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DOCUMENT SAC-06 INF-B
SCENARIOS OF THE IMPACT ON THE TUNA RESOURCES IN
THE EPO OF VARIOUS INCREASES IN FLEET CAPACITY

At its 11th meeting in April 2011, the Permanent Working Group on Fleet Capacity made a recommendation to the Commission that asked the Director to “prepare a document that will assist the deliberations of the meeting of the Commission in 2011, and that presents, in a preliminary manner, the different scenarios of the impact on the conservation of the resource of tuna and tuna-like species in the EPO in relation to the requests detailed in subparagraphs a and c of paragraph 1, and the Scientific Advisory Committee will be asked to examine, before the annual meeting of the Commission in 2012, that document, offering its comments and advice to the Commission”.

Accordingly, the IATTC staff prepared a document (SAC-02 INF A), with scenarios related to requests for capacity made at that meeting. In the subsequent years, the staff has updated this document in order to take into account the changes in the capacity of the fleet, in particular as a result of the process of addressing the various capacity requests made by Members and of resolving pending capacity disputes.

The purpose of the present document is to reflect the decisions that the Commission made at its 88th meeting in October 2014, concerning the solution of several capacity requests or disputes and the identification of all pending cases that the Commission has agreed to consider anew at its 89th meeting in June 2015.

As before, in evaluating the impact of the increases in capacity that would result from resolving these cases (both those already decided upon and those left pending) and in developing several scenarios, the staff assumed that the Commission would continue to implement area closures of duration sufficient to reduce fishing effort (F) to a level corresponding to the maximum sustainable yield (MSY) of the tuna stocks. The calculations for estimating the duration of closures assume that a fractional increase (or decrease) in capacity equals the same fractional increase/decrease in fishing mortality. The evaluation of a conservation proposal presented at the 77th meeting of the Commission in March 2008 (Document [IATTC-77-04](#)) shows that the fraction of the year open to fishing closely matches the fractional change in fishing mortality. The method used in this document differs from the method in IATTC-77-04 in that the incremental increase in capacity is assumed to occur this year, which allows the usual closure calculation to be made with any given hypothetical increase in capacity. The method employed modifies the F multiplier from the yellowfin and bigeye stock assessments to adjust for changes in capacity, as follows:

$$F \text{ multiplier adjusted for new capacity} = F \text{ multiplier from stock assessment} * (\text{average recent three-year capacity}) / (\text{current capacity} + \text{new capacity}).$$

Figure 1 shows the additional days of closure that would be needed to offset increases in the operative capacity of the purse-seine fleet. There is a slight curvature to the relationship in Figure 1, but a straight line approximation fits the curve reasonably well. The straight line best fit corresponds to an additional 1.06 days of closure for every 1,000 m³ increase in capacity.

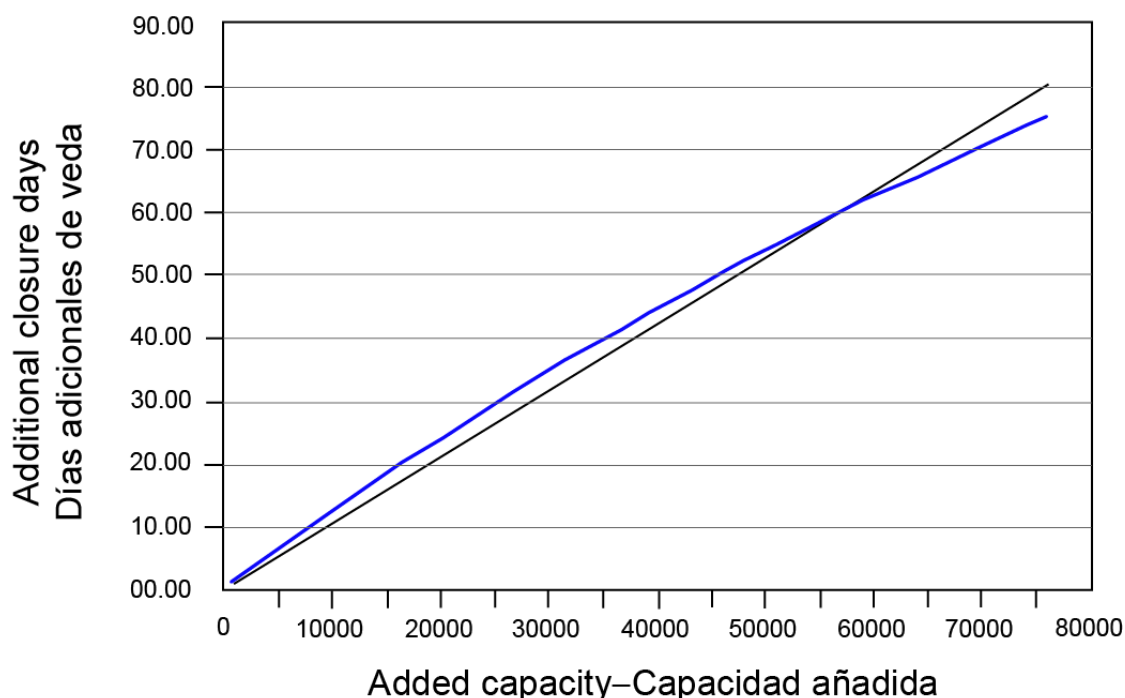


FIGURE 1. Effect of increases in purse-seine fleet capacity on the duration of fishery closures.

Other factors	m ³	Date
Total current available capacity ¹	18,039	30 April 2015
Total inactive / sunk capacity	5,743	30 April 2015
Difference between Operative capacity and Current authorized “active” capacity ¹	35,987	30 April 2015
Total	59,769	

The scenarios take into consideration four categories of pending cases that the Commission could not resolve at its 88th meeting in October 2014 due to a lack of consensus and that it has agreed to consider anew at its 89th meeting in July 2015. These four categories are:

- Requests by coastal Members based on the footnote to [Resolution C-02-03](#);
- Claims arising from disputes resulting from capacity transfers and/or differences in the implementation of Resolution C-02-03;
- Requests for new increases in capacity by EPO coastal and non-coastal countries.
- Other cases, including cases such as new vessel measurements, national administrative errors, etc.

The pending cases in each of these four categories, are:

Country	Cubic meters	Details
a. Requests based on footnote in Resolution C-02-03		
Peru	5,851	Part of 14,046 m ³ in footnote to Resolution C-02-03. Already granted 5,000 m ³ in 2014.
Costa Rica	7,058	Part of 16,422 m ³ in footnote to Resolution C-02-03
SUBTOTAL	12,909	
b. Disputes		
Guatemala	3,762	Recover 3,762 m ³ of capacity, claimed since 2003

¹ Includes the capacity corresponding to the cases that were resolved by the Commission in 2014

		<i>Albacora Catorce</i> (1,881 m ³) (Operating as <i>Guayatuna Dos</i> in Ecuador; listed twice on Regional Register) <i>Albacora Doce</i> (1,881 m ³) (Operating as <i>Guayatuna Uno</i> in Ecuador; listed twice on Regional Register)
Venezuela	1,668	<i>Napoleon I</i> (1,668 m ³). Pending: 3,805 m ³ from vessels <i>Jane IV</i> (1,250 m ³), <i>Baraka</i> (1,287 m ³), and <i>Templario I</i> (1,268 m ³), might be requested in the future if the status of the tuna stocks allows it. All currently on Regional Register under Panamanian flag
Bolivia	5,830	Capacity which was allegedly transferred to Colombia without Bolivia's approval.
Vanuatu	1,358	For the vessel <i>Esmeralda C</i> , which was allegedly transferred to Panama without Vanuatu's approval.
SUBTOTAL	12,618	
c. New requests		
El Salvador	2,105	
Nicaragua	4,200	
Honduras	3,000	
SUBTOTAL	9,305	
d. Other cases		
Ecuador	220	<i>Eli</i>
	176	<i>Ljubica M.</i>
	908	<i>Monteneme</i>
	1,534	<i>Isabel IV</i> (never on the Regional Register)
	281	<i>Maria del Mar</i> (never on the Regional Register)
	850	<i>Victoria A.</i> (never on the Regional Register)
SUBTOTAL	3,969	
TOTAL	38,801	

Another element that is not included fully in the current (**26 April 2015**) operative capacity of **236,089 m³** is the special allowance in paragraph 12 of Resolution C-02-03, which allows a maximum of 32 United States purse-seine vessels that usually fish west of 150°W to make a single trip of no more than 90 days in any one year². The average capacity of Class-6 vessels in the EPO is 1,300 m³, and they make on average 4-5 trips per year. Therefore, if all 32 US vessels utilized this allowance, they would add 10,400 m³ ((1,300 x 32) ÷ 4).

Based on the above, the following eleven scenarios were used to calculate the impact of different combinations of capacity increases in terms of the number of days of closure required to meet the conservation goals over and above the recommendations of the staff in June 2008 and October 2010 (Documents [IATTC-78-06b](#) and [IATTC-81-06b](#), respectively). The results are presented in Annex 1, and a glossary of terms used is attached as Annex 2.

		Capacity (m ³)	Days of closure 2014
Base	Status quo	236,089	62
Scenario	Description	Additional capacity	Additional days of closure
1	All pending cases are resolved, increasing capacity	38,801	44
2	All pending cases are resolved, increasing capacity; the US fully utilizes its paragraph 12 capacity.	49,201	53

² The current operative capacity includes the current capacity (divided by 4) of one US vessel that made in 2015 a single trip in the EPO,

3	Only pending disputes are resolved, increasing capacity	12,618	16
4	Pending disputes are resolved, increasing capacity; US fully utilizes its paragraph 12 capacity	23,018	28
5	Pending disputes are resolved, increasing capacity; only requests based on footnote in resolution C-02-03 are approved; US fully utilizes its paragraph 12 capacity	45,232	50
6	Only Guatemala and Venezuela disputes are resolved, increasing capacity	5,430	7
7	Only Guatemala dispute is resolved, increasing capacity	3,762	5
8	Difference between current operative capacity and active capacity	35,987	41
9	Using only the current available capacity	18,039	22
10	Using only the current inactive/sunk capacity	5,743	7
11	All pending cases (disputes and requests) are resolved, increasing capacity; US fully utilizes its paragraph 12 capacity; and all available, inactive/sunk, and active (not currently operating) capacity becomes operative	108,970	98

Annex-Anexo 1

CAPACITY INCREASE SCENARIOS REQUESTED BY THE WORKING GROUP ON CAPACITY

ESCENARIOS DE INCREMENTO DE CAPACIDAD SOLICITADOS POR EL GRUPO DE TRABAJO SOBRE CAPACIDAD

1. All pending cases are resolved, increasing capacity

Se resuelven todos los casos pendientes, incrementando la capacidad

		m ³ ³
Requests based on footnote in Resolution C-02-03 Solicitudes basadas en el pie de página en la Resolución C-02-03	Costa Rica	5,851
	Perú	7,058
Disputes Disputas	Guatemala	3,762
	Venezuela	1,668
	Vanuatu	1,358
	Bolivia	5,830
New requests Nuevas solicitudes	El Salvador	2,105
	Nicaragua	4,200
	Honduras	3,000
Other cases Otros casos	Ecuador	3,969
TOTAL		38,801

2. All pending cases are resolved, increasing capacity; US fully utilizes its paragraph 12 capacity.

Se resuelven todos los casos pendientes, incrementando la capacidad; EE.UU. utiliza en su totalidad su capacidad del párrafo 12

		m ³
Requests based on footnote in Resolution C-02-03 Solicitudes basadas en el pie de página en la Resolución C-02-03	Costa Rica	5,851
	Perú	7,058
Disputes Disputas	Guatemala	3,762
	Venezuela	1,668
	Vanuatu	1,358
	Bolivia	5,830
New requests Nuevas solicitudes	El Salvador	2,105
	Nicaragua	4,200
	Honduras	3,000
Other cases Otros casos	Ecuador	3,969
Paragraph 12 of Resolution C-02-03 Párrafo 12 de la Resolución C-02-03	USA	10,400
TOTAL		49,201

³ m³: Increase in capacity on the Regional Vessel Register, in cubic meters

m³: Incremento de la capacidad en el Registro Regional de Buques, en metros cúbicos

3. Pending disputes are resolved, increasing capacity
Se resuelven las disputas pendientes, incrementando la capacidad

		m ³
Disputes Disputas	Guatemala	3,762
	Venezuela	1,668
	Vanuatu	1,358
	Bolivia	5,830
TOTAL		12,618

4. Pending disputes are resolved, increasing capacity; US fully utilizes its paragraph 12 capacity
Se resuelven las disputas pendientes, incrementando la capacidad; EE.UU. utiliza en su totalidad su capacidad del párrafo 12

		m ³
Disputes Disputas	Guatemala	3,762
	Venezuela	1,668
	Vanuatu	1,358
	Bolivia	5,830
Paragraph 12 of Resolution C-02-03 Párrafo 12 de la Resolución C-02-03	USA	10,400
TOTAL		23,018

5. Pending disputes are resolved, increasing capacity; requests based on the footnote in Resolution C-02-03 are approved; new requests are approved; US fully utilizes its paragraph 12 capacity
Se resuelven las disputas pendientes, incrementando la capacidad; se aprueban las solicitudes basadas en el pie de página en la resolución C-02-03; se aprueban las nuevas solicitudes; EE.UU. utiliza en su totalidad su capacidad del párrafo 12

		m ³
Requests based on footnote in Resolution C-02-03 Solicitudes basadas en el pie de página en la Resolución C-02-03	Costa Rica	5,851
	Perú	7,058
Disputes Disputas	Guatemala	3,762
	Venezuela	1,668
	Vanuatu	1,358
	Bolivia	5,830
New requests Nuevas solicitudes	El Salvador	2,105
	Nicaragua	4,200
	Honduras	3,000
Paragraph 12 of Resolution C-02-03 Párrafo 12 de la Resolución C-02-03	USA	10,400
TOTAL		45,232

6. Only the pending Guatemala and Venezuela disputes are resolved, increasing capacity
Sólo las disputas pendientes de Guatemala y Venezuela se resuelven, incrementando la capacidad

		m ³
Disputes Disputas	Guatemala	3,762
	Venezuela	1,668
TOTAL		5,430

7. **Only the pending Guatemala dispute is resolved, increasing capacity.**
Sólo la disputa pendiente de Guatemala se resuelve, incrementando la capacidad

		m ³
Dispute Disputa	Guatemala	3,762
TOTAL		3,762

8. **Difference between current operative capacity and active capacity**
Diferencia entre la capacidad operativa actual y la capacidad activa

		m ³
Difference between current operative capacity and active capacity Diferencia entre la capacidad operativa actual y la capacidad activa		35,987
TOTAL		35,987

9. **Using only current available capacity**
Utilizando solamente la capacidad disponible actual

		m ³
Current available capacity Capacidad disponible actual		18,039
TOTAL		18,039

10. **Using only current inactive / sunk capacity**
Utilizando solamente la capacidad inactiva/hundida actual

		m ³
Current inactive / sunk capacity Capacidad inactiva/hundida actual		5,743
TOTAL		5,743

11. **All pending cases (disputes and requests) are resolved, increasing capacity; US fully utilizes its paragraph 12 capacity; all available, inactive/sunk , and active (not currently operating) capacity becomes operative.**

Se resuelven todos los casos pendientes (disputas y solicitudes) , incrementando la capacidad; EE.UU. utiliza en su totalidad su capacidad del párrafo 12; toda la capacidad disponible, inactiva/hundida, así como la activa (no operando actualmente) se vuelve operativa

		m ³
Requests based on footnote in Resolution C-02-03 Solicitudes basadas en el pie de página en la Resolución C-02-03	Costa Rica	5,851
	Perú	7,058
Disputes Disputas	Guatemala	3,762
	Venezuela	1,668
	Vanuatu	1,358
	Bolivia	5,830
New requests Nuevas solicitudes	El Salvador	2,105
	Nicaragua	4,200
	Honduras	3,000
Other cases Otros casos	Ecuador	3,969

Paragraph 12 of Resolution C-02-03 Párrafo 12 de la Resolución C-02-03	USA	10,400
Available, inactive/sunk , and active (not currently operating) capacity becomes operative. La capacidad disponible, inactiva, y activa (no operando actualmente) se vuelve operativa		59,769
TOTAL		108,970

Annex 2.

GLOSSARY OF TERMS

1. **Active capacity.** See Resolution [C-02-03](#). The total well volume, in cubic meters, of vessels that are on the IATTC Regional Register and are authorized to fish in the EPO. May change status to inactive at any time during the year.
2. **Available capacity.** The total well volume, in cubic meters, that a Member or Cooperating Non-Member (CPC) has available for allocation to vessels as the result of: (a) vessels being removed from the Regional Register; (b) changes of flag, considering that a CPC may choose to retain for future use the right to the capacity of a vessel that is transferred to another flag; (c) non-allocated residuals from transfers and movements of vessels on the Regional Register; (d) the national capacity allocations specified in paragraph 10 of Resolution [C-02-03](#).
3. **Inactive/sunk capacity.** See Resolution [C-02-03](#). The total well volume, in cubic meters, of (a) vessels that are on the IATTC Regional Register and have declared that they will not fish during a given year, but retain the right to become active provided they remain on the Regional Register, or (b) vessels that have sunk. May change status to active only at the beginning of the year.
4. **Operative capacity.** The total well volume, in cubic meters, of all vessels actually operating in the EPO, regardless of whether they are on the Regional Register. This is the capacity used by the IATTC scientific staff for its assessments of the tuna stocks.
5. **Potential total capacity.** The sum of active capacity, inactive/sunk capacity, and available capacity. The total well volume, in cubic meters, that would be operating in the EPO if all CPCs activated all their vessels and used all their available capacity (including inactive/sunk capacity) to bring new vessels into the fishery.
6. **Capacity disputes.** Disputes that arise when a vessel changes flag, and both the vessel's previous flag CPC and its new flag CPC claim the vessel's capacity as their own.
7. **Vessels authorized to fish.** The vessels currently listed on the Regional Vessel Register as active pursuant to Resolution C-14-01.
8. **Total capacity of vessel.** The total well volume of a vessel, including the volume of any sealed wells.
9. **Sealed well.** Any space aboard a vessel, intended for freezing, maintenance, or storage of fish, access to which has been blocked to prevent its use for these purposes.