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REVIEW OF PROGRESS WITH PRIORITY ITEMS WITHIN THE
TUNA AND BILLFISH ASSESSMENT PROGRAMME

This review updates that presented to the Fourteenth Regional Technical Meeting on Fisheries and concentrates only on those aspects of the Programme which have changed since that time.

1. Development of a regional statistical programme.

Data have now been received from the Federated States of Micronesia, Fiji, Kiribati, Marshall Islands, New Caledonia, Palau, Papua New Guinea, Solomon Islands, Tonga and Tuvalu, and summaries and maps of the distribution of fishing effort have been prepared and distributed to respective countries. The backlog of data accumulated prior to the commencement of the Programme has been completely removed and country summaries are now routinely presented on a quarterly basis in all cases where the quantity of data permits. The regional data base incorporating all effort and catch statistics available to the Commission and detailed by one degree square by month, has now been established; the first published summaries of this should be available by the end of 1983.

2. Estimation of the degree of interaction between pole-and-line and purse-seine fisheries and assessment of the impact of each on tuna resources, principally of skipjack and yellowfin tuna.

Tagging results from the Skipjack Programme clearly demonstrate that there is competition for skipjack and yellowfin tuna between the pole-and-line and purse-seine fisheries. Further investigation of this matter would require both a lengthy time series of detailed effort and catch statistics and additional tagging. Four possible tagging projects were identified, in Fiji, Solomon Islands, New Zealand and the area between Papua New Guinea, Palau and the Federated States of Micronesia, but unfortunately it has not been possible to obtain funding to carry out any of these.

3. Assessment and monitoring of the levels of exploitation of the stocks of the commercially important billfish species, especially black marlin, blue marlin, striped marlin, sailfish and swordfish.

Most of the billfish taken in the Commission area are captured by longline. There has been a decline in longline fishing effort in the area in recent years, suggesting that the concern over the status of the stocks of billfish within the region should be decreasing.

Purse-seiners do take billfish, particularly large blue marlin, and while these catches are increasing with the increase in purse-seine effort, they still account for a much smaller number of individuals than did longlining.

4. Continued analyses of the data generated by the Skipjack Programme and evaluation of the impact of this data on resource assessment.

Analyses of the regional tagging data set generated by the Skipjack Programme have been completed to the extent possible with the limited statistics available on distant-water fishing fleets. The concluding technical reports have now either been published or are in press. These reports include descriptions of the Programme's methods and the results on the estimation of the skipjack population size and turnover, evaluation of skipjack growth and implications of the occurrence of tuna juveniles in the stomachs of skipjack and other predators. More than half of the individual final country reports have now either been printed or are in press. The remainder are in preparation.

5. Assessment and monitoring of the levels of exploitation of the stocks of the commercially important tuna species, especially yellowfin tuna, bigeye tuna and albacore.

Work on the assessment of the status of the sizes of large tuna species has been concentrated on improving the statistical data base and in preliminary analyses of trends in time series of catches. It is now apparent that the need for the evaluation of the interaction between purse-seine and longline fisheries for yellowfin tuna which was previously priority item 10, has become a matter of urgency and has been the subject of much of the Programme's work under priority item 5. The need to accurately differentiate between yellowfin and bigeye tuna as declared in the catch reports from all types of vessels is now considered a priority issue.

6. Assessment of the biological information necessary for the study of population dynamics of the dominant species.

The need for accumulation of additional biological data is recognised, but in the absence of a demonstrable relationship between total effort and catch per unit of effort for skipjack and in the absence of a stock recruitment relationship for any tuna species in the Commission area, the accumulation of biological data is not considered an urgent priority item at this time. Work on this item has therefore been minimal but the possible need for future fieldwork is recognised.

7. Studies of the biology and ecology of the most important baitfish species used for catching tunas.

Baitfish resource assessments are included as a major component of the final country report series. Apart from the final country assessments and the involvement of one staff member and some Programme funds in the preparation of a baitfish handbook, baitfish work has been restricted to responses to direct individual government requests.

8. Comparison of the biological data on major species with relevant oceanographic and environmental information with a view to obtaining a description of the habitat available to each species, and hopefully predicting abundance in certain areas.

Because of the possible impact of the strong 1982/83 "El Nino" there has been considerable interest in the relationship between the oceanic climate and tuna abundance in the last year. Evaluation of this phenomenon has been left to other interested organisations such as ORSTOM and the IATTC.

9. Evaluation of the use of anchored rafts as tuna aggregating devices.

Discussion of fish aggregation devices will be covered under another agenda item. However, it should be noted here that data accumulated by the statistical programme now include declaration of the involvement of FADs, or other floating objects, in tuna catches. Analyses of the importance of these items will be possible when more data has been accumulated.

10. Estimation of the degree of interaction between surface and longline gears exploiting yellowfin tuna, bigeye tuna and albacore, and assessment of optimal exploitation of each species by gear type.

The interaction between surface and longline fisheries, particularly for yellowfin tuna, has now been identified as a priority item and has been considered together with item 5 discussed above.

11. Co-ordination of observer programmes on distant-water fishing vessels.

See Working Paper No.10.

12. Assessment of the impact on the stocks of changes in the type of longline gear used, especially the trend towards gear which fishes at greater depth.

Although the latest versions of the approved longline catch statistics form include statistics on the length of branch lines, number of buckets per basket, etc., there is, as yet, not sufficient data to enable an evaluation of this issue.

13. Evaluation of alternative fish attraction devices.

There have been no further developments to this item since the report given to the last Technical Meeting.