



## Response to Consultation

# GREEN PAPER Reform of the Common Fisheries Policy

Submitted by Food and Water Europe

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### Introduction

Food and Water Europe is a program of Food and Water Watch, Inc (a non-profit consumer NGO based in Washington, DC) working to ensure clean water and safe food in the United States and around the world. We challenge the corporate control and abuse of our food and water resources by empowering people to take action and transforming the public consciousness about what we eat and drink. We work with various community outreach groups around the world to create an economically and environmentally viable future. We advocate safe, wholesome food produced in a humane and sustainable manner, and public rather than private control of water resources, including oceans, rivers and groundwater. The Food & Water Watch Fish Program works to promote clean, green, safe seafood for consumers, while helping to protect the environment and support coastal communities. For more information, please visit [www.foodandwaterwatch.org](http://www.foodandwaterwatch.org).

### General comments – Third time lucky?

“It ain't pretty in the sense that it's nice and neat and many people have tried to get rid of creative solutions that are complex, but society is complex, people are complex. And for us to have simple solutions to complex problems, not a good idea.”

- Elinor Ostrom, winner of the 2009 Nobel Prize for economics for demonstrating that privatization of natural resources does not halt environmental degradation, but that responsible collective management by user communities can.<sup>i</sup>

### Principles required:

- ensure science is collaborative and as robust as possible
- set policies well within scientific limits
- enforce those policies ensuring accountability by fishers, politicians and other authorities and agencies
- “Catch less fish, land more, and have a plan that extracts the maximum commercial value from them by landing when you estimate the market needs them.”<sup>ii</sup>

We agree wholeheartedly with the Green Paper's assessment that “the current CFP has not worked well enough to prevent [identified] problems”, and that “the objectives agreed in 2002 to achieve sustainable fisheries have not been met overall”.

Indeed, this is a mild take on the situation – the UK House of Lords EU Committee report of its mid-term review, *Progress of the CFP*, called it “dismal”.<sup>iii</sup> It is certainly confused. At a time widespread acknowledgement of the delicacy of the state of global fish stocks, we have Commission-funded research projects to learn how to get people to eat more fish<sup>iv</sup>, Scottish cod travelling 10,000 miles via China before reaching our plates<sup>v</sup> and nearly 60,000 young salmon escaping from a fish farm threatening already hard-pressed stocks with disease and increased competition<sup>vi</sup>. Policy coherence would help. Acting on it would be better.

This current effort is, of course, not the first time the CFP has been overhauled. Yet comments in advance of the 2002 effort are barely distinguishable from current analysis:

- “The CFP may only be twenty years old, but it badly needed to be reformed as it was not effective enough in doing what it had been created to do, that is to conserve fish stocks, protect the marine environment, ensure the economic viability of the European fleets and provide good quality food to consumers. The reason was that far too many fish had been taken from the sea by fishing, leaving too few adult fish to reproduce and rebuild the stocks. Today, several important fish stocks, such as cod, are on the verge of collapse. Beyond the damage done to fish stocks themselves, such a situation has a significant negative knock-on effect on fishermen's income, the balance of the marine ecosystem and the supply of fish to the EU market.”<sup>vii</sup>
- “Two thirds of our fish stocks are over-exploited and heading towards commercial extinction...There are simply not enough fish resources in EU waters to support the existing size of the fleet...EU leaders agreed that the review of the CFP would address the overall fishing pressure by adapting fishing effort to the level of available resources...the EU does not do enough to reduce the by-catch of fish. Nearly one third of total catches are thrown back into the sea, often dead, because they are either the wrong species, too small, or over-quota. Poor fishing practices and inadequate management measures have also led to the degradation of the marine environment as a whole...In addition, the EU pays its fishing fleets to fish off the coast of developing countries, such as those of West Africa. Under the existing terms and conditions, many of these access agreements pose a threat to coastal communities, who depend on fish for their livelihoods and as their main source of food.”<sup>viii</sup>

Worse still, we are still hearing echoes of the 1992 review:

“[The review] attempted to address what had emerged as a serious imbalance between the fishing capacity of Member States' fleets and available fishing opportunities.”<sup>ix</sup>

Both reviews claimed to usher in an era of better managed, more sustainable, fairer fishing in the EU and beyond based on a long-term approach, a new policy to address “chronic overcapacity of the EU fleet”, effective enforcement and “stakeholders' involvement”.<sup>x</sup>

We agree with the Green Paper's analysis that there are still “structural failings” of the current CFP, and believe the most damaging of these to be the imprecise, short-term political atmosphere that is preventing progress and has contributed to pitting those who should be allies against one another.

We might also add a failing: not learning from, and correcting, past mistakes, most glaringly in enforcement of agreed regulations and pursuit of and respect for solid scientific assessments of ecological capacity.

Some results of this are identified by the Green Paper:

“In several Member States, it has been estimated that the cost of fishing to the public budgets exceeds the total value of the catches. In simple terms, this means that European citizens almost pay for their fish twice: once at the shop and once again through their taxes.”

However, even this attempt to grapple with the problems belies an ongoing fixation with things monetised. The fact is that EU citizens “pay” a third time for the environmental destabilisation that costs them their way of life, recreation and in many cases the future of their communities, but this is still not fully integrated into thinking about reform of the CFP's approach to fisheries



management. The failure of the Green Paper to mention declines in the possibilities for recreational fishing and tourism in some areas is case in point.

We agree with New Economics Foundation:

“We define sustainable food as food associated with high levels of well-being, social justice, stewardship and system resilience. *At the heart of this policy must be an acceptance that food is different from other sectors and consumer items and that this difference confers special responsibilities on government.* Specifically, it is no longer acceptable to put loosely regulated markets at centre stage and then place the burden of responsibility on the shoulders of individuals to ‘choose health’, ‘eat well’ or use their spending power to nudge companies towards more responsible social and environmental behaviour. ... It follows that sustainable food can only be achieved if and when the economy overall is re-oriented.”<sup>xi</sup> (emphasis ours)

We need to learn to count correctly, properly valuing things that are not purely financial. While this may swim against the tide of current popular economic ideology, the failures of the CFP are an excellent demonstration of how neoliberal privatisation of the commons fails in its stated objectives (taking those objectives at face value – vested interests may have others).

We hope the switch in priority from maximum catch to maximum financial yield is a first step, rather than political window dressing, requiring an inversion of current practice to place genuine long-term ecological sustainability as job one, then finding a way to work within the limits this entails as the best way to ensure long-term economic viability of the sectors depending on fish and the right thing to do.

To do that we need to define what “efficiency” is by asking what it is for – we cannot continue, deliberately or not, to confuse high level economic “efficiency” (which favours highly destructive, large-scale operations) with what is good for fish, fishers and the rest of us:

“Harvesting methods that are most efficient in financial terms are often the ones with the worst collateral (including environmental) impact, while less capital-intensive and technologically and operationally sophisticated fishing methods normally allow wider and much more equitable access to benefits from the fishery, with less negative environmental and social impacts.”<sup>xii</sup>

We need to be efficient at living alongside oceans that are thriving and robust in their own right, from which we are able to harvest some food, rather than viewing them as a larder that we somehow have a “right” to exploit. Such an efficiency would go a long way toward looking after the other difficulties presented in the Green Paper.

So we commend the Green Paper’s statement that this must “not be yet another piecemeal, incremental reform but a sea change cutting to the core reasons behind the vicious circle in which Europe’s fisheries have been trapped in recent decades”. There is no one-size-fits-all solution, but some elements/principles must be fixed to be fair and to last. While Food and Water Watch has extensive experience in fishing discussions in the US, this submission is one of Food and Water Europe’s first engagements with the EU situation. We offer these comments in an attempt to share experience and, perhaps as newcomers, highlight the obvious that may be obscured by others’ familiarity with the topic.

We look forward to the results.

## Responses to questions in the Green Paper

### Section 4.1 - Overcapacity

#### Principles required:

- revisit and refigure failing administrative separations (eg, between capacity and quotas, etc)
- roll back privatization of fish stocks in favour of more flexible, sustainable management models
- value live fish as stepping stone to both higher value yields and sustainable stocks
- monitor and enforce stringently, financed through levies

If the focus is on keeping the seas healthy, then long-term, viable jobs and other economic benefits, essential to the survival of many European communities, will flow. Putting things the other way around ensures failure.

“The decisions in the Council over many years were therefore dominated by concerns about the short-term economic and social impact of reducing fishing pressure and fishing capacity. This has led to a preference for short-term solutions over long-term improvements. The long-term ecological sustainability of fisheries has been undermined to such an extent that the economic and social sustainability of the European fisheries sector is now compromised.”<sup>xiii</sup>

While conceptual divisions of capacity and catch/quotas may be useful administratively, it is failing ecologically and will therefore fail economically.

The problem is not merely overcapacity, but the wrong kind of capacity with the wrong values. While we do not want to suggest that all small boats are harmless, which is clearly not the case, we do believe that a good part of the problem is the well-documented concentration of the industry into increasingly fewer hands using increasingly large, more “efficiently” damaging boats. While those interests may have significant financial stakes in fishing, in a sense they have less to lose because the return they are making now will either support them if the catch ends or finance new business opportunities. In this sense it is in their interest to resist change, as their ability to outcatch other operations will serve them well into the future, fish or no fish, whatever the consequences for many more others.

This is coupled with an overarching failure of enforcement across the board, a quota system that encourages more destructive fishing (how much is caught is valued above how it is caught or what damage is done) and larger fishing concerns have the capital to buy in such gear, which is not confined to the EU experience:

“Before there were any kinds of quotas, a good fisherman did not take anything away from another fisherman, except in the very broadest and most diffuse sense. With quotas, allocations, and closures, however, people feel that gear type, vessel size, geographic advantage, and political maneuvering represent a real and direct threat to their share of the fishery. In short, whatever the other guy gets from the regulatory system reduces my catch.”<sup>xiv</sup>

This is why previous attempts by States to limit fleet size have failed – the responsibility is in the wrong place and everyone is still pursuing their “right” to catch as many fish as the can to make as much money as possible – there is no incentive to reduce overall fleet capacity:

“With harvest-rights systems like quota-based fisheries, a central authority determines stock-wide harvest levels, partitions that yield, and grants privileges for harvesting specified quantities among users. The impact of the harvest practices used by any user or group of users feeds back on the entire stock, affecting future total harvest. The

benefits of restraint or the penalties of excess are dissipated among all participants; therefore, there is no incentive for any user to unilaterally take conservative actions.”<sup>xv</sup>

In the 1992 review of CFP, “National fleet references designed to impose a ceiling on the size of member states’ fleets were established for this purpose, and responsibility for matching fishing capacity to fishing opportunities was handed back to each Member State.”<sup>xvi</sup> This has clearly failed and a new approach is required.

There are a number of innovative approaches to reintroduce the future into fisheries and reconcile capacity with harvest, by shifting responsibility for conservation to those affected, enforcing what is agreed and rolling back privatisation.

### A. Population stewardship

“With a population stewardship rights fishery system, the central authority partitions the stock into conceptual partial populations and contracts to the EMUs the responsibility to manage these population endowments. The consequences of each EMU’s actions feed back on their own share of population. Although it is not possible to have complete isolation because of stock-wide dynamics, EMUs are effectively shielded from each other’s actions by keeping track of the state of their conceptual partial population and ensuring that removals made by them are counted against their own assets.”<sup>xvii</sup>

While there are downsides to this approach (the further monetisation of the value of a natural resource), it may be a stepping stone away from the current predicament to a more holistic approach – the explicit valuation of uncaught fish, coupled with the legal duty to maintain the health of one’s “share” as part of a public good, would both help reintroduce a level of respect for natural balance (fish not caught now are effectively a resource “in the bank” for the future, when they are bigger, so have both had a chance to breed and accrue value) and permit smaller operators to operate, as their businesses will have not only the value of what they catch, but also the value of their share of the uncaught fish:

“The proposed system aims to minimize the need for uniformity amongst fishers by limiting the impact of decisions by resource users on others. It allows reduced central regulation but relies on effective monitoring and on incorporation of feedback mechanisms for the consequences of actions taken by fishers.”<sup>xviii</sup>

Such a system creates both a disincentive for discarding by-catch as well as peer pressure to curb it – throwing back dead catch erodes the whole communities’ future. It also provides flexibility to adjust to natural fluctuations, as an operation has both a share of the catch but also, critically, that catch is effectively providing ongoing data input on the strength and wellbeing of the uncaught population, as both quality and quantity of catch is monitored (including input from those most closely associated with the fish), so adjustments can be made, with the burden or benefit shared equally by all, and decisions made involving more of the community closing the perceived gap between fishers and scientists:

“Knowledge of fisheries dynamics is employed to integrate a feedback system based on the value of natural capital and production from it, thereby reinforcing responsible stewardship and facilitating informed local decision making. Accountability is appropriately placed at that same local scale and participants derive motivation for sustainable practices by benefiting or suffering the consequences of their own actions. Those who persist with poor stewardship practices and fail to fulfill their contractual obligation to manage effectively can eventually deplete their respective population endowment and forfeit their privilege to participate in the fishery. Participants must be satisfied, though, that an acceptable level of confidence in fishery monitoring is achieved; otherwise, they may choose to fish out rather than bank their fish to prevent loss to others.”<sup>xix</sup>

This last sentence is critical. Regardless of the approach finally agreed, a levy system should be introduced to finance reliable, uniform, detailed, universal monitoring of all catches and scientific evaluation of that data that is as complete as it can be. There must be both a realistic chance of being caught if behaving badly and a significant punishment (eg, loss of rights to harvest). This is legitimate exercise of Governments' role – to ensure future generations are protected from the potential bad behaviour of today's actions. It will also help reduce the burden on Member States where "the cost to their national budget of managing and subsidising fisheries now surpasses the economic value of the catches."<sup>xx</sup>

Importantly, however, in a binding stewardship system capacity and harvest become more closely related, and involvement of local people enhances the performance of the system for all in a virtuous circle. Rights are revoked if the conceptual catch is exhausted, and the system is more likely to be effective because those most affected are directly involved and responsible, so also self-monitoring.<sup>xxi</sup> As discussed below, self-monitoring is not synonymous with self-regulation, nor does it replace enforcement activities by authorities.

So, it is argued that "Conceptual Partial Populations and Population Stewardship can replace the "race for fish" with a "race to conserve", incentivise conservation and accountability and improve future prospects for all."<sup>xxii</sup>

Such an approach would also be in keeping with the Commission's own analysis that:

"The productivity of fisheries – and thus the economic and social benefits – is reduced because fish are caught before they are allowed to grow and in many cases before they have reproduced...The reason that the age and size of the catch is so low is that the fishing pressure has been very high for a long time and there are therefore very few older and larger fish left in the sea to catch...The bottom line is that an excessive fishing pressure has eroded away the present and future productivity of the fish stocks."<sup>xxiii</sup>

It is also in keeping with the Commission's recommendation that:

"Results-based management, where the industry is made responsible for outcomes rather than means, would be a move in this direction...Results-based management can be linked to a reversal of the burden of proof whereby it is up to the industry to demonstrate that it operates responsibly in order to get access. This would lead to simplification and reverse the present incentives where it pays to withhold information or even to provide false information."<sup>xxiv</sup>

## **B. Harvesting cooperatives to decentralise management**

"Through the harvesting cooperative, the total allowable catch is shared among members in a way that is decided by the cooperative members, not by a management agency. This can decrease share negotiation time and overcome the political problem of allocating shares. If the cooperative rules allow trading, members may trade catch allocations that are made within the cooperative, but not with outsiders. The transfer of shares to a new entrant will, however, require having or obtaining cooperative membership. The value of membership in a cooperative is the result of the success of the members in managing the cooperative's allocation. That value is distributed to the members of the cooperative and is reflected in the value of the cooperative shares, but not in the value of the fishing privileges that may be held by non-cooperative members."<sup>xxv</sup>

A number of benefits are claimed for such arrangements, including:

- Slowing the pace of fishing and reducing capacity, leading to more product at lower cost.
- Supporting science and conservation efforts.
- Improving communication among fishing vessels for the purpose of reducing by-catch and meeting market requirements.
- Allowing for greater participation of fishermen in management decision-making.
- Including increase or reduce capacity to take advantage of changes in stock abundance or fishing technology.
- Timing catch with market demand, allowing for increased quality and yield and optimized product mix.
- Allowing fishermen to make adjustments between fishing effort and total allowable catch without privatizing the resource.
- Sharing benefits more widely through improved fleet efficiency.<sup>xxvi</sup>

Examples of the kinds of results harvesting cooperatives in action can have include:

1) The MSC certified Pollock Conservation Cooperative (PCC), reported results of which included:

- reduced capacity, as “There is no economic return for investing capital to catch fish faster since the amount of fish available to be harvested remains relatively constant.”<sup>xxvii</sup> “Several of the most inefficient vessels were removed from fishing...only 14 of the 20 eligible vessels fished during the first year, thus saving the operating costs of these vessels that would have fished had the cooperative not formed.”<sup>xxviii</sup>
- slowed, more orderly processing of fish based on “slower fishing stretched out the season [that] allowed factory managers to concentrate on increasing the value obtained from each ton of pollock harvested... In the initial year of cooperative fishing, daily catch rates were only 40% of those recorded by the same vessels over the 1995-1998 seasons. Catches per haul was 27% lower, the number of hauls per day dropped by 45%, and the length of 1999 A-season was doubled compared with the 1998 season. All of these changes indicating a slower-paced fishing process emerged even though the total amount of pollock available to the fleet was almost cut in half due to the American Fisheries Act reallocation and a small 1999 BSAI TAC.”<sup>xxix</sup>
- Increased value, “The most important effects of the ability to slow the pace of fishing have been, as expected, an increase in the value produced per ton of raw pollock.”<sup>xxx</sup>

2) The Alaskan Chignik sockeye salmon fishery, with about 100 limited entry permit holders, reported results of which included:

- “Greatly reducing the number of vessels participating in the fishery...Between 1980 and 2001, the lowest number of permits fished was 85 (in 1998). In all but three of these years, 98 or more permits were fished. In contrast, during the first three Coop years, a total of 41, 43 and 32 permits were fished—of which 19 were Coop permits and the remainder were independent permits. The reduction in the number of boat-days fished was even greater, because at any given time only the Coop boats or the independent boats were fishing.”
- A corresponding reduction in costs
- A corresponding increase in net incomes: “By reducing costs, the Chignik Coop substantially increased net income (revenues minus costs) from the Chignik salmon fishery. This increase in net income was not distributed equally: some permit holders’ net income clearly increased; others’ incomes may have decreased.”
- Innovative gear acquired and deployed

- Transformation of the power relationship between harvester and processors<sup>xxxii</sup>

So the Coop appeared to be good for “efficiency” and average incomes, but what about fish?

“Prior to the Coop, the only tool available to Chignik fisheries managers to achieve escapement goals was to “turn on” or “turn off” fishing by a fleet of 100 salmon seiners. This on-off fishing pattern resulted in sequential “pulses” of escapement into the river and of fish deliveries to processors. Managers faced a challenging task. They did not know how many fish would return on any given day, how many would return during the balance of the season, nor how many fish the fleet would catch if allowed to fish... The Coop added the additional challenge of keeping cumulative catch shares of two separate fleets at or close to those specified by the allocation formula. However, the task of management was simplified by the fact that both fleets were smaller. More importantly, the Coop fleet – which had by far the larger allocation – was willing and able to limit catches during any particular time period to specific numbers of fish requested by managers. This made it possible for managers to allow the Coop to fish continuously at lower catch rates for longer openings, reducing pulses in both harvests and escapement and allowing for more efficient utilization of processing capacity (Pappas, 2003).”<sup>xxxii</sup>

However, as a cautionary note, the Coop was “highly controversial and was vigorously opposed by a minority of permit holders”. The disputes resulted eventually in the 2006 decision of the Alaska Supreme Court that the Coop violated the law requiring permit holders to operate their own vessels, and it was shut down.

### **C. Rental of rights to a publicly owned common property (as is being suggested in Iceland - see section 5.2 below)**

Overall, it seems logical that changes to capacity and catch must come from EU level encouragement to shift to such models in a way that limits, if not eliminates, the difficulties inherent in attempting to privatize a public resource. Without EU level leadership, neighbouring operations that are not operating to such standards will be almost doomed to fail (as when uneven roll-out of animal welfare regulations in the EU placed some industries, eg, the UK pigmeat industry, at a serious disadvantage when they attempt to uphold laws that others are not, or not yet, following). Regulation should facilitate new blood coming in to the industry and preventing cartels developing.

## **Section 4.2 – Clarifying policy objectives**

### **Principles required:**

- hold politicians accountable for outcomes as well as fishers
- devolve accountability for outcomes to lowest possible level, based on principles in Section 4.1
- end approach that currently can place scientists and fishers in conflict rather than cooperation

We welcome the acknowledgement in the Green Paper that “Ecological sustainability is therefore a basic premise for the economic and social future of European fisheries” and expect that this also recognises that radical change is required. This is a straight-forward problem with a straight-forward solution – politicians must be held accountable for outcomes as much as fishers.

We also note the Commission’s findings that:

“The decision-making framework encourages a short-term focus because decisions on long-term principles and on implementation details are taken at the same level. This is



conducive to putting more emphasis on the short-term costs of implementation decisions at the expense of the long-term benefits. This promotes the use of power without responsibility, as it is the Member States that fix fishing opportunities in Council, but it is the Commission that is held responsible for the outcome in the eyes of the public. The CFP has too many objectives mixing long-term and short-term concerns and social, economic and environmental factors with no clear order of priority.”<sup>xxxiii</sup>

We support calls for overarching outcome-based objectives to be set at high levels in the EU, and implementation should be delegated to the lowest possible level. However we also have heard criticism that this is little different to the current (failing) model, so we re-emphasise the need for real 360 degree accountability and enforcement.

Such overarching objectives should include:

- costs of improved scientific evaluation and enforcement shared, if not carried, by industry, and those who can pay more, should.
- Implementation of improved scientific evaluation to be an endeavour shared between industry and independent scientific authorities.
- long-term fish and sea based outcomes (eg, level of fish stocks, speed of recovery, etc).
- access to harvesting rights based on enforced environmental and social criteria, with real risk of loss of rights if performance fails to meet criteria.
- a clear, time-bound mandate with robust reviews built in to ensure delivery by the Commission and Member States.
- Mechanisms to protect those who respect the new rules from the impacts who don't.

The “goal” of the CFP is not, therefore, creation of employment in fishing or any other sector, but to provide the framework to ensure that whatever fishing happens is sustainable and to provide support for enforcement. It is the role of wider government to integrate these requirements into a broader economic and employment policy *and then to carry it out*. This is already acknowledged by the Commission:

“The long-term ecological sustainability of fisheries must be the first priority because the past development of the CFP has demonstrated that healthy fish stocks and healthy marine ecosystems are a *sine qua non* for an economically and socially healthy fisheries sector. The objectives must be sufficiently specific to enable accountability and monitoring of performance...One option for such a distinction would allow a drastic simplification of the regulation at EC level by recourse to specific regional management solutions implemented by Member States whenever appropriate, subject to Community standards and control.”<sup>xxxiv</sup>

We note that the Commission’s proposal to enforce this are “strong powers by the Commission”. This may well be required, but must clearly be agreed by Member States to achieve sufficient buy-in to make it work, which will require exploring all viable options and finding the best one, not simply enhancing the Commission’s authority.

Furthermore, extensification and/or diversification of effort (eg, moving to less intensive methods, like line catching) can lead to higher employment, doubling the reason to incentivise them:

“Around the world, only 1% of all fishers work in large-scale fisheries, while over 90% are small-scale fishers, either using traditional equipment or operating small, relatively modern boats. It would appear that to catch a given amount of fish, small-scale fishers tend to employ more people, require less capital and produce less waste.”<sup>xxxv</sup>

## Section 4.3 – Short-term decision making

### Principles required:

- ending political lip service about ecological sustainability
- recognition that scientific advice is imperfect and needs improvement

We welcome the Green Paper's acknowledgement that current practice "has resulted in a focus on short-term considerations at the expense of the longer-term environmental, economic and social sustainability of European fisheries."

See points above of divisions of decision-making and implementation, as well as management.

Investing accountability for long-term health of stocks with fisheries would help introduce a longer-term view, and other responsibilities would become clearer – fishers have responsibilities to work within the rules, states have responsibility to define operational policy and enforce agreements, and the Commission responsible for setting overarching long-term goals, ensuring that all member states are enforcing effectively as well as collating data in order to monitor health of stocks and review progress.

However fishers cannot become the scapegoats for political failures and must be involved in all aspects of policy development and implementation.

## 4.4 Encouraging responsibility within Industry

### Principles required:

- focus on accountability for outcomes
- proper enforcement of agreed policies
- new and existing systems financed through levies
- fishers' cooperation with scientific assessment systems and analysis

This closely linked with compliance and enforcement, as discussed elsewhere. Where moving to new models as discussed in Section 4.1, increased responsibility is a good thing where coupled with effective and stringent enforcement of regulations. Otherwise more "responsibility" risks being a blank cheque of the kind we can no longer afford.

Encouraging the acceptance of accountability for outcomes will need to include benefits that cannot be had any other way. It also requires the stakes to be higher for those breaking the rules than is currently the case with quotas. Overall this means stiffer penalties for infractions (like loss of now more valuable entitlements to fish), and, critically, a realistic chance of getting caught for irresponsible behaviour. This should apply to everyone in the system, from boats to Member States, as any perceived latitude for some will result in collapse of incentive for many if not all.

It seems both illogical and demonstrably dysfunctional to continue to permit private enterprise cost-free, lightly enforced access to a common resource and expect a conservative outcome. Responsibility for the viability of the industry and ecology will be encouraged by having to pay for access and a share of the maintenance, that is, making the value more clear and more keenly felt. Levies are not unknown in other parts of the food industry.

Decent incentives to improve performance over time and real sanctions for infractions, while risky under current almost nod-and-a-wink enforcement, will encourage the industry to see fishing more as a privilege we enjoy as part of a healthy environment rather than a commodity to be exploited at our behest.

The industry, or parts of it, may feel it needs education, which will require funding and is probably most credibly delivered from within, then enforcement.

In return fishers should have more say in scientific assessment processes to help assuage concerns that what is experienced at sea is not reflected in the advice upon which policy is set.

There is already an awareness of the desirability for responsibility within industry itself. During the 2002 CFP review EUROPECHE and COGECA:

“Accept[ed] to move towards a co-ordination of national policies which promotes more equitable inspections, controls and sanctions within the various EU Member States. EUROPECHE and COGECA invite the Commission to carry out its intention of basing control on a joint Community level inspection structure and on a harmonisation of controls and sanctions.”

And

“The Commission’s proposed strategy for eradicating IUU fishing has, *a priori*, the consent of the sector which, subject to in-depth examination of the Communication from the Commission on a Community action plan in this area (COM(02) 180 final), believes it is important to pursue existing efforts to identify illegal vessels, forbid them to land their catches, and keep their catches out of Community ports and markets.”<sup>xxxvi</sup>

Their response to the current review stated, “We wish to express support for an efficient control system for the CFP, involving all steps from the sea to the table, including imports; and for the development of a culture of control based on dialogue between all parties involved...The Commission’s proposal is highly complex, bureaucratic and largely unable to be applied given local realities”, they hastened, however, to add.<sup>xxxvii</sup>

While voluntary self-management is not sufficient (if it was, we would not be in the situation we currently face), such statements make it clear that rules and enforcement are already accepted by the industry if they are felt to be based on sound reasoning, effective, fair and coupled with meaningful responsibility.

Furthermore, analysts of the US fishing industry in favour of stewardship approaches agree that:

“Those of us who believe that the distance between the public owners of the resource and the resource that they nominally own is too great to instill a real ownership incentive don’t believe that more government command and control will lead to the greatest overall benefits from our fishery resources.”<sup>xxxviii</sup>

We do not believe that the collective interest is best served by privatisation, but that rights to access should be rented and conditional upon demonstrable stewardship outcomes – an attempt to glean the best aspects of ownership while retaining the State’s ability to withdraw rights if any “owner” chooses to undermine the foundations of their own and their neighbours’ houses (as is being implemented in Iceland after failed privatisation). Apart from the unjustifiable creation of haves and have nots that inequitably concentrates powers, if privatised rights truly encouraged conservation as is claimed, we would not be where we are now in the EU. Food and Water Watch and Food and Water Europe are working against the introduction of transferable quotas in the US to help them avoid repeating our mistakes.

We agree with the Green Paper that those who can demonstrate that they operate responsibly should continue to enjoy access to fishing. Those who cannot should not.

## Section 4.5 – Compliance

### Principles required:

- count all catch
- land all catch (ie, prohibit discards and upgrading, etc)
- better systems for monitoring, enforcement, cross checking catch with sales and penalties for violations, including publication of details of transgressors
- stronger measures to protect young fish and spawning grounds

This is linked closely with the discussions above.

We note the long list of failures in the area in the Green Paper and hope that this is a sobering reflection upon how very far there is to go in this area.

We agree with the Green Paper's finding that, "The Commission agreed with the Court's analysis and considered that, irrespective of other policy options to be adopted in the future, it was urgent to move ahead with an immediate in-depth reform of the control and enforcement system."

Compliance in its widest sense is perhaps the single biggest area for improvement – who knows what state fish stocks would be in if politicians adhered to scientific assessments, fisheries had been held to account for their catch and consumers chose sustainability over price (for which they need some guidance).

As noted elsewhere, however, it is not a good idea to leave the industry entirely to self-regulation, especially in a transition phase where the long-term benefits may not be fully appreciated by people accustomed to operating on other principles and where there are known infractions already. Neither does industry appear to want this, as Copa-Cogeca notes:

"Fundamentally, the compliance depends on its quality, its transparency and clarity. Information sessions should be organised for the fishermen on this subject and on the risks for sanctions, so as to clearly explain them that it is useful to respect the legal rules aiming at improving the stocks."<sup>xxxix</sup>

While the aim is not to bog down fishing with bureaucracy, we agree with others that some basic, proportionate principles should inform good enforcement, namely:

- A legal requirement to count everything that is caught.
- A legal requirement to land everything that is caught.
- Reinforcement of checks and balances aimed at measuring catch against sales.
- Strong penalties for dumping by-catch, high grading or other similar practices.
- Increased effort to eradicate IUU fishing.
- Better inspection both at sea and at ports, to monitor catches for both enforcement and monitoring purposes. Pilot projects with CCTV in the Denmark and Scotland appear to be working well and should be extended<sup>xl</sup>, although they should not substitute for on board inspectors. Industry notes that "in order to establish an efficient control policy, it is necessary to sufficiently carry out controls at sea, since it is the only means of verification of the use of appropriate nets and meshes."<sup>xli</sup>
- Publication of both good and bad practice found as a result of enforcement, as already happens elsewhere.
- Protection of young and immature fish and closing spawning grounds, including real time closures and/or conservation areas.
- Better reactive information sharing about deployment of such measures to protect fish.

We need to be wary of attempts to control catch that have inadvertent side-effects. For example, limiting days a sea appeared to be a sound idea, but it has instead put pressure on more valuable fish, encouraged dumping of by-catch and in any case is outstripped by

improvements in technology providing little real protection for fish.

We note the recent statement from EUROPECHE and COGECA expressing their view that extending Vessel Monitoring by Satellite (VMS) is impractical and that a review of the existing project is required.<sup>xiii</sup> We also note that while wholly supportive of improved enforcement and inculcation of a culture of control within the industry, they are reluctant to see universal application of technologies, in part because of where additional costs may fall.<sup>xiii</sup> Review of current projects is no bad thing, and if areas for improvement can be identified, then such improvements should be made, including extension of effective projects. It is hoped that improvements in other areas will help defray costs of such enforcement tools, and it is natural for an industry to resist paying for something new, but that is not a reason to refrain from effective controls. Those abiding by the rules have nothing to hide, and indeed a future livelihood for their community to gain.

Public funding and funding from levies should provide incentives for adopting more sustainable means; suggestions have included reduction of fuel taxes or subsidised gear. We might include support for hiring more hands to implement more extensive or diverse methods, as this improves both ecological impact and employment levels.

We note that certain sectors of the industry feel the Commission already has sufficient powers to enforce and that the bulk of the responsibility should rest with Member States. We also note that “the European Commission is increasingly taking steps to ensure MS’ compliance and accountability. In 2003, it opened a number of infringement procedures, the majority involving overfishing. Denmark, Spain, the UK and France were among the highest offenders.”<sup>xliv</sup>

There are legitimate concerns that before a fishery is closed or limited for failure to comply there is proper consultation, as “an entire fishery, even a segment of fishery, can hardly pay the price of bad behaviour of isolated individuals.”<sup>xlv</sup> Suggestions of warning systems in advance of extreme measures seem sensible if they are strict and time bound, with adequate resources for follow through. Suggestions that “The initiative to close a fisheries must remain the exclusive competence of Member States” are understandable, but there must be checks and balances to ensure that Member States apply and enforce evenly – particularly as industry also notes “it would be judicious to indicate in the Commission’s text that the inspections are not organised with the same degree of efficiency in all Member States, be it at sea or on land and that the controls will actually take place.”<sup>xlvi</sup>

Nevertheless, current efforts in this regard are clearly not sufficient and must improve.

## Section 5.1 – protecting the diversity of the (reduced) fleet

### Principles required:

- public support for new entrants and extensification/diversification
- effective controls on monopolies
- no privatization of fishing rights or stocks

Please also refer to the closely linked discussion on scientific assessment below.

The UK House of Lords noted that “public aid should in our view be channelled into attractive decommissioning schemes and the economic diversification of fisheries-dependent coastal communities instead”.<sup>xlvii</sup> This may work in some areas, but it is not enough, particularly if it is smaller operations that are driven to take up such offers because the system around them makes it impossible for them to survive fishing. There is also a problem if decommissioning of older vessels leads to increased rapidity of technological advancement that makes things worse rather than better.

We see that the Green Paper says, “Bringing and keeping the capacity of the fishing fleets in line with fishing opportunities will inevitably lead to less overall employment in the catching sector.” We are not convinced that this is true, particularly as encouraging less impactful methods (like line fishing) is also likely to bring more employment opportunities.

Support will need to be given to new entrants to avoid the difficulty gathering (especially bank) finance exemplified by “the inability to finance Canadian lobster licenses [that] results from their legal status as annual permits in which the fisherman has no long-term security. This is fine for those who have plenty of cash and faith in the longevity of the system, but not so good for young people whose energy and skill might make it possible for them to outbid an absentee owner if the fishing license could be financed through traditional means.”<sup>xlviii</sup> This is also an approach supported by WWF.<sup>xlix</sup> If stewardship is functioning and enforced properly, any loans from Government will not be granted against an “insecure” asset, but a growing one, thus eliminating much of Allen’s concern. (We should note that we do not agree with everything Allen proposes.)

Stewardship or other harvesting rights might be transferrable back to the State, or to a cooperative then the State, but should not be to others. Rights reclaimed by the state this way or due to non-compliance should be redistributed with a preference to new, local operations rather than toward further concentration. Other support is discussed below.

Please refer to other areas of this submission for further discussion on how new approaches could encourage diversity in the industry.

We note the Green Paper says about systems to reduce the fleet that the, “can be complemented with proper safeguard clauses to avoid excessive concentration of ownership or negative effects on smaller-scale fisheries and coastal communities.” We would argue that any reduction of the fleet must do this, not “can”.

“There are a number of characteristics by which the small-scale sector may be differentiated from the large-scale sector: size of crew (the largest crew on a small-scale fishing vessel is generally greater than the smallest crew on a large-scale fishing vessel); on-board processing (many large fishing vessels include a complete processing plant while small vessels usually have limited or no processing capability); duration of voyage (small-scale vessels usually make day trips, while large-scale vessels may be away at sea for much longer periods); level of technology; etc. However, especially in countries of the North, the dividing line is not always clear cut, and there are many features, such as the use of navigational aids or fish-finding equipment, that cannot be said to be a definite characteristic of one sector rather than the other.”<sup>l</sup>

What is considered concentration may well vary from fishery to fishery, but monopoly legislation operates in other industries to prevent market dominance and there is no reason to believe it wouldn’t work with fisheries.

## Section 5.2 – MSY, TAC, etc

### Principles required:

- political accountability for targets set and enforcement
- reframe what scientific assessment is, how it is done and who participates
- shift thinking away from “catch as much as possible” to investment in the future
- address time lags between receipt of scientific advice and implementation of new measures (eg, real time closures)
- recognition that MSY is a tool, not a goal, and set TAC legally below (improved) scientific advice

We have already outlined the need to introduce accountability at all levels – politically, with fishers and consumers – as well as suggesting approaches that would help draw together elements currently artificially separated.

We also note the discrepancies in reported scientific assessments of the state of many fish stocks, as well as reports from fishers about the health of stocks and catches. We need an agreed basis from which to work. This is likely to require investment in time agreeing what should be assessed and how and then assessing it, with fishers brought into the discussions at all points.

While a switch to an MSY approach is an improvement, it still suggests that the goal is to catch as much as possible up to that limit. Given the inherent difficulties in scientific assessments, enforcement and selective fishing, as well as inevitable time delays in implementation of adjustments, there is a danger that relying on the concept of MSY, itself imperfect, will not lead to sustainability:

“Once set, TACs are divided up among Member States using a distribution key based on the principle of relative stability. Annual negotiations among Member States are thus not over how fishing opportunities are to be shared out among countries (national quotas), but about the total number of fish to be caught (the overall TAC for a given species).”<sup>li</sup>

It is well documented that such negotiations routinely lead to politically motivated limits set well above what is considered scientifically feasible. This needs to change (see discussion on science below) – not all of the problems with our seas can be laid at the feet of fishers:

“Relative stability (ie, the principle that the Community catch quota is distributed on Member States according to a fixed key) has encouraged Ministers to focus on ‘their’ share rather than on the collective long-term benefit.”<sup>liii</sup> (see more on Relative Stability below)

We agree with Ocean2012 that “MSY should only be considered as an intermediate target to achieving abundance and alternative objectives of fisheries management must be developed that are more conservative and precautionary in nature.”<sup>liiii</sup>

MSY is a tool, not a goal. While it may be necessary to use such a tool, at least for now, the current system of quotas is inadequate in a number of ways, including both sustainability and diversity of the fleet, as has also been seen elsewhere:

“Trade in fishing rights eventually must hit the weaker stakeholder. Initially, the richer vessel owners or their covert sponsors accumulate quotas by buying off the weakest boat owners. Governments enhance the process by allocating individual quotas too small to pay a single vessel owner’s way out of the red, on one hand, and by pricing licenses and quota entitlements above the value of his/her fishing boat and gear, on the other. A quota gone from a fishing community is gone forever, together with all the associated jobs, services, and income...ITQs tend to depress artisans and effectively exclude part-time participants in local fisheries, favour the owners, while disregarding crewmembers.”<sup>liiv</sup>

Even if these consequences were, somehow, completely unanticipated, it is time to redress the balance.

Recent events in Iceland have resulted in the Government proposing a buyback of all quotas at 5% a year for 20 years and then renting them to fishers, thus retaining oversight, public ownership and, hopefully, better oversight and stewardship. It may be a shame that the current EU system is agreed to be failing in its goals, but since this is widely agreed, such a

plan may well be the best way to move toward a better system.

Decisions about access to those collectively-owned fishing rights should be based on criteria that favour less destructive gear and practices, lower energy consumption, higher levels of employment that maintain lowered environmental impact (especially for local people), quality of the product produced and history of compliance (including any stewardship responsibilities). TAC should be legally set below recommended levels.

### **Section 5.3 – Relative Stability**

#### **Principles required:**

- automatic entitlement to fishing rights should be phased out

We note the Green Paper's assessment that "after more than twenty-five years of policy and changes in fishing patterns, there is now a considerable discrepancy between the quotas allocated to Member States and the actual needs and uses of their fleets. In short, it is fair to say that relative stability no longer provides a guarantee that fishing rights remain with their fishing communities".

While it is understandable that some reliable, predictable system is desirable, particularly as negotiating requires starting so far in advance that scientific assessment becomes more like prediction, it seems logical that a system based on historical political influence is likely to be incompatible in a new system based on other factors, like ecological and local socio-economic sustainability. Relative Sustainability does not take into account ecological fluctuations, history of compliance with regulations, changing needs in changing populations and economies, respect for overarching goals of policy or perceived fairness.

We agree with Ocean 2012 that "the right to fish should be granted to those who contribute to the overarching objectives of the CFP."<sup>lv</sup>

This applies as much to States as to boats. As such, an automatic entitlement to fishing rights should be phased out. Change will be felt, and it should be shouldered fairly.

### **Section 5.4 – trades and markets**

#### **Principles required:**

- labelling schemes must not substitute for reliable regulation and enforcement
- labelling schemes must involve fishers from affected areas, including outside the EU
- production should not strive to "meet market demands" if these are not sustainable

A number of the issues touched on here are covered elsewhere in this submission.

Voluntary labelling schemes (such as the growing use of non-GM labelling in the EU) are compatible with international trade law and can help consumers behave more responsibly, as they are inclined to do given evidence on growing sales of more "sustainable" foods, including fish. There is, however, a danger that such schemes are either too weak to be credible or too numerous to be easily understood, and a careful balance must be struck to make them effective and helpful, including for imports (which requires support for exporters in those countries to comply with our requirements or risks driving them out of business).

Overall, labelling must not act as a substitute for proper, reliable regulation and enforcement – consumers should be confident that whatever fish in on sale in the EU is as sustainable as it can be. If it is not sustainable, we shouldn't be selling it any more readily than if it is not safe.

While some fishers from other parts of the world feel there may be a future for "fair trade" fish, there are further concerns about conservation labelling schemes, and the MSC in particular,



that must be corrected and avoided in future, primarily that any criteria must be developed with, not imposed on, fishers, including in other parts of the world:

“Although the P&C claim to be a product of an 18-month worldwide consultation process, there was no consultation whatsoever in regions with the largest number of fishworkers and with the largest production of food fish in the world.”<sup>lvi</sup>

Other concerns about such schemes include a fear that it constitutes a non-tariff barrier to fish from the South from fisheries who choose not to engage with what they consider to be a flawed process marred by a feeling that the MSC may well be more about public image than a genuine desire to ensure sustainability.<sup>lvii</sup>

As for fish from within the EU, if the above concerns are addressed (and others in section 5.8), a new set of comprehensive criteria are to be set for granting “sustainable” fishing rights could be adapted to a certification for each fishery granted rights based on them. These would have the benefit of being universal and agreed and a clear indication of quality, avoiding a patchwork of systems certifying different levels of sustainability and therefore confusing to consumers. If further incentives are desired, a rating system could be devised that certifies minimum compliance and provides for additional levels of acknowledgement for additional effort. Fisheries would not have to adopt the certification, but all would be eligible by virtue of the fact that they must comply to gain access to fishing rights.

Public assistance and/or support from levies could be used to set up and administer the certification scheme, as well as to advise and assist on moving to higher levels (subsidised less impactful gear, etc).

Regarding “matching production to market needs”, this should not be part of a policy based on sustainability in the current atmosphere. Markets should serve us and the requirements we place on them, not the other way around.

Furthermore, the market has proved itself far too destructive, and if anything a new CFP should view itself as the last line of defence for oceans against the excesses of markets and consumers. In this light it must be fair, but firm, coupled with a new outlook that does not encourage a race to reach fishing limits, but properly values fish by introducing enforceable scarcity that we all must learn to respect. The market will reflect this with higher prices and seasonality, as is right and proper, and increasingly recognized by food policies of a number of countries.

Increased consumer demand for fish, as well as “sustainable” fish, is a good indication that consumers will change behaviour to follow Government advice (that eating more fish is healthy). This can be encouraged, but the advice needs to be better in line with better policy and include a clear indication that we must place limits on our demand to be responsible. UK MPs have recently realized this, advising that advice to eat fish twice a week should be reviewed with sustainability in mind.<sup>lviii</sup> As the Commission notes, “Worse, major retail chains now believe the fact that fish have been harvested under the CFP, which does not provide their customers with sufficient guarantees of sustainability”.<sup>lix</sup>

## Section 5.5 – CFP as part of wider maritime policy

### Principles required:

- fishing must take its proper place in line with other areas of employment and use of the seas

A number of these issues are touched on elsewhere.

While it is noted that fishing impacts on coastal communities in a number of ways, there is a

surprising lack of emphasis on protecting and enhancing tourism in the Green Paper. “Coastal tourism is not only responsible for 5% of total GDP, but is increasing annually by 3%.”<sup>ix</sup> This is a larger proportion of GDP than is contributed by fishing (less than 1% of employment, including processing<sup>xi</sup> and less than 1% of GDP<sup>xii</sup>).

This is of particular concern with regard to aquaculture (see below), which can seriously impact on both the opportunities for recreational fishing by reducing wild populations (through disease, etc) and interfere with the “natural” experience fishing tourism depends upon for its image.<sup>lxiii</sup>

Other such imbalances or omissions, beyond our competence, must be identified and taken into account or risk this review being yet another turn in a cycle of dysfunction and reaction, rather than progressive improvement.

## Section 5.6 – Science base for policy and decision making

### Principles required:

- improvement of systems to determine what is assessed, how and by whom, involving fishers at all stages
- decreased time from identification of potential problems to enactment of measures to address them
- political accountability for limits set and for catch levels
- fishing cannot be blamed for all the ills of the oceans, but must be accountable for its actions
- universal application of the precautionary principle

There is concern on many sides that the scientific foundation for decisions is not yet sufficiently robust:

“Stock assessments prepared for EU waters are as thorough as anywhere in the world, but margins of error can still be as high as 40%, and are amplified by misreporting of catches.”<sup>lxiv</sup>

Also long lead times in assessing stock levels in order to set quotas are proving too inflexible to meet the needs of a living resource with its own natural fluctuations when harvested by so many.

Furthermore, what advice is there is not followed, as politics and that politics contribute to unfairness and take “assessments” even further away from sustainability:

“Currently scientific advice on available fishing resources is not followed: catch limits agreed by the Council have exceeded scientific advice by approximately 48% in recent years, resulting in severe reduction of fish stocks.”<sup>lxv</sup>

And industry, while reacting strongly to changes to the CFP noted in 2002:

“EUROPECHE and COGECA are concerned at the way the CFP is being dictated, as appears in the Community texts, by a concern for environmental protection that goes far beyond the necessary coherence between these two policies. The ambition expressed in the introductory part of the document is too strong. As they have emphasised many times, in particular in the preparatory stage of the Communication from the Commission setting out a Community action plan for integrating environmental protection requirements into the CFP, fishing should not be blamed for all the ills of the marine ecosystem.”<sup>lxvi</sup>

Calling for more comprehensive studies, they cite marine problems that arise from: urban

pollution run-off, including from oil production on and off shore, dredging, and development of renewable energy sites.

They and others suggest that the activities of non-human predators may be more significant than the currently accepted, including a study estimating the impact of grey seals consuming around 500,000 tons of fish per year around Scotland alone.<sup>lxvii</sup>

While we understand that, if current assessments are even close to correct, it is unlikely authorities will arrive at figures that the industry is entirely happy with, efforts must clearly be made to eliminate the perception that the fishing industry is being disproportionately “blamed” for the health of fish stocks (see section on aquaculture below). Using their catch figures and local knowledge will undoubtedly help close this gap, as has been suggested elsewhere in examinations of “cooperative research” in the USA and Europe:

“...involving fishers in research can contribute to better fisheries management. The focus is on improving stock assessments through the collection of better fishery-dependent and -independent data and through efforts to address by-catch through gear-selectivity studies. Direct benefits of cooperative research include increased quantity and quality of data, inclusion of fishers' knowledge in science and management, improved relevance of research to fisheries management, and reduced costs of science. Indirect benefits are the buy-in of science and management by industry and improved relationships and trust between fishers and scientists (and managers)...Most important, cooperative research improves capacity-building and establishes intellectual property rights within the fishing industry, and it encourages innovative approaches to management, such as adaptive and ecosystem-based approaches.”<sup>lxviii</sup>

We agree with OCEAN2012 that “future scientific assessment of fishing resources and the determination of fishing opportunities are based on a more conservative and precautionary policy framework.”<sup>lxix</sup> This includes adopting the precautionary principle, including the information available from those fishing and other sources of traditional knowledge, making decisions based on the advice legally binding and, as noted elsewhere, prohibiting discards and counting all fish caught.

And, once again, we’re back to an inclusive multidisciplinary approach and effective enforcement, starting with politicians attempting to negotiate their way around nature’s limits, raising expectations and encouraging unsustainable activity by example.

## Section 5.7 – Structural policy and financial support

### Principles required:

- properly target subsidies at those meeting sustainability outcomes
- ensure those breaching harvesting rights are not subsidised

Many of these issues are explored elsewhere.

Priorities must be moving to a sustainable, ecosystem-based approach, financing sound science and enforcing it, as is recognised by many, including the world’s artisanal fishers.<sup>lxx</sup>

Subsidies, (ie, government support) *per se* are not a problem as a concept if they are sensible and aimed at achieving overall objectives toward greater ecological sustainability. Incentives and support should be given to operations attempting innovative, less impactful methods, favouring those who move first and best, which are by nature limited, so could help a swifter transition. The current system that actually encourages overfishing needs to go.<sup>lxxi</sup> A fraction of the money would be better spent on better enforcement of clearer rules.

Public funds, or indeed access to fish, should not continue to flow to operations that are demonstrated to degrade resources, fail to comply with other elements of regulations or put those adhering to the rules at a disadvantage.

## Section 5.8 – EU impact elsewhere

### Principles required:

- recognition that, given the state of EU fisheries, others have much to teach us
- prevention of exporting our destructive demands elsewhere in the name of protecting EU fisheries
- recognition that not all markets are satiable, nor should we try to meet all the demands of the market

If a new CFP serves to further export our unfair and destructive overconsumption or further undermine local needs, including the need for food among people on shore, it will have failed. We agree with the Commission that:

“Conservation policy in the EU should not just drive the EU fleet out of Community waters... The CFP must promote a responsible and equitable use of fishing resources worldwide and assist developing countries in establishing robust, transparent and sustainable fishery policies”.<sup>lxxii</sup>

This is true even if excess capacity is exported under the guise of “aid” because:

“In 1994, at an average of 27.9 kg per person per year, people in industrial countries consumed three times as much fish as did people in the developing world (9.2 kg per person per year). Yet people in developing countries rely on fish for a much larger portion of their animal protein than do people in industrial countries.”<sup>lxxiii</sup>

Many of the issues identified here are medium-term achievements at best, as they will inevitably require sensitive negotiations and a period of leading by example to demonstrate that our aims are genuine.

It is for this reason and others that we do not entirely agree with the Commission that trade policy should be based on the “need to satisfy the growing needs of the market”.<sup>lxxiv</sup> A rapacious market may not be “satisfied” in a truly sustainable system that is responsible to our neighbours and their needs, as should be apparent to the Commission from its own analysis that:

“80% of our stocks are fished so intensely - above maximum sustainable yield - that the yield is reduced, even with the high effort required to fish so intensely. This compares to the global average of 25% stocks fished above maximum sustainable yield reported by FAO. Comparable values in countries which we should be at par with are 25% in the USA, 40% in Australia and 15% in New Zealand”.<sup>lxxv</sup>

Clearly such percentages must be considered transitional at best, as no fishing above ecological limits must be the goal.

We agree with Ocean 2012 that:

“The EU should establish with developing countries a framework for governance, with the objective of establishing a dialogue on how sustainable fisheries management can be promoted in their waters, on the basis of the Third Country’s priorities for the sector. This framework should also provide for necessary funding in order to achieve objectives jointly decided. Such a framework must provide priority access to artisanal fishing fleets, as stated in the FAO code of conduct for responsible fisheries

(Art6.18).<sup>lxvvi</sup>

This is echoed by artisanal fishers, who call for a:

“well-designed, time-bound, international fisheries management assistance fund in exchange for a commitment to manage fisheries in a consultative and transparent manner, within the framework of an ecosystem approach.”<sup>lxvii</sup>

Such a framework must respect the fact that communities or countries may not wish to adopt our approach to fishing or fisheries management. The 2008 Zanzibar Statement by East and Southern Africa Small-scale Fisheries to the FAO raises a number of concerns in this regard, including a rejection of fishing rights as a tradable commodity and insistence on a rights-based approaches to fishing that:

“recognize the customary rights, local knowledge, traditional systems and practices, and the rights to access marine and inland resources of small-scale, artisanal and indigenous fishing communities, as well as the right to land for homestead, fishery-related, and other livelihood-related activities” and “enhance collective, community-based access and management regimes.”<sup>lxviii</sup>

Furthermore, others must be involved in establishment of any conservation methods:

“Conservation initiatives, including MPAs, coastal area management programmes, tourism interventions and industrial aquaculture should respect the rights of coastal communities to unhindered access to beaches, landing sites and fishing grounds.”<sup>lxvix</sup>

Indeed they may not accept our suggestions at all. The 2008 Bangkok Statement on Small-Scale Fisheries “reject[s] ecolabelling schemes, while recognizing area-specific labelling that identifies socially and ecologically sustainable fisheries.”<sup>lxxx</sup> This is because of an ongoing perception that such schemes are not properly constituted, as discussed above.

Small-scale fishers in other parts of the world are well aware of what is at stake:

“There are strong incentives for developing countries to adopt conservation and management measures because most of the fish that the rich countries would like to consume are increasingly produced by developing countries.”<sup>lxxxi</sup>

They want “proactive engagement with fisheries conservation and management issues both by the State and the industry” based on honouring international obligations under the 1982 United Nations Convention on the Law of the Sea (UNCLOS) as well as other non-binding legal instruments like the Agenda 21, the 1995 FAO Code of Conduct for Responsible Fisheries and other regional instruments of relevance to fisheries and coastal area management.<sup>lxxxii</sup>

Indeed we should approach such discussions more humbly, as we may have much to learn ourselves from artisanal fisheries (the only sector afforded special recognition by the 1995 FAO Code of Conduct for Responsible Fisheries) about looking after fishing for the long-term in a way that has “contributed to sovereignty and food security of the population, offered opportunities for relatively stable work and maintained a family economy” for millennia.<sup>lxxxiii</sup> The 2008 Bangkok Statement demands, among other things, establishment of small-scale fisheries as the preferred model for the exclusive economic zone (EEZ) and establishment and enforcement of measures to prohibit industrial fishing in inshore waters.

Globalisation led by the North has a lot to answer for, including a five-fold increase in fish catches in the 40 years to 1990 (primarily fed by highly damaging industrial fishing, including the 30% of the global fish catch now converted into fishmeal and oil to supply factory farming

and aquaculture – see below). Given that some 90% of all fishers world-wide are artisanal or small-scale, and that 95% of them live in developing countries, the balance must be regained.<sup>lxxxiv</sup>

Artisanal fishers know that all our increased “efficiency” has actually undermined our needs (“As Technology Gets More Sophisticated, Fish Production Stagnates”) as well as the fact that this is and will continue to have impacts higher up the food chain.<sup>lxxxv</sup>

Development of new criteria and other agreements are a good opportunity to redress any imbalances with regard to the work of women in all areas of fishing.

We need to ask, listen and learn as well as offer advice to the rest of the world.

## Section 5.9 – Aquaculture

### Principles required:

- recognition that aquaculture replicates the problems of factory farming on land, it is fundamentally ecologically unsustainable, and that it has unacceptable social implications, so should therefore not be pursued
- recognition that no fish produced in open water aquaculture can legitimately be considered organic

It is difficult to imagine an industrial aquaculture sector (as opposed to much smaller-scale, traditional aquaculture, as practiced in Asia, etc) that can meet any reasonable sustainability requirements.

Aquaculture is effectively a replication of the industrial processes of intensive meat production on land, and well-known, serious difficulties with aquaculture on ecological grounds include:

- High levels waste flowing into and degrading or destroying surrounding waters or habitats already overtaxed by other industrial waste (eg, from agriculture or oil and gas industries).
- Low animal welfare, including high incidence of disease. In 2002 the Commission said, “Seafood consumption is in fact beneficial for human health, if it is guaranteed that seafood farmed in and imported into Europe is safe, of good quality and produced in a manner providing for good animal health and welfare practices.”<sup>lxxxvi</sup> This is a big “if”.
- High levels of chemicals required to treat disease, which also degrade surrounding waters.
- High levels of foodstuffs required, with global aquaculture in 2001 already consuming some 40% of the world’s fish oil and a third of the world’s fishmeal and nearly a quarter of all the world’s fish supplies being diverted to support fish farming.<sup>lxxxvii</sup> This adds to pressure on wild populations, rather than alleviating it. Reliance on soya is no better, as the problems associated with industrial monoculture, and especially GMOs, are many and growing.
- Damage to wild populations due to competition from and breeding with industrial species escapees and/or disease, including transgenic escapees, as has been seen in the deterioration of the Scottish wild salmon population and the sector reliant on them for incomes in rural area.<sup>lxxxviii</sup>

If “norms and/or voluntary agreements which prevent environment degradation” envisaged by the Commission were sufficient to curb these damages, we would not be where we are now.<sup>lxxxix</sup>

Unacceptable social impacts of aquaculture include:

- Impacts on artisanal and other fishers, whose catch is disrupted or minimized by highly damaging industrial harvesting of the vast amount of fish needed to generate food for caged fish.
- Highly inefficient use of resources that should be used to feed people, with some five ton of fish used to produce one ton of fishmeal, and a further loss of protein when fed to fish and shellfish (one example cites 15 kg of fish being turned into 2.7 kg of fishmeal added to other feedstuffs to produce a 3kg salmon).<sup>xc</sup> Imported soya meal is NOT an answer, as it is far from sustainable itself, and relies on land better suited to other purposes, like feeding local people.
- A further threat to fishers' already suffering from the impacts of cheap imports on their incomes.
- The threat of further concentration of control of fish industry in the hands of vast corporations, as the aquaculture industry is already controlled by merely three powerful multinational corporations headquartered in Norway.<sup>xcI</sup>
- Diversion of public funds in subsidies to these corporate operations in the name of research.
- Potentially serious implications for human health as farmed fish, which have higher levels of disease, PCBs, dioxin, flame retardants, pesticides, and other toxins (like algal blooms) than wild fish, partly because these contaminants are often present in the fish that are ground up for feed.<sup>xcii</sup>

Nor is open ocean aquaculture clearly either technically possible or economically viable: Each pound of fish sold by the University of New Hampshire's demonstration project costs about \$3,000 in our taxpayer dollars to produce.<sup>xciii</sup> Furthermore, "Most of the branches of the aquaculture sector have been exposed to falling market prices since the early 1990s."<sup>xciv</sup>

Aquaculture is not a replacement for wild stocks, which are both more sustainable when line-caught and command a high price that is undermined "where more traditional raw material supply sources from capture fisheries have declined, the net impact of aquaculture products may increase."<sup>xcv</sup> Critically, according to the Commission, "The development of aquaculture falls far short of compensating the reduction in landings."<sup>xcvi</sup> According to the industry, "The growth of salmon has been rapid since it began in the 1970s. However, there is a consensus that whilst some further growth may result from productivity gains there is unlikely to be any significant increase in the volume produced."<sup>xcvii</sup> Aquaculture is therefore not a substitute for proper stewardship, and if it is inhibiting stewardship, it must go.

Nor can it be seen, as it was by the Commission in 2002, as "an opportunity for workers who lose their jobs in the catching sector," particularly if it is aquaculture itself that is damaging prospects in a sustainable catching sector.<sup>xcviii</sup>

Worse still, it appears that even in Norway, often cited as an example of good practice in fishing, the industry is expanding rapidly and unchecked:

"No environmental impact studies of cod farms have been done, there are no restrictions on location, there are no restrictions on the protection of spawning grounds and there are lots of fish that escape."<sup>xcix</sup>

Addition warnings of the problems include:

- The 2008 Bangkok Statement "reject[s] industrial aquaculture and genetically modified and exotic species in aquaculture."
- In 2009 the UK Salmon and Trout Association (STA) called on the Scottish Government by the to ban fish farms from rives and estuaries claiming the survival of wild salmon and sea trout in the west Highlands and islands is at a tipping point and that fish farms threaten the very existence of sustainable west coast salmon runs as

wild fish are “eaten alive” by lice emanating from fish farms, saying, “It is fundamentally inequitable that the interests of the fish farm industry should be permitted to ride roughshod over one of the country’s greatest natural assets.”<sup>c</sup>

- The UK Rivers and Fisheries Trusts called for an outright end open ocean aquaculture upon lodging a formal complain to the Commission after more than 100,000 Atlantic salmon escaped from four facilities on the west coast of Scotland in the first six months of 2007 alone.<sup>ci</sup>
- The September 2009 escape of nearly 60,000 salmon from a facility in Argyll, more than the total number of Scottish escapees from the previous year and met with a “recapture strategy” by the company responsible, was blamed on insufficient investment in equipment and training.<sup>cii</sup>

There is some suggestion that so-called “closed-loop” recirculating aquaculture systems (RAS) may be more sustainable than open water operations, as they contain waste and disease and preclude escapees. This remains to be seen, as does their economic viability.

We note the recent introduction of organic standards for fish in the EU, but we do not accept that, given all of the problems above, farmed fish can legitimately be considered to be in keeping with the spirit of organic production as fish farms are clearly not environmentally sustainable. Only fish produced in closed systems where all inputs are organic and all outputs are controlled and contained should be certified organic.

We recognise the difficulty noted by the Commission in 2002 that:

“Little information is available on the socio-economic impact of coastal aquaculture activities in Europe. However a recent study carried out in some Scottish areas shows that salmon farming development stopped the decline of the rural population (for the first time in the last century), and that young people found employment throughout the year, while other economic activities like tourism were only seasonal.”<sup>ciii</sup>

These communities should not be abandoned, but neither should they be encouraged into a fundamentally unsustainable, and therefore short-lived, future.

The only valid sustainable proposal is that we must consume and waste less fish.

Contacts  
Eve Mitchell

## Notes

<sup>i</sup> See <http://bigthink.com/elinorostrom/big-think-interview-with-elinor-ostrom>

<sup>ii</sup> See <http://www.pressandjournal.co.uk/Article.aspx/1479066>

<sup>iii</sup> House of Lords (UK) European Union Committee. *21st Report of Session 2007–08: The Progress of the Common Fisheries Policy, Volume I*. The Stationery Office Limited, London. 22 July 2008.

<sup>iv</sup> See [http://www.timesonline.co.uk/tol/life\\_and\\_style/food\\_and\\_drink/article6920600.ece](http://www.timesonline.co.uk/tol/life_and_style/food_and_drink/article6920600.ece)

<sup>v</sup> See [http://www.sundayherald.com/news/heraldnews/display.var.2526947.0.scotland\\_to\\_china\\_and\\_back\\_again\\_cods\\_10\\_000mile\\_trip\\_to\\_your\\_table.php](http://www.sundayherald.com/news/heraldnews/display.var.2526947.0.scotland_to_china_and_back_again_cods_10_000mile_trip_to_your_table.php).

<sup>vi</sup> See <http://thescotsman.scotsman.com/scotland/The-great-escape-60000-.5771439.jp>.

<sup>vii</sup> See [http://ec.europa.eu/fisheries/cfp/2002\\_reform\\_en.htm](http://ec.europa.eu/fisheries/cfp/2002_reform_en.htm)

<sup>viii</sup> See [http://www.seararoundus.org/Dakar/pressReleases/WWF\\_2002-01b\\_EN.pdf](http://www.seararoundus.org/Dakar/pressReleases/WWF_2002-01b_EN.pdf)



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- <sup>ix</sup> House of Lords 2008, *op cit*.
- <sup>x</sup> See [http://ec.europa.eu/fisheries/cfp/2002\\_reform\\_en.htm](http://ec.europa.eu/fisheries/cfp/2002_reform_en.htm)
- <sup>xi</sup> NEF. *Re-framing the great food debate: The case for sustainable food*. London. August 2009. See [http://www.neweconomics.org/gen/z\\_sys\\_PublicationDetail.aspx?pid=292](http://www.neweconomics.org/gen/z_sys_PublicationDetail.aspx?pid=292).
- <sup>xii</sup> See <http://www.paecon.net/PAERReview/issue27/BenYami27.htm>
- <sup>xiii</sup> European Commission. Non-paper *Commission Working Document Subject: Reflections on further reform of the Common Fisheries Policy*. 2008.
- <sup>xiv</sup> See <http://www.lobsterconservation.com/concentration/>
- <sup>xv</sup> Gavaris, S., 1996. Population stewardship rights: Decentralized management through explicit accounting of the value of uncaught fish. *Canadian Journal of Fisheries and Aquatic Sciences* 53, 1683-1691.
- <sup>xvi</sup> House of Lords 2008, *op cit*.
- <sup>xvii</sup> Gavaris, *op cit*.
- <sup>xviii</sup> *Ibid*.
- <sup>xix</sup> *Ibid*.
- <sup>xx</sup> EU Commission 2008, *op cit*.
- <sup>xxi</sup> Gavaris, *op cit*.
- <sup>xxii</sup> "Consider a simple example. Assume that Benevolent Harvester (BH) and Capitalist Conserver (CC) each get an initial biomass allocation of 1,000 tons. CC decides to take over the fishery by not fishing on his stock. Let's say that his stock grows by 20% each year because he leaves its surplus production to accumulate. That rate would slow as the stock grew, but that characteristic of natural populations does not affect our example. After 5 years, CC's stock reaches about 2,500 tons. BH keeps fishing at a sustainable rate, thus maintaining his stock at 1,000 tons. BH enjoys the high catch per unit effort that comes with stock abundance. His costs are therefore reduced and his profit is higher. The fact that his percentage share of the total stock has been reduced from 50% to 28% does not hurt him at all - he still has his 1,000-ton stock and he is making money off CC's conservation, not by catching more fish, but by catching them more easily. It doesn't hurt me if another customer of my bank lets the interest on his account accumulate while I take mine out every year." See <http://www.lobsterconservation.com/stockstewardshipdiscussion/message.nhtml?profile=stockstewardshipdiscussion&UID=10005>
- <sup>xxiii</sup> EU Commission 2008, *op cit*.
- <sup>xxiv</sup> *Ibid*.
- <sup>xxv</sup> Pomeroy, R and Allen, D. "Harvesting Agreements and Harvesting Cooperatives". See [http://seagrant.gso.uri.edu/reg\\_fish/harvesting/harvestagreements.pdf](http://seagrant.gso.uri.edu/reg_fish/harvesting/harvestagreements.pdf)
- <sup>xxvi</sup> *Ibid*.
- <sup>xxvii</sup> See [http://www.atsea.org/fishing\\_coops.php](http://www.atsea.org/fishing_coops.php)
- <sup>xxviii</sup> Wilen, James E (Dept. of Agricultural & Resource Economics, University of California, Davis) and Richardson, Edward J (Atsea Processors Association). "The Pollock Conservation Cooperative", Paper prepared for Workshop on Cooperatives in Fisheries Management, Anchorage, Alaska. June 2003. See <http://www.iser.uaa.alaska.edu/Projects/workshop/Richardson%20pollock.pdf>
- <sup>xxix</sup> *Ibid*.
- <sup>xxx</sup> *Ibid*.
- <sup>xxxi</sup> Knapp, G (Institute of Social and Economic Research, University of Alaska Anchorage). *The Chignik Salmon Cooperative*. (undated) See <http://ftp.fao.org/docrep/fao/010/a1497e/a1497e29.pdf>
- <sup>xxxii</sup> *Ibid*.
- <sup>xxxiii</sup> EU Commission, 2008, *op cit*.
- <sup>xxxiv</sup> EU Commission 2008, *op cit*.
- <sup>xxxv</sup> Decoster, Juliette and Avendaño Garcés, Pedro for The Charles Léopold Mayer Foundation for the Progress of Humankind (FPH) Havana group constituent assembly process of the World Forum of Artisanal Fish Harvesters. *Challenges facing Artisan Fishery in the 21st Century*. Presented in December 2001. See <http://sites.google.com/site/smallscalefisheries/statement>

<sup>xxxvi</sup> Position by EUROPECHE and COGECA on the Communication from the Commission on the Reform of the CFP (COM(02)181 final). *EUROPECHE and COGECA Consider the CFP Reform Proposals as Presented by the Commission Globally Unsatisfactory and Request that They be Reconsidered in Order to Benefit from the Support of the Industry*. EP(02)28 final-CP(02)75F1. September 2002.

<sup>xxxvii</sup> See <http://www.copa-cogeca.be/Download.ashx?ID=502823>

<sup>xxxviii</sup> Allen, Richard B. "Squatters or Owners: Points to Ponder Concerning Legislated Criteria for Individual Transferable Quotas in U.S. Federal Fishery Management Plans". Background paper for the National Fishery Management Conference. 24-26 March 2005.

<sup>xxxix</sup> See <http://www.copa-cogeca.be/Download.ashx?ID=385659&lang=en>

<sup>xl</sup> See <http://www.scotland.gov.uk/News/Releases/2009/07/24112530>

<sup>xli</sup> See <http://www.copa-cogeca.be/Download.ashx?ID=385659&lang=en>

<sup>xlii</sup> See <http://www.copa-cogeca.be/Download.ashx?ID=216518&lang=en>

<sup>xliii</sup> See <http://www.copa-cogeca.be/Download.ashx?ID=385659&lang=en>

<sup>xliv</sup> Parliamentary Office of Science and Technology (UK). *Postnote: Sustaining Fisheries*. Number 251, September 2005.

<sup>xlv</sup> See <http://www.copa-cogeca.be/Download.ashx?ID=385659&lang=en>

<sup>xlvi</sup> See <http://www.copa-cogeca.be/Download.ashx?ID=385659&lang=en>

<sup>xlvii</sup> House of Lords 2008, *op cit*.

<sup>xlviii</sup> Allen 2005, *op cit*.

<sup>xliv</sup> See [http://assets.panda.org/downloads/banking\\_on\\_cod\\_apr09.pdf](http://assets.panda.org/downloads/banking_on_cod_apr09.pdf)

<sup>i</sup> Decoster 2001, *op cit*.

<sup>li</sup> House of Lords 2008, *op cit*.

<sup>lii</sup> EU Commission 2008, *op cit*.

<sup>liii</sup> Ocean2012 2009, *op cit*.

<sup>liv</sup> See <http://www.paecon.net/PAEReview/issue27/BenYami27.htm>

<sup>lv</sup> Ocean2012 2009, *op cit*.

<sup>lvi</sup> Decoster 2001, *op cit*.

<sup>lvii</sup> *Ibid*.

<sup>lviii</sup> See [http://news.bbc.co.uk/1/hi/uk\\_politics/8160602.stm](http://news.bbc.co.uk/1/hi/uk_politics/8160602.stm)

<sup>lix</sup> EU Commission 2008, *op cit*.

<sup>lx</sup> See

<http://europa.eu/rapid/pressReleasesAction.do?reference=IP/07/830&format=HTML&aged=0&language=EN&guiLanguage=en>

<sup>lxi</sup> House of Lords 2008, *op cit*. "A study produced for the European Commission in 2006 showed that the catch, processing and aquaculture sectors combined usually provide less than 1 per cent of total employment in each EU Member State."

<sup>lxii</sup> see [http://www.economist.com/specialreports/displaystory.cfm?story\\_id=12798518](http://www.economist.com/specialreports/displaystory.cfm?story_id=12798518)

<sup>lxiii</sup> See

<http://www.foodandwaterwatch.org/fish/fish-farming/offshore/ocean-fish-farming-can-hurt-recreational-fishing>

<sup>lxiv</sup> House of Lords 2008, *op cit*.

<sup>lxv</sup> Ocean2012 2009, *op cit*.

<sup>lxvi</sup> See <http://www.copa-cogeca.be/Download.ashx?ID=216518&lang=en>

<sup>lxvii</sup> See <http://www.pressandjournal.co.uk/Article.aspx/1316611>

<sup>lxviii</sup> Johnson, TR and van Densen, WLT. "The benefits and organization of cooperative research for fisheries management." *ICES Journal of Marine Science*, 64: 834–840. 2007.

See <http://icesjms.oxfordjournals.org/cgi/content/full/64/4/834>

<sup>lxix</sup> Ocean2012 2009, *op cit*.

<sup>lxx</sup> Decoster 2001, *op cit*.

<sup>lxxi</sup> See <http://www.guardian.co.uk/environment/2009/jun/25/eu-fishing-subsidies>

<sup>lxxii</sup> EU Commission 2008, *op cit*.

<sup>lxxiii</sup> Decoster 2001, *op cit*.

<sup>lxxiv</sup> EU Commission 2008, *op cit*.

<sup>lxxv</sup> *Ibid*.

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- lxxvi Ocean2012 2009, *op cit*.
- lxxvii Decoster 2001, *op cit*.
- lxxviii *Ibid*.
- lxxix *Zanzibar Statement on Rights-based Approach to Small-scale, Artisanal and Indigenous Fisheries*. East and Southern Africa Small-scale Fisheries Worksho, 24 to 27 June 2008.
- lxxx *Bangkok Statement on Small-Scale Fisheries*. 13 October 2008
- lxxxI Decoster 2001, *op cit*.
- lxxxii Bangkok Statement, *op cit*.
- lxxxiii Decoster 2001, *op cit*.
- lxxxiv *Ibid*.
- lxxxv *Ibid*.
- lxxxvi EU Commission 2008, *op cit*.
- lxxxvii Decoster 2001, *op cit*.
- lxxxviii See <http://www.pressandjournal.co.uk/Article.aspx/1315650> and <http://www.pressandjournal.co.uk/Article.aspx/1338222>
- lxxxix EU Commission 2008, *op cit*.
- xc Decoster 2001, *op cit*.
- xcI See <http://www.foodandwaterwatch.org/fish/fish-seafood/fish-farming/net-loss/net-loss-aquaculture-drags-down-fish-and-jobs-with-it/?searchterm=aquaculture>
- xcii See <http://www.foodandwaterwatch.org/fish/publications/reports/fishy-farms>
- xciii *Ibid*.
- xciv European Commission. Communication from the Commission to the Council and The European Parliament: A Strategy for the Sustainable Development of European Aquaculture. COM(2002) 511 final. Brussels, 19 September 2002.
- xcv *Ibid*.
- xcvi EU Commission 2008, *op cit*.
- xcvii Seafish. *Response to The Royal Society of Edinburgh Inquiry into the Scottish Fishing Industry* (undated, presumed 2003). See [http://www.rse.org.uk/enquiries/scottishfisheries/evidence/SEA\\_FISH.pdf](http://www.rse.org.uk/enquiries/scottishfisheries/evidence/SEA_FISH.pdf)
- xcviii EU Commission 2002, *op cit*.
- xcix See <http://www.guardian.co.uk/environment/2009/jun/22/european-cod-farming-norway>
- c See <http://www.pressandjournal.co.uk/Article.aspx/1338222>
- ci See <http://www.timesonline.co.uk/tol/news/uk/article2477632.ece>
- cii See <http://thescotsmen.scotsmen.com/scotland/The-great-escape-60000-.5771439.jp>
- ciii EU Commission 2002, *op cit*.