



Study Tour Report: A Tour of the Norwegian and United Kingdom Sectors of the North Sea – The Relationship between the Fishing and Petroleum Industries

Striking a Balance: Minimizing Adverse Impacts - Maximizing Shared Opportunities

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What is ONE OCEAN?

Having recognized the need to discuss and address issues of mutual concern, Newfoundland and Labrador's fishing and petroleum industries established ONE OCEAN as an inter-industry organization providing a neutral forum to enhance communications and information exchange between two of the province's most important industries.

ONE OCEAN's mandate is to assist both industries in understanding each other's operations and activities. The common goal of both groups is to gain an appreciation for each other's industry and work safely and efficiently together.

Who is Involved?

ONE OCEAN is comprised of an advisory board consisting of representatives from each industry, including members of the Fish, Food and Allied Workers union (FFAW/CAW), which has more than 20,000 members in Newfoundland and Labrador; the Fisheries Association of Newfoundland and Labrador (FANL), an industry trade association accounting for approximately 80 per cent of the province's seafood production and sales; and the Canadian Association of Petroleum Producers (CAPP), the official voice of Canada's upstream oil and natural gas industry, which represents more than 140 member companies. Dr. Arthur May has been appointed Chair of the ONE OCEAN Advisory Board.

Mr. Gordon Slade is the Executive Director of the ONE OCEAN initiative and is responsible for managing the day-to-day activities of the organization and acts as a source of independent analysis and provider of advice for both industries.

The Study Tour

From October 15 - 24, 2002, a delegation representing the advisory board of ONE OCEAN participated in a study tour of Norway and the United Kingdom. The group participated in meetings and facility tours in Bergen and Stavanger, Norway, the Shetland Islands and Aberdeen, Scotland. The purpose of the study tour was to explore how similar inter-industry groups in other parts of the world operate, with the hope of taking lessons learned from these jurisdictions and implementing them into the functioning of the ONE OCEAN organization.

The Delegation included:

Dr. Arthur May, Chair, ONE OCEAN

Mr. Gordon Slade, Executive Director, ONE OCEAN

Mr. Reg Anstey, Secretary Treasurer, Fish, Food and Allied Workers Union

Mr. Chesley Cribb, Vice-President, Deep Sea Division, Fish, Food and Allied Workers Union

Mr. Nelson Bussey, Member, Inshore Council, Fish, Food and Allied Workers Union

Mr. Gerard Chidley, Member, Inshore Council, Fish, Food and Allied Workers Union

Mr. Paul Barnes, Manger, Canadian Association of Petroleum Producers

Ms. Kelly Reynolds, Public Affairs Coordinator, Canadian Association of Petroleum Producers

Mr. Trevor Troake, Director, Planning and Analysis, Fishery Products International
Mr. Fred Way, Vice Chair, Canada-Newfoundland Offshore Petroleum Board
Mr. Urban Williams, Senior Advisor, Environment & Emergency Response, Petro-Canada

Collaboration for a Common Goal

Bergen, Norway

The study tour meetings began on Thursday, October 17, in Bergen, Norway. The delegation met with the (Norwegian) Directorate of Fisheries, the Norwegian Fishermen's Association, the Institute of Marine Research, and Norsk Hydro. The meeting was held at the offices of the Directorate of Fisheries and included a round table discussion with the ONE OCEAN delegation and members of the Norwegian organizations.



ONE OCEAN Delegation tour fish market in Bergen, Norway

Photo courtesy of CAPP

The **Directorate of Fisheries** was founded in 1947 and is governed by a council of nine members. The Directorate's mandate is to work for the Norwegian fishing industry and to offer advice to fisheries authorities. The group is also responsible for performing research on fish and other marine resources, as well as conducting studies on aquatic species.

The **Norwegian Fishermen's Association** is a politically independent national organization based on voluntary membership of fishermen via their county associations and group organizations. The members of the Association own vessels and/or gear, and work on a share or percentage basis. The Association has over 10,000 members.

The **Institute of Marine Research** is an international innovator in marine research and is considered a reputable and reliable source of knowledge. The core objectives of the Institute are research into marine resources, marine environment and aquaculture. The Institute is at the forefront of international research in these areas and provides scientific advice to the authorities, industry and society in general.

Norsk Hydro is a leading energy and materials company, based in Oslo, Norway. The company is one of the world's leading offshore oil companies and plays a central role in providing a supply of energy to Europe. Norsk Hydro is the operator of 15 oil and gas installations on 12 fields, with total production over 1.3 million barrels of oil equivalents a day in the North Sea.

The delegation received an overview of the Norwegian fishing industry from an international perspective as well as an appreciation for the day-to-day activities of the industry. Specific attention was given to how the fishing and petroleum industries co-exist. The Norwegian oil and gas industry is much larger than the offshore industry in Atlantic Canada with over 400 installations in the North Sea. There are approximately 20,000 (full and part-time) fishermen in Norway, with approximately 13,700 working full-time.

These groups told the ONE OCEAN delegation that during the infancy of the petroleum industry, fishermen were considered ‘obstacles to development’ and that the relationship between the two industries was antagonistic, but overtime the groups have developed a relationship and both now share an ‘appreciation’ for each other.

The relationship development between these two key groups began in the late 1980’s and was initiated by Statoil (Norwegian state owned oil company), with the main area of contention between the groups being the protection of spawning areas. Below are the key points from this meeting.

General Observations:

- Common areas of focus for both industries are seismic effects on spawning areas, the ‘scaring effect’ on fish, and produced water.
- Before a new area is opened for oil and gas activity there must be a balance between competing interests in that area and completed impact assessments are required by the oil and gas industry.
- Regional impact assessments, as opposed to well specific assessments, are preferred by fishers.
- The Norwegian government has a ‘federal’ department of fisheries and petroleum. Ministers representing both portfolios meet regularly to discuss the potential impacts of new petroleum development on fishing activity.
- The oil and energy directorates have the final say about when a field can be developed. The major consideration is striking a balance between the interests of both industries.

Compensation:

- A committee headed by a judge, with one representative from the fishing industry, and one representative from the oil and gas industry, determines compensation for damaged fishing gear. The oil industry pays for any gear loss.
- Compensation is also provided for loss of fishing areas and loss of fishing time and ‘catch’. Only one case has been reported where a seismic program caused the loss of part of a fishing season.
- General international and national laws provide guidance with regards to compensation for damages to the environment and pollution from the industry. Norway observes the laws established by the UN.
- Rules established by the ministry responsible for petroleum govern compensation and promote ‘class action’ suits as opposed to each fisherman having to go to court.
- Final decisions regarding compensation are made by the Norwegian Petroleum Directorate.
- Norwegian Fishermen’s Association is not pleased with the current compensation system, particularly as it applies to seismic claims, as it is done on a case-by-case basis with no overall set of principles. They plan to work with the petroleum industry to design a better system.

Seismic Survey Programs:

- The Directorate of Fisheries requires and appoints a representative to be present on seismic vessels while seismic programs are underway. This representative is paid by the petroleum industry and must submit a report at the end of the trip. The report is distributed to all parties.
- Multiple seismic surveys in the same offshore area are allowed.
- It was reported that there are approximately 80 offshore seismic survey programs in Norway each year, with approximately 10 seismic/fish research projects.
- Fishermen are generally skeptical of the reports that indicate there are no long-term effects on fish that are exposed to seismic, but that view may be changing.
- Greenland Halibut (Turbot) effects are the source of most skepticism. Fishers generally accept the view that effects are limited to a ‘scaring effect’.
- Seismic companies in Norway consult with the fishing industry six months prior to the start of seismic programs.

Produced Water/Debris:

- The delegation learned that a target for ‘zero produced water discharge’ has been set for 2005 in Norwegian waters.
- The major concern of many fishermen with respect to the petroleum industry is the effect that chemicals used in oil and gas operations (discharges) may have on fish.
- In 2001, 2000 tons of scrap and debris from various oil industry facilities was recovered in Norwegian waters.

Research and Development:

- The Norwegian petroleum industry contributes 20 million NOK (\$3.5 million Canadian) annually to the Norwegian Research Council. The Council has representatives from the petroleum industry, fishing industry, and research community.
- Approximately \$3.5 million CDN has been spent in the last three years on oil and fish related research.
- The oil and gas industry has recently commissioned and financed research into the effects seismic work has on bottom-dwelling fish and determined that the fish incurred no long-term negative effects. The research was conducted by putting fish in cages and shooting seismic ‘over head’ while filming the activity of the fish. The only notable observation was that the fish seemed to incur a ‘scaring effect’, which is believed to last for up to a week, with no long-term effects.

Stavanger, Norway

On Friday, October 18, the delegation arrived in Stavanger, Norway and met with representatives of the Norwegian Oil Industry Association (OLF), Statoil, and the Norwegian Petroleum Directorate. The meetings were held at the office of the Norwegian Oil Industry Association, ONE OCEAN’s hosts in Norway.

The **Norwegian Oil Industry Association (OLF)** is the Norwegian Petroleum industry association for petroleum and supplier companies engaged in exploration and production of oil and gas on the Norwegian Continental Shelf.

Statoil ASA is an integrated oil and gas company with business operations in 25 countries. The company is an important player internationally and a leading retailer of petroleum and oil products in Scandinavia, Ireland, Poland and the Baltic States. Production of oil and natural gas on the Norwegian continental shelf is the ‘backbone’ of Statoil’s business.

The **Norwegian Petroleum Directorate (NPD)** was founded in 1972. It is the regulator for the petroleum industry in Norway and reports to the Minister of Energy and Industry.

The delegation received an overview of the Norwegian petroleum industry, as well as a brief overview of current industry activity. The delegation was told that the petroleum industry in Norway is six times bigger than any other industry in Norway, directly employing 10 per cent of the workforce, or 75,000 people. There are 3.3 million barrels of oil produced in Norway each day, and oil and gas account for 50 per cent of the nations exports and almost 25 per cent of the gross national product.

The delegation received an overview of Statoil’s Snow-White (Snohvit) project, which is located in the ‘fish sensitive’ Barents Sea and expects first gas to be produced there by 2006. Tor Fjaeran, of Statoil, delivered a presentation on many of the challenges associated with laying pipelines in this area. Statoil is completing a regional environmental assessment of the area and the report will be published in 2003. The assessment has cost more than 17.5 million dollars (CDN) so far, which has been cost-shared by industry and government.

The delegation was informed that OLF is currently preparing a paper on seismic surveys and their possible effect on fish. The paper will be published before the end of 2002 and will be forwarded to the ONE OCEAN Bard once it is available.

General Observations:

- Some environmental groups in Norway are lobbying for ‘petroleum free zones’.
- OLF produces a map annually that shows the relevant oil and fishing areas so that both groups are constantly aware of each other’s respective activities.
- Environmental assessment and impact studies are required before any activity commences and are subject to both a hearing process and parliamentary approval. These assessments are conducted jointly by the Norwegian Petroleum, Industry, Environment, and Fisheries Departments.
- In addition to environmental studies, studies on resource potential and social impacts are also required.
- A separate environmental assessment is required for each project and must demonstrate how the project can produce year-round, while respecting other resources.
- There are some areas in Norway that are not yet open to oil and gas development. Once these areas are opened for development, the cost of the initial



ONE OCEAN meets with OLF and Statoil

assessment will be paid by government, with the area eventually being handed over to the NPD for management.

- The fishermen's union is currently attempting to establish rules for activity in 'protected areas'. Current 'protected area' designation is assigned on a case-by-case basis.

Consultation with the Fishing Industry:

- Once blocks are nominated for oil and gas activity there is a process of consultation with the fishing industry. Some blocks nominated may not be advertised (posted for a land sale) due to concerns communicated by the fishing industry.
- In some areas, time-of-year restrictions on drilling are enacted based on fishing activity, breeding, etc. There are some areas in Norway in which only a one month window is available for seismic and drilling activity
- The fish and petroleum industries have begun to work together, with non-government organizations and environmentalists often in opposition. For example, the fishing and petroleum associations, along with the local government, recently submitted a letter to the federal government supporting oil development in the northern area of Norway.
- Apart from time-of-year restrictions, no need has been identified for 'petroleum free fish zones' in the North Sea.
- In addition to environmental assessments, most petroleum companies go into the fishing communities and hold 'town meetings' to discuss their plans, before seismic and drilling programs begin.
- Although there are some areas in the North Sea that can no longer be fished due to the number of offshore installations in the area, fishermen generally feel the communication structure is working and that there is a moderate level of satisfaction among fishers with the petroleum industry.
- Each year during the month of February, OLF and seismic operators meet in Bergen with local fishermen and discuss the past years experience and plans for the year to come. The meeting is used to review fish/seismic research and is generally attended by all of the large fishing groups, (approximately 50 people). The meeting is organized by OLF and is closed to the media.

Research and Development:

- There has been much research conducted in Norway with regards to the effect seismic programs may have on fish. Much of this research is undertaken by independent groups. Results indicate that there is very little effect to larva, but that many fish do react in a manner termed a 'scaring effect' that can last for up to a week. The 'scaring effect' has been found to be lessened in shallow water.
- Annually, over \$1 million dollars is spent trying to determine the effect the oil industry has on the fishery. This research is funded by government and oil companies.
- Research done by the Norwegian government in 1996 indicates that mortality rates and damage to fish stocks are limited to distances of less than five meters and account for a mortality rate of less than 0.18% on a stock.
- Recent studies by the industry on the effects of seismic on fish have found that the impact may be limited, and that alleged impairment of fishing, may not be as severe as initially claimed by fishermen.

- A 1992 study found that fishermen claimed there had been a 70% total fish reduction in areas where seismic activity had occurred. New studies indicate that it is difficult to prove any direct behavior effect beyond 1 km of where the seismic program occurred.
- To date, over \$3 million has been spent researching the environmental impact of seismic survey.

Seismic Survey Programs:

- The turn-around time on seismic approvals - consultation with fishers - is fairly prompt and generally occurs within 2 weeks.
- A fish representative from the area is always present on seismic boats.
- The entire Norwegian Shelf has been covered “many” times by seismic programs.
- The petroleum industry is not permitted to carry out activity in certain ‘fish sensitive’ areas during spawning season.
- OLF representatives say they have no reason to believe that seismic does affect long term catch rates.
- The Norwegian Petroleum Directorate engages in consultation with the fisheries societies on behalf of the seismic survey operators.
- The Directorate is allowed to conduct their own seismic programs in ‘closed areas’.
- All seismic permits issued include a clause that gives fishermen the priority in an area should a conflict occur.

Compensation:

- There are currently no established rules in Norway with respect to oil spill compensation. There was one well blowout but it happened during a time of the year when no ‘real’ fishing activity was occurring so the damages were very minimal. If a spill did occur, it is expected that the government would likely intervene, with the fishing industry being responsible to prove any loss or damage.

Conflict Resolution:

- In cases of conflict between the fishing and petroleum industry, fisheries activity is given the priority.
- The Norwegian Petroleum Directorate consults with the Fisheries Directorate, who consult with fishermen.
- Conflict is very rare today, as a good professional relationship exists between the fishing and petroleum industries.
- If there is a conflict between the two industries, it has to be resolved between the Ministries, not between the Directorates.

Shetland Islands, Scotland

Sullom Voe

On Monday, October 18th, the delegation was in Shetland Island and traveled to Sullom Voe to meet with the local Port Authority. The Authority is an environmental forum, which coordinates research in Atlantic frontiers. It encompasses academic communities, governments, non-government organizations and consults with fishermen.

The Port of Sullom Voe is a major deep-water harbour. It is owned and operated by the Shetland Islands Council Harbour Authority. The Sullom Voe Oil and Gas Complex is located within the port limits on Calback Ness, and is operated by BP Exploration Operating Company Limited on behalf of several oil company participants.



Sullom Voe Transshipment Terminal
Photo Courtesy of CAPP

It is an operation similar to, but much larger than the terminal at Whiffen Head, Newfoundland and Labrador.

The group was given a tour of the local harbour and Shetland oil terminal. The terminal, which was built in 1975 received its first shipment of crude oil in 1978 and processed approximately 1.58 million barrels of oil per day during its peak. The terminal currently receives approximately 300,000 barrels of oil per day. The terminal averages 400 tanker movements each year and has forecasted activity until 2028.

The Port Authority told the ONE OCEAN delegation about the Brier (tanker grounding) spill in 1992. They informed the delegation that the spill had been “over-dramaticized” by the media and that the area, particularly local fisheries, had endured years of undue discrimination because of “irresponsible journalism”. They claimed the media had caused a “fisheries slowdown” and the “slaughter” of 25 per cent of aquaculture stocks. The authority said that because of the nature of the light crude, and high winds during the time of the spill, the oil had dispersed quickly and damages has been very minimal.



ONE OCEAN delegation meets with representatives of the Lerwick Port Authority
Photo Courtesy of FFAW/CAW

Shetland Islands Council Development Department, Shetland Salmon Farms Association, and Shetland Fishermen's Association

During the afternoon of Monday, October 21, the ONE OCEAN delegation met with representatives from the Shetland Salmon Farmers Association, the Shetland Fishermen's Association, and the Shetland Islands Council Development Department at their office.

Shetland Islands Council Development Department's mandate is to develop active sustainable communities by helping individuals, businesses and communities to realize their economic and cultural potential within the unique environment of the Shetland Isles.

Shetland Salmon Farmers' Association was launched in 1984. The Association's membership, which is entirely voluntary, currently stands at 54 (48 salmon farms and 6 hatcheries). The Association seeks to represent its members on a wide variety of issues, including the preservation and promotion of the interests of the members of the Association, to provide a forum for mutual discussion and agreements, and to market and promote Shetland Salmon on a worldwide stage.

The Shetland Fishermen's Association (S.F.A) is a long established organization, which represents all full-time fishermen in the Shetland Isles. There are currently 120 member vessels in the S.F.A. The policies of the association are determined by an Executive Committee of 18 fishermen who are elected annually. The S.F.A. acts primarily as a pressure or lobby group, representing the views of its members on fisheries matters to government bodies at all levels.

The ONE OCEAN delegation received a brief overview of the local area and was told that unemployment in the community is effectively zero. The area has a population of 23,000 and a labour force of 13,000. Of this approximately 500 people are directly employed by the fishery and 600 by the oil and gas industry.

Measuring Environmental Impacts:

- The Salmon Council is pleased with the approach the Terminal is taking with respect to its environmental responsibilities.
- The group referenced the Brier spill in 1992 and stated that the International Oil Pollution Compensation Fund was not adequate. In Canada such compensation would be provided by a fund set up under the Shipping Act, which currently contains approximately \$450 million dollars.
- Environmental monitoring is done regularly by the government and the academic community, and results are made public.

Consultation with the Fishing Industry:

- The Salmon Producers Association and Fishermen's Association consult regularly regarding new petroleum developments and have daily contact with the oil and gas industry.

- The council leases land to the petroleum industry and collects a levy of ½ pent per barrel (1.5¢ Canadian) for each barrel of oil brought into the terminal. All new infrastructures on the island have been paid for by this central fund, which is managed by the local government.
- Fishers and the oil industry representatives are working together to have areas around offshore installations enacted as ‘protected’ areas. These areas will be ‘off-limits’ to all vessels.
- Most conflict issues between the fishing and petroleum industries are handled nationally by the Scottish Fishermen’s Federation.

Seismic Survey Programs:

- Seismic work done in the area is always preceded by consultation with fishers to minimize the negative effect on fish stocks.

Compensation:

- Monies received from the oil industry for fishing related ‘incidents’ is shared between the affected fisher and a trust fund. The fund gives assistance to the local economy and fishermen. The monies are not considered compensation to fishermen, but rather assistance, and is provided in the form of low interest loans to fishermen.
- Compensation has not been awarded for claims associated with pipelines. It will not be provided unless the fishers can prove that damage to gear is a direct result of the pipelines.

Aberdeen, Scotland

On Tuesday, October 22nd the delegation arrived in Aberdeen, Scotland. That morning the group met with the Fisheries Offshore Oil Consultative Group (FOOCG), the UK Department of Trade and Industry (DTI), the Scottish Fishermen’s Federation, the United Kingdom Offshore Oil Association (UKOOA), and the UK Department of Environment & Rural Affairs.

Fisheries Offshore Oil Consultative Group (FOOCG) was established by the Secretary of State for Scotland in 1974. The Group provides a forum for representatives of the offshore oil and fishing industries to exchange information on matters concerning both industries so that each may carry out its operations with minimum interference to the other. Its reports are tabled in Parliament.

The Department of Trade and Industry (DTI) is the regulator for the oil and gas industry in the UK sector of the North Sea.

United Kingdom Offshore Oil Association (UKOOA) is the representative organization for the UK offshore oil and gas industry. Its members are companies licensed by the UK Government to explore for and produce oil and gas in UK waters.

The Scottish Fishermen's Federation (SFF) represents more than 90 per cent of the fishing vessels in the Scottish fishing industry. Their mandate is to give advise on all marine activity. This independent scientific advice is also available to the general public.

The ONE OCEAN delegation was informed that 2 million barrels of oil are produced daily in the United Kingdom with that number expected to drop to 1 million by 2020. There are currently 12 FPSO's, 8 GBS's and over 200 Jackets in the North Sea. There are regular meetings held between the fisheries and petroleum industries to deal with issues of concern and to attempt to minimize adverse impacts on the fishing industry. UKOOA also acts as the claims coordinator for compensation claims from fishermen.

Compensation and Cooperation with the Fishing Industry:

- The Marine Laboratory compiles sensitivity maps of fish species for seismic purposes. The government and industry jointly fund the development of these maps.
- All claims are settled through UKOOA. Unattributable claims are paid out of the UKOOA Fishermen's Compensation Fund. All claims must be documented with invoices and receipts. Thus far in 2002, operators have paid out 70 per cent of claim values.
- FOOCG is seen as an honest broker by both the oil and fish industry.
- A electronic charting system, Fishsafe, that depicts fixed offshore structures is given to fishers as an overlay on their fish blotters, and is provided free of charge. The cost for this unit is contributed by the petroleum industry

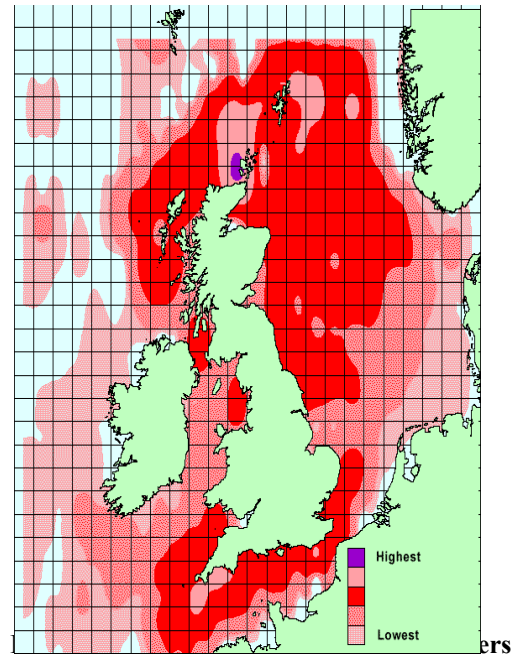
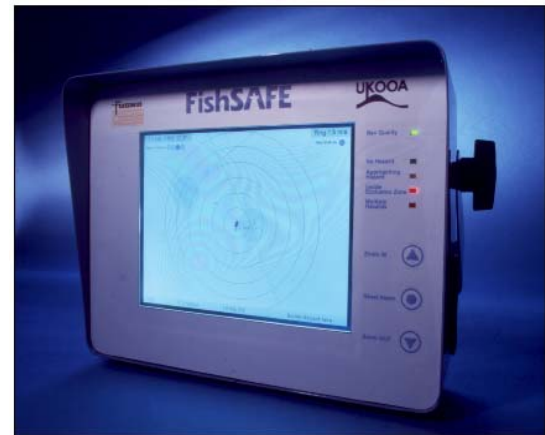


Photo Courtesy of UKOOA

Seismic Survey Programs:

- A 28-day notice of application for seismic activity is required by the Department of Trade and Industry who refer the application to the Institute of Marine Research, where fishers are consulted.
- Usually seismic is not permitted in spawning areas at time of spawning.
- There are no permanent 'exclusion areas' for seismic activity in the United Kingdom, but each project is subject to assessment and each individual decision is based on the outcome of that assessment.
- Recent legislation has determined that fishermen are not obliged to 'get out of the way' of seismic boats and vice versa.
- If a company wishes to shoot a seismic program in a spawning area, they must produce their own evidence that disproves what 'sensitivity reports' say.
- The general observation is that seismic does scare and may kill very young fish, but research has proven that these killings have no impact on stock sizes.



FishSafe System
Photo Courtesy of UKOOA

Administration of the Oil and Gas Industry:

- The Marine Laboratory (ML) provides independent scientific advice and has input on

- seismic activity, appraisal, production and decommissioning.
- The FOOGC meet every six months and minutes from these meetings are tabled in Parliament.

The Consultation Process:

- A company wanting to conduct seismic in a sensitive area, (e.g., herring spawning area) can be granted a 90-day period to conduct a herring spawning survey and then provide the results to the Marine Laboratory who review the survey over a 30-day period and then decide if seismic can proceed.
- When an area is deemed to be 'biologically okay', but there is still conflict with the fishing industry, this conflict is handled by consultation and is usually settled by the fishing and seismic representatives. The two industries are generally able to work out the conflict issue amongst themselves.
- Fishers do the final inspection of de-commissioned sites before the government signs off and deems the site as fully decommissioned.
- Regular meetings are held between representatives of the fishing industry and government departments.

Measuring Environmental Impacts:

- The OSPAR decision of 1998, which stated that all structures weighing less than 10,000 tonnes should be totally removed from the offshore, is a contentious issue with the oil industry.
- The fishing industry claim that reports indicating that abandoned rigs can be used as artificial reefs and provide 'ideal' habitats for fish, are a myth. Reports claim it leads to aggregation of the fish, not more fish.
- There are currently 400 suspended wellheads in the UK.

Research and Development:

- The oil and gas industry has contributed a great deal of funds to local research and development projects, including well head protection devices.
- The North Atlantic Fisheries College has been indirectly funded by the oil industry.

Shell Expro

On the afternoon of October 22, the ONE OCEAN delegation met with Shell Expro and toured their 3-D education/training facility. The group received an overview of Shell's project, Goldeneye. Goldeneye, which was discovered in 1996, is a gas condensate field located in Outer Moray Firth.

Shell Expro is one of the world's largest transnational corporations, operating in over 100 countries, with a heavy focus on exploration. Shell Expro produces 20 per cent of Britain's crude oil, 17 per cent of its gas and 15 per cent of its petrochemicals. The company employs over 9,000 people directly and a further 6,000 in subsidiary businesses.



The delegation met with Mr. Duncan Cursiter, Shell Expro's Fisheries Liaison Officer and learned about his position and responsibility within Shell Expro and the relationship he has forged with the local fishing industry. He meets quarterly with fishermen to discuss the status of all of Shell Expro's offshore projects and that he has weekly contact with the fishing associations.

Final Thoughts

There is a general consensus among the fishing communities in Scotland, Shetland Islands and Norway that the oil industry has been somewhat of a disruption to the fishery, but there is also great agreement that the petroleum industry has benefited the jurisdictions greatly. While meeting with representatives of both the fishing and petroleum sectors in the North Sea, it became apparent that although conflict may always exist in some form between the sectors, a good working relationship has developed. As Ray Johnstone of the Fisheries Research Services said, "the challenge is to manage the conflict so that the end result is a situation that both groups can live with".

In the regions the ONE OCEAN delegation visited, it was obvious that the petroleum industry is much more mature than it is in the Atlantic Canada offshore. Local residents in the regions we visited, including fishers, have grown up with the petroleum industry and know the importance of offshore development and the economic and social benefits the oil and gas industry provides for their local community and country. Not only does the industry provide direct employment for local residents, but residents also benefit from spin-off sectors associated with the industry. The study tour confirmed for the ONE OCEAN delegation that a 'solid' working relationship between these two vital industries is not only achievable, but also that a 'committed effort' by both groups can and will accomplish much.

APPENDIX A
Key Contacts

Key Contacts

NORWAY

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APPENDIX B
Noteworthy Publications

Notable publications available electronically:

Emissions and Discharges from the Norwegian Petroleum Industry 2000

Published October 2001 by OLF

<http://www.olf.no/?10354.pdf>



Disposal of oil contaminated drill cuttings - summary report

Published May 2001 by OLF

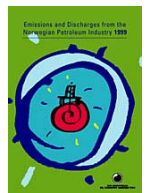
<http://www.olf.no/?5571.pdf>



Emissions and Discharges from the Norwegian Petroleum Industry 1999

Published June 2000 by OLF

<http://www.olf.no/?5594.pdf>



Produced water discharges to the North Sea

Published December 1998 by OLF

<http://www.olf.no/static/en/rapporter/producedwater/>



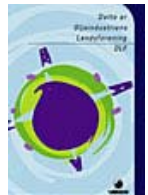
This is OLF

Published September 2001

<http://www.olf.no/?5700.pdf>

UKOOA Fisheries Liaison Background Briefing

<http://www.oilandgas.org.uk/issues/fisheries/v0000512.htm>



Drill Cuttings Joint Industry Project Web Pages

<http://www.oilandgas.org.uk/issues/drillcuttings/index.htm>

On reserve at the ONE OCEAN office:

Ports Handbook 2002-2003 – Shetland Island Council

Harbours and Small Ports – Shetland Island Council

Policy on General Maritime Affairs – Shetland Islands Council

Sullom Voe Port Map

Lerwick Port Authority Map

Scottish Fishermen's Federation Presentation

UKOOA Presentation to ONE OCEAN

Shell Presentation to ONE OCEAN

Ray Johnstone Presentation to ONE OCEAN

APPENDIX C
Fisheries Sensitivity Maps in British Waters

