



Fewer boats, more fish

Towards comprehensive fishing capacity management
in the Western and Central Pacific Tuna Fisheries

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Cover Image: French purse seiner vessel Trevignon hauls a catch of skipjack and yellowfin tuna associated with a fish aggregating device (FAD) in the Mozambique Channel.
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This page: Spanish Albatun Tres is 115 mt long and is the worlds largest tuna purse seiner. Vessels such as this travel from one fish aggregation device (FAD) to another and spread their huge nets to catch everything swimming around the FAD. Around 10% of the catch generated by purse seine FAD fisheries is unwanted bycatch and includes endangered species of sharks and turtles. The catch of large amounts of juvenile bigeye and yellowfin tunas in these fisheries is now threatening the survival of these commercially valuable species.
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Contents

Summary	4
Introduction	5
WCPFC and fishing capacity: opportunity at WCPFC 10	8
Requirements of fishery capacity management	9
Limit and target reference points	9
Fleet capacity inventory and ranking	9
Obstacles to measuring fishing capacity.....	10
Environmental and social criteria	11
Applying the criteria to fisheries	11
Establishing fishing capacity limits	12
Fishing effort management and evolving the Vessel Day Scheme	13
Conclusions and Recommendations	14
References	15

Summary

“The management of capacity requires several key elements – a means to assess the current level of capacity, a means to identify the desired level of capacity (target capacity), and a mechanism to move from the current situation to the desired situation.”¹FAO, 2004

There is a clear need to introduce capacity and effort management in tuna fisheries in the West and Central Pacific Ocean (WCPO) to protect tuna stocks, improve environmental performance generally and to improve outcomes for states and local communities.

Capacity management requires a means to assess the current level of capacity, a means to identify the desired level of capacity (target capacity), and a mechanism to move to the target capacity.

Fishing effort is the amount of time and fishing capacity used to catch fish, for example the number of fishermen, vessel days, metres of gill net or hooks set. Effort limits should be imposed to ensure that fleets do not exceed agreed mortality limits and to provide some flexibility to respond to tuna stock fluctuations.

International legislation and regional agreements are already in place to encourage capacity management, providing guidelines and frameworks.

The Western and Central Pacific Fisheries Commission needs to develop a comprehensive and time-bound capacity management plan that includes the following aspects:

- Set limit and target reference points for all target species
- Require WCPFC’s members to prepare an accurate and detailed inventory of their fishing fleets which is regularly updated addressing data quality issues
- Assess appropriate fishing capacity (quantity and type) against a set of transparent, weighted criteria for environmentally and socially sustainable practices:
 - Bycatch levels
 - Environmental impact
 - Energy consumption
 - Employment and working conditions
 - Location of socio-economic benefits
 - Product quality
 - Compliance history
- Rank categories of vessels against sustainability criteria
- Apply an improved Vessel Day Scheme, with vessel days sold to operators best fulfilling the environmental and social criteria
- Set and implement fishing effort limits, after fleets have been reduced and/or transformed by the application of the sustainability criteria and process.

The report contains essential detail on the implementation of the key elements of a fishing capacity management plan for Western and Central Pacific Ocean (WCPO) tuna fisheries.

¹ FAO: Measuring and Appraising Capacity in Fisheries, 2004.
<http://www.fao.org/docrep/008/y5443e/y5443e00.htm>

Introduction



Activists deploy a banner reading “No Fish No Future” next to the Albatun Tres, the world’s biggest tuna fishing vessel, known as a super super seiner. The ship can take 3000 tonnes of tuna in a single fishing trip which is almost double the annual catch of some Pacific island countries. Greenpeace has been highlighting the overfishing of tuna in the Pacific for the past two months. © Greenpeace / Paul Hilton

Fishing overcapacity is generally described as a problem of too many boats chasing too few fish. But it is more complicated than that. For example many of the boats are using gear and/or fishing practices that result in environmentally and socially unsustainable exploitation. The problem of overcapacity is also directly linked to a lack of oversight and control over excessive or inappropriate investment, aid or subsidies to fisheries. All too often, investments and subsidies result in large-scale fisheries development at the expense of dependent fishing communities, especially in developing countries, as well as the long term sustainability of the fisheries and the environment.

Fishing capacity management schemes mostly deal with amount of capacity (such as vessel numbers and size, engine power), but rarely, if ever, with the type of vessel, its gear and its environmental and social impacts.

Environmental and social impacts, if they are addressed at all, are only considered later when the wrong type of fishing capacity is already operating. For example, technical measures to attempt to minimise bycatch of unselective gears or reconversion and training for fishermen after losing their livelihood, are “end of the pipe solutions”, in an attempt to rectify past errors. Unfortunately, a great many fisheries are already in a dire situation due to the lack of adequate capacity management to date including the WCPO tuna fisheries.

Greenpeace is advocating that, rather than transferring existing industrial tuna fishing capacity to developing coastal states of the Pacific, where possible domestic fisheries should be developed based on fishing techniques which are more suitable for use by coastal communities and more selective so as to minimise bycatch. Pole and line, handline and troll fishing techniques, for example, have the potential to be the most environmentally friendly methods of fishing skipjack, yellowfin and albacore tunas and can also offer greater employment opportunities and greater returns to the region as a result of the price premiums increasingly paid by many retailers and restaurants in the sustainable seafood sector.¹ In order to move towards this vision a long-term regional plan for capacity management and domestic fisheries development needs to be developed.

In order to begin addressing overcapacity and to prevent the situation from getting any worse Greenpeace is calling on the WCPO to urgently agree to cap the number of longline and purse seine vessels in the fishery. Beyond this and more efficient effort management controls² the needs to prioritise the development of a clear, time-bound plan to assess and eliminate overcapacity in the WCPO using transparent and equitable social and environmental criteria for reducing overcapacity in tuna fisheries as outlined in this report.

1 Greenpeace Australia Pacific (2013). Transforming Pacific Tuna Fisheries. <http://www.greenpeace.org/australia/transforming-tuna/>

2 See Greenpeace’s full recommendations for WCPFC 10th annual meeting. <http://www.greenpeace.org/international/WCPFC-10/>

International commitments on fishing capacity

The international community has already committed to manage fishing capacity but action is well overdue. The 1995 FAO Code of Conduct for Responsible Fisheries called on states to conduct assessments of capacity with a focus on identifying excess capacity in fisheries. In June 1999, the Food & Agriculture Organization (FAO) adopted the International Plan of Action (IPOA) for the Management of Fishing Capacity² whose immediate objective was for states and regional fisheries organisations to “limit at present level and progressively reduce the fishing capacity applied to affected fisheries”, “to achieve world-wide preferably by 2003, but not later than 2005, an efficient, equitable and transparent management of fishing capacity”. The IPOA also called for “immediate actions for major transboundary, straddling, highly migratory and high seas fisheries requiring urgent measures”. Clearly by 2013 the deadline has well and truly passed.

Already in 1995, the UN Fish Stocks Agreement (UNFSA) required coastal states and states fishing on the high seas to take measures to prevent or eliminate overfishing and excess fishing capacity and to ensure that levels of fishing effort do not exceed those commensurate with the sustainable use of fishery resources³. Both of these are legal obligations and the duty “to ensure” is an obligation of due diligence, backed with a liability for its breach and an obligation to pay compensation, as has been described by the International Tribunal for the Law of the Sea (ITLOS) in its Advisory Opinion on deep sea mining.

International obligations (outlined in the box to the left) are transcribed in the 2004 Western and Central Pacific Fisheries Commission (WCPFC) Convention³:

Article 5: “the members of the Commission shall: (g) take measures to prevent or eliminate over-fishing and excess fishing capacity and to ensure that levels of fishing effort do not exceed those commensurate with the sustainable use of fishery resources;”

Article 10.2: “the Commission may adopt measures relating to, inter alia: (c) limitations of fishing capacity, including measures relating to fishing vessel numbers, types and sizes;”

UNFSA also requires states to collect data for standardising fleet composition and vessel fishing power and for converting between different measures of effort in the analysis of catch and effort data, including vessel type, vessel specifications (eg material of construction, date built, registered length, gross registered tonnage, power of main engines, hold capacity and catch storage methods) and fishing gear description (eg types, gear specifications and quantity).⁴ Useful definitions are included in the box on page 7.

More recently, the Kobe process, involving all Tuna Regional Fisheries Management Organisations, also discussed and highlighted the lack of effective management of fishing capacity in all tuna Regional Fisheries Management Organisations (RFMOs) including in the WCPFC.⁵

In order to ensure environmentally, socially and economically sustainable exploitation of tuna resources in the WCPO, it is not only necessary to address how many boats should get access to the fishing grounds and how much they can sustainably catch; but also to determine how the fishing will be conducted (which types of fishing vessels, gear types and practices are allowed).

³ See the full text at <http://www.wcpfc.int/convention-text>

⁴ Annex I - Standard Requirements for the Collection and Sharing of Data Article 4.1 (b) (c) (d)

⁵ <http://www.tuna-org.org/RFMOsAus2.htm>



A shark is pulled from the depths on a Taiwanese longliner fishing in the Western and Central Pacific. © Greenpeace / Paul Hilton

Definitions: Fishing capacity and effort:

The 1999 FAO Technical Consultation on the Measurement of Fishing Capacity developed a comprehensive list of major capacity characteristics by gear type which is presented below. The FAO paper used the following definitions.

Input capacity - represents the fixed inputs used to catch fish. This might include the number of boats in the fishery, the size of these boats, gross tonnage, hold/freezing capacity, engine power as well as the type, size/number of fishing gears.

Output capacity - is the maximum level of output that can be produced by the capacity base if it is fully utilised i.e. the amount of fish (or fishing effort) that can be produced over a period of time (eg a year or a fishing season) by a vessel or a fleet if fully utilised and for a given resource condition.

Target capacity - relates to the level of output and/or levels of effort and capital that achieve the longer term goals of fisheries management.

Overcapacity - relates to the difference between "current" capacity (either in terms of effort, vessels, or expected catch given the long-term stock level) and the target level of capacity. It is a longer term indicator of how much adjustment may be required in the fishery, and it takes into account the changes in stock levels that would occur as a result of this adjustment.

Fishing effort - the amount of time and fishing capacity used to catch fish, for example the number of fishermen, the number of vessel days, the number of metres of gill net set, the number of hooks set, the number of pulls or shots made, etc. The FAO paper observed that "Fishing capacity should not be viewed as a proxy for fishing effort (Kirkley and Squires, 1999). Changes in effort levels do not necessarily change the potential output of the fleet and so do not directly affect the capacity (just capacity utilisation)."

WCPFC and fishing capacity: opportunity at WCPFC 10



Taiwanese longline fishing vessels Her Hae (left) and Jia Yu Fa (right) illegally transferring fish at sea. The transfer of fish at sea is one of the methods used around the world to cover up illegal, unreported and unregulated (IUU or pirate) fishing activities. The Greenpeace ship MY Esperanza is monitoring the pockets of international waters that Pacific countries want closed from all fishing activities in order to protect the declining tuna stocks. © Greenpeace / Paul Hilton

So far, management within WCPFC, with the exception of tropical longlining, has focused primarily on managing fishing effort without adequately addressing catch limits and fishing overcapacity or the environmental and social impacts of fishing gears, methods and practices used in the region.

The WCPFC's September 2013 Draft Conservation and Management Measure (CMM) 2013-01 proposes management measures establishing fishing capacity limits for certain fishing gear categories (large-scale purse-seine and longline vessels) by immediately capping the number of these vessels in the region, and calls for the Commission to develop a regional capacity management plan to ensure that fishing capacity of these gear categories do "not exceed levels commensurate with allowable fishing opportunities for the tuna stocks, with a view to achieving sustainable levels in the light of fishing opportunities by 2020".

Greenpeace recommends that the 2020 deadline be changed to 2017 in line with the lifespan of the draft CMM and in order for the measure to be consistent with the Pacific Island Forum Leaders' declaration on domesticating the majority of the region's tuna fisheries by 2017.⁶

If adopted at the upcoming WCPFC meeting in December 2013, this could be a crucial and much needed first step toward the development, adoption and implementation of a more comprehensive long-term capacity management plan as outlined in this paper.

⁶ See Vava'u declaration: <http://www.forumsec.org.fj/resources/uploads/attachments/documents/THE%20Vava%27u%20declaration.pdf>

Requirements of fishery capacity management

Effective management of fishing capacity requires the timely submission of extensive and accurate data, something the WCPFC is struggling with currently⁷. The right to fish comes with obligations and responsibilities, and parties to the WCPFC have the obligation to report catches and other data fundamental to fisheries management.

Ideally fisheries management decisions should follow the following main steps:

- adopt limit and target reference points for all target species based on the precautionary and ecosystem-based approaches;
- establish fishing fleet capacity composition and limits which are environmentally sustainable (gear types and quantity, technological support systems, etc), precautionary, and include social criteria (employment provided, working conditions, etc);
- establish effort limits that ensure the fleets do not exceed agreed mortality limits;
- allocate fishing opportunities among participants in a fishery based on environmental and social criteria, taking into account not only the interests and rights of developing states in whose waters stocks occur, but also the rights of coastal communities to benefit from the exploitation of tuna resources.

In cases where excess capacity already clearly exists, such as the WCPO tuna fisheries, there is an urgent need to limit new capacity from entering the fishery. This must be done in a manner that, consistent with Article 30 of the WCPFC Convention, recognises the special requirements of small-island developing states and territories.



Scoop of tuna and bycatch from the net of the Albatun Tres, the worlds largest purse seiner. All the contents of the scoop, including turtles and sharks caught in the vicinity of a fish aggregation device (FAD) will be indiscriminately deposited to the hold of the ship for freezing. Around 10% of the catch generated by purse seine FAD fisheries is unwanted bycatch and includes endangered species of sharks and turtles. The catch of large amounts of juvenile bigeye and yellowfin tunas in these fisheries is now threatening the survival of these commercially valuable species. Greenpeace activists are on an inflatable next to the vessel documenting the fishing activity. Greenpeace is calling for a total ban on the use of fish aggregation devices in purse seining and the establishment of a global network of marine reserves. © Greenpeace / Paul Hilton

⁷ WCPFC Technical and Compliance Committee reports.
<http://www.wcpfc.int/meeting-folders/technical-and-compliance-committee>



Limit and target reference points

The first and most important step is adopt limit and target reference points for all target species based on the precautionary and ecosystem-based approaches as required by the FAO Code of Conduct for Responsible Fisheries and the UNFSA. Some of the work carried out so far at the WCPFC on choosing and setting limit and target reference points is described in more detail in the Greenpeace submission to the Ninth Regular Session of the WCPFC Science Committee.⁸ Both target and limit reference points need to be precautionary and the acceptable risk of breaching a reference point needs to be very low. It is important that target capacity levels agreed later in the process should be consistent with those target reference points.

Fleet capacity inventory and ranking

Fleet management begins with an inventory of existing and active capacity. It should comprise all fleet segments and include all vessel types and sizes, gears, flags (including joint ventures and charter arrangements) – in short, every vessel participating in the fishery. Such an inventory must be maintained up-to-date and used as a basis to assess and rank various categories of vessels with their various gears and practices according to the criteria described below. An example methodology is provided in the box on page 14.

⁸ Greenpeace submission to the Ninth Regular Session of the Science Committee (SC9). Pohnpei, Federated States of Micronesia, 6–14 August 2013. Available at <http://www.wcpfc.int/node/4834>.

Obstacles to measuring fishing capacity

A major obstacle to the measurement of fishing capacity is the lack of accurate basic data, even for such fundamental aspects as the number and size of fishing vessels participating in a given fishery. Most indicators of fishing capacity are far too simplistic, relying on simple measures such as engine power or vessel tonnage.

A precise measurement of the impact of a fishing fleet on a given stock requires accurate data and statistics on the amount of gear, technological support systems, freezing and carrying capacity, time spent catching fish, setting the gear etc.

In November 1999, the FAO organised a Technical Consultation on the Measurement of Fishing Capacity⁹. Appendix I of the report of that meeting describes major capacity characteristics by gear type (see also: Measuring and assessing capacity in fisheries)¹⁰:

- All gears: Number of vessels, licences, participants, or gear units (whichever is relevant); length of trip; actual number of trips per year or season; potential number of trips per year or season; total catch including discards; level of mechanization
- Handline: All, plus number of lines employed
- Set nets: All, plus total length of net, average set time
- Traps: All, plus number of traps, average soak time
- Purse seine: All, plus time searching, use of fish aggregating or fish-finding aids such as FADs, aeroplanes and sonar, average sets per trip, vessel Gross Register Tonnage (GRT) or GT or other volumetric measure, kW, fish hold capacity
- Longline: All, plus average hooks per set, average sets per trip, average soak time, use of fish-finding aids, vessel GRT or Gross Tonnage (GT) or other volumetric measure, fish hold capacity
- Gill net: All, plus type of net, total length and depth of net, mesh size, average set time, average sets per trip, use of fish-finding aids, vessel GRT or GT or other volumetric measure, fish hold capacity

WCPFC member states should be required to conduct an inventory of the different fleet segments operating in the WCPO.

It is also important to bear in mind that overcapacity is not just limited to fishing fleet capacity, but also includes processing capacity and transport capacity etc. Overcapacity in processing especially is clearly linked to maintaining and even further encouraging overcapacity in the fishing sector. This is often seen in situations where the short-term need to maintain jobs in the processing sector is driving overfishing and overcapacity in fishing fleets over the necessity to protect the resources and ultimately the long-term future of the entire sector. Therefore, it will also be necessary to adjust the regional and global processing capacity to match sustainable and equitable fishing activities as part of managing and adapting fishing capacity. Given the legitimate aspirations of many Pacific Island countries to develop new processing capacity it is important that the investments and permits for new processing in the region be conditional upon the same sustainability and social criteria as the fishing activities and not on obtaining access to fishing grounds alone.

9 <ftp://ftp.fao.org/docrep/fao/007/x4874e/x4874e00.pdf>

10 <ftp://ftp.fao.org/docrep/fao/006/Y5027E/Y5027E00.pdf>

Environmental and social criteria

Assessing what would constitute appropriate fishing capacity (quantity and type) should be based on a set of transparent criteria for environmentally and socially sustainable practices:

- **Bycatch levels** – Different fishing methods result in different amounts of bycatch which are (currently) often discarded. Fishing methods with low bycatch should be given priority access to the available resources;
- **Environmental impact** – The impact of different gears and practices on the environment vary widely, for example level of juvenile catches and pollution. Less destructive fishing methods should be given priority access;
- **Energy consumption** – Some gear and vessel types require enormous amounts of energy compared to the fish they catch. Vessels and fishing methods consuming less energy per tonne of fish caught should be given priority access;
- **Employment and working conditions** – Fishing methods that provide more and better employment conditions, should be given priority access. Working conditions should comply with relevant international standards, notably the 2007 International Labour Organisation Work in Fishing Convention;
- **Location of socio-economic benefits** – the direct income to and investment in the region derived from the fishing operations;
- **Quality of product** – The gear type used affects the quality of the fish caught. Gear types providing good quality of fish for human consumption should be given priority access; and
- **History of compliance** – Past compliance with applicable rules, including quality of data provided by fishers as well as member states should be considered when granting access to a fishery.



Diver Joel Gonzaga of the the Philippine purse seiner 'Vergene' at work using only a single air compressor hose to the surface, in and around a skipjack tuna purse seine net, in the international waters of high seas pocket No1. © Greenpeace / Alex Hofford

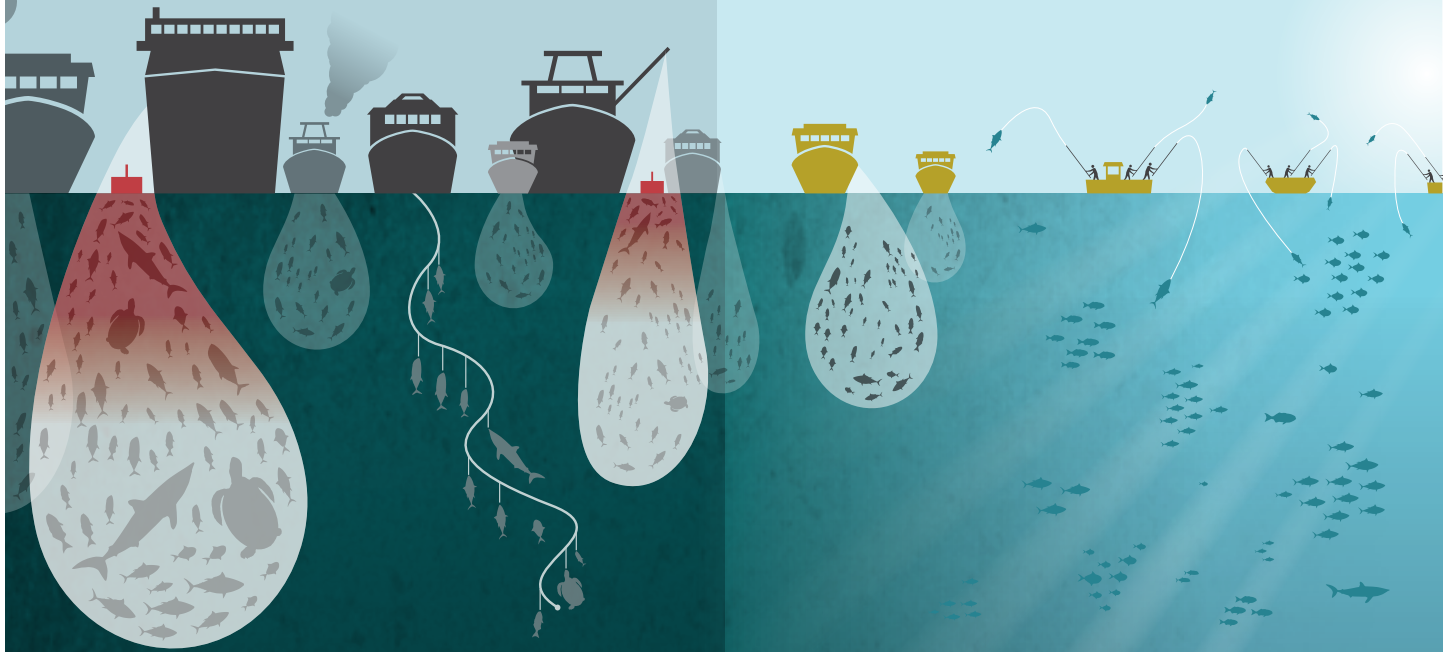
Applying the criteria to fisheries

The application of environmental and social criteria must done in a manner that is measurable and verifiable. Criteria must also be weighted as no vessel/gear will fulfill all criteria and ranking will determine who will get access to the fishery.

The methodology of environmental life cycle assessment (LCA) offers a tool to quantify the various impacts of fishing from environmental, economic and social perspectives. The box on page 14 details the methodology used for lobster caught along Sweden's west coast to compare the impacts of different fishing methods.

FEWER BOATS, MORE FISH

ACT NOW TO SAVE PACIFIC TUNA



OVERCAPACITY IS A KEY CONTRIBUTOR TO ILLEGAL FISHING AND OVERFISHING

2.5
TIMES MORE FISHING CAPACITY IN THE WORLD THAN AVAILABLE FISH

US **\$50B**
ANNUALLY WASTED THROUGH TOO MANY FISHING VESSELS

CAP THE GLOBAL CAPACITY OF LONGLINE & PURSE SEINE FISHING FLEETS

NO TO

- × ILLEGAL
- × ABUSIVE
- × POLLUTING
- × EXPLOITING VESSELS

YES TO

- ✓ LOW BYCATCH
- ✓ OCEAN FRIENDLY FISHING
- ✓ ENERGY EFFICIENT VESSELS
- ✓ THE RIGHT FISH PRODUCTS
- ✓ BETTER WORKING CONDITIONS
- ✓ THE RULES

GREENPEACE

Case Study: Methodology of environmental life cycle assessment conducted on the Norway lobster

An operational application can be found in the LCA conducted on the Norway lobster (*Nephrops norvegicus*) in 2008⁴. Three fishing methods are used in the fishery: creeling, conventional trawling, and species-selective trawling. These were analysed throughout the production chain starting from the production of supply materials, such as fuel, electricity, and packaging materials, through the fishery, transport, retail, and consumer phases.

The analysis considered data on:

- Gear number, dimensions, material
- Fishing effort
- Catch composition
- Average seafloor area swept per unit of landed catch
- Biological impact
- Sensitivity and recoverability of marine species and habitats
- Energy use in fishing, storage, transport, packaging
- Emissions
- Discards
- Ghost fishing
- Baiting
- Product quality
- Safety and working conditions

The analysis resulted in an objective comparison between fishing methods in terms of environmental impact and working conditions as well as recommendations on which fishing method was the least environmentally harmful, and on the overall management of the fishery.

All main parameters contributing to fishing capacity and efficiency should be collected for all gears, fleet segments in each fishery, all flags (including joint ventures and chartering arrangements) and all waters (archipelagic, exclusive economic zone (EEZ), high seas), and submitted by the member states to the WCPFC and Secretariat of the Pacific Community (SPC) to be analysed and determine which type of vessels, gears, etc best fulfils the established criteria.

The various vessel and gear types would then be attributed scores which indicate their relative performance in each of the criteria. Those vessels/gears/practices with the highest score on the combined criteria will be selected as the most appropriate type of capacity.

Once all fleet segments have been attributed their relative score, those segments with the highest score should be further analysed, taking into account the conduct and practices of individual vessels/operators having a good record of compliance.

The scores must be regularly recalculated, eg annually or every two years, on the basis of the compliance performances against the criteria, taking into account progress, technical or other, positively or negatively influencing fishing efficiency.

Establishing fishing capacity limits

Once the most appropriate type of capacity has been determined, based on the ranking from the above assessment, fishing capacity limits should be established to determine the optimal amount of capacity to be used in relation to desired stock levels and agreed target reference points.

Fishing effort management and evolving the Vessel Day Scheme

Both capacity and effort management are needed to ensure fishing mortality is kept within sustainable limits and the fishery operates economically. As long as there is excess fishing capacity in terms of physical assets, such as vessels, pressure will be exerted to obtain access and establish unsustainable fishing mortality through increased effort.

Fishing effort is the amount of time and fishing capacity used to catch fish, for example the number of fishermen, vessel days, metres of gill net set, hooks set, pulls or shots made. FAO observed that "Fishing capacity should not be viewed as a proxy for fishing effort (Kirkley and Squires, 1999). Changes in effort levels do not necessarily change the potential output of the fleet and so do not directly affect the capacity (just capacity utilisation)."¹¹

Effort limits must be imposed to ensure that the fleets do not exceed agreed mortality limits and would provide the necessary flexibility and possibility to adapt to stock fluctuations. They should be implemented after fleets have been reduced and/or transformed following the application of the criteria and process described above.

The Vessel Day Scheme is a mechanism for managing fishing effort. But, while the system has resulted in a significant increase of licensing fees and economic returns for the Pacific Island countries, it is not yet adequately addressing continued increase in fishing effort and capacity.

The VDS must complement management of fishing capacity, keep fishing mortality within sustainable limits and be expanded in its scope to include all fishing effort in the region (including all gears and all waters; archipelagic, EEZs and high seas). In that way, the VDS would apply after preferential access has been granted to local fishers operating in a sustainable and locally most socioeconomically beneficial manner. Then vessel days could be sold to operators best fulfilling the environmental and social criteria and contributing the most to sustainable livelihoods in the region.



An illegal transshipment is seen taking place on board the ship 'Heng Xing 1' in an area of international waters near the exclusive economic zone of Indonesia. The Cambodian flagged vessel, was caught illegally transshipping frozen tuna from a Philippine fishing vessel and two other Indonesian vessels in the Pacific high seas, where none of the ships have licenses to operate. Under international law, the lack of a valid license means the vessels forbidden to engage in any fishing activities - including fish transfer. Greenpeace activists boarded the 'Heng Xing 1' and found the hold to be full of skip jack tuna and juvenile yellowfin, which are likely to be destined for canned tuna markets in the West. Yellowfin tuna is classified on the International Union for the Conservation of Nature (IUCN) 'Red List' as 'Near Threatened'.
© Greenpeace / Shannon Service

11 FAO Fisheries Technical Paper No. 433/2. 2003

Conclusions and Recommendations

There is a clear need to introduce capacity and effort management in tuna fisheries in WCPO to protect tuna stocks, improve environmental performance generally and to improve outcomes for island states and local communities.

Capacity management requires a means to assess the current level of capacity, a means to identify the desired level of capacity (ie target capacity), and a mechanism to move to the target capacity.

Fishing effort is the amount of time and fishing capacity used to catch fish, for example the number of fishermen, vessel days, metres of gill net or hooks set. Effort limits should be imposed to ensure that fleets do not exceed agreed mortality limits and to provide some flexibility to respond to tuna stock fluctuations.

International legislation and regional agreements are already in place to encourage capacity management, providing guidelines and frameworks.



A crew member prepares longlines on board the Taiwanese fishing vessel Kai Jie 1. Greenpeace is calling for the closure of pockets of international waters in the Pacific to all types of fishing in order to rescue tuna from depletion of stocks. Longliners mainly target bigeye, yellowfin and albacore tuna, destined for sashimi markets in Japan and other countries where this food has become popular. Scientists have warned that some Pacific tuna stocks, such as bigeye and yellowfin tuna, are being fished beyond their limits. In addition, approximately 35% of longline catch consists of non-target species, including threatened oceanic sharks, and turtles.
© Greenpeace / Paul Hilton

WCPFC needs to develop a comprehensive and time-bound capacity management plan that includes the following features:

- Set limit and target reference points for all target species.
- Require WCPFC's member states to prepare an accurate and detailed inventory of their fishing fleets, which is regularly updated, addressing data quality issues
- Assess appropriate fishing capacity (quantity and type) against a set of transparent, weighted criteria for environmentally and socially sustainable practices, using life cycle analysis as a tool for quantifying impacts:
 - Bycatch levels
 - Environmental impact
 - Energy consumption
 - Employment and working conditions
 - Location of socio-economic benefits
 - Product quality
 - Compliance history
- Rank categories of vessels against sustainability criteria
- Apply an improved Vessel Day Scheme, with vessel days sold to operators best fulfilling the environmental and social criteria
- Fishing effort limits should be set and implemented after fleets have been reduced and/or transformed following the application of the sustainability criteria and process.

The report contains essential detail on the implementation of the key elements of a fishing capacity management plan for WCPO tuna fisheries.

WCPFC's September 2013 Draft Conservation and Management Measure (CMM) 2013-01 includes a provision aiming to achieve sustainable levels of fishing for tuna stocks by 2020. Greenpeace recommends the target year be brought forward to 2017.

References



Greenpeace activists paint "Tuna Plunder - Fueling Plunder" on the hull of the Panama- flagged MV Fong Seong 888 after it refueled the US-flagged American Legacy fishing vessel. Greenpeace is protesting against overfishing in the pockets of the Pacific international waters that are home to vulnerable tuna stocks. Pacific Island nations are calling for these areas to be closed from all fishing activities to protect the declining tuna stocks. © Greenpeace / Paul Hilton

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. New York, September 1995. http://www.un.org/depts/los/convention_agreements/texts/fish_stocks_agreement/CONF164_37.htm

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NO FIS
NO FUT



Greenpeace divers hold up a banner that reads “No fish No future” next to a fish aggregation device (FAD). Around 10% of the catch generated by purse seine FAD fisheries is unwanted bycatch and includes endangered species of sharks and turtles. The catch of large amounts of juvenile bigeye and yellowfin tunas in these fisheries is now threatening the survival of these commercially valuable species. Greenpeace is calling for a total ban on the use of fish aggregation devices in purse seining and the establishment of a global network of marine reserves. © Greenpeace / Paul Hilton

GREENPEACE

Greenpeace is an independent global campaigning organisation that acts to change attitudes and behaviour, to protect and conserve the environment and to promote peace.

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