



REBYC

Reduction of Environmental Impact from Tropical Shrimp Trawling, through the introduction of By-catch
Reduction Technologies and Change of Management
(EP/GLO/201/GEF)

CUBA

Progress Report to the Project Coordinator EP/GLO/201/GEF

January-June 2003



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Country: CUBA

Reporting period (January to December/2002)

Reporting Officer: Luis F. Font Chávez - National Coordinator

1. Introduction.

As was indicated in our e-mail to Dr. Thiele and copy to Dr. Mann in May 22/2003, the activities in relation with sea trials of "fish escape devises), were interrupted by lack of external financing in order to buy the material resources required for its performance, which had to be supplied by the Project EP/GLO/201/GEF, through the signing and execution of the Letter of Agreement. We pointed in this e-mail, that these activities would be restarted as soon as the required financing were available. Nevertheless, we were able to develop the possible tasks under this conditions and we will explain them in details.

2. Meetings.

In correspondence with thee check methodology of the projects contemplated in the regular research program of CIP, for the January-March period of thee current year, the development status of the project "Reduction of environment impact in tropical fisheries for trawling through the introduction of technologies to reduce by-catch and changes in managment "was analyzed in a meeting on March 31 with the participation of the following Group of Experts of the Division of Marine Shrimp.

Mireya Sosa Blanco	Subdirector
Luis Font Chávez	Project Leader
Enrique Valdés Puente	Auxiliar Researcher
Gilma Delgado Miranda	MSc in Ecology
Mayra Balsinde Ruan	MSc in Food Engineer
Rafael Sánchez	MSc in Fisheries Technologies

It was pointed out the lack of financial resources for the adequate performance of the project, especially in relation to trial trips and adjustment of fish escape devises, in dependence of the signing of the Letter of Agreement with FAO. This letter was put under consideration of the General Coordinator of the Project, and in this moment, depends of some clarifications asked by him; in this process, we don't know the time of conclusion and approval of the funds required.

For the above reason, it will put under the consideration of the Direction Board of CIP, to continue performing the objectives of the project without external financing. (Responsible: Mireya Sosa).

In a meeting of the Direction Board of CIP, on April 8th, with the participation of the following members:

Elisa García Rodríguez	Director
Rafael Puga Milián	Subdirector
Rafael Tizol Correa	Subdirector
Raquel Silveira Coffigny	Subdirector
Carlos Carles Martín	Subdirector
Mireya Sosa Blanco	Subdirector
Marisela Hernández Cevallos	Subdirector

There was an agreement to approve the interruption of the task of the trial of fish escape devise in EPI Santa Cruz del Sur, until the financial resources be available and communicate to the General Coordinator in FAO-Rome, the causes which determined this decision. The activities which have no dependence of external funds, will continue. Responsible: National Coordinator.

3. Progress of Activities.

- Trial with escape devises type “fish eye”.

On March 13-17 of 2003, an experimental trip was done to the operation zone of EPI Santa Cruz del Sur. There were performed 10 trawl stations at 3.1 knots of speed (1500 rpm) during the hours 19:00 – 06:00, for the trial of modified gear fish escape devise of the type “fish eye”, with 22 cm of high diameter and 12.5 cm of small diameter of dimensions, constructed of steel wire of 8 mm diameter and located in the central zone of the upper plate with 7 meshes of separation between them (two by net). In five sets were located in the central zone of the upper plate at 2 meshes from “before cod-end” and 9 from the union of the upper plate with the laterals and in 5 sets, at 9 meshes from the “before cod-end” and the same distance to the union of the plate and the lateral; the trawls had a duration of 1 – 3.5 hours. The shrimp catch values were similar, although a significant escape of fishes was not observed. It was concluded to increase the area of escaping of the devise, because with the time it becomes saturated, and doesn't allow the escape of fishes.

- Port sampling of the principal species of by-catch.

During the period Feb-April/2003, 3 port sampling of three principal species were performed: *Lutjanus synagris* (biajaiba), *Lepophyllum graellsii* (clarín) and *Diplectrum formosum* (serrano) for mean size determination of the catch in that months (Figure 1-3, and Table 1).

Figure 1. Size composition of biajaiba (Feb/03)

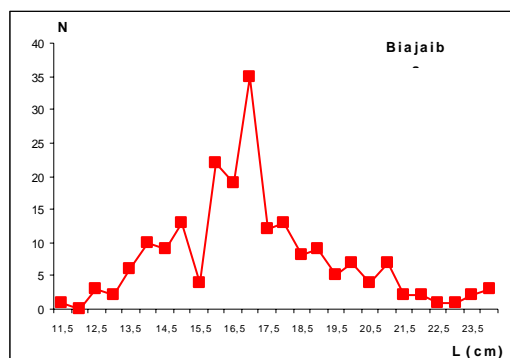


Figure 2. Size composition of clarín (Feb-March/03)

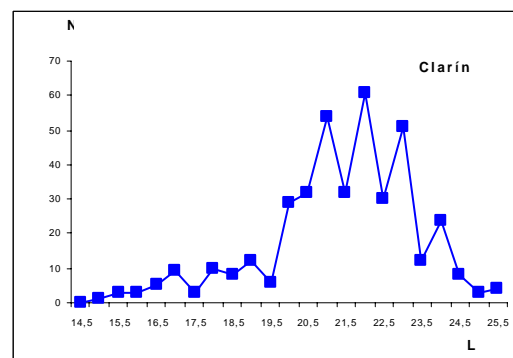


Figure 3. Size composition of Serrano (March-April/03)

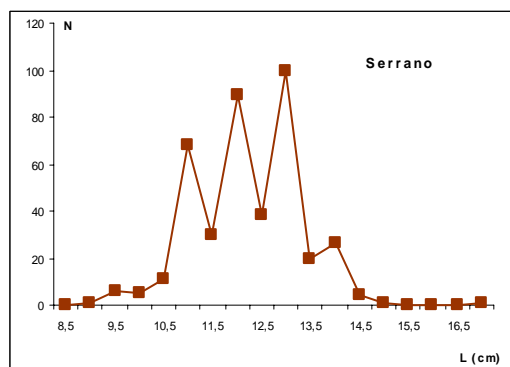


Table 1. Mean sizes of catch

Length abstract FAC spp. Zone SE, 2003.

	M. length (cm)	N	Month
Biajaiba	17,1	200	Feb.
Clarín	21,5	200	Feb.
Clarín	21,2	200	Mar.
Serrano	12,1	200	Mar.
Serrano	12,3	200	Abr.
Doncella Total	21,3	400	Feb+mar
Serrano Total	12,2	400	Mar+abr.

- **Scientific Reports.**

Statistical information of the commercial catch of *Lutjanus synagris* (biajaiba) from the fin fish fleet was processed (1981-2001), and also the catch from the by-catch of the shrimp fishery (1984-2001) from Guacanayabo Gulf. A scientific report named “**Some considerations about the impact of the shrimp fishery on the biajaiba (*Lutjanus synagris*) in the Guacanayabo Gulf**” was elaborated, with the following conclusions and recommendations:

a) Conclusions.

- Shrimp and fin fish fisheries have spatial and temporal interactions in the Guacanayabo Gulf, which determine the catch of biajaiba as by-catch, between other fish species.
- Mean catches of biajaiba from Manzanillo fleet as by-catch, have been relative bigger from the fin fish fleet of the same enterprise, reaching the 80 %.
- General mean size of biajaiba from FAC during the study time was 14.9 cm, with a 46.8 % of juveniles and 71.2 % of under legal size.
- There is an impact and affection of the shrimp fishery on the population of biajaiba en the area, principally observed in the catch of immature individuals and the small size of the by-catch. And also, for the catch levels of the shrimp fleet.
- It have been a loss of catch of adult biajaiba in the fin fish fleet, that in this moment it's impossible to quantification.

b) Recommendations.

- To continue with the research about the impact of shrimp fishery on the fin fish fishery, especially with the biajaiba, and integrate the studies of both gulfs (Ana María and Guacanayabo), and them, extend this study to all the southeast platform.
- Incorporate working methods which allow the quantification of the losses of catch of biajaiba by the commercial fin fish fishery due to the effect of the fishery for shrimp.
- Evaluate the implementation escaping devises or excluded devises of FAC , in order to reduce the impact of shrimp trawlers on fin fish species, especially the biajaiba.

4. Improvement of the fishing regulations.

The report “**Results of the application of the closure applied in 2002 to the shrimp in the Cuban Southeast Platform**” was prepared. Evaluating the result of the closure established through Resolution No. 211/2002 with date 22/07/2002 and proposing to increase the total closure en 15 days in the period between July 1st. to October 15/2003. The conclusions and recommendations are the following:

Conclusions.

- The raise of the fishery after the total closure obtained best results that after partial closure.
- Although the change in time of the last total closure was discrete in relation with the closure before, it allowed:
 - Obtain better yields per fishing day, and then a better efficiency.

- Increase the quality by a reduction of shrimps of small size in the catches, and then, obtaining more value by processed ton.
- Protect 15 days more the new recruits entering to the fishery, because the principal recruitment period of the species is from September to December, and then, reduce the fishing effort on the fin fish species of FAC.

Recommendations.

- To apply a total closure in 2003 including the second fifteen days of October.
- To take the measures to increase the industrial efficiency until the 80 % in shrimp enterprises of Santa Cruz, Ciego de Avila and Manzanillo.

5. General Comments.

Southeastern Zone . 2001.

Months	E	F	M	A	M	J	J	A	S	O	N	D	TOTAL	%
Trash Fish	341,3	324,4	302,7	208,7	197,3	163,4	25,8	0,3	0,0	466,8	360,4	339,0	2730,2	79,0
Total Human consumption	63,4	61,3	71,8	90,5	86,1	74,2	61,5	0,0	0,0	85,0	46,9	85,2	725,7	21,0
Total fauna	404,7	385,7	374,5	299,2	283,4	237,6	87,3	0,3	0,0	551,8	407,3	424,2	3455,9	100,0
% of Fauna (month)	12,0	10,9	10,4	8,4	8,2	6,8	2,6	0,0	0,0	15,9	12,5	12,3	100,0	
Effort (fishing days)	843	855	860	781	736	670	78	0	0	977	780	904	7484	
CPUE (kg/fd)	480,0	451,1	435,5	383,1	385,1	354,6	1118,8	0,0	0,0	564,8	522,2	469,2	461,8	
Shrimp Catch (t)	169,9	177,0	179,0	139,2	100,5	86,0	11,3	0,3	0,0	221,6	142,5	190,7	1418,0	
Relation FAC/Shrimp	2,4	2,1	2,0	2,1	2,9	2,8	10,3	0,0	0,0	2,5	2,9	2,2	2,4	

Note: In the total of trash fishes, the landings of EPI Cienfuegos were estimated.

The high value observed in July in the relation fauna/shrimp, is due to the bottom cleaning in EPI Santa Cruz.

6. Financial inputs by government:

CONCEPT	
Professional staff	12555.61
Materials	187.89
Travel expenses	1048.50
Other expenses	3066.68
Electric Energy	199.73
Vessel	1000.00
TOTAL EXPENSES	18058.41*

Nota: Until 31/05/03