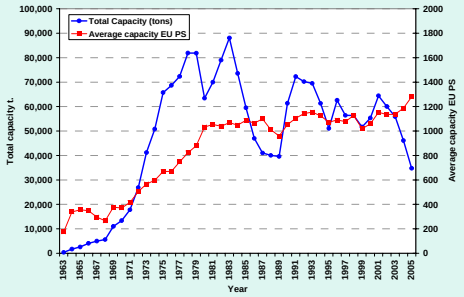


4. Task II catch-effort

- **Limitations:**
  - **Not all CPCs report every year**
  - **Substitutions are needed**
  - **Units of catch-effort data often inconsistent**

5. Tropical purse seine capacity

- **Maintained by E.C. National Scientists**:



International Commission for the Conservation of Atlantic Tunas
Commission Internationale pour la Conservation des Thonides de l'Atlantique
Comisión Internacional para la Conservación del Atún Atlántico

5. Tropical purse seine capacity

- **Limitations:**
  - **Not required by ICCAT**
  - **Limited coverage to E.C. and associated tropical PS fisheries**

International Commission for the Conservation of Atlantic Tunas
Commission Internationale pour la Conservation des Thonides de l'Atlantique
Comisión Internacional para la Conservación del Atún Atlántico

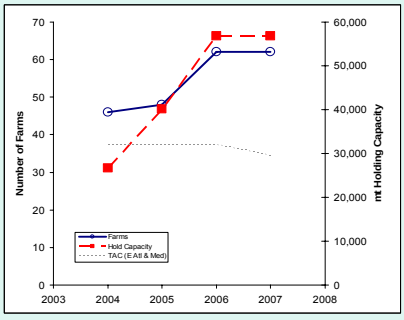
6. BFT Farming capacity

- **Limitations:**
  - **Relationship with realized catch not well understood**

International Commission for the Conservation of Atlantic Tunas
Commission Internationale pour la Conservation des Thonides de l'Atlantique
Comisión Internacional para la Conservación del Atún Atlántico

6. BFT Farming capacity

- From ICCAT Record of Farming Facilities:



7. From stock assessments

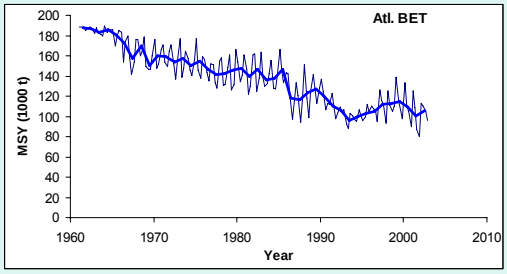
- Several FAO Workshops; Methods not fully developed
- A simple estimate of **overcapacity**:
  - **$F/F_{MSY} > 1.0$**

Stock	F/F_{MSY}
YFT	1.1
ALB-N	1.5
BFT-W	1.7
BFT-E	3.1
BUM	>1.0
WHM	>1.0

7. From stock assessments

- **Limitations:**
  - It is difficult to link an overall estimate of Fishing Mortality to quantities such as carrying capacity, number of vessels, etc.
  - FMSY targets may change substantially over time due to changes in fleet composition

7. From stock assessments



These values of MSY over time reflect changes in the long term productivity potential of the stock as the mix of gear types varies

8. New Information (since March 2007)

- Farming vessels (example)

Bluefin Vessels Count of Length	Vessel Type									
Reporting Flag	BELL NETTERS	LINE VESSELS	LONGLINER	No info	OTHER SEINERS	OTHER VESSELS	PURSE SEINERS	TRAP SETTERS	TRAWLERS	Grand Total
EC.Cyprus			1							1
EC.España	14		71			1	61		3	150
EC.France	21		10				46	1	78	156
EC.Greece							2		3	5
EC.Italy			24				80		25	129
EC.Malta	1		77		7		4			89
EC.Portugal	18	30	41	1				7	3	100
Libya							2			2
Panama						5				5
Tunisie							38			38
Turkey						95	1		3	99
Grand Total	54	30	224	1	7	101	234	8	115	774

8. New Information (since March 2007)

- **Limitations:**
  - The information base is only now developing based on reporting obligations for the newly established rebuilding plan for EBFT and requires detailed analysis before fully useful.

WG Methods Conclusions

- There are more than 3,400 vessels > 24 m authorized to potentially fish for ICCAT species.
- The total gross registered tonnage for these is over 860,000 t, and the carrying capacity for large scale longliners, purse seiners and baitboats combined is about 561,000 t
- 6,600 vessels in the 15-24 m range would raise the fleet potential of vessels >15 m to more than 10,000 vessels.
- Total potential carrying capacity is therefore likely to substantially exceed the recent level of catches for ICCAT species (600,000 to 700,000 t annually).
- Many of the >24 m longline and purse seine vessels are also registered to other tuna RFMOs and do not necessarily operate in the Atlantic, although they are authorized to do so.

WG Methods Conclusions

- **Available information in ICCAT databases relating catch by flag and gear to the effort expended to realize that catch is sparse, and the diversity of units used in reporting effort make it difficult to estimate capacity in a comprehensive manner.**
- **However, very complete information is available to National Scientists for some fleets, and these can be used for case-studies.**
- **An example of this is the well-documented European purse seine fleet fishing for Atlantic tropical tunas.**
- **Using this information as a basis for extrapolating to the tropical purse seine fleet for all flags combined gives an estimate in 2005 of 39 vessels with a carrying capacity of 50,000 t, which produced 175,000 t of tunas.**

WG Methods Conclusions

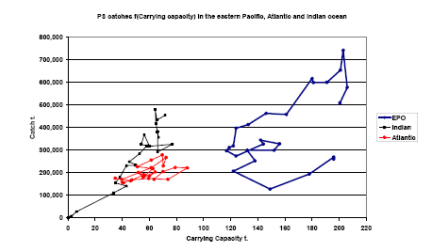


Figure 16. Relationship between carrying capacity of tropical purse seiners and their total yearly catches in the Atlantic (circles). The Indian (squares) and eastern Pacific (dark lines) oceans are also shown.

WG Methods Conclusions

- **An analysis of the available data from the tropical purse seine fleets operating in all Oceans suggests that the relationship between carrying capacity and actual catch over time is rather poor due to a number of factors, including technology creep.**
- **The same is likely to be the case for other major fleets that fish with other gears.**
- **Therefore, measures aimed at managing Atlantic tuna fisheries to achieve the Convention objective that are solely based on limiting carrying capacity are likely to be of limited usefulness and ineffective in the long-term, unless very conservative limits are established.**

WG Methods Conclusions

- **The ICCAT record of farming facilities indicates that farming capacity for bluefin in the Mediterranean is about 56,000t, which represents approximately 45,000t round weight of fish at time of capture.**
- **Estimates of fleet characteristics within the Mediterranean alone, indicates that fishing capacity exists to fully supply the farms, providing resource levels remain available.**
- **The estimated farming capacity is about 150% of the TAC agreed by the Commission at its 2006 meeting and represents an excess capacity of more than 30,000 t above the predicted short-term catch level that would permit eastern bluefin stock to rebuild to B_{MSY}.**

WG Methods Conclusions

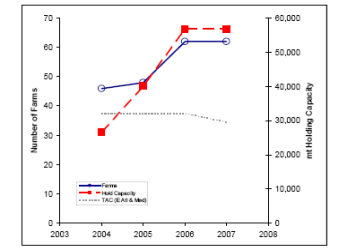


Figure 20. Estimated Mediterranean Bluefin Farm Capacity and number of farms as reported by CPCs to the Secretariat. Agreed TACs for the time period are also indicated.

WG Methods Conclusions

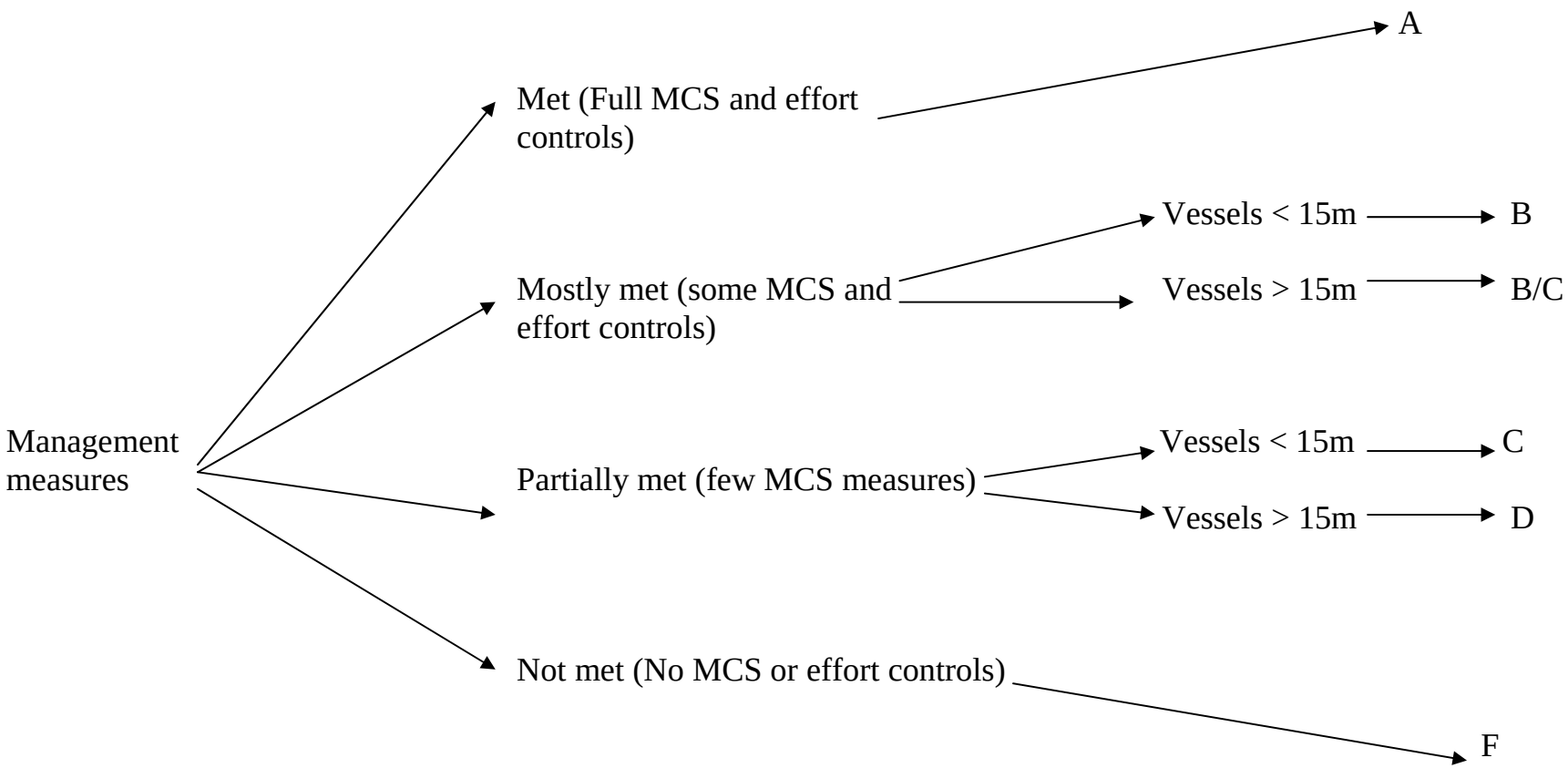
- **Very conservative estimates of overcapacity (the difference between short-term fishing capacity and long-term resource productivity potential) suggest that there is overcapacity for North Atlantic albacore, eastern Atlantic and Mediterranean bluefin tuna, and blue marlin, and possibly for yellowfin, western Atlantic bluefin, and white marlin as well.**
- **These estimates are confirmed by recent stock assessments which indicate in aggregate, effective fishing effort for these stocks exceed the levels necessary to achieve the Convention objective.**

Original: English

Appendix 5A

CAPACITY DECISION TREE

Submitted by Canada



Original: English

Appendix 5B

CANADIAN DISCUSSION DOCUMENT FOR CAPACITY MANAGEMENT WITHIN THE INTERNATIONAL COMMISSION FOR THE CONSERVATION OF ATLANTIC TUNAS (ICCAT)

Submitted by Canada

Purpose

It is recognized that some ICCAT-managed fisheries are fully or over-harvested. There exists a need to identify and address over-capacity in ICCAT-managed fisheries, with the aim of developing effective measures to ensure that over-capacity does not further threaten the species. Canada proposes that a decision tree be used to determine where capacity management measures can be used to strengthen existing species management measures, and to provide the basis for decisions regarding the implementation of capacity restrictions, where necessary.

Background

In its final report released in March 2006, the High Seas Task Force included a proposal to develop a "model" for improved governance by RFMOs. The model RFMO report, which will be released shortly, outlines current 'best practices' that RFMOs can use to improve their performance in meeting the core challenges of global fisheries management. As part of the model RFMO, it was determined that there should be an identified level of fishing capacity that is commensurate with long-term optimal and sustainable utilization and that the capacity that is operating in the fishery is monitored. Authorization and other management measures are used to limit capacity to the desired level.

It must be noted that any decisions on capacity management that are put in place by ICCAT should not lead to migration of that capacity to other fishing areas, such as those under the responsibility of other tuna RFMOs. Thus coordination with other tuna RFMOs is integral to ensure the effectiveness of capacity management measures on a global scale.

ICCAT capacity management decision tree

This capacity management system will incorporate a staged decision-making approach that will implement capacity restrictions, where necessary, to ensure that overall harvest levels are maintained within quota levels. Also included will be measures to ensure that no increase in existing capacity occurs in the absence of suitable management measures to manage fishing effort.

Regional plan of action for capacity management

ICCAT must ensure that over-arching measures are implemented to ensure that existing capacity is effectively monitored and reported, as well as to restrict any increases in capacity, especially in the absence of any increases in quota availability for Contracting Parties, non-Contracting Cooperating Parties, Entities and Fishing Entities (CPCs). These would include the following;

1) Ongoing measurement of existing capacities and the comparisons between fishing capacity and fishing opportunities (quota). This must also incorporate recognition of the difference between single-species and multi-species fishing fleets.
2) Capacity controls for ICCAT managed fisheries to produce overall limits in length, volume, Gross Registered Tonnage (GRT), number of vessels, limits in subsidizing vessel development etc.
3) For resources in decline resulting in reduced quotas, a relative reduction in capacity would help prevent over-utilization of a declining resource.
4) Vessel Replacement Rules which will place limits on the maximum capacity allowed in ICCAT-managed fisheries.

5) Technical support for developing states that will allow for the implementation of effective management measures.

6) Capacity reduction programs.

Capacity management measures

Standard fisheries management measures will be utilized to determine whether existing capacity controls are suitable to ensure that over-harvesting does not take place. To meet the requirements under this branch of the decision tree, the following measures should be implemented within the CPC;

- Quota systems which encourage capacity self-adjustment
  - IQ
  - ITQ
  - Community-based quotas

- Time and Area closures
  - Days/Hours at Sea

- Monitoring control and surveillance (MCS) measures including
  - Dockside monitoring (preferably 100%)
    - For tuna farming facilities, monitoring the transfer of tuna from harvest vessel into the farming is to take place at the point of transfer (100%)
  - At-sea observer coverage
  - Vessel Monitoring Systems (VMS)
  - At-Sea surveillance (aerial and naval)
  - Data collection, reporting and validation

- Effective Enforcement of Violations
  - Fines
  - License suspensions

- Gear restrictions
  - # hooks
  - Net size

- By-catch restrictions

- Participation in International agreements; UNFA, FAO Code of Conduct

- Existing capacity management systems
  - Capacity management plan consistent with FAO Action Plan
  - Limited entry into Fishing Fleet
  - Vessel restrictions; length, volume, GRT
  - Fleet reduction programs
  - Restrictions on subsidies for development, modernization and transfer of capacity

CPC responsibilities

Each CPC would be responsible to report all capacity management measures implemented within that CPC's fishing fleets. In addition, CPCs would be encouraged to provide information on planned improvements in management measures. The ICCAT Compliance Officer would be tasked with auditing CPC's management measures to ensure minimum standards are being met.

Capacity development or reduction

This decision-making process must take into account whether individual CPCs have existing subsidy programs for Vessel building, or Capacity Development Schemes in place. Capacity Development must be accompanied

by the implementation of stringent and effective management measures to ensure over-harvesting does not occur.

Vessel size and fishing area

Large scale fishing vessels operate in a more flexible environment, often fishing in international waters where fewer MCS measures are enforced. These vessels are also often species dedicated, i.e. only directing fishing activity for single species. Therefore capacity restrictions may be more appropriate for these fleets than for inshore fleets fishing within the Exclusive Economic Zone (EEZ) of a CPC, comprising smaller vessels which often fish for multiple species through the year.

Process for restricting capacity

Based on the decision tree, measures may need to be implemented to restrict the capacity of a CPC fishing for certain ICCAT-managed species. In the absence of suitable management measures controlling effort and harvest, capacity restrictions can be used to ensure capacity is commensurate with fishing opportunities, effectively removing the ability for over-harvesting. The baseline for capacity restriction will be determined by ICCAT-managed species, fleet and gear type and agreed by the Commission. The baseline will specify exactly the capacity restrictions that should apply to a CPC in order to ensure its capacity is only sufficient to allow full utilization of its quota i.e. commensurate to its fishing opportunities.

Final decision on capacity restrictions

Based on the decision tree, capacity restrictions will be implemented as follows:

a) No capacity restrictions necessary

b) Capacity restrictions; baseline capacity allowance plus 50%

c) Capacity restrictions; baseline capacity allowance plus 25%

d) Full capacity restrictions; baseline allowance only

e) Full capacity restrictions, restrictions in fishing area, possible quota restrictions; Recommendations provided for improving capacity management

In the event that capacity restrictions are implemented, the use of existing trade tracking programs, such as the ICCAT statistical document program, and any catch documentation schemes that may subsequently be developed, will be integral to ensure that the capacity restrictions are adhered to.

Original: English

Appendix 6

STATEMENT BY THE UNITED STATES

The United States considers overcapacity one of the most important issues being faced by regional fisheries management organizations (RFMOs) today. Overcapacity is a serious problem in many ICCAT-managed fisheries as it contributes to poor stock productivity, unsatisfactory economic performance, increased impacts on by-catch species and excessively contentious management discussions.

In response to Circular #115/07 from the Secretariat, which called for information related to data inputs for assessing fishing capacity and the types of measures or approaches implemented by CPCs to manage fishing capacity, the United States is providing relevant data (attached) to support the work of the capacity working group. In addition, we offer the following, which we will be able to expand on as needed during the meeting of the capacity Working Group.

A variety of approaches have been implemented in the United States to manage fishing capacity in our ICCAT fisheries. These range from the simple to the complex. The most basic regulations are permit requirements for all fisheries, including limited access in some fisheries, meaning that no new permits will be or have been issued since a given date in the past. In addition, allocation, monitoring, and enforcement of fishing possibilities are important factors in controlling capacity. The United States has processes by which our ICCAT-determined country allocation is divided among our various gear categories. We also have monitoring mechanisms, which allow us to close fisheries promptly when those fishing possibilities are exhausted. We have domestically implemented time/area closures, minimum size requirements and by-catch mitigation measures, in most cases beyond what is required by ICCAT, to affect the effort and selectivity of our fisheries for both target and non-target species. Upgrade restrictions and restricted fishing days are other measures we have taken to control fishing effort and capacity in our fisheries. Finally, the United States has also had Individual Transferable Quotas (ITQs) in a sector of our bluefin fishery since the 1980s. Given the United States record of compliance with catch and effort limits, it is clear that these measures have been effective.

We view all of these measures as important elements in the conservation and management of ICCAT stocks, including stocks taken as by-catch. It is important to note that the majority of these measures are linked to a flag state's willingness and ability to enforce such requirements on their fleet. If CPCs do not do so, these types of measures will have little real impact in addressing the problems associated with overcapacity.

We look forward to the first meeting of this important Working Group.