

THE SOUTHERN BOUNDARY BETWEEN THE ATLANTIC AND THE INDIAN OCEAN

Introduction

The Inter-agency CWP (Coordinating Working Party on Atlantic Fishery Statistics) at its 13th Session, Rome, Italy, 11-18 February 1987, considered the fact that the eastern boundary of FAO's Major Fishing Area 47 does not correspond with either that of the ICSEAF Convention Area or the boundary used by ICCAT to separate Atlantic areas from Indian Ocean ones.

The following paragraph 12.4 appears in the Report of the 13th Session of the CWP:

"Attention was drawn to the fact that the FAO Major Fishing Area 47 does not correspond exactly either with the ICSEAF Convention Area or with the ICCAT boundary between the Atlantic and Indian Oceans. After discussion it was recommended that FAO should investigate the possibility of making the boundary of Fishing Area 47 coincide with that of the ICSEAF Convention Area or ICCAT. It was also recommended that FAO investigate the possibility of the Yearbook of Fishery Statistics including separately details of catches in ICSEAF Subareas 7 and 8 (FAO subareas 51.8 and 58.7)."

In response to these two recommendations, the FAO secretariat reviewed all the documents pertinent to the establishment of the ICSEAF Convention Area and

the statistical boundaries in the waters off the African southern coast, and considered the various implications of moving the eastern boundary of FAO's Fishing Area 47 away from the currently used 30° East longitude to either 40° East longitude (ICSEAF eastern Convention boundary) or 20° East longitude (ICCAT limit).

In reviewing these issues, FAO noted the implications that any change will have for adjacent international bodies. Changes here affect not only FAO, ICSEAF and ICCAT, but also IOFC and CCAMLR.

A boundary along 20°00' East longitude

Oceanographers sometimes use a line drawn along 20° East longitude as suitable for separating the Atlantic from the Indian Ocean; such a line reaches the African continent near this continent's southernmost point - Cape Agulhas (43°50' South latitude; 20°01' East longitude).

However, fishery scientists agree that a line drawn along 20° East longitude would be quite unsuitable as a boundary for separating major zoogeographical regions. The important Agulhas Bank area lies approximately off the African south coast between 20°00' and 30°00' East longitudes; the fish species of the Agulhas fishing grounds form an integral component of the resources encountered in the South Atlantic. Important species of Atlantic origin migrate from South Atlantic waters to the Cape of Good Hope (for example, Tripla lyna, Serranus cabrilla and Lithognathus mormyrus) and also further East around Cape Agulhas. The Agulhas species (fished in the waters between 20° and 30° East longitudes) are not considered part of the Indo-Pacific fauna encountered to the east of approximately 30° East longitude.

It is quite possible that a boundary along 20°00' East longitude might be suitable for the tuna fisheries; however, it must be rejected as being unsuitable for the demersal and pelagic fisheries around the Cape of Good Hope and Cape Agulhas, especially on the Agulhas Bank grounds. It is noted that ICSEAF uses a line along 20° East only for distinguishing between two of its divisions, but this does not justify its use as a major boundary established within a global framework such as that maintained by FAO.

A boundary along 40°00' East Longitude

Should FAO adjust the eastern boundary of Fishing Area 47, by moving it eastwards from 30° to 40° East longitude, to correspond with that of the present ICSEAF Convention, another anomaly would be created; this would cause a difference in (a) the FAO statistical group of areas covering circumpolarly Antarctica, and (b) the CCAMLR Convention area.

A comparative study shows that the ICSEAF Convention Area includes:

- (i) All the waters of FAO Area 47, which corresponds precisely to ICSEAF's five subareas 1, 2, 3, 4, and 5 and their component divisions.
- (ii) and also the waters off the southeast coast of Africa lying north of the parallel 50° South and between 30° and 40° East, which cover the following two ICSEAF subareas (the first also a CCAMLR subarea):

ICSEAF Subarea 47.7 (Marion Edward): the waters of the quadrangle lying between 45° and 50° South latitudes and between 30° and 40° East longitudes;

ICSEAF Subarea 47.8 (Mozambique): the waters lying north of 45° South latitude and between 30° and 40° East longitude.

However, the waters of ICSEAF's Subarea 7 constitutes also part of the Convention Area of CCAMLR. Similarly, FAO considers the waters of ICSEAF's Subarea 47.8 as Subarea 51.8 as part of IOFC's Major Fishing Area 51. Both are, therefore, at present excluded from FAO Area 47.

This problem is further complicated by the annual time periods used by ICSEAF and CCAMLR. ICSEAF requires national offices to report annual data on a calendar year basis while CCAMLR uses the split-year for its annual figures.

It is possible that contracting parties to two or more Conventions might find acceptable convention descriptions of areas that overlap; however, it is not possible for FAO to use overlapping statistical areas in its global framework of fishing areas for statistical purposes. Any subarea, division or subdivision included in one fishing area must be excluded from an adjacent major fishing area.

In arriving at a final decision in the selection of the most appropriate eastern boundary line for its Major Fishing Area 47, FAO not only took into consideration the consensus of opinion in the fishery scientific community concerning the most suitable zoogeographical boundaries, but also the historical developments leading to adoption of convention-based area definitions.

These are reviewed in the next section.

Historical Developments

The Convention on the Conservation of the Living Resources of the Southeast Atlantic was prepared and opened for signature by the Conference of Plenipotentiaries on the Conservation of Living Resources of the Southeast Atlantic, which met in Rome, Italy, 14-23 October 1969.

Article I of this Convention contains the following two paragraphs:

1. The area to which this Convention shall apply hereinafter referred to as the "Convention Area", shall be all waters bounded by a line drawn as follows:

Beginning at a point at 6°04'36" South latitude and 12°19'48" East longitude, thence in a northwesterly direction along a rhumb line to the point at the intersection of the meridian 12° East with the parallel 6° South, thence due west along this parallel to the meridian 20° West, thence due south along this meridian to the parallel 50° South, thence due east along this parallel to the meridian 40° East, thence due north along this meridian to the coast of the African continent, thence in a westerly direction along this coast to the original point of departure.

2. The eastern boundary at the meridian 40° East shall be reviewed if a convention for the conservation of the living resources of the sea is established applying to an area immediately adjacent to that boundary.

It is important to note that the original draft of Convention prepared by FAO and circulated for commitments by the participating governments in advance of the Conference of Plenipotentiaries provided for the eastern boundary of the proposed Southeast Atlantic Convention Area to be drawn along 30° East longitude. During the Conference when the proposal was made to extend it eastwards to 40° East longitude, the need for this change was questioned by the Conference participants, their reservations have been reflected by the introduction of a new Paragraph 2 to Article I, which provides for an eventual review by ICSEAF of its eastern boundary temporarily placed at meridian 40° East.

FAO's Committee on Fisheries (COFI) gave attention to internationally exploited fisheries of the Southeast Atlantic at its First Session (13-18 June 1966) and also at its Second Session (24-29 April 1967), COFI requested FAO to

prepare a draft convention for circulation to obtain comments from all nations concerned with these fisheries.

Early 1968 FAO circulated this Draft of a "Convention on the Conservation of the Living Resources of the Southeast Atlantic" together with annotations on each of the draft articles.

The two paragraphs of Article I of the Draft version of the Convention read as follows:

1. The area to which this Convention shall apply, hereinafter referred to as the "Convention Area", shall be all waters bounded by a line drawn as follows:

In the Southern Hemisphere, beginning from a point at 30°00' East longitude, on the coast of the continent of Africa, due south along 30°00' East longitude to 50°00' south latitude, thence due west along 50°00' south latitude to 20°00' west longitude thence due north along 20°00' West longitude to 6°00' South latitude, thence due east along 6°00' South latitude to 12°00' East longitude, thence in a southeasterly direction along a rhumb line to a point at 6°07' South latitude and 12°16' East longitude on the west coast of the continent of Africa, thence along the coast of southern Africa to the point of beginning at 30°00' East longitude.

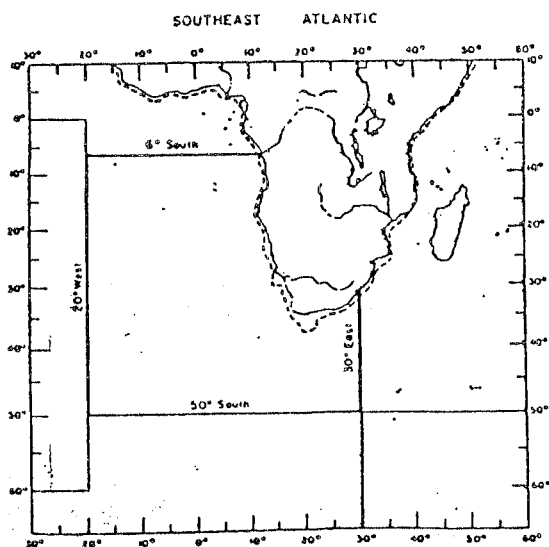
2. Nothing in this Convention shall be considered as affecting the rights, claims or views of any Contracting Party on regard to the limits of the territorial sea or to the extent of jurisdiction over fisheries under international law.

The annotation on Paragraph 1 above, relating in particular to the eastern

boundary of the Convention, reads as follows:

The eastern boundary has been drawn along 30°00' East longitude from 50°00' south latitude to a point on the African coast. It is generally considered that most species encountered to the east of this line belong to the truly tropical Indo-Pacific fauna, whereas many coast-water species from the Benguela Current are encountered on the Agulhas Bank and east of Cape Agulhas. Cape Agulhas, considered to be the southernmost point of the African continent, lies on 20°00' east longitude, and this line is usually considered the border between the Atlantic and the Indian Oceans, but to draw the boundary of the Convention Area along this line would cut through the important Agulhas Bank fisheries, excluding thereby from the Convention Area many important cold-water stocks found to the east of 20°00' east longitude.

The following chart accompanied the Draft Convention and annotations circulated to all interested nations:



During the Conference of Plenipotentiaries, 14-23 October 1969, the Portuguese delegations, while acknowledging that the ecological boundary existed in the vicinity of 30° East longitude, proposed, however, to move it ten degrees further to the east.

Although the Conference agreed on the eastward extension, away from the ecological boundary, it quite obviously had reservations about its wisdom in doing so and therefore incorporated the new Paragraph (2) in Article I.

FAO & CCAMLR Position

In developing its global system of major fishing areas for statistical purposes, FAO decided to maintain the meridian 30° East as the eastern boundary of its Area 47, because this meridian, as already stated, appears to be the closest to the generally accepted natural zoogeographical demarcation line "separating" the Southeast Atlantic fauna encountered along the south coast of Africa from the true Indo-Pacific fauna.

The Convention on the Conservation of Antarctic Marine Living Resources, prepared by another Conference of Plenipotentiaries (Canberra, Australia, May 1980) established a CCAMLR Convention area, which lies circumpolarly along the Antarctic Convergence south of 50° South latitude, except between 30° East and 80° East longitudes, where the area extends sufficiently northwards to 45° South latitude.

Therefore, in the southwest waters of the Indian Ocean the CCAMLR Convention Area overlaps with the eastern waters of the ICSEAF Convention Area.

It would appear, in the light of Paragraph 2 of Article I of the Southeast Atlantic Convention, that it is ICSEAF which is to review its eastern boundary, now drawn along latitude 50° South (between 30° East and 40° East)

then along meridian 40° East.

Only after ICSEAF's review and possible revision of its eastern boundary lines, could FAO further consult also ICSEAF, CCAMLR, IOFC and ICCAT, to establish whether there is any need to revise the eastern boundary of FAO Major Fishing Area 47, now drawn along 30° East longitude.

FAO remarks on publishing separately catch statistics for Subareas 51.8 & 58.7

Hitherto FAO refrained from publishing in its Yearbook of Fishery Statistics details on any fishing areas other than its major fishing areas. It appeared advisable to leave statistical details for any smaller areas for publication in the statistical bulletins issued by the relevant regional fisheries bodies.

Once FAO agrees to initiate the publication of separate statistical details for Subareas 51.8 (47.8) and 58.7 (47.7), it might have to accept demands from international and regional fishery communities for publishing (in its Yearbooks) separate tables for also several other smaller 'Convention Areas' which could have very strong scientific and administrative claims for such statistical treatment, for example the following:

The Baltic - constituting the Convention Area of the IBSCF (International Baltic Sea Fisheries Commission) - now treated as part of Major Fishing Area 27;

The Black Sea - constituting the Convention Area of the MCBSF (Mixed Commission for Black Sea Fisheries) - now considered to be a part of Major Fishing Area 37.

And to the two examples could be added inter alia: the Red Sea, the Gulf, the Bering Sea, the North Sea, the Bay of Bengal, the Gulf of Mexico, etc.

It is obvious that FAO, in its Yearbook, should confine its area breakdown to the widely accepted Major Fishing Areas demarcated for statistical purposes. Any additions can only be introduced if any of the existing Major Fishing area can be subdivided into two or more Major Fishing Areas. As already pointed out, claims to such treatment are much stronger in the case of many seas than is the case for Subareas 51.8 and 58.7.

Proposal to ICSEAF to Review its Eastern Boundary

General Remarks

A. Considering that Mozambique has not joined ICSEAF and that nearly all of its EZ waters (except those in the very north) fall within Subarea 51.8 and its fish species are Indo-Pacific, there is no justification to "disassociate" statistically the Mozambique fisheries from the rest of the Western Indian Ocean. Subarea 51.8 ought to remain where it logically and ecologically belongs within the IOFC's region.

While Angola's fisheries most definitely fall within the Southeast Atlantic region, those of Mozambique most obviously do NOT belong to the Southeast Atlantic and they most likely would never have been included by the 1969 Conference, had Portugal's delegation not proposed to move the boundary to 40° East.

B. As clearly intended by paragraph (2) of Article I of the ICSEAF Convention, the establishment of the CCAMLR Convention Area undoubtedly now quite clearly places the onus on ICSEAF to review its eastern boundary.

Several alternative solutions in the light of the review can be predicted as follows:

(1) ICSEAF might decide to move the boundary from 40° East back to 30°

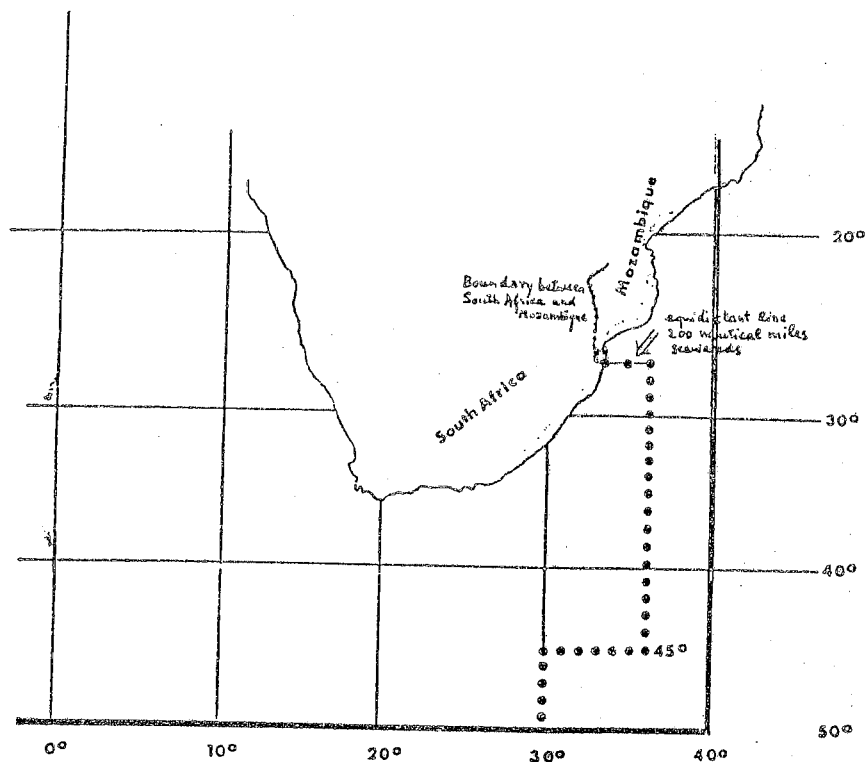
East, and thereby re-introduce the originally proposed and generally accepted ecological demarcating line (30° East), placed close to the mouth of the Great Kei River (28°23' East).

This seems to be the most acceptable solution; it would mean no change for FAO, IOFC and CCAMLR. ICSEAF would in turn benefit from discarding responsibility for (a) the Indo-Pacific fisheries in Subareas 47.8 (51.8) and (b) the CCAMLR fisheries in Subarea 47.7 (48.7).

- (2) ICSEAF might decide to leave Subarea 7 (Marion Edwards) to CCAMLR and to retain only Subarea 8 (Mozambique) in the ICSEAF Convention, but FAO could not comply with such a decision.
- (3) ICSEAF might consider drawing a new line from the African coast, where the boundary between Mozambique and South Africa reaches the low-water mark, just south of Ponta do Ouro. From this point the line could be drawn seawards equidistantly until the outer edge of the 200 nautical mile zone; then from the outer edge of the EZ's of these two countries (around 35°-36° East ?), the line could then be drawn due south to 45° South latitude.

This line would ensure that all Mozambique's EZ waters fall inside the Western Indian Ocean, while all those of continental South Africa would fall inside the ICSEAF Convention Area. FAO could conform with this new boundary, as minimal change would be required in the presentation of the statistics. CCAMLR's Convention Area would be respected; ICSEAF's fishery would not extend unduly into the Indian Ocean.

PROPOSED ICSEAF EASTERN BOUNDARY



Sources:

Conventions:

ICSEAF

ICCAT

CCAMLR

- FAO Yearbook of Fishery Statistics

- Documents and Reports of COFI's 1st, 2nd and 3rd Sessions

- FAO Fisheries Report No.56, Suppl.1

- The Sea Fishes of Southern Africa by J. L. B. Smith, Fifth Edition, 1965.

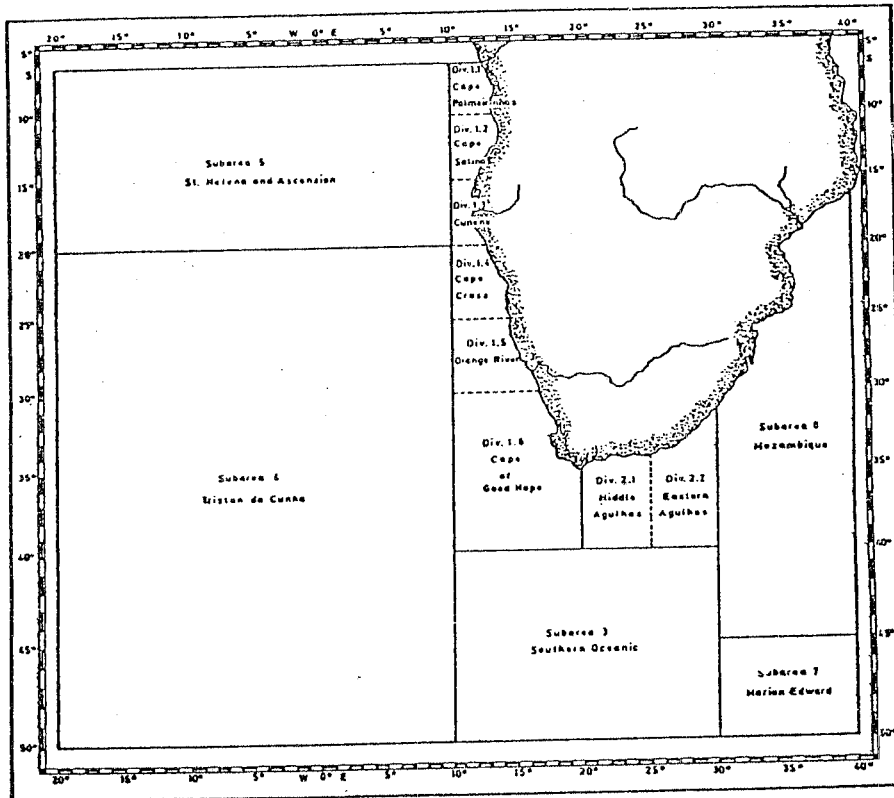


CHART OF THE ICSEAF CONVENTION AREA
CARTE DE LA ZONE DE LA CONVENTION DE L'ICSEAF
MAPA DEL AREA DEL CONVENIO DE ICSEAF