

# **The Sea Clearances**

An account of the demise of the fishing fleet and  
the fishing communities of Scotland

David B Thomson

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## THE SEA CLEARANCES IN SCOTLAND

(This article is based on a United Nations FAO case study of the fishing communities of the Hebrides and West Coast of Scotland)<sup>1</sup>

*“They had come from beyond the mountain which rose up behind them, from inland valleys and swelling pastures, where they and their people before them had lived from time immemorial. The landlord had driven them from these valleys and pastures, and burned their houses, and set them here against the sea-shore to live if they could and, if not, to die, ...*

*Yet it was out of that very sea that hope was now coming to them. All along these coasts ... there was a new stirring of sea life. ... The people would yet live, the people themselves, for no landlord owns the sea, and what the people caught there would be their own ... “<sup>2</sup>*

The Hebrides and the adjacent west coast of Scotland is a region of coastal communities on the periphery of Europe whose people have for generations struggled against the elements to achieve a sustainable economy in the face often of negative outside forces. Its population, now reduced to less than 80,000 persons, has seen its every major natural resource commandeered by outside groups in one way or another. In the nineteenth century the land was taken ruthlessly from the people in the name of economic progress. The sea and its fish stocks remain the one last major resource for future work and industry. Today, as a result of the effects of current management systems, regulations and measures, the local fishery resource, and the people's diminishing right to harvest it, are both under serious threat. Following the decline of sheep farming, weaving, and other traditional crafts, the loss of the basis of the local fishing industry could be the final blow to an economy which is already in crisis.<sup>3</sup>

Yet the sea adjacent to the Hebrides and West Coast, yields over a million tons of fish a year to fishing effort and predation. That is more than a fifth of the amount of fish harvested from the waters of EU member states. But the west coast ports see only 60,000 tons or six per cent of the yield landed locally.<sup>4</sup> Just over half of that amount is taken by east coast boats based permanently on the west coast, and less than half by local boats crewed and owned by indigenous Hebridean and west coast fishermen.

The total west coast based fleet thus harvests less than seven per cent of the fishable stock in adjacent waters. The indigenous local fishermen take less than three per cent. Yet the limited catch provides employment for over 3,000 persons on shore and at sea, and is the basis for 2,000 other jobs. It is the foundation of the economies of scores of coastal villages. Government support for the industry is modest at best and often designed to encourage workers to leave the sector rather than remain and improve their operations. The west coast scallop fleet was in urgent need of temporary assistance in 1999 and 2000 when fishing was banned in areas where amnesic shellfish poisoning was suspected. Despite pleas by the west coast associations, no assistance was granted.

What is happening to Scotland's indigenous west coast fisheries is also occurring on the more prosperous east coast where the social and economic impact is less severe owing to the existence of the oil industry and local urban economies. The fishing ports of East Lothian, Fife, Grampian, the Moray Firth and Shetland which achieved generations of hard-earned prosperity from catching and processing, are now seeing that great traditional industry threatened with terminal decline. Measures undertaken in early 2001 to preserve cod stocks were unbalanced by measures to protect juvenile haddock in the North Sea, and this ensured further stock depletion thus accelerating the industry's demise. Some believe this is orchestrated by powers that be in Westminster, Whitehall and Brussels who, many fishermen believe, have had a hidden agenda to that end since Britain's entry into the EC.

The Scottish west coast and island fisheries problems are also a microcosm of those facing millions of coastal dwellers throughout the world who rely on the sea's resources for food and income. The fish and seafood they

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<sup>1</sup> *Understanding the cultures of fishing communities*, A key to fisheries management and food security, editor Professor J.R. McGoodwin, FAO Fisheries Technical Paper 401, Rome, 2001

<sup>2</sup> Neil M. Gunn, *The Derelict Boat*, in *The Silver Darlings*, Faber & Faber, 1941

<sup>3</sup> Western Isles Enterprise, *Economy in Crisis*, Conference Paper, 1998

<sup>4</sup> Some Continental vessels consign catches from westcoast ports but that fish does not pass through local markets and yields nothing to the local economy apart from a small landing charge.

harvest are the basis of the slender economies of tens of thousands of villages. United Nations estimates the number of small scale coastal fishermen at around 20 million, the families and communities directly involved at over 100 million, and the amount of fish they harvest at close to 30 million tons, which is over 40 per cent of the amount of food fish taken from the sea. The world's industrial fleets take over 70 million tons of sea fish, but 40 per cent of their catch goes for reduction to meal and oil for animal feed. A further 17 to 27 million tons is estimated to be destroyed or dumped at sea as unwanted by-catch.<sup>5</sup>

The social and economic importance of coastal fisheries is even greater than their contribution to the world's supplies of protein food. Remove access to the fish resource or permit unbridled competition by industrial fleets equipped with every modern aid for fish detection and capture - and the result would be 20 million unemployed fishermen, 100 million destitute family members, and tens of thousand of communities dying from lack of a basic industry. In the developing world the displaced fishermen and their families would in all likelihood move to urban centres and become squatters in the sprawling slums of the major cities.

A recent commentator has written: *"If we are going to sustain our fish stocks in ways which ensure the continued supply of fish to provide livelihoods and to feed future generations, then fisheries must maintain their close links with the people of the sea. Sustainable fishing must, apart from conserving fish stocks, involve viable fishing communities and sustaining of livelihoods in those communities"*.<sup>6</sup>

## **U.N. Action and International Concern**

In 1995, concerned that world population was growing faster than food supplies, and that by 2010, there would be an expected shortfall of 30 million tons in the world's supply of food fish, the Government of Japan called for countries and international organisations to meet and collaborate to address the issue.

Accordingly, in December of that year, 95 nations sent representatives to a meeting in Kyoto, organised jointly by Japan, and the Food and Agriculture Organisation of the United Nations (FAO). Eleven inter-government and nine non-government organisations also sent representatives. With participants numbering 522, the meeting was one of the world's largest international conferences on fisheries.

The Kyoto Declaration<sup>7</sup> and Plan of Action were adopted by the Conference, by consensus. They recognised the danger to fish resources from over-exploitation and environmental degradation. Fish food supplies would become scarce, and the fishery sector's contribution to food security put under threat. Poorer people, who normally relied on fish for protein food, might find it priced beyond their means in their diet. See box \*

As a follow-up to the Conference, and the Declaration, FAO commissioned the preparation of global case studies in each of five major regions, namely, the Far East, Asia, Africa, the Americas and Europe. The studies were to focus on the social and cultural importance of coastal fishing communities and their contribution to food security.

The Hebrides and the west coast of Scotland fishing communities were selected as the study group for Europe. The region was of interest to the United Nations because it included an identifiable ethnic people with their own special history and culture, and a coastal fishery which though of considerable potential, was under threat from a number of environmental and economic pressures, largely due to existing management measures and their often unintended effects.

The Hebrides case study raised other serious issues regarding land use, and appropriate development strategies for the region. There are important historical reasons for the Highland problem, which need to be clarified and understood. It was felt that an examination of the wider issues would be helpful to the present debate on fisheries management and regional development within Europe.

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<sup>5</sup> FAO, *The World's Two Marine Fishing Industries – How They Compare*, ICLARM Manila, 1988

<sup>6</sup> Brian O'Riordan, *What's the Catch ?*, in *Samudra* journal, May 1998

<sup>7</sup> Fisheries Agency Japan, *The Kyoto Declaration and Plan of Action*, December 1995

Few of the world's artisanal fishermen have the luxury of a choice of vocation, or any viable alternative type of employment. Most of them are landless peasants. The combined efforts of aid organisations, national governments and development banks, to stimulate rural economies and stem the tide of migration to the cities can scarcely maintain work opportunities for existing populations in rural areas. They most certainly could not cope with an additional 15 million unemployed persons and their families. That is why coastal fisheries are being protected in the poorer parts of the world. Indonesia for example, could harvest its 2.5 million tons of marine fish with only 150,000 fishermen instead of 2,000,000 if it used only modern ships and modern technology. But since the Government is responsive to social pressures, and because the repercussions of such a move would be horrendous for its cities which have squatters enough at present, the national policy favours local fishing communities and maximisation of employment in coastal areas.

### **Threats to Fish Resources and Coastal Economies**

In the developed or industrialised parts of the world, the situation differs only in degree. There are far fewer fishermen in the coastal areas of Europe and North America than there are in Africa, Asia, and the Far East. But the problem remains. It has been overcome in some regions where local industry has swallowed up excess labour from fishing communities. But in places like the Maritimes of Canada, and the fishing villages of Alaska, there are not so many industrial opportunities for local residents, and the decline of inshore fisheries has created severe social problems which have required substantial state aid to redress. In Europe, similar vulnerable coastal communities are found in Spain, Portugal, Ireland, Cornwall and Scotland. They face a difficult and uncertain future if their modest share of the sea's wealth is to be taken from them. Spanish coastal fishermen who number over 28,000 recently met together and issued the "*Cedeira Charter*" which received the backing of 50 cofradias and the Galician Environmental Federation.<sup>8</sup> It echoes most of the conclusions and recommendations of the Hebridean study.

The modest sea harvest is under serious threat from two directions - resource depletion and loss of the legal right to fish. The resource depletion is due to pollution of coastal waters and to severe fishing pressure which together have depleted most of the demersal and pelagic stocks in the coastal area. Predation, chiefly by an enormously increased seal population, has also had a detrimental effect as has the enforced discarding or dumping of thousands of tons of fish caught surplus to particular species quotas for individual vessels. Enormous increases in vessel power and introduction of gear advances, like the twin-rig trawl, have put fish stocks under yet greater pressure.

Loss of the legal right to fish is being brought about by a trade in vessel licenses and quota entitlements. This is a trade in pieces of paper which did not exist a few years ago. The market in these commodities, which successive governments seem to view as a good thing, has priced licenses and quota entitlements above the value of a fishing boat and its gear. In the case of pelagic licences, their market value may be several millions of pounds. Once a license is gone from a fishing port or community, it is effectively gone for ever, together with the jobs and income that boat's production would create for local crewmen, fish workers and service industry personnel. A national journal has stated that if carried on unchecked, "*the trade in fishing entitlements will push ownership of the fleet into a few hands, and endanger the survival of fishing communities and fish stocks*".<sup>9</sup> The Chief Executive of the Scottish Fisheries Organisation has stated it more bluntly, "*ITQs will do for fishing what Highland clearances did for agriculture*".<sup>10</sup> (ITQs are individual transferable quotas, or tradable quota entitlements).

The UN study concludes that the "sea clearances" will be every bit as socially and environmentally damaging as the land clearances. Just as some economic changes which were used to justify the land clearances, were short-sighted, and eventually proved to be unsustainable, so the current sea clearances (if they continue) will in time prove to have accomplished nothing but further resource depletion and the death of many otherwise viable coastal communities.

Some economists and senior civil servants regard these trends as inevitable, and the social consequences as a price worth paying to achieve centralisation, greater efficiency and more profit in fewer hands. Their attitude is identical to that of the "improvers" of the 19<sup>th</sup> century who justified the clearances as an economic necessity which was ultimately for the greater good of those who were forcibly deprived of land, homes and employment. The argument

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<sup>8</sup> Sebastian Losada, *The Cedeira Charter*, in *Samudra* No. 26, ICSF Brussels & India, August 2000

<sup>9</sup> Tim Oliver, *Communities at risk from ownership concentration*, Quota trade threat to fleet structure, in *Fishing News*, 6 August, 1999

<sup>10</sup> Iain MacSween, SFO, *Fishing News*, 13 August 1999

is that if only the fishing industry would accept current painful changes and management measures, in the future there would emerge a leaner, more efficient and more profitable industry. It is an argument our fishermen have heard for 30 years now and though production and employment have plummeted, the pain continues. The flaw in the argument is that CFP conservation measures have failed for the 30 years of their implementation and unless radically redrafted, are likely to continue to do so; also there are powerful fleets waiting to fill the void left by the diminished Scottish fleet. Spain has a surplus of vessels waiting for full access to the North Sea and budding new members of the EU like the Baltic States will all be entitled to “equal access to a common resource”. This adds to suspicions by Scottish fishermen that the eventual rump of the Scottish fleet will be much smaller than even the most pessimistic forecasts. So the “sea clearances” will continue.

That illustrates one clear difference between the **sea clearances** and the former **land clearances**. One can argue as some do, that the land clearances might have resulted eventually in a more productive system that ultimately benefited all of the population, if they had been effected more wisely, humanely, and with due environmental concern. With the sea clearances that is not the case. A significant but naturally limited local or national fishery has become the prey of large, powerful and voracious fleets. You cannot increase the sea’s productivity by more efficient harvesting. That can only and inevitably result in resource depletion. A sustainable fishery has to be managed within the limits imposed by living nature. The CFP is giving wealthy or powerful interests larger slices of a shrinking cake. But these companies’ fleets are consuming the “seed corn” of future fish stocks.

The refusal of authorities in 2001 to help our fishermen protect juvenile haddock shows that conservation is not really their ultimate goal. (The Minister who claimed that the measure would save only 6 per cent of the stock must have been badly advised; – her figure was based on a calculation of an average year when boats could fish all over the North Sea and not on the existing situation when vessels were excluded from the cod grounds and obliged to concentrate effort on areas where juvenile haddock abounded). The readiness of both British and EU authorities to encourage fishermen to leave the industry for ever, or to force them out by economic pressure, all confirm the belief that our fishing industry is to go the way of mining, steel, shipbuilding and auto manufacture, - because of a political agenda and not because of economic necessity.

On the positive side, the whole situation could have been turned around by a few effective measures. All that was lacking was political will to introduce and implement them. The measures were - a modest change in resource allocation, a “no discards” regime in the whole region, the innovation of participatory regional management (which would have included measures like the tie-up scheme), a halt or limit to the trade in fishing licenses and entitlements, limits to vessel power and gear in coastal waters, insistence on local processing of a minimum percentage of the regional catch, control of marine pollution, a cull of fish predators like seals, and an end to the sale of immature fish. These measures would together, in time, have reversed the sea clearances and ensured a future for many coastal villages. They would have been difficult to achieve given the Treaty amendments necessary to obtain the identified concessions to coastal and national fisheries management, but that they were vital to the survival of many coastal communities is without doubt.

As the sea clearances are now upon us, it will be more difficult to reverse the process, and it will take longer to rebuild fish stocks, especially the coastal resources. The issues involved require to be clarified, as do possible measures to alleviate or resolve problems. In the heat of current debate, long term and short term measures, major and minor regulations, and their objectives, are much confused (some would say deliberately at times).

### **Fishery Management Issues**

A question fishery scientists often put to politicians and senior fishery managers is “management for what?” In other words, what are the ultimate goals and objectives of a fishery management regime? It is a question to which they seldom receive an unambiguous reply. Successive British governments (and the EU) have studiously avoided issuing a clear statement of national fishery policy purpose or objectives.<sup>11</sup> Fisheries need to be managed with social and regional goals in mind as well as purely resource-oriented or fleet-oriented considerations.

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<sup>11</sup> Frank Doyle, *The Concept of ‘Economic Efficiency’ and its Implications for Policy Formula tion*, XIth Annual Conference, European Association of Fishery Economists, Dublin, April 1999

The primary goal of fishery management should be **resource conservation**. A regime which fails in this respect would be regarded as a failure by practically any yardstick. The world's limited stock of natural resources is under pressure everywhere, and few more so than fish.

A second and major objective should be that of a **sustainable fishery**. Whichever harvesting methods and controls are permitted should be such that production might be expected to continue indefinitely at those levels, within the natural variations that will always occur.

The third goal for any just and democratic society should be **social benefit** from the fishery in the form of secure employment and community participation. This goal is paramount in developing countries like India, China and Indonesia for example which have many millions of fishermen and fish farmers, plus several million more persons involved in curing and selling fish. Industrialized country governments appear less concerned at this, viewing the fishery sector as unimportant in terms of national employment.

A further goal should be achievement of the optimum **economic benefit** from the fishery. The economic benefits must be long term and sustainable, with consideration given to the sector's importance for rural, island and coastal economies.

Fisheries management in Scotland, which provides most of United Kingdom's fish, has come under the European Common Fisheries Policy for the past 30 years. In that time the management regime and measures applied have failed to meet any of the above criteria.<sup>12</sup> This is evident from the recent FAO case study which focused on the Hebrides and West Coast of Scotland, and the waters of the Minches and Firth of Clyde, extending west into the Atlantic to include the fishing zone known to marine scientists as ICES Area VI. Geographically, the area incorporates more than a third of all Scottish fishing grounds. The fish resource in that region and the local fishermen who depend on it, have been depleted in size and number, and continue to be so, as are those of the seas north and east of Scotland.

In the past 30 years, the coastal waters around the Hebrides and the adjacent west coast, have been denuded of the stocks of herring, mackerel, haddock and cod which were abundant till then. Local fish landings have fallen by over 200,000 tons a year, and the number of fishermen employed has been reduced by 50 per cent, down to just over 1,700. Communities chiefly dependent on fishing have seen their populations shrink by 25 per cent while overall population in the study area has dropped by 15 per cent and continues to decline.<sup>13</sup> Excessive fishing effort, increased pollution of the marine environment and escalating predation by uncontrolled animal populations, have all contributed to the current situation. Neither the fishery nor the coastal communities have a sustainable future. Current fishery policy calls for even greater reductions in fleet sizes and in consequence, in the numbers of fishermen. Fish processing establishments in the Hebrides and on the west coast face increasing difficulty in obtaining supplies of raw material and some may have to close due to the shortage.<sup>14</sup>

All this has been brought about as a direct result of the type of management of the fishery by successive British Governments operating within the terms and conditions of the EU Common Fisheries Policy. As the Shetland Fishermen's leader (who has worked hard to make a success of the CFP) said recently: "*The CFP has clearly failed to conserve fish stocks and protect fishermen's livelihoods, and is therefore in need of radical change*".<sup>15</sup> (None of the fishery associations or federations could be said to be supporters of the CFP. Most of them recognize it as an unfortunate fact of life, realize they have to operate within it, and want some radical amendments to its measures. Others lobby for its total reformation, or for the Government to withdraw from it if at all possible.)

Specific factors which have caused the damage to fish stocks, and which were identified in the study, are detailed below under the two main headings of **resource depletion** and **resource access and share**.

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<sup>12</sup> Alain Le Sann, *Globalisation and Sustainable Fisheries Policies*, in A Livelihood from Fishing, Intermediate Technology Publications, 1997

<sup>13</sup> Western Isles Council, Statistics for conference, *Economy in Crisis*, April 1998  
Also, Highlands Council and West Argyll & Islands Council figures.

<sup>14</sup> John Nicolson, Scottish Seafoods, Lewis, personal communication, 1999

<sup>15</sup> John Goodlad, *Scots leader welcomes 'leaked' CFP document*, Fishing News 1 Sept. 2000

## 1. Resource Depletion

### **Failure to control fleet size and catching power:**

Despite repeated assertions that the CFP would reduce and control the size of fishing fleets, this has not happened. The four stages of MAGP, the multi-annual guidance programme for fleet reductions have consistently failed to achieve targets set, in particular for the pelagic fleets.<sup>16</sup> This is partly because the EU has admitted huge numbers of vessels by the back door as it were. When Spain became a member of the EU and the CFP, its enormous fleet practically doubled the size of the total European fleet.<sup>17</sup> But Spain did not bring any productive fishing grounds to the Community. Its own waters were largely fished out and the only source of additional fish catches within the common pond was the sea around Scotland and Ireland, and to a lesser extent around England. Now that more countries are due to join the EU, and some like Poland, Estonia, Latvia and Lithuania have long traditions of deep sea fishing, the ever shrinking cake will have to be divided amongst more fleets which all will be entitled to “equal access”. To accommodate these additional fleets and meet EU MAGP targets for total fleet size, a further 200 vessels employing 1,500 fishermen have to be removed from the British fleet, and chiefly from Scotland.<sup>18</sup>

### **Application of measures that have destroyed more fish than they have saved:**

In its efforts to conserve stocks, the EU has devised measures to limit catches, the main one being the application of a quota system based on overall TACs (total allowable catches). The quotas are applied to each fishing vessel through the respective P.O. (Producer Organisation). Quota systems work reasonably well on single species fisheries like those for mackerel and herring. But for multi-species fisheries like the trawl and seine fisheries for haddock, cod, whiting, hake, monkfish, saithe, and flatfish, it is impossible to comply with precisely when fixed quotas are applied for each single species. The trawl net has not yet been invented which can include or exclude different species according to ratios set by bureaucrats in Brussels. The result inevitably is an excess catch of some species which by EU law must be dumped back overboard. The term used for these dumped fish is ‘discards’.<sup>19</sup>

Over 600,000 tons of edible fish (almost as much as the annual British catch) are estimated by ICES to be discarded and destroyed each year in EU waters as a direct result of the type of quota system. Other countries like Norway, Iceland and Namibia apply “no dumping” rules in their multi-species fisheries. Since 1982 the CFP quota system has been responsible for the totally unnecessary mortality of over 10 million tons of fish.<sup>20</sup> Ironically that damage to the fish resource has been carried out in the name of conservation.

It should be noted that the system of TACs and quota allocation is simply one of a number of measures the EU might implement to achieve the goals of the CFP. The system can be discarded in favour of more workable and less harmful management measures without having to amend the CFP itself.

The Scottish Executive had an excellent opportunity to demonstrate its commitment to conservation in March 2001 by assisting our fishermen to engage in a voluntary tie-up to avoid killing massive amounts of small haddock. They refused to do so, as they had done the previous year when the West Coast scallop fleet needed similar support to address a different problem. It is difficult to avoid the conclusion that however much the First Minister may personally have wished to help, the political masters in Whitehall and Brussels who have dictated fishery matters for 30 years, would not permit any action except such as would remove fishermen from the industry for ever. “Scientific advice” was claimed in justification of the refusal but it was a spurious claim. The scientists said no such thing, though as has regularly been the case, their advice may have been twisted by MAFF to make it appear so. The folly of the refusal to cooperate with and support a tie-up scheme was evident a few months later when the EU Fisheries Commissioner Franz Fischler announced that much more effective conservation measures would be

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<sup>16</sup> EU Dir Gen for Fisheries, *multi-annual guidance programmes*, The Common Fisheries Policy, 1998

<sup>17</sup> Michael Wigan, *The Last of the Hunter Gatherers*, Swan Hill, 1998

<sup>18</sup> Franz Fischler, EU Commissioner for Agriculture and Fisheries, Statement during a public debate in Brussels, reported by Tim Oliver, Fishing News, 29 September, 2000

<sup>19</sup> House of Lords Select Committee on Science and Technology, *Fish Stock Conservation and Management*, HMSO HL25 18 January 1996

<sup>20</sup> David Thomson, *Hebrides and West Coast of Scotland case study*, FAO Rome, 1999

needed to save fish stocks which continued to decline. His statement was seen as “a clear message to the Government that it should end its reluctance to contribute to an EU tie-up scheme”.<sup>21</sup>

Support for the proposed “tie-up scheme” came from scientists, conservationists, fishermen, fishery associations and fish merchants. The near unanimous backing for the conservation measure was difficult for the government to deny though Ministers sought to depict it as an East Coast fishery initiative. In a rather obvious attempt to reduce support for the move, the Minister responsible for fisheries met with the fish merchants association in Aberdeen and offered them a million pounds for a basket of requests they quickly generated (none of which were of critical importance). Almost immediately (and very conveniently for the Minister) the fish merchants association dropped their support for the tie-up scheme. The government then claimed that the industry was divided on the issue and so it was justified in refusing their request. The boats returned to sea where they were obliged to fish outside of the cod grounds and in the juvenile haddock area. Over the next few weeks, thousands of tons of immature haddock were taken as by-catch, effectively destroying the future stock of mature haddock in the North Sea. It might be noted that the reduction in haddock landings since has obliged the fish merchants to import much of their fish supply.

The behaviour of government in this and other similar situations adds weight to the belief that resource conservation is of little interest to the powers that be, and there is another agenda being pursued. The reduction of the Scottish fishing fleet appears to be part of that agenda, whether for reasons of monetarist economics, or to satisfy the fishery ambitions of other EU states. There appears to be no other logic that might explain the legal depletion of fish stocks or the pressures designed to push fishermen out of the industry and put their vessels on the scrap heap.

If government is, as it claims, really serious about conserving resources and having a sustainable fishery, then it is time that all authorities concerned with the North Sea fisheries took a hard look at some viable alternatives to present systems of effort control which have manifestly failed to achieve their objectives over the past 30 years. A days at sea regime is one which fishermen and industry leaders are becoming more convinced is the most workable option. This would reduce fishing effort in a fair way yet would allow the fleet to harvest the more abundant stocks at different times of year. However, to be truly fair and not to endanger lives, the “days at sea” allocations should be spread over the whole year, and should not oblige fishermen to work in bad weather, or penalize devout fishermen for not working on Sundays.

### **Contradictions in the choice and application of technical measures.**

Much has been said by government officials about technical measures being one solution to current difficulties with the demersal fisheries and the discards problem. The way the ideas were expressed by politicians may have sounded convincing to the general public, but any fisherman or scientist knows that while they may be a part of a long term strategy, in themselves they could not resolve basic problems. What the public were not told is that blanket application of large meshes or square mesh panels, would have simply bankrupted the demersal fleet, and that these measures were to be applied unfairly to Scottish boats and not to English or European vessels. The public were also not told that continental boats fishing to supply meal factories are permitted to use tiny meshes and to catch huge amounts of immature fish – in the same areas of the North Sea where Scottish boats must use large meshed nets fitted with square mesh panels.

Part of the problem for boats working for haddock and whiting is that there are so few large fish of those species around at present, to get enough fish to pay expenses and make a wage for the crew, boats must catch fish just above the minimum size. Whiting in particular require a smaller mesh than haddock as their body shape is more elongated. If there were plenty large fish, a 120mm mesh and square mesh panel could work, but using that size net in haddock and whiting grounds of the North Sea at present would result in only tiny catches which would not even pay basic trip expenses. So, smaller meshes have to be used to retain medium and small fish, but above the minimum marketable size. Because there was a large stock of immature haddock around in 2001, - many were retained in the nets, and when released, were already dead after being trawled up to the surface. Deeply aware of this, and knowing that the juvenile haddock could grow to support our North Sea fleet for the next few years, the fishermen sought modest assistance to facilitate a temporary tie-up scheme that year. Their request was refused.

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<sup>21</sup> Bob Kennedy, *hard times still harder for North Sea fleet*, Press & Journal, June 14 2001

If our Executive and the UK Government and the EU fishery authorities are sincerely committed to conservation, they should (a) place effective restrictions on industrial fishing to supply meal plants, and (b) apply technical measures fairly across the EU and British fleets, and not just on Scottish vessels. Special rules (c) applicable to certain areas and to specific vessels, should be introduced for those working for whiting and small haddock. Then (d) the Government should also support a “days at sea” approach to effort control on the lines described below.

#### **Legalization and support of the capture and sale of small fish and immature fish:**

In order to provide raw material for meal plants which convert fish into animal feed, the British, European and Scandinavian governments have long permitted vessels to target sand-eels, sprat, pout and immature herring, specifically to satisfy the demand of reduction plants. But these fish are the food of larger fish like cod, haddock and hake, and are therefore vital to those large-fish stocks in the marine food chain. And inevitably, large amounts of immature haddock, whiting and cod are caught along with the pout and sand-eels. The decline in the stocks of major food fish like cod, can be attributed in part to excessive harvesting of smaller fish. The removal of the smaller fish may also have led marine mammals to consume a greater proportion of large fish or mature fish than they did before. Around Scotland, whales and seals consume hundreds of thousands of tons of fish each year.

Of all the European States, Britain had until recently, the best record of protecting immature fish. It was prohibited to market fish below a certain size. Skippers who were found guilty of landing undersized fish for sale were subject to court fines. This wise measure has now been overturned by the EU to satisfy the continental market for undersize fish.<sup>22</sup> The British government now complies with the EU legislation which permits the sale of immature hake, plaice, megrim, lemon sole, sea bream, brill, conger, eel, dab, flounder, turbot, shad, grey mullet and witch.

#### **Failure to deal with enormous increases in predator animal populations:**

Scientists and marine biologists at coastal research stations dealing with the study of marine mammals all agree that seal populations have grown considerably in recent decades. Off the west coast, there are now estimated to be 50,000 grey seals and over 10,000 harbour or common seals. The grey seal consumes 6.0 kilograms of fish a day, and the common seal some 4.0 kilograms per day. So, in Area VIa off the west coast, seals now consume 120,000 tons of fish annually. This is double the amount of fish landed there by Scottish fishermen, and five times the quantity caught by indigenous local fishermen.<sup>23</sup>

At present there is no cull on seal populations in Scotland due to the opposition of certain NGOs. However, in other countries where there are huge seal populations, there is a cull. Canada has an annual cull of over 300,000 animals, and Namibia also culls its enormous seal population. In Canada, a condition of the cull is that every part of the seal is used for economic purposes.

Cetaceans or whales consume even more fish than seals in Area VI. The annual figure is over 160,000 tons of fish and an equal volume of plankton food. However, since most of the whale activity is offshore, in Area VIb, and since much of the consumption is squid and mackerel, the whales do not pose a threat to coastal fishermen as do seals.<sup>24</sup>

#### **Failure to address effectively coastal marine pollution:**

Fifty years ago the inshore waters around Scotland abounded in marine life. Children playing along beaches or amongst rocky pools could observe and catch sand-eels, sea-scorpions, gobies, young saithe, conger eels, small plaice and a host of little crabs and shellfish. Today the shoreline is bereft of most of those species. Only sturdy limpets, small mussels and whelks remain. This is the case all around the country. Opinions differ as to the cause but there is general agreement on the absence of marine animals in the inshore and tidal zone. Inshore boats used to catch cod, haddock and plaice in good quantities are now reduced to taking only prawns and crabs.<sup>25</sup> Pollution is

<sup>22</sup> David Brown, *Fishermen attack baby fish deal*, Daily Telegraph 31<sup>st</sup> December 1999

<sup>23</sup> L.Harrison Matthews, *Seals*, in *British Mammals*, Collins, Bloomsbury, 1989

<sup>24</sup> Tamura and Ohsumi, *Estimation of total food consumption by cetaceans in the world's oceans*, ICR Report, Tokyo, Japan, 1999

<sup>25</sup> G. Fulton, *Fishery audit and assessment for the Loch Torridon area*, Minch Project, Scottish Natural Heritage, 1998

widely believed to be the major factor in the disappearance of the fish, and coastal pollution has three main sources; - effluent and waste from urban, industrial and agricultural areas; radio-active waste from nuclear power stations; and a combination of chemical waste and faeces from salmon farms.

Marine research confirms the growth of pollutants in the Firth of Clyde from sewage and industrial waste. The water temperature is increasing and algal blooms are becoming more frequent. Chemicals used in agriculture and forestry are being blamed for the absence of herring and mackerel from the Firth. The Ballantrae Banks once supported a productive annual fishery, but are now covered in dead herring spawn as revealed by underwater photographs.<sup>26</sup> Several Scottish towns and cities were recently judged to be polluting the sea with untreated sewage or with effluents below EU standards for release into the sea. Beaches in Fife, Ayrshire, Aberdeenshire and Lothian were among the dirtiest in Britain according to another EU study released in February.

Radio-active waste from nuclear plants at Sellafield, Chapel Cross, Hunterston, Dounreay has been detected in coastal waters all round Scotland. The most serious contamination has come from high-level plutonium waste released from Sellafield.<sup>27</sup> So many radio-active particles have been found on the foreshore and seabed around Dounreay, all fishing has been banned in the sea around that reactor to a distance of two kilometres.<sup>28</sup> However, since there are powerful tides there taking water east through the Pentland Firth and west to Cape Wrath, the material is spread much farther. Recently Chapel Cross was reprimanded by SEPA for releasing 13,000 gallons of effluent containing caesium and strontium into the Solway Firth.<sup>29</sup>

Salmon fish farms, now located in almost every sheltered loch on the west coast and in the Hebrides, are responsible for an enormous amount of local pollution. Friends of the Earth claim that Scottish salmon fish farms discharge 50,000 tons of untreated and contaminated waste into the coastal environment each year.<sup>30</sup> This is said to be equivalent to the sewage waste from a population of 3.8 million persons.<sup>31</sup> Each salmon cage contains tens of tons of fish and there are enormous amounts of their faeces on the seabed below the cages. Organophosphates and antihelminthic drugs used to control sea lice in farmed salmon also kill lobster larvae.<sup>32</sup> Some environmentalists believe that the outbreak of ASP (amnesic shellfish poisoning) in scallops around the west coast in 1999 may be due to high levels of ammonia from untreated waste emanating from salmon farms.<sup>33</sup>

## 2. Resource Access and Share-out

### **The common resource and the principle of equal access:**

The **common resource** (or common pond) and **equal access** are two fundamental principles at the heart of the Common Fisheries Policy and are basically responsible for the inherent contradictions and failures of the CFP. They are unique to the EU. No other group of maritime states has seen fit to introduce such principles although many share common fisheries and participate in joint management of marine resources. Fish and fishing grounds are the only commodities treated this way by the EU. Oil, minerals, forests, and water resources remain the sole property of each individual member state. Other groups of countries co-operate in the management of shared fish stocks without treating them as a common resource. Examples of international co-operation in the management of shared stocks include the Tuna Commissions in the Pacific and Indian Oceans, the SADC states Marine Fisheries Policy, and fisheries co-operation among ASEAN countries. None of these have seen any need for establishment of a common pond with equal access for all members.

International law recognizes only the EEZ or exclusive economic zone of individual sovereign states. Each maritime state can claim (and has claimed) jurisdiction over the resources within 200 miles of its coast, or to a

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Jim Slater, Director, Scottish Pelagic Fishermen's Association, conversation, August 1999

<sup>26</sup> Marine Pollution Monitoring Management Group, *Survey of the Quality of UK Coastal Waters*, Aberdeen, 1998

<sup>27</sup> Christopher Cairns, *Chernobyl pollution 'topped by Sellafield'*, Scotsman 8.5.97 see also in 28.5.98

<sup>28</sup> Scottish Environmental Protection Agency, *Review of Radio-active Particles at UK AEAD, 1998*

<sup>29</sup> Jim Gemmel of SEPA, quoted in *BNFL admits nuclear waste blunder*, Press & Journal, Aberdeen, 5.5.99

<sup>30</sup> Rod McGill, *Letter from Scotland*, in Internet Fishfolk columns, 26 June 1999

<sup>31</sup> Michael Wigan, *Preserving an Environment*, The Scottish Highland Estate, Swan Hill, 1991

<sup>32</sup> G. Fulton, *Fishery Audit and Assessment for the Loch Torridon Area*, Minch Project, Scottish National Heritage, Western Isles and Highlands Councils, 1998

<sup>33</sup> Katrina Tweedie, *Shock ban on shellfish*, in the Scotsman, 19 July 1999

median line between it and neighbouring states if they lie closer than 400 miles. What has happened under the CFP is that each member state of the EU has subordinated its use of its own EEZ to the EC, and has allowed other EU member states access to those waters and the resources therein.<sup>34</sup> The injustice of the common fishery resource lies in the fact that while Britain and Ireland have contributed a huge and productive EEZ, other EU states had no fishing grounds of any value to donate. Spain and Portugal had large EEZs in area, but they do not contain much fish except in the coastal regions which are harvested by their own huge inshore fleets.

### **Inadequate protection for inshore fishing grounds:**

In most other parts of the world, fishery management systems (both formal and traditional), accord property and control rights over inshore waters to the fishing communities in that area. The policy for managing these coastal areas is promoted by the United Nations Agencies and the Development Banks and is known as TURFS – territorial user rights in fisheries. The same approach is not used in Europe or in Scotland. That successive governments would take that view was evident by the scrapping of the protective 3 mile limit after Britain joined the EEC, and their acceptance of the principle of ‘equal access’.

For most of the last century, Britain had a 3 mile limit within which trawl fishing was banned. That minor but protective measure was scrapped and now in its place we have only temporary derogations in a UK 6 to 12 mile limit, and some prohibitions under the Inshore Fishing (Scotland) Act 1984. Neither the concessional 6 or 12 mile limits offer complete protection, and there is no guarantee they will continue after 2002. Inshore fishermen still face competition in their waters from larger national and European vessels. In hindsight, it would have been wiser to reserve all Firths and Minches for use by local boats of a size, power and kind of fishing gear which the particular fisheries could sustain. The situation is now so grave that the need now is for an exclusive 30 mile zone for local small scale fishermen. Coastal fishermen from the Hebrides to Spain are calling for this.

### **The system for determining allocations under *relative stability*:**

Relative stability was introduced in 1983 as a measure within the CFP, and was designed to maintain access to fish resources for those fishermen and countries with a proven historical record of harvesting those stocks. National shares of total EU TACs were allocated on the basis of historical patterns of catches, adjusted for vital need (Hague Preferences) and compensation for jurisdictional losses. A former senior EC Fishery Officer, the late Mike Holden, wrote that relative stability “*must safeguard the particular needs of regions where local populations are especially dependent on fisheries and related industries*”.<sup>35</sup>

When Relative Stability was first introduced, some in the industry saw it as a long-term guarantee of the viability of the fishery sector. Their false hopes were buoyed in some years when national quota allocations were not as bad as feared. These hopes have now been dashed by subsequent events and by the way relative stability has been undermined by its inherent contradictions.

The principle of relative stability is in contradiction to the principle of equal access, and to the practice of trading quotas and licences. When more countries join the EU and receive entitlement by EU law to access to the common pond, relative stability is undermined. When, as is happening at an alarming scale now, vessel licenses and quota entitlements are bought and sold in an open EU market, relative stability becomes meaningless.

The principle had other inherent weaknesses as identified by Professor Tim Gray in *The Politics of Fishing*. He concluded that “*the principle of relative stability does not seem procedurally fair ... since it systematically discriminates against new member states and ossifies 20-year-old catching records. Nor does (it) meet the tests of substantive justice, since its element of entitlement and its element of need are both flawed*”.<sup>36</sup>

Relative stability is part of a derogation and should therefore terminate according to the Treaty of Rome on 31 December 2002. That it is basically unsustainable and contradictory is evident by the ruling of the European Court

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<sup>34</sup> Mark Wise, *The Common Fisheries Policy of the European Community*, Methuen, 1984

<sup>35</sup> Michael Holden, *The Future of the Common Fisheries Policy*, WWFN, Guildford, 1992

<sup>36</sup> Tim Gray, editor, *The Politics of Fishing*, MacMillan Press, 1998

of Justice in the “Factortame” case which meant that the UK could not prevent “quota-hopping” by continental vessels being entered on the UK register and fishing against UK quotas.<sup>37</sup> It is also made ineffective by allocation of quotas and fishing rights to new member states of the EU. By the EU’s own admission, in 1994, ‘*New distribution keys were established for new Member States joining after 1983, which involved taking other aspects into account. The distribution settled in 1982 was first adjusted in 1986 after the accession of Spain and Portugal and subsequently in 1994 with the setting up of the European Economic Area. Further adjustments may be needed as more countries accede.*’<sup>38</sup>

### **The trade in fishing vessel licenses and quota entitlement:**

In order to operate legally under the CFP a fishing boat owner must possess (in addition to safety certificates) an appropriate EU sanctioned licence for the vessel and a fish quota entitlement. These pieces of paper which did not exist before 1970 and which were not a legal requirement before the CFP introduced them, have now assumed a value in their own right. Today, a fisherman purchasing a small fifteen metre prawn boat for around £ 50,000 can expect to pay £ 90,000 for a licence and £ 60,000 for a quota entitlement. For a 30 metre offshore trawler the licence might be £ 500,000 and the quota £ 1,000,000. The figures become astronomical for large (60 metre) purse seiners or midwater trawlers, close on two million pounds for a licence and well over three million pounds for quota.

Fishing boat owners who are nearing retirement age can be sorely tempted to retire early and collect the inflated price for his license or quota, (the buyer may not have any interest in his boat, and it is almost impossible to sell a fishing boat without a license within the EU). The problem with the trade is that the license and the quota represent local jobs and a local community’s traditional access to the fish resource. But once it is sold to a buyer outside the community or country, it is gone for ever. The current trade is resulting in an accumulation of licenses and entitlement in the hands of the wealthy and powerful, and the permanent loss of entitlement, jobs and industry from many small coastal fishing towns.<sup>39</sup>

The injustice and illogicality of the trade can be seen in the way owners of large vessels are buying small boat licenses to enable them to get even larger or more powerful vessels. What possible correlation can there be between a little prawn boat in the Minch and a huge mackerel trawler in the North Sea ? Yet one is effectively put out of service to increase the catching power of the other.<sup>40</sup>

A fully-fledged trade in fish quota entitlement, unhindered by national borders or legal impediments, is known as an ITQ system (individual transferable quota). It is feared that this is what some officials have in mind when they talk of a centrally controlled European fishing fleet operating under a permit system. In the name of free trade and unfettered competition the market would hold sway above all other social and humanitarian considerations.

The practice of trading entitlement to fish may now be backfiring on the speculators. Since the year 2001, fish have become so scarce there has been a sharp drop in the demand for licenses and quotas, and in the price boat owners are willing to pay for these items. It will be ironic if the failure of the CFP to achieve conservation of fish stocks is the factor which eventually destroys the unjust and socially divisive entitlement trade that has been permitted by the EU and the British government. But severe financial loss is being suffered in the meantime by fishermen who thought that they would follow all EU guidelines and directives to ensure their operations were legal. They purchased quota entitlement at considerable cost and are now left facing huge potential losses.

### **The resulting miniscule share of the resource taken by local fishermen**

All the above factors combine to erode the access to fish resources available to local fishermen. Indigenous Hebridean and West Coast fishermen now take only 2.5 per cent of the fish stock in their adjacent sea (Area VI) and East Coast Scottish boats based permanently on the west coast take only 3.5 per cent. The figures below based on 1998 landings illustrate the injustice well.

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<sup>37</sup> Sixth Report Agriculture Committee, 1992 – 93, *Effects of Conservation Measures on the UK Sea Fishing Industry*, page xxv1, House of Commons, Westminster

<sup>38</sup> European Commission DG 14 Fact Sheet 11 - 5, Brussels, July 1994

<sup>39</sup> A. McIntosh and D. Thomson, *Monetarism is Killing Communities*, Fishing News, 6<sup>th</sup> Nov. 1998

<sup>40</sup> Mike Park & others quoted in *Fury at Licensing Farce*, Fishing Monthly, August 1999

ICES Area VI total catches, landings and animal predation, 1998, in metric tons

Fish harvested by the indigenous local fleet	25,000
Fish harvested by locally based east coast boats	35,000
Fish harvested by other Scottish, Irish, and UK fleets	180,000
Fish harvested by EU member country fleets	290,000
Discards by UK and EU vessels	80,000
Fish taken outside the EEZ by non-EU vessels*	40,000
Estimated seabird predation**	70,000
Estimated seal predation**	120,000
Estimated cetacean predation**	(over) 160,000
Estimated total of catches and predation in Area VI	1,000,000 tons

\* Includes catches by Russian vessels off Rockall

\*\* All predation estimates obtained from research station data

## Righting the Wrongs - What is to be Done ? - 9 Vital Steps

*The following nine measures, taken together, would in time, effectively address the problems facing Scotland's fisheries. To what degree the Scottish, British, and European Parliaments would be involved in each, is for others with more specialized knowledge to determine. Amendments to the Treaties governing the CFP are possible but would not be easily achieved. There are some interesting arguments on the supremacy of Parliament vis a vis EU law, and how remedies may be introduced, but the writer is not qualified to pass judgement on them. See the Constitution debate in the House of Lords, 3<sup>rd</sup> July 1996.<sup>41</sup>*

*The remedies proposed which would probably require amendments to the Treaty of Rome or its Common Fisheries Policy are numbers 2 and 3. It is recognized that such changes will come about only through determined effort and a considerable degree of co-operation by those member states who would fear that their fleets might lose some present advantages. But the present advantages may be short-lived for the current system failures are destroying the resource for all EU states. The proposed changes may bring temporary reductions in harvestable catch, but in the long term ought to ensure a sustainable increase for all participating countries.*

### 1. Harmonisation of fisheries policy with EU regional and social policies

It makes no sense to destroy a vital industry in vulnerable regions (like the Hebrides and west coast of Scotland), and then to spend many millions trying to create a new industry in its place. It is even more nonsensical in regions where fish are one of the few natural resources available. The Common Agriculture Policy takes some account of social and regional policies, however, that does not seem to be the case with the Common Fisheries Policy despite occasional statements about maintaining employment and protecting local economies in vulnerable coastal areas. CFP measures appear at times to be applied as though social and regional considerations did not apply to that sector. This has potentially serious consequences. We are generating problems in Scotland's fishery sector which will require to be addressed by costly social and regional interventions. But if social and regional considerations were given equal weight along with resource management considerations, there would be no need for such a waste of resources in the near future.

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<sup>41</sup> House of Lords debate, *The Constitution*, Cols 1450 – 1451, 3 July 1996  
The European Journal, *Parliament and EC law*, Letters to the Editor, July / August 1996

## **2. Greater national responsibility in management of marine resources:**

Britain and the EU states should follow the example of every other marine fishing country in the world and maintain some national control over their own EEZ waters and their living marine resources. Zonal management as proposed by the fishery federations is a step towards this. A major obstacle to its achievement is the Treaty obligations of member states of the EU. The principle of equal access to a common resource has to be modified to a degree that permits some subsidiarity or decentralization, and which protects inshore fishing grounds. There needs to be a fundamental amendment to the CFP to permit a degree of national management of national waters. A common fisheries policy can continue, but responsibility for policy implementation and controls over each EEZ should rest to some extent with the governments of the respective states. This would, for example, give each government the authority and the responsibility to determine total allowable catches for all fish stocks within national waters, on the basis of the best scientific evidence and up-to-date catch data.

## **3. Local participatory management of coastal waters:**

While offshore waters might be fished by EU member state fleets within the limits of EC licences, and quota allocations, coastal waters out to 30 miles should be reserved for local fishermen. The coastal areas should then be managed jointly by the government and the local fishermen in an arrangement that gives the fishermen full participation in all decisions on management measures and their implementation. This type of participatory management (similar to the work of local Sea Fishery Committees in England and Wales) would result in industry support for or agreement with all fishery management measures and would end the suspicion and hostility that currently exists. Enforcement would be much easier since associations would have a role in policing their own members. Such arrangements for management of coastal waters would help to maintain employment and economies in vulnerable regions and would help to end the current contradiction between fisheries policy and EU social and regional policies.

## **4. Effort control by “days at sea” arrangements**

The history of fishery management under the CFP shows clearly that the TAC / quota system has failed to preserve stocks and has often made matters worse as for example in the way it results in huge quantities of discards. Effort could be controlled in a more effective and fairer way by limiting the total number of days at sea permitted for each vessel over a whole year. Within the days allocated, vessels should be able to harvest the species which are more abundant at the particular times of year. Fish Producer Organisations could work together to ensure a spread of landings throughout the year, and to prevent gluts on the markets.

## **5. Ring-fencing of licenses and share of resource:**

In order to give coastal fishing communities a sustainable future, fishing boat licenses and quota entitlement should not be traded to buyers outside their area or region. The access or entitlement to the resource should remain with traditional fishing communities in perpetuity. Otherwise the principle of relative stability is meaningless. The need is most acute for the smaller coastal towns and villages for which fishing is the main primary source of employment and business. Licenses and quotas could be held by local authorities and leased by local fishermen, or trade in entitlement could be permitted but only within that region. The one region in Britain which has made progress in this direction is Shetland whose experience indicates what might be possible.

**6. An end to discarding of mature, marketable fish:**

All mature fish caught should be landed and sold as is the practice in several other countries like Norway and Namibia. Controls on over-quota fish can be applied through levies, through treating demersal species as a single group (with a weighting for each species according to value), or by dispensing with the quota system and putting a ceiling on effort in other ways such as a “days at sea” limitation.

**7. An end to the capture and sale of small and immature fish:**

Strict controls and limits need to be placed on all fishing for fish meal plants which currently accounts for most of the sand-eel and pout catch, and some of the herring catch. The regulations permitting the sale of immature fish should be scrapped and replaced with laws requiring all fish sold for human consumption to be of a mature size.

**8. Limits to the percentage of fish sent for processing outside the area of capture:**

Much of the fish caught in Scottish waters is processed elsewhere. This is especially true of fish from ICES Area VI, only a tiny portion of which passes through processing or packaging plants on the West Coast or the islands. To maintain the viability of local post-harvest industry, a minimum of 15 per cent of the total area catch should be made available to local processors.

**9. Effective controls on pollution and predation:**

There is a need for east, north, and west coast marine pollution authorities to oversee and co-ordinate all efforts to monitor and control pollution of the marine environment. An assortment of bodies have varying degrees of responsibility at present, and in consequence neither monitoring nor controls are comprehensive or effective.

There is also a need for a serious and effective seal population management programme. This could be developed and function in parallel with marine tourism and marine health foods production of items like seal oil.

**Implementation of these nine steps would in the long run, remove the threat to Scotland’s fisheries, and if carried out in timely fashion would limit the “sea clearances”. Further resource decline would be halted, and a start made to natural replenishment of stocks. Coastal fishing communities could once more have a viable and sustainable future. And all that could be accomplished without any significant loss to our European fishery colleagues.**

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*The Kyoto Declaration affirmed :*

- that effective and integrated fisheries' management and conservation policies would result in long-term and significant gains in food supply, income, and wealth, as well as in economic growth.
- that fishermen, whether subsistence, artisanal, or commercial, had an important economic and social role, and there was a need to provide an environment in which they could contribute positively to their economic and social welfare.
- that optimum use should be made of fish harvests, and post-harvest losses reduced. Discard mortality should be reduced, and the effectiveness of multi-species management given fresh study. Selective, environmentally-safe and cost-effective fishing gear should be developed and put into use.
- that Governments ought to assess and monitor the present and future supplies of, and demand for, fish and fishery products, and their effects on food security, employment, consumption, income, trade and sustainability of production.

*(David Thomson was formerly an assistant professor in the University of Rhode Island Commercial Fisheries Department, and was also a lecturer in the College of Fisheries, Newfoundland, Canada. He spent over twenty years in fishery development, management and educational work in Africa, Asia, the Pacific, South America and Eastern Europe for the United Nations Agencies, bilateral aid organisations and the International Development Banks. He is the author of three books and numerous reports on fishery subjects.)*

*ICES Fishing Areas Around the UK*

