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## ON ESTABLISHING A QUOTA ALLOCATION SYSTEM FOR THE MAIN TARGETED SPECIES IN THE IOTC AREA OF COMPETENCE

Submitted by the Republic of Seychelles  
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### Background

This proposal responds to IOTC Resolution 10/01 which requires CPCs to adopt a quota allocation system (or other relevant measure) at its plenary session in 2012 for the yellowfin and bigeye tunas and Swordfish. It is a **revision** to Proposal B submitted by the Republic of Seychelles to the IOTC Technical Committee on Allocation Criteria held in Nairobi on 16-18<sup>th</sup> February 2011, hereafter referred to as the 'Nairobi meeting'. As in the first proposal, allocation criteria are presented within a quota allocation system. A **revised** Explanatory Note ([Addendum 1](#)) accompanies and should be read in conjunction with this proposal.

The revised proposal maintains recognition of the legitimate sovereign rights and aspirations of coastal states, in particular small island developing coastal states and territories and small and vulnerable economies, and the interests of distant water fishing nations that have historically fished in the IOTC area of competence. However, the revised proposal responds to several concerns raised by coastal states at the Nairobi meeting, in particular the need to define mechanisms by which all coastal states may benefit from a quota share regardless of catch history.

We continue to propose a hybrid scheme based on catch per area in the EEZs and fishing zones of coastal states, and on historical levels of catch by all eligible flag state fishing vessels on the high seas. As more than 50% of historical catches have been taken on the high seas this does not disadvantage distant water fishing nations that have historically invested in the Indian Ocean fisheries whilst by considering where the fish are caught it recognises the sovereign rights of coastal states to a share of the resource. *A zonal attachment basis for quota allocation systems is well established in regional institutional agreements and international policy discourse (see Annex 2).*

Recognising that the lack of historical catch data has often arisen from extenuating socio-political circumstances rather than lack of participation in the fisheries, coastal states lacking a significant catch history, here defined as 'disadvantaged States', will share a portion of the overall TAC on the basis of socio-economic criteria.

The revised proposal continues to ensure that, in the short term, the status quo is approximately maintained whilst over the longer term the development plans of coastal states can be realised. By providing an objective framework to clearly define the baseline allocation to each CPC at the start of the quota allocation system, it avoids uncertainty that would follow from having less clearly defined criteria that require negotiation at the start of each new quota allocation period. It thus provides a sound basis for sustainable management of fish stocks.

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**The Indian Ocean Tuna Commission (IOTC)**

RECOGNISING that based on past experience in the fishery, the potential production from the resource can be negatively impacted by excessive fishing effort;

TAKING INTO ACCOUNT the available scientific information and advice, in particular the IOTC Scientific Committee conclusions whereby the yellowfin and bigeye tuna stocks might have been over or fully exploited in recent years;

RECOGNISING that during the 13th IOTC scientific meeting held in Seychelles from 6 to 10 December 2010, the Scientific Committee recommended that yellowfin and bigeye tuna catches should not exceed the MSY levels which have been estimated at 300,000 tonnes for yellowfin and at 102,000 tonnes for bigeye tuna;

RECOGNISING that IOTC Resolution 10/01 requires the development of a quota allocation system for yellowfin and bigeye tuna stocks and for swordfish stocks;

ACKNOWLEDGING that the implementation of a TAC without a quota allocation system would result in an inequitable distribution of the catches and fishing opportunities among the CPCs and non CPCs;

FURTHER RECOGNISING that the tuna artisanal fisheries sector needs strengthening in terms of catch statistics reporting in order to more closely follow the catch situations and notwithstanding improvement in the industrial fishery catch statistics reporting requirements;

TAKING INTO ACCOUNT the sovereign rights of coastal states for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, within their respective exclusive zones in accordance with Article 56 (1) of the United Nations Convention on the Law of the Sea, Montego Bay of 10 December 1982;

NOTING the importance of applying the precautionary approach for the management of the tropical tuna and swordfish stocks, in particular yellowfin and bigeye tuna in the Indian Ocean;

NOTING the 13<sup>th</sup> Scientific Committee recommendation to develop a Compliance Monitoring Scheme;

ADOPTS, in accordance with the provisions of Article IX, paragraph 1 of the Agreement establishing the IOTC, the following:

**PART 1<sup>1</sup>**

**GENERAL PROVISIONS**

1. *Use of terms*

1.1. For the purposes of this proposal:

- a) The term ‘CPC’ will be used as shorthand to include all IOTC members and Cooperating non contracting parties to IOTC.
- b) ‘Disadvantaged CPC’ are defined as those coastal States with a baseline nominal catch proportion of less than 3% (averaged across all IOTC species with a TAC), but excluding CPCs

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<sup>1</sup> Note: Substantive revisions are highlighted in yellow

that have historically operated flagged vessels over 24 m on the high seas in the IOTC area of competence and excluding CPCs categorised as ‘developed’ by UN criteria (section 3 and 4).

- c) ‘Fish’ means all or any identified species of highly migratory fish stocks covered by the IOTC convention.
- d) The ‘Quota Allocation System’ is the totality of the mechanism described in this proposal for allocating resource rights, implementation and management (monitoring, compliance etc) of those rights
- e) The ‘Total Allowable Catch’ (TAC) is the upper limit for the sum of all CPC catches of a fish species in a particular year within the IOTC area of competence (section 4).
- f) The ‘Effective TAC’ is the total allowable catch minus any ‘Set Aside’ amount agreed by the Commission at the start of the quota allocation period (e.g. to allow for new entrants) (section 5).
- g) The ‘Supplementary TAC’ is the portion of the Effective TAC removed for the group of Disadvantaged CPCs (section 5).
- h) The ‘Adjusted TAC’ is the Effective TAC minus the Supplementary TAC (section 5).
- i) The ‘Baseline Nominal Catch Proportion’ is the long-term base allocation proportion (%) to each eligible CPC defined at the start of the programme in 2012 before any deductions are applied (Section 6).
- j) The ‘Baseline Supplementary Allocation Proportion’ is the long-term base allocation (%) to each eligible Disadvantaged CPC defined at the start of the programme in 2012 before any deductions are applied (Section 6).
- k) The ‘Adjusted Nominal Catch Proportion’ is the nominal allocation proportion (%) to a CPC after adjustments to the baseline to accommodate factors such as new entrants to the fishery or permanent trade of quota, if permitted (Section 7).
- l) The ‘Nominal Catch Allocation’ is the nominal allocation at the start of any specific quota allocation period before any adjustments for membership or compliance (see section 8).
- m) The ‘Supplementary Catch Allocation’ is the nominal allocation to Disadvantaged CPCs at the start of any specific quota allocation period, before any adjustments for membership or compliance, and is derived from the Baseline Supplementary Allocation Proportion (Section 8).
- n) The ‘Preliminary Catch Allocation’ is the nominal allocation to Disadvantaged CPCs prior to addition of the Supplementary Catch Allocation and is derived from the Baseline Nominal Catch Proportion (Section 8).
- o) The ‘Effective Allocated Catch Limit’ is the catch allocated to a CPC for a specific quota allocation period after deductions and/or additions (section 8).
- p) The ‘Historical Reference Period’ defines the period for which historical data will be analysed in setting the baseline nominal catch proportion (section 3).
- q) ‘The ‘Quota Allocation Period’ is the short term allocation period, that may be varied, during which the Effective Allocated Catch Limit applies.
- r) The term ‘Quota’ will be used as shorthand to describe the effective allocated catch limit allocated to a particular CPC.
- s) ‘Transfer’ refers to a temporary exchange of an allocation or part allocation, including renting such allocation to a third party (section 10).

- t) ‘Trade’ means the permanent purchase or exchange of a quota allocation (section 10).
- u) ‘Artisanal vessels’ refers to any vessel within a coastal CPC that fishes for tuna or tuna like species and that is less than 24 m in length and therefore not on the IOTC list of authorised vessels. CPC artisanal vessels are only authorised to fish inside the EEZ of the CPC.
- v) ‘Artisanal catch’ refers to the catch of tuna and / or tuna like species taken by artisanal vessels.

## 2. Objective

2.1. The objective of this proposal is to:

- define the rights allocation mechanism (allocation criteria) amongst members and cooperating non contracting parties of IOTC to a share of the catch of any fish for which IOTC sets a total allowable catch limit (currently recommended for yellowfin tuna, big-eye tuna and swordfish); and,
- define the mechanism for implementing the quota allocation system, identifying the duties of the responsible party amongst the different bodies and CPCs of IOTC

## 3. Application and Eligibility for receiving quota

- 3.1. The defined historical reference period for determining eligibility to the quota allocation system and for setting the baseline nominal catch proportion will be from 1981 to the December 2010, the latter date being the most recent information available to IOTC prior to adoption of the quota allocation system in 2012 as required in Resolution 10/01.
- 3.2. The rights allocation mechanism defined in this proposal relates to a single species allocation. The same mechanism will be applied to each IOTC fish species for which a TAC has been agreed by the Commission.
- 3.3. A proportion of the total allowable catch will be set aside for new coastal state entrants only. The level of the catch to be ‘Set Aside’ for new entrants will be agreed by the Commission at start of the quota allocation system and will be reviewed and adjusted as appropriate at the end of each quota allocation period.
- 3.4. The balance of the TAC remaining after removal of the Set Aside will be the Effective TAC to be allocated to all eligible CPCs. A portion of the Effective TAC will be removed as a Supplementary TAC to be allocated to Disadvantaged CPCs, and the remaining portion, the Adjusted TAC, will be allocated to all eligible CPCs.
- 3.5. New entrant Distant Water Fishing Nations will not be excluded from the fishery and can enter the fishery if they meet the membership criteria and have rented or purchased quota made available by another CPC for transfer or trade. They will not be eligible to receive any set aside.
- 3.6. A **baseline nominal catch proportion** (%) for each fish species will be allocated to all coastal states within the IOTC area of competence, irrespective of membership status, and to all existing distant water fishing nations with a catch history during the defined reference period within the IOTC Area of Competence that are currently members or Cooperating non contracting parties of IOTC. (See Section 6 for the control rules for defining the baseline nominal catch proportion).

- 3.7. A **baseline supplementary catch proportion** (%) for each fish species will be allocated to all coastal states defined as Disadvantaged CPCs within the IOTC area of competence, irrespective of membership status (See Section 6 for the control rules for defining the baseline supplementary catch proportion)
- 3.8. When setting the **effective allocated catch limit** only full member CPCs can receive 100% quota allocation before other adjustments. Cooperating non contracting parties will be eligible to receive only 80% of the nominal catch before other adjustments. Non members will not be eligible to receive an effective allocated catch limit.
- 3.9. The TAC, Effective TAC (including Supplementary TAC and Adjusted TAC) and effective allocated catch limits will be set for a Quota Allocation Period of three years in the first instance to allow fleets to plan accordingly enabling greater economic stability. The effective allocated catch limit will only be varied during that three year period if the Science Committee indicates that the status of the stock has significantly changed and the TAC must be adjusted early. The Quota Allocation Period will be reviewed by the Commission after three years with advice from the Science Committee and subsequent periods set may be varied as appropriate.

## PART 2

### RIGHTS ALLOCATION

#### 4. *Setting the Total Allowable Catch: Defining a Management Procedure*

- 4.1. The *Assessment/Management Procedure* for setting the TAC will be defined by the Science Committee and its associated Working Groups specifically the Working Group on Tropical Tunas and the Working Group on Billfish, based on best available science and stock status. It will take into account any uncertainty in the stock assessments and set the level of TAC accordingly. This procedure will define the mechanism for setting the Total Allowable Catch. It will also define whether the TAC for a species relates to the whole of the IOTC area of competence, or to sub areas for the species in question.
- 4.2. The assessment/management procedure will define the frequency with which stock assessments shall be undertaken with reference to stock status and both targeted and incidental catch levels, and any indicators that might trigger the need for a stock assessment earlier than planned if assessments are not to be undertaken annually.

#### 5. *Setting the Effective Total Allowable Catch and apportioning between Supplementary TAC and Adjusted TAC*

- 5.1. After applying the management procedure and having set the TAC for the fish species for the quota allocation period, the agreed set aside amount will be subtracted.
- 5.2. A proportion of the Effective TAC will be removed as a Supplementary TAC for Disadvantaged CPCs, with the proportion calculated by dividing the combined EEZ area of Disadvantaged CPCs by the total area of the IOTC area of competence. The remaining portion of the Effective TAC is termed the Adjusted TAC.
- 5.3. The Supplementary TAC and Adjusted TAC (see 'K' and 'L' in Table 5) will be allocated amongst all eligible CPCs according to the control rules defined in Sections 6 to 8.

**6. *Setting the Baseline Nominal Catch Proportion and the Baseline Supplementary Allocation Proportion***

6.1. A hybrid scheme based on catch per area in the EEZs of coastal states and on historical catch levels by all eligible flag state fishing fleets on the high seas will be applied to set the baseline nominal catch proportion.

6.2. The following control rules will be applied to each species for which a TAC has been set to establish the baseline nominal catch proportion:

1. The total catch taken by all CPC vessels in the EEZ of each coastal state (including that CPCs artisanal catches) will be calculated for the reference period (1981-2010). (A, see Annex 1, Table 1, transcribed to Table 2)
2. The proportion of the total catch taken in each EEZ, will be calculated [(Total Catch in Country EEZ during reference period / total catch in IOTC area of competence during reference period)\*100%] (B, Annex 1, Table 1, Table 2)
3. The total high seas catch by flag state during the reference period will be calculated (C, Annex 1 Table 1, Table 2).
4. The high seas catch by flag state (from C) will be calculated as a proportion of the sum of the total catch in the IOTC area of competence during the reference period (from A) [(Total Catch by flag state from the high seas during reference period / sum total catch in IOTC area of competence during reference period)\*100%] (D, Annex 1, Table 1, Table 2)
5. The baseline nominal proportion of the catch (unadjusted) attributable to each country will be calculated based on the sum of the catch in the EEZ plus the catch by flag state on the high seas (i.e. B+D). This will be called the baseline nominal catch proportion (E, Annex 1, Table 2)

6.3. Disadvantaged CPCs will develop a scheme based on socio-economic criteria in order to calculate the baseline supplementary allocation proportion (F, Annex 1, Table 2)

6.4. The baseline nominal catch proportion is set once only at the start of the quota allocation system and is based on historical catches by location up to that point in time. Likewise, the baseline supplementary allocation proportion is set once only and will be based on socio-economic criteria established at the start of the quota allocation system. The first and all future quota allocations will start from these baselines.

**7. *Adjusted Nominal Catch Proportion and Adjusted Supplementary Allocation Proportion***

7.1. All quota allocations are derived from application of control rules for the effective allocated catch limit to the baseline proportions. However, there are three factors that may result in a need to adjust the baseline as an intermediate step prior to setting the quota:

- (i) Due to the fact that artisanal catches have been poorly reported to date, it may be necessary to make an adjustment after 5 years to incorporate more accurate artisanal catch data after implementing recommendations for artisanal fishery data reporting in Resolution 10/01. At present the IOTC catch and effort database estimates artisanal catches. It will only be necessary to update the baseline nominal proportion if those estimates differ significantly from the improved estimates of artisanal catch that become available.

- (ii) Over time, coastal State CPCs may cease to be classified as ‘Disadvantaged’ according to the criteria applied here and will no longer benefit from Supplementary TAC. The mechanisms to review eligibility for Supplementary TAC should be defined on adoption of this system.
- (iii) To accommodate any permanent trade of quota between CPCs should this be permitted in future (see paragraph 10.2)

Any adjustments will be called the ‘Adjusted Nominal Catch Proportion’ and the ‘Adjusted Supplementary Allocation Proportion’. In terms of the former, the original historical reference period will not be adjusted in such circumstances.

7.2. At the start of the quota allocation system no adjustments will be made to the baseline proportions and control rules are not defined here for making adjustments. This will only become necessary depending on future decisions of the Commission with respect to the permanent trade of quota (see paragraphs 10.2). The present control rules therefore only refer to the Baseline Nominal Catch Proportion and Baseline Supplementary Allocation Proportion.

## 8. *Setting the Nominal Catch Allocation, the Preliminary Catch Allocation and the Effective Allocated Catch Limit*

8.1. The baseline nominal catch proportion and baseline supplementary allocation proportion are set only once at the start of the quota allocation system. The effective allocated catch limit is calculated at the start of every quota allocation period. The Effective Allocated Catch Limit is not necessarily in proportion to the baseline proportions. It is the quota (catch-limit) allocated to a CPC for a specific period after application of a number of control rules.

8.2. To calculate the Nominal Catch Allocation for each CPC the following control rules are applied (see Annex 1 Table 5).

1. The product of the baseline nominal catch proportion and the Adjusted TAC provides the Nominal Catch Allocation for non-Disadvantaged CPCs and the Preliminary Catch Allocation for Disadvantaged CPCs.
2. The product of the baseline supplementary allocation proportion and the Supplementary TAC provided the Supplementary Catch Allocation for Disadvantaged CPCs only.
3. For Disadvantaged CPCs, the final Nominal Catch Allocation is the sum of the Preliminary Catch Allocation (6) and the Supplementary Catch Allocation.

8.3. To calculate the Effective Allocated Catch Limit for each CPC the following control rules (see Annex 1 Tables 3-5) must be applied in the order shown.

1. *Membership status:* Adjustment 1. Membership status (H, Table 4) determines eligibility to receive a quota (see paragraph 3.8) and the relevant proportions are recorded in Column I (Table 4) [members entitled to 100% quota before other adjustments; cooperating non contracting parties, 80%; non members, 0%].
2. *Compliance:* Adjustment 2. The Standard Compliance Table (Annex 1 Table 3, see paragraphs 13.1 - 13.5) is applied to determine any reduction of allocation to any particular CPC due to non compliance. The balance of quota (G, Table 3) that remains to be allocated after penalty deductions for non compliance is expressed as a proportion and is summarised in Column J in Table 5 for all CPCs. The product of Adjustment 1 (I) and Adjustment 2 (G) is the combined

adjustment, J, and it is applied to the nominal catch allocations (M1, M2) to determine the effective allocated catch limit after penalty adjustments, N [M1 or M2 x J, tonnes, Table 5].

‘Penalty deductions’ are treated as follows:

- CPC: held in a CPC specific set aside (O, Table 5) and can be reclaimed by the CPC once either membership status has been confirmed, or full compliance has been demonstrated to the satisfaction of the Compliance Committee;
  - Non Member: the full nominal catch allocation of non members will be assigned to an unallocated balance (P, Table 5) for redistribution as a ‘bonus’ to eligible CPCs
3. *Reallocation of unallocated balance of quota*: Final Adjustment. The sum of any unallocated balance of quota will be reallocated in equal parts to all remaining fully compliant CPCs eligible to receive a quota for that period. This is the ‘bonus’ allocation, Q (Table 5) [(Sum of unallocated balance, P / Number of fully compliant CPCs eligible for a quota), tonnes]
  4. *Final effective Allocated catch limit, i.e. CPC Quota*: The final effective allocated catch limit, or CPC quota for the current quota allocation period is the sum of the effective allocated catch limit (N) and any bonus applied (Q) (R, tonnes, Table 5).

### PART 3

#### IMPLEMENTATION

##### 9. *Utilisation of a quota*

- 9.1. The effective allocated catch limit is the quota allocated to a particular CPC. CPCs will be free, subject to appropriate bilateral agreements in the case of waters within coastal state EEZs, to take their quota anywhere within the area to which the TAC for the species in question relates i.e. the IOTC area of competence or sub areas. The Science Committee will monitor the spatial distribution of catches in order to ensure that this does not lead to excessive fishing in any one particular area or part of the stock (e.g. on juveniles).
- 9.2. In the event that CPCs have received more quota than they can fish themselves they may transfer all or part of their quota to one or more CPCs to take on their behalf anywhere in the IOTC area of competence. They may also choose to allocate part of any surplus to a voluntary CPC set aside for one or more years, and that may or may not be taken up during that quota allocation period.
- 9.3. CPCs receiving a quota will be responsible for defining how that quota will be allocated amongst its fleet and for monitoring and ensuring compliance of the uptake of the quota by its fleet.
- 9.4. With the exception of artisanal vessels, only vessels on the IOTC record of authorised vessels will be eligible to receive a quota from their flag state. CPCs will however need to indicate the number, size and fishing gear of artisanal vessels fishing for tuna.
- 9.5. Where a quota is transferred or traded, the CPC receiving the quota will take over responsibility for monitoring and ensuring compliance of the uptake of the quota by its fleet.



## 10. *Trade and transfers of a quota between CPCs*

- 10.1. The transfer of quota or part of a quota between CPCs is permitted. Quota may not be transferred to any third party that is not an IOTC member or cooperating non contracting party.
- 10.2. For the first fifteen years of the quota allocation system, or three quota allocation periods, whichever is greater, the trade of quota or part of a quota between CPCs is NOT permitted. After this time, this will be reviewed by the Commission and a decision made as to whether permanent trade of quota will be permitted. Permanent trade between CPCs has the effect of modifying the baseline nominal catch proportion, by removing it from one CPC and adding it to another. Appropriate control rules will need to be developed if permanent trade of quota is to be permitted in future.

## 11. *Reallocation of quota between years*

- 11.1. Underutilised quota in any one year by any CPC will NOT be added to that CPC allocation for the following year.
- 11.2. The Compliance Committee will define the sanctions to be imposed in the case that a CPC exceeds its quota in any one year. This will be reflected in the Standard Compliance Table.

## 12. *Obligations of CPCs receiving a quota*

### **All recipients of a quota**

- 12.1. Receipt of a quota carries the obligation to adhere to and report on the rules of implementation of the quota system as defined in this proposal and to adhere to and apply all other relevant IOTC conservation and management measures.
- 12.2. The Compliance Committee of IOTC will arbitrate to address any disputes that may arise (e.g. arising from application of the allocation criteria) and ensure that quota is utilised appropriately.
- 12.3. CPCs anticipating to receive a quota will submit a Utilisation Plan to the IOTC Secretariat at least 30 days prior to the Commission Meeting detailing how that quota will be utilised amongst vessels flagged to that CPC, or any transfers anticipated, or any voluntary set aside.

### **Coastal States quota**

- 12.4. During the first fifteen years of the quota allocation system coastal states that receive a quota allocation that exceeds their current capacity to fish may transfer their quota to flag state CPCs that have fishing capacity, for example, to those that have fished during the historical reference period in their zone thereby maintaining the status quo and ensuring economic stability of the existing fishing fleet. Where existing agreements occur between DWFNs and coastal states for access to resources and that overlap with the introduction of the quota allocation system, these will remain in place without duplication, and with amendments to reflect permitted catch levels consistent with combined quota allocations.
- 12.5. The terms of the transfer (rent) of the allocation are for negotiation between the Coastal State and fishing flag state and will be undertaken subject to market forces. The Compliance Committee will address any disputes that may arise and ensure that quota is utilised appropriately.
- 12.6. At the start of the quota allocation system Coastal States will update their fleet development plans (Resolutions 03/01; 09/02) which will be linked to the quota allocated to them. Over the first fifteen year period any uptake of quota by coastal states will also be reflected against the report on the

implementation of their fleet development plan. As the coastal state develops its own capacity to fish during this period, it will reduce the amount of quota offered for transfer accordingly.

### **High Seas quota**

12.7. In respect of the baseline nominal catch proportion and the effective allocated catch (quota) allocated to flag state CPCs in any subsequent year in respect of historical levels of catch on the high seas up to 2012 (the ‘high seas quota’ see Annex 1, Table 1), the Commission agrees that all transfers of ‘high seas’ quota will be undertaken subject to market forces.

### **New Entrants / Set Aside**

12.8. The set aside allocation will only be available to new Coastal State entrants that have attained the status of Cooperating non contracting party or full Member and the same control rules for allocation as defined above will be applied. As part of their application to IOTC new applicants shall also indicate the amount of quota they wish to receive from that available in the set aside. The Compliance Committee will review that application and the Commission will decide on the level of the set aside allocated to the new entrant. New DWFN may enter the fishery through transfer or trade of quota.

12.9. New entrants, like any other CPC, will be able to rent additional quota that may be made available for transfer by another party.

### *13. Compliance*

13.1. The record of compliance in the application of IOTC conservation and management measures by the CPCs wishing to participate in the quota allocation process will be evaluated annually against a Standard Compliance Table (Annex 1, Table 3). The standard compliance table will be harmonised with other compliance rules defined by the Compliance Committee. Application of the standard compliance table is amongst the criteria used to set the Effective Allocated Catch Limit for each quota allocation period. Where the quota allocation period is more than one year (e.g. 3 years) this allows the uptake of any CPC quota held as a penalty in the CPC specific set aside to be taken up during the quota allocation period once compliance is demonstrated at the next Compliance Committee meeting (i.e. the next year), thus the penalty will apply for a minimum of one year.

13.2. In addition to conservation and management measures, the standard compliance tables will also include details on payment of contributions to IOTC. Failure to pay IOTC contributions in any year will result in a sliding scale of penalties with a 20% reduction in quota for the first year, 40% for the second year in arrears, and will disqualify that CPC from receiving a quota allocation for that quota allocation period where the CPC is three or more years in arrears.

13.3. There will be one standard compliance table produced each year for each participating CPC – these tables will collate and summarise the data already generated by the Secretariat each year for the review of the Compliance Committee. Additionally it will collate and summarise any additional reporting requirements related to monitoring and control of this quota allocation system that may be introduced from time to time.

13.4. A summary table will be prepared by the Secretariat that indicates the eligibility of each CPC to participate in the quota allocation scheme each year, and the level of any reduction in quota that will be applied that year arising from sanctions applied in respect of failure to comply with IOTC conservation and management measures (Annex 1, Table 4).

13.5. It is proposed that the Compliance Committee reviews and finalises the proposed standard compliance table, and level of sanctions during its meeting in 2012.

#### 14. Monitoring implementation

14.1. The Compliance Committee meeting held prior to the Commission Plenary Session in 2012 will discuss any additional requirements that are necessary to administer and monitor the quota allocation scheme over and above the current mandatory requirements for reporting against IOTC conservation and management measures. CPCs are encouraged to submit proposals one month prior to the meeting.

#### 15. Duties of the IOTC, the Secretariat, its various bodies and of CPCs

15.1. The following table provides a timeline for implementation of the quota allocation system and identifies the duties of the different bodies of the Commission.

Responsible body and actions to be taken	Month
<b>Technical meeting on quota allocation:</b> <ul style="list-style-type: none"> <li>• Agree proposal on allocation criteria and allocation system.</li> <li>• Recommend proposal to Commission</li> </ul>	1
<b>Commission Meeting :</b> <ul style="list-style-type: none"> <li>• Adopt proposed quota allocation criteria and a quota allocation system for implementation (specific parameters to be applied within the system can be further developed and adopted after the system is agreed);</li> <li>• Agree the factors to be taken into consideration when developing a management procedure for the TAC;</li> </ul>	2
<b>IOTC Secretariat and CPCs</b> <ul style="list-style-type: none"> <li>• The Secretariat to develops and validates with CPC's their historical catch record, as soon as possible for years 1981-2010.</li> </ul>	6
<b>WPB and WPTT:</b> <ul style="list-style-type: none"> <li>• Develop a management procedure for setting the TAC for billfish and tuna species</li> </ul>	8, 9
<b>Science Committee:</b> <ul style="list-style-type: none"> <li>• Review, approve and recommend the management procedure to the Commission</li> </ul>	11
<b>CPCs:</b> <ul style="list-style-type: none"> <li>• Submit proposals to the Compliance Committee for additional monitoring and control requirements needed to administer the quota allocation system and indicate how they would be reflected in the standard compliance table.</li> </ul>	13
<b>Compliance Committee:</b> <ul style="list-style-type: none"> <li>• Review proposals for additional monitoring and control related to implementation of the quota allocation system and recommend them to the Commission</li> <li>• Agree the sanctions to be applied in the standard compliance table, update the table to reflect additional monitoring and control requirements, and recommend them to the Commission</li> </ul>	14
<b>Commission</b> <ul style="list-style-type: none"> <li>• Adopt the management procedure for setting the TAC</li> <li>• Agree the historical reference period for application by subsidiary bodies in calculation of the baseline nominal catch proportion.</li> <li>• Agree parameters used in the control rules to set the effective allocated catch limit (Membership, compliance, etc)</li> <li>• Agree the level of set aside if any.</li> <li>• Define the quota allocation period to be applied.</li> </ul>	14
<b>WPB and WPTT:</b> <ul style="list-style-type: none"> <li>• Apply management procedure and set the TAC for Yellowfin tuna, big-eye tuna</li> </ul>	20, 21

and swordfish	
<b>IOTC Secretariat:</b> <ul style="list-style-type: none"> <li>Apply control rules for the agreed reference period to determine the baseline nominal catch proportion by CPC</li> </ul>	22
<b>Science Committee:</b> <ul style="list-style-type: none"> <li>Review, approve and recommend the TAC derived by WPTT to the Commission</li> <li>Review and approve the estimates of baseline nominal catch proportion.</li> </ul>	23
<b>CPCs</b> <ul style="list-style-type: none"> <li>Fulfil all mandatory reporting requirements as required under IOTC conservation and management measures</li> <li>Submit Utilisation Plan to IOTC detailing how the quota will be utilised (i.e. mechanism of allocation amongst domestic fleets, level of transfers anticipated and to which CPC, etc)</li> <li>Submit revised fleet development plans.</li> </ul>	Variable deadlines
<b>IOTC Secretariat</b> <ul style="list-style-type: none"> <li>Complete usual generation of reports on compliance with IOTC conservation and management measures submitted</li> <li>Complete the Standard Compliance Table</li> <li>Confirm that CPC plans for utilisation of quota conform to rules defined in Part 3 of the proposal.</li> </ul>	25
<b>Compliance Committee:</b> <ul style="list-style-type: none"> <li>Review completed standard compliance table and agree its application for the allocation of quotas – Recommend to the Commission.</li> <li>Review summary of CPC utilisation plans and for any that do not conform, recommend course of action to the Commission.</li> </ul>	26
<b>Commission:</b> <ul style="list-style-type: none"> <li>Adopt the level of TAC set for Yellowfin tuna ,big-eye tuna and swordfish</li> <li>Adopt the completed standard compliance table</li> <li>Agree CPC utilisation plans (with revisions as appropriate)</li> </ul>	26
<b>IOTC Secretariat</b> <ul style="list-style-type: none"> <li>Apply agreed level of TAC and control rules and derive effective allocated catch limits per CPC (quota).</li> <li>Inform each CPC of its quota for the present quota allocation period.</li> </ul>	27
<b>CPCs</b> <ul style="list-style-type: none"> <li>Utilise quota according to agreed utilisation plan</li> <li>Submit any complaints to the Compliance Committee</li> <li>Comply with all IOTC conservation and management measures and ensure that quota allocations are not exceeded.</li> </ul>	From 27
<b>Compliance Committee</b> <ul style="list-style-type: none"> <li>Review complaints and require CPCs to act according to decisions of the Committee</li> </ul>	28
<b>All bodies</b> <ul style="list-style-type: none"> <li>Report on and review the implementation of the quota allocation system on an annual basis during the defined quota allocation period.</li> </ul>	Annual cycle

# Annex 1: Standard tables to be applied in the quota allocation system for IOTC.

Table 1: Setting the Baseline nominal Catch Proportion (%): For each species for which the Commission has agreed a TAC, and for the defined reference period, to calculate the total catch (A) and proportion (%) of the total catch (B) in the EEZ of coastal states within the IOTC area of competence and the total high seas catch by flag states that have fished during the reference period (C)

Table 2: Setting the baseline nominal catch proportion: Application of the values derived in Table 1 to set the baseline nominal catch proportion (E). A baseline supplementary allocation proportion for Disadvantaged CPCs has been added to the system (F) but requires agreement on quantitative socio-economic criteria to define proportions

Table 3: Standard Compliance Table, to set the level of reduction of the nominal catch for each CPC due to non compliance, G. This Table will be completed by the Compliance Committee during its meeting in 2012 when the level of sanctions for non compliance will be agreed. Over time the Standard Compliance Table is expected to evolve. Comments and examples are provided for guidance only.

Table 4: Summary of eligibility of each CPC to receive a full quota based on membership status (H,I) and compliance with IOTC conservation and management measures (G), and calculation of the combined adjustment (J) to be applied to the nominal catch allocation when setting the effective allocated catch limit.

Table 5: Setting the Effective allocated catch limit and final quota allocation, indicating the nominal catch allocations (M1,M2), effective allocated catch limit (N) and penalty CPC set-aside (O), the bonus allocation (Q) and final quota allocated to each CPC (R) for the quota allocation period.

**Table 1: Setting the Baseline nominal Catch Proportion (%): For each species for which the Commission has agreed a TAC, and for the defined reference period, to calculate the total catch (A) and proportion (%) of the total catch (B) in the EEZ of coastal states within the IOTC area of competence and the total high seas catch by flag states that have fished during the reference period (C).**

	Country	Catches within Coastal State EEZ within the IOTC area of competence													C. TOTAL HIGH SEAS BY FLAG STATE	D. FLAG STATE HIGH SEAS CATCH (C) AS A % OF THE SUM TOTAL LANDED CATCH (A)		
		e.g. Australia																
Flag-States fishing (note, only necessary to retain those that fished during Reference Period. Coastal state within IOTC area of competence	e.g. Australia																	
	Distant Water Fishing Nation	e.g. Japan																
	A. TOTAL CATCH IN ZONE OF COUNTRY																	
	B. % OF CATCH IN ZONE OF COUNTRY																	

Table 2: Setting the baseline nominal catch proportion. Application of the values derived in Table 1 to set the baseline nominal catch proportion (E). A baseline supplementary allocation proportion for Disadvantaged CPCs has been added to the system (F) but requires agreement on quantitative socio-economic criteria to define proportions.

	Country	A. Total catch in zone of country for reference period (mt)	B. Proportion of total catch taken by zone (%)	C. Total high seas catch taken by flag state for period	D. High seas catch taken by flag state (in C) as a proportion of the sum total landed catch (in A)	E. Baseline Nominal catch proportion (B+D)	F. Baseline Supplementary allocation proportion (Disadvantaged CPCs only)
Coastal State within IOTC area of competence	e.g. AUSTRALIA						
Distant Water fishing Nation	e.g. JAPAN						
	<b>HIGH SEAS</b>		n%				
	<b>TOTAL</b>		100.00%		n%	100.000%	

**Table 3: Example Standard Compliance Table, to set the level of reduction of the nominal catch for each CPC due to non compliance, G. This Table will be completed by the Compliance Committee when the level of sanctions for non compliance will be agreed. Over time the Standard Compliance Table is expected to evolve. Comments and examples are provided for guidance only.**

Standard Compliance Table for: (CPC)			Year
Relevant Conservation and management measures	Compliance (Data reported to IOTC standards) (Y/N)	Comments (e.g. reported, but not to IOTC standards)	Proposed level of reduction in quota allocation for failure to comply with this measure.
Payment of membership fees			(e.g. 20% reduction of quota for each year's non payment with 100% reduction after 3 years)
Attendance at IOTC meetings			
Reporting of mandatory statistics (08/01) and other reporting requirements [authorised vessels (07/02); fleet development plans (03/01 & 09/02); port inspections (05/03); Bigeye tuna statistical document programme (01/06); VMS (06/03); transshipment by large-scale fishing vessels (08/02); Observer schemes (10/04)]			(e.g. Variable sanctions for different elements of the mandatory reporting requirements)
CPC vessels listed on IUU list (09/03)			(e.g. A higher level of sanction if CPC does not demonstrate control of its flag vessels according to IOTC standards)
Any new mandatory reporting requirements defined by the compliance committee for monitoring and enforcing the quota allocation system scheme			(e.g. A high level of sanction - CPC must demonstrate ability to enforce the quota allocation system)
Total deductions to quota for this CPC this year [sum of all above – if greater than 100%, apply 100%]			(Sum of all above)
<b>G. Balance (proportion) of quota to be allocated this period [i.e (100-total deductions)/100]</b>			<b>G, transfer this value to Table 4 for each CPC</b>



**Table 4: Summary of eligibility of each CPC to receive a full quota based on membership status (H,I) and compliance with IOTC conservation and management measures (G), and calculation of the combined adjustment (J) to be applied to the nominal catch allocation when setting the effective allocated catch limit.**

Country	H. Membership status	I. Adjustment 1 based on membership Status	G. Adjustment 2 : Balance of quota to be allocated after total penalty deductions arising from the Standard Compliance Table (Table 3))	J. Combined Adjustment 1 and 2 to be applied in setting the effective allocated catch limit (I*G)	Summary explanation of factors leading to deductions and any particular issues / uncertainties to be drawn to the attention of the Compliance Committee / Commission.
Proportion of baseline nominal catch retained for each category of CPC	Member	1.0			
	Coop NCP	0.8			
	Non Member	0.0			
Coastal State within IOTC area of competence e.g. Australia	Member	1.0			
	Member	1.0			
	Member	1.0			
	Member	1.0			
	Member	1.0			
	Member	1.0			
	Member	1.0			
	Member	1.0			
	Member	1.0			
	Member	1.0			
	Member	1.0			
	Member	1.0			
	Member	1.0			
	Member	1.0			
	Member	1.0			
	Coop NCP	0.8			
	Coop NCP	0.8			
	-	0.0			
	-	0.0			
	-	0.0			
-	0.0				
-	0.0				
Distant Water fishing Nation	Member	1.0			
	Member	1.0			
		1.0			
	Member	1.0			
	Member	1.0			
	Member	1.0			
	Member	1.0			
	Member	1.0			
	Member	1.0			
	Member	1.0			
	Coop NCP	0.8			
	Coop NCP	0.8			

**Table 5: Setting the Effective allocated catch limit and final quota allocation, indicating the nominal catch allocations (M1,M2), effective allocated catch limit (N) and penalty CPC set-aside (O), the bonus allocation (Q) and final quota allocated to each CPC (R) for the quota allocation period. (Note that the colours applied to each column correspond to those in Boxes 1-4 of the explanatory note)**

Country	H. Membership status	E. Baseline Nominal catch proportion (From Table 2) %	F. Baseline Supplementary allocation proportion (From Table 2) %	M1. Nominal catch allocation (tonnes) [E*K] and Preliminary catch allocation for disadvantaged CPCs	M2. Nominal catch allocation (tonnes) for disadvantaged CPCs from Supplementary catch allocation [F*L] + Preliminary catch allocation [M1]	J. Combined adjustments 1 and 2 to be applied in setting the effective allocated catch limit (from Table 4)	N. Effective allocated catch limit after adjustments 1 and 2 applied for allocation period [M1*J] or M2*J]	O. Ring fenced penalty CPC set aside to be reallocated on membership &/or compliance [M1 or M2-N]	P. Unallocated balance	Q. Bonus allocation - from equal redistribution of unallocated balance (Sum of P) to eligible CPCs [sum of P / number eligible CPCs]	R. Final CPC allocation for this quota allocation period [effective allocated catch limit, N + bonus, Q]
TAC set in year / quota allocation period in question								This applies only to members and coop NCPs	This applies only to non members	Only fully compliant members are eligible for the bonus	
Agreed set aside											
K. Adjusted TAC											
L. Supplementary TAC											
<b>CPC ALLOCATIONS</b>											
Coastal State within IOTC area of competence e.g. Australia	Member										
	Member										
	Member										
	Member										
	Member										
	Member										
	Member										
	Member										
	Member										
	Member										
	Member										
	Member										
	Member										
	Member										
	Coop NCP										
	Coop NCP										
	-										
	-										
-											
-											
-											
-											
Distant Water fishing Nation	Member										
	Member										
	Exception										
	Member										
	Member										
	Member										
	Member										
	Member										
	Member										
	Coop NCP										
Coop NCP											
<b>TOTAL, all CPCs</b>											

## **Annex 2: An established basis for zonal attachment in quota allocation systems**

The global framework of fisheries agreements and legislation (including UNCLOS, Compliance Agreement, Code of Conduct for Responsible Fisheries and the Fish Stocks Agreement) provides some guidance as to the distribution of shared resources between States. These agreements allow us to define four parameters that should be considered in quota allocation;

- Traditional fishing patterns and practices (i.e. historical fishing activity);
- Geographical distribution (i.e. zonal attachment);
- Coastal state preferences for fishing; and
- Fisheries dependency (i.e. social characteristics).

Using historical fishing on a geographic basis as described in this proposed mechanism as principle for quota allocation allows for both historic fishing activity and zonal attachment to be considered.

These four criteria and their applicability to different situations vary greatly between fisheries and while historical activity and zonal attachment may be possible to define and document in a set of quantitative indicators, the more socially related concepts of coastal state preference and fisheries dependency may be required to be described by more subjective and qualitative indicators.

As an example some of the factors used to calculate the zonal attachment by ICES (1978) include the following which can be quantitatively defined:

- the spawning areas;
- the distribution of eggs and larvae;
- the occurrence of juvenile fish; and
- the occurrence and migrations of the fishable part of the stock.

Quota sharing arrangements in the North Atlantic have been shown to be dependent on both historical harvesting patterns and zonal attachment as the primary dividing principles for shared stocks starting in the 1980s (Engesaeter, 1993). These have increasingly become sophisticated in their methodologies as data from the fisheries and computing power have become more widely available. Examples of international fisheries cooperation based on zonal attachment include the agreement between Norway and the European Union (Ramstad, 2001). This arrangement is based on agreement on the zonal attachment of seven shared stocks in the North Sea. The agreement between Norway and Russia for the stocks of the Barents Sea used historical catches as the basis initially for quota allocation, with later quota allocations using zonal attachment as the basis. These examples have been shown to work well in most demersal stocks as there have been no large scale changes in stock migration and distributions. With the herring fisheries of the North Atlantic it is more difficult as the stocks are very dependent on environmental factors. It would be prudent therefore to consider longer time scales for straddling and migratory species where environmental factors are important in determining stock distributions and recruitment.

The FAO Expert Consultation on the management of shared fish stocks found that historically, the prime allocation criteria had been zonal attachment and historical catches (FAO, 2002). In relation to straddling fish stocks, zonal attachment was considered the critical factor in determining the segment of the stock within the EEZ(s), while historical fishing patterns were important in quota allocation for the high seas. In addition, the consultation noted various “supplementary” criteria that had been used, such as fisheries dependency, compliance and engagement in research and monitoring. The consultation also pointed out that the UN Fish Stocks Agreement did not provide guidance on the weights to be accorded to individual criteria. The weighting of these criteria would need to be determined on a fishery by fishery basis.

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# Addendum 1

**EXPLANATORY NOTE ON A REVISED PROPOSAL SUBMITTED BY REPUBLIC OF SEYCHELLES:  
‘ON ESTABLISHING A QUOTA ALLOCATION SYSTEM FOR THE MAIN TARGETED SPECIES IN THE  
IOTC AREA OF COMPETENCE’**

**VERSION: 3<sup>RD</sup> FEBRUARY 2012**

## INTRODUCTION

The IOTC Technical Meeting on Quota Allocation held in Nairobi in February 2011, hereafter referred to as the Nairobi Meeting, provided an opportunity for critical assessment of the quota allocation system submitted by the Republic of Seychelles. Based on the observations of delegates from other CPCs in plenary, and on discussions held in the sidelines of the technical meeting, a number of issues pertaining to the proposal by Seychelles were identified. This Explanatory Note details several important modifications that have made to the proposed quota allocation system by Seychelles in an attempt to address those issues.

Two critical areas for improvement were: (1) recognition of the need to allocate quota to all CPCs, even those lacking historical catch data, and (2) full incorporation of artisanal catches in the estimation of historical catch by area for the EEZs of coastal State CPCs. The revised quota allocation system proposed by Seychelles now explicitly incorporates these areas of concern in an objective and transparent framework.

In addition to these revisions and in response to concerns raised by distant water fishing nations (DWFN) at the Nairobi Meeting, we reiterate that the proposed system is designed so that, in the short term, the status quo is approximately maintained through trade in quota between CPCs. This will ensure economic stability for existing fleets, whilst over the longer term the development plans of coastal states can be realised in a phased and planned way.

Recognising the legitimate rights and aspirations of both coastal states and distant water fishing nations that have historically fished and invested in an area remains a significant challenge for developing equitable quota allocation systems. The revised framework presented here offers potential solutions to this challenge and specifically addresses the needs of small-island developing coastal states and territories and small and vulnerable economies.

This proposal describes a fair and transparent quota allocation system through a combination of suitable rights based quota allocation criteria and a phased implementation system. We continue to propose a hybrid scheme based on catch per area in the EEZs and fishing zones of Coastal States, and on historical levels of catch by all eligible flag state fishing vessels on the high seas. As more than 50% of historical catches have been taken on the high seas this does not disadvantage distant water fishing nations that have historically invested in the Indian Ocean fisheries whilst by considering where the fish are caught it recognises the sovereign rights of Coastal States to a share of the resource.

Further, the revisions made here explicitly recognise that a lack of historical catch information cannot constitute a barrier to obtaining a quota share if a system is to be demonstrated as equitable. In contrast to other proposals made at the Nairobi Meeting, we offer a mechanistic solution for calculating the proportion of quota that CPCs with limited or no historical catch are eligible for.

UNCLOS Article 56(1) defines coastal states sovereign rights within their EEZs. Coastal states have the necessary jurisdiction related to those sovereign rights giving them the power to regulate the terms of use relating to activities for the exploitation of the living resources in their EEZs. In the past this has included the sale of licences and agreements with third parties for them to fish inside the EEZ of a coastal zone for a

defined period. Fixed term licences and agreements do not confer a future right to the resources within an EEZ. Any catch history within an EEZ indicates the resource availability within that EEZ and it is appropriate to attribute it to the coastal state that claims the sovereign rights. High seas catches by contrast are not claimed as sovereign rights and it may therefore be more appropriate to allocate quota on the basis of historical catch.

The global framework of fisheries agreements and legislation (including UNCLOS, Compliance Agreement, Code of Conduct for Responsible Fisheries and the Fish Stocks Agreement) provides some guidance as to the distribution of shared resources between States. These agreements allow us to defined four parameters that should be considered in quota allocation;

- Traditional fishing patterns and practices (i.e. historical fishing activity);
- Geographical distribution (i.e. zonal attachment);
- Coastal state preferences for fishing; and
- Fisheries dependency (i.e. social characteristics).

Using historical fishing on a geographic basis as described in this proposed mechanism as principle for quota allocation allows for both historic fishing activity and zonal attachment to be considered.

These four criteria and their applicability to different situations vary greatly between fisheries and while historical activity and zonal attachment may be possible to define and document in a set of quantitative indicators, the more socially related concepts of coastal state preference and fisheries dependency may be required to be described by more subjective and qualitative indicators.

As an example some of the factors used to calculate the zonal attachment by ICES (1978) include the following which can be quantitatively defined:

- the spawning areas;
- the distribution of eggs and larvae;
- the occurrence of juvenile fish; and
- the occurrence and migrations of the fishable part of the stock.

Quota sharing arrangements in the North Atlantic have been shown to be dependent on both historical harvesting patterns and zonal attachment as the primary dividing principles for shared stocks starting in the 1980s (Engesæter, 1993). These have increasingly become sophisticated in their methodologies as data from the fisheries and computing power have become more widely available. Examples of international fisheries cooperation based on zonal attachment include the agreement between Norway and the European Union (Ramstad, 2001). This arrangement is based on agreement on the zonal attachment of seven shared stocks in the North Sea. The agreement between Norway and Russia for the stocks of the Barents Sea used historical catches as the basis initially for quota allocation, with later quota allocations using zonal attachment as the basis. These examples have been shown to work well in most demersal stocks as there have been no large scale changes in stock migration and distributions. With the herring fisheries of the North Atlantic it is more difficult as the stocks are very dependent on environmental factors. It would be prudent therefore to consider longer time scales for straddling and migratory species where environmental factors are important in determining stock distributions and recruitment.

The FAO Expert Consultation on the management of shared fish stocks found that historically, the prime allocation criteria had been zonal attachment and historical catches (FAO, 2002). In relation to straddling fish stocks, zonal attachment was considered the critical factor in determining the segment of the stock within the EEZ(s), while historical fishing patterns were important in quota allocation for the high seas. In addition, the consultation noted various “supplementary” criteria that had been used, such as fisheries dependency, compliance and engagement in research and monitoring. The consultation also pointed out that the UN Fish Stocks Agreement did not provide guidance on the weights to be accorded to individual criteria. The weighting of these criteria would need to be determined on a fishery by fishery basis.

In this revision, we first outline the major revisions that have been made to the Seychelles proposal. A summary of the quota allocation system proposed is provided in Boxes 1-5, noting that a number of the schematics in these boxes have been modified to incorporate the revisions and a new box has been added. Box 1 indicates the rights allocation mechanism. More details explaining how control rules for the quota allocation criteria will be applied are provided in Boxes 2 & 3 (the baseline nominal catch proportion and baseline supplementary allocation proportion) and Box 4 (the effective allocated catch limit, or quota). Box 5 describes the implementation of the quota allocation system. We also append the original text from the summary description of the system, further highlighting changes that have been made and including the original versions of the boxes to allow the reader to make clear comparisons.

## MAJOR REVISIONS

In order to ensure all CPCs receive a quota share and that artisanal catch are incorporated, certain assumptions and definitions have been included in the revised framework. The modifications outlined below refer to the revised schematics (boxes) of the quota allocation system (see below).

- a) Given that several coastal State CPCs lack or have limited historical IOTC records for catch in their EEZ, a situation that results from a number of constraints, the revised framework makes provision for allocation of an amount of quota based on criteria unrelated to historical catch. Coastal State CPCs lacking or with limited historical catch, termed ‘disadvantaged CPCs’, will benefit from a portion of the Effective Total Allowable Catch (TAC).
- b) Disadvantaged CPCs are defined as those coastal States with a baseline nominal catch proportion of less than 3% (averaged across all IOTC species with a TAC). CPCs with flagged vessels over 24 m LOA that fish on the high seas in the IOTC area of competence will not be defined as disadvantaged CPCs even if their baseline nominal catch proportion is less than 3%. In addition, overseas territories of developed nations will not be defined as disadvantaged CPCs.
- c) A portion of Effective TAC will be removed for the group of disadvantaged CPCs (dCPCs) as defined in (b) (Box 1). This portion is termed the Supplementary TAC (suppTAC) and will be calculated based on the following criterion:

$$\text{suppTAC} = \frac{\text{Combined EEZ area of dCPCs} \times \text{Effective TAC}}{\text{IOTC area of competence}}$$

- d) The portion of the Effective TAC remaining after the removal of the Supplementary TAC is termed the Adjusted TAC. Based on the hybrid scheme of catch by area in coastal state EEZs & catch by flag state on the high seas, as per the original proposal, the Adjusted TAC will be used to calculate the nominal catch allocation for non-disadvantaged CPCs and a preliminary catch allocation for those disadvantaged CPCs with limited historical catches (Box 2).
- e) The Supplementary TAC will be used to calculate a supplementary catch allocation for disadvantaged CPCs. The allocation will be shared among disadvantaged CPCs on the basis of verifiable and quantifiable socio-economic criteria. If a disadvantaged CPC also has a preliminary catch allocation on the basis of limited historical catch (see d), the supplementary catch allocation will be added to that allocation (Box 3). Importantly, the introduction of a Supplementary TAC ensures that all CPCs will be

eligible for quota allocation, including those with zero historical catch. Suitable socio-economic criteria will be identified at the 2<sup>nd</sup> IOTC Technical on Quota Allocation.

- f) Nominal artisanal catches reported to IOTC are considered as historical catches taken in the EEZs of the originating coastal State CPCs by domestic fleets, even though it is recognised that some artisanal catch has been taken of the high seas (Box 2)

Under the revised quota allocation system, Coastal State CPCs can receive quotas through at least one of the following mechanisms:

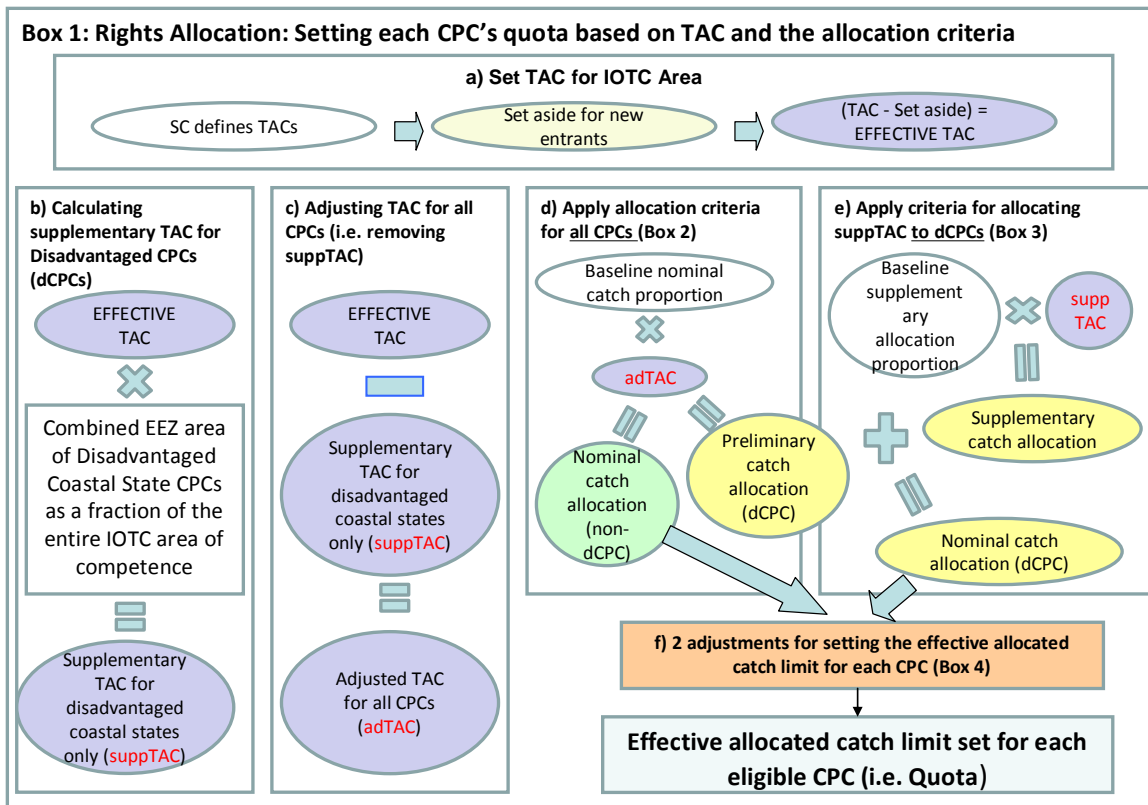
1. Quota allocation through the Supplementary TAC
2. Quota allocation through the Adjusted TAC on the basis of historical artisanal catch
3. Quota allocation through the Adjusted TAC on the basis of historical catch by foreign-flagged vessels licensed to fish in their EEZ
4. Quota allocation through the Adjusted TAC on the basis of historical catch by their flagged vessels that have fished on the high seas

A summary of the quota allocation system proposed is provided in Boxes 1-5. The table below indicates which boxes have been modified or remain unchanged from the original proposal

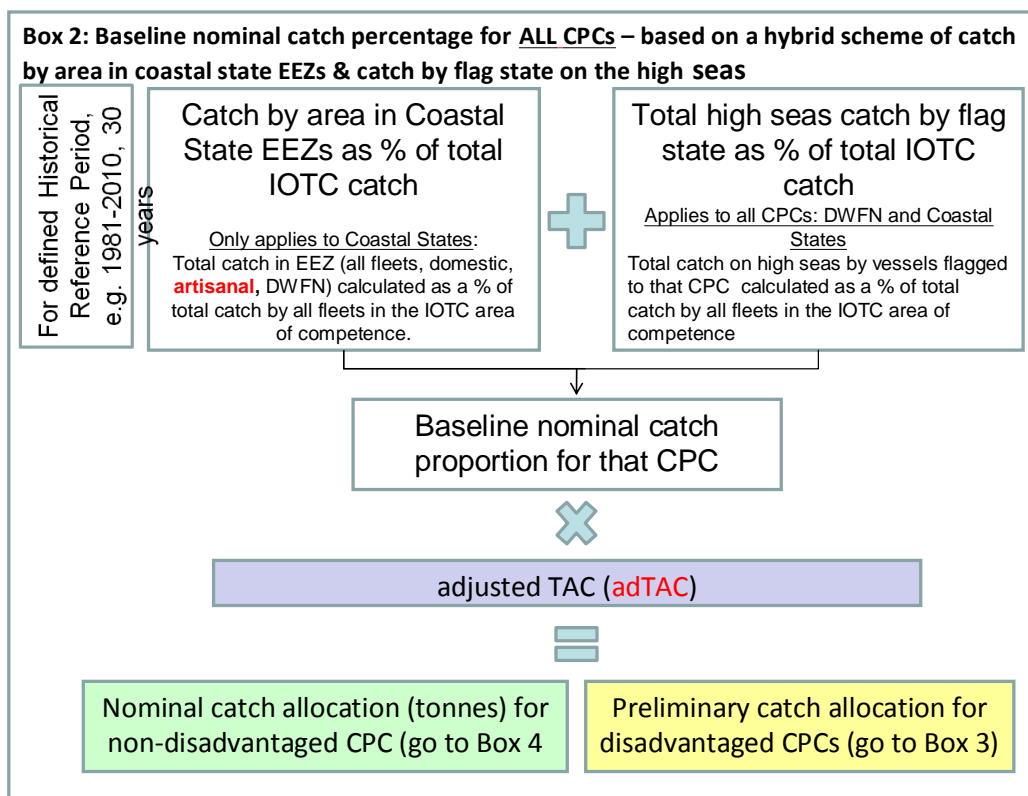
Box 1	Overview of the rights allocation mechanism	Modified
Box 2	Rights allocation in detail: allocation based on historical catch	Modified
Box 3	Rights allocation in detail: allocation based on socio-economic criteria	New box
Box 4	Setting the effective allocated catch limit (quota)	Unchanged
Box 5	Implementation of the quota allocation system for any one CPC	Unchanged



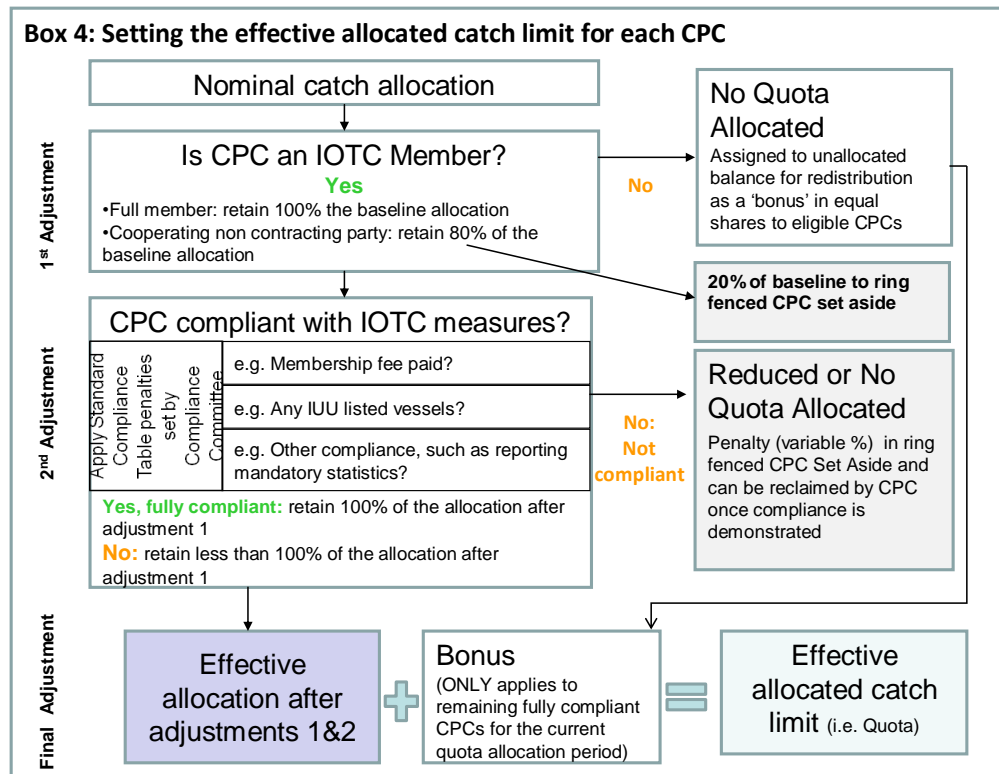
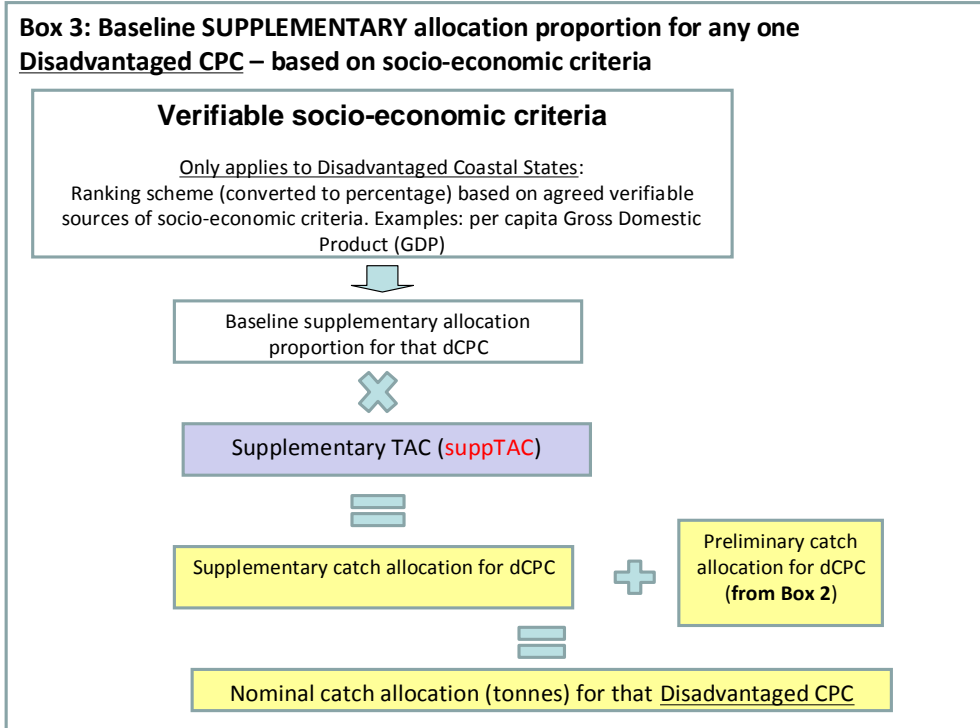
## Seychelles quota allocation system proposal



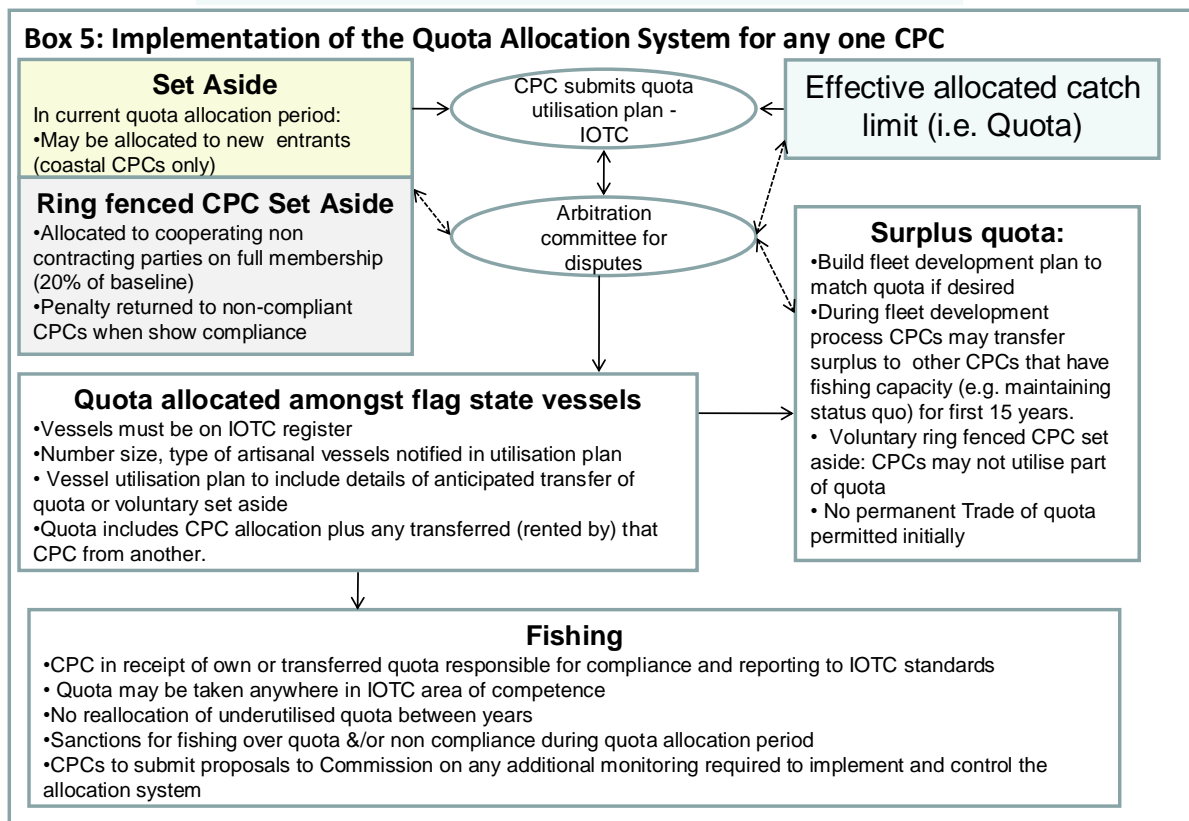
## Rights allocation in more detail



**Rights allocation in more detail**



## Implementation and CPC responsibilities (Box 5)



**Text and Boxes from Proposal B Submitted by the Republic of Seychelles to the 1<sup>st</sup> IOTC Technical Committee on Allocation Criteria (Nairobi on 16-18<sup>th</sup> February 2011) Highlighting Areas of Revision in the New Proposal**

Text **highlighted** indicates revisions that have been made to the original explanatory note

**A summary description of the system:**

For any species for which the IOTC will apply a quota allocation system (e.g. yellowfin tuna, bigeye tuna) the system involves:

- **An assessment/management procedure to set the total allowable catch (TAC)** in the whole of the IOTC area of competence or sub areas as relevant for each species. Any set aside allocation for new coastal state members is subtracted from the TAC to give the Effective TAC before allocation amongst CPCs.
- **Revision note:** The Effective TAC will be split to provide for a Supplementary TAC to Disadvantaged CPCs and an Adjusted TAC for all CPCs (Page 2 of this document).
- **Application of allocation Criteria**
  - **Original Text:** Based on catches recorded during a defined historical reference period, applying control rules that set a baseline nominal catch proportion for all eligible CPCs (i.e. all coastal states and all distant water fishing nations that have fished in IOTC waters). The

baseline is set only once in 2012. **Revised Text:** Based on catches recorded during a defined historical reference period and socio-economic criteria, applying control rules that set a baseline nominal catch proportion for all eligible CPCs (i.e. all coastal states and all distant water fishing nations that have fished in IOTC waters) and baseline supplementary allocation proportion for Disadvantaged CPCs. The baselines are set only once in 2012.

- **Original Text:** Deriving the CPC nominal catch allocation for the current quota allocation period from the effective TAC and the baseline nominal catch proportion. **Revised Text:** Deriving the CPC nominal catch allocation for the current quota allocation period from the Adjusted TAC and Supplementary TAC and the baseline nominal catch proportion and baseline supplementary allocation proportion, respectively
- Applying adjustments to the nominal catch allocation related to membership status and compliance with IOTC conservation and management measures.
- The reallocation of any unallocated balance as a bonus to all fully compliant eligible CPCs. The final effective allocated catch , or quota, is thus derived for each CPC.
- An arbitration committee will be formed to deal with disputes
- **Implementation – i.e. use of quota, fishing (amongst others)**
  - The quota will apply for a fixed Quota Allocation Period before it is recalculated (e.g. 3 years) to ensure economic stability and to enable fleet development.
  - Quota may be taken anywhere in the area to which the TAC for the species in question relates i.e. in the IOTC area of competence, or a defined sub area,
  - Only vessels on the IOTC register can utilise a quota
  - CPCs will submit quota utilisation plans to IOTC – for use by their own flagged vessels and listed artisanal fleet. Any surplus may be transferred (rented) to CPCs that have fishing capacity, for example those that have historically fished, thus maintaining the status quo in the short term. In the medium to longer term, fleet development plans will take effect for the uptake of that surplus. The Arbitration Committee will deal with disputes.
  - No reallocation of underutilised quota between years; sanctions may be imposed for CPCs exceeding quota
  - CPCs responsible for monitoring and compliance of fishing by their own fleet on their own quota and any quota rented (transferred) to them.

A summary of responsibilities and a timeline to achieve implementation by 2012 is presented in Section 15 of the Proposal.

Annex 1 provides more detailed explanation for the application of control rules to set the *baseline nominal catch proportion* for each of yellowfin tuna, bigeye tuna and swordfish.

This system:

- Provides a fair rights based distribution of benefits between coastal states and distant water fishing nations
- Incorporates historical fishing, zonal attachment and socio-economic dependency, all of which are recognised as core criteria for the design of quota allocation systems
- Through a fully mechanistic system, avoids the uncertainty involved in negotiating quota for coastal states lacking or with limited historical catch
- In the short term aims to maintain the status quo, providing economic stability
- In the longer term allows fleet development up to the level of any quota allocated to a CPC.
- Allows for new coastal state entrants by allocating a set aside
- Encourages full membership of IOTC by applying a sliding scale of allocations for members and cooperating non contracting parties; An exception will be made for Taiwan.China pending discussions on its membership, but this will be the only exception.
- Encourages full compliance with IOTC conservation and management measures, including payment of fees by setting sanctions (quota reductions) for non compliance.

Thus the system proposed has the potential to address more than just a means of sharing out the catch. It also has the potential to encourage full compliance with all of IOTC’s conservation and management measures, making it a strong tool for the Commission.

### **Annex 1: Calculation of the Baseline Nominal Catch Proportion for yellowfin tuna, bigeye tuna and swordfish for an historical reference period of 1981-2008**

The Proposal indicates that the IOTC Secretariat is responsible for applying the control rules (i.e. methodology for estimation) for the agreed reference period to determine the baseline nominal catch proportion by CPC. The Science Committee will review and approve the estimates derived for submission to the Commission. This Annex is presented for guidance only and is based on the estimation procedure described below. Refinements to this procedure are also indicated below and may be recommended by the Technical Meeting on quota allocation. The final baseline nominal proportion allocated to each CPC may differ from the figures shown based on any such refinements to the estimation procedure and on the historical reference period adopted. It is noted that IOTC have developed a tool that enables the calculation of catches on the high seas and in CPC EEZs that uses the same approach as that outlined below.

The data sources used for all calculations of catch by area, flag, gear and species were the individual IOTC catch and effort databases for the different gear types. It is important to use an agreed data source that has been submitted by IOTC Members and CNCPs and is readily available to all parties to enable verification and transparency throughout the process. Longline data are available by year, flag and by 5° x 5° grid, purse seine and bait boat (pole and line) by a 1° x 1° grid. In order to divide the Indian Ocean catch by EEZ relating to the coastal states and those catches taken on the high seas, a series of 5° x 5° and 1° x 1° grids were overlaid with a chart of the EEZ or equivalent definitions for the entire region. Zone definitions were taken from the Global Maritime Boundaries Database (GMDB). The approximate proportion of each zone

within each individual grid square was determined by visual estimation manually and the process repeated until the entire Indian Ocean region (FAO Areas 51 and 57) had been covered. It is recommended that for transparency that the process of allocating the proportion of grid squares to coastal state zones is repeated using a detailed GIS to determine the exact proportion of each zone inside a grid square; the IOTC tool does this. Further refinements, such as allocating all catches in a grid square to the high seas where fishing is excluded from a coastal state EEZ except under license can also be made. At present IOTC does not have all such information and if this refinement is agreed during the Technical Meeting, CPCs should make the details available to the Secretariat.

Annual catch totals by species are then calculated for each gear type, coastal state zone and flag state in each grid square by multiplying the catch within a grid square by the proportion. For the purpose of this estimation the High Seas are considered the equivalent of a coastal state zone. The total catches for each coastal state zone for each species can then be calculated by adding the catch totals for all gears and all years within the defined period for each coastal state zone. Catches are assumed to be distributed uniformly throughout a grid square. These figures form the basis of Table 1. Artisanal catches (assumed to only occur in a coastal state's own zone) are estimated by the secretariat and have been included in the IOTC catch and effort database. The total catch in a particular zone and as a proportion of the total Indian Ocean catch overall can now be calculated (Columns A and B in Table 2) along with the total high seas catch and as proportion of the total Indian Ocean catch for all fishing nations (Columns C and D in Table 2). The baseline catch proportion is calculated as the proportions taken inside the zone of a state and taken by the state on the high seas added together (Column E in Table 2).

EU catch data are disaggregated in the IOTC catch databases as they have historically been reported as such (hence France, Spain, Portugal appear as separate lines in the tables). In Tables 2 and 5, catch data will be aggregated in the model so that all French, Portuguese and Spanish catches are included as “European Union”. French catches that have been recorded separately for the French territories of Mayotte and Reunion will be recorded as French catches only for the calculation of coastal state allocation in these tables.

A further refinement could be to use logbook data submitted to CPCs by vessels licensed to fish in their zones. However such information is not currently publically available and will be more difficult to verify. It is therefore recommended that the approach described above, with refinements to improve the estimation, is employed using the publically available and agreed IOTC database. By taking an historical reference period the catch by area over time is averaged; the method applied similarly proportionately apportions catches by area. Furthermore, currently unreported elements such as artisanal catches are estimated within the IOTC database. Consequently even with accurate logbook data from the commercial and licensed part of the fishery there will still be an element of estimation in the procedure. Thus the above method provides a good approximation on which to base quota allocations and takes into account both commercial and artisanal catches. It provides a good basis for quota allocation.

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