

1. The number of farms that produce farmed salmon and the number of farms that produce farmed cod

In 2006 10 companies produced salmon and 1 company produced cod.

2. The number of escape incidents that occurred on salmon farms and the number of salmon that escaped

The last reported escape incident on a salmon farm occurred in 2003 and involved the loss of 2,780 salmon.

3. The number of farmed salmon that died on farms

The Department does not collect data on the number of fish farm mortalities and we are not aware of this data being collected except in the case of unusual mortalities or those relating to disease outbreak where the numbers are notifiable to the Department as a licence condition.

4. The diseases that have been diagnosed and reported on salmon farms

Our findings on Irish salmon farms since the early 1980s are summarised below. These findings have been supplemented with diseases / disorders which may not have been diagnosed directly by the Marine Institute, but which have been reported.

Infectious diseases fall broadly into four categories: viral, bacterial, parasitic and fungal. Non-infectious diseases are categorised separately.

A. Infectious Diseases

Viral Diseases

- Infectious salmon anaemia (caused by ISAV)
- Infectious pancreatic necrosis (caused by IPNV)
- Pancreas Disease (caused by SPDV)

Bacterial Diseases

- Typical Furunculosis (caused by *Aeromonas salmonicida ssp salmonicida*)
- Atypical Furunculosis (caused by *Aeromonas salmonicida ssp. Achromogenes*)
- Vibriosis (caused by several species of *Vibrio*)
- Piscirickettsiosis (caused by *Piscirickettsia salmonis*)
- Myxobacteriosis (caused by *Flexibacter sp*)
- Bacterial Septicaemia (caused by *Aeromonas sp* and *Pseudomonas sp*)

Parasitic Diseases

- Sea lice (mainly *Lepeophtheirus*)
- Costia
- Ichthyophthirius
- Trichodina Complex
- Childonella
- Kudoa
- Hexamita
- PKD agent
- Paramoeba
- Schyphidia Complex
- Myxosporea
- Gyrodacylus (*derjavini and truttae*)

Fungal Diseases

- Saprolegnia

B. Non-Infectious Diseases / Disorders

- Cataracts
- Skeletal deformities
- Gill pathology caused by phytoplankton and /or zooplankton events

5. The amount of emamectin benzoate, cypermethrin and teflubenzuron used on salmon farms

In relation to the use of sea lice treatments Teflubenzuron is not used. There are three licensed treatments which are used. These are SLICE, EXCIS and ALPHAMAX. The Department or its agencies do not have data on the quantities used, that is a matter for the prescribing vets.

6. The antibiotics used on salmon farms and the quantities of same

Enclosed is a report by the Marine Institute “Dangerous Substances Usage in Finfish Farms” which gives full details of all antibiotics used in the industry.

7. The antifoulants used on salmon farms and the quantities of same

Only certain types of anti foulants are permitted (based on Copper Sulphate) but their use is not controlled in the way that medicines are. Essentially the farmer does a deal with the net maker, or repairer, who treats the netting and supplies it with the antifouling in place.

BIM advise that, as more than 50% of Irish production is now organic (and they don't use any antifouling) and, as the rest of the industry is very small, the amount used will be very minor indeed.

8. The discharges of phosphorus and nitrogen made by salmon farms for the years 1990 to date in 2006

While the actual discharges of nitrogen and phosphorous are not specifically measured the quantity of nitrate, nitrite, ammonia and phosphate are measured under the water quality protocols which are carried out monthly during the period December - March each year. In addition, the impact of solid waste (food and faeces) are measured by the benthic protocols which are carried out on salmon farms on an annual basis.

9. The percentage of salmon farms here that are owned by a company (details supplied)

Five fish farms are operated by Marine Harvest - Lough Swilly, Mulroy Bay, Seastream Ltd, Curraun Fisheries and Clare Island Seafarms. The three latter fishfarms were taken over by Marine Harvest in 2006 and are located in Clew Bay, Co Mayo.

In 2006, of the 11 companies which were in production, 2 were operated by Marine Harvest

10. The percentage Irish salmon farming production in 2005 controlled by the same company

Production by Marine harvest in 2005 was confined to Lough Swilly and Mulroy Bay which produced 7,537 tonnes or approx. 55% of total production of 13,764 tonnes.

11. The percentage of farmed salmon mortalities that are disposed of in land burial, ensiled, incinerated or other

Salmon farm mortalities are normally ensiled before either high temperature rendering or incineration. Land burial is not permitted except as an exceptional emergency measure where large amounts of mortalities have to be dealt with quickly for reasons such as a public health issue.