RAPPORTEUR´S REPORT

WORKSHOP OF TECHNICAL EXPERTS ON THE CAPACITY OF THE TUNA FISHING FLEET IN THE EAST PACIFIC OCEAN

APRIL 23-25, 2014
CARTAGENA, COLOMBIA

Acknowledgements

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Likewise, our thanks go to Colombia's Nature Parks Agency for their stall on the first day, and to *Artesanías de Colombia* for a trade show during the days of the event.

In addition, we thank the Cartagena Convention Center for its hospitality and the quality of services.

Finally, we particularly thank the interpreters Cynthia Díaz and Leticia Saenz, who accompanied us constantly in the IATTC event, for their patience and ability to speak and translate our peculiar "fish-language".

Contents

1. GENERAL

Dates:
23-25 April 2014

Presenters
Rick Deriso. Robin Allen, Guillermo Campeán, Dale Squire, Jean Francois Pulveris, Victor Restrepo, Yujiro Akatsuka, Angela Martini, Jenny Sun, Joshua Graff Zivin

City
Cartagena Colombia

Place
Cartagena de Indias Convention Center

ANTHONY LETTS
Traductor Juramentado
Res. 139/80 Minjusticia

2. Objective

The main purpose of the workshop was to make a definition consistent with the 2005 Regional Plan for an effective, equitable and transparent system to manage and reduce, effectively and in the mid-term, the EPO tuna fishing fleet´s capacity, including a timetable for the adoption and implementation of the system. The participants, as technical experts, analyzed ways to reduce total fleet capacity to a level compatible with the sustainability of the tuna resource; and they proposed actions suited to ensure that this reduction would be secured and avoid fresh capacity increases.

3. Agenda

Day 1 - 23 April 2014
Background information and proposals

Time	Activity	Person responsible
08.30-09.00	Registration	
09.00-09.15	Opening session, election of moderator, adoption of agenda	Julian Botero, Director of AUNAP Alvin Delgado, President IATTC Guillermo Campeán, Executive Director of IATTC
09.15-10-15	Review of 2005 Plan for regional capacity regulation	Robin Allen
10-.15- 10.30	Break	
10.30-12.00	Review of IATTC Resolution C-02-03 on tuna fishing fleet capacity operating in EPO	Guillermo Campeán
12.00-13.00	Lunch	
13.00-13.45	Economic focus on capacity regulation.	Dale Squire
13.45-14.15	Legal aspects of capacity regulation.	Jean Francois Pulvenis
14.15-16.00	Global purse-seine tuna fishing. Regional distribution and implications for regulation..	Victor Restrepo
16.00-17.00	General discussion	
17.00	Close of Day 1	

Day 2 – 24 April 2014
Background information and proposals

08.30-09.00	Registration	
09.00-09.45	Japan´s proposal for a "capacity regulation program for purse seine fishing. (Japan) IATTC –85 Prop H-2 JPN.	Yujiro Akatsuka
09.45-10.15	Towards a new capacity regulation plan in EPO.	Angela Martini
10.15-10.30	Break	
10.30-12.00	Complementary use of rights-based regulation.	Guillermo Campeán
12.00-13.00	Lunch	
13.00-13.45	Bioeconomic balance between fishing techniques and tuna purse-seine fishing fleet dynamics.	Jenny Sun
13.45-14.15	Repurchases in EPO	Joshua Graff Zivin
14.15-16.00	Global purse-seine tuna fishing. Regional distribution and implications for regulation. Victor Restrepo	
16.00-17.00	General discussion	
17.00	Close of Day 2	

Day 3 – 25 April 2014
Discussions on tools for fleet capacity regulation

08.30-09-00	Registration	
09.00-10.15	General discussion: moratoria Capacity transfers Repurchase programs	
10.15-10.30	Break	
10.30-12-00	Capacity scenarios	
12.00-13.00	Lunch	
13.00-14.00	Additional considerations for definitions in an updated capacity regulation Plan and its implementation	
14.00-14.30	General discussion	
14.30	Closing session	

4. Presentations

A series of presentations were made by the expert professionals on the issue discussed, and debates were held with participants as to the viability of the strategies proposed, and their strengths and weaknesses. At the end of each topic, there was a space for questions and comments. On 25 April, there was a panel discussion on the proposals presented by the experts.

23 APRIL

5.1 Opening session.
Julian Botero, Director of AUNAP, welcomed the participants, and mentioned the commitment required at Veracruz, Mexico, where the issue of carrying capacity was raised. The Director of AUNAP briefly explained the background in relation to the situation of fisheries stocks, and participation in previous workshops.

Alvin Delgado, President of the Inter-American Commission, mentioned the problem related to various aspects of fluctuations in extra capacity in the general carrying capacity of the fisheries fleet in the EPO, and invited those present to approach the problem from different points of view with an open mind, in order to allow discussion of proposals for the enrichment of this space.

Guillermo Campeán, Executive Director of IATTC, focused on a clarification to participants with regard to the procedure to be followed in the workshop, starting with the presentation of the general background and context-building on the first day, and a presentation proposals to reduce the excess capacity of the fishing fleet in EPO during the second day. Finally, on the third day, the intention was to obtain ideas that would enable a proposal to be made for conclusions and recommendations, and the preparation of a report. This was all designed to provide proposals and possible solutions in the face of problems of overfishing, which is currently evident in EPO, and thus to present, disseminate and discuss proposals designed to reduce excess capacity and the sustainability of tuna populations present in EPO. Emphasis was placed on the importance of recognizing commitments required in the Commission´s 2005 Management Plan, in order to move forward on this issue.

Finally, it was announced that the Moderator on this occasion would be Vladimir Puentes, Head of the Office of the Generation of Knowledge of AUNAP Colombia.

Presentations

5.1.2. Review of the current capacity of the fleet and target capacity. Rick Deriso.

The presenter reviewed the fluctuations in capacity recorded since 1961 and through to 2013, for the vessels using purse-seine and long-line vessels. In terms of volume (cubic metres) of fluctuations, some values were evidently much higher in the purse seine vessels compared to the long-line vessels. It should be noted that the fluctuations showed peaks when the fleet size increased rapidly, in the 1970s, reaching an estimated volume of 196,500 cubic metres; this then fell to 135,000 cubic metres, and was maintained for a short time, and then again increased in the mid-1990s. Today, the most recent estimates to date in 2014 is around 215,300 cubic metres, for the EPO purse-seine fleet.

There was also presentation of a comparison of the weighted average of the production rate for yellowfin –YFT- (aa), and bugeye – BET - (pat), combined. This analysis led to a range of different analyses. Several different definitions were clarified with regard to the term "capacity", such as "effective capacity" which is understood to be the active capacity by volume for a fraction of time in the year in which fishing is permitted.

Based on the foregoing, it was shown that there capacity is fluctuating by values which are almost equal to the maximum sustainable yield (MSY), for most recent years. In addition, certain data presented are associated with the target active seine capacity, with points of view in analyses cited in different documents, percentage increases in relation to value established of 158,000 cubic metres, showing a trend towards higher figures, of between 5% and -12% in relation to the initial value.

Finally, there was a presentation of aspects of long-line fishing, and it was mentioned that the analyses are the same as those presented on previous occasions, indicating that the number of hooks in general has been constant, with no important changes in terms of effort. In general, fishing with this type of the technique is well below the maximum sustainable limit, and it was noted that the excess hold capacity is being used by purse-seine vessels. However, this is creating concern, since if for any reason the long-line fleet grows, there will be over-exploitation, because this new source of fishing will be added to catch quantities of the existing purse-seine fleet.

Questions and comments.
Questions were asked about one of the graphs presented, in which the effective capacity of the fleet is noted. The graph (Figure 1), uses different colours to show the fluctuations corresponding to effective capacity and the exploitation rate. The question asked about the blue line, and its trend with regards to the violet line, which indicates MSY capacity.

The presenter replied that the maximum sustainable capacity is the result of the lower graph, where evaluation is made of populations, with a correlation of maximum sustainable yield rates, which are equivalent to a relative rate of exploitation of approximately 1.1, which represents on the other axis (effective capacity in cubic metres), with a value of some 176,000 cubic metres.

Rick Deriso also said that there is a body of statistical support for these values, and analytical procedures which were used to obtain these figures, which will be presented to the Scientific Advisory Committee for the technical experts to evaluate. This presentation arose from requests which wanted an approach that did not depend on Resolutions, in order to be able to estimate capacity.

Source: taken from the presentation TARGET CAPACITY FOR THE TUNA FLEET IN THE EASTERN PACIFIC OCEAN
Figure 1. Comparison of the weighted average exploitation rate for YFT and BET and effective capacity. 1993-2012}

The next question was whether the skipjack was being taken into account in this analysis. The presenter replied that it was. According to work done, fishing is divided into catches made in schools associated with dolphins, and schools not associated with them, and this is assigned principally to the yellowfin. Catches made with sets on floating objects are assigned to BET and skipjack, on the supposition that these two species are exploited in a similar proportions, in order to obtain a group exploitation rate. The individual analysis by species appears in the technical work, which will be presented at the Scientific Advisory Committee meeting.

Finally, there was a discussion about the long-line vessels, and how these can be seen to be affected in catch rates by the purse seiners, since it is a concern in countries where this type of fishing technique is most used, and Juan there had been an evident reduction identified in catch volumes well below the limits indicated in the Commission's Resolutions.

There was interest in knowing whether there are projections to generate evaluations on a geographical basis and in space and time. The presenter replied that there is a an interest in making this type of analysis through the division or separation of the fleet, identifying parts of the fleet which are concentrating on certain species, distinguished from others that fish in a less selective manner. It was noted that part of this has been done in a technical document mentioned, where there is a comparison between vessels with a

dolphin mortality limit (DML), compared to those that do not work on those. Unfortunately, no geographical stratification has been made, but doubts were expressed that data could provide an analysis of the yellowfin with regard to populations in the North versus populations in the South, but this decision will be taken at the time of discussing the analysis within the Commission.

Finally, it was commented that the problem lies not in how to divide up populations for study, but in how to apply measurements of management, taking account of the fact that the greater part of the fleet generates catches in three species.

5.1.3 Review of the 2005 Plan for regional regulation of the fishing capacity. By Robin Allen

Principally, this presentation was based on reference to the document about the adoption of the Commission's 2005 Management Plan for the regional regulation of fishing capacity in EPO, dividing the presentation into three parts: the background of facts of what is happening in the EPO when the need to construct a plan arises; the characteristics of the instrument; and a brief evaluation of its functioning and development.

The presenter gave a historical account mentioning that at one time there was a crisis due to overcapacity, and how in general fleet was reduced in size, with the result that for a short period of time, no strict controls were required, and no close season for proper use of the resource. Nonetheless, this period did not last long, and again at the beginning of the 1990s it was evident that the fleet was in a period of new growth, which made it necessary to implement controls again.

This trend was observed in other fleets and fisheries worldwide, and led FAO to centre its attention there, generating an international action plan for the regulation of fishing capacity, an instrument which was used to as a guide to encourage the construction of each country's own management plans.

Based on this instrument, IATTC developed resolutions C-00-01, in proposing measures that sought to control the carrying capacity growth of the EPO fleet. As a result, the Commission decided to prepare an action plan for capacity regulation, which was adopted in Lanzarote, Spain in 2005. The nature of the Plan is framed by the FAO premises and provisions, principally in the code of conduct for responsible fishing, and offers a general framework for the regulation of fleet capacity. The Plan´s objective was to secure regulation of the fleet in the EPO, as of 1 January 2006. This meant a gradual reduction in the fleet and in hold capacity.

Several different stages were proposed for the implementation of the instrument, in the first instance by evaluation and monitoring of capacity, and adjustment of targets. Subsequently, there would be conservation of the capacity limits, and lastly, a phase for working on economic issues which would allow aspects related to the stimulus to overfishing to be identified, such as subsidies or financial assistance for fleets. The Plan should come into line with the precautionary approach and an echo systemic vision for development and application.

The final part of the presentation approached developments in the four-year review for the implementation of the Plan, taking account of aspects such as hold transfers, catch volumes, and other variables.

It was explained that more work was needed to be done for this tool to function, since in the version so far developed, there are no steps or strategies to arrive at the targets set. Nonetheless, there was provision for the need for to generate these procedures. However, it should related that currently there are a number of regional resolutions and records which are designed for the observation and follow-up of the fleet, but more progress is needed in order to meet the Plan´s objectives.

- **Questions and comments.**

In relation to this presentation, it was stated that the Mexican National Observers Program has made some analyses in order to generate some kind of indicator based on a procedure in which they divide the annual general fish catch (undifferentiated by species), by the number of cubic metres used in that year.

In this analysis, the value obtained was some 2.5 tonnes per cubic metre of capacity, which in general indicated a risk to the resource: if the entire fleet filled its holds 100%, it would only have to make slightly more than two trips a year to meet their maximum permissible catch for that year.

One of the participants requested greater clarity about the conversion from metric tons to cubic metres. Asking for the advantages and disadvantages of this change The presenter explained that this change met a need to obtain more accurate information about catches stored in vessels, given aspects of stowage, available space, and species caught. The measurement of volume was the most appropriate instrument for handling and follow-up of the activity. The problem which this method centred on the conversion from tonnes to volume, and led to discussions of equivalence. A verification of hold volumes was made in order to solve this discrepancy.

Subsequently, there was a discussion with regard to the generation of analyses to take account of geographical stratification, for example, north and south. This would divide the fleet horizontally. However, there is still no clarity as to whether this could be of any real benefit in terms of clarifying information.

At the same time, it was emphasized the problem does not lie the type of analysis made or not made. The problem is centred on how to establish effective management measures, which are not adverse to the fishing activity, and much less to the sustaining of the resource.

With regard to the analysis of the long-line fleet, a participant asked what had happened to the analysis in the last four years, since the information presented that day only covered the period up to 2009. The presenter replied that the analysis was still being made, and that catch limits have not changed significantly. Fishing continues on the same trend, and only Japan has shown a change; but this is a downward trend with respect to previous years. In general, fleets have reported catches well below the maximum exploitation.

5.1.4. Review of IATTC Resolution C-02.01, on the capacity of the tuna fishing fleet operating in EPO. ***Guillermo Compeán***

The presentation focused on purse-seine vessels. It was noted that capacity is handled on a scheme within the framework of the Regional Vessel Register, which was agreed as an instrument to limit fishing effort. The Regional Vessel Register was gradually implemented as a result of Resolutions C-02-03, and takes account only vessels appearing on that register. However, it was emphasized that after 11 years of application, the Register needs some adjustment, but no more detailed examination was made.

When the Register system began, there was capacity of 193,670 cubic metres. By 2012, this had increased to some 200,000 cubic metres, showing an increase in the operating capacity of the fleet[1].

In addition, it was said that increases in operating capacity arise for different reasons, such as adding new vessels to Register, the inclusion of sunken vessels, this is creating a potential capacity, which could be effectively activated. The sunken vessels are also included due to the possibility that they might be replaced, and this could also mean the appearance of new vessels of sizes different from those from the sunken ones. In addition, other vessels were added (about 7), but not taken into account for different reasons.

[1] Fleet operating capacity, Capacity registered by numbers of vessels

Subsequently, there was an update of the capacity of vessels through an external instrument, APICD. There was mention of problems with regard to new and larger vessels, which could come to replace the others withdrawn, increasing the capacity of vessels already verified.

In this verification, vessel capacity is compared with the Commission's records. Another factor of increase was described as a result of Resolutions C-12-06, which authorizes loans and concessions of capacity, to allow vessels with capacity to lend or let it out under concession or loan to be included.

The presenter emphasized that unfortunately there were no limits provided so that new capacity volumes would not be increased, and this has meant a generalized increase. Other factors to be taken into account due to the approval of members that did not have capacity, and have been recently admitted. Further, he pointed to Paragraph 10, where there is mention of special capacity for countries which have not used capacity yet, but this is added to the available capacity. On the contrary, inactive capacity has been falling due to the reactivation of vessels which have clearly increased pressure on the resource. Operating capacity includes vessels not on the register, that origining in disputes due to transfers, etc.

Next, there was mention of the fact that there was a serious defect in the system, as a result of the freedom with which a Member State has to make changes to its fleet. Added to the lack of content in the Resolutions in relation to the party responsible for following up these changes, and whether the changes are being made within the parameters supported by the Resolution (C02-03). Therefore, the Secretariat has had problems in the identification of and follow-up of those changes, and this has meant major efforts on the part of its staff.

In general, there was emphasis on the fact that capacity has evidently been growing; and if account is taken of potential capacity, in which there is an allowance for capacity approved but unused capacity, as in the case of sunken vessels, there is at present a high risk of a continued increase up to values which are not recommended for sustainability of the resource, and therefore there was a recommendation to take account of this fact when working on the analysis of proposals.

- **Questions and comments.**

Participants asked whether the activities of some 30 US vessels, fishing mainly in the West, but occasionally active in EPO, were included in the analysis presented in the presentation. The presenter replied that no account was taken of them, because there was an agreement for these vessels to make one trip per season, but in the last five years, they have not been ín the EPO.

Further, it was clarified that what has been done so far in attending to requests for hold capacity, is to take account of the calculation of potential catch by these vessels, which has been handled through estimates of the average increase in catch in vessels of a certain size during the year, which is equivalent to several vessels which are added to current capacity, but it was clarified that no recent applications have been made to enter EPO.

Another concern arose with regards to the inclusion of claims and disputes currently in progress within the Commission, in the potential capacity presented. The presenter clarified that the claims are not included, but the disputes were already recorded as vessels.

Another participant said that largest catches come from the East and the West Pacific, and questions were asked about the regulation plan for this side of the Pacific in relation to the absence of a register of vessels. The presenter clarified that there is vessel register, but that it functions in a different way to that of IATTC, because in that register, the focus is on access to the resource through a system of days´ fishing. Further, the larger catches in the West Pacific take place within the economic exclusion zones (EEZ), in which countries have autonomy to manage their own resources, while this proportion is very similar in the EPO.

Next, there was a request for clarification from a participant regarding the difference between national

limits and special available capacities. The answer was that the special allocations have been made in accordance with Paragraph 10 of Resolutions C-02-03, and they were conceded due to the fact that at the time of allocation the coastal countries mentioned in the Resolution did not have a fleet, and this brought about the entry of new vessels onto the Register. This generated an increased capacity at that time. It was also noted that part of these allocations are still in a position to be transferred, or let out under concession or loan; this is a sovereign right of each country. Further, there is another available capacity associated with vessels which may already have been registered, but became inactive, or have been kept inactive at this date. This capacity is available when the flag country decides to retain capacity, despite the fact that the vessel is inactive. In other cases, this may also occur due to remnants, which happens when a vessel of a certain size sinks or is broken up, and is replaced by a smaller vessel, leaving an excess capacity available which the flag retains for future use.

There was then a question about the responsibility for changes in hold capacity, and who are the organizations responsible for these processes. On this point, a recommendation was made to the commission to emphasize the need to remedy the lack of specific guidelines as to who or what authority should be responsible for reporting those changes. The Director of IATTC replied that the solution of this point is more associated with management based on transparency, and proposed the publication of changes of capacity so that interested parties would have a real vision of the facts, and to avoid issues of prolonged and difficult debates among those involved.

With regard to operating capacity, it was said that there are records of activity by vessels of some flags related to the Commission that operate outside EPO. Participants asked whether this was being taken into account in the analyses. In relation to this concern, it was said that there was information on this component. It was mentioned that today, vessels registered at the Commission and operating outside EPO have not recorded any activity in the last two years in IATTC jurisdiction, identifying only two vessels which have been kept active outside the Commission's jurisdiction, and therefore, they have not been taken into account, but if they were to come back into operation, they would be included in subsequent analyses.

Further, it was clarified that the evaluation of operations and stocks of species worked in the fishing fleets was made through fish mortality, and obtained through a sum of all the operations of all vessels, including sporadic visits by any vessel.

In addition to the foregoing, it was said that there was a need to clarify and strengthen procedures in the framework of the Regional Vessel Register and of Resolutions C-02-03, and it was clarified that several problems of reference have been handled and solved; but there were still many points pending.

One aspect mentioned by presenter is that the issue of sealed holds is not included, and this should be taken into account when generating mechanisms to allow the holds to be opened in vessels of the region, increasing potential capacity. These procedures in the holds are the consequence of the intention to replace vessels of larger sizes than those with which they intend to replace them, so that they will be legal with regard to regulatory capacity.

A question was asked in relation to a general concern that there was no complete evaluation of vessels, since this was considered to open the door to increased capacity, which could result in deceit, including the registration of values that can be up to 50% above initial values. There was a question about the way in which it was thought that this possibility might be regulated. The Director clarified that this type of situation does not represent significant values, and that corrections have been made by the issue of warnings to countries, and in other cases, compliance reports are pending receipt. Verification is made only when there are discrepancies in the information on official documents in comparison to other sources, in which case a visit is made to the vessel in order to determine the correct answer. A continuous file of these procedures has been kept since 2005, and this must be refined in the Register.

With this, there was a proposal from a participant that a single evaluation should be made of vessels, and there was also emphasis on the need to verify that capacities are being maintained at the time of replacing vessels.

5.1.5. An economic focus on the radio on capacity regulation. *By Dale Squire.*

The presentation began with two definitions of *capacity*. The first, from FAO, defines capacity as the maximum potential catch by vessel, while the other definition is based on the IATTC approach, defining estimated capacity in cubic metres. One important aspect mentioned in this presentation refers to the exclusion of long-liners from the analysis. Nonetheless, it was clarified that these are taken into account indirectly by changes in efficiency from year to year in the fleet.

The essential question to be answered refers to the minimum percentage volume of capacity required to catch specific levels of skipjack, yellowfin and bugeye, when the vessels maximize their potential catch by adjusting their day's work.

There was a separate analysis by year from 1993 to 2010, showing very similar figures to those of IATTC calculations of of 158,000-167,000 cubic metres.

Two different stages were presented in the model. In the first stage, vessels maximize their capacity by adjusting their days fishing. In the second stage, they minimize hold capacity to catch MSY of YFT and BET, taking the catch observed for skipjack (SKJ). The foregoing would be subject to fishing capacity of each vessel, which would be added up for each year, and thus catches that it is established that catches should be the same or below their respective MSY, by species. Further, in the case of skipjack, the MSY of catches observed will be used.

Subsequently, this should be differentiated by class of vessel, also taking account of those that have DML and those that do not, since this will allow differentiation of species-related catch potential. Further, this classification by vessels also implicitly allows the generation of stratification by area, for analysis identifying vessels working harder in South or in the North, in addition to their closeness to the coast, due to sizes and specialization for a certain type of set.

A program was presented for the analysis, with the grouping of data known by the abbreviation DEA, and using the graph indicated above (Figure 2). There was a illustration of the analysis related to the program mentioned, in which the vertical axis shows catches, and the horizontal axis shows vessel size, indicating with a line of crosses the different types of catch observed. There was an explanation of how aspects such as observed production, excess capacity and catch capacity were defined and handled, and through linear programming, there was an identification of which vessels were more efficient within the range of sizes worked, and whether they have a DML or not.

Source. Taken from Dale Squire's presentation "An economic focus on capacity regulation."
Figure 2. Illustration of data analysis by the DEA program.

Some results using IATTC information were presented, with estimated%ages of daily restrictions, and some results based on information supplied from other sources were also presented. It was noted that estimates have been made, year by year, attending to changes in different variables such as biomass, environmental conditions, markets, changes, technology changes, and so on.

The results of the first stage mentioned above were presented, showing values in accordance with capacity for utilization, obtained by dividing the observed catch into catch capacity, and giving a value of 86% for the total fleet. Therefore, total catch could be increased potentially by 14%, if the vessels were operating by and adjusting their days' fishing.

Finally, some details of the analysis were explained with relation to vessels with DML versus vessels without DML, and the sensitivity of the model which takes account of changes in the system associated with close seasons. In addition, there were specific analyses of the first stage of fishing capacity of vs. MSY of YFT, BET and SKJ in the EPO and WPO.

- **Questions and comments.**

A question was asked on the possibility of simulating higher capacity, and with the absence of close seasons. There could be speculation with regard to the proportion of additional capacity to be included. The presenter replied that a simulation could be made, but there could not be much clarity about the quantity.

5.1.6. Legal aspects of capacity regulation, *Jean François Pulvenis.*

The presentation started with a clarification that it would focus mainly on precedent in terms of legislation, with a brief review of the morning's talks, in which there was mention of certain instruments referring to this presentation, such as the Commission's Plan for hold capacity, which is in the implementation phase.

The presenter mentioned that, based on the instruments, there are certain rules, obligations and commitments acquired, appropriate implementation being the main problem.

The presenter indicated the various resolutions which, based on the UN International Convention on the Law of the Sea (1982), but with the objective of issuing principles which the world community could follow. In this sense, he began by noting Resolution 68/71, which set out a number of opinions on the sustainable use of fisheries resources, dealing with different aspects summers such as those relating to cargo capacity, and the way in which fishing with the new result associated with excess hold capacity, a generalized phenomenon around the world. At the same time, he mentioned that there is a long-standing concern, because there are very few countries today which, individually or collectively have taken action to attend to this problem. According to the presenter, IATTC can be taken as a corrective organization, since it has been approaching the issues, and has taken action within the Commission and with its members individually.

Taking account of the foregoing, there was an emphasis on the special need to establish target levels and appropriate procedures to generate the assessment of the populations and stocks, at the same time avoiding the transfer of effort to other fisheries which are in similar or worse conditions with regard to exhaustion of the resource.

There are different classes of instruments mentioned in this presentation: the first is considered to be basic: the UN Convention on the Law of the Sea of 1982, for which no regulations re expected in relation to this point in particular; declaration of Rio and Agenda 21, which include elements based on a differentiation between States, taking account of their levels of development and their obligations. Another group of instruments are those developed in the framework of FAO, such as the Code of Conduct for Responsible Fishing, and its derived instruments.

In the context of the instruments referred to, there was mention that States should behave in a manner indicated in the Convention of the Law of the Sea, indicating that this instrument is binding in aspects of use and conservation of living marine resources, even if not approved by any given country.

Further, there is a duty of international cooperation to avoid the development of independent processes by country, in relation to the management and processes of conservation of living natural resources (see Articles 63, 64, 66, 67). The main channel for the establishment of international cooperation arises through the various regional and subregional organizations, in the context of exploitation by fisheries, which has a direct relation with aspects of cross-frontier species which are highly migratory, and share a distribution among two or more countries, including their EEZ.

With reference to the recognition of coastal developing countries, the presenter said that there was a fundamental willingness in this regard, as reflected in the different instruments, subsequent to the Declaration of Rio and Agenda 21. In this regard, he said he gave the particular case of the FAO Code of Conduct for Responsible Fishing, which makes two key points to be taken into account. The first is associated with the right and access to resources, and the second deals with the aspect of facilitating and receiving technical and financial assistance by international organizations which are aimed at rational and appropriate use of those resources, so that the first right can therefore be exercised. This is an issue strongly linked to issues to be resolved within the Commission, and in particular, with regard to the footnote to Resolution C-02-03, in which limits and non-allocations of capacity are set for countries with these characteristics.

Subsequently, the presenter gave a range of approaches provided for in the instruments referred to as such as definitions of over-capitalization of the fleet (Agenda 21), definitions of overloading in the FAO Code of Conduct (Article 7), and then, the International Action Plan for the regulation of fishing capacity of 1999. Some important actions in the plan were presented, dividing them into three main groups, and giving the particular features of each:

- Collection and processing of information required.
- Adoption of instruments and tools required to manage the fishery capacity.
- Adoption of specific measures.

For this last group, a need was expressed to generate mechanisms which will allow progressive reductions of factors which encourage over-capacity, including subsidies, and a substantial reduction in fleet capacity in the main international fisheries, where urgent measures are required. The priority is designed to attend to cross frontier fish populations, which are highly migratory, and deep-sea fish, and populations suffering from overfishing.

- **Questions and comments.**

The debate began when a participant took up the idea, which had been raised during this workshop, with regard to the fact that the Commission has recognized some limits but no rights for members of IATTC, as established in Resolution C-02-03. He therefore asked for clarification of this issue, since he understood that this should not be the case: rights exist, and therefore they should be assumed as such.

In addition, an explanation was given of some cases, which show this situation, in relation to the Resolution cited, which works as a mechanism in which limits are established for participation in the purse-seine fishers. As a result, certain limits had been managed through the establishment of confirmations by Member Countries, which implicitly have been interpreted as the administrators of the limits, and therefore this was a matter of rights.

However, under Resolution C-12-06 regarding capacity loans and concessions, it was suggested that some provisions (point 1) are not sufficiently clear clarity, since terms such as "*lender*" and "*concessionaire*" are used, and according to the participant, these terms denote that one cannot lend what is not one's own, and therefore he requests clarity with regards to whether it is a sovereign right of each member country, or on the contrary, they are simply authorized to exercise some kind of management over a limited time. The participant also mentioned another case with regard to Colombia, where a carrying capacity was authorized for it, as part of a right which was granted to a Member, and that in consequence, the Commission should

handle other processes for other parties in a similar way when they are in the same conditions as that of Colombia.

The presenter replied that this was a very respectable position, and speaking personally, he said that he could not give a concrete or definitive reply. This was so because there might be problems of interpretation at the level of the management given to loans, and therefore he urged reflection on this issue.

With regard to resolution C-02-03, there was emphasis that the concept of limits and not of quotas should be used, and that therefore, subsequent instruments should take this directive into account. In this context, it is possible in the future that collective negotiations could be held on capacity, since at present the conditions are not present at the level of fishing resources such that a satisfactory negotiation for members who aspire to an expansion might take place..

The discussion was complemented with respect to the terms of Point 5 of the Resolution, where it was said that the mechanism to establish limits to be used is the Regional Vessel Register, which previously existed, which was not created upon the allocation of quotas or anything like or anything similar, was based on existing vessels.

Further, and with respect to Point 10 of the same Resolution, this does not mention quotas either, but says "*... The following participants may add purse-seine vessels to the Register*"., "*... Subject to the following limits...*", And that was emphasis that the concept of allocation of quotas is not being used, but at all events this does not mean that certain participants in the negotiating process for that point would not resort to reference calculations in order to identify management quotas based on the availability of the resource in their EEZ, and therefore, problems of interpretation might be generated.

In addition, there was an explanation of the existence of participants that do not have vessels, who might make allocations to future vessels, according to limits defined in the existing Register. It was clarified that this has been handled in this way because there are technical difficulties to be solved in management by quotas, in order to arrive at a satisfactory balance of the parties. Therefore, the starting-point is a register of vessels, and a commitment to freeze the fleet.

Doubts were expressed as to whether IACCT is sufficiently cooperative with regard to the intention of new participants to be admitted, who would have to seek transfers in order to have a capacity which will allow them to work. In the face of this concern, the presenter answered that when the Antigua Convention was negotiated, some very specific provisions were made for the admission of new participants, where it is clear that there must be some incentive for that admission to be viable, provided that it is compatible with the provisions regarding management and conservation of the resource. Contrariwise, and in relation to transfer, this would be subject to the Commission's wishes and needs, and it was clarified that these are not permanent, and therefore it is quite possible that solutions will not be entirely satisfactory.

Another participant said that Point 10 of Resolution. C-02-03, regardless of the concept of limits or quotas, should be approached as a right without any discussion; and the presenter emphasized that in his country, this is interpreted as a sovereign right covered by the IATTC regulations, in relation to appropriate management and sustainability of the resource.

Taking account of all this, the presenter offered an example based on DML, to attempt to clarify some concepts. The term "*limits*" is used within the context of an intention to avoid and prevent arrival at a certain point, and this is why dolphins are managed with the application of this principle, and efforts are made not to catch any dolphin accidentally. Further, it is understood in the context of extractive activity, which seeks to arrive at a certain point, and to that extent, the presenter called upon those present to differentiate concepts and their interpretation.

Additionally, there was a reflection on the various interpretations of the Resolution; but none of them indicate the possibility of management by allocation of quotas, and in the case where there was talk of strict limits or immovable rights, this would mean that no fleet would be able to grow above initially-established levels;, several States could be highly compromised, and this would not be appropriate.

A question arose from a comment, where despite the various definitions suggested to discuss the aspect of capacity management, Resolution C-11-12 is cited, and interpreted as being the concession of a right for the benefit of the country cited in that administrative act, and the participant clarified that adjustments are already being made in domestic legislation for that country, in order to make use of that capacity.

Another participant observed that while the technical aspect is important for it to be complemented by legal aspects, which generate different positions when taking decisions. He indicated the need to have greater clarity, and to face realities with regard to their management so far afforded to them in relation to the issue of capacity, since it is not evident why in the future these procedures should have to be managed differently; two cases were cited with regard to Resolution C-11-12, and approvals, which were given at the meeting at Veracruz, Mexico.

Mention was made of the importance of taking account of the rights of developing countries which should be taken up so that they may generate progress in the regulations and recommendations made by the Commission in the future. Further, participants were reminded that it is basic that developing countries should accept and promote mechanisms which will facilitate technical aid and financial assistance, designed for a better application of their activities for the use and exploitation of processes and better management of the resource.

5.1.7. Global purse-seine fishing capacity. regional distribution, and implications for regulation. By *Victor Restrepo.*

This presentation gave an analysis of the overall estimates available with regards to number of vessels and associated capacity, expressed in cubic metres, for large-scale purse-seine, that is, those classified in IATTC classes 5 and 6, equivalent to not less than 335 cubic metres, intended principally for tropical species of tuna.

In order to arrive at the numbers presented here, it was indicated that it was important to review the list of RFMPs working in the context of this study, and it was mentioned that IATTC, basing itself on the Regional Vessels Register, has an updated and reliable list for analysis. Nonetheless, the other RFMPs are less reliable, and represent a challenge in research work.

After several processes of filtering and debugging of data, the presenter said that it was possible to identify 693 vessels which complied with the analysis objectives. 21% of them were authorized to fish in more than one RFMP, and there was an identification of the number of vessels registered for the various fisheries management organizations, as illustrated in Figure 3, where IATTC has 191 vessels, while the Western Pacific Commission has 416 vessels.

Source. Taken from the presentation of Victor Restrepo.
Figure 3. Chart of numbers of vessels

Among the totality of the 693 vessels analyzed, it was stated that there are more than 800 fishery authorizations, which indicates that the same number of vessels are not necessarily active in certain RFMPs. The intention was to identify the number of active vessels for 2012, and it was found that there were 295 for the Western Pacific Commission, nonetheless, there are 416 authorized. In the case of IATTC, the value of 191 did not vary much, 211 are identified, but this included vessels whose size is well out of the range of the study.

In general some 630 vessels were identified as being operationally active, and there was information of 35 more under construction. The number of vessels in operation today was therefore recalculated, and must be of the order of 665 or so.

According to these study data, it was considered that 50% of vessels are of more than 909 metric tons hold capacity, which supposes an important potential catch for all vessels. Additionally, there was a list of number of vessels and their hold capacity by country, as shown in Figure 4.

Source: Taken from the presentation of Victor Restrepo

Figure 4. List of number of vessels and cubic metres by country.

Finally, there was analysis regarding operating locations of the fleets analyzed, and considerations of renewal and building of vessels entering the fleets and projections for future new shipbuilding.

The presentation ended indicating several considerations, drawing particular attention to the fact that 24% of vessels authorized in IATTC have at least one other another fishing authorization in another OROP, and given the closed records handled by the Commission, the mobilization of vessels in theory will tend to migrate away from the Commission and avoid mobilization within it, thus impeding the admission of new vessels. Nonetheless, the presenter commented that despite this, the number of vessels in IATTC has also been growing, and therefore it is not a perfect system, and should be treated with special emphasis, since in the future. Other and less organized OROPs may encounter a great interest in admission, where their fisheries are at very low levels.

- **Questions and comments.**

There were question was a question with regard to vessels which are under construction, whether there is an estimate of the percentage which would be destined for EPO. The presenter said that this would be of the order of 7-10 vessels.

A question was asked as to whether there was some similarity between this analysis and another FAO work which attempted to make a world follow-up of the number of vessels, but in general terms, following up on double registration. Victor Restrepo commented that the work has some similarities with the FAO study, and likewise other similar works, produced in another type of fishery, which would be an input for the analysis, which this organization is pursuing.

Finally, the discussion returned to the presentation with respect to make closed mechanisms of IATTC, which is based on a register of vessels, and it was mentioned that this would end up being a potential strength, and it was recommended that the pending exercise of the evaluation be made, in order to obtain updated and clear data to improve the register as such.

24 APRIL

5.1.8. Proposal of Japan on "The program for the capacity regulation for purse-seine fishing vessels" (Japan). IATTC-85 Prop H-2 JPN, by Yujiro Akastuka.

First, it was noted that the proposal presented is the same as was discussed at the previous annual meeting in Veracruz. There, graphs were used to present historical catches of YFT and BET, based on data in Report No. 11 of the IATTC Secretariat.

The presentation emphasized that proportion of BET was initially very low for purse-seine fishing, and subsequently the catch of this species began to increase, with values far higher as of about mid-1990s. There was then a brief analysis of the situation of populations of the same two species for EPO, with two graphs per species, indicating in general values higher than MSY, for yellowfin and values close to MSY for bugeye, which the next Scientific Advisory Committee meeting will discuss in depth.

Another analysis was made, excluding the purse-.seine fisheries, which showed total catches for 2013, at a level of above 150,000 cubic metres, and demonstrating the problem which this proposal aims to deal with.

Based on this brief explanation of contexts, the presentation continued on the proposal, which in synthesis recommended that a steady reduction active and inactive capacity.

For the case of active capacity, the proposal was that of the time in which an empty vessel is to be replaced, account should be taken of the following:

1. If the replacement is being effected by a second-hand vessel, new vessel entering the system can only have 90% of the capacity of the original vessel..

2. If, on the contrary, the incoming vessel is a new or recently built one, it can only have 80% of the capacity of the vessel to be replaced.

For the case of available capacity or inactive capacity, the arrival of a vessel which is to use that capacity may use 95% of it.

In the case of capacities in dispute, the scheme does not pretend to cause fresh difficulties on the point, and it was several proposed that the system come into operation after disputes have been settled.

It was mentioned that the scheme also includes the long-line vessels, and it was said that no measure for capacity management was required, since active capacity has been falling. Nonetheless, certain measures to reduce capacity may be necessary in the future, when active capacity grows and rises above a certain range. For this reason, it is considered of great importance to the Commission that follow-up and monitoring instruments be generated for changes in active capacity, so that measures may be promptly adopted as necessary in the implementation of the system.

For this, the proposal was made for a procedure, which in general consists of clarity about the number of vessels operating in 2013 by flag, in order to report the information to the IATTC Director. This information should be public and should be circulated to all members, and an evaluation should be made of the impact on populations.

Finally, it was concluded that the system proposed is not perfect, since it may take a long time to bring about the reductions required, since it is based on the replacement of vessels.

- **Questions and comments.**

A question was asked about percentages of reduction suggested, and whether any support existed for making them. The presenter mentioned that they are reference points, without scientific or statistical support, but the difference between 80% and 90% is based on the supposition that new vessels or recently constructed ones are more efficient than second-hand ones.

Based on this presentation, it was observed that in relation to the arrival of new and more efficient vessels, there should be negotiations of percentages to be higher, since the values proposed would only cover increased efficiency in vessels, and probably maintain the same situation with regard to a real reduction of fishery and mortality.

With regard to the long periods of time which would have two be spent waiting to obtain the first results of the implementation of this proposal, it was suggested that the Commission should make an historical study of how vessels have been replaced, so that there will be a forecast, which could show how the reduction in capacity could be projected into the future, taking account of percentages proposed.

There was a request for clarity with regard to the applications made by countries and their claims. It was explained that the proposal is at present simply a scheme, and as such is open to discussion, and contains nothing specific on the point.

Likewise, it was stated that there are vessels involved in disputes, which may be duplicated (for example, the case of a claim); and the proposal should deal with such situations. According to the presenter, the proposal did not consider this for the time being, since the issue of disputes resolution should be approached as a separate problem. In this way, once the disputes have been settled, vessels would come to function under the proposed system. The Director, based on this question, said that there is almost no duplication of vessels. There are just two cases, and one of them is not in operation. Additionally, he said that three small vessels had been reported, which had been known about for a long time, and they only represent a small percentage of the dispute. Nonetheless, they are reported in the list of "non-compliance", because there is no important consequence of duplication in this regard.

With regard to differences in size arising with the changes of vessels which are increasingly smaller, it was asked whether the proposal is considering the sealing of holds to generate the reductions sought should be vessels be replaced by vessels larger than that which applies to the reductions sought. It was explained that this is something which, as mentioned repeatedly during the workshop, is open to debate, and should be discussed with IIATTC personnel to arrive at the best solution.

A question was asked in the form of an observation in relation to two points: first, there was a request for clarification as to whether the proposal could make a distinction between large and small vessels. Second, it was explained that the proposal systematically sought to reduce vessel size, and that this would be running counter to the shipbuildiers´ tendency to bring in ever larger vessels, because one possible solution could be focused on managing large vessels, but in smaller numbers.

There was mention that the replacement of old vessels by new and more efficient ones could be an incentive for this proposal, since they are also cleaner in terms of gas emissions, which could be a secondary and important result.

It was proposed that it might be useful not to take up the proposal vessel by vessel, but by overall capacity of a given fleet, and to adapt the capacities to present vessels regardless of their size. Further, it was indicated it is important to consider differences of efficiency in new versus old vessels, at the time of making the adjustment designed to reduce capacity, which is the intention, and which contemplate different aspects of the process of capacity transfer.

Additionally, and as a complement to this presentation, it was indicated that efficiency units are changing, and it was noted that there is an increase in efficiency, estimated at 2-3% per year.

Finally, there were doubts raised with regard to the final part of the presentation, in relation to deficiencies in information and knowledge as to the long-line fishing in the region. This generates a gap which should be taken into account in the model. In addition, it was said that there is not a real list of active vessels, but this is important from the point of view of management, not only in the issue of fishery mortality. Based on this, it was suggested that the monitoring of long-line vessels should be designed not only by their size, but also by hold volume. Therefore, it was suggested that it would be important to make the verifications of the evaluation and to establish a deadline to have a reliable figure in cubic metres.

The discussion ended with the explanation that in the case of long-line vessels, the number of hooks and the target of the catch are more important than cubic metre capacity, since in this type of fishing, hooks are modified depending on the target species.

5.1.9. Towards a new capacity regulation plan in the Eastern Pacific. By Angela Martini.

This presentation emphasized the role of the European Union in the request to organize a dialogue on this issue, in the face of the need for better management under regulations for the IATTC area, and the presenter said that she was very pleased with Colombia and the organization of this event.

She said that the starting-point of this proposal is based on a series of elements in the framework of the FAO FAO action plan, the Commission's Regional Plan for 2005, and recognition of the legitimate rights of coastal l developing countries. Likewise, it was clarified that the proposal was initially presented last year.

The proposal was presented through a critical list of points consisting of a series of simple actions to be discussed, as follows:

Action 1. Freezing of capacity at current levels used by active purse-seine vessels in the EPO, seeking to remain as close as possible to the current target capacity.

Action 2. In order to have greater clarity with regard to the definition of "active" or "inactive" capacity, it was considered that a time-frame should be set up, for example, the last three years, in order to freeze the capacity currently in use. Capacity in use cannot be greater than "active" capacity.

Action 3. IATTC must promote the idea that its scientific staff and the Scientific Advisory Committee should have permanent and regular updates of target capacity (for both YFT and BET), as a function of the situation of stocks.

Action 4. IATTC should take up claims with regard to capacity, in relation to the general discussion of the reduction of excess capacity, and only as a part of the global package for situations referring to capacity.

Action 5. Long-line fishing capacity should be frozen in manner consistent with the freezing of purse-seine capacity. They should be clearer reporting of values on fishery mortality, and catch volumes in long-line vessels (including vessels of less than 24 metres). Additionally, the active capacity of long-line vessels should be managed in a similar way to that given to purse-seine vessels.

For the application of these actions, it was clarified that this is not an immediate reduction, and that a steady and proportional reduction should be generated for implementation. It would not be very drastic, but there is no clear way of conducting this process. It would indeed be a subject for discussion within the Commission. Objectives and deadlines should be set so that tangible progress could be made.

For the specific case of countries with capacity claims (countries under the footnote of resolution C-02-03), it was proposed that the Fleet Development Plan should be prepared, and this will be discussed within the Commission, and would be used as a connection of the claims in matters of capacity management, and identification of appropriate management for their possible viability.

All Member Countries should inform the Secretariat of the active vessels under their flags, taking account of the last three years; then, the limit to the number of vessels and hold capacity hold volume should be established, only taking account of each vessels reported. For the long-line vessels, there should also be information on vessels of less than 24 metres, and data for target capacity should be updated and presented to the Scientific Advisory Committee prior to each annual meeting, based on the stocks situation.

Finally, it was clarified that this year the European Union will not present any proposal for capacity reduction, since they recognize that a number of conceptual, technical, theoretical and scientific debates must be held before any new proposal is made for a scheme.

- **Questions and comments.**

The debate began with a mention of the issue of the rights of coastal developing States, and how countries which do not appear in the footnote to Resolution C-02-03 would come to be taken into account in the context of the rights mentioned. It was explained that the scheme presented is centred on identification of a starting-point for the freezing, and does not contemplate this type of matter, since it would run counter to the long-term objective of reducing fish hold capacity

Nonetheless, this merits wider discussion to find out how these concerns can be brought together, taking account of the need to develop a plan for the future. This will make it possible to discover how and by when these coastal countries intend to develop their activities, taking account of figures which will allow a projection and an evaluation of future impact on stocks.

Another of the participants insisted on a definition of the way to define the starting point mentioned, since it is important to consider the realities of countries, and in many cases fishing is fundamental to their development. Therefore, the immediate freezing as proposed could be very difficult to apply. In this light, it was considered that it would be very important that the starting point should go hand-in-hand with a plan which would allow economic needs to be considered, and would not cause any damage, allowing a balance to be struck between the interests of all.

There can be no talk of making progress in this exercise without a settlement of existing claims and disputes, and would therefore be important to set rules which would allow these disputes to be resolved. For effective compliance, it was suggested that a consensus be reached for the construction of those rules.

Another participant referred to the role which, economic incentives would come to play, which would go hand-in-hand with the alternatives for management which were to be considered for adoption, and the objectives who can be considered for achievement. In this sense, each participant indicated the importance of the types of incentive which should be created with the application of a given proposal.

Open or limited access to the resource already creates a series of incentives in terms of fishing effort, and they should be studied. Another aspect mentioned referred to the difficulty of maintaining a consensus, especially if there is one side which is losing. Therefore, it will be basic to balance losses with profits in general terms for all parties, without forgetting that all actions have a cost, whether direct or implied.

The presenter mentioned that it was important to recognize that there should be no winners or losers in the quest to achieve this objective. What is evident is that this process of production would mean that all parties would have to sacrifice something in the short term, if they wish to arrive at significant progress, which will represent medium and long-term gains for all actors involved.

With regard to one part of the presentation in which it was mentioned that "... The Commission should consider some of the claims...", The question was whether was, why it should be "some" and not all of them. The presenter replied that it was not necessary that all claims or disputes should be accepted. Also be considered, but not all should be settled by acceptance. This was the reason for the use of the word "some".

Another participant mentioned that thought should be given to a range of options for the reduction, since there is talk of a process of repurchasing of vessels, in which incentives might be offered for a reduction of capacity without affecting the industry, and in particular the shipbuilders, who were intent on making profits from their assets, withdrawing from fishing activities. In international terms, there already are already some examples of ways in which this scheme could work, and on applying the rules and the necessary resources

for this, there might be a permanent reduction in active capacity. Nonetheless, this does not guarantee that the objectives sought will be achieved, if the actors do not decide to participate in generalized form.

With regard to the long-line fleet, there was a request for greater clarity in the proposal, with regard to what type of data are required for vessels of less than 24 metres. It was insisted that there was a lack of data, but it is important to have clarity with the Secretariat as to which the data which are missing.

With regard to the proposals presented, it was stated that basically, confiscation is the principal mechanism by which reduction would be achieved, and this is an important issue which must be focused on, since it would affect one group of actors more than another. In this sense, it was proposed that should be the possibility of presenting schemes by the Members themselves, in which they would use their own strategies to achieve to achieve the objectives would be proposed, thus avoiding imposed regulation.

There was an invitation for general reflection, since Resolution C-02-03 is designed to freeze, and there are rules which, for reasons of interpretation and lack of willingness, are not taken into account.

If there is real will, the dispute should be solved without increasing capacity, since if that were approved, values would rocket, and this would for example imply, under the scheme presented by Japan, a process of more than 15 years to regulate the fleet at a level similar to the present one, assuming that the fleet is renewed.

5.1.10. The complementary use of regulation of rights-based regulation. By Guillermo Campeán.

This presentation began by taking account of an existing technical document (SAC-04 -INF D), explaining a model for the allocation of quotas, which in turn allows freezing, and helps to reduce capacity, taking account of the current situation of EPO, and its problems and solutions in the medium and long term.

The presenter explained that for the application of the model, a general quota must first be set based on a stock evaluations of 2011, this being a good year to work with, because it is considered that in more recent years, there have been inaccuracies which would take time to correct.

The establishment of this quota considers the way in which fisheries are currently being managed within the commission, for which the catch corresponding to the MSY is estimated, converting this value to fish mortality, which in turn acts as a very useful precautionary focus, because it allows a lower value than that which would be obtained by a direct calculation of MSY.

One important aspect of this model is that it manages yellowfin and bugeye jointly in the same quota, given various complex technical aspects (difficulties of identification and separation in procedures for fishing and catch). Further, this would avoid establishing management of incidental catches by other vessels which would complicate the model. In the case of long-line fishing, the portion corresponding to the estimated catch for surface fishing is automatically separated out.

Another important concept handled by the proposal is related to the separation of fishing areas, taking account of the EEZ of coastal states and what is done outside those zones, trying to avoid the issue of country rights, and generating an exploitation of the resource proposed not only proposed through the presence of own fleets for a certain country, but that that country should also have the possibility of generating licensing mechanisms, such as those used in game fishing, or the generation of mechanisms for autonomous exploitation.

Likewise, regulation of access would continue to be through the Regional Vessel Register, such that there would be nothing new to be implemented in this area. Individual quotas of the vessels will be handled in the same in the similar way to the allocation of the DML, which is a simple and familiar system for all.

Three subcomponents would be included in the model, taking account of the following:

1. Allocation of eight total allowable catch (TAC), for the EEZ of coastal states.
2. Assignment of a deep water (or, out-of-EEZ activity) TAC.
3. Possibility of individual transfers of vessel quotas.

Taking account of these three subcomponents, some related aspects were described.

For TAC in EEZ an exercise was conducted to analyze average catches over several years, taking account of the special differentiation proposed. The exercise enabled percentage values to be established, in that 40% of catches were effected within the EEZ, and therefore there was a proposal to allocate a TAC to each of the coastal countries, to manage it at their convenience, applying for example systems based on open fishing, individual quotas by vessels, licences for different flags, etc.

The TAC would be based on the proportion of catch made in the zone taking account of fishing mortality catch corresponding to MSY. When the TAC limit is reached, fishing activity should cease in that EEZ.

Vessels in Classes 5 and 6 should have an observer on board, to indicate when a given TAC has reached its limit. In these cases, the vessel may not continue to fish or engage in any fishing-related activity, such as the sowing of FAD, but it could go out to continue its trip outside the EEZ, provided that it has a deep-water TAC.

Vessels which do not have an observer on board at the time of returning to port may not leave to continue fishing, until its TAC is renewed, and those vessels whose objective is species other than yellowfin and bugeye can continue to fish, provided that they do not go beyond a 15% incidental catch of these species. Any catch that exceeds that established in the TAC in a given year will be deducted from the TAC to be assigned in the next year.

For the deep-water TAC, in the same way as explained for the previous TAC, the percentage which corresponds to catches in these zones is equivalent to 60%, but quotas would be assigned individually to vessels, and then maybe transferable, and granted for deep-water fishing, provided that they are Class 5 or 6 vessels, and identified in the Regional Vessel Register.

In addition to these requirements, vessels will have to have fished in the previous year in the zone mentioned, otherwise, and if there is interest in obtaining a deep-water TAC the procedure suggested in the proposal indicates that that vessel will have to spend one year fishing or at least make one trip within an EEZ in order to be able to claim a future deep-water TAC, this being the cost of a new entry. The quotas in this TAC may only be transferable for deep-water fishing, and may not be used in the EEZ.

Transfers may only be made between vessels which comply with the requirements given above, or may be effected by one active vessel to another inactive one, however, the total of the individual quota may only be transferred for one year or a fraction of a year, and in no case may more than one quota be transferred in a year. It is important to note that if at the time of the transfer the entire quota is assigned, the vessel which has assigned its quota may not fish again, and if that vessel has not fished, it automatically loses the possibility of requesting its deep-water quota for the next year, and will have to resort to activity within the EEZ, if it wishes to recover that quota. If a vessel which, in accordance with the Commission's regulations, accumulates infractions, it may not have the quota allocations for a period of at least two years.

Aside from the rules mentioned, some important aspects required by the model are present in the creation of a system of mandatory follow-up of landings by the various companies, to secure compliance with rules established. There is also a need for observers in all vessels, without exception, even if they are in Class 5, since the system becomes part of a similar form of management to that assigned by APICD and its DML. Finally, it would be necessary to have the reports of satellite follow-up, and it is not necessary for that information to be given in real-time, thus avoiding problems of confidentiality.

- **Questions and comments.**

There was a request for clarity with regard to instructions mentioned in relation to whether in deep-water fishing, and the filling of a quota, there would be the possibility of continuing to fish, if it is done over currents. In relation to this, the presenter explained that with this proposal, at the time that a vessel has used up its deep-water quota, it can only fish in the EEZ, and provided that it has an available quota in the EEZ which it wants to enter, and has the required permits. If ir does not, that vessel may not fish any further, and this would be a mechanism for yellowfin not to exceed the quantity calculated by fishing mortality.

There was talk of a 15% of limit per trip of incidental catch, in relation to vessels which work with FADs, and catch large volumes of small yellowfin and bugeye. These vessels are provided for in the model, and in this situation, there was a question as to how this issue would be treated. The presenter explained that this limit is only for the EEZ, the deep- water zone is not subject to it. Further, the measure is for vessels which are on the Register, and it does not take account of other vessels, nonetheless, despite the this, the total of species between yellowfin and bugeye should not be more than 15% for vessels whose objective is species of tuna than those referred to, in addition, there was a request that the catch should be withheld for measurement at the time of landing.

Concern was expressed by one participant, who mentioned that he was surprised at the requirement that a vessel would be required to fish in order to be able to maintain its annual fishing quota, or have the possibility of losing it. If the idea is to think of the markets, there are possibilities of commercialization to maximize efficiency when flexibility is maximized, and therefore, this participant did not understand why the concept cannot be applied, and therefore asks for greater clarity in justification of this requirement to maintain the right to fish.

In the face of this concern, an example was given, that if there are 100 vessels to fish in the EPO, 50 of them do not use it, because there are going to fish in other OROPs. There will be a greater possibility of fishing for each vessel in the next year, and in theory there would be a potential to double it, and this would be the way in which the resource would be equitably distributed. With respect to the markets under this concept. Another example was given, with the explanation that if a given vessel makes a trip in the EPO and decides to work in another OROP, or for some reason decides to stop, it will want to transfer its individual quota to some other vessel, generating a profit on the supposition that it sells its quota; but clearly, in accordance with the rules explained, it can only do this in one year. The theory of this model explains that over time, the most efficient vessels would be those left operating.

There was a question with regard to one area in particular of deep-waters with overlapping pressures of fleets from another OROP. How was this area to be managed, taking account of the fact that we are attempting to find means of protection of the results ? The presenter mentioned that this had already been solved in two ways. First, there is a bilateral agreement for reporting what measures will be applied to fleets outside the Commission, and these fleets have replied that they will accept IATTC regulations in these zones in particular; and therefore, if they are not in the Regional Vessel Register, they cannot operate. Another characteristic is that this is framed in the EEZ of two island countries, and only a small and insignificant part is not covered.

Another concern was expressed as to how the TAC would be set for distant fleets, or those which should not have an EEZ in the EPO. The reply was that the distant fleets can come and apply for a quota provided that they have fished there in the previous year, otherwise they must ask for licences from a State, in order to comply with the EEZ working requirement. Each country may manage its TACs freely. It was a question as to what criteria led to the allocation of 40% of the TAC to the EEZ. The reply was that in accordance with the size of historical captures catches by zone, and the average in the EEZ, clarifying that the period of time desired can be used, since there are no important changes in the catch of yellowfin and bugeye in the historical sequence.

The proposal is based on other instruments already applied by the Commission, which is evidence of its importance for this debate. However, there was a question as to whether the TACs could have a validity period of more than one year, which would give shipowners certain guarantees to protect their investment. Reply to this was the system has no problem in extending the validity of quotas by vessels, but insisted on the condition of fishing in the previous year as a precondition to have a new deep-water allocation.

It was asked whether this 40% is general for all Members, and is obtained individually for the particular cases of each EEZ. It was explained that this value is given in proportion to the individual catches per EEZ. Additionally, there was a request for complementary explanation by another participant with regard to average catches of the flag or general catch by EEZ. Again, it was insisted that the average catches should be managed by EEZ, and not by flags.

The was a concern expressed with regard to the case of Central America, where there are no long-line catch data for these zones, and further, there is no developed fleet but there is certainly great potential. There was therefore a question as to how this would be managed in terms of the allocation of TAC, and if there is already some consideration of this. It was explained that there is information, and it is known how much is exported from the EEZ - and it is very small, as is the quantity of yellowfin available.

Likewise, it was said that the proposal presents some complicated aspects with regard to fleets sizes vs. EEZ sizes. Additionally, the fact of integrating processes which come from APICD for the allocation of quotas. It was question whether the mechanism would not be favouring the more efficient vessels, but perhaps those which are more constant, and given the particularities of certain fleets with great mobility, this could generate important changes. Therefore, the modelling of allocations in relation to processes of others might generally results which do not help to reward efficiency, and it was suggested that this point be reviewed. There was a proposal on this, that management should be based on a global TAC, instead of on a vessel-by-vessel allocation.

Further, there are legal and administrative challenges associated with the proposal. The presenter replied that there is already a global TAC, but it is not managed in terms of catch but in terms of fishing mortality, which is converted into days, and the days are open in the sense that first to arrive is the first to use it, which has been the form of management applied. Additionally, it was mentioned that this could be converted into catch, but would entail a problem, in relation to the separation of species, which in turn causes a series of technical difficulties; for example, the fishing of bugeye would have to be closed, while that of yellowfin continues to be open, and this is something which is very difficult to manage and control.

It was explained that the proposal takes account of an entire series of aspects which are incorporated into it, to avoid entering into conflict with the various issues, such as a renegotiation of the National Vessel Register, and avoids conflict associated with MDL management; it prevents conflict with regard to the rights of coastal countries to develop themselves, and conflicts with regard to the applications of other countries, amongst many other wide ranges of issues.

In relation to skipjack and bugeye as highly migratory species, it was considered that the separation of EEZ-TAC and deep-water-TAC does not have much coherence. It was clarified that the Commission is the only body to manage deep-water and EEZ jointly, but by establishing the EEZ TAC, these continue to be managed by the Commission, but allows certain freedom to countries to administer their own resources. Finally, there was fresh insistence that this was only an exercise, and as such was open to modification.

There was a question as to whether this system would originate in market for individual quotas. The answer was that it would, but that they would not be cumulative

5.1.11. Bioeconomic balances between techniques and the dynamics of the purse-seine fishing fleet. By Jenny Sun

The presenter said that her research had two principal objectives. First, to work on the issue of bio economic compensation, in which different combinations of fishing of purse-seine and long-line effort are approached, to produce a shared biomass of tuna stocks.

Second, work has been done on an analysis of the dynamics of the purse-seine fishing fleet, in order to investigate the impact of economic, regulatory and oceanographic conditions as being decisive in the distribution of the tuna fishing fleets in time and space.

According to data from a FAO technical report of 2010 on the development of tuna fishing, it is estimated that catches of purse-seine vessels are responsible for 80% of the total global tuna catch, therefore, her research sought to identify what kinds of compensation would be possible on this assumption.

For the case of EPO, data were presented for landings of bugeye and yellowfin, which are known as a result of the Commission's efforts. These data show the comportment of catches for the species in relation to purse-seine and long-line vessels, and an analysis of catches by type of sets.

It was noted that for bugeye, in the mid-1990s, catches were relatively equal between the two types of fleet. However, today the purse-seine fleet catches much more, due principally to the sets on Fish Aggregation Devices (FAD). In the case of yellowfin, there is an observable comportment of data similar which is similar, all the different types of sets.

From an economic point of view, a table was presented to detail metric tons, and show variation by species and by fishing technique. The table differentiates that the larger-sized fish are those caught by long-line, and this offers better prices on the market, in comparison to the landings of material generated by purse-seine vessels, since these are smaller sizes which do not offer such great possibilities of exploitation. In addition to this, there were questions as to what could be done to generate better exploitation in the industry.

Details were presented of landings by species and type of technique, and an analysis was made of the idea of guiding decisions towards the optimization of income. The biological and economic limitations were being better understood, among options for regulation. Taking account of this, there is always an exception to the rule, and in this sense the skipjack appears as the most complex species in the case of the purse-seine fleet, because its value per tonne is lower in comparison to other species. In addition , the skipjack is the largest volume catch, but in economic terms, the appreciation is different.

It was explained that this is species which is currently limited, and which may be exploited by long-line vessels if they if the fish were permitted to grow to a certain size. Likewise, it was indicated that this species is captured in its greatest proportion among the fisheries which focus on sets using FADs or free schools.

On this point, the presenter emphasized that it was important to take account of the fact that the market is managed on a globalized basis, at international level, for the case of the various resources and their distribution is at world level, due to the fact that they are integrated into a single market.

Looking at another series of graphs, the presenter explained the comportment of the reproductive biomass of bugeye and yellowfin, in relation to an overlapping of two fishing techniques studied in the analysis (Figure 5, right graph). It was said that in the case of bugeye, the larger the number of landings of large-sized tuna, the greater the proportion of available volume. Nonetheless, the opposite occurs, since the largest catches occur with small individuals, made by purse seine vessels, and this prevent the bugeye from growing. Therefore, if the purse-seine vessels were to reduce their catch of this species, they could benefit from larger sizes per individual.

There is a point in the ratio of reproductive biomass that would be an ideal target for the Commission. Nonetheless, if current levels of catch continue through the combination of the fishing effort of the two fishing techniques, there will be a distance from point A to point B in the graph. This latter point refers to current levels of management. Further, there are certain levels which it is intended should not be exceeded with regard to hold capacity.

In this sense, point D and point C refer to this aspect, but it is really with reference to the segment between point B and point C that analyses can be made of aspects of compensation between the fishing techniques. This is also applicable to yellowfin, for the graph on the species, (Figure 5, left graph), which shows a comportment different to that observed in catches, and occurs because if eventually long-line fishing increases its efforts, it will not increase landings of yellowfin, because optimum yield has already been reached for this species. The presenter indicated that simulations could be run based on prices for the two species to obtain dollar values.

Source: Taken from this presentation by Jenny Sun
Figure 5. Equilibrium of effort by the purse-seine and long-line fleets, in bugeye and yellowfin.

According to the analysis of cost levels, it was noted that increasingly, high values will be generated if the intention is to reach point C. This refers, therefore, to the fact that point B is the most appropriate, signifying a proportional reduction which may perhaps lead to a positive future situation. In this sense, there was an explanation that one ton of bugeye not captured by the purse-seine vessels could turn itself into some USD37,000 in profit in a matter of 3-4 years in long-line fisheries, and even if it had to pay a value of some USD1,540 in compensation for the landing, the profit would be equivalent to some USD 35,460. In terms of percentages, it is stated that a 1% reduction in the purse-seine fleet effort (equivalent to some 84 sets), will reduce the purse-seine catch by 301 tonnes, allowing potentially an increase of 1170 tonnes for long-line vessels. This means a profit margin of some USD 10 million according to the analysis made.

The presenter said that for a projection of each of the different scenarios, A, B, C and D all lead to the ratios of a target reproductive biomass, but the scenario D is not considered viable due to its low value. Therefore, interest is centred on cases B and C, with an example of a reduction of 25%. It was mentioned that if these conditions arose, and the suppositions proposed in the analysis materialize, this would represent profits of some USD 94 million.

The presenter showed another series of analysis based on the comportment of prices, taking account of historical follow-up in certain important markets such as Bangkok and Thailand, incorporating scales of price flexibility for skipjack and yellowfin, and in specific conditions of the dynamics of landings, in the eastern Pacific versus the Western Pacific.

There was also presentation on analysis of prices with regards the presentation of products, and how they are affected, depending on whether they are fresh or frozen, the frozen products being important to the stability of prices for The catches of the long-line fleet. However, this would also be conditioned on the availability of the resource and fishing effort generated on them. The presenter indicated that if the resource were better distributed in the oceans, fishermen would have more options to catch, but she clarified that this would be a mistaken assumption, since the fish are not distributed evenly. Given the foregoing, she then passed on to the second part of her presentation.

For the second part, there was a presentation of a work of work done by the National Science Foundation, which takes account of environmental variables, the comportment and patterns of fishing, markets for production and capital, government policy, and economic and regulatory conditions. It then creates a dynamic model for fleets of each individual country.

The presentation continued with a series of data on how species are caught, and landed by country, the number of active vessels over time, and increases in feeds through large-sized vessels, and a breakdown by

country, showing an increasing number of vessels of more than 1,200 tonnes capacity, which in turn increases another series of variables such as the number of days in a trip, distances covered by the vessels, and consumption of diesel fuel in the fleet. There were also data on the number and types of sets for skipjack and bugeye, with evidence of increased catches of the latter associated with FADs.

The presenter showed a graph with the number of days fishing recorded for a series of years (Figure 6), where a special division was made in the EPO, which allowed 11 different designs to be identified. The graph showed that the greatest effort takes place in the zones closest to the coasts. However, the presenter clarified but this does not mean that all the vessels for these zones are of the same size.

Based on this, and analysis was made to include the accumulated number of days, volumes landed, distances travelled, flags associated with the vessels, and their respective sizes, amongst other variables.

Source: Taken from this presentation by Jenny Sun
Figure 6. Representation of the accumulated days fishing in the EPO.

Subsequently, a graph was shown which evidences the contour of a service or package of probabilities, adjusted to the follow-up of the vessels present in the region where there is probably the greatest concentration of trips.

The presenter who ended by mentioning that needs for regulation differ depending on the users of the resources, since there are many countries with different characteristics which originate a variety of factors to be taken into consideration, and therefore the model presented will allow simulations to be made as a tool to maximize fishing effort, this being a crucial point which has repercussions on value and on economic aspects derived from the results.

- **Questions and comments.**

There was a question as to whether the types of scenario in which the model for fleets dynamics could be deployed, could be described. The answer was that it depended on the country from which the vessel sailed, all the distance at which the fishing grounds are to be found, including environmental factors, since other aspects such as fleet dynamics would be included in the model. It was explained that the model also takes account of accumulated catches over the trip, since if, for example, there is a quota system for individual vessels, they could be simulations done as to see whether a vessel has already arrived at its limit, and would have to return, which would be of assistance in follow-up.

There was a question as to how the losses from natural mortality could be offset, allowing the gain in biomass of tuna, given that this compensation had also been calculated in economic terms. The presenter answered that effectively the analysis was made by species, in which the bugeye shows an estimate of USD 58 million. The foregoing is weighted by natural mortality, but this on the supposition that the fish are found.

Another participant expressed his thanks for the approach presented, and asked how viable the system that uses the sale of individual quotas per vessel would be, and which could be sold to the long-line fleet. The answer was that it is feasible, but it takes time due to the slow rate of growth of the species, that is, for years. Further, a system of limitation would have to be generated in the bugeye in order to avoid large catches of young bugeye. If this were to happen, there could be an incentive for the long-liners to be interested in purchasing fishing rights which would give them a broad range of profit.

It was commented that, in accordance with the discussions, a proposal will be made for regulations to prohibit the fishing of young bugeye. For example, there would be a ban on fishing over FADs, since this species is associated with them in their younger stages of life. Nonetheless, the principal catches of skipjack are also made over FADs, and therefore, any restriction on FADs would also affect catches of skipjack. There

was a question as to whether there was some consideration of the point in this study.

The presenter said that the figure of USD 94 million already took account of this point, and that profits would be greater than the losses, and on the assumption that captures of skipjack were kept constant it could be said that skipjack not fished is proportional to skipjack finished. The limiting factor is that IATTC does not have a follow-up model for skipjack, and therefore there is no total certainty on this point.

From the point of view of the long-line fleet, another participant asked that although the conclusion of the analysis is based on the benefit for this type of vessel, it would seem that long-liners today face a reduction in catch.

Another participant complemented this, saying that the long-line fleet was well below its catch limit, and therefore this transfer from purse-seine to long-line is not clear. In this regard, the presenter was asked why she believed that this transfer will be viable, given the current panorama. The presenter replied that today, this is a question of profit, which today is not 100%; but if they succeed in improving the biomass of bugeye, through not fishing the over FADs, the could be an incentive for the long-.line fleets and for coastal countries.

5.1.12. Repurchases in EPO. By Joshua Graff Zivin.

This presentation began by mentioning that the proposal would be presented in a simplified and simple form, and that the intention is to achieve a model for the repurchase of ships, and presenting an empirical exercise for ease of understanding.

First, the presenter said that the principal problems with regard to the lack of regulation in fisheries is due to lack of formalization of ownership rights, which leads to an inflation of capital, and overexploitation of resources and a generalized reduction of profit. Likewise, another of the problem points is related to the setting of individual transferable quotas, given that these are difficult to implement (results with this have only been achieved in 2% of fisheries). Finally, reference was made to the lack of practical response in the face of the limitation of entry/capture of fishing levels.

In the light of the foregoing, the presenter put the term "limited access" into context, saying that in conceptual terms it was consideration is being given to a TAC managed by a defined volume of allowable catch, or an implicit TAC, which would be in place with the usual restrictions such as close seasons, and the imposition of capacity limitation, amongst other processes. This was considered to be useful as a first step, but despite this, there is still the incentive for fishing, which in basic economic terms, means the search for profit rather than competition. Therefore, the problem of overcapitalization and mis-distribution would not be avoided. Additionally, international fishing could exacerbate the problem of capital, if all countries see the need to "participate" in fisheries under a scheme of fixed TAC.

With this, the presenter explained a model which can help to resolve this problem of over-capitalization, based on a scheme repurchase of vessels. With reference to repurchase, he indicated three basic points.

The first is related to the purchase and withdrawal of vessels, where there is a guarantee that the vessel will not return, either by sinking them or by generating mechanisms which will guarantee that they cannot return to fishing, given that the limited entry of vessels is fundamental to the model.

The second point refers to the fact that repurchase will only be successful if there is an effectively limited access. If ships are repurchased, there should be no way in which they can return (this cannot happen otherwise). There must be a strong system which will avoid these problems.

Finally, it was said that the industry should be heterogeneous in its profitability, in order to ensure that there are businesses which benefited all parties mutually.

Further, there was emphasis that repurchase works as a voluntary system, in which buyers and sellers must both benefit from the transaction. In this way, those who are inside the fishing industry must think of being able to establish a role which would allocate a "tax" or "contribution", to be able to sustain the system and to record and to repurchase these vessels, in order to withdraw them from the system. The presenter commented that this should allow a reduction of capacity, but the incentives for the distribution of capital will continue; therefore, there must be in evolution towards a system of ownership rights and systems allocation of quotas.

There was mention of the way in which repurchase auctions are important, for example, the self-financed ones, that is, those in which there is participation in fisheries as buyers and as sellers, explaining that this model is self-financed by the industry, on the principle that those who remain in the industry pay for those who leave it. However, this requires a start-up or first step, which can be financed with the management of the contribution or tax which should be established with certain criteria, and the presenter suggested two of them:

Homogeneous contribution, applied for the case of vessels that do not wish to leave the market, in which everyone contributes the same quota for the repurchase, which generally ends up with very small repurchases.

Heterogeneous contribution, in which some vessels are will benefit more than others if they stay in the fisheries, whether because of their efficiency, or because they receive greater profits per unit of catch.

In this regard, the presenter said that the most practical idea is that each member should pay based on changes in its catch (proportional collection).

Finally, the presenter presented a case study, which was based on public data taken at random to guarantee the confidentiality of the same, generating what the presenter described as a "synthetic fleet".

In this exercise, account was taken of large-sized vessels and catches of yellowfin, bugeye and skipjack, supposing different levels of profitability present in the synthetic fleet, where there are subprocesses of capacity purchases from withdrawn vessels, distributed among the remaining active vessels. Account was taken of the average catch between 2008 and 2011, for each vessel, supposing variations of 80%, 90%, or 100% of their capacity.

In financing terms, some topics of interest were presented in relation to aspects of perfect discrimination, in which it is supposed that vessels which remain in fishing will pay the same based on their profitability, and in parallel it was mentioned that this is not very practical, because one cannot know what their profit margin would really be. Further, for heterogeneous contributions, it was established at there are differences of profit per vessel, given variations in Volumes, which, if possible to evidence, would generate an appropriate repurchase. Finally, the homogeneous contribution was presented, and the argument was regardless of the efficiency of vessels at individual level, everyone would pay the same, and this would generate a lower repurchase since at the time of financing it, the homogeneous value would be established through the least profitable vessel that remains in the fishery, and this would limit the possibility of withdrawing capacity from the system.

Source: Taken from this presentation of Joshua Graff Zivin
Figure 7. Results of the synthetic fleet exercise, by variables.

In conclusion, the presenter said that repurchases could significantly reduce the size of a fishery, if access is limited and vessels are differentiated by profitability. Likewise, financing mechanisms and the homogeneous

focus will limit the size of the repurchase. Therefore, the heterogeneous focus applied in the practical exercise to the synthetic fleet is a good option, because it implies a potential contraction of 35-50% in the industry.

- **Questions and comments.**

There was a question as to the sensitivity of the model to vertical integration, should there exist ship-owners who own canning plants, and other parts of the value chain, where there might be additional capital, and which would become part of the equation, and where the profitability of the vessel is not the main source of production. Further, and without consideration of the difficulties of generating a closed scenario indicated for the success of the program, there is some consideration in relation to the exercise proposed, and to the "synthetic fleet", of cash projections, which indicate how much the owner of a vessel can expect to earn.

The presenter replied with regard to vertical integration that this was not included in the exercise. Nonetheless, if a fleet operating with a negative profit margin is found to have an objective of feeding a processing plant, this would imply a very high value to the company, but there would be a reward to stop doing so, and this would be obtained through the price which people are prepared to accept for the purchase of the goods.

With regard to discussion, it was noted that the intention would be to withdraw fishing rights, in addition to the vessel, sense if only the vessel is withdrawn, the fishing rights remain, and this would give rise to a replacement, perhaps even with a better is vessel; and no problem would be solved.

On the other hand, he indicated that when a vessel is associated with a company, its value increases more sharply than the net value of the vessel would do, and this gives rise to a problem which is difficult to deal with, since there would be questions as to how these points can be incorporated into the whole. Finally, there was a question with regard to the foregoing, saying that no progress can be made in a repurchase process, if the issue of the ownership of fishing rights was not made extremely clear.

The presenter said that there was great confusion with regard to rights of allocation, but when the idea is to sell or to buy and to remove vessels from the fishery, there would be a repurchase option for allocation, and this would be the same as for an individual quota. Further, if there are no rights available, catches would not be optimized.

Concern was expressed at the model, which was seen to be possibility of generating monopolies over time, with the elimination of the least efficient, or because people would withdraw from the fishery. The answer was that balances had to be struck in the system, and rules must be enforced to prevent this happening; but the real point at issue is the catch, and this would continue to be the same, regardless.

On the understanding that fishing rights belong to the State, and that the vessel belongs to the ship-owner, the question was asked as to how the profits would be divided from repurchases between the ship-owners and the government. The reply was that this is a complex issue, and unfortunately it was not taken into account in the model, since the rights and the vessel are not traded together, and the purchase of a vessel does not necessarily bring the right to fish with it. Nonetheless, the presenter said that when this happens, one possibility which may arise is that the government will be interested in selling that capacity.

25 APRIL.

The facilitator spoke of the working procedures for this day, designed for work in the completion of chartes, which should receive feedback from the participants. There was an explanation of the intention to review the IATTC 2005 Action Plan, for implementation, studying and complementing another chart which analyzed issues of interest in the context of this space. Finally, there was an invitation to focus on technical matters

and not on particular problems, in order to comply with the idea of the workshop.

5.1.13. General discussion

The general discussion was in parallel to the exercise of completing the chart, as mentioned above, so that based on this, account will be taken of the order and development of ideas. Next, the was the presentation of an extract of the discussions, identifying and grouping together the various recurrent points into topics, in relation to matters developed in the proposals. In addition, the chart produced is presented as an annex. (Annex 1.

5.1.14. Discussion of the proposal on the "Program for capacity regulation for purse-seine fishing vessels"

General comments

- An agreement should be developed to take account of analysis and identification of the most convenient percentage reduction level for possible adoption. It was emphasized that 10% is a figure which could be self-cancelling as a means of reducing capacity, due to the entry of new and more efficient vessels. Further, the proposal requires a long time to work properly, and therefore consideration should again be given to an increase in the percentage values, or to establish it as a complementary strategy. In addition to another proposal. In complement to this, there was a proposal to look for scientific support for the Commission, generating simulations projected for the definition of these values. Likewise, there was emphasis on the importance of considering fleet sizes in order to allocate these percentages, since the level of effect is not the same in large and small fleets.

- There was a request for greater clarity with regard to the type of capacity being referred to (active, inactive, total, etc).

- For a possible adoption of this proposal, and with the idea of closed capacity, there was a proposal that the reduction vessel-by-vessel would be open for other possible options which could be more convenient (by member, by country, by flag, etc).

- The higher the percentage proposed for the reduction of vessel capacity, there could be an inverse incentive which would delay or avoid their replacement. One possibility for the replacement of vessels not to be limited, is that transfers or allocations could be sought from other places, so that substitution was not limited.

- The evaluation is a pending exercise in finalizing progress towards the objective of reduction, and it is considered to be transverse to all the options presented. This must be the first step, before looking for the development of any proposal, and therefore the proposal was to speed up the process for proper implementation. Nonetheless, it was noted that the setting of a deadline for presenting results was a key point.

- It was stated that there must be a condition, contained in a report, to identify and underscore the need to generate mechanisms and spaces for the solution of pending problems (disputes and claims), as a condition to move forward in decision-making. Further, it was clarified that in the presentation of that report, political considerations might generate conditions for the development of technical proposals made in this workshop.

- There was a request for the possibility of developing a technical document, which will include the advantages and disadvantages of the proposals, and identify what is missing at various levels, such as economic considerations, for the best possible implementation of the proposals.

- It was considered that for this proposal, the advantage was that it was simple to apply, but the disadvantage was that it did not take account of the fact that new vessels are more modern, and that this represents greater fishing mortality, and therefore percentage value reduction should be analyzed. Further, it was explained that the proposal discouraged change-outs, given the penalties of reduction to be applied each time a vessel is replaced.

5.1.15. Discussion of proposal "Towards a new plan for capacity. Regulation in the Eastern Pacific".

- If a moratorium is to be defined, there must first be a plan for capacity reduction.

- It was explained that the moratorium could happen without the need to resort to programming capacity reduction (short-term freezing), and there was emphasis that the proposed was to freeze active capacity, in which vessels fishing between 2010 and 2012 would be taken into account.

- Likewise, there was emphasis that it was important to take account of the fact that it is not practical or realistic that the vessels to be considered in the proposal should not take account of more recent years, since there are records of more recent fishing activity for several vessels.

- Additionally, it is important to establish definitions of the vessels under the classifications of *active* and *inactive*. Hand-in-hand with this, there was a request for greater clarity to establish what type of active capacity is to be taken into account (present or retrospective)-in order to avoid problems of interpretation.

- It was pointed out that there is a list of active vessels and another list of inactive ones, but it was clarified that it was important to differentiate operating vessels, and among them, there needs to be an adjustment which will allow the identification and elimination of those which are no longer on the Register. Taking all this into account, it was clarified that there are active vessels, but that they have really not fished, or only fished very little, generating different categories of vessel, and therefore it is important to clarify in the proposal the criteria which would come into play in this regard.

- Given the lack of clarity evident in the general way in which several of the ideas have been developed, was a proposal to generate a glossary with the most important words, which would take account of key definitions (types of capacity, freezing, moratoria, fleet, transaction, etc), in order to avoid problems of interpretation.

- There was a proposal to consider the possibility of an exception to the moratorium for developing countries which have not put their capacities to work. There was a request for clarification as to how the issue of freezing would be applied, and there was reflection on how the rights of developing countries would apply in the case of moratorium.

- It was recommended that it might be a more useful to set a context for a moratorium, in stead of discussing the issue of capacity reduction as such.

5.1.16. Discussion of the proposal "Complementary use of rights-based regulation".

- Incentives are functioning today in favour of fishermen, and this is expanding effort. It is important to consider a number of aspects that control the situation, and not forget socio-economic issues which may be taken into account through flexible proposals.

- One disadvantage of model was pointed to, in relation to the management of individual quotas,

which would be the obligation of the flag State in relation to the allocations of quotas by the Commission, thus generating challenges in implementation and control to be discussed.

- There was discussion of the disadvantages of the model with regard to costs in fleets whose catches have historically been in deep-water, and the difficulties which it would mean to recover the deep-water TAC once it is lost.

- In addition to this idea, there was mention of concern at a proposal regarding countries with small fleets and low operating levels, and the way in which they might be adversely affected in the allocation of TAC's, with the idea of damage which would disable the operational capacity of a vessel, and prevent them from being sure of a deep water TAC.

- The proposal may be limited compliance due to the great number of variables to take into account, particularly vessels, and their scheme of grouped catches.

- In the particular case of the resource, concern was expressed at the proposal for undifferentiated joint management of the species mentioned, which could cause imbalances in some of them.

5-1.17 Discussion of the proposal. "Bioeconomic balances between techniques, and the dynamics of the purse-seine tuna fishing fleet"

- In economic terms, it is fundamental to have the right incentives, which are the key to the best application of the proposal. There was a proposal to make a payment to stop vessels fishing in a particular place, in the case of bugeye, and to see how this would be reflected in long-line fishing, which could be achieved from some kind of simulation.

- One requirement to emphasize in the model is that there must exist a clearly quantified total permissible capacity, which would allow appropriate applicability of the model.

- There are important variables in the seasonality of the resource, to which the market responds in a particular way. Therefore, there must be an analysis of how these matters of price fluctuation can be handled, with the idea of depending temporarily on frozen stocks.

- It is important to identify clearly which actors are incorporated into this model.

- There must be conditions, and a quota framework established with clear rules, which will allow the preparation of management tools for subsequent implementation.

- The sovereignty of sovereign states must be included in the model, along with political types of consideration and how these considerations might play a role in applicability.

- There should be clarification as to whether participation the model is mandatory or voluntary, and who will be responsible for regulating and administering the options chosen. Not all programs will require an IATTC Resolution, but they will all need some specific operating guides.

5.1.18. Discussion of the proposal "Repurchases in the BPO".

- One important problem was identified: the need to solve certain matters for the possible implementation of the model - the former, designed to freeze the fleet with/without the latter, designed to resolve weaknesses detected in the prison the Registers and Resolutions, since there may be the case of replacement of old vessels which would reactivate inactive capacity.

- There was discussion of the possible consideration of repurchases based on catches, taking account of differences between developed and developing countries. It was stated that adjustments can be made to the proposal, in order to generate incentives which would take additional account of catches.

5.1.19. Other matters.

- There was discussion about remnant capacity, which has generated certain management problems in the past. Based on this, there was a proposal to consider a recommendation in which account would be taken of remnants in the model of capacity reduction by vessels, in the event that a new vessel wished to be admitted, where the reductions proposed could means that the admission of the new vessel would not be viable, because it was larger than a certain size. So, the intention would be to avoid the limitations to the admission f admitting larger vessels, without going against the capacity reduction sought.

- With regard to capacity, it was said that the Secretariat makes an annual estimate of active, inactive and operational capacity of the fleet. The Secretariat can prepare a document which will present a situation report on the vessels evaluationed.

- The long-line fleet capacity has been estimated, but needs to be reviewed.

- There was a proposal that the target value for capacity of 150,000 cubic metres should be subject to review and up dating with an adjustment based on stock levels. Account should be taken of a range of variables and elements, such as deficiencies of the fleet and population changes, which are to be regularly updated. This would be so that the follow-up would act as support for changing the target values established.

- For the final part of the workshop, work was done on Chart 2, in relation to adjustments to the Commission's 2005 Action Plan, and its different phases (Annex 2).

5.1.20. General recommendations.

Next, there was a summary presentation of the most important aspects of the presentations, proposals, and subsequent discussions:

- The workshop was developed on the basis of the problems identified as general, of overexploitation of tuna fishing resources. Currently, there is clear evidence of exploitation in populations of bugeye, risk and populations levels for yellowfin, and gaps with regards to populations of skipjack, present in the EPO, which shows the need to generate management strategies that will reduce and allow the sustainable use of these resources over time.

- Given the foregoing, a range of proposals were produced, with models designed to deal with this difficulty. Nonetheless, there was generalized agreement among the participants that there was no single proposal which could deal with all aspects of such a complex problem. In this, it was considered that these could be approached,, extracting the strengths of each of them, possibly in order to create an ideal model which would take account of different proposals, or a particular model could be strengthened. The need was identified to generate spaces in future to analyze specific issues arising in each of them.

- There was a general agreement on the need to review and provide some prompt conclusion in the process of the evaluation of vessels, to provide clear and updated identification as to the real availability of hold capacity in the EPO. This would allow the generation of a first input for possible

implementation for a model, in transverse form.

- During the course of the workshop, there was constant evidence of the need to make it clear that the must exist recognition in relation to the special condition of coastal developing countries, and conditions to discuss and analyze any type proposal and model which falls in the framework of the objective of hold capacity reduction.

- It was recognized that the issue of disputes may be an impediment to achieve any real progress.

- It was noted that before thinking of any proposal, account must necessarily be taken of the settlement of conflicts now pending for more than 10 years. However, these solutions cannot imply any increase in capacity, and should be resolved by consensus. It is fundamental to establish a procedure that framework of time and form, which will reopen and settle pending disputes.

- Likewise, there was general agreement, across all the proposals, with regard to ambiguity and lack of charity in certain principles and key definitions for a proper discussion and negotiation of the proposals. In this sense, it was recommended that a glossary be prepared to deal with this failing, to incorporate terms associated with the various types of capacity, limits, quotas, and rights - amongst other concepts - in order to solve problems associated with interpretation.

  Given the associated uncertainties and problems, it was recommended that the Commission place emphasis on remedying the lack of specific guidelines, with respect to which the responsible organizations would promptly report changes and fluctuations in the hold capacity within their tuna fishing fleets in EPO.

- It was emphasized that them must be real intentions on the part of the various actors to deal in good faith, in order to promote options are serious options and alternatives, in practical terms, in which losses or sacrifices may have to be made, in the name of achieving a the objective in capacity reduction.

- Based on the claims, disputes and demands for increased capacity by coastal developing States, it was considered advisable to study the possibility of generating a scheme which would allow the presentation of strategies or autonomous management plans to be evaluated, in which there would be a definition of how the development of national fleets and/or activities related to resource management could be projected, in accordance with needs for their conservation and sustainable use, to be studied within the Commission.

- It was noted that there was a very valuable asset inside IATTC, associated with the Regional Vessel Register, in which management of tuna resources, and its members, as a closed mechanism which facilitates the implementation of several proposals made. However, the review and adjustments required to strengthen this tool are pending.

- In general, though it was identified that there was a need to prepare a technical report to identify the most important aspects and advantages and disadvantages of the proposals made during the workshop. This would serve as a basis for discussion within IATTC, and subsequently, within the Standing Committee´s Working Group for Carrying Capacity , on the viability of models which would achieve the objective of solving the current problem of excess hold capacity in the EPO.

- There was emphasis on the importance of creating and guiding incentives to allow an increase in reproductive biomass of species fished, with special emphasis on bugeye (offsets between purse-seine and long-line fleets), not only from a biological point of view and in terms of conservation, but also from social and economic point of view; so that they can all be formally

integrated into the tropical tuna fisheries management system in the EPO.

- For the proper working of the action plan for the Commission's Hold Capacity Action Plan, more work needs to be done, since the version so far developed does not contain steps or strategies to arrive at a given target.

- Production and economic yield must be maximized (with sustainable equilibrium, to avoid managing the resource to the limits of its possibilities), by homogenizing the rules. It was recommended that a system of equitable rules be constructed for the industry and for the social component.

- It was suggested that the study be made of the need to generate mechanisms to allow progressive reduction of the factors which encourage overcapacity, including subsidies, and a substantial reduction of fleet capacity in the main international fisheries were urgent needed, with priorities designed to attend to populations of cross-Frontier fish which are highly migratory deep-sea fish, and over-fished populations.

- With regard to proposals presented, it was indicated that confiscation is principal mechanism used to achieve reductions, and this is an issue of great importance of greatest importance, because it would affect one group of actors more than another. In this sense, there was a proposal to create the possibility of presenting schemes by the members themselves, in order to propose strategies appropriate to the achievement of objectives, thus avoiding the imposition of regulations.

List of Participants

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NGOs: Vishwanie Maharaj, Luis Alonso Zapata, Verónica Robledo (WWF).

Staff IATTC: Guillermo Compeán, Deriso Rick, Mónica Galván, Jean-Francois Pulvenis.

ANNEX 1: FOLLOW-UP TO THE ACTION PLAN

ANEXO I: SEGUIMIENTO AL PLAN DE ACCION

PHASE / FASE	ELEMENT / ELEMENTO	PLAN DE ACCIÓN PROGRESS / AVANCE	RECOMMENDED FOLLOW-UP ACTIONS / ACCIONES DE SEGUIMIENTO RECOMENDADAS
I	Measurement of Fishing Capacity Medición de la Capacidad de Pesca	The Secretariat monthly estimates active, operating and inactive capacity La Secretaría mensualmente estima la capacidad activa, en funcionamiento e inactiva.	The Secretariat prepare an a updated list of vessels in the Regional Register, indicating, when appropriate, those vessels whose their well volume must still be confirmed. La Secretaría prepare una lista actualizada de embarcaciones en el Registro Regional, indicando cuando proceda, aquellas embarcaciones cuyo volumen de bodega queda aún por confirmar.
	Diagnosis and assessment Diagnóstico y evaluación	Target capacity for the PS fleet has been recently estimatedTarget levels range from 167.000 to 171.000 m3.The target level established by the Commission is 158,000 m^3. La capacidad objetivo de la flota de cerco ha sido estimada recientemente los niveles objetivo oscilan entre 167.000 a 171.000 m3. El nivel objetivo establecido por la Comisión es de 158.000 m^3 Target fishing capacity for longline and other fleets has not been reviewed. La capacidad de pesca objetivo de la flota palangrera y otras no ha sido revisada	Target levels should continue to be estimated periodically, taking into account stock status and fleet fishing efficiency. Los niveles objetivo deberían continuar siendo evaluados periódicamente, , tomando en cuenta inter alia el estado de las poblaciones y la eficiencia de pesca de la flota.

ANEXO I: SEGUIMIENTO AL PLAN DE ACCION

PLAN DE ACCIÓN			
PHASE FASE	ELEMENT ELEMENTO	PROGRESS AVANCE	RECOMMENDED FOLLOW-UP ACTIONS ACCIONES DE SEGUIMIENTO RECOMENDADAS
I	Measurement of Fishing Capacity Medición de la Capacidad de Pesca	The Secretariat monthly estimates active, operating and inactive capacity La Secretaría mensualmente estima la capacidad activa, en funcionamiento e inactiva.	The Secretariat prepare an a updated list of vessels in the Regional Register, indicating, when appropriate, those vessels whose their well volume must still be confirmed. La Secretaría prepare una lista actualizada de embarcaciones en el Registro Regional, indicando cuando proceda, aquellas embarcaciones cuyo volumen de bodega queda aún por confirmar.
	Diagnosis and assessment Diagnóstico y evaluación	Target capacity for the PS fleet has been recently estimatedTarget levels range from 167.000 to 171.000 m3.The target level established by the Commission is 158,000 m^3. La capacidad objetivo de la flota de cerco ha sido estimada recientemente los niveles objetivo oscilan entre 167.000 a 171.000 m3. El nivel objetivo establecido por la Comisión es de 158.000 m^3 Target fishing capacity for longline and other fleets has not been reviewed. La capacidad de pesca objetivo de la flota palangrera y otras no ha sido revisada	Target levels should continue to be estimated periodically, taking into account stock status and fleet fishing efficiency. Los niveles objetivo deberían continuar siendo evaluados periódicamente, , tomando en cuenta inter alia el estado de las poblaciones y la eficiencia de pesca de la flota,

PLAN DE ACCIÓN			
PHASE FASE	ELEMENT ELEMENTO	PROGRESS AVANCE	RECOMMENDED FOLLOW-UP ACTIONS ACCIONES DE SEGUIMIENTO RECOMENDADAS
I	Regional Vessel Register Registro Regional de Buques	The RVR has been established by IATTC (C-00-06) and its application in solving C-02-03. There has been slow progress in settling disputes and other claims that have resulted in increased capacity to the PS fleets El Registro de Buques ha sido establecido por CIAT (C-00-06) y su aplicación en la resolución C-02-03. Los avances en la resolución de disputas y otros reclamos han sido lentos, resultando en un incremento de la capacidad para las flotas de cerco.	The resolution of disputes and pending claims are a high priority. The Commission should consider the proposal which was submitted in 2012 for the establishment of a Panel to settle these disputes consistent with article XXV of the Antigua Convention. La resolución de disputas y reclamos pendientes son de alta prioridad. La Comisión debería considerar la propuesta presentada en 2012 para establecer un Panel para resolver estas disputas de manera consistente con el artículo XXV de la Convención de Antigua.,
II	PS Capacity limits Límites de capacidad de cerqueros	Capacity limits have been established by C-02-03. But the capacity has been growing steadily. Se han establecido límites de capacidad en C-02-03, pero la capacidad ha estado creciendo.	The Commission should consider strengthening Resolution C-02-03 in order to ensure that capacity is effectively frozen at the appropriate level to be decided. La Comisión debería considerar fortalecer la Resolución C-02-03 para asegurar que la capacidad sea realmente congelada al nivel apropiado por decidir. Further analysis of different options for reduction of capacity: vessels by vessels/proportionate reduction (country by country) and other options, e.g. establishment of TACs. Mayor análisis de diversas opciones para reducir la capacidad: embarcación por embarcación, reducción proporcional (país por país) y otras opciones como fijar capturas totales permisibles –CTP-

PLAN DE ACCIÓN			
PHASE FASE	ELEMENT ELEMENTO	PROGRESS AVANCE	RECOMMENDED FOLLOW-UP ACTIONS ACCIONES DE SEGUIMIENTO RECOMENDADAS
II	PS Capacity limits Límites de capacidad de cerqueros	Capacity limits have been established by C-02-03. But the capacity has been growing steadily. Se han establecido límites de capacidad en C-02-03; pero la capacidad ha estado creciendo.	The Commission should decide on a time frame for the reduction and level of reduction, taking into account status of stocks. La Comisión debería decidir sobre el plazo y el nivel de la reducción, tomando en cuenta el estado de las poblaciones. The Commission should consider compensatory measures to avoid over exploitation of stocks based on scientific advice if no reduction of capacity agreed/implemented. La Comisión debería considerar medidas compensatorias para evitar la sobreexplotación de poblaciones con base en asesoría científica si no se acuerda/implementa una reducción de capacidad. The Commission should take into account the special situation of developing coastal states. La Comisión debería tomar en cuenta la situación especial de los países ribereños en desarrollo.
	LL Capacity limits Límites de capacidad de palangreros		Collection of missing information in particular on the operation of the fleet. Recopilación de información faltante en particular sobre la operación de la flota.

PLAN DE ACCIÓN			
PHASE FASE	ELEMENT ELEMENTO	PROGRESS AVANCE	RECOMMENDED FOLLOW-UP ACTIONS ACCIONES DE SEGUIMIENTO RECOMENDADAS
III	Economic Incentives Incentivos económicos	Economic conditions have allowed an increase of capacity Condiciones económicas han permitido un incremento en la capacidad	The Commission should develop a plan for the implementation of Phase III of the Action plan, taking into consideration various options including the possibility of establishing ITQs, and the elimination of subsidies for shipbuilding and others which contribute to overcapacity La Comisión debería desarrollar un plan para la implementación de la Fase III del Plan de Acción, tomando en consideración diversas opiniones incluyendo, la posibilidad de establecer cuotas individuales transferibles (CIT) y la eliminación de subsidios para la construcción de buques y otros que contribuyan a la sobrecapacidad

ANNEX 2 : CHART FOR ´PROPOSALS

ANEXO II: MATRIZ DE PROPUESTAS

CHART FOR PROPOSALS /MATRIZ DE PROPUESTAS									
EFFECT IN REDUCTION EFECTO EN LA REDUCCION							PRIO-RITY PRIO-RI-DAD	ADVANTA-GES VENTAJAS	DISADVANTAGES DESVENTAJAS
TOOLS HERRAMIENTAS	SHORT TERM CORTO PLAZO	MEDIUM TERM MEDIANO PLAZO	LONG TERM LARGO PLAZO	CONDITIONS CONDICIONES	NEEDED ACTIONS ACCIONES REQUE-RIDAS	ADDITIONAL IN-FORMATIONEEDED NECESIDAD DE INFORMACIÓN ADI-CIONAL			
PROGRES-SIVE RE-DUCTION (VESSEL BY VES-SEL) REDUC-CIÓN PROGRE-SIVA (BUQUE POR BU-QUE)			X	LEVEL AGREEMENT IN THE % OF REDUC-TION ACUERDO SOBRE % NIVEL DE RE-DUCCIÓN	NEGOTIATION TO DEFINE WHICH VES-SELS THE RE-DUCTION WILL APPLY NEGOCIACIÓN PARA DEFINIR A CUÁLES BUQUES APLI-CARÁ LA RE-DUCCIÓN SUPPLEMEN-TARY ANALYSIS OF METHO-DOLOGICAL ALTERNATIVES, FOR EXAMPLE (COUNTRY BY COUNTRY) ANÁLISIS SU-PLEMENTARIOS DE METODO-LOGÍAS ALTER-NATIVAS POR EJEMPLO (PAÍS POR PAÍS)	TIME EVALUATION NEEDED TO REACH THE TARGET CAPACITY EVALUACIÓN DEL TIEMPO NECESARIO PARA ALCANZAR CA-PACIDAD META TONNAGE MEASURE-MENT OF SHIPS ARQUEO DE BUQUES TAKE INTO CONSIDE-RATION, THE SPECIAL CONDITIONS OF COUNTRIES THAT ARE DEVELOPING THEIR FISHING INDUSTRY TOMAR EN CUENTA LAS CONDICIONES ESPECIALES DE PAISES QUE ESTÁN EN DESA-RROLLO DE SU INDUS-TRIA PESQUERA		SIMPLE IMPLE-MENTATION MUY SENCILLA DE IMPLEMEN-TAR TIME SAVINGS AHORRO DE TIEMPO	SLOW REDUCTION (EFFICACY PROBLEMS) REDUCCIÓN MUY LENTA (PROBLEMAS DE EFICACIA) NO REDUCTION OF FISHING MORTALITY DUE TO INCREASED EFFICIENCY OF NEW VESSELS NO REDUCCIÓN DE LA MOR-TALIDAD POR AUMENTO DE LA EFICIENCIA EN LOS EMBARCA-CIONES NUEVAS NEGATIVE INCENTIVE TO RE-DUCE CAPACITY WHEN REPLA-CING OLD VESSELS INCENTIVO NEGATIVO POR DISMINUIR CAPACIDAD AL REMPLAZAR EMBARCACIONES VIEJAS NEGATIVE INCENTIVE TO RE-DUCE AND SEAL HOLDS ON SECOND-HAND VESSELS INCENTIVO NEGATIVO POR RE-DUCCIÓN Y SELLAMIENTO DE BODEGAS A EMBARCACIONES DE SEGUNDA MANO FLEET ASYMMETRIES ASIMETRÍA EN LAS FLOTAS

CHART FOR PROPOSALS /MATRIZ DE PROPUESTAS									
EFFECT IN REDUCTION EFECTO EN LA REDUCCION							PRIO-RITY PRIO-RI-DAD	ADVANTA-GES VENTAJAS	DISADVANTAGES DESVENTAJAS
MORA-TORIUM (FREEZING CAPACITY TO THE PRESENT LEVEL – AS A FIRST STEP TOWARDS CAPACITY REDUC-TION) MORA-TORIA (CONGE LAR CA PACIDAD A NIVEL ACTUAL – COMO PRIMER PASO PARA REDUCIR LA CAPA CIDAD	X			AGREEMENT TO STOP ANY IN CREASE OF CAPACITY ACUER-DO PARA DETENER CUALQUIER AUMENTO DE CAPACI-DAD	1 NEGOTATION TO RESOLVE ALL CAPACITY CLAIMS AND DISPUTES WITHOUT INCREASING CAPACITY 1. NEGOCIA-CION PARA RESOLVER TODOS LOS RECLAMOS Y DISPUTAS SIN AUMENTAR LA CAPACIDAD 2. NEGO-TIATION OF AGREED SCHE-DULE AND TARGET FOR REDUCING CAPACITY 2. NEGOCIA CION SOBRE CRONOGRAMA Y META DE RE-DUCCION DE CAPACIDAD 3. COMPLETE AND CONCLU-DE THE CON-FIRMATION OF VOLUME HOLD 3.COMPLETAR Y CONCLUIR LA CONFIR-MACION DEL VOLUMEN DE BODEGA	PRECISE ASSESSMENT NEED OF THE PRESENT CAPACITY LEVEL (TA-KING INTO ACCOUNT CLAIMS AND DISPUTES) NECESIDAD DE UNA EVALUACIÓN PRECISA DEL NIVEL ACTUAL DE CAPACIDAD (TOMAN-DO EN CUENTA LOS RECLAMOS Y SOLICI-TUDES) TO DEFINE THE FRA-MEWORK FOR THE MORATORIUM APPLI-CATION DEFINIR EL MARCO DE APLICACIÓN DE LA MORATORIA TO DEFINE THE TIME FOR MORATORIUM APPLICATION DEFINIR EL TIEMPO DE APLICACIÓN DE LA MORATORIA TO GUARANTEE SPE-CIAL CONDITIONS FOR DEVELOPING COASTAL STATES GARANTIZAR CONDI-CIONES ESPECIALES A LOS PAÍSES RIBEREÑOS EN VÍA DE DESARRO-LLO			NOT TAKE ACCOUNT OF THE NEEDING TO SETTLE CLAIMS AND REQUESTS NO SE TIENE EN CUENTA LA NECESIDAD DE RESOLVER RE-CLAMOS Y SOLICITUDES

CHART FOR PROPOSALS /MATRIZ DE PROPUESTAS									
	EFFECT IN REDUCTION EFECTO EN LA REDUCCION						PRIO-RITY PRIO-RI-DAD	ADVANTA-GES VENTAJAS	DISADVANTAGES DESVENTAJAS
ALLOCA-TIONS (TAC) AS A TOOL TO PROMOTE THE RE-DUCTION OF CAPA-CITY ASIGNA-CIONES (CTP) COMO HERRA-MIENTA PARA PROMO-VER LA REDUC-CIÓN DE LA CAPA-CIDAD		X		1.SELECTION OF TARGE-TED STOCKS 1.SELECCIÓN DE POBLA-CIONES META 2. TERMS OF REFERENCE DEFINITION 2. DEFINI-CIÓN DE LOS PARÁ-METROS DE REFERENCIA	NEGOTIATION TO DEFINE EEZ-TAC AND HS-TAC NEGOCIACIÓN PARA DEFINIR CTP-ZEE Y CTP-AM	1. PRECISE ASSESS-MENT NEEDED OF EEZ AND HS CATCHES DURING REFERENCE PERIOD 1.NECESIDAD DE UNA EVALUACIÓN PRECISA DE CAPTURAS EN ZEE Y AM DURANTE PE-RÍODO DE REFERENCIA 2. EFFECTS SIMULA-TION OF ALLOCATION SCHEME ON THE FLEET CAPACITY 2.SIMULACIÓN DE EFECTOS DEL SISTEMA DE ASIGNACIÓN SO-BRE LA CAPACIDAD DE LA FLOTA 3. DETAILED STUDY THE TO REVIEW THE ON DETAILS OF THE PROPOSAL 3. ESTUDIO DE LOS DETALLES PARA EXA-MINAR A DETALLE LA PROPUESTA		GRADUAL CAPA-CITY REDUCTION REDUCCIÓN PAULATINA DE LA CAPACIDAD FLEXIBLE PRO-GRAMS DE-SIGNING TO TAKE ACCOUNT SOCIAL CONSI-DERATIONS FLEXIBILIDAD EN EL DISEÑO DE LOS PRO-GRAMAS PARA EL RECONO-CIMIENTO DE CONSIDERACIO-NES SOCIALES POSITIVE INCEN-TIVES [TO MINIMIZE OPERATING COSTS] INCENTIVOS POSITIVOS [MINIMIZAR COSTOS OPERA-TIVOS] NO EXCLUSION NEGOTIATION NO NEGOCIA-CIÓN DE EXCLU-SIONES	UNEQUAL DISTRIBUTION OF SPECIES IN THE EPO DISTRIBUCION NO HOMOGÉ-NEA DE LAS ESPECIES EN EL OPO POSSIBLE OVEREXPLOITATION OF ONE SPECIES POSIBLE SOBREEXPLOTACION DE UNA DE LAS ESPECIES IMPLEMENTATION AND EN-FORCEMENT PROBLEMS PROBLEMAS DE IMPLEMENTA-CIÓN Y CUMPLIMIENTO HIGH COST FOR VESSELS WITH HISTORICAL CATCHES IN THE HIGH SEAS MAYOR AFECTACIÓN PARA LA EMBARCACIÓN QUE SU CAP-TURAS HISTÓRICAS HAN SIDO EN ALTAMAR COUNTRIES WITH SMALL EEZS THAT FISHAT HIGH SEAS PAÍSES CON ZEE PEQUEÑA QUE REALIZAN LA ACTIVIDAD DE PESCA EN ALTAMAR

CHART FOR PROPOSALS /MATRIZ DE PROPUESTAS									
EFFECT IN REDUCTION EFECTO EN LA REDUCCION							PRIO-RITY PRIO-RI-DAD	ADVANTA-GES VENTAJAS	DISADVANTAGES DESVENTAJAS
						4. TO ESTABLISH THE LENGHT AND INCEN-TIVES ACCORDING TO THE QUOTA 4. DETERMINAR LA DURACIÓN DE LA CUOTA Y DFTERMINAR LOS INCENTIVOS DE ACUERDO A LA CUOTA 5. TO ANALYZE THE QUOTA SYSTEM, RE-COMENDING DESIGN OPTIONS TO SOLVE THE IDENTIFIED PRO-BLEMS 5. ANALIZAR EL DI SEÑO DEL SISTEMA DE CUOTAS Y RECO-MENDAR OPCIONES CARACTERÍSTICAS DE DISEÑO PARA RESOL-VER LOS PROBLEMAS IDENTIFICADOS		FISHING RIGHTS TRANSFER TRANSFERENCIA DE DERECHOS DE PESCA OBTAINING MAXIMUM PRO-FITS OBTENCIÓN DE MÁXIMA GA-NANCIAS	
TRADEO-FFS COMPEN-SACIONES				CLEAR ECO-NOMIC BE-NEFITS FOR ALL POTEN-TIAL PARTI-CIPANTS IN THE SCHEME BENEFICIOS ECONÓMI-COS CLAROS PARA TODOS LOS PARTI-CIPANTES POTENCIA-LES DEL SISTEMA	PARTICIPATING GEARS AND/OR FLEET DE-FINITION THAT MAY PARTICI-PATE IN THE TRADEOFFD SCHEMEL. 1. DEFINICIÓN DE ARTES Y/O FLOTAS QUE PODRÍAN PAR-TICIPAR EN EL SISTEMA DE COMPENSA-CIÓN				

CHART FOR PROPOSALS /MATRIZ DE PROPUESTAS									
EFFECT IN REDUCTION EFECTO EN LA REDUCCION							PRIO-RITY PRIO-RI-DAD	ADVANTA-GES VENTAJAS	DISADVANTAGES DESVENTAJAS
		X		TO DETER-MINE THE QUOTA SYSTEM TO IMPLEMENT THE MARKET DETER-MINAR SISTEMA DE CUOTAS PARA IMPLE-MENTAR EL MERCADO	2. AGREEMENT ABOUT THE ELEMENTS THAT CAN BE TRADED OFF 2. ACUERDO SOBRE QUÉ PUEDE SER INTERCAMBIA-DO 3. DETERMINE THE COM-PENSATION ACTORS 3. DETER-MINAR LOS ACTORES DE LA COMPEN-SACIÓN 4. ACTION GUIDE FOR MEMBERS 4. GUÍA DE ACCIÓN PARA LOS MIEM-BROS	TO PERFORM SIMU-LATIONS, SIMILAR TO "CORRALITO" BUT WITH COMPENSATION REALIZAR SIMULA-CIONES SIMILAR A UN CORRALITO PERO CON COMPENSACIÓN		COMPLEMEN-TARY MEASURE COMPLEMEN-TARIEDAD DE LA MEDIDA LOOKING TO INCREASE THE ECONOMIC BENEFITS TO PARTICIPANTS BUSCA AUMEN-TAR LOS BENE-FICIOS ECONÓ-MICOS DE LOS PARTICIPANTES	EXTERNALITIES COULD AFFECT THE INCENTIVES INCLUDED IN THE SYSTEM EXTERNALIDADES PODRIAN AFECTAR LOS INCENTIVOS QUE SE INCLUYAN EN EL SISTEMA LEGAL CONSTRAINTS (INALIE-NABLE SOVEREIGN RIGHTS) LIMITACIONES JURIDICAS (DE-RECHOS SOBERANOS INALI-NABLES)

CHART FOR PROPOSALS /MATRIZ DE PROPUESTAS									
	EFFECT IN REDUCTION EFECTO EN LA REDUCCION						PRIO-RITY PRIO-RI-DAD	ADVANTA-GES VENTAJAS	DISADVANTAGES DESVENTAJAS
BUYBACKS RECOM-PRAS		X		AVAILABIL-TY OF THE NECESSARY FUNDS DISPONIBL-LIDAD DE FONDOS NECESARIOS CREATING INCENTIVES CREACIÓN DE INCENTI-VOS	DEFINITION OF VESSELS AND/ OR RIGHTS SUBJECT TO BUYBACKS DEFINICIÓN DE LOS BARCOS O DERECHOS SUJETOS A RECOMPRA TO DEFINE THE CONDITION OF THE FISHERY RIGHT CONDICIÓN PARA DERE-CHO DE PESCA NEED TO DE-FINE CRITERIA FOR AN EFFEC-TIVE SYSTEM NECESIDAD DE DEFINIR LOS CRITERIOS PARA QUE EL SISTEMA SEA EFECTIVO			EFFECTIVE CAPA-CITY REDUCTION REDUCCIÓN EFECTIVA DE LA CAPACIDAD	RESOLVE DIFFERENCES BE TWEEN EFFECTIVE AND POTEN-TIAL CAPACITY RESOLVER DIFERENCIAS ENTRE CAPACIDAD EFECTIVA Y PO-TENCIAL EXPENSIVE SYSTEM SISTEMA COSTOSO
OTHERS OTROS									

ANTHONY LETTS
Traductor Juramentado
Res. 139/80 Minjusticia