



TRAFFIC
— OCEANIA —



Conservation implications of allocation under the Western and Central Pacific Fisheries Commission

A. Willock and I. Cartwright

Acronyms and abbreviations

CCMs	Commission members, Cooperating Non-Members and participating Territories
CCSBT	Commission for the Conservation of Southern Bluefin Tuna
DWFN	Distant Water Fishing Nation
EEZ	Exclusive Economic Zones
ENSO	El Niño/La Niña Southern Oscillation
FAO	Food and Agriculture Organisation of the United Nations
FFA	Forum Fisheries Agency
IATTC	Inter-American Tropical Tuna Commission
ICCAT	International Commission for the Conservation of Atlantic Tunas
IUU	Illegal, Unreported and Unregulated
MHLC	Multilateral High Level Conference
NAFO	Northwest Atlantic Fisheries Organization
NEAFC	North East Atlantic Fisheries Commission
PNA	Parties to the Nauru Agreement
RFMO	Regional Fisheries Management Organisation
SBT	Southern Bluefin Tuna
SPC	Secretariat of the Pacific Community
TAC	Total Allowable Catch
TAE	Total Allowable Effort
TIS	Trade Information Scheme
UNFSA	United Nations Fish Stocks Agreement
VDS	Vessel Days Scheme
VMS	Vessel Monitoring System
WCPFC	Western and Central Pacific Fisheries Commission
WCPO	Western and Central Pacific Ocean

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Front cover image: Yellowfin Tuna, *Thunnus albacares* in Fishmarket. Philippines. © WWF-Canon/Jürgen Freund.

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1. Introduction

The United Nation's Food and Agriculture Organisation (FAO) identifies 16 existing regional fisheries management organisations (RFMOs) that directly establish management measures. The combined mandate of these RFMOs, in terms of geographical area and species coverage encompasses the majority of the world's living marine fisheries resources, with the exception of some demersal resources in the Pacific and Indian Oceans for which negotiations to develop proposed RFMOs are underway. In broad terms, the objectives of these various bodies can be described as the long-term conservation and sustainable use of the resources under their mandate, including target species and non-target, and associated or dependent species in addition to the marine ecosystem.

Of increasing prominence among the measures adopted by RFMOs to pursue their objective is to allocate participatory rights, or fishing opportunities, among members, and in some cases co-operating non-members. The underlying motivations for adopting such measures are likely to be a mixture of a general recognition that effective rights-based management is an important element in achieving responsible fishing and effective conservation (Sissenwine and Mace, 2001) and a desire to secure exclusive ongoing national rights. The establishment of fishing or participatory rights has long been recognised as a key requirement for effective fisheries management, and two international conferences have been held (FishRights 99 and Sharing the Fish 06) focusing on the issue of allocation and producing a range of technical papers from academic and practitioner perspectives (see for example FAO, 2000). The general consensus has been that in the absence of

an effective rights-based regime, the usual by-products of an inadequately regulated fishery, excessive fishing capital and fishing effort, will inevitably reduce fish stocks until the fishery is economically hardly worth pursuing. Concomitantly, biological impacts will occur on the status of stocks of target and bycatch species, as well as on protected and endangered species and the ecosystem as a whole.

How an RFMO responds to the question of defining and allocating rights, the subsequent impact this has, both on the resource and on equity amongst its members, is becoming increasingly synonymous with its credibility, reputation and effectiveness. More specifically, the conservation implications of issues associated with allocation is becoming an area of increasing focus in assessing reasons for the difficulties experienced by RFMOs in preventing overfishing of key stocks and other problems driven by overcapacity, including detrimental impacts on non-target, associated and dependent species.

Entering into force in June 2004, the Convention for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean resulted in the establishment of the most recent RFMO; the Western and Central Pacific Fisheries Commission (WCPFC). Allocation was highlighted as a crucial issue at the second negotiating session to establish the new convention, with the Chair's report stating that the Conference considered that allocation of allowable catch or levels of fishing effort was 'inextricably linked to the basic principles of conservation and management' (Anon., 1997). The issue of allocation was also one of



Purse Seiner, WCPFC Convention area. © SPC Oceanic Fisheries Programme/Siosifa Fukofuka



*Women selling Tuna in Gizo, Solomon Islands.
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six key issues identified by the Chair for discussion at the fourth negotiating session, along with the Convention Area, minimum terms and conditions for fishing, enforcement, institutional arrangements, and decision-making and settlement of disputes (Anon., 1999).

The Western and Central Pacific Ocean (WCPO) is a vast multi-gear, multi-species, trans-boundary fishery that targets highly migratory species, incorporating both exclusive economic zones (EEZs) and the high seas. The WCPO also encompasses the markedly different activities, capacity and aspirations of (and between) small island developing States and distant water fishing nations (DWFNs). Accordingly, the issue of establishing and implementing rights in this fishery that are capable of delivering meaningful outcomes in terms of responsible fishing and effective conservation will inevitably be very complex, with legal and political considerations likely to play a dominant role. Decisions need to be taken on allocations that will enable rational and sustainable exploitation of migratory stocks within EEZs and on the high seas. Species and gear interactions will further complicate the picture.

The WCPFC will be charged with overseeing the allocation process under the Convention. It would be useful if the Commission could look to other RFMOs' experiences to guide deliberations. However, the reality is that the examples of effective allocation by international fisheries bodies are few and far between. Most RFMOs are beset with the sorts of problems that have dogged national fisheries administrations including overcapacity, declining

stocks and a need to reduce capacity at a time when profitability is decreasing and the willingness to accept cuts is low. While most RFMOs have acknowledged the significance of allocation, there has been an inability to move beyond lowest common denominator agreements, which have not delivered acceptable conservation and management outcomes.

A number of economists and other parties have indicated that 'game theory' offers prospects for examining the nature of cooperative and non-cooperative approaches to allocation. In particular, it has been suggested that the best way forward is likely to go beyond simply allocating rights (e.g., shares of a total allowable catch of particular species or species group or the equivalent) to national fleets. A more sophisticated approach, involving 'side payments' or 'negotiation facilitators' through some form of reciprocal access or quota trading may be required (FAO, 2002). An expert consultation on the management of shared fish stocks recognized that arrangements must be found which make the benefits accruing to all parties through a co-operative agreement no less than those that would result from a refusal to co-operate (FAO, 2002). While seemingly obvious, this prerequisite is apparently not always considered by parties when seeking to develop allocation frameworks in an RFMO context.

This paper will not be concerned with the details of allocation. Rather, it will consider the consequences for conservation (and by inference, management) relating to the allocation of participatory rights under the WCPFC, drawing on experiences in other RFMOs.

2. Context of the WCPFC

The WCPO fishery is one of the largest fisheries in the world with an annual catch of around two million metric tonnes and having a value of around USD2 billion on global markets. While most of the catch has been historically taken by DWFNs licensed to fish in the region, the domestic fisheries of Pacific Island countries are growing in importance in terms of catches and value. For many of the Pacific Island countries, tuna represents the only significant economic resource therefore domestic fisheries and/or fishing access fees paid by fishing nations are crucial to their economies. For example, 34% of government revenue in 1999 for Kiribati was derived from foreign fishing licences, while overall fishing contributions to the gross domestic product of Pacific Island countries ranged from 1.4% to 21.5% in that same year, according to estimates by the Asian Development Bank (ADB, 2002).

The WCPO fishery is focused on four key species: Skipjack Tuna *Katsuwonus pelamis*, Yellowfin Tuna *Thunnus albacares*, Bigeye Tuna *Thunnus obesus* and Albacore Tuna *Thunnus alalunga*. Purse seine-caught Skipjack Tuna, the basis of the canning industry, represents by far the major proportion of the stock, accounting for 68% of the total WCPO catch in 2004. Smaller quantities of the more valuable (as sashimi) Yellowfin Tuna and Bigeye Tuna are taken as large, single fish on longlines, and also as immature fish by purse seine; indeed the catch of Yellowfin Tuna by purse seine vessels is now greater than that by longliners¹. Albacore Tuna are taken by longline with some limited trolling. These patterns of gear use and target species have clear implications for management and allocation, particularly since more than one species is commonly taken during a single fishing operation.

Total catches have been at historically high levels since 1998, and while catches of Skipjack Tuna have been considered sustainable and stocks healthy, the same cannot be said for Yellowfin Tuna or Bigeye Tuna. For a number of years, successive meetings of scientists² have indicated growing concern for Bigeye Tuna and more recently, for Yellowfin Tuna. These concerns have been based on the effects of increasing nominal and effective effort, use of fishing techniques that have resulted in elevated catches of juvenile Bigeye Tuna, and the outputs from increasingly sophisticated,

spatially disaggregated, stock assessments. The following summaries of changes to key stocks over the last seven years are drawn from past Secretariat of the Pacific Community (SPC) reports and the latest (2005) stock assessment reports considered by the WCPFC in December 2005.

Albacore Tuna: There appear to be few biological sustainability issues with Albacore Tuna. While total catches have increased in recent years, overall, fishery impacts on the stock are considered low. However, impacts of fishing on the portion of the stock caught by longline fishing (larger fish) are considerably higher, and high levels of localised effort could result in considerably lower catch rates. As they have been in the past, the implications for Pacific Island countries' domestic fleets are significant given that a number of such fleets rely on Albacore for their economic viability.

Skipjack Tuna: Few concerns have been expressed about the status of the stock, and the general conclusion is that exploitation is modest relative to the stock's biological potential and subsequently the stock is not in an overfished state. However, assessments have repeatedly warned that any increases in purse-seine catches of Skipjack Tuna may result in a corresponding increase in fishing mortality for Yellowfin Tuna and Bigeye Tuna.

Bigeye Tuna: This species has been subject to increasingly severe warnings about overfishing, ranging from 'uncertainty' (1998) to concern of overfishing and decline in adult biomass (1999 and 2000) to the 2005 assessment that 'overfishing is likely occurring' and that an urgent reduction on fishing mortality is required³. More concerning is that current catches have been sustained by higher-than-average recruitment (small fish entering the fishery). If this recruitment falls, even to the long-term average, the resulting impact of fishing on the Bigeye Tuna stock will increase substantially.

Yellowfin Tuna: Growing concerns with respect to overfishing are also held for Yellowfin Tuna. In 2000 it was considered that the stock could sustain the then current level of fishing effort, however by 2005 scientific advice was that overfishing is probably occurring. As with Bigeye Tuna, scientific advice to the Commission urged that action be taken.

¹ This does not necessarily infer that the impact of purse seine fishing on Yellowfin Tuna is greater across all areas of the WCPFC.

² Formerly the Standing Committee on Tuna and Billfish, now the Scientific Committee of the WCPFC.

³ The degree of urgency is related to area, with the equatorial regions being more heavily fished, and therefore likely to be more in need of reductions in fishing effort and catch than less heavily impacted areas. These spatial differences also apply to Yellowfin Tuna.



Skipjack and juvenile Bigeye Tuna.
© WWF SPP/Louise Heaps

In summary, there have been increasingly severe warnings over stock status and an absence of effective management action in response to these warnings. The second session of the WCPFC responded to advice of declining stock status by agreeing to adopt a number of resolutions, including one on the reduction of overcapacity. The same session also adopted a number of binding Conservation and Management Measures for Bigeye Tuna and Yellowfin Tuna. The degree to which these measures will be successful in the absence of an effective allocation is unclear. The level of fishing effort and catch set under the measures is also a matter of concern. These issues will be considered later in this paper.

The changes in the status of stocks have been mirrored by, and related to, changes in the major tuna fishing fleets of the WCPO. The high-cost US and Japanese tuna purse seine fleets have declined considerably over the recent years, while Taiwan continues to expand its operations. Expansion by Taiwan, especially through the introduction of new super-seiners into the region has caused considerable debate over the past few years. For example, at the third Preparatory Conference, Japan tabled a document setting out Taiwan's use flags of convenience and developing Island States to expand its effective effort in the WCPO (Anon., 2003a). As noted in media reports of the meeting 'A total of 205 purse seiners are allowed to operate in the Tuna Commission area. But Taiwan is getting around it with bigger boats and re-flagging some of its fleet to the Marshall Islands and Vanuatu' (Field, 2004).

Unlike many other RFMOs, a high proportion of the WCPFC convention area is under national jurisdiction, and in the case of the dominant purse seine fishery, around 70% of the catch is taken from within EEZs. It is widely accepted that purse seine access to the national waters is essential for their operations to be economically viable. Further, 90% of that 70% is taken in the EEZs

of countries that have strong co-operative links through their membership of the Forum Fisheries Agency (FFA), as well as all being Parties to the Nauru Agreement (PNA). PNA countries have a long history of agreements aimed at limiting purse seine effort, although the effectiveness of such arrangements in delivering conservation outcomes is unclear.

Pacific Island countries have long held aspirations for more significant involvement in the tuna fishery and their domestic fleets continue to expand. However while Pacific Island countries like Fiji and Papua New Guinea have the infrastructure and other requisites to be able to develop and support domestic industries, other States such as Kiribati, Tuvalu and Nauru are likely to continue to rely on the payment of access fees as their major means of earning revenue from tuna.

The decline in tuna fisheries in other oceans of the world, and particularly the Indian and Atlantic Oceans has already resulted in an increase in fishing pressure in the WCPO. The recent entry of vessels from the European Union and an increased presence of both Chinese and Taiwanese vessels are in part indicative of this trend. This fishing pressure is unlikely to abate and therefore the conservation status of the stocks is likely to worsen, particularly if recruitment patterns return to average levels.

Pacific Island countries have long recognised that co-operation among island countries alone was inadequate to secure effective conservation and management of the highly migratory tuna stocks. The Convention establishing FFA in 1979 recognised this fact, and once Pacific Island countries felt adequately prepared, they initiated the Multilateral High Level Conference (MHLC), the first session of which was held in 1994. Over a period of six years, the Convention was established, including arrangements to establish an associated Commission. The Commission has held two annual meetings since the entry into force of the Convention in June 2004.

As noted, from the outset of the MHLC process allocating an allowable catch or level of fishing effort was recognised as a major requirement for effective management. However reaching agreement on the role of the Commission in any allocation process proved understandably contentious. While Pacific Island countries called for the Commission's role to be limited to high seas areas only (with provision that it may also set global, stock-wide TACs for the convention area), DWFNs were opposed to any attempt to differentiate between EEZs and high seas. As a way of resolving this impasse, the Chair of the MHLC process, Ambassador Satya Nandan, decided to leave undefined the Commission's allocation role, referring only to general principles of allocation within the functions of the Commission (Tarte, 2000). The final outcome of the negotiations for the WCPFC was a set of allocation criteria based on those contained in the United Nations Fish Stocks Agreement (UNFSA⁴) but with additional criterion containing elements of 'something for everybody' and going as far as to include very specific clauses directly alluding to the needs and aspirations of individual States, including Samoa and Kiribati.

The matter of allocation has been discussed internally among FFA countries for some time. During the MHLC process the FFA recognised the value of a strong coalition of coastal States agreeing a sound basis for allocation based on the UNFSA criteria. The Asian Development Bank funded a significant technical assistance programme in 1998 to assist FFA countries look at alternative management and catch allocation options. While acknowledging the value of the technical assistance, the Asian Development Bank noted that there was an understandable reluctance on behalf of the FFA countries to reach a quick agreement on issues of consequence regarding management, and that this was likely to be the case into the future (ADB, 2001).

The first two sessions of the Commission did not deal explicitly with allocation issues, being preoccupied at the first with the establishment of the Commission, and at the second focused on controlling further expansion of the catch of Bigeye Tuna and Yellowfin Tuna. However linkages between effective conservation and management and allocation processes underpinned some of these discussions, including the acceptance of a proposal

by New Zealand for a discussion paper on allocation to be prepared for consideration at the next Commission meeting. In doing so New Zealand noted that while science and monitoring, control and surveillance issues were being progressed by the Scientific, and Technical and Compliance Committees respectively, allocation was not being similarly advanced. An extract from the New Zealand submission notes that 'Until such time as allocation issues are resolved by the Commission, the incentives on member countries to maximise their individual interests in the tuna stocks managed by the Commission will undermine the Commission's ability to effectively manage these stocks' (WCPFC, 2005a).

At the end of the second Commission meeting held in December 2005, the Chair, Glenn Hurry, was quoted as saying that 'Yellowfin and Bigeye Tuna stocks cannot sustain this level of fishing and there is a need for a reduction in both effort and catch'. Further, Hurry injected an air of urgency into the future work of the Commission by noting that while the Commission was new, 'with so much at stake it must quickly begin to work. This Commission has the best opportunity of all the world's regional fisheries management organizations to successfully manage its fish stocks, it must not fail' (WCPFC, 2005b). Given the experiences in other RFMOs, it would seem clear that allocation, while acknowledging all the attendant political controversy and uncertainty surrounding it, is one of those issues that must be addressed without delay.

In summary, the WCPFC is at a watershed. In common with most other RFMOs, the WCPFC is now faced with overcapacity and overfishing. Other than the recently agreed conservation and management measures, comprehensive management, including allocation, appears to be some way off. Faced with increasingly strong warnings about the biological status of the stock from scientific advisors, as well as continuing investment and increasing capacity, the window of opportunity to take effective action is closing fast. The agreement at the Commission to initiate a discussion paper on allocation is encouraging, as is the soon-to-be finalised Vessel Days Scheme and PNA/FFA efforts to reconsider allocation. The next section considers the experiences and lessons learned from other RFMOs concerning allocation.

⁴ The full name is: *The 1995 Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks.*

3. Experiences of other RFMOs

Issues relating to the allocation of fishing opportunities or quotas by a RFMO are not new, with a number of such bodies having dealt with these issues in the past decade or so; indeed much of the available meeting time for a number of commissions appears to have been taken up with discussions both directly and indirectly related to allocation processes and outcomes.

The types of issue encountered include an inability to agree an overall catch limit because of concomitant limits this would impose on national fishing activities, an unwillingness to accommodate new members within existing allocation regimes and non-compliance with national allocations because of perceived inequities. All of these have potentially significant implications for the conservation status of the resources being managed, including the broader ecosystem within which fisheries are prosecuted.

Inflating total allowable catch levels to maintain allocations

Total allowable catches, or controls on the overall fishing effort that can be expended on a stock, are universally recognized as one of the main measures through which the long-term conservation and sustainable use of a fish stock can be secured. However within a number of RFMOs there is evidence that decisions to increase a total allowable catch (TAC) or total allowable effort (TAE) or a lack of agreement to decrease a TAC/TAE are based more on the subsequent impact on States' fishing opportunities rather than scientific advice on the conservation status of the stock.

Within the Commission for the Conservation of Southern Bluefin Tuna (CCSBT), the failure to agree to a reduction in the TAC and establish a harvest strategy to rebuild Southern Bluefin Tuna *Thunnus macoyii* in part results from problems arising from national allocations agreed under the Commission. The Commission has failed to agree on a TAC for the 2001, 2002, 2003 and the 2006 fishing years, despite scientific advice that Southern Bluefin Tuna is at historically low levels. As the Australian delegate stated at the 8th annual meeting of the Commission in 2001 '...the consensus we reached on a preliminary total global catch is a nonsense. Not only do we have no control over non-members, but members have also been unable to agree on their own allocations' (CCSBT, 2001).

One key impediment has been the absence of an agreed formula on how any reductions in the TAC would be

shared by the Contracting Parties. In 2002, CCSBT members finally agreed on the status of the stock and that a rebuilding strategy needed to be developed and adopted, including reductions in TAC. As national allocations had originally been agreed as tonnages rather than percentages of the TAC, the subsequent impact of a reduced TAC on these allocations requires separate agreement. The willingness of members to agree to the rebuilding strategy appears contingent on the outcome of a review of national allocations:

'...the Convention's allocation criteria, and the provisions of UNCLOS on coastal states' rights, must be better taken into account before a management procedure can be settled. This Commission foresaw, ten years ago at CCSBT1, that adjustments in Members' relative proportions of the TAC would need to be made. That is still the case. We need to address this before relativities in catch levels become cemented in through a management procedure' (CCSBT, 2003).

The same trend is also evident in the Northwest Atlantic Fisheries Organization (NAFO) wherein TACs are often set at the high end or above what has been recommended by the Scientific Committee. This can at least in part be attributed to the allocation process and the pressure from multiple member States to possess a portion of diminishing TACs. In its opening statement to the most recent NAFO General Council meeting Canada summed up the link between member tensions over allocation issues and the negative impact on the stocks, stating that 'Overcapacity is an issue in fisheries all over the world and NAFO is no exception. Overcapacity is directly linked to access and allocation. It is a challenge for all countries but we cannot continue to look to the resource or access to another country's allocations to solve this overcapacity problem' (NAFO GC, 2005).

The North East Atlantic Fisheries Commission (NEAFC) has experienced similar issues. At the most recent annual meeting of NEAFC, in September 2005, the Chair made a lengthy reference to this problem in his opening statement, noting that '...the failure to reach agreement on annual allocations in some fisheries for which there is agreement on long term plans is a matter of concern. This is important to be able to control fisheries to maintain the full reproductive capability of the stocks. There is a danger that prolonged fighting about percentages reduces the stock so that, when agreement is reached, the stock percentages will result in smaller quotas to all parties. I urge Contracting Parties to work hard to reach agreement on a fair and equitable basis' (NEAFC, 2005).

A related issue is that disagreements within Commissions, or their scientific committees, over advice on stock status are often motivated by allocation issues. This is because of the direct impact that the level of TAC or TAE will subsequently have on a member's national allocation. This serves to undermine the level of confidence in the scientific advice – either deliberately or unintentionally.

The impact of new members and co-operating non-members demanding an allocation

One of the main factors driving higher TACs/TAEs is the need to accommodate new members and co-operating non-members. While most RFMOs actively encourage States fishing for or otherwise with a 'real interest' to co-operate and become members of the Commission, problems have then arisen in attempting to accommodate the aspirations of new members in regard to quotas. These problems have manifested in a number of different ways, with consequences for effective conservation and management.

If new members are to be accommodated in fisheries where 100% of a TAC for a stock has already been allocated to existing members two options have generally been considered by the commissions; reduce the quotas of existing members or increase the TAC. The latter approach reflects a willingness to adopt a high risk management strategy, with the risk borne by the resource, but appears to be the approach more often taken by RFMOs. This issue has been raised in the International Commission for the Conservation of Atlantic Tunas (ICCAT), with South Africa expressing concern that 'There has been a disturbing tendency to repeatedly increase TACs during recent efforts to develop sharing arrangements, in an effort to accommodate new members without reducing allocations to existing participants. This amounts to nothing less than ICCAT-sanctioned over-fishing, in complete violation of our convention' (ICCAT, 2003).

CCSBT has also wrestled with issues relating to new members, with the decision of non-members to join the Commission appearing to be largely contingent on the quota that they would receive. For example, negotiations were held over a number of years between the three original Commission members, Australia, Japan and New Zealand, and Korea and Taiwan before the latter two joined the Commission. Records show increased catches of Southern Bluefin Tuna by both parties in the years prior to their joining the convention. Despite scientific advice that the spawning biomass of Southern Bluefin Tuna has

been reduced to a low fraction of its original biomass the agreed national allocations for Korea and Taiwan were added to the existing TAC such that those of the existing three members were not reduced. Negotiations are also currently ongoing with South Africa, a coastal State for Southern Bluefin Tuna, to join the Convention with the main impediment being a disagreement over the level of national allocation it would receive. In 2004 South Africa signaled its intention to develop its domestic Southern Bluefin Tuna fishery within a 250 tonnes voluntary limit. In response, the Commission members' views ranged from providing a 30 tonnes allocation to South Africa to not providing an allocation and instead '...observing the development of South Africa's fishery and advising South Africa of the CCSBT's concern with the expansion of SBT fishing by South Africa (CCSBT, 2004). The issue was again discussed at the Commission's twelfth meeting and, in response to South Africa's request for an allocation of 60 tonnes the Members agreed to '...make a final offer of 45 tonne catch limit to South Africa as a condition of it becoming a Cooperating Non-Member of the Extended Commission' (CCSBT, 2005).

ICCAT has also experienced difficulties in encouraging countries, including coastal States, to become contracting parties because of dissatisfaction with allocation processes. For example, while participating as observers for a number of years both Iceland and Norway refused to become members ICCAT until there was recognition under the allocation criteria of the rights of coastal States to utilize stocks under their national jurisdiction. Following the adoption by ICCAT of revised allocation criteria at its 2002 annual meeting both Iceland and Norway have now become members '... in the expectation of getting our fair share of the fisheries' (ICCAT, 2003).

By contrast, the membership of NAFO already includes all relevant coastal States and so the potential for new members is limited to States fishing in high seas areas. NAFO's response to the potential for any such flag States to become members of the organization and seek fishing opportunities has been to agree a resolution advising any aspiring new members that '...stocks managed by NAFO are fully allocated, and fishing opportunities for new members are likely to be limited, for instance, to new fisheries (stocks not currently allocated by TAC/quota or effort control), and the "Others" category under the NAFO Quota Allocation Table' (NAFO, 1999). Vessels from non-contracting parties are known to be active in the high seas of the NAFO convention area and are of concern (NAFO, 2004).



Dugout canoes used for fishing and transportation, Gizo, Solomon Islands. © WWF SPP/Louise Heaps

Indeed one of the outcomes of RFMOs attempts to limit or restrict access to the resource is illegal, unreported and unregulated (IUU) fishing by vessels flagged to non-cooperating States. A number of RFMOs have implemented measures to combat IUU fishing and in some cases this has resulted in the flag State moving to become a member of the Commission and then seeking a quota allocation. For example, in the mid to late 1990s ICCAT implemented a prohibition on the importation of Atlantic Swordfish, Atlantic Bluefin Tuna and Bigeye from Belize; a State that has in the past been closely identified with supporting IUU fishing as a flag of convenience. Belize subsequently took steps to address the control and management of its fleet as well as removing a significant number of vessels from its register. In recognition of these efforts, ICCAT agreed to suspend the import bans on Belize from 1 January 2004. Belize has since become a Contracting Party and requested quotas for a range of ICCAT species commensurate with its 'anticipated requirements'. In requesting these quotas Belize stated that 'we cannot over-emphasize the importance to our delegation to leave this meeting with concrete results with which we can underpin our membership of ICCAT and cooperation with other conservation organizations such as IOTC, IATTC, NEAFC, and CCAMLR' (ICCAT, 2004). Belize's request was not agreed by the Commission. In a subsequent interview published in Fishing News International, the director-general of the International Merchant Marine Registry of Belize expressed frustration saying that 'Participation in any RFMO is in order to co-operate in the enforcement of conservation and management measures in that area and to secure quotas. Therefore, there is a clear temptation to disqualify nations in order not to share quotas' (FNI, 2005).

Accounting for the aspirations of developing countries

A crucial subset in accommodating new members and co-operating non-members within existing allocations is developing countries. One of the key impediments to progress in RFMOs has been a failure to recognise or account for the development aspirations of developing countries, especially coastal States. Allocation of fishing opportunities or quotas among members has generally been based on historical catch which has meant that States not actively fishing over the historical period used did not receive an allocation. This failed to recognise either the rights over resources within a country's EEZ or the dynamic nature of flag State activities on the high seas.

Furthermore, in the period since allocations were made under a number of RFMOs there has been specific articulation under international fisheries law of the special requirements of developing States and the obligation on States to recognise and take these into account. For example, the UNFSA sets out a range of obligations on States with respect to developing States including assisting the latter to develop their own fisheries for highly migratory and straddling stocks and access those stocks on the high seas. Article 11 of UNFSA also specifies the '...interests of developing States from the subregion or region in whose areas of national jurisdiction the stocks also occur' as a criterion in determining participatory rights for new members (UNFSA, 1995).

At the 63rd meeting of the Inter-American Tropical Tuna Commission (IATTC), in discussing limitations on the capacity of the purse seine fleet many interventions by delegations focused on difficulties experienced as developing countries in establishing their domestic tuna industries. The record of the meeting noted that 'Various

delegations expressed their agreement with the need to limit the overall capacity of the international fleet and their intention of working within the agreed limits for 1999, but said that they either planned to increase the capacity of their fleets or wanted their allocation increased in case they decided to increase their fleets, citing their rights as coastal States and/or as historical participants in the fishery and their right to develop their tuna industries' (IATTC, 1999).

There are further examples of States seeking allocations that reflect their status as developing States within the ICCAT forum. In discussing a resolution limiting its fishing effort to five vessels at ICCAT's annual meeting in 2004, the Philippines stated that 'We believe that this Resolution is discriminatory and does not reflect the principles of giving special recognition to developing States. ...We are making this request because we firmly believe that new participants to the fishery resources be afforded a fair and equitable scheme in the allocation of quotas' (ICCAT, 2004).

Changing fishing dynamics

In some circumstances, the allocation of quota may result in changes to the distribution of catch and fishing effort, such as into areas of higher productivity, to less desirable fishing methods or onto juvenile portions of the stock. For example, within the CCSBT forum discussions have been ongoing regarding the potential and mechanisms for quota trading/ chartering and joint venture arrangements. Korea in particular has been keen for the rules relating to quota trading to be agreed by the Commission as it has been unable to catch its national allocation for some years.

With the exception of Australia, all CCSBT members target the adult spawning biomass of Southern Bluefin Tuna. The Australian component of the fishery targets juvenile Southern Bluefin Tuna which are subsequently grown out in inshore tuna farms. The ability to transfer uncaught quota between members, for example from Korea to Australia, would result in a higher catch of juvenile Southern Bluefin Tuna. At CCSBT's 2005 annual meeting Japan raised the issue that the '...current assumption made by the [original members] is that proportional allocations between fisheries, and selectivity by those fisheries will remain as they currently are' (CCSBT, 2005). The implications of increased or reduced mortality on different age classes for a stock at historically low levels of spawning biomass is unclear.

Non-compliance with allocations

Non-compliance with allocations is a problem facing many RFMOs. The Ministerial Declaration from the St John's Conference on the Governance of High Seas Fisheries and the UN Fish Stocks Agreement of 2005 made specific mention of this issue, calling for members to '...ensure that their fishing effort does not result in catches that exceed their fishing possibilities' where an RFMO had established a TAC and allocations (Anon., 2005a).

States utilise a number of mechanisms to avoid compliance with allocations under RFMOs, including the use of any available opt-out procedures or by simply ignoring their quota. Within NAFO the most common kind of objection relates to quota allocations, with the objecting member then establishing a unilateral quota. An average of 10 objections per year was filed against NAFO decisions during the late 1980s and 1990s, although this has dropped over the past decade to between 2 and 4 objections per year (DFO, 2004). For example, in 2004, Denmark, on behalf of the Faroe Islands and Greenland, objected to a NAFO-set allocation of 144 tonnes for shrimp in a management area and subsequently set a unilateral quota of 1344 tonnes for the 2004 fishing season (DFO, 2004). Similarly, the Ukraine lodged objections to its 2005 quotas of Oceanic Redfish and Yellowtail Flounder and reportedly established unilateral quotas 50% higher for Redfish (1000 tonnes to 1500 tonnes) and just under 100% higher for Yellowtail Flounder (76 tonnes to 150 tonnes) (Ducharme, 2005).

The experience of other RFMOs has been that the consequence of providing members and co-operating non-members with inadequate quotas is that these are simply not adhered to, with over-quota catches routinely reported. For example, Turkey, a non-contracting Party to ICCAT, expressed its frustration with ICCAT's allocation process in the following terms; 'You make it impossible to comply with the ICCAT recommendations, even if we want to' (ICCAT, 2003). At the same meeting Trinidad and Tobago noted in its statement that 'Considering the repeated problem of overages that indicates clearly that the current catch limit threatens the economic viability of our swordfish fishery' (ICCAT, 2003).

In its closing statement to the ICCAT Conservation and Management Measures Compliance Committee in 2002, the United States stated that 'We maintain that a perceived inequity in allocation cannot be an acceptable justification for noncompliance' (ICCAT, 2003). With so much at stake for individual States on the outcomes of allocation processes under RFMOs it is clear that 'perceived inequities' are key drivers of non-compliance



Juvenile Bigeye and Yellowfin Tuna.
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by States with national allocations. It would appear that States almost universally take the attitude that where the level of catch or fishing effort by their fleet exceeds their national allocation the only viable solution is to fight to gain an increased allocation – regardless of the conservation status of the target stocks or any wider environmental impacts of higher fishing activity.

A lack of an effective monitoring and reporting regime to ensure members maintain catches within quotas is also problematic. For example, in 2000 CCSBT implemented a Trade Information Scheme (TIS) to monitor trade in Southern Bluefin Tuna with the main objective being to gain more information on the extent of catches by non-cooperating non-members and to provide an alternative source of information on catches by Commission members. However, as catches on the high seas by Japanese-flagged vessels are not categorised as imports by the Japanese government, such catches were not covered by the TIS. As Japan holds 40% of the Southern Bluefin Tuna quota this meant that at least 40% of the global catch of Southern Bluefin Tuna fell outside the operation of the TIS. A recent comparison between publicly available market data and catch reported to CCSBT has indicated that ‘...in the last three years, auction sales of frozen SBT in Japan appear to greatly exceed the quantity expected from CCSBT catch data. Initial estimates suggest that in 2002, 2003 and 2004, auction sales of frozen SBT were in the order of 7000-9000Mt HIGHER than expected’ (CCSBT, 2005a). Independent audits of this and other discrepancies in the catch and trade reporting of members have recently been undertaken however the results of these have not yet been made public.

Ineffective monitoring and reporting regimes, as well as appropriate sanctions against members, to ensure the integrity of national allocations are also apparent within ICCAT. For example, evidence has emerged that some parties have laundered catches of Bigeye Tuna taken in the Atlantic Ocean through misreporting these as having been taken in the Indian Ocean where no catch limits apply (ICCAT, 2005). ICCAT has taken steps to require such catches to be repaid in subsequent fishing years (ICCAT, 2005).

A related, secondary impact of members receiving what, in their estimation is an insufficient level of quota is that it displaces effort into other fisheries that are not regulated by national allocations or fishing opportunities. The allocation of quota within the ICCAT forum has resulted in the transfer of fishing effort into the Indian Ocean, within the area under the mandate of the Indian Ocean Tuna Commission (IOTC). For example, the developing coastal State of Guinea, a Member of ICCAT, stated at ICCAT’s 2004 meeting that ‘the lack of a quota had led to Guinean vessels having to fish in the IOTC Convention area’ (ICCAT, 2004). This is of particular concern because despite scientific advice that the Bigeye Tuna in the Indian Ocean is overfished, the IOTC has failed to implement a TAC or level of fishing effort to effectively address this situation.

Linking financial contributions to national allocations

There is evidence emerging from a number of RFMOs of an unwillingness of States to financially contribute to the organisation unless perceived inequities in their national allocation are addressed. For example, within the NAFO forum, in response to concerns regarding missing or delayed contributions the USA ‘...explained that it has to set priorities regarding its international obligations and that unfortunately, in view of the inability of the USA to achieve an adequate share of fishing opportunities in the NAFO fisheries, NAFO has to take a back seat when USA funds for international commitments are allocated’ (NAFO GC, 2005). At that same meeting (NAFO GC, 2005) Korea also made statements linking the level of its financial contribution with its quota allocation. Korea raised similar issues within CCSBT complaining that it was only utilizing a small proportion of its national allocation but that ‘...its financial contribution to the CCSBT does not incorporate any discount factor for the conservation value of this non utilised allocation’ (CCSBT, 2004).

4. Allocation issues within the WCPFC

The previous section considered the experiences of other RFMOs in defining and allocating some form of participatory right, focusing on how these efforts have often prevented the adoption of necessary conservation and management measures or undermined the effectiveness of such measures once adopted. Given that a number of species under the mandate of the WCPFC are already showing signs of overfishing and overcapacity, it is inevitable that some of the factors that have retarded efforts to address these issues in other RFMOs will be experienced in the WCPO. This section analyses these issues and other relevant considerations in the context of the WCPO, noting the outcomes of the most recent meeting of the WCPFC, existing sub-regional/regional measures and discusses some of the likely outcomes of future discussions on allocation within that forum.

Agreeing a total allowable catch or level of fishing effort

Setting a TAC or overall level of fishing effort is likely to be the foundation conservation and management measure used by the Commission for certain stocks. Determining the level of the TAC or TAE for a stock has proved to be a contentious exercise in other RFMOs. As discussed in the previous section this is in part because of the resultant impact on fishing opportunities of the individual members. With scientific advice that overfishing is likely to be occurring on two of the four key tuna stocks in the WCPO, the potential to reach consensus within the Commission will most likely be diminished over time given that the level of TAC/TAE required to address this situation is likely to be less than current catches. More significantly, precautionary TAC/TAE limits could decrease rapidly if recruitment shifts to more average levels for Bigeye Tuna and Yellowfin Tuna. Compounding this is:

- the fact that the fishery is multi-species and multi-gear in nature, with tensions already apparent between purse seine and longline interests
- the very different changes in the value of tuna catches from the waters of certain Pacific Island States arising from broadly applied management measures, such as an overall reduction in effort

- the lack of alternative sources of income for small Pacific Island States may make it politically and economically difficult for them to agree to a TAC that would result in a diminution of revenue from the tuna fishery, even in the short-term
 - this may be magnified by the fact that access agreements with fishing States can also provide an indirect source of revenue to island governments through aid programmes
- the mobility of distant water fishing fleets (and in some cases their shore-based operations) reduces their incentive to agree to short-term restraint through TAC/TAE reductions for longer-term gains⁵.

Unlike most other RFMOs, the Convention provides for decisions on matters of substance (including setting a TAC or TAE) to be taken by a majority decision if attempts to reach consensus have failed. There are two voting chambers within the Commission comprising the members of the FFA in one and non-FFA members in the other with decisions on matters of substance requiring a three-fourths majority in each. Further, there is no opt-out or objection procedure. This is potentially a significant positive factor given that one or a small group of members can not block the adoption of a TAC/TAE on the basis of allocation outcomes. This may enable such decisions to be more consistent with scientific advice and the anticipated harvest strategy.

In the absence of allocations, TACs for one or more of the key tuna stocks would operate as competitive limits in the absence of allocations, with concomitant monitoring, control and surveillance issues. A competitive TAC or TAE would be a blunt tool to manage a fishery on the scale of the WCPFC, not only in terms of the vast geographical area and volume of catch but also the intersection of sovereign rights and a Convention area-wide competitive TAC/TAE. The potential for significant catch overruns and IUU fishing under such an arrangement would be high with 'all to blame and no-one to blame'. Given this, and as is the case in most fisheries – be they domestic, regional or international – a competitive TAC or TAE would be unlikely to deliver effective conservation outcomes.

At the WCPFC meeting in December 2005, a number of decisions were made under which Commission members, Cooperating Non-Members and participating Territories (CCMs) agreed to limit their catches to certain historical

⁵ A number of investors in domestic fisheries in the Pacific Islands have favoured low capital investment, highly mobile operations. The Taiwanese construction company Tin Hong operated in many Island countries for brief periods in the late 1990s, engaging Chinese longline vessels to catch fish and exporting out of leased premises. In 1996 the company introduced a floating fish processing facility into the Solomon Islands, but soon after had their operating licenses revoked. The plan was to move from country to country in response to catch rates and quality, exporting sashimi tuna to Japan using chartered airfreight space. It is believed they no longer operate in the region.

levels. While an overall level of TAC or TAE has not yet been agreed, the cumulative effect of the agreement by each individual CCM, at least in the longline fishery, could be viewed as a de facto total catch / level of fishing effort.

For purse seine fishing in CCM waters, the cap was set at levels no greater than the 2004 effort, or the average of 2001 to 2004 levels. The Parties to the Nauru Agreement⁶ Vessel Days Scheme (VDS⁷), which allocates in-zone purse seine effort among those parties, is given recognition noting that the PNA will: (i) limit the total number of days at level no greater than 2004 levels, and, (ii) implement the VDS by 1 December 2007. The Commission agreed to develop compatible arrangements for the high seas. Other non-PNA member agreed to limit purse seine effort in waters under their jurisdiction to no greater than 2004 levels, or the average of 2001 to 2004 levels.

This decision appears to have both positive and negative conservation and management implications. An agreement to explicitly recognise a sub-regional arrangement that provides for an allocation among its members of close to 70% of the purse seine fishery is a major advance, and provides considerable leverage for the PNA to call for compatible measures on the high seas and in other EEZs. It should be noted however, that the agreed purse seine effort cap is well above levels of effort that, despite recently elevated levels of recruitment, led to the current depleted stock status of Bigeye Tuna and Yellowfin Tuna. More specifically, the Commission's Scientific Committee recommended that fishing mortality should be reduced from the average 2001-2003 levels. The decision reached by the Commission limits purse seine effort to either the 2001-2004 average or 2004 levels for EEZs and at 2004 levels for the high seas. Purse seine effort was a record high in 2004, equating to a 15% increase over the 2001-2003 average level (J. Hampton, in litt., 22 February, 2006). As a means of reducing effort on and catch of these two species, a system of temporary closures for the purse seine fishery was proposed. The Commission directed the Executive Director to work with CCMs during 2006 to develop a proposal for a system of temporary purse seine closures that is consistent with the IATTC arrangements.

For longlining it was agreed to cap the catch of Bigeye Tuna for each member of the Commission for the next 3 years at the average annual catch for the years 2001-2004, or the year 2004 in the case of the USA and China. Commission members that caught less than 2000 tonnes in 2004 are allowed to increase their catch up to, but not exceeding 2000 tonnes in each of the next three years. It is noteworthy that under this decision Bigeye Tuna has been effectively allocated for three years and since no restraint or reduction in catches was required, agreement seems to have been relatively easily reached, albeit at levels at which overfishing is already likely to be occurring.

Positioning for a future allocation

FFA members have always sought to increase their domestic fisheries in an attempt to increase the flow of benefits into the local economy. In more recent years the establishment of locally-based and flagged fleets, particularly operating under charter arrangements, has also reflected deliberate attempts to generate more in-zone catch history. For example, it was considered to be in Cook Islands' interests to develop an active tuna fishery and to be recording the fish caught in its waters and under its flag to strengthen its case to receive a reasonable portion of the regional allocation (Mitchell, 2001). There have also been suggestions that the licensing of around 100 Chinese longline vessels by Fiji in the early 2000s was an attempt to use the new fleet 'to establish a "catch history" - in an attempt to secure larger fishing rights under new treaties' (Daniels, 2001).

Decisions on allocation are one of only a few to be taken by mandatory consensus under the Convention. This raises the spectre of individual countries delaying a decision on allocation being taken. There are obviously a broad range of reasons underpinning an individual country's rationale for doing so and the diversity of the Commission membership plus the lengthy list of criterion to be taken into account are likely to compound these. For example, in interventions during the second Commission meeting a number of Pacific Island countries stated that developing States should not be subject to limitations where they had existing management arrangements and

⁶ The Parties to the Nauru Agreement are 8 of 14 FFA Pacific Island Member States (Federated States of Micronesia, Kiribati, Marshall Islands, Nauru, Palau, Papua New Guinea, Solomon Islands and Tuvalu). The vast majority of purse seine fishing occurs within the combined EEZs of these States.

⁷ Vessel days scheme. The proposed measure for limiting purse seine effort in the waters of Parties to the Nauru Agreement to replace the Palau Arrangement purse seine effort cap of 205 vessels. PNA countries will be allocated a number of vessel days they can then allocate as they see fit. They may choose to auction them to the highest bidders. They may choose to allocate preferentially to domestic companies. The Palau Arrangement allocated vessels to fishing States whereas the new VDS allocates effort units to PNA countries.

that the Commission's decisions on capacity should not prejudice developing countries. Further, a number of States, most notably the European Community among the flag States, have virtually no catch history in the WCPO while the proportion of catch taken by others (e.g., Japan and the USA) is steadily being eroded by other parties. The constantly changing relativities may equally drive an interest by some parties in rapidly moving towards allocation and others to defer that process.

Analysis of differential economic impacts on Pacific Island countries and DWFN of various management measures and game-theoretical approaches to predict and understand the behaviour of 'players' in the allocation negotiation process may provide some insight into viable options. The value and use of 'side payments' to compensate those States differentially impacted by management measures may well also need to be considered, and, at regional level, could be envisaged under the PNA/FFA framework.

Industry lobbying is also likely to be an important factor. The Chair of the Pacific Tuna Industry Association that was formed in 2004, stated that one of its objectives was that 'the tuna fishing industry wanted to benefit from new management arrangements under the recently adopted Pacific Tuna Convention, including a fair share of the catch allocation' (PIMRIS, 2004)⁸.

Inflating total allowable catch levels to maintain allocations

As noted, biological overfishing is already likely to be occurring in respect to two of the four tuna stocks on which the WCPO fishery is based, Bigeye Tuna and Yellowfin Tuna, while for Albacore Tuna that part of the stock available to the longline fishery is highly impacted by fishing.

It is clear that allocation of participatory rights should be easier when the individual proportions equate to current catch levels rather than delaying agreement on allocation until stocks are at low levels and proportions may be, for example, 30% below current catches.

The recent measures adopted by the Commission wherein levels of catch for the longline fleet and levels of effort for purse seine vessels have been set at historical highs may yet reflect a similar, if unplanned move to gain

support from most CCMs for an early agreement on the allocation of participatory rights. If the allocation debate can be settled within the Commission up-front this may pave the way for more ready acceptance of proportional reductions in future, lending some degree of stability to industry and to countries reliant on foreign revenue derived from access agreements. The PNA countries may well be employing such a tactic in their combined national waters, establishing a historically high effort level for the VDS cap. If, however, the historical highs at which current catch and effort levels have been set simply reflect an unwillingness by CCMs to restrain and reduce fishing activity, the ability of the Commission to fulfil its conservation and management mandate would not appear to be promising.

New members and co-operating non-members

Accommodating new members and co-operating non-members has been a major issue in other RFMOs and one that has undermined efforts to implement effective controls over the total level of catch or fishing effort through allocation of participatory rights. The WCPFC has a number of advantages in dealing with this issue but it is also possible to identify crucial gaps in the current membership that will most likely need to be addressed.

One of the main advantages is that all significant coastal States as well as global fishing States for highly migratory species are already members or co-operating non-members⁹ of the Commission, or are in the process of becoming members.

While the scope of current membership is broad it is already clear that the WCPFC will need to deal with the issue of new members and co-operating non-members; for example Belize sought co-operating non-member status at the second session of the Commission and countries such as Viet Nam are known to be increasing their engagement in tuna fisheries. It is also worth noting that non-member port and market States have been increasingly called on by other RFMOs to implement trade-related measures in support of efforts to combat IUU fishing. It is plausible that such States might in future demand some recognition of this co-operation; for example, Thailand is the most significant producer of canned tuna in the world and would be crucial to

⁸ Interestingly, and perhaps encouragingly, the WTPO at the December 2005 Commission meeting expressed concern at the current conservation and measures for Bigeye Tuna and Yellowfin Tuna, calling them '...a lost opportunity to start at this Commission with an example of responsible management'.

⁹ The United States and Indonesia, both parties to the treaty negotiations, were both granted co-operating non-member status at the inaugural Commission meeting while domestic ratification processes were completed.

the success of any measures to monitor trade in some products from the WCPO.

Advances have been made in other RFMOs in the treatment of new members and co-operating non-members, such as within the NAFO forum, which could provide a starting point for developing innovative ways to provide for new members while avoiding the implosion of the Commission. It is likely that a clear choice will need to be made up-front in the discussion of participatory rights to either accommodate new members and co-operating non-members within existing allocations (e.g., by reducing the proportions of other existing members) or to effectively close the door on new entrants, with compliant fishing then dependent on either access agreements with coastal States or transfer of quota from an existing member. With respect to developing States, the UNFSA requires that the aspirations of such States to participate in high seas fisheries be taken into account. However this is subject to such factors as the status of stocks, the needs of coastal States and general principles relating to the conservation and management of highly migratory fish stocks and the associated ecosystem.

Accounting for developing countries

Drawing on the UNFSA, there is already explicit recognition of the need to account for the aspirations of developing States within the Convention text, including within the allocation criteria. This should assist in avoiding the problems experienced in other RFMOs. For example, in ICCAT the interests of developing States, including coastal States, were not allowed for in the initial allocation process which resulted in a long period of disagreement over overall catch levels and significant over-harvest of already depleted stocks.

While the allocation criteria contained in the Convention include specific criterion relating to developing countries, historic catch is likely to be a dominant factor. One issue that may emerge is a debate over who owns the catch history taken within the EEZ of a Pacific Island country by flag States operating under access agreements. In the case of CCSBT, catch by Japanese vessels within Australian waters was attributed to Japan for the purposes of allocation. It is highly doubtful that this is a precedent which Pacific Island countries would wish to follow as it would effectively reduce their capacity to generate income from tuna resources within their EEZs other than from the access fee.

A separate question is whether the special needs of developing States will continue to be recognised beyond

any initial allocations; for example, whether attempts will be made to mitigate the impacts of declining TACs/TAEs on developing coastal States. There would appear to already be some signals that Pacific Island countries may be seeking some degree of immunity from restrictions (and presumably reductions) on catches or fishing effort. This is discussed in the following section on compliance.

Issues relating to compliance with allocations

As noted, unlike many other RFMOs there is no opt-out or objection clauses against decisions within the Convention. Therefore a decision on allocation would be legally binding on all members. However the invocation of the special needs of developing States or the sovereign rights of coastal States is likely to be a common one within the Commission with the potential to operate as a *de facto* 'opt-out' clause.

For example, the recently adopted Conservation and Management Measures for Bigeye and Yellowfin Tuna in the Western and Central Pacific Ocean (WCPFC, 2005c) which sets out catch and effort limits on these species contains an overarching statement in its 'General Rules of Application' that 'nothing in this decision shall prejudice the legitimate rights and obligations of those small island State Members and participating territories in the Convention Area seeking to develop their own domestic fisheries' (WCPFC, 2005c). This provides a basis for such CCMs to continue to expand their fisheries regardless of agreed limits.

Even if national allocations are agreed the question arises as to whether or not some coastal States will be willing to forgo the opportunity to catch the fish when they are within their EEZs, forgoing short-term economic gain for longer-term benefits. Experiences to date suggest that to do so would represent a significant shift in previous practice especially for small island countries whose economies are reliant on maximising revenue from tuna stocks, particularly given the changes in availability of the stocks due to El Niño/La Niña Southern Oscillation (ENSO) events. For example, in the late 1990s the FFA members agreed to apply a regional Vessel Monitoring System (VMS) as a mandatory requirement of foreign access agreements. However, despite the regional agreement individual countries subsequently refused to risk the short-term loss in foreign revenue under threat by Japan and other DWFNs that they would withdraw from their waters if the VMS requirement was enforced. Finally, Solomon Islands broke off access with a DWFN because of its refusal to comply with the VMS requirements, which



Juvenile Bigeye Tuna.
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initiated a 'push back' by other FFA States on the VMS issue and subsequent increased uptake of the equipment (pers. obs.).

A CCM's record of compliance is an explicit criterion for allocation in the Convention text. An early signal by the Commission that compliance will be an important consideration in a future allocation may prove useful in gaining compliance with Conservation and Management Measures, particularly in the interim period.

Broader environmental impacts

Provisions for transferability of national allocations are likely to be necessary to account for the mobility of the stocks, the significant changes in availability in different areas due to climatic events such as ENSO and changes in recruitment. The potential for transferability, such as between members and /or between areas, will require consideration to be given to the broader environmental impacts of such mobility. For example, stock assessments suggest that Bigeye Tuna in the equatorial region are more heavily fished than those in the more temperate areas such that transferability of catch or effort leading to greater fishing pressure in the former region would be of considerable concern. Similarly, fishing practices of individual States vary considerably with resulting differences in levels of bycatch; for example, some purse seine fleets rely more heavily on associated sets (i.e., setting on fish aggregating devices) than others, with the former attracting far higher levels of bycatch of juvenile Bigeye Tuna and potentially vulnerable species such as sharks.

Another key issue is the nature of the allocated right¹⁰. Regardless of whether an allocation is expressed as a unit of catch or a unit of fishing effort it will be essential that it form part of a package of measures, including those to mitigate catch of non-target species. Of immediate concern is that allocations are, at least initially, likely to focus on the four main tuna stocks of the WCPO so there is potential for fishing effort to shift to unallocated species (e.g., swordfish, sharks) that may be particularly vulnerable to overfishing, or for which concerns are already held.

In addition to concerns about the sustainability of target stocks, concerns relating to non-target, associated and dependent species are receiving increasing global attention with initiatives such as the FAO's International Plans of Action on Sharks and Seabirds as well as a focus on mitigation measures for bycatch of sea turtles in pelagic longline fisheries.

Parallel with initiatives concerning bycatch species is the growth in various sustainability certification schemes for market differentiation, of which the 'dolphin-free' canned tuna labelling scheme is a well-known example. These schemes, coupled with non-government organisation-sponsored guides to species considered to be caught in a sustainable manner are likely to result in increasing scrutiny of conservation and management measures of RFMOs, including the WCPFC, and may ultimately impact on access to certain markets.

¹⁰ For instance, a paper on management options presented to the WCPFC Preparatory Commission noted that national catch allocation schemes leave countries with flexibility to choose management measures that keep their catches within the allocated limits. With capacity or effort allocations, there is much less flexibility available to countries in the implementation of limits at domestic/national levels (Anon., 2004).

5. Discussion and Conclusion

Collectively, RFMOs have responsibility for the conservation and management of a vast proportion of the world's marine resources. As discussed in this paper, the performance of RFMOs is under increasing scrutiny, with processes such as the forthcoming review of the UNFSA and initiatives such as the St John's Ministerial Conference identifying reforms to the structure and functions of RFMOs necessary to improve their ability to execute this responsibility. How an RFMO responds to the question of defining and allocating rights and the nature of these rights has been identified as a crucial issue.

Experience in other RFMOs has shown that allocation of fishing opportunities to members is both an expectation and a necessary component in securing effective conservation and responsible fishing. However these experiences also show that gaining agreement on the basis of allocations, acceptance of the outcomes of an allocation process and then controlling the resulting impacts on the fishery are extremely difficult, with potentially negative consequences for target species and non-target species as well as the broader marine environment.

The WCPFC is the most recent RFMO to enter into force and is already moving to deal with overfishing of two of the four key stocks that underpin the fishery. Hard decisions will be required to secure and in some cases improve the conservation status of the key tuna stocks. Further, measures to address the impacts of fishing on a range of non-target and associated and dependent species, such as sea turtles, sharks and seabirds are also urgently required.

This paper has identified a range of factors that would suggest that the new Commission has a relatively unique opportunity to avoid some of the problems experienced in other forums in dealing with allocation issues including:

- i) although overfishing is occurring on two of the four key stocks the stocks are not yet over-fished, providing a window of opportunity to sustain higher effort / catch limits in the short-term to help gain agreement on allocations
- ii) coalitions are already in place, especially with respect to purse seine fishery through the PNA, and there exist close historical relations between key DWFNs

and Pacific Island countries (including through the provision of development assistance)

- iii) the Commission has moved early to implement Conservation and Management Measures relating to catch and effort limits that might provide first steps towards allocation
- iv) the WCPF Convention is a 'new generation' of agreement under UNFSA and so includes innovative decision-making procedures and special requirements for developing States
- v) other RFMOs and academic thinking have developed innovative ways to approach a number of allocation issues such as new members
- vi) there is already well-established and well-regarded scientific advisory processes in place that may reduce the scope for recommendations on TACs/TAEs to be undermined by allocation considerations

Of course, there are also significant barriers to reaching relatively rapid agreement among WCPFC members. These include:

- i) the requirement for the form of allocations to take adequate account of the migratory, multi-gear and multi-species nature of the fishery
- ii) the lack of leverage over longliners, with little pre-existing in the way of sub-regional or regional controls combined with the ability to fish economically on the high seas
- iii) lack of incentive for either DWFNs and Pacific Island countries to reach an agreement that will make them worse off, given the uncertainty that short-term constraint will deliver future benefits
- iv) discussions in the Commission to date suggest that Pacific Island countries may seek to exercise a de facto 'opt-out' from constraining domestic catches and effort levels, seeking to place the burden for any future reductions on DWFNs – this is unlikely to generate broad co-operation
- v) decisions on allocation require mandatory consensus and, given such factors as the dynamics of catch history and effort, differential impacts of measures, new members and the range of criterion available, this will be difficult to achieve.



Unloading Tuna catch, Papua New Guinea.
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Clearly, allocations in and of themselves will not deliver the required conservation outcomes or stability for the fishery. If the integrity of the allocations is not supported by well-developed monitoring, control and surveillance measures, non-compliance can be expected to be high with resultant negative impacts on the resource. The ability to impose some form of sanctions or penalties linked to non-compliance with quotas, or indeed reductions in quota as a response to other breaches of Members' broader obligations, should be regarded as an integral component of any allocation of participatory rights. In addition, the impact on both target stocks and the broader marine environment of both the nature of the right and the dynamics of any transferability provisions will require constant monitoring.

The question now is whether the geo-political landscape of the fishery, the membership of the Commission, the underpinning Convention text and likely behaviours of the members are sufficiently different to avoid typical RFMO failures. It is clear that more of the same will not do. It is also clear that the Commission cannot afford to delay too long. The challenge, then, is how to move the question of allocation forward.

The FFA countries, in whose waters a substantial portion of the resource resides and which have a special reliance upon tuna, have the most to lose if an allocation agreement is not reached and the resources are overfished. One of the major features of the region is the FFA group, which, if choosing to display cohesion and strength and adopt its often advocated stewardship role, could be the factor that turns the tide in the Commission. The VDS for purse seiners, when fully implemented, is the first major step. Balancing development assistance, long-term relationships with fishing partners and political and economic expediency, these States appear to hold the key to a successful conservation and management outcome.

The paper on allocation to be prepared and discussed at the Commission meeting in December 2006, will be critical to leading future thought and providing a direction for discussions. The interests and complexities of the region should be treated in a methodical, perhaps even academic manner that dampens down frictions between members and emphasises commonalities where these exist. The list of criteria in the Convention is useful but also largely qualitative and wide ranging in nature and so attempts must be made to add quantitative substance and, as necessary, weighting to particular criteria. Any allocation of participatory rights under the WCPFC will obviously represent a negotiated outcome between countries however there is a potentially important role to play for external organisations, including independent experts and academics, in driving debate forward in a frank and fearless manner. Exchanges which entrench positions will only serve to extend discussions beyond a timeframe in which positive conservation outcomes are likely. An arbitrated negotiation, perhaps including an advisory panel of external experts, may offer the best chance of early resolution.

As Lodge and Nandan (Lodge and Nandan, 2005) summarised in their recent paper considering the UNFSA review 'It is important to emphasize that allocation rights, both in the EEZ and on the high seas are subordinate to the obligation to conserve. However, without equitable allocation of rights there is very little incentive for conservation and resources are depleted. The best mechanism for allocation therefore is the one that better serves the fundamental aim of conservation and sustainable use'.

6. Recommendations

1. The WCPFC should move rapidly to allocate, particularly given that overfishing of two of the four key tuna stocks is already occurring and in other RFMOs delays have resulted in a reduced likelihood of agreement in the face of more drastic reductions in catch and/or effort.
2. The Commission should consider the benefits of some form of arbitrated negotiation process and the establishment of an advisory panel of external experts to facilitate decisions on allocation.
3. While compromise will be integral to securing agreement on allocation, options and methods which place the fishery under unacceptable risk (e.g., unacceptable risk of breaching agreed reference points) should be identified as such and discarded.
4. The compliance criterion should be emphasised by the Commission as a key consideration in any future allocation for both members and co-operating non-members and should not be limited in its application to conservation and management measures relating specifically to catch and/or effort.
5. The Commission should agree in advance how new members and co-operating non-members will be accommodated within a system of allocated fishing opportunities. This should include consideration of how the aspirations of developing States to fish on the high seas would be taken into account.
6. The WCPFC should agree up-front how increases or decreases in catch or effort limits will be distributed across members, including how the aspirations of developing coastal States might be reflected in this.
7. Negotiations over allocations should be transparent and, while inexorably linked to harvest strategies and management measures, should be separate from decisions on the level of catch or effort.
8. Strong measures to ensure the integrity of allocations should be implemented, including penalties for breaches of national allocation and reductions in allocations for breaches of other conservation measures.
9. Once allocations have been implemented, through its appropriate technical committees the Commission should ensure that mechanisms are established to monitor the subsequent impacts of allocation on dynamics of fishing.
 - for example, effort shift into areas leading to localised depletion; effort shift onto juvenile stocks; unallocated species; higher bycatch of certain methods.



Salvin's Albatross.
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Source: http://www.daffa.gov.au/_data/assets/pdf_file/6045/wcpfc_convention_map.pdf



Longline fishing vessels berthed at the Fiji Fish Marketing Group Ltd jetty, Lami, Fiji.
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