

INTER-AMERICAN TROPICAL TUNA COMMISSION

SCIENTIFIC ADVISORY COMMITTEE

2<sup>ND</sup> MEETING

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**SCENARIOS OF THE IMPACT ON THE TUNA RESOURCES IN  
THE EPO OF VARIOUS INCREASES IN FLEET CAPACITY**

At its eleventh meeting in April 2011, the Permanent Working Group on Fleet Capacity made a [recommendation](#) to the Commission that asks 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 [eastern Pacific Ocean (EPO)] in relation to the different requests of capacity identified during the meeting 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 has prepared this document, with scenarios related to requests for vessel capacity made at that meeting.

In evaluating the impact of the increases in capacity that would result from these requests, the staff assumed that the Commission would continue to implement area closures of duration sufficient to bring fishing effort 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. Based on that assumption, for the simple case of a closure of the EPO, not taking into account the supplementary closure of the high-seas area included in recent and [current conservation measures](#), the effect of the capacity increases/decreases is calculated as follows:

$$\text{Closure duration} = 365 [ 1 - (\text{target capacity})/(\text{proposed capacity}) ]$$

Each scenario of the effect of additional capacity has a different value for the term “proposed capacity”, since it adds to the current (2010) operational purse-seine capacity of 209,600 cubic meters (m<sup>3</sup>) of well volume the increase specified for each scenario.

The target capacity corresponding to the [two most recent IATTC conservation measures](#) are given in the Document [CAP-11-05](#), presented at the meeting of the Working Group on Capacity in April.

The scenarios take into consideration three categories of requests for increases in capacity or claims for capacity considered by the Working Group. The three categories identified are:

- a. Requests by coastal Members based on the footnote to [Resolution C-02-03](#);
- b. Claims arising from disputes resulting from capacity transfers and/or differences in the implementation of Resolution C-02-03 since its entry into force;
- c. Requests for new increases in capacity for EPO coastal and non-coastal countries.

The requests in each of these three categories are:

<b>A</b>		<b>Requests based on footnote in Resolution C-02-03</b>
Colombia	2,024 m <sup>3</sup>	Add two purse-seine vessels: <i>Marta Lucía</i> (1,603 m <sup>3</sup> ) <i>Dominador I</i> (421 m <sup>3</sup> ) These vessels are currently fishing, but are not on the Regional Vessel Register
Peru	5,000 m <sup>3</sup>	Part of 14,046 m <sup>3</sup> in footnote to Resolution C-02-03
<b>B</b>		<b>Disputes</b>
Ecuador	2,209 m <sup>3</sup>	Claim to the capacities of purse-seine vessels: <i>Roberto M</i> (1,161 m <sup>3</sup> ) (Operating as <i>Tunapesca</i> in Panama; duplicated on Regional Register) <i>Victoria A</i> (850 m <sup>3</sup> ) (Never on the Regional Register) <i>María del Mar</i> (198 m <sup>3</sup> ) (Never on the Regional Register)
Guatemala	3,762 m <sup>3</sup>	Recover 3,762 m <sup>3</sup> of capacity, claimed since 2003 <i>Albacora Catorce</i> (1,881 m <sup>3</sup> ) (Operating as <i>Guayatuna Dos</i> in Ecuador; duplicated on Regional Register) <i>Albacora Doce</i> (1,881 m <sup>3</sup> ) (Operating as <i>Guayatuna Uno</i> in Ecuador; duplicated on Regional Register)
Venezuela	5,473 m <sup>3</sup>	Recover 5,473 m <sup>3</sup> of capacity : <i>Jane IV</i> (1,250 m <sup>3</sup> ) <i>Baraka</i> (1,287 m <sup>3</sup> ) <i>Napoleon I</i> (1,668 m <sup>3</sup> ) <i>Templario I</i> (1,268 m <sup>3</sup> ) All currently on Regional Register under Panamanian flag
<b>C</b>		<b>New requests</b>
El Salvador	1,861 m <sup>3</sup>	Addition of one vessel
Korea	44,388 m <sup>3</sup> (11,097 m <sup>3</sup> )	Movement of purse-seine vessels to the EPO (31,706 tons (44,388 m <sup>3</sup> )). Vessels limited to one trip of no more than 90 days each year (¼ of year). Full-year equivalent in EPO: 44,388 ÷ 4 = 11,097 m <sup>3</sup>
Nicaragua	4,200 m <sup>3</sup>	3,000 tons (4,200 m <sup>3</sup> )

Regarding Peru in scenario 7, it was assumed that 150 metric tons (t) (210 m<sup>3</sup>) of capacity would be utilized for a small vessel that would fish for tunas opportunistically, which is equivalent to 19 m<sup>3</sup> of full-time capacity, based on historical performance. Regarding Korea, in scenarios 1, 3, 4, and 8 it is assumed that the equivalent permanent total capacity is 11,097 m<sup>3</sup>; in scenario 2 it is assumed that no capacity is utilized, *i.e.* no trips are made during the year.

Another element which is not included in the current (2010) operational capacity of 209,600 m<sup>3</sup> is the special allowance in paragraph 12 of Resolution C-02-03, which allows a maximum of 32 United States purse-seine vessels that that usually fish west of 150°W to make a single trip of no more than 90 days in any one year. The following two possibilities are considered:

1. All 32 vessels make a single trip during a year. Average capacity of Class-6 vessels in the EPO is 1,300 m<sup>3</sup>, thus total capacity is 41,600 m<sup>3</sup> (1,300 x 32), and they make on average 4-5 trips per year. Full-time equivalent total capacity is thus 10,400 m<sup>3</sup> (41,600 ÷ 4).
2. United States adds 31,775 m<sup>3</sup> of full-time capacity.

Based on the above, the following eight 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). These calculations and their results are presented in detail in Annex 1.

			<a href="#">June 2008</a>	<a href="#">Sept 2010</a>
		Capacity (m <sup>3</sup> )	Days of closure	
Base	Status quo	209,600	84	62
Scenario	Description	Additional capacity	Additional days of closure	
1	All requests are resolved, increasing capacity; Korea utilizes all its requested capacity	33,602	37	41
2	All requests are resolved, increasing capacity; Korea does not utilize its requested capacity	22,505	26	29
3	All requests are resolved, increasing capacity; Korea utilizes all its requested capacity; the US utilizes its paragraph 12 capacity	44,002	47	52
4	Dispute requests are resolved without increasing capacity; other requests are resolved, increasing capacity; Korea utilizes all its requested capacity; the US utilizes its paragraph 12 capacity	32,558	36	40
5	Dispute requests are resolved, increasing capacity; no new requests are accepted; US utilizes its entire paragraph 12 capacity	21,844	26	28
6	Dispute requests are resolved, increasing capacity; only requests based on footnote in resolution are approved; US utilizes its entire paragraph 12 capacity	26,844	31	34
7	Dispute requests are not resolved, capacity does not increase; requests based on footnote in resolution are approved, but Peru adds only 19 m <sup>3</sup> ; the US utilizes its paragraph 12 capacity	10,419	13	14
8	All requests are resolved, increasing capacity; Korea utilizes all its requested capacity; the US utilizes its paragraph 12 capacity, plus additional full-time capacity of 31,775 m <sup>3</sup>	75,777	72	80

**SCENARIOS OF CAPACITY INCREASE REQUESTED BY THE  
WORKING GROUP ON CAPACITY**

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

- 1. All requests are resolved, increasing capacity; Korea utilizes all its requested capacity –  
Todas las disputas son resueltas, incrementando la capacidad; Corea utiliza toda su capacidad solicitada**

		m <sup>3</sup> + <sup>1</sup>
Requests based on footnote in Resolution C-02-03 Solicitudes basadas en el pie de página en la Resolución C-02-03	Colombia	-
	Perú	5,000
Disputes Disputas	Ecuador	2,209
	Guatemala	3,762
	Venezuela	5,473
New requests Nuevas solicitudes	El Salvador	1,861
	Korea	11,097
	Nicaragua	4,200
<b>TOTAL</b>		<b>33,602</b>

- 2. All requests are resolved, increasing capacity; Korea does not utilize its requested capacity –  
Todas las solicitudes son resueltas, incrementando la capacidad; Corea no utiliza su capacidad solicitada**

		m <sup>3</sup> +
Requests based on footnote in Resolution C-02-03 Solicitudes basadas en el pie de página en la Resolución C-02-03	Colombia	-
	Perú	5,000
Disputes Disputas	Ecuador	2,209
	Guatemala	3,762
	Venezuela	5,473
New requests Nuevas solicitudes	El Salvador	1,861
	Korea	0
	Nicaragua	4,200
<b>TOTAL</b>		<b>22,505</b>

- 3. All requests are resolved, increasing capacity; Korea utilizes all its requested capacity; the US utilizes its paragraph 12 capacity –  
Todas las solicitudes son resueltas, incrementando la capacidad; Corea utiliza su capacidad solicitada; EE.UU. utiliza su capacidad del párrafo 12**

		m <sup>3</sup> +
Requests based on footnote in Resolution C-02-03 Solicitudes basadas en el pie de página en la Resolución C-02-03	Colombia	-
	Perú	5,000
Disputes Disputas	Ecuador	2,209
	Guatemala	3,762
	Venezuela	5,473

<sup>1</sup> m<sup>3</sup> +: Increase in capacity on the Regional Vessel Register, in cubic meters

m<sup>3</sup> +: Incremento de la capacidad en el Registro Regional de Buques, en metros cúbicos

New requests Nuevas solicitudes	El Salvador	1,861
	Korea	11,097
	Nicaragua	4,200
Paragraph 12 of Resolution C-02-03 Párrafo 12 de la Resolución C-02-03	USA	10,400
<b>TOTAL</b>		<b>44,002</b>

4. **Dispute requests are resolved without increasing capacity; other requests are resolved, increasing capacity; Korea utilizes all its requested capacity; the US utilizes its paragraph 12 capacity**

**Las solicitudes por disputa son resueltas sin incrementar la capacidad; otras solicitudes son resueltas, incrementado la capacidad; Corea utiliza su capacidad solicitada; EE.UU. utiliza su capacidad del párrafo 12**

		m <sup>3</sup> +
Requests based on footnote in Resolution C-02-03 Solicitudes basadas en el pie de página en la Resolución C-02-03	Colombia	
	Perú	5,000
New requests Nuevas solicitudes	El Salvador	1,861
	Korea	11,097
	Nicaragua	4,200
Paragraph 12 of Resolution C-02-03 Párrafo 12 de la Resolución C-02-03	USA	10,400
<b>TOTAL</b>		<b>32,558</b>

5. **Dispute requests are resolved, increasing capacity; no new requests are accepted; US utilizes its entire paragraph 12 capacity**

**Las solicitudes por disputa son resueltas, incrementando la capacidad; no se aceptan solicitudes nuevas; EE.UU. utiliza su capacidad del párrafo 12**

		m <sup>3</sup> +
Disputes Disputas	Ecuador	2,209
	Guatemala	3,762
	Venezuela	5,473
Paragraph 12 of Resolution C-02-03 Párrafo 12 de la Resolución C-02-03	USA	10,400
<b>TOTAL</b>		<b>21,844</b>

6. **Dispute requests are resolved, increasing capacity; only requests based on footnote in resolution are approved; US utilizes its entire paragraph 12 capacity**

**Las solicitudes por disputa son resueltas, incrementando la capacidad; se aprueban solamente solicitudes basadas en el pie de página en la resolución; EE.UU. utiliza su capacidad del párrafo 12**

		m <sup>3</sup> +
Requests based on footnote in Resolution C-02-03 Solicitudes basadas en el pie de página en la Resolución C-02-03	Colombia	-
	Perú	5,000
Disputes Disputas	Ecuador	2,209
	Guatemala	3,762
	Venezuela	5,473
Paragraph 12 of Resolution C-02-03 Párrafo 12 de la Resolución C-02-03	USA	10,400
<b>TOTAL</b>		<b>26,844</b>

7. **Dispute requests are not resolved, capacity does not increase; requests based on footnote in resolution are approved, but Peru adds only 19 m<sup>3</sup>; the US utilizes its paragraph 12 capacity**  
**Las solicitudes por disputa no son resueltas, no se incrementa la capacidad; se aprueban las solicitudes basadas en el pie de página en la resolución, pero Perú añade solamente 19 m<sup>3</sup>; EE.UU. utiliza su capacidad del párrafo 12**

		m <sup>3</sup> +
Requests based on footnote in Resolution C-02-03	Colombia	-
Solicitudes basadas en el pie de página en la Resolución C-02-03	Perú	19
Paragraph 12 of Resolution C-02-03	USA	10,400
Párrafo 12 de la Resolución C-02-03		
<b>TOTAL</b>		<b>10,419</b>

8. **All requests are resolved, increasing capacity; Korea utilizes all its requested capacity; the US utilizes its paragraph 12 capacity, plus additional full-time capacity of 31,775 m<sup>3</sup>**  
**Todas las solicitudes son resueltas, incrementando la capacidad;; EE.UU. utiliza su capacidad del párrafo 12, más una capacidad adicional a tiempo completo de 31,775 m<sup>3</sup>**

		m <sup>3</sup> +
Requests based on footnote in Resolution C-02-03	Colombia	-
Solicitudes basadas en el pie de página en la Resolución C-02-03	Perú	5,000
Disputes Disputas	Ecuador	2,209
	Guatemala	3,762
	Venezuela	5,473
New requests Nuevas solicitudes	El Salvador	1,861
	Korea	11,097
	Nicaragua	4,200
Paragraph 12 of Resolution C-02-03	USA	42,175
Párrafo 12 de la Resolución C-02-03		
<b>TOTAL</b>		<b>75,777</b>