Extractive and non-extractive allocation issues
– an environmental perspective

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There are three universal performance criteria for managers of extractive users of the marine living resources of the oceans: yield, sustainability and equity. Depending on how different managers with different mandates interpret, apply and perform against these three criteria, however, a wide range of different outcomes can be aimed at – and an even wider range actually achieved.

Taking the right approach to allocation of access to fish resources thus requires choosing an entire package of measures – that go considerably beyond the scope of what normally passes for fisheries management measures – if intent is to be achieved. I shall attempt to briefly identify and discuss each interlinked element of such packages.

Most importantly, however, is to recognize that, if fairer and more equitable allocation decisions are to be made that actually deliver on governments’ stated environmental, social and economic goals and commitments, a fundamental reorganization of the way the maritime activity of fishing is legitimised, managed and controlled is necessary.

1. EBM > MSY

The place to start is by doing away with the now outmoded concept of ‘maximum sustainable yield’ (MSY) to describe the strategic objective of fisheries managers. This rationale has been used to justify the singularly unhelpful practice of ‘fishing down’ the original biomass of an unexploited fish stock and then harvesting as much of the subsequent growth of recovering juveniles as can be got away with. This is exactly the same approach taken by foresters in clearing natural oldgrowth forest to replace it with managed regrowth and plantations.

The MSY concept has embedded in it the ideological notion that manipulating a wild animal population to extract as much human benefit as possible, indifferent to impacts on the ecosystems and any related species involved, is an appropriate approach for resource managers, and for the fishers they manage, and an acceptable basis for government policies – it is not.
I am delighted to say that the concept of ‘ecosystem-based management’ – or EBM - is beginning to replace the concept of MSY as the basis for ocean and coastal resource management. It is important that this concept invades the minds, as well as the mouths, of fishers and fishery managers just as quickly as can be done.

The obstacles to making such a fundamental shift should not be under-estimated. When UNCLOS – the law of the sea convention – was negotiated in the 1970s and ‘80s, conservation considerations did not weigh on the minds of negotiators and MSY is actually enshrined therein as the objective of fisheries management – in the context of restricting a coastal state’s ability to retain unexploited or under-exploited fish stocks in favour of the interests of foreign fishing fleets.

Even when ecosystem considerations are now more widely accepted in the international community, the World Sustainable Development goals adopted by governments in 2002 still identify MSY as an aspirational goal for fisheries management – albeit only in the context of recovering over-exploited stocks. This is somewhat ironic in that it is hard to escape the conclusion that the concept of MSY has been little more than rhetorical veneer to cover for the serial depletion of those fish stocks.

[Integrative graphs: biomass decline in selected NZ orange roughy stocks; biomass decline in selected Canadian benthic fish species.]

**Intergenerational equity**

Of all the allocational offences inherent in the MSY approach, perhaps the worst is the offence to intergenerational equity – the notion that each generation should leave its part of the planet in at least as good a state as we found it. The universal recounting of stories by older fishermen about bygone days when fish were more plentiful only compounds the offence.

Among other changes, genuine acceptance of EBM requires development and adoption of approaches to management that place the harvesting of a particular stock of fish in the much broader context of a commitment not only to maintaining the basic health of marine ecosystems as a whole but also to fostering the wellbeing of all marine species (including the target population) and their habitats.

In turn, adoption of an EBM approach requires fundamental institutional realignment whereby agencies with responsibility for sectoral management of fishing, as just one of a range of legitimate maritime activities, can be placed in a context set by broader institutional arrangements with the mandate and power to coordinate maritime activities and determine integrated outcomes – including allocation of access to marine areas in both space and time, and to set catch levels for commercial fisheries that reflect the interests of species other than ourselves and interests other than industrial fishers.

**Sharing with other species**
The next worst allocational offence inherent in the MSY approach is the disregard for the interests of other species and the habitats that sustain them - whether incidentally destroyed by bottom trawling, as bycatch & incidental mortality, etc., or competitively starved by removal of critical food supplies – to say nothing of the destruction of the target stocks themselves.

It has taken the strident articulation of the wider community’s concern over the fate of non-target species such as dolphins, turtles, seals and seabirds to impress upon fishers and their regulators the needs to reach beyond MSY as the ideological and policy framework for control of fishing activities. Only the most romantically deluded among us could conclude that such a broadening of responsibility and purpose was driven by any inherent maturation of purpose within the general fishing community itself.

The point is obvious and not worth dwelling on at length – except to emphasise it’s importance – and the institutional implications of taking such ‘externalities’ seriously. In particular, industrial fishers and their regulators should not be surprised if their ideas for allocation of tradeable property rights to fish resources are met with some amazement, fear and derision by the wider community.

2. ADHERENCE TO INTERNATIONAL AGREEMENTS

While the right to allocate and control access to terrestrial resources is mutually recognized by nation states as their inherent sovereign right, this is not the case for marine resources, where such rights are created – and constrained - by the provisions of UNCLOS – the law of the sea (and numerous other international and regional agreements). Even within coastal states’ 200 mile EEZs, such international law limits the legal exercise of state power.

This is something that needs to be borne in mind by those championing the cause of creation and allocation of property rights to marine resources – it’s not that simple! We have a long way to go in developing regional management arrangements and global oversight and accountability provisions before a clear mandate to create and allocate property rights to marine resources will be established – and that mandate will be heavily constrained by the obligation to share (unlike on land, where the opposite is customary).

The world is not short of such global and regional agreements where commitments to good oceans and fisheries management have been made – but we are falling well short of formal acceptance of and effective implementation of such commitments by governments.

Coherent and comprehensive implementation of these commitments requires all eligible governments to sign, accede to and/or ratify all relevant international and regional agreements. Indeed, failure to do so represents an enormous obstacle to prompt and effective progress towards EBM.
While there is widespread ratification of the main two global agreements – UNCLOS and Convention on Biological Diversity (CBD) – there are some notable exceptions that must be addressed. Meanwhile, fisheries-specific agreements such as the Fish Stock Agreement and the High Seas Compliance Agreement are not widely ratified and even more poorly implemented, as is the case for the safe and proper operation of fishing vessels and treatment of fish workers on such vessels. At the regional level, many flag states allow their vessels to operate in areas and on stocks covered by agreements to which they are not party.

While ratification of such agreements is improving and numerous urgings have been adopted by governments, no sense of urgency is yet apparent – yet, if comprehensive acceptance of international commitments is not achieved, how are we to expect prompt and effective implementation. No state can claim to be committed to the ‘decade of action’ declared by the FAO’s Committee on Fisheries (COFI) last March until it has at least ratified all relevant international agreements.

The days when states could get away with ‘opting out’ of international agreements (or of specific measures adopted by management bodies), yet still expect access to marine resources provided for by those agreements, must come to an end.

**No commitments? – no access!**

The next worst allocational offence is to allow states and the fishing vessels they flag to have access to fish resources if those states have not ratified or acceded to all relevant agreements and developed the national capacity to ensure compliance with relevant provisions. ‘No commitments – no fish’, and ‘no compliance – no fish’ should be the norm for all allocation regimes.

It is simply not fair – and an open invitation to abuse – to allow states that have not accepted international obligations to licence their fishers to operate in competition with states that have accepted such obligations.

### 3. AVOIDANCE OF DESTRUCTIVE FISHING PRACTICES

At the 7th Conference of the Parties to the CBD last year, governments decided that there is an urgent need to take short, medium and long term measures to control destructive fishing practices, including interim prohibitions, where appropriate. Such interim prohibitions are an obvious, cost-effective starting point – stopping making things worse (which is quick and cheap) as a prelude to making things better (which is harder and slower) – “Freezing the Footprint” of damaging and unsustainable activities.

It is obviously wrong to fish in a manner that knowing reduces ecosystem health and viability of other species – and unfair to allow such fishing practices to continue.
Take bottom-trawling, for instance – immediate short term measures to limit bottom
trawling to areas previously bottom trawled and an interim prohibition on bottom
trawling in high seas areas where there is inadequate knowledge or control to avoid
significant harm is clearly justified. In response to a campaign by environmental NGOs
against unmanaged bottom trawling on the high seas, this year’s United National General
Assembly (UNGA) will consider adoption of an interim prohibition on bottom trawling –
and maybe all unmanaged destructive fishing practices – outside EEZs and areas covered
by management regimes capable of regulating such activities.

Again, what happens at the UNGA will clearly indicate real commitment to COFI’s call
to move from words to action. While some states have taken some steps towards such
interim prohibitions both within their own EEZs and within regional management bodies
in which they have a conservation and management interest, progress is limited and slow.

It is obviously most unfair that fishers that have been excluded from one fishery as
effective controls have been introduced (or ineffective control allows stock depletion) can
merely move on to a new fishery on the high seas and engage in licenced plunder.

[Fig 3: insert chart of reported catch rates for the Madagascar Ridge in the south-east
Indian Ocean.]

With respect to the high seas, whatever happens in the short term at this year’s UNGA,
medium term actions are needed to ensure that existing management arrangements,
including Regional Fisheries Management Organisations (RFMOs), are expanded with
respect to both competency and geographic coverage to establish effective regional
ecosystem management arrangements capable of delivering ecosystem-based, integrated
oceans management.

In the longer term, these regional ecosystem management arrangements need the time
and resources to allow appropriate conservation measures to be developed that ensure
appropriate restriction of destructive fishing practices – thus obviating the need for
interim measures – what Greenpeace has been calling Regional Ecosystem Management
Bodies and WWF has been calling Regional Oceans Management Organisations.

The extent to which we need to see sectoral regulatory bodies amalgamated into single
new regional bodies capable of delivering EBM through regulation of all relevant
maritime activities or merely impose regional coordinating and control arrangements
upon such sectoral managers is an open question. With industry good will, mere
coordination should suffice, but I fear that, on past experience, strong regional
institutions capable of over-ruling sectoral agencies articulating vested interests – or even
replacing them - will be needed.

The next worst allocational offence is to allow industrial fishers to exploit high seas fish
resources without any management framework having been established – let alone
management measures developed and applied. Such offence is given by flag states by the
simple expedient of licencing their vessels to fish on the high seas in the absence of any
such arrangements – something supposedly responsible states, like Australia, are just as guilty of as those more customarily regarded as irresponsible.

4. FAIR AND EQUITABLE ALLOCATION OF FISHERIES RESOURCES

The concept of sharing in the oceans bounty has two key components – sharing between human needs and those of other elements of the oceans ecosystem; and sharing between human societies and economies. That such sharing should be fair and equitable is just the first principle to be accepted – and then elaborated and applied in practice.

The key reason why EBM must replace MSY as the basis for fisheries management is it includes an obligation to ensure that any resource extraction by humans does not cause serious or lasting harm to other species and the ecosystem relationships they rely upon – now or in the future.

Precaution – ignorance is less

The improvements in knowledge needed to make the successful transition from an MSY approach to EBM are considerable and should not be underestimated. The proper application of the precautionary principle can be used to discount harvest levels, or defer harvest decisions, in recognition of the higher risks inherent in lack of adequate information. That is to say, lack of scientific information need not prevent allowable catches being set - but fishers must accept that failure to allocate adequate resources towards both pure and applied scientific research to allow better understanding of ecosystem relationships, will result in precautionary discounting to lower catch rates.

The proper application of precaution also serves to ensure that the interests of future generations are respected – they have the right to expect to benefit from the oceans bounty in the same way that our generation does – and those that came before us.

Industrial fishers v. coastal communities

More important for human benefit, however, is the need to ensure that coastal communities, especially those in developing countries that are reliant on nearby ocean resources for subsistence and survival (including indigenous communities and artisanal fishers) are given appropriate preferential access to fish resources. Distant water and industrial fishers have the means and opportunity to choose where to fish – such coastal communities do not. Unfortunately, such foreign and industrial fishers habitually have the power and influence to get their way despite the adverse impacts on coastal communities.

From a social perspective, this is undoubtedly the most important aspect of allocation policy. In Australia this is played out in the often fractious disputes between commercial and recreational fishers – where recreational users do a pretty good job of looking after their interests. In many developing countries for instance, coastal communities generally
fare very poorly when it comes to representing their interests against those of industrial fishers, especially foreign ones from developed countries – a very unequal conflict indeed.

As an aside, it has to be noted that this is the real tragedy of the commons – the failure of the state to protect weak communities against rich and powerful individuals - not the failure to allocate and exercise rights within such communities. Much as I am tempted to deliver a history lesson on the reasons for the enclosures of the commons of England, I shall resist – except to note the cruel irony in the frequent and inappropriate reference to the ‘tragedy of the commons’ by those who would alienate to themselves the community’s interest in the fair, equitable and sustainable allocation of rights to extract natural resources from the oceans.

**Catch History is Bunk**

Closer to the present meanwhile, for deep sea fisheries, especially on the high seas, catch history should not be relied upon as the primary basis for allocating future catches. UNCLOS formally establishes the living marine resources of the high seas as being open to and belonging to all.

Open fisheries must be open to new entrants if the sustainable development aspirations of many developing countries are to be realised. This is a critically important allocation issue. Any attempt by those few countries and companies with the current means to exploit high seas fisheries to limit access to themselves is wrong – and any country seeking to encourage or entrench such limited access would be acting in breach of international law.

Reliance on catch history merely encourages excessive activity by those currently involved in unmanaged fisheries in anticipation of management being imposed and catch history being adopted as a basis for catch allocation.

**Efficiency and Effort limitation**

Similarly, it should be regarded as desirable for governments to control fishing effort for social and economic reasons as much as for environmental ones. Restrictions on fishing gear type, vessel size and power, seasonal limitations, allocation controls will be relevant in many situations where restricting fishing effort is justified and minimizing social and economic impacts is an objective of government.

While use of market-based mechanisms, such as ITQs may have a place in appropriately institutionalized fisheries, the evidence from those countries that have relied heavily on ITQs clearly indicates the ongoing need to retain use of more interventionist measures as well if policy objectives are to be met.

Incorporation of such approaches into ocean resource allocation and management arrangements by governments that give priority to the needs of coastal communities
would significantly contribute to the Millennium Development Goal relating to poverty alleviation and freedom from hunger. To rely merely on market instruments is to invite concentration of ownership in the hands of profit-maximising corporations - with no inherent expectation of responsible behaviour.

[viz. NZ orange roughy and hake, and Icelandic cod – the latter showing no signs of recovery even after twenty years of ITQ management.]

**Respect for Science**

One of the key differences between the MSY and EBM approaches to fisheries management is the substantially greater information requirements for full adoption of EBM.

More importantly, however, is the need to respect what scientists have to say about the management of target stocks as well as the implications for the rest of the ecosystem. I am struck by the number of scientists and managers who privately express horror and frustration at the lengths to which fishers will go to reinterpret scientific information and contest scientific advice in the interests of increased allocations today in the full knowledge of higher risks of collapse tomorrow.

It is hard to escape the conclusion that Australia’s co-management model, for instance, may not quite be leaving the fox in charge of the henhouse but more like just giving the fox the key – the result is much the same. While I would be the last to suggest that scientists’ advice should be immune from critique – by any stakeholder - vested interests in higher catch rates do seem to know how to get their way.

**5. CONSERVATION AND PROTECTION OF BIODIVERSITY**

The effective conservation of biodiversity and protection of particular elements is the most important driver behind adoption of EBM in an integrated manner – all maritime activities must find their own ways of avoiding undue harm to, and adequately taking care of, the same species and ecosystems as they go about their business.

Internationally, the existence of sector-specific bodies to manage and control various maritime activities, especially on the high seas, is an inevitable part of the future in the medium term at least – hence the need for cooperation and coordination if EBM is to be achieved – and the need for institutional development to ensure such coordination and sectoral performance.

There are three areas where prompt action is needed (assuming short term measures to control destructive fishing practices have been taken):

- development of networks of MPAs,
- avoidance of bycatch and incidental mortality problems, and
- shared EIA standards and processes.
MPAs to show the way on Coordination and Cooperation

The WSSD commitment to establishing a network of representative Marine Protected Areas (MPAs) by 2012 is bold and exciting and some countries and regional bodies have made good starts. [Note CCAMR 2005 meeting decision to establish a network of representative MPAs throughout the Southern Ocean.] Generally, however, initial progress is disappointing and, at current rates of progress, we will need the next century – not the next decade – to reach our goal.

MPAs represent the clearest and most effective single measure that can be taken by states to demonstrate their commitment to EBM – recognition that species and ecosystems have a right to exist and prosper independent of their utility to humans and that restrictions on uses in particular areas is key part of the appropriate response.

Identification, declaration and effective management of a network of MPAs requires the close cooperation of all relevant bodies responsible not only for marshalling scientific information but also for the management and control of each maritime activity. Development of an MPA network can thus be used to pioneer development of the cooperative arrangements, including institutional developments, needed not only to deliver MPAs but also to deliver oceans EBM – thus making it a top priority for action.

Obviously, the faster and easier MPA networks are established, the less institutional reform will be justified – or called for – within coastal states, regionally and internationally.

A really important step along this path of establishing MPA networks, especially on the high seas, needs to be taken at the 8th CBD Conference of the Parties – due in March this year: taking the lead in marshalling available scientific information to identify areas warranting MPA designation according to ecological criteria that the CBD adopts. Other bodies with the mandate to control particular maritime activities on the high seas can then act upon advice from the CBD to impose appropriate restrictions on activities.

While such institutional intricacies of establishing MPAs on the high seas might appear overly labyrinthine, actually mirrors the sectoral hurdles faced by proposals to establish MPAs in EEZs under coastal state control. – that other bodies with appropriate competency can apply in controlling various maritime activities.

Bycatch and incidental mortality mitigation and avoidance

Protection of non-target species, especially by avoidance or mitigation of bycatch and incidental mortality, is a critical early step towards oceans EBM. Four main groups of species have been identified as being in particular and urgent need of better treatment – seabirds, marine turtles, marine mammals, and sharks, skates and rays.
Complementary lists of threatened species in need of similar special protection have been developed but the steady addition of more species to such lists is a strong indicator that trends in our actual performance as managers of the oceans are not good. Measures that are particularly effective for each particular maritime activity/species interaction, in each region need to be developed – and effectively implemented – backed by research to allow continual improvement in priority setting and impact reduction.

Again, progress by governments and regional bodies has been patchy and slow. It is important that political and technical investment in continual improvement is sufficient to drive rapid progress – or fishers will risk losing access to fisheries because the impact on other elements of the ecosystem are judged by the wider community to be too great.

In many cases, important policy decisions have to made to decide which species are to be classed as ‘non-target’ and thence offered special protection in this way. EBM can provide a process for informed judgment – but not an answer to what are basically ethical questions for we humans. While some societies, communities and countries are comfortable with the idea that some taxa (like seabirds, seals and cetaceans) should not be subjected to targeted killing or indirect killing, others are not so concerned.

**EIA for All**

Successful EBM requires a much greater understanding of marine ecosystems and interactions between their living and non-living components. The best way to develop – and apply – such knowledge is to require all potentially damaging maritime activities to be subject to the same requirements for Environmental Impact Assessment (EIA) and, in some cases, wider Integrated Impact Assessment (IIA) that includes social and economic effects.

An early step towards better international cooperation should be the adoption of common EIA and IIA standards and criteria by all governments, international bodies and regional bodies with management responsibility for one or more maritime activities. Over time, this commitment to sectoral EIA/IIA can be developed into integrated, regional assessments that encompass all maritime activities- and so allow for truly Integrated Oceans Management (IOM).

Like MPAs, therefore, the introduction of common EIA principals, standards and procedures for all maritime activities can drive development of the collaboration and cooperation we need if integrated oceans management is to be achieved.

**6. HIGH SEAS GOVERNANCE REFORM**

[Note this section will need review before delivery following outcomes of the UNGA Open-Ended Working Group in New York in February 2006]

While UNCLOS made it clear that coastal states had the right to manage exploitation of living marine resources within their EEZs (with important limitations), control of
maritime activities on the high seas remained the responsibility of flag states. Subsequent negotiation of the Fish Stock Agreement (FSA) and the High Seas Compliance Agreement under the auspices of FAO did much to establish a framework of government obligations capable of being applied to deliver EBM with respect to high seas fisheries activities, at least.

In practice, however, progress has been disappointing – government parties to pre-existing regional fisheries bodies have been slow to upgrade the mandates of such bodies and to adopt suitable management measures. RFMOs developed pursuant to the FSA have better mandates but still poor implementation. Additionally, there are regions of the world’s oceans and exploited fish stocks that are not covered by any (or by adequate) regional management arrangements.

Global Oversight of Regional Management – the Way to Go

Regional management arrangements – that are genuinely committed to EBM implementation – primarily delineated according to ecological principles (and political realities) are to be encouraged to the greatest extent possible. Upgrading old and emerging regional bodies into comprehensive Regional Ecosystem Management Arrangements (REMAs) that cover all regions and all fisheries activities and, further, by delegation and amalgamation of responsibilities held by various international and regional bodies, creation of Regional Oceans Management Organisations (ROMOs) must happen – and quickly.

Experience has shown, however, that states habitually take very limited agendas, driven by limited sectoral priorities, into meetings of RFMOs. There is no grounds for assuming that states will actually seek to meet their global responsibilities when participating in regional management of marine living resources. It is therefore prudent to establish new global oversight arrangements that make regional management accountable to global commitments – so that all states with an interest in the conservation and management of a region can satisfy themselves that those among them that assert a so-called ‘real interest’ in the region are doing the right thing.

It is encouraging that, at last year’s COFI meeting, some states have expressed an interest in an external review of the capacity of existing regional fisheries bodies to meet the demands of EBM and elimination of IUU fishing (illegal, unreported and unregulated fishing). Such like-minded states should be urged to commission and complete such a review as quickly as possible and so set the agenda for requisite reform.

An UNCLOS Implementing Agreement for High Seas EBM

The extent to which such developments require a broader mandate than that already provided by existing agreements is an open question. Exploration of a new UNCLOS Implementing Agreement to provide a comprehensive regime for high seas biodiversity conservation is an encouraging development and deserves urgent attention – although,
development of customary international law through responsible action should not be delayed in anticipation of such formalization.

Importantly, any such Implementing Agreement must be comprehensive in its potential for biodiversity conservation – not just allowing for MPA designation and extending FSA coverage to include discrete high seas fish stocks – and in its application to all maritime activities – no exemptions for fishers, miners or shippers.

Most importantly, the time has come to assert that fishing by fishing vessels flagged to states that are not parties to relevant international and regional agreements and by fishing vessels in areas or on stocks not covered by regional management arrangements be deemed to be engaged in IUU fishing and thence designated as stateless.

Furthermore, responsible states should ensure that such states and such fishing vessels are denied access to fish resources both within EEZs and on the high seas. Such action would make it much easier for responsible states to take effective action against them – and so end the scourge of IUU fishing – thus demonstrating a commitment to move from words to action.

Similarly, the time has come for real action to be taken against flag states that do not meet their UNCLOS obligation to maintain an ‘genuine link’ with any fishing vessels flying their flags – the so-called ‘flag-of-convenience’ states. In particular, it is important that the beneficial owners of fishing vessels must be transparently notified and steps take to ensure that they can be held liable for the activities of the fishing vessels and fishers that they control. In effect, flag states should only be flagging vessels that operate in their own waters or, if operating on the high seas, are beneficially owned by their own citizens with adequate assets within their jurisdiction, unless specific bilateral arrangements are in place with other states.

Use of flags of convenience by fishers is obviously unfair – as well as being a serious threat to effective management of resources – a calculated move to avoid and subvert rules enforced by responsible states and respected by responsible fishers. For all its legalistic interpretation, IUU is a term that neatly describes these bad actors – and its elimination must be a clear and pressing goal for all.

Importantly, the OECD-hosted and Ministerially-led High Seas Task Force on IUU Fishing is due to hand down its final report in early March 2006 and should identify a suite of measures that should be taken by all responsible governments.

7. ADDRESSING OVERCAPACITY

Unless firm action is taken, overcapacity (too many fishing vessels chasing too few fish) is to be expected as so many different factors contribute to it: technological advance means fewer vessels can catch more fish; both introduction of sustainable management and continued over-exploitation result in lower catch rates needing fewer vessels; rising
population and living standards but less fish means higher prices; and subsidies for the construction and operation of vessels encourages over-exploitation.

Additionally, a bureaucratic culture of not caring what happens to vessels displaced from managed fisheries by such trends means that a large and growing fleet of fishing vessels is under growing economic pressure to break the rules or try their luck on those areas of the high seas where there are yet no rules – and to break the rules in those areas where they think they can get away with it. An industry culture of disdain for governments, and a broader failure to provide realistic regional development alternatives back home, makes such an outcast life more attractive than it should be – or need be.

**Scrap to prosper**

Whatever else is done, we need more scrapping schemes – the permanent removal of fishing capacity not only from a particular fishery but from the stock of world fishing capacity. We have a few examples of such schemes to work from and much theoretical advice to work with – and, if ever there was an area where it is time to talk talking and start acting, this is it.

In particular, creation of new vessels – whether subsidized or not – must be matched by obligations to remove a greater amount of fishing capacity. Encouraging and monitoring scrapping of fishing vessels relieves a whole range of pressures not only on fish stocks themselves but also on managers of those resources.

At the same time, scrapping schemes must be matched with regional development packages that provide realistic, viable and honourable alternatives for fishers, their families and their communities – in recognition of the real social and economic costs of insisting on EBM.

**8. MONITORING, CONTROL, SURVEILLANCE AND ENFORCEMENT (MCS&E)**

Improved management of responsible fishers as well as effective deterrence of irresponsible ones (IUU fishing), requires more and better MCS&E. This applies particularly to fishing vessels capable of deep sea fishing that can readily turn to distant water fishing, high seas fishing, and IUU fishing and so creating huge challenges for coastal states and regional management bodies.

It also requires better identification and control of those managers and beneficial owners of such vessels capable of making such decisions as a key part of effective deterrence strategies aimed at those engaged in or tempted by IUU fishing. Such improvements in MCS&E do not come cheaply or easily, thus requiring:

- Regional cooperation between coastal states and governments involved in regional fisheries arrangements;
• International cooperation where issues and problems extend beyond the region or action is needed at the global level; and, most importantly,

• Specific assistance programmes are developed to help developing flag, port, coastal and market states improve participation and performance in MCS&E arrangements.

The OECD-hosted, ministerially-led Task Force on IUU Fishing on the High Seas (HSTF), established following WSSD, is due to report in March 2006 and is expected to make key recommendations in this area, including such matters as:

• Maintaining a global register of vessels capable of fishing on the high seas, including identification of the managers and beneficial owners of such fishing vessels, and operational histories of such vessels;

• Converting the current informal network of MCS agencies of likeminded governments into a new global institution to support, coordinate and encourage states and relevant international and regional bodies to improve MCS effectiveness;

• Coordinating lists of good and bad vessels and their beneficial owners and flag states as identified by both states and regional bodies; and

• Improving transparency so that the enormous support of civil society for the efforts of governments to eliminate IUU fishing can be harnessed to support and complement the work of governments – so that IUU fishers will be left ‘nowhere to hide’.

• Reviewing the competency and mandates of existing regional fisheries bodies with a view to expanding mandates and geographical coverage to ensure IUU elimination and EBM can be achieved throughout the oceans.

9. CONSUMER CHOICE SCHEMES

As part of the efforts by the wider community to assist governments, it is encouraging to see the development of numerous consumer choice schemes around the world and the preparedness of FAO to develop technical guidelines for their operation. Such initiatives deserve the support and encouragement of all – especially through improved information sharing that can lead to better coordination, avoidance of conflicts between lists and, eventually, to greater harmonization of messages in particular markets.

It is important to recognize that the fair allocation of living marine resources is not just a matter for fishers, fishery regulators and governments. Ordinary citizens as consumers have a right to have an influence – and a duty to ensure that they know what the ecological footprint of their consumption habits is. Indeed, this is the key area where market forces can best help deliver better environmental performance – on the assumption that a properly informed consumer will make prudent and responsible choices.
Ideally, each major seafood market in the world should have its own coalition of consumer interests encouraging individual consumers to make informed choices to send market signals that support those fishers and fisheries that deliver on environmental and social outcomes – and penalize those that do not.

Similarly, it is hard to believe that the citizens of East Asia would be so keen to have shark-fin soup on the menu for customary celebrations if they knew how devastating an impact their choices were having on oceans health (although it must be noted that Hong Kong has just overtaken Tokyo as the biggest single fish market in the world – and that shark-fin is the single biggest item of trade by value)

Fortunately, however, there is a particularly good opportunity for such consumer schemes to help with discouraging unsustainable and IUU fishing of pelagic and deep sea species, especially on the high seas. There is a growing list of such species that have been so poorly managed and over-exploited that they warrant listing on Appendix II of CITES let alone consumer choice red lists. [CITES is the Convention on International Trade in Endangered Species of Wild Flora and Fauna

Governments need to take note that the concerned communities of the world will not idly wait for governments to fix their governance gaps and unsustainable fishing by their vessels and citizens. Consumer choice lists and CITES listings both offer real opportunities to support governments trying to do the right thing and to discourage fishers that are not.

10. GREATER GOVERNMENT RESPONSIBILITY NEEDED

Once governments have ratified relevant international and regional agreements, and thus legally obliged to implement their provisions and ensure compliance with their rules, governments are then obliged to adopt measures to meet those obligations. There is much more to be done by most governments in all areas of responsibility:

Flag State responsibility.

It is no longer acceptable that states can exercise their right under UNCLOS to operate a vessel register that includes fishing vessels while failing to meet their UNCLOS responsibility to establish and maintain a genuine link with such fishing vessels. Governments have not yet even defined what is meant by that ‘genuine link’ despite much liaising and talking by relevant agencies and international bodies.

While there may be good reasons for responsible operators of merchant shipping to use flags of convenience, this is not the case for fisheries activities. To allow owners and operators of fishing vessels licenced to exploit marine resources, especially on the high seas, to hide behind veils of corporate secrecy, anonymous societies and limited liability companies should no longer be acceptable government practice.
Exercise of flag state effective responsibility over fishing vessels is no easy task and states operating vessel registers should be invited to make the necessary investments in establishing the capacity required – or to cease registering fishing vessels other than those operating in their own waters and beneficially owned by their own citizens. Fishing vessels flagged to states that do not do this should be refused access to fisheries, port facilities and markets by responsible states.

**Port state responsibility**

It is encouraging to hear that port states are generally moving to improve oversight of fishing vessels using their ports. FAO has produced an excellent model of the kind of control measures port states should be implementing. Of particular importance is the need to insist on port-to-port VMS tracking so that port authorities can ensure that fishing vessels have only been where they are licenced to go. It is important that port states develop regional port access agreements to stop IUU fishers ‘port-hopping’ in the same way that they ‘flag-hop’ to evade responsibility. A key part of such an agreement should be the global reporting of port movements by deep sea fishing vessels to support MCS&E efforts by coastal states and regional bodies.

**Market state responsibility**

As with all food products, consumers expect and demand more accountability and responsibility by producers, traders and processors of the food they eat – and fish is no exception. Market states must be able to ensure that their consumers receive credible and reliable information and that access to their markets can be controlled in support of any trade measures adopted in support of sustainable fisheries management. The extent to which appropriate chain of custody measures are put in place can be expected to become a significant measure of progress towards EBM and Integrated Oceans Management.

**Control of Nationals**

Most importantly, governments must be willing and able to ensure that their own citizens and companies do not get involved with or benefit from IUU fishing. That some countries are taking such steps is very encouraging and revealing an important reality – that, in most cases, those engaged in and benefiting from IUU fishing are based in developed countries and exploiting the poor institutional and governance arrangements in many developing countries to shirk their responsibilities and evade liability for the activities they control.

**11. AQUACULTURE**

Finally, it is time to sound a warning about the continued growth of the marine aquaculture industry, especially the farming of carnivorous fish like salmon and trout. In last year’s State of the World Fisheries Report, the FAO noted that already 30% of all wild capture fish are fed to fish farms. A number of concerns need to be raised:
• At such high levels of diversion of fish resources from fully exploited fisheries, less fish meal, fish oil and frozen small pelagic fish products are available to meet traditional needs and markets, putting pressure on coastal communities;

• Small pelagic fish are diverted from providing food and wealth for coastal communities in developing states to generating smaller volumes of fish for luxury markets in developed countries – risking perverse economic development outcomes;

• The sustainable management of pelagic fish stocks are coming under increasing pressure – and, in most regions, exploitation of high seas stocks are not under effective control posing a dire risk of over-exploitation; and

• Wild populations of predatory fish, including tuna, if not already depleted by over-fishing, face reductions in their food distribution and abundance with potentially adverse impacts.

There is thus a risk that naïve encouragement of further rapid development of salmon farming in particular will undermine government efforts to meet social and environmental policy commitments.

Furthermore, almost every allocation problem identified so far stands to be exacerbated by further growth in salmon farming – growth that is planned by many companies and encouraged by many governments.