



## Fish

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### WHICHEVER WAY YOU CUT IT....VEGETARIANS *DON'T* EAT FISH



Vegetarians don't eat fish and they never have. Many things have changed since The Vegetarian Society was founded in 1847 but two important definitions haven't:

- "VEGETARIAN" – someone who doesn't eat animals
- "FISH" – cold-blooded, water-dwelling animal

Fish may not appear as cute and cuddly as young lambs, however they do feel pain and they do suffer. The number of fish left in our oceans has rapidly declined. Over the last century the world's annual fish catch has risen from 18 million to over 90 million tonnes. Sixty million tonnes of this is destined for human consumption, the remainder fed to livestock (fishmeal) amongst other uses(1).

The UK alone caught 610,000 tonnes of fish and shellfish in 2007(2). An estimated 23% of the total catch is discarded (dead) as a result of incidental capture(3). Almost half of the fish consumed as food worldwide are now intensively raised on fish farms (aquaculture) (1).

Fishing is threatening the world's populations of cetaceans (whales, dolphins and porpoises) and over-fishing has left species including tuna, plaice, monkfish and cod in danger. Fishing also affects other wildlife such as seals, birds, turtles, mink and otters, along with coral reefs and aquatic plants. The worldwide demand for fish continues to rise and its impact is getting worse.

### WHICHEVER WAY YOU CUT IT....FISH *DO* FEEL PAIN

Fish have a nervous system and pain receptors like all other animals. Twenty-five years ago the RSPCA's Medway Report (1981) concluded that fish are capable of suffering and feeling pain, yet the slaughter regulations which offer some level of protection to other farmed animals still do not apply to fish.

In a review carried out in 2004 the scientific evidence for the existence of sentience in farmed fish was evaluated. It was concluded that pain, fear and psychological stress are likely to be experienced by fish. This implies, like other vertebrates, that fish have the capacity to suffer and that welfare consideration for farmed fish in this instance should be taken into account(4).

The Welfare of Animals (Slaughter or Killing) Regulations 1995 legislation states that 'It is an



absolute offence to cause or permit an animal avoidable excitement, pain or suffering'. There are also specific rules on handling, stunning, slaughter or killing of animals(5). The basic act of removing a fish from water causes severe pain and distress, even before the killing begins. Wild caught fish, when hauled up from the depths, undergo excruciating decompression. Frequently, the intense internal pressure ruptures the swim bladder, while the eyes pop out and the oesophagus and stomach can be pushed out through the animal's mouth.

Farmed fish may not be endangered but they are caged in cramped and unhealthy conditions, causing great stress and rendering them susceptible to disease. Farmed salmon, for example, can grow up to 2.5 feet long and yet are only given space equivalent to a bathtub of water. Sea lice pose a huge problem to the welfare of farmed fish. They feed on their blood and underlying tissues causing skin and scale loss. Lice damage around the head can be so severe that the bone of the living fishes' skulls can be exposed, a condition referred to as the "death crown"(6). Aquaculture relies on the artificial breeding of fish. Females have their eggs extracted on several occasions under anaesthetic. Most of them are then eventually killed as their recovery process from the anaesthetic is considered to be uneconomic. Males are milked several times for their semen before slaughter(7).

Farmed fish are normally starved for about 7 to 10 days before slaughter. There are a number of methods used to kill farmed fish (mostly salmon and trout). These include;

- Carbon dioxide stunning  
The fish are placed in a bath saturated with carbon dioxide. This environment causes changes to behaviour, with fish being observed to shake their heads and tails vigorously trying to escape(8). Movement ceases after 30 seconds, but sensibility may not be lost for 4 to 9 minutes. Bleeding after CO<sub>2</sub> stunning is essential to avoid fish recovering. If fish are removed early from the stunning tank, they are likely to have their gills cut when immobile but still conscious(9).
- Suffocation on air / ice  
The fish may be taken out of the water and allowed to die through suffocation in air. Alternatively, fish are removed from water onto ice. This method prolongs suffering as the cooling effect of the ice can lengthen the time to unconsciousness with fish aware of what is happening to them 15 minutes after being taken out of water. The Farm Animal Welfare Council (FAWC) recommended 10 years ago that this method should be prohibited(6). Fish farmers have admitted that 'letting tens of millions of fish die of suffocation each year as unacceptable(9).
- Gill Cutting and Percussive Stunning  
Gill cutting without prior stunning has shown that certain responses of fish are not immediately lost and vigorous movements occurred. Percussive stunning involves the fish being hit on the head with a rapidly moving, manually applied club. When sufficient force is applied the concussion can be irrecoverable, however in practice the stun is often not immediate and fish are hit more than once(10).

### **WHICHEVER WAY YOU CUT IT....FISHING HARMS OTHER WILDLIFE**

It's not just fish that suffer either.....

By-catch is the incidental capture of non target species such as mammals, birds, turtles, fish and other marine animals. It is recognized as a major problem in many parts of the world and estimated that 23% of global fisheries catch is thrown back into the sea dead and wasted(3).

#### **CETACEANS (WHALES, DOLPHINS AND PORPOISES)**

The relationship between pelagic trawl fisheries and cetaceans in the English Channel (survey data) showed that the winter population of dolphins could well become depleted as a result of by-catch. Pelagic trawling catches fish that live in the open sea, away from the bottom. More studies of by-catch assessment are urgently needed(11). Out at sea, an estimated 300,000 whales, dolphins and



porpoises die in fishing nets every year(12).

### **SEALS/SEA-LIONS**

An estimated 3,500 seals are killed each year in Scotland alone because fish farmers consider them a threat to farmed salmon(6,13). There is also an alleged practice of shooting sea-lions (in places such as Mexico and California) looking for a captive lunch in the fishermen's nets(14).

### **Canadian Seal Hunt**

The biggest slaughter of marine mammals happens in parts of Canada, where over the past 4 years over 1.25 millions seals have been killed(15). The killing was initially undertaken allegedly to protect fish stocks and aid recovery of the Atlantic cod. Now the seals are killed solely for their fur. It was commercial over-fishing which led to the collapse of the cod population in 1992. The harp seal population has been blamed for its depletion when in fact they could help in the recovery of Atlantic cod as they prey on its rival the Arctic Cod(16).

Fishermen often accuse whales and seals of contributing to the decline of already diminishing fish stocks. By using these creatures as scapegoats for commercial over fishing this reinforces the perceived need for their culling by some individuals. A global study by Marine Biologist Kristin Kaschner (2004) showed that marine mammals and fishing fleets rarely prey heavily on the same fish stocks(17,18).

Iceland, after 17 years, has officially resumed commercial whaling. Their whale watching industry contributed more to the national economy than commercial whaling ever did. The Icelandic Fisheries Ministry issued a permit to hunt 39 whales for commercial purposes. Nine of these are endangered fin whales which dismisses claims that the hunt is sustainable(19).

### **BIRDS**

Long-line fishing practices kill approximately 100,000 albatrosses and other sea birds each year. 17 of the 21 species of albatross now face extinction(20). A new study by Wake Forest University Biologists has shown that fishermen have caught and killed about 1% of the world's waved albatrosses in a year. These large long-lived birds have slow reproduction and are especially vulnerable to extinction(21).

## **WHICHEVER WAY YOU CUT IT...INDUSTRIAL FISHING IS DESTROYING OUR PLANET**

The fishing industry is responsible for some of the most environmentally damaging practices affecting our seas and oceans today. Bottom-trawling (trawling for fish on the ocean floor) destroys the fragile ecosystem of the sea-bed, and while debates about quotas are reported in the news, illegal fishing remains widespread.

The very existence of many species is threatened by society's appetite for fish flesh as over fishing has resulted in tuna, cod, swordfish and marlin populations declining by 90% during the last century(22). Blue-fin tuna, for example, is one of the most valuable fish on the planet. There is an increasing demand for its capture with almost one third of catches from the Mediterranean alone arising from illegal and unregulated fishing(23).

In a report released in October 2006 by the International Council for the Exploration of the Sea (ICES), they state that the overall state of fish stocks has not improved much from 2005 to 2006(24). ICES is an organisation that coordinates and promotes more research in the North Atlantic. The report advises that numerous stocks are too heavily fished and that some stocks are depleted, e.g. cod and sand eel in the North Sea. ICES advise that there should be no catch in 2007 for all southern cod stocks, whilst sand eel fisheries remain closed until there is information available that indicates a rebuilding of stock. Sand eels are an important forage species for some seabirds.

Japan has recently made a rare admission that its fishing vessels have exceeded quotas, and so the



country has agreed to halve its catch of southern blue-fin tuna for the next five years. However, the environmental group the World Wide Fund for Nature (WWF) is concerned that this will still not give the fish chance to recover fully(25).

Fish farming is responsible for pollution and endangering wildlife. Farmed fish have to eat, and the feeding of carnivorous fish intensifies the pressure on the oceanic fisheries. For example, it takes 5 tonnes of wild caught fish to feed each tonne of farmed salmon(26). Other concerns include the prospect of farmed salmon escaping into the wild and breeding, thus weakening the wild salmon's capacity to survive. There is also the issue of the large quantities of waste that fish-farming creates. In Scotland alone, for example, it has been reported that over the past 3 years salmon farmers have breached pollution limits more than 400 times(27).

Researchers are constantly trying to develop genetic engineering techniques in the hope of producing fish with greater economical value. The addition of an extra set of chromosomes (triploidy) is often used to produce sterile all-female fish which will not interbreed with wild populations if they escape. This genetic modification affects both the health and welfare of the fish with higher levels of spinal deformities being found in triploid rainbow trout(7). Scientific advisors to the UK government say that the implications of genetic modification in fish farming are "too risky" in that fish should not be farmed in pens set in rivers or the sea. There is the possibility that fish might escape into the environment with unforeseeable consequences(28).

Destructive fishing practices have spread in some poor coastal communities, for example, the use of dynamite and poison. In the Philippines, explosives are used on coral reefs to capture fish. The shock waves can kill fish in a radius of 50m from the site of blast. The use of dredges also causes changes in the bottom structure and microhabitats. Dredging is used for harvesting oysters, clams and scallops from the seabed(29).

### **WHICHEVER WAY YOU CUT IT....YOU CAN CUT OUT THE FISH!**

Vegetarians don't eat fish, but they do enjoy one of the healthiest diets around. A balanced vegetarian diet easily reaches the government's recommended five portions of fruit and vegetables every day, while also including plenty of complex carbohydrates, protein, vitamins and minerals. Omega 3 fatty acids are found in rapeseed oil, flax seeds and walnuts as well as (in smaller amounts) eggs and whole milk. Vegetarians who particularly want to boost their Omega 3 intake can choose algae or flax seed oil supplements. If you'd like to know more about keeping healthy with a balanced vegetarian diet, visit [www.vegsoc.org/](http://www.vegsoc.org/) or call 0161 925 2000 for a healthy eating guide.

### **Useful links about fishing**

- Compassion in World Farming [www.ciwf.org.uk/](http://www.ciwf.org.uk/)
- Department for Environment Food and Rural Affairs [www.defra.gov.uk](http://www.defra.gov.uk)
- Farm Animal Welfare Council [www.fawc.org.uk/](http://www.fawc.org.uk/)
- Food and Agriculture Organisation [www.fao.org/](http://www.fao.org/)
- Friends of the Earth [www.foe.co.uk/](http://www.foe.co.uk/)
- Greenpeace [www.greenpeace.org.uk/](http://www.greenpeace.org.uk/)
- International World Conservation Union [www.iucn.org/](http://www.iucn.org/)
- Marine Conservation Society [www.mcsuk.org/](http://www.mcsuk.org/)
- Respect for Animals [www.respectforanimals.org/](http://www.respectforanimals.org/)
- Whale & Dolphin Conservation Society [www.wdcs.org/](http://www.wdcs.org/)
- World Wide Fund for Nature [www.panda.org/](http://www.panda.org/)



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