

# Gaining Transparency:



Using the FOIA Process  
to Track Down Data on  
the Impacts of  
Fish Farming



# How to Obtain FOIA Data

## Scottish Example:

“Please provide access to information relating to this pollution incident, subsequent investigation and successful prosecution: including photos, letters, email correspondence, legal papers, court documents, videos, copies of water quality monitoring tests and any other relevant documentation.

Please consider this an official request for information under both the relevant Freedom of Information and Environmental Information regulations. Please provide this information electronically.”

# FOIA - Regional Report Card

## Scotland A-

- FOI Act (2002) - No cost. Must respond to all requests within 20 working days. Company & site specific data. No sea lice data.

## Norway C+

- No cost. Response to escapes and disease requests took over one year. Only escapes data is company specific.

## Canada D- (With \$\$s could be A-)

- Most data prohibitively expensive. Some questionable data. Other data must be verified with company.

## Chile F

- No cost. Partial responses to requests for escapes data took several months. Sea lice monitoring data promised, no data thus far. No other requested data provided despite numerous requests.

Almost all data internationally is self-reported

# Uses for FOIA Data

## For Retailers, Governments, Producers, NGOs and Media

- To quantify and compare impacts of aquaculture operations - globally, regionally, and by company and over time.
- To develop farming standards
- To compare farming companies' ecological impacts
- To assess current “Best Practices”
- To compare “organic” or “sustainable” with conventional sites
- To encourage national authorities to increase transparency
- To evaluate impacts of open net cage farming of new species

# Escapes

# An International Inventory of: ESCAPES

Region	2004	2005	2006	Regional Total 2004 - 2006
Norway	563,000	722,000	911,000	2,196,000
Chile	2,023,365	280,240		2,303,605
Scotland	90,594	1,018,683	287,753	1,397,030
Faroes Islands				0
Ireland	0	0		0
British Columbia	43,985	64		44,049
Eastern Canada		146,300		146,300
Washington State	24,552	2,500		27,052
Maine, USA				
Australia	52,734	40,000	8,000	100,734
New Zealand				
Japan				
Annual Total	2,798,230	2,209,787	1,206,753	6,214,770

\* See handout for source information

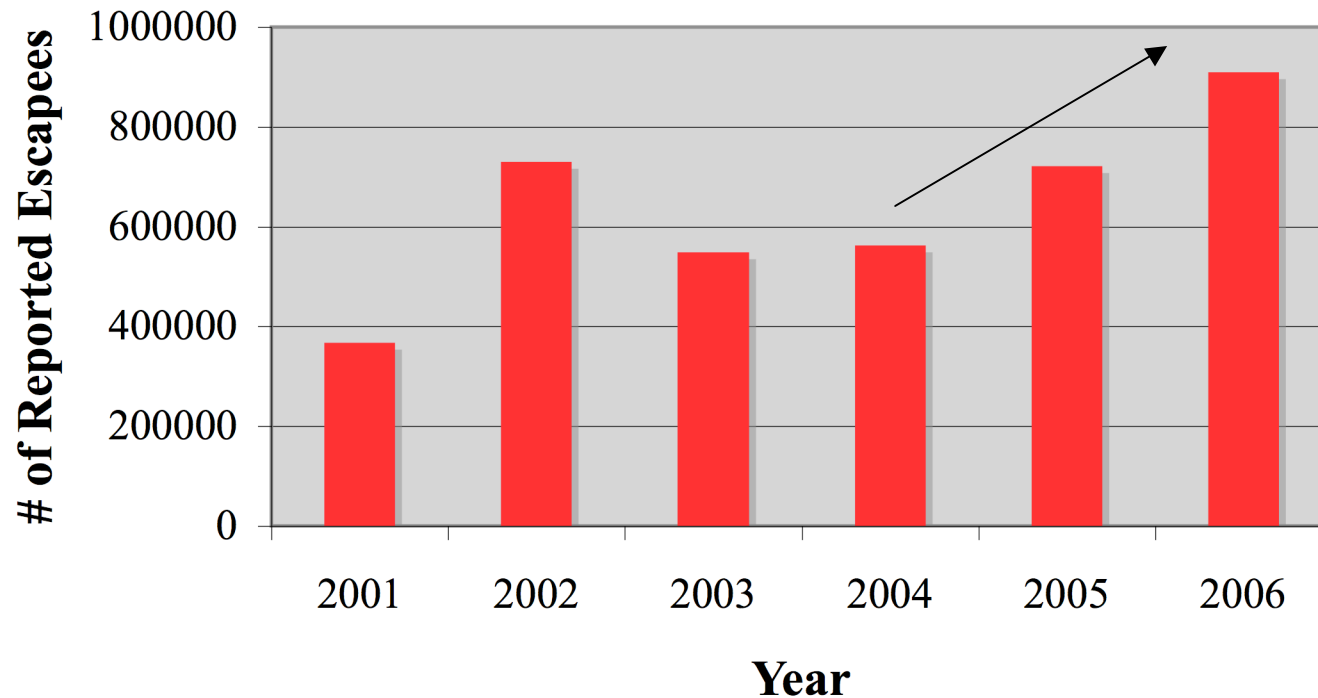
# Comparing Rates of Escapes Across Regions

Region	Year	Average Escape Ratio
Norway	2001 -2006	1:331
Chile	1995 -1996; 2002; 2004-2005	1:626
Scotland	2001-2006	1:304
British Columbia	2001-2005	1:195,158

\* See handout for source information

# Analyzing Escapes Trends

## Norway - Reported Escapees of Farmed Salmon and Trout



Source: Kyst.no (2001 -2005), The Directorate of Fisheries., Norway (2006)



# Comparing Escape Rates of Different Species

Species	2006 Norwegian Reported Escapees	2006 Norwegian Escape Ratio
salmon/trout	882,229	1:160
cod	272,422	1:12
Other marine species	15,536	1:50

Source (Escapees and Production Figures): The Directorate of Fisheries., Norway

**Companies reporting escapes of farmed  
fish in Scotland, 2005 to 2006**

Company	2005	2006
Stolt Sea Farm	321,000	
Marine Harvest	151,876	29,746
North Uist	169,435	
Pan Fish	120,000	22,368
Lakeland		130,000 (dead)
Fjord Seafood	101,013	6,500
South Side Salmon	65,000	
Mainstream	1,998	61,627
Murray Seafoods	22,500	27,819
Scottish Sea Farms	43,453	
Papil Salmon Farm	15,800	
Kames Marine		12,230
Landcatch Ltd.	3,608	4,683
Hebridean Smolts		5,000
Loch Duart	3,000	
Wester Ross		10

# Looking at Escapes from Specific Fish Farms

Source: Scottish Executive

# **Chemical Use**

# An International Inventory of: CHEMICAL USE

Therapeutant Use (Kg Active Ingredient)		2005	2006
<b>Antimicrobials</b>			
	Norway	1215	?
	Chile	?	?
	Scotland	1,697	5,071
	British Columbia	?	?
<b>Sea Lice Treatments (not incl. Hydrogen Peroxide)</b>			
	Norway	100	?
	Chile	?	?
	Scotland	43	32
	British Columbia	17.8	?
<b>Anaesthetics</b>			
	Norway	1360	?
	Chile	?	?
	Scotland	224	168
	British Columbia		
<b>Antifoulants (Copper on Nets)</b>			
	Norway	?	?
	Chile	?	?
	Scotland	61,089	57,948
	British Columbia	?	?

\* BC sea lice data source: Salmon Aquaculture Dialogue report: "Chemical Use in Salmon Aquaculture: A Review of Current Practices and Possible Environmental Effects" (Nov 2007)

# Looking at Specific Chemical Use

Reported Excis (Cypermethrin) Use by  
Farmed Salmon Producers in Scotland in 2006

Company	Reported Excis Use (l)
Marine Harvest Scotland	559.6
Pan Fish Scotland Ltd	155.4
Fjord Seafood Scotland	125.2
Scottish Seafarms Ltd	81.7
Loch Duart Ltd	48.8
Drumbeg Salmon Ltd	41.8
Hoganess Salmon Ltd	13.6
Lakeland (Marine & Unst) Ltd	2
Lewis Salmon Ltd	0.6

Source: SEPA

Approximately 70% of Scottish salmon producers reported  
using NO Excis in 2006

# Tracking Site Specific Chemical Use

## Top 10 Reported Use of SLICE (emamectin benzoate)

### Per Tonne of Feed Used in 2006

Rank	Company	Site	Slice (kg)/ tonne feed used
1	NAFC	Lea of Trondra	1,067
2	Drumbeg Salmon Ltd	Loch Droighniche	415
3	Pan Fish Scotland Ltd	Mid Strome	395
	Scottish Sea Farms		
4	(Main) Ltd	Allt a Chois, North Shore	385
5	Fjord Seafood Scotland	Vacasay	367
6	Drumbeg Salmon Ltd	Oldany Island	356
7	Loch Duart Ltd	Foindle East, Site 1	331
8	Loch Duart Ltd	Eilean a Mhadaidh, Site 2	322
9	Loch Duart Ltd	Calbha Beag, Site 5	286
10	Fjord Seafood Scotland	Kyles Vuia East	276

Source: SEPA

**134 Scottish salmon farm sites reported using SLICE in 2006**

# Assessing Best Practices

## Chemical Use in Scottish Finfish Farming in 2006

- 77 % of companies reported no use of copper antifoulants on nets
- 83 % reported no antibiotic use
- 67 % reported no cypermethrin (Excis) use
- 47 % reported no emamectin benzoate (SLICE) use

Source: Pure Salmon Campaign summary of SEPA data obtained via FOIA

# **Parasites & Diseases**



# **A (Not So) International Inventory of: PARASITES & DISEASES**

- **Chile:**

- In 2007, new, company-specific data on Infectious Salmon Anemia (ISA) and sea lice available online.
- No formal response to FOIA requests for industry-wide and company-specific disease data beyond ISA and sea lice.

- **Scotland:**

- In 2006, some company-specific disease data available via FOIA.
- Via FOIA, sea lice data should be obtained shortly.

- **Norway:**

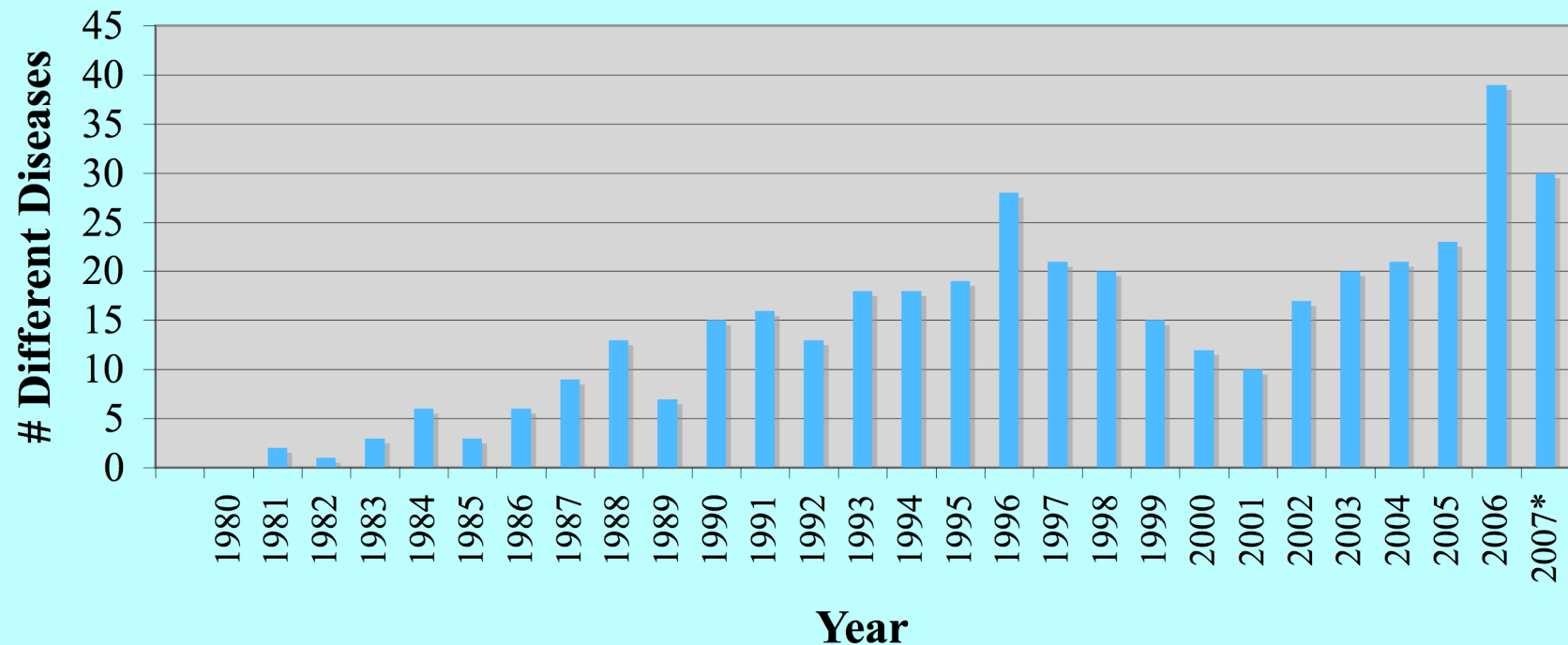
- Some regional and site specific data available via FOIA (in Norwegian)

- **British Columbia:**

- Some regional disease data and company sea lice data available.

# Assessing Trends in Reported Diseases by Region

**# of Different Disease Types Isolated on Scottish Salmon Farms,  
1980 - 20 September 2007**



*\* 2007 is incomplete*

Source: Scottish Executive

# Looking at Specific Diseases in a Region

Company	Farm Site	F + eggs	Total
Mannin Bay Salmon Co Ltd.	Corhounagh	17.30	85.93
Marine Harvest		8.65	51.61
Mannin Bay Salmon Co Ltd.	Hawks Nest	1.34	50.18
Marine Harvest	Cranford A	8.48	31.04
Muirachmhainni Teo	Daonish	3.93	27.05
Marine Harvest	Millstone	1.00	11.32
Eany Fish Products Ltd	Inver Bay	2.83	9.25
Marine Harvest	Millstone	1.61	7.33
Eisc Ui Flathartha Teo	Ardmore	1.19	6.88
Marine Harvest	Glinsk	0.31	6.79
Celtic Atlantic Salmon (Killary) Ltd	Inishdeighil	0.65	6.46
Bifand Ltd	Fraochoilean	0.47	6.26
Muir Gheal Teo	Cnoc	1.46	5.19
Clare Island Seafarms Ltd	Seastream Inner	0.88	4.71
Curran Fisheries Ltd.	Curraun	0.50	3.60
Marine Harvest	Cranford C	0.00	3.50
Muirachmhainni Teo	Golam	0.00	3.40
Curran Fisheries Ltd.	Curraun	0.32	3.18
Silver King Seafoods Ltd.	Roancarraig Smolt site	0.20	2.40
Marine Harvest	Milford	0.41	2.23
Clare Island Seafarms Ltd	Portlea	0.28	1.70
John Power Ltd.	Waterfall	0.11	0.97
Muirachmhainni Teo	Cuigeal	0.29	0.97
Silver King Seafoods Ltd.	Roancarraig Smolt site	0.27	0.87
Lasingers	Cuan Baoi Seafarms Ltd	0.00	0.00
Lasingers	Cuan Baoi Seafarms Ltd		Harvested out

## Irish Sea Lice Data for Salmon and Sea Trout, Nov 2006

Source: Irish Government

# Specific Diseases in a Region

**Chilean salmon farm sites confirmed with ISA - 27 Dec 2007**

Company	Site Name
Marine Harvest	Puchico
Marine Harvest	Aldachildo
Marine Harvest	Cheniaio
Marine Harvest	Curaco de Lin Lin
Aguas Claras	Cahueldao
Mainstream	San Juan de Chadmo
Marine Harvest	Lincay
Marine Harvest	Tellupta
Marine Harvest	Chalihue
Marine Harvest	Apabon

Source: Sernapesca

# **Waste Emissions**

# **A Lack of Real Data in All Regions...**

**Based on feed use, the Scottish finfish farming industry estimates the following waste emissions in 2005:**

- Nitrogen - 8,800 tonnes
- Organic Carbon - 28,300 tonnes
- Phosphorous - 1,200 tonnes
- Copper (Feed & Nets) - 61 tonnes
- Zinc - 9 tonnes

Source: SEPA

**But, we have little data on monitored discharges in any region**

# Reported Exceedances of Pollution Limits in Scotland

## Exceedances of Monthly Consented Biomass, Reported by Scottish Fish Farms in 2007 (through June)

Company	2007 Thru June
Marine Harvest (not inc. PanFish, Fjord)	55
Pan Fish Scotland Ltd	8
Mainstream Scotland Ltd	5
Drumbeg Salmon Ltd	2
Hoganess Salmon Ltd	1
Kames Fish Farming Ltd.	1
<b>Total</b>	<b>72</b>

Source: SEPA

# Water Pollution Prosecutions in Scotland, 2005 to 2007

Source: SEPA

- **Marine Harvest Scotland (12th Dec 2007)** - combination of breaching their water use licence, an unauthorised discharge of effluent to a river, depositing sludge on land and burning waste. Fined £25,000.
- **Lakeland Marine Farm (27th April 2006)** - cause or knowingly permit a trade effluent namely effluent containing **uneaten fish food and fish faeces** to be discharged to controlled waters by way of the nets of said fish farm cages...Fined £1,000.
- **Kames Fish Farming (12th Jan 2006)** - **poisonous/noxious/polluting matter** - fish faeces & uneaten fish feed, to Loch Lochy, by way of nets of fish farm cages...Fined £8,000.
- **Marine Harvest Scotland (27th July 2005)** - cause or knowingly permit **poisonous, noxious or polluting matter** or any solid waste matter namely fish viscera, blood and congealed fat deposits, scum & grease to the River Lochy...Fined £4,000.
- **Hoganess Salmon (6th July 2005)** - s30F(1) CoPA - **Emamectin Benzoate** to the Gruting Voe by way of administering to salmon in fish cages...Fined £2,000.
- **Wester Sound Salmon (6th July 2005)** - 2 charges under s30F(1) - **Emamectin Benzoate** to the Vaila Sound...Fined £2,000.
- **Pan Fish Scotland (17th February 2005)** - causing or knowingly permitting **diesel oil** to enter Loch Torridon)....Fined£10,000.



# For All Up-To-Date Information on Salmon Farming...



[www.farmedsalmonexposed.org](http://www.farmedsalmonexposed.org)