

## RENEWING THE STRATEGIC FRAMEWORK FOR SCOTTISH AQUACULTURE

Advocates for Animals represents the welfare interests of all animals. Our objects are the advancement of animal welfare, the protection of animals from cruelty and the prevention of suffering.

As requested in the consultation letter, we propose three issues to be addressed in the Strategy, and where appropriate we have related them to the Key Issues already proposed in Annex A.

1. Welfare of fish. (No Key Issue)
2. Effect of aquaculture on biodiversity including wild animals. (Key Issues 6, 50 and 52)
3. Welfare aspects of predator control (Key Issues 41 and 52)

### 1. Welfare of fish

The sentient animals used in aquaculture are the industry's primary resource — and good animal welfare standards should be absolutely fundamental. Animal welfare must occupy at least as high a priority in aquaculture as it does in the farming of terrestrial animals.

Fish farming involves rearing of species that remain essentially wild in highly intensive systems. Wild salmon are solitary migratory fish capable of swimming 30 kilometres a day, but in aquaculture salmon are kept in conditions of close confinement and crowded together with conspecifics. While the welfare of farmed fish has been the subject of some scientific research, there is relatively little public awareness of the sentience of fish, including their ability to suffer pain and distress – and this may be reflected within the industry.

It used to be believed that fish did not suffer pain. However, it is now widely recognised by scientists that fish have the capacity for suffering, although it may be different in degree and kind from the human experience. A summary published in 2006<sup>1</sup> stated that “painful stimuli are, at least, strongly aversive to fish. Consequently, injury or experience of other harmful conditions is a cause for concern in terms of welfare of individual fish. There is also growing evidence that fish can experience fear-like states and that they avoid situations in which they have experienced adverse conditions.”<sup>1</sup>

Aquaculture is an intensive rearing system that imposes artificial challenges on species (principally salmon and trout) that are probably not equipped to cope well with them. These include an unnatural lifestyle that prevents the performance of natural behaviours; involves high stocking densities and often high parasite burdens; and imposes stress through handling, crowding and grading procedures. The Fisheries Research Service 2004 Production Survey showed a mortality rate of 23.3 per cent among the 50 million smolts put to sea in Scotland. In other words, 11.6 million fish died after being put to sea and before slaughter.

These extremely high mortality rates compare badly with the already high mortality in the broiler chicken industry where the rate is around 5 – 6 per cent. In terms of numbers, fish farming is the second largest livestock sector after broiler chicken rearing. There are a number of analogies, for example the requirement for rapid growth and the use of high stocking densities, which can lead to fin erosion, poor water quality and increased aggression, with subordinates being prevented from feeding by dominant fish.

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<sup>1</sup> F A Huntingford, C Adams, V A Braithwaite, S Kadri, T G Pottinger, P Sandøe and J F Turnbull. Current issues in fish welfare, *Journal of Fish Biology* (2006) **68**, 332 - 372

Advocates acknowledges that there have been improvements, for example in the slaughter methods applied to both salmon and trout. However the use of prior starvation to achieve gut clearance can lead to hunger, aggression, cannibalism and reduced immune status. A survey of UK supermarkets in 2005<sup>2</sup> found that fish supplied to several chains had been starved for between 6 and 15 days. This is unacceptable.

#### Welfare codes

Advocates believes that the Scottish Government, being charged with responsibility for the welfare of farmed animals, should make more statutory provision for animal welfare within the aquaculture industry. Recent animal welfare legislation (the Animal Health and Welfare (Scotland) Act 2006), recognises the sentience of fish and the need to protect farmed fish. Specifically, then, farmed fish should be protected by animal welfare codes that have the same status as other government livestock codes. We are aware that the industry promotes a voluntary Code of Good Practice but we suggest that this is properly the province of government.

The current system perpetuates a differentiation between fish and other intensively farmed animals, which cannot be scientifically or ethically justified, and does nothing to foster wider understanding of the welfare needs of fish.

We acknowledge that the industry Code of Good Practice for Scottish Finfish Aquaculture has been voluntarily endorsed by up to 95 per cent of the producing industry. However, voluntary endorsement is not binding, and there remains the question of the five per cent who have not signed up to the Code. This was acknowledged by the former Scottish Executive in the Policy Memorandum to the Aquaculture and Fisheries (Scotland) Bill (para 66), which said: “relying wholly on a voluntary approach leaves unanswered the question of how to tackle farms which do not sign up to or adhere to the codes of good practice. As yet not every fish farm has signed up to adhering to the code and there is no mechanism to enforce adherence.” In addition to this, the health and welfare chapters were not included in the legislation as subjects suitable for adoption and monitoring by the Scottish Executive.

During the passage of the aquaculture and fisheries legislation, we raised our concern about large-scale culls on fish farms, as may be undertaken for clearance of waters infected, or suspected to be infected, by the parasite *Gyrodactylus salaris*. There are practical difficulties in organising mass slaughter and animal welfare can be a casualty in such situations. The Code of Good Practice (para 5.10.2.1) states that emergency culling should be addressed in a fish farm’s Veterinary Health Plan. However, the generic health plan shown in the Code does not specify a recommended technique for emergency slaughter. This should be addressed.

## **2. Effect of aquaculture on biodiversity**

Key issue no 6 at Annex A proposes that the Strategy should “Consider how an expanding aquaculture regime integrates with other appropriate and increasing uses of the marine environment, including biodiversity conservation, offshore structures and competition for space.”

The current Strategic Framework for Aquaculture states:

“ An industry should work in harmony with nature, managing and minimising transient environmental impacts, and avoiding significant, cumulative, long-term or irreversible changes to ecological systems, to cultural remains or valued landscape and scenery.”

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<sup>2</sup> *Supermarkets and Farm Animal Welfare, Raising the Standard* , Compassion in World Farming 2006  
[http://www.ciwf.org.uk/publications/reports/Supermarkets\\_Report2005.pdf](http://www.ciwf.org.uk/publications/reports/Supermarkets_Report2005.pdf)

The industry Code of Good Practice could be further developed and a Code of Best Environmental Practice produced as soon as possible. The current Code of Good Practice does not offer guidance for siting future fish farm developments to mitigate impacts on wild salmonids, biodiversity or avoidance of predators, although we believe it should. The use of a more integrated approach to siting of farms with other users, including wildlife protection and wildlife-watching enterprises, needs to be adopted.

When fish live in natural conditions, sea lice drop off when the fish enter fresh water on migration. But in intensive conditions, sea lice pose an extremely serious welfare problem that can amount, as the Policy Memorandum for the Aquaculture and Fisheries (Scotland) Bill 2006 stated (para 15) to: “literally eating the fish alive”.

While parasites must always be treated to mitigate the suffering that they cause to affected fish, the revised Strategy should promote alternative methods of sea lice control in an effort to move away from sole dependency on chemical based sea lice treatments.(Key issue 50) Examples of alternatives are sea lice attractant traps and repellents and sea lice vaccines.

It is essential that a minimum legal requirement be introduced for cage/net/pen design that ensures that containment equipment specifications meet or exceed the demands of the environment in which they are used. Incorporated within the containment plans, provisions should be made to combine effective containment and predator control measures. An example of this is the use of double netting on cages, which not only provides an additional barrier to predators but also ensures, even in the event of net damage, that fish remain contained.

Advocates and other groups regretted that the Aquaculture and Fisheries (Scotland) 2006 Act did not make fish farm escapes a strict liability offence. It has been estimated that up to 2 million Atlantic salmon escape each year in the North Atlantic<sup>3</sup>; it was reported in January 2005 over 620,000 salmon escaped in one storm event in Scotland alone<sup>4</sup>. In 2000 FRS estimated 411,433 farmed Atlantic salmon escaped from marine sites in Scotland<sup>5</sup>.

The impacts of escaping farmed salmon on wild salmon stocks are well documented, and include:

- Dilution of genetic diversity of wild salmon from interbreeding with escaped farmed fish.
- Displacement of redds of wild salmon by later-spawning escaped/hybrid fish.
- Increased competition for resources created by escaped fish.

Finally, while we would support greater development of organic practices within the sector (Key issue 52), we do not think it should be coupled with diversification into new species as this clearly increases the sort of risks outlined above, as well as exposing more species to unnatural captive conditions.

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<sup>3</sup> Mc Ginnity,P. Prodöhl, P Ferguson, A. Hynes, R. Ó Maoiléidigh, N Baker, N. Cotter, D. O’ Hea, Cooke, D. Rogan, G. Taggart, J & Cross, T. 2003. Fitness reduction and potential extinction of wild populations of Atlantic salmon, *Salmo salar*, as a result of interactions with escaped famed salmon. The Royal Society.**270**, 2443-2450

<sup>4</sup> Joint Marine Programme. 2005. The 629,000 that got away. Press Release.

<sup>5</sup> Fisheries Research Services. 2001. Scottish Fish Farms Annual Production Surveys 2000. SEERAD Edinburgh.

### **3. Predator control**

Key issue 41 proposes that “Humane predator control/exclusion without detriment to other species should be examined, with a view to mitigate the impacts of seal scarers on cetaceans.” This issue needs to be examined on a far wider basis. Like others, Advocates for Animals has strong reservations about the use of any device that creates underwater noise, in view of the adverse effects that this can have on cetaceans and other wildlife. However, as far as we are aware, seal scarers are not used a great deal by fish farms.

There is however a far greater problem concerning lethal predator control and in particular the shooting of seals. In 2007, Advocates for Animals and the Marine Conservation Society wrote to the Scottish Government to comment specifically on the Scottish Salmon Growers Association Code of Practice Salmon Farming and Predatory Wildlife, as referred to in the industry’s current Code of Good Practice for Finfish Aquaculture. We would suggest that consideration of a non-lethal predator code should be part of the wider review of Scottish aquaculture.

Anti-predator netting has developed since the original code was produced and we suggest that it should be more strongly promoted as the only remedy that fish farms should use against seals. There should be a requirement for all installations to have tensioned anti-predator netting to prevent entanglement of seals and repel them from feeding on caged fish.

The Code should also reflect current Scottish Government advice that fish cages do not fall within the definition of “fishing net or fishing tackle” under the Conservation of Seals Act 1970, so that the “netsman’s defence” at s.9 (1) (c) of the Act cannot be claimed by fish farms shooting seals during the close season.

Advocates does not agree with any shooting of seals and believes that it should be prohibited. There are many fish farms which do not practise seal shooting, such as those certified organic by the Soil Association. (Key issue 52) If, under any future regime, fish farms are to be permitted to shoot seals under a licence, there must be careful monitoring and recording of numbers,

We suggest that there should be a wholesale review of predator control methods within the industry, with a view to identifying non-lethal methods that are both effective and humane. Following such a review the predator control code should be framed, at a minimum, in terms that only permit lethal control where non-lethal methods have been tried and shown to fail. There would have to be evidence of such attempts.

Returns of seal shootings should be made to the Sea Mammal Research Unit, which has responsibility for monitoring seal populations, as it could be used to assess the relative effectiveness of predator control methods.

Further reading:

[http://www.ciwf.org.uk/publications/reports/closed\\_waters\\_welfare\\_of\\_farmed\\_atlantic%20salmon.pdf](http://www.ciwf.org.uk/publications/reports/closed_waters_welfare_of_farmed_atlantic%20salmon.pdf)

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