OSPAR Secretariat
Victoria House
37-63 Southampton Row
London
WC1B 4DA
United Kingdom

September 2012

Dear Sir,

**Increase in the Use of Toxic Chemicals on Scottish & Norwegian Salmon Farms**

Please consider this a formal complaint against the United Kingdom and Norway for failure to adhere to PARCOM Recommendation 94/6 on Best Environmental Practice for the Reduction of Inputs of Potentially Toxic Chemicals from Aquaculture Use.

In summary, since Contracting Parties ceased reporting to the OSPAR Commission (the latest data submitted was for the year 2004) there has been a twelve-fold increase in the use of toxic chemicals by the UK and a staggering 34-fold increase by Norway.

According to the OSPAR Commission's 'Hazardous Substance Series' report (2006): "Overview assessment: Implementation of PARCOM Recommendation 94/6 on Best Environmental Practice (BEP) for the Reduction of Inputs of Potentially Toxic Chemicals from Aquaculture Use":

"OSPAR 2006 agreed that, for the time being, implementation reporting on PARCOM Recommendation 94/6 could cease for all Contracting Parties, but that if there were significant developments in the aquaculture industry in the future, the need for implementation reporting should be revisited" (download report in full online here).

In fact, there have been significant developments in the Norwegian and Scottish salmon farming industry: a sea lice crisis and chemical resistance has precipitated an alarming increase in the use of toxic chemicals. Hence there is an urgent need to revisit implementation reporting.

Since reporting was shelved there has been a twelve-fold increase in the use of toxic chemicals on Scottish salmon farms. Data obtained from the Scottish Government (via the Scottish Environment Protection Agency and Marine Scotland) reveal that the use of Deltamethrin, Cypermethrin, Emamectin benzoate, Teflubenzuron and Azamethiphos increased from 33060g in 2005 to 394631g in 2011.

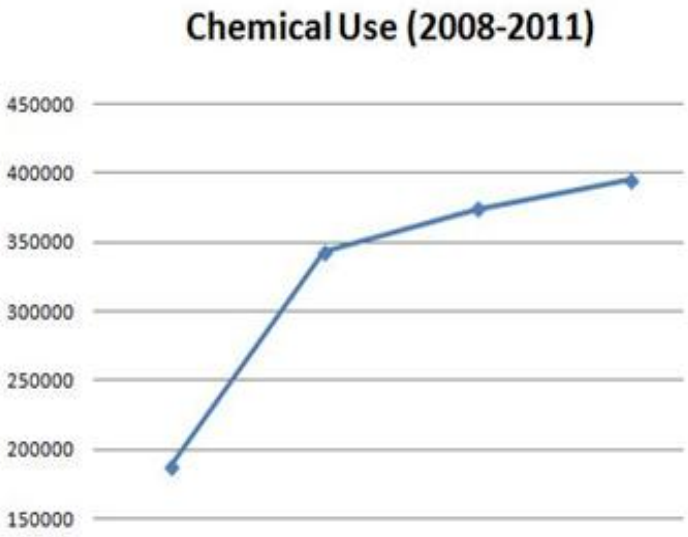
The following data (2005-2009) was obtained from Marine Scotland:

| PESTICIDE Trade Name (active ingredient) | 2005 Amount Reported (kg) | 2006 Amount Reported (kg) | 2007 Amount Reported (kg) | 2008 Amount Reported (kg) | 2009 Amount Reported (kg) |
|---|---|---|---|---|---|
| Alpha Max (Deltamethrin) | 0 | 0 | 0 | 0 | 13.2 |
| Calicide (Teflubenzuron) | 0 | 0 | 84.7 | 0 | 61.8 |
| SLICE (Emamectim Benzoate) | 28.6 | 22.1 | 61.8 | 63.5 | 51.8 |
| EXCIS (Cypermethrin) | 4.46 | 9.08 | 37.8 | 21.4 | 11.9 |
| SALMOSAN (Azamethiphos) | 0 | 0 | 0 | 100 | 203 |
| TOTAL PRODUCTION (TONNES) | 129,588 | 131,847 | 129,930 | 128,606 | 144,247 |

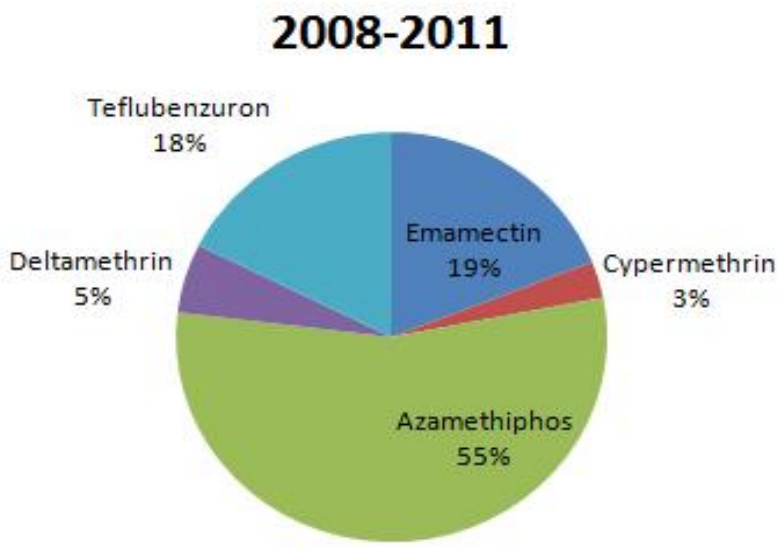
And data obtained from the Scottish Environment Protection Agency reveals that chemical use increased further in both 2010 and 2011 (read more via 'FishyLeaks'):

**Total chemical use (Cypermethrin, Azamethiphos, Teflubenzuron, Emamectin benzoate & Deltamethrin) on Scottish salmon farms increased by 110% between 2008 and 2011**

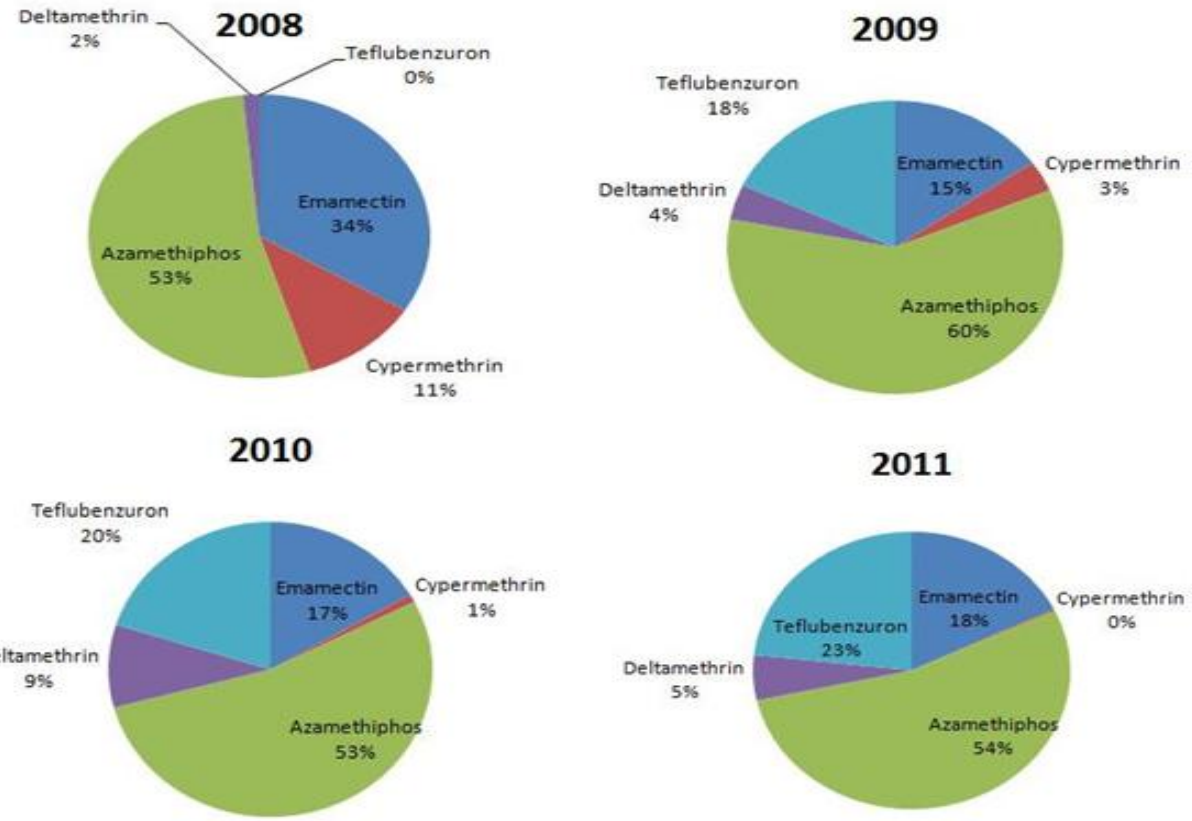
**2008: 188076.07g**
**2009: 342847.8462g**
**2010: 373757.8495g**
**2011: 394630.5414g**




In terms of total chemical use (2008-2011), Azamethiphos accounted for over half (55%) with Emamectin benzoate (19%), Teflubenzuron (18%), Deltamethrin (5%) and Cypermethrin (3%).




The relative composition of chemical use has changed since 2008 – but the use of Azamethiphos has always remained the largest component. As Cypermethrin use has declined the use of Teflubenzuron has increased to be the 2nd largest in 2011:



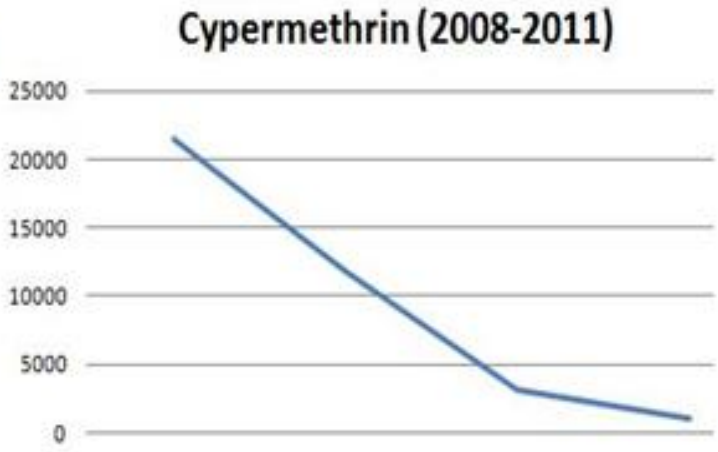

Almost twice every day for the last four years (2008 to 2011), toxic chemicals were used on salmon farms across Scotland. Chemicals were used on 2,756 occasions with Emamectin benzoate used 1,028 times; Deltamethrin 914; Azamethiphos 487; Cypermethrin 315 and Teflubenzuron 12 times.

In the four year period (2008 and 2011) the annual use of Deltamethrin, Cypermethrin, Emamectin, Teflubenzuron and Azamethiphos was reported as follows:

**Cypermethrin Use: 2008-2011**

2008: 21453.44g
2009: 11799.34g
2010: 3225.70g
2011: 979.08g

**Total: 37467.56g**




**Azamethiphos Use: 2008-2011**

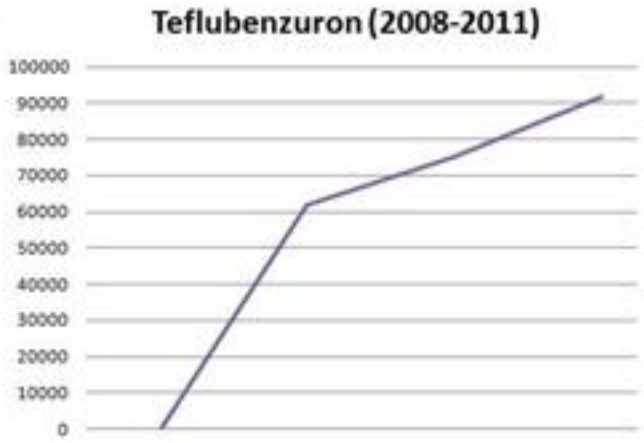
2008: 100187.0620g
2009: 203934.6003g
2010: 199745.0006g
2011: 211667.5004g

**Total: 715534.1633**


**Teflubenzuron Use: 2008-2011**

2008: 0g
2009: 61759.0g
2010: 75000.0g
2011: 91555.1g

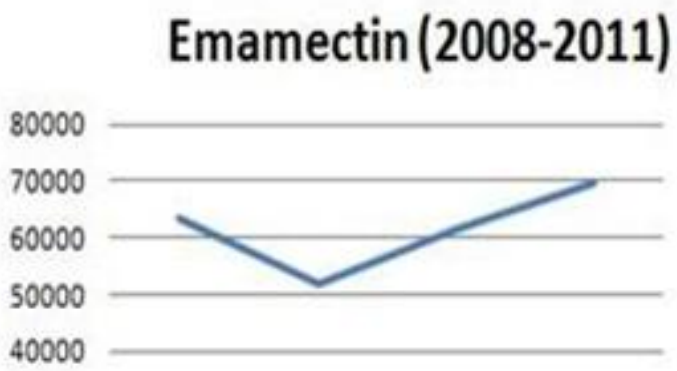
**Total: 228314.1g**



**Emamectin Use: 2008-2011**

2008: 63540.96301g
2009: 51990.1159g
2010: 61715.484g
2011: 69566.041g

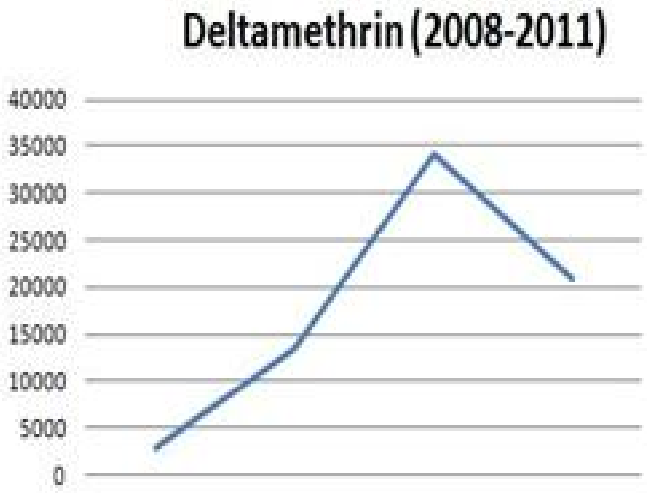
**Total: 246812.6039g**



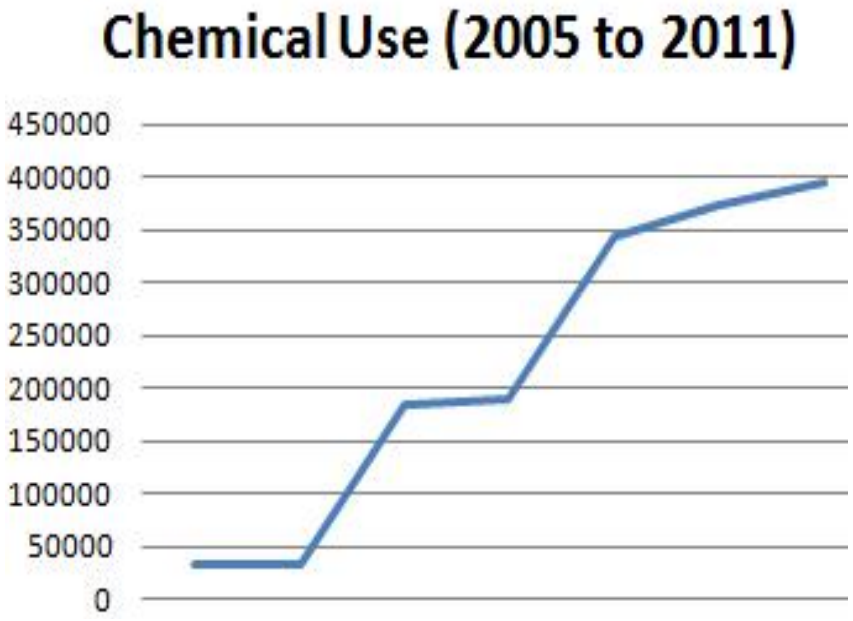

**Deltamethrin Use: 2008 – 2011**

2008: 2894.605g
2009: 13364.79g
2010: 34061.665g
2011: 20862.82g

**Total: 71183.88g**




If you add the two data sets together the increase in toxic chemical use by Scottish salmon farms between 2005 and 2011 was a staggering 1094% - a twelve-fold increase up from 33060g in 2005 to 394631g in 2011. That's over fifty times the percentage increase in Scottish farmed salmon production which rose 21%!



As “lead countries” both Norway and the UK reported the following use of toxic chemicals (2000-2004) to the OSPAR Commission:

Table 6. Overview of the total amount of active components in veterinary medicinal products used as treatment of lice on salmon reported by the United Kingdom and Norway for 2005. Note: The symbols ‘0’ and ‘-’ are not explained in the national reports. It could mean ‘no use’ or ‘not authorised’ or ‘no information’.

| Active components in veterinary medicinal products used as treatment of lice on salmon | United Kingdom Tons/year | Norway Tons/year |
|---|---|---|
| Azametiphos 2000 | < 0,1 | 0 |
| Azametiphos 2002 | 0,045 | 0 |
| Azametiphos 2003 | 0,033 | 0 |
| Azametiphos 2004 | 0,007 | 0 |
| Cypermetrin 2000 | 0,900 | 0,064 |
| Cypermetrin 2002 | 0,220 | 0,062 |
| Cypermetrin 2003 | 0,010 | 0,059 |
| Cypermetrin 2004 | 0,037 | 0,055 |
| Deltametrin 2000 | 0 | 0,020 |
| Deltametrin 2002 | - | 0,023 |
| Deltametrin 2003 | - | 0,016 |
| Deltametrin 2004 | - | 0,017 |
| Pyretrum | 0 | 0 |
| Diflubenzuron | 0 | 0 |
| Teflubenzuron 2000 | 0 | 0,039 |
| Teflubenzuron 2002 | 0,072 | 0 |
| Teflubenzuron 2003 | 0,036 | 0 |
| Teflubenzuron 2004 | 0 | 0 |
| Emamectin 2000 | 0 | 0,013 |
| Emamectin 2002 | 0,015 | 0,020 |
| Emamectin 2003 | 0,031 | 0,023 |
| Emamectin 2004 | 0,052 | 0,032 |

The 2006 OSPAR report claimed: “In the UK and Norway there has been a decline in the use of medicinal products, even though the quantities of salmon produced have increased.” The UK reported a reduction in the use of Azamethiphos, Cypermethrin and Teflubenzuron (with no use of Deltamethrin at all) but an increase in the use of Emamectin benzoate on Scottish salmon farms:

| Active substance in endo-/ectoparasiticidals for use in aquaculture | Amount used (t/a) 2002 | Amount used (t/a) 2003 | Amount used (t/a) 2004 |
|---|---|---|---|
| Azametiphos | 0,0459 | 0,0334 | 0,0073 |
| Cypermetrin | 0,2198 | 0,0103 | 0,0370 |
| Deltametrin | Not authorised for use in UK | Not authorised for use in UK | Not authorised for use in UK |
| Pyretrum | Not authorised for use in UK | Not authorised for use in UK | Not authorised for use in UK |
| Diflubenzuron | Not authorised for use in UK | Not authorised for use in UK | Not authorised for use in UK |
| Teflubenzuron | 0,0727 | 0,036 | 0 |
| Emamectin | 0,0154 | 0,0311 | 0,0521 |

Norway reported zero use of Azamethiphos, Diflubenzuron and Teflubenzuron:

| Active substance in endo-/ectoparasiticidals for use in aquaculture | Amount used (t/a) 2002 | Amount used (t/a) 2003 | Amount used (t/a) 2004 |
|---|---|---|---|
| Azametiphos | 0 | 0 | 0 |
| Cypermetrin | 0,062 | 0,059 | 0,055 |
| Deltametrin | 0,023 | 0,016 | 0,017 |
| Pyretrum | 0 | 0 | 0 |
| Diflubenzuron | 0 | 0 | 0 |
| Teflubenzuron | 0 | 0 | 0 |
| Emamectin | 0,020 | 0,023 | 0,032 |

Please note, however, that since reporting ceased there has been a staggering 34-fold increase in the use of toxic chemicals by salmon farms in Norway (a 65-fold increase between 2005 and 2010). Official figures reveal that the use of Teflubenzuron, Diflubenzuron and Azamethiphos in particular sky-rocketed in 2009 (access the data online here).

**Tabell 2. Midler mot lakselus (kg aktiv substans)**

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|---|---|---|---|---|
| azametifos | | | | | | | 66 | 1884[1)] | 3346 | 2437 |
| cypermetrin | 62 | 59 | 55 | 45 | 49 | 30 | 32 | 88 | 107 | 48 |
| deltametrin | 23 | 16 | 17 | 16 | 23 | 29 | 39 | 62 | 61 | 54 |
| diflubenzuron | - | - | - | - | - | - | - | 1413 | 1839 | 704 |
| emamektin | 20 | 23 | 32 | 39 | 60 | 73 | 81 | 41 | 22 | 105 |
| teflubenzuron | - | - | - | - | - | - | - | 2028 | 1080 | 26 |
| **Totalt** | **105** | **98** | **104** | **100** | **132** | **132** | **218** | **5516** | **6454** | **3374** |
| hydrogen-peroksid (tonn) | | | | | | | | 308 | 3071 | 3144[2)] |

In conclusion, the evidence presented here clearly illustrates that the decision to cease reporting was abused by the UK and Norway who have polluted with impunity ever since. Both the United Kingdom and Norway have flagrantly breached PARCOM Recommendation 94/6 on Best Environmental Practice for the Reduction of Inputs of Potentially Toxic Chemicals from Aquaculture Use. The Global Alliance Against Industrial Aquaculture (GAAIA) urges the OSPAR Commission to re-institute reporting of chemical use on salmon farms and to implement measures to reduce chemical use. Please send a signal to the UK and Norway that increasing use and discharge of toxic chemicals will no longer be tolerated by the international community.

Yours sincerely,

Don Staniford

Global Alliance Against Industrial Aquaculture

Cc: Observers to the OSPAR Commission:

- Advisory Committee on the Protection of the Sea (ACOPS)
- BirdLife International
- European Apparel and Textile Organisation (EURATEX)
- European Boating Association (EBA)
- EUROPECHE, Association of National Fisheries Organisations
- Friends of the Earth (FOE)
- Greenpeace International
- Natural Resources Defense Council (NRDC)
- OCEANA
- Seas at Risk
- World Wide Fund for Nature (WWF)