

INTERNATIONAL DOLPHIN CONSERVATION PROGRAM

INTERNATIONAL REVIEW PANEL

36<sup>TH</sup> MEETING

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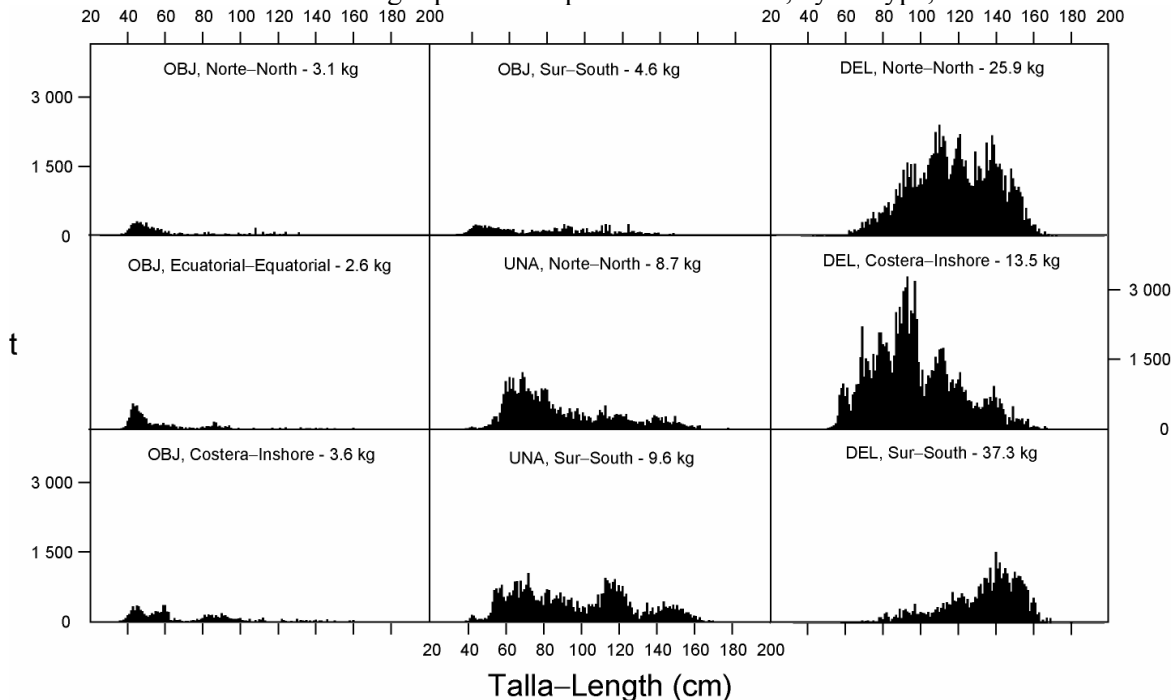
SAMPLING OF UNLOADINGS OF VESSELS NOT COVERED BY THE AIDCP

At its 34<sup>th</sup> meeting, the IRP asked the Secretariat to present an analysis of how sampling the unloadings of purse-seine vessels that are not required to carry observers (“small vessels”) could be pursued to check for evidence suggesting that the vessels may have been setting on yellowfin tuna associated with dolphins. The analysis was to include the costs involved, and options regarding the size composition in the landings that would trigger the placement of observers on future trips by such vessels.

On average, there is a distinctive difference in both the species composition of the catches in sets on schools of tunas associated with dolphins, floating objects and unassociated schools, and in the size composition of the yellowfin tuna caught in each type of set.

Set type	Species composition (%)		
	Yellowfin	Skipjack	Bigeye
Dolphin	96	4	0
Floating object	13	71	15
Unassociated	58	41	1

TABLE 1. Average species composition of catches, by set type, 2003



Estimated size compositions of the catches of yellowfin tuna in the EPO in 2003, by fishery. The weight at the top of each panel is the average of the fish in the samples. OBJ: floating object; DEL: dolphin; UNA: unassociated

## 1. COSTS AND LOGISTICS OF SAMPLING THE UNLOADINGS OF SMALL VESSELS

The following information is provided to assist in evaluating the cost of implementing a program to monitor the operations and unloadings of small vessels at ports in the eastern Pacific Ocean.

A pilot program of monitoring and sampling the unloadings of small vessels was carried out by the IATTC between September 2000 and June 2001, in Ecuador (Manta, Posorja, Monteverde, and Guayaquil), Mexico (Ensenada, Mazatlan, San Carlos, La Paz, Puerto Madero, and Manzanillo), and Peru. Owners/operators notified the IATTC to arrange for monitoring and sampling in locations without IATTC field offices, and in general this worked well. Notice was generally not received of arrival of vessels that unloaded in Colombia or the United States, nor was it received in the case of several unloadings in Ecuador and Mexico. The work was discontinued as a cost-saving measure.

	Number of trips		Samples obtained	Cost	
	Total	Monitored		Total	Per sample
Ecuador	162	141	56	\$ 5,374	\$ 40
Mexico	60	55	53	\$ 9,143	\$ 180
Colombia <sup>1</sup>	11	0	0	-	-
Peru	2	2	0	-	-
Total	235	198	109	\$ 14,517	-

**TABLE 2.** Cost (\$US) of pilot monitoring and sampling program for small vessels, 15 September 2000—30 June 2001.

Costs for increased monitoring would also depend on the level of coverage desired and the geographical distribution of unloadings, since sampling in ports without field offices involves travel expenses, which tend to increase with distance. It would be expected that increased monitoring would be required in Peru due to the requirement that vessels unload in Peru as a condition for obtaining a license to fish in Peruvian waters.

	Trips
Colombia	22
Ecuador	438
Mexico	169
Panama	2
Peru	3
United States	6
<b>Total</b>	<b>640</b>

**TABLE 3.** Number of trips by purse-seine vessels not required to carry observers, 2003, by flag

Using the number of trips for 2003 adjusted by recent changes in the fleet, it would be expected that there will be about 700 trips during 2005. Assuming the 2003 distribution of trips, and cost-per-trip for monitoring and sampling based on 2003 costs adjusted for inflation (3% for 3.5 years), the estimated total costs of sampling every trip by small vessels in 2005 would be about US\$60,000-70,000.

## 2. DECISIONS ABOUT OBSERVER REQUIREMENTS

A statistical decision rule which considered both the species composition of the unloading samples and the size of the yellowfin they contained could be used to determine whether a small vessel would be required to carry an observer. For example, if a sample had less than a 1% probability of coming from the recorded set types, the vessel would be required to carry an observer for the next year. If the IRP decided to proceed with such a scheme, the Secretariat could calculate alternative trigger levels that would lead to the requirement for a vessel to carry an observer, and give advice about the likelihood of detecting trips by small vessels during which tunas associated with dolphins were caught.

The IRP would also need to decide how the costs of placing observers on such vessels would be met.

<sup>1</sup> Vessel arrivals and unloadings not notified