

Reimbursements to fishermen for loss of catches

A study on legality of damages available to Norwegian fishermen for types
of effects resulting from seismic shootings

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Abbreviations

CS	Continental Shelf
EEA	European Economic Area
EEZ	Exclusive Economic Zone
EU	European Union
TFEU	Treaty on the Functioning of the EU
GESAMP	Group of experts on the Scientific Assessment of Marine Environmental Protection
IAEA	International Atomic Energy Agency
ICJ	International Court of Justice
IMO	International Maritime Organization
M	nautic miles
TS	Territorial Sea
U.K.	United Kingdom
UNCLOS	United Nation Convention on the Law Of the Seas

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1 Introduction

Offshore activities have become an important industry sector and the density of offshore facilities as well as related activities have created an environment, which is far from the image most people have in their minds, of an open sea. The greater extent of those activities take place over the Continental Shelf, outside the Exclusive Economic Zone, in an area where the freedoms of the seas rule and there is a right for everyone to fish.¹ Traditionally the main concerns regarding offshore petroleum activities concern accidents resulting in major oil spills as these activities move further and further into sensitive and harsh environments such as the Arctic. There are however other, in the eyes of media less controversial, effects which nevertheless have an impact on marine life and other activities in the surroundings. The physical presence of platforms and transport vessels going back and forth is one issue affecting the conditions for others making use of the oceans. Furthermore seismic surveys which entails seismic shootings into the water from specialised prospecting vessels are an essential and inevitable part of the procedure of assessing where to start extracting oil or other natural resources located below the sea floor. The collection of data from seismic shootings are important both for finding oil and gas resources but also for maximising the extraction and properly assess the geologic circumstances for safety reasons. Low frequent sound waves are shot from the sea surface, the sound waves' reflections reveal the topography which are collected by receivers dragged behind the seismic vessel and interpreted by advanced technology. There are several types of seismic explorations and technology has been developed into fascinating methods. 2-, 3- and 4-D seismic are all conducted with seismic vessels dragging 3-8 kilo meters of length behind but 2-D shootings only have one cable whilst 3-D has as many as 16 cables. 4-D seismic exploration only means that 2-D explorations are repeated. There is also Ocean Bottom Seismic and Permanent Reservoir Surveillance where sensors are placed on the seafloor instead of dragged through the water column. These methods are also more precise and quality of result is unaffected by the weather.² Fish eggs and larvae within 5 meters from the sound source are killed and fish within a few meters from the source are also affected. 20 meters away the probability of injury is low. The direct impact on fish stocks are assessed as negligible. The indirect impact on fishing stocks which follows from fish changing or altering direction when

¹ Generally on the growing number of activities see BIO by Deloitte (2014), Civil Liability, Financial Security and Compensation Claims for Offshore Oil and Gas Activities in the European Economic Area, Final report prepared for European Commission – DG Energy at p. 17.

² Ibid at p. 9.

migrating to important spawning areas has resulted in restrictions on seismic shootings in certain areas.³

Reduced catches from trawling operations have been noticed when seismic operations were conducted in a radius within 18M. These indirect effects of the shootings have devastating effects for smaller fishing vessels with a limited operating radius which due to the scare off effect loose catches if they don't spend unreasonable extra costs for bunker oil and traveling time to other fishing areas.⁴ In fact one of the major obstacles to the coexistence of offshore facilities and the fishing industry is the effects of seismic activities. According to fishermen fish disappear in an instance according to observations made in connection to seismic activities during the prospecting phase in particular and fishermen return to shore with empty nets.⁵ For this purpose there are statutory compensation schemes to fishermen in order to mitigate losses.

1.1 Legal context and research questions

This research will be based upon Norwegian legislation and focus on reimbursements to fishermen when seismic activities when scaring off fish for the purpose of finding out the compatibility of these provisions with international and EU-law.

1.1.1 The Norwegian Petroleum Activities Act

The Petroleum Activities Act, which contains all relevant provisions related to licensing of petroleum activities, presents three categories of events causing financial loss which will be recoverable under statute:

§ 8-2: If petroleum activities seizes a fishing field wholly or partly which renders fishing activities impossible or severely hampered causing 'financial loss' the State has a duty to compensate fishermen.

§ 8-3: If contamination, pollution or waste from the petroleum activities cause 'financial loss' the licensee has a duty to compensate these losses.

§ 8-5: If installations or activities in connection with the placing of an installation cause 'financial loss' the licensee has a duty to compensate these losses (recoverable under this paragraph if the other two are not applicable).

³ Ibid at p. 13

⁴ Ibid at p. 14.

⁵ "Svart hav over natta" publicised in the Norwegian Journal Kyst og Fjord 20.06.2014.

Concerning oil spills chapter 7 applies instead of Chapter 8. There it is established that the licensee is strictly liable for all losses covered by the narrow and at the same time extensively defined concept of 'forurensningsskade' which means pollution damage. Pollution damage is defined by the Norwegian Petroleum Activities Act as all damage or losses which are caused by oil which has escaped or discharged from a facility. Limitation of pollution damage to oil hence is a quite circumscribed definition. The extensiveness in this definition can be found in its interpretation of 'damage'. Firstly damages includes the costs for averting such damages or losses including damages or losses these averting measures incurs. Secondly damage or loss incurred by fishermen as a result of reduced fishing possibilities are also covered by the concept 'pollution damage' in this act. Strict liability for oil spills are imposed generally when pollution affects the zone inside the outer limits of the Continental Shelf but only if striking Norwegian vessels, fishing gear or installation outside mentioned limit.⁶ It should however be mentioned that outside the Continental Shelf international rules will apply and Norway has an extensive portfolio of signed conventions in this area.

The nature of the losses incurred i.e. the types of losses typically incurred by fishermen and what is meant by 'financial loss', within the meaning of these provisions will be considered to support the contention that the aspects of Norwegian legislation granting a right of compensation of this kind is highly remarkable in comparison to legislation in other countries.⁷ The seizing of a fishing field may include loss of fisheries due to the quite extensive safety zones established around petroleum installations. § 8-2 is also used as legal basis for compensation when catches fail during a time-period and in an area where seismic activities have been conducted. The Fisheries Directorate, responsible for handling claims submitted in accordance with § 8-2, will firstly look upon whether or not the vessel has the legal status necessary to claim a right to fish, access to fisheries, professionally in the area and during the time period relevant. The relevant area and time period will stretch with an circumference of 20 M around the activities during their progression and last until 14 days following their cessation. The Directorate will then further take into account statistics from earlier years of fishing during the relevant time period, an average of catches in the area during this time period and other evidence pointing in the direction such as AIS data proving the vessel did try to fish. Based upon this evidence the

⁶ The Petroleum Activities Act (Lov om petroleumvirksomhet) Chapter 7.

⁷ Generally about pure economic loss see BIO by Deloitte (2014) at pp. 51-53.

Directorate decides if and to the extent, the vessel has suffered financial loss related to the seismic activities.⁸

1.1.2 Unique legislation granting compensation for pure economic loss

The application of § 8-2 shows that the paragraph covers pure economic loss. Loss of catches as a result of fishermen being unable to fish without it having any connection to damage to fishing gear or injury, such as in the case of seismic shootings causing fish to scare off from fishing fields, belongs to mentioned category of financial losses. The loss is not consequential to bodily injury or property damage, consequential or indirect loss, since the fishermen does not own the sea, hence it is pure economic loss. This type of loss is seldom possible to recover under general tort law rules unless statute provides for otherwise which is why Norwegian legislation is unique in the world. Economic losses, however, which somehow result from property damage or bodily injuries, better known as consequential losses, are more often recognised.⁹ Other than this, as shown above regarding Chapter 7 of the Petroleum Activities Act, the regime for compensation when it comes to oil pollution contains elements of strict liability for loss of catch unrelated to property damage when resulting from oil pollution i.e. pure economic losses.

Some short comparisons can be made with Common law and statute in U.K. When considering U.K. legislation it is important to remember that U.K. is a common law country. Tort liability is based on common law where damage such as bodily injuries and property damage is fault based. Claims for traditional damage, under common law, is limited to direct and indirect (damages and consequential damages). Compensation is limited to claims for damage resulting from damage to property in which the claimant has a 'legal interest' i.e. ownership.¹⁰

Whilst common law does not allow for compensation for pure economic loss statute, contract or regulatory measures might. In U.K. strict liability for oil emissions are imposed through OPOL, a strict liability compensation scheme

⁸ Information is retrieved from the Directorates data system where such decisions can be found.

⁹ "pure economic loss that stems from physical injury to an ownerless resource" is called relational economic loss but falls under the category "pure economic loss". BIO by Deloitte (2014) at pp. 51-53.

It is interesting to note further that fishermen can be granted compensation not only for costs they had to avoid damage, by way of locating, marking and bringing remaining objects to shore, but also for loss of fishing time when doing so.

¹⁰ BIO by Deloitte, at pp. 113-114.

administered by the Offshore Pollution Liability Association Ltd. Since membership of OPOL is a requirement for being granted a license by the responsible administration, DECC, the offshore operators are required to accept strict liability for “pollution damage” including the costs of remedial measures up to a certain amount.¹¹ Pollution in the context of OPOL is however defined as “direct loss or damage (other than loss of or damage to any Offshore Facility involved) by contamination which results from a Discharge of Oil.” This definition excludes other types of pollution as well as limits the applicability to direct loss or damage.¹² The requirement in OPOL for lodging all claims against the polluter is a type of polluter pays-remedy which allows Public Authorities as well as private subjects to direct claims against the polluter.¹³ In the 1970’s the Oil & Gas UK Fishermen’s Compensation Fund was set up, and paid for, by Oil & Gas UK (former UKOOA), which entails the granting of compensation to fishermen for lost or damaged gear as well as loss of fishing time and vessel damage where the responsible person for oil pollution can’t be established.¹⁴ In similar to Chapter 8-3 of the Norwegian Petroleum Activities Act the licensee is responsible for locating and removing debris resulting from the licensed activities and the liability scope includes loss of fishing time but it is not clear if this is the case when not a result of damage to fishing gear.¹⁵ It is noticeable that, unlike Norwegian legislation, this rule is not discriminatory to foreign fishermen but as stated, the scope of the clause is not self evident but must be read in context of common law tort rules which may or may not recognise removing potential dangers.

In short, U.K. legislation matches the compensatory regime available to Norwegian fishermen in part and mostly when oil pollution is the issue.

1.1.3 The Norwegian perspective on fisheries

Firstly the Norwegian Damage Compensation Act clarifies the principle that compensation for “property damage or other damage to assets” shall cover the financial loss of the injured party. The Act itself does not deal further with the

¹¹ OFFSHORE POLLUTION LIABILITY AGREEMENT (“OPOL”) (amended in Extraordinary General Meeting on 28 October 2013 to take effect on 1 January 2014) Clause IV A.

¹² Ibid Clause I (13).

¹³ Ibid Clause IV A.

¹⁴ Katharine Perry, Sarah L. Smith & Michelle Carnevale “Rhode Island Ocean Special Area Management Plan: Fisheries Mitigation Options – A review”, URI Coastal Resources Center/Rhode Island Sea Grant Ocean SAMP Implementation, 2012 at p. 15.

¹⁵ The Petroleum Licensing (Exploration and Production) (Seaward and Landward Areas) Regulations 2004 Schedule 1 23.1 (3) Claims for damage to or loss of gear or loss of fishing time arising from reported debris shall be dealt with promptly by the Licensee.”emphasis added.

concept of loss or the injured party.¹⁶ Relevant Norwegian literature clarifies that the concept; damage to assets includes pure economic damage as well as consequential (economic) damages. Damages unrelated to personal injury or property are very different in nature and not all pure economic losses obtains legal protection.¹⁷ Identifying a loss on behalf of the injured party is far less categoric than under many other jurisdictions but there are limits in the Norwegian legal context as well. The contended injured party must have some minimum level of connection or interest in what is destroyed, impaired or lapsed. The complex explanation provided in literature is that the interest must belong to the claimant pleading pure economic loss; the claimant must be owner or holder of the interest or advantage which has been affected in a negative way or in some way have a strong enough connection to it. The unique nordic legal concept ‘right of all to access nature’ is mentioned as an illustrative example of a connection or interest which is normally not strong enough to generate a right of compensation for those who are for example unable to pick berries and sell after nature was contaminated. Again, there are exceptions and in literature chapter 8 regarding oil pollution of the Petroleum Activities Act is mentioned. Having access to commercial fisheries, a defined right to fish commercially, which also lives up to the mandatory condition regarding financial losses that damage must be possible to value in monetary terms, has therefor been assessed as sufficiently strong interest in the negatively affected right to fish during an oil spill. The holder of a right to access to commercial fisheries is a specified interest and not a general right which belongs to all.¹⁸ The right to fish is originally based on the right of all to access resources and must be seen in context with the cultural environment creating such a unique legal concept as ‘right of all to access nature’. Another aspect which should be mentioned is the investment in a vessel which requires return for those who invested. Such investments are necessary if the fishing industry shall continue. Furthermore the investments in smaller vessels, which are those most severely struck by the effects of seismic, may be useful in order to maintain a fleet with modest fishing methods.

This special outlook on the fishing industry may be explained by the importance of fisheries in Norway historically as well as its massive future importance as it entails access to food. Norwegian legislation, which contains the basis for regulating access to fisheries, The Marine Resources Act Section 2, stipulates the

¹⁶ Direct translation of words from Norwegian ”Erstatning for tingskade og annen formuesskade” skal dekke den skadelidtes økonomiske tap. LOV 1969-06-13-26 om skadeerstatning.

¹⁷ Peter Lødrup, Lærebok i erstatningsrett, 6th Edition, Oslo: Gyldendal Akademisk, 2009 at pp. 48-49

¹⁸ Nygaard Nils, Skade og Ansvar, 5th edition, Bergen: Universitetsforlaget, 2000 at pp. 57-59.

principle that the wild living marine resources belong to the Norwegian people as a whole. Although this is not an expression for a 'legal interest' in a pure juridical context the basis for regulating fisheries is this community ownership of marine resources. Ownership does not relate to individual fishes but to a 'floating mass', of resources, which at any given moment resides under Norwegian jurisdiction. This ownership of the people of Norway also means that no private person can be granted the right to fish for all eternity and thereby excluding others from access to fisheries.¹⁹ It is also interesting to note that the Act applies outside Norwegian jurisdiction, hence in the water column over the CS, but the commentaries seems to limit this imagined ownership to resources residing within Norwegian jurisdiction.²⁰ The idea motivating such limitation would reasonably be the notion of freedoms of the seas which means resources which doesn't belong to Norway belongs to all of mankind. In theory, strictly speaking, the ownership of all does not however exclude the possibility of the Norwegian people to claim this ownership without, for this reason excluding the ownership of others. The better the estimations are of how much fish is sustainable to harvest, the better the equitable sharing of these resources become amongst nations and the more similarities there are between the right to fish and property ownership.

For the time being however, focus will be on the undisputed ownership over marine resources in the water column within the Exclusive Economic Zone of Norway. This ownership, which by way of a quota system is divided amongst members of the Norwegian community, is, in the minds of Norwegians, perhaps more similar to ownership of land territory than in other countries, due to the extreme importance of fisheries to the survival of the Norwegian people before the industrial revolution.²¹ Humans tend to recognize what they know and this has an impact on legal notions.

1.1.4 Discriminatory legislation to foreign fishermen

It is important to consider the issue that to the extent that the licensee should have averted the loss, the state will turn to the licensee for money-spent on reimbursements to fishermen but otherwise the state is the guarantor when losses are incurred by seizing of an area for seismic or other petroleum activities.

¹⁹ Ot.prp.nr.20 (2007-2008) Om lov om forvaltning av viltlevande marine ressursar (havressurslova) p. 177.

²⁰ Lov om forvaltning av viltlevande marine ressursar (havressurslova) § 4 (Marine Resources Act § 4).

²¹ Generally on quota systems see Lov om forvaltning av viltlevande marine ressursar (havressurslova) §§ 11-14 (Marine Resources Act §§ 11-14).

Hence, compensation of this type when due to seismic activities or seizing of a fishing field is primarily granted by the Norwegian State.²² The definition of petroleum activities for which the state, or the licensee, is responsible includes all activities related to these activities, including transports in general but not transports of petroleum in bulk.²³ When installations or measures taken when placing installations causes damage to fishermen § 8 - 5 applies instead unless covered by former provisions. When pollution, except oil pollution which is covered by Chapter 7 of the Act, or waste causes the damage § 8 - 3 applies. In such cases the licensee, instead of the State, is strictly responsible for financial losses which technically include pure economic losses.

The central issue which is to be examined in this essay is that the Norwegian state grants reimbursements, in accordance with these advantageous provisions discussed above, to Norwegian fishermen exclusively.²⁴ Although non-Norwegian fishermen with the right to exploit resources in the water column outside the EEZ but over the Norwegian continental shelf will return from their fishing expedition with nothing as a result from for example seismic activities they will not be compensated for loss of earnings under statute. To the extent loss of earnings can be attributed to negligence Norwegian fishermen will be compensated by the licensee since this follows from statute. For foreign fishermen the situation is more uncertain but it is not self evident that in case foreign fishermen defies obstacles such as where and whom to sue, that Norwegian legislation would not recognise, at least in theory, a specified interest, with an eye on the requirements set up by the relevant jurisdiction of that fisherman to fish. However, tort law generally does not recognise pure economic losses as mentioned and the absence of statute to the benefit of foreign fishermen subject to negligence in this respect creates a lot of uncertainties. From this follows that pure economic losses which are not caused by negligence will be some sort of state aid from the Norwegian government and to the extent negligence causes pure economic loss there is a potential for unequal treatment under statute on the basis of nationality.

²² Lov om petroleumvirksomhet (petroleumsloven) kapittel 8-2. (The Norwegian Petroleum Activities Act Chapter 8 Section 2.) Author's translation: "If the petroleum activities in an area wholly or partly seizes a fishing field, the State owes a duty, to the extent fishing is rendered impossible or significantly hampered to provide reimbursement for the financial loss this caused."

²³ Ibid kapittel 8-2 and 1-6 e. (Chapter 8 Section 2 paragraph 4 and Chapter 1 Section 6 (c)).

²⁴ Ibid kapittel 8-2 (Ibid Chapter 8 Section 1 paragraph 4).

It should also be mentioned that other Norwegian legislation than established in the the Norwegian Petroleum Activities Act does not apply to moveable installations under foreign flag.²⁵ Seismic vessels under foreign flag are not subject to other Norwegian legislation than the Petroleum Activities Act unless this follows from Norwegian legislation or decision by the King. This has the largest impact when it comes to non-statutory tort law.²⁶ To the extent there is no statutory rules on tort applicable to foreign flagged vessels there will be uncertainties as to jurisdiction and applicable law if a foreign fishing vessel suffers injury by a foreign flagged seismic vessel. The flag state's exclusive jurisdiction should be remembered in this context.

Another point to be made regarding the statute is that the rules granting compensation to Norwegian fishermen exclusively entail a relief from the burden of risk. Since the statutory compensation scheme is brought forth to a special Committee governed by public administrative law and there is a right of recourse to the licensee if the licensee should have averted the loss, Norwegian fishermen do not need to stand the risk of paying the opponents legal costs in case of the case being lost in court.²⁷

These conditions raise some doubts as to the legal status of this statute. Is Norwegian legislation an expression for a duty to compensate those suffering losses due to activities on the continental shelf in an international context?

- is Norwegian legislation an expression for existing international norms, and hence a breach of an obligation in relation to other states of the international community?

Even if it is not illegal under international law to cause damage to interests other States may have in making use of the water column above the CS, it might therefor possibly be illegal in an EU/EEA context to make these paragraphs applicable to Norwegian fishermen. Also is it to consider state aid to the extent the State offers this compensation?

²⁵ Ibid § 1 - 5.

²⁶ NOU 1986:6 p. 39.

²⁷ Regulations to the Act 29 November 1996 No. 72 relating to petroleum activities Section 8 on compensation to fishermen (Forskrift til lov 29. november 1996 nr. 72 om petroleumsvirksomhet kapittel 8 om erstatning til fiskere).

- Does the unequal treatment of fishermen in Chapter 8 of the Petroleum Activities Act constitute a breach of Article 4 of the EEA agreement prohibiting any discrimination on grounds of nationality alongside Article 31 on the right of establishment?
- Is the granting of this compensation to fishermen either state aid directed towards the petroleum industry since they are relieved from liability it should shoulder itself, since the state grants this reimbursement, when seizing of an area causes financial loss? Or is it perhaps state aid to the fishing industry, if taking the view that pure financial losses should not be reimbursed since the fishermen has no legal interest in the sea?

1.2 Disposition and delimitation

Norwegian statute will be considered in an international context in order to assess its compatibility and relation to international law. The study will begin with an outlook on international law for the purpose of studying the conflict of interests between the right to exploit resources under the seafloor outside the EEZ and the freedom to fish in the water column over the Continental Shelf. Another important delimitation is the focus on seismic shootings scaring off fish for the purpose of studying reimbursements of pure economic losses which means the study will not specifically consider Norwegian legislation granting compensation for consequential damages nor pure economic losses stemming from other events which are possibly also discriminatory to foreign fishermen. The reasons for this are firstly that consequential damages are often recognised under general tort law in most jurisdictions, hence the effect of discrimination is not assessed to be as large although the rules are far more favourable to Norwegian fishermen also in this respect. Second, the possibility of considering the pollutive aspect of seismic shootings, which causes merely pure economic losses to fishermen, motivates this delimitation.

In this study account will be taken to the United Nations Convention of the Law of the Sea (UNCLOS), the polluter pays principle and international rules, standards and recommended practices. Focus will lie on seismic activities scaring off fish but not on its impact on fish stocks which is a highly scientific issue far beyond the boundaries of a smaller essay. The potential impact on ecosystems and fish reproduction are, as mentioned, subject to restrictions but is not the aim of this essay. This means that effects of seismic which strikes the ordinary

concept of damage to the environment might be excluded and discovering the concept of damage will be part of this study.

As stated, the liability scheme on oil pollution in the Petroleum Activities Act are advantageous for Norwegian as well as foreign fishermen and not too controversial in nature. Furthermore, in situations where damages are attributable to property damage or personal injury general tort law, which is not discriminatory to non-Norwegians, recognises the right of compensation. For this reason and the fact that oil pollution is far more internationally regulated, this study will not consider oil spills as such but focus on the paragraphs actualised by seismic activities which is the most typical scenario for pure economic losses in this context. This method is used in order to contextualise and exemplify the compensation scheme which allows for compensation for pure economic losses with the potential of discriminating citizens from other EU/EEA citizens. The discriminatory effects of statute which relates to burden of risk for pursuing a claim following consequential damages are therefor disregarded. Focus will lie on activities generating underwater noise rather than other types of pollution since the legal effects of underwater noise are generally unregulated and its impacts on fisheries pass under the radar of public attention.

In order to explore potential for development of international rules, standards and recommended practices, establishing a minimum level by which parties to UNCLOS must adopt rules in accordance to under UNCLOS, procedures and recommended practices surrounding seismic shootings will be discovered. Findings in this regard can also allow for some guidance as to the possibility of establishing negligence in this phase. This is necessary to understand whether or not the statute has any practical effect of discriminating non-Norwegians since if there is no practical situation where pure economic damage can be attributed to negligence in this context, the remainder of the issues considered in this essay is simply that of State Aid. When searching for such international standards and recommended practices account must be taken to the fact that Norway has a unique position when it comes to the oil- as well as the fishing industry. It is quite difficult to find developed States which are involved in offshore activities as well as fisheries to the same extent as Norway. The considerably large CS belonging to the U.K. might make the U.K. an interesting example of comparison. U.K. in similarity to Norway also has a substantial fishing industry to count for with a potential clash of interests. In 2010, U.K. vessels landed

606 thousand tons of sea fish (including shell fish) into the U.K.²⁸ This could however be compared to landings performed by Norwegian fishing vessels into Norway which amounted to 2,678 thousands of tons (shellfish included).²⁹ Recommended practices will not be compared substantially but it is the existence and legal context these practices operate in that will be considered.

When it comes to EU- or EEA-law a short overview of relevant Articles will be provided. In EU-context the extensive EU subventions to EU Member States will be mentioned due to its impact on maritime activities in Europe and compared in short with the more aggressive efforts to reduce subsidies in Norway.

2 International law

One of the most central features of the rule of law is that of legal repercussions as a result of illegal actions. According to the Stockholm and Rio declaration the right to explore resources are coupled with "the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction." Under the Doctrine of state responsibility, the general principle of a duty to compensate for harm becomes relevant if "a) conduct consists of an action or omission imputed to a state under international law; and b) such conduct constitutes a breach of an international obligation of the state." The definition entails the issue of the basis of liability; absolute, strict or negligence. Another issue concerns the definition of environmental damage and a third the method for compensation.³⁰ The issue of absolute, strict or fault based liability will be discarded in this essay. The Doctrine of State Responsibility also has application outside the environmental law sphere, which is relevant to the Polluter Pays Principle.

Other than "a result of a violation of international law" (environmental law) environmental damage has been defined in various contexts as "any injury to natural resources as well as degradation of natural resources, property, landscape, and environmental amenities."³¹ With the scope of this limited study, which does not include potential injury to fish stocks or their breeding but merely the scare

²⁸ Marine Management Organisation (2011) The U.K. Fishing Industry in 2010 Landings. London: Marine Management Organisation.

²⁹ "Norges Fiskerier." Fiskeridirektoratet. January 4, 2008. Accessed January 4, 2015. <http://www.fiskeridir.no/statistikk/fiskeri/fangst-og-kvoter/norges-fiskerier>.

³⁰ Max Valverde Soto "General Principles of International Environmental Law" ILSA Journal of International and Comparative Law (1996-1997), Vol. 3(1), pp.193-209 at pp. 202-203.

³¹ Ibid pp.193-209 at p. 204.

off effect, might exclude a violation of international environmental law. The possibility of other legal obligations which may lack the prerequisite of environmental damage should nevertheless be kept in mind. In order to establish a breach there must be a legal obligation not to disturb the fish affecting the right or freedom of others to fish alternatively the disturbance of the fish be classified as environmental damage. Seismic activities scaring of fishes can be undertaken in the TS, EEZ or CS but for practical reasons, foremost the vast areas involved, these activities are most common in the EEZ and over the CS. It is in situations where such conduct affects the rights of citizens of other States to fish, such as over the CS, or according to international treaties which are interesting in this context. First under this Chapter, the legal obligations established by UNCLOS and the important Trailsmelter Arbitration case will be examined. Second, the legal status of the Polluter Pays Principle and its applicability in this context will be discussed. The purpose is to identify existing legal obligations which can be violated resulting in a breach of international law on behalf of Norway in relation to foreign States exercising their right to fish in accordance with UNCLOS or other treaties.

2.1 The freedoms of the high seas versus the right to exploit resources

In the EEZ the freedoms of the high seas apply according to article 58 UNCLOS, however, subject to the relevant provisions of the UNCLOS. Since the EEZ regime assigns to the coastal State exclusive rights for the purpose of exploring, exploiting, conserving and managing living and non-living resources in the EEZ these freedoms are curtailed. The freedoms of the seas are also curtailed by coastal State jurisdiction regarding the establishment and use of artificial islands, installations and structures, marine scientific research as well as protection and preservation of the marine environment. Hence, other states have the freedom of navigation/over flight, laying of submarine cables and pipelines and other internationally lawful uses of the sea. The rights of the coastal state in the EEZ, sovereign rights and jurisdiction, are exercised in accordance with the CS-regime when it comes to the seabed and subsoil.³² Obviously in the EEZ, where the coastal State has exclusive rights to fish, activities scaring off fish will not lead to international responsibility unless waters outside the EEZ are affected as well or other agreements among countries are in place allowing the nationals of participating parties to fish in each other's EEZ. The effects of fisheries

³² UNCLOS article 56 third section. See also article 79. This means that other states are allowed to lay cables and pipelines but their traction is subjected to the consent of the coastal state. The coastal State is not allowed to impede the laying of pipelines and cables but may take reasonable measures for their own interests such as their own exploration/exploitation and prevention of pollution.

agreements concerning the EEZ must be governed by the provisions laid down in each agreement and in absence of provisions relating to these issues the same notion as laid down for the balance of interest laid down in the following text may be of relevance.

Concerning the CS, the curtailment of other states' rights is of a smaller degree since the CS regime only pertains to the seafloor and subsoil. The freedoms of the high seas which are not curtailed are the freedom of navigation, over flight and fish.³³ The UN Law of the Sea Convention imposes a duty of the coastal State to recognize the rights of other states in these waters:³⁴

"The exercise of the rights of coastal State over the continental shelf must not infringe or result in any unjustifiable interference with navigation and other rights and freedoms of other States as provided for in this Convention."

This principle can also be found in the Petroleum Activities Act § 10 - 1:³⁵

"The petroleum activities must not unnecessarily or unreasonably impede or obstruct shipping, fishing, aviation or other activities, or cause harm or risk of harm to pipelines, cables or other subsea installations."

This duty not to exercise the rights in a manner which infringes or results in any unjustifiable interference would then consequently include the right of other States to fish in the water column above the CS. Infringement seems to indicate an active hindrance of fishing activities but what the phrase "result in any unjustifiable interference" means in practice is not particularly clear and the question arises of whether or not the scaring of off fish could be classified as unjustifiable interference. A requirement for unjustifiable interference implies that not all activities resulting in interference will be a breach of this duty. This was also clarified by the International Law Commission in one of their reports to the General Assembly during the drafting period before the Geneva Conventions, precedent to the UN Law of The Sea Convention, where stated that "the case is clearly one of assessment of the relative importance of the interests involved." The commission took the standpoint that progressive development of international law would unavoidably result in the modification of established rules whilst, at the same time, development is based upon these established rules. In a simpler language this would mean that the freedoms of the seas, as established under international law, would have to give way to a certain extent in

³³ UNCLOS articles 87 and 77-78.

³⁴ UNCLOS article 78 section 2.

³⁵ Author's translation.

order to recognize the more recently founded rights of the coastal States to exploit their resources. The Commission also stated that the result of the interference is not necessarily the basis for qualifying interference as unjustifiable. The element of justification lies in the balance between interests involved, but the starting point appears to be the rights of the coastal state to explore and exploit. The Commission states “...interference, even on an insignificant scale would be unjustified if unrelated to reasonably conceived requirements of exploration and exploitation of the continental shelf.” If this statement is turned around, this would imply that interference which is related to reasonably conceived requirements of exploration and exploitation is justified. The Commission also states that substantial interference must not necessarily be unjustified.³⁶ In accordance with principle of reasonable use of the oceans, expressed in article 300 of the UNCLOS, a state shall exercise the rights jurisdictions and freedoms recognized in the convention in a manner which would not constitute an abuse of rights. The principle of reasonableness may be used as a way of balancing otherwise legal interests when there is a conflict of interests.³⁷ To this effect the Petroleum Activities Act § 10 -1 continues:

”All reasonable measures must be taken to avoid damage to animal and plant life in the sea, cultural heritage on the seabed pollution and littering of the seabed, its subsoil, sea, air or land.”

Given that UNCLOS establishes the right to explore and exploit, unavoidable consequences resulting from such activities appears to be such reasonably conceived requirements for exploration and exploitation but there is however still requirements for a balance of interests. If for example the prospecting or exploitation would affect the rights of others on a timely or geographically wide basis the interference might start leaning towards an unjustifiable interference. Given that the effects of seismic activities are limited in time and severity the balance of interests leans towards the favor of the activities of the Coastal States in this case.

2.2 Preservation of nature and the definition of pollution

The requirements set forth in chapter XII of the UN Law of the Sea Convention are reasonably of relevance to the evaluation of justification for such

³⁶ Report of the International Law Commission to the General Assembly, UN GAOR at 299, UN Doc. A/3159 (1956).

³⁷ Patricia Birnie and Alan Boyle, *International Law and the Environment*, 2:nd Edition, United States: Oxford University Press Inc. New York, 2002 at p. 144.

interference. These requirements may also provide guidance and show potential illegalities by virtue of their own force.

The general principle that “States have the obligation to protect and preserve the marine environment.”³⁸ has broadened the duty not to cause environmental harm to other States, as established in the Trail Smelter case, to extend to environmental harm beyond territories of other states such as the High Seas, Continental Shelf and Exclusive Economic Zone. The obligation is relating to the environment as a whole, beyond national jurisdiction, and includes concepts such as biodiversity and protections of the eco systems. Furthermore, it includes but is not limited to economic interests nor is it limited to ways by which the environment is disturbed or particular sources of pollution.³⁹

Apart from the general duty, the duties encompassed in UNCLOS Chapter XII are qualified by the requirement for the source of damage to be pollution. Due to the central position of the concept ‘pollution’ it is interesting to consider the possibility that under water noise could be considered pollution. The obligation to protect and preserve is crystallized by the obligation to take all measures consistent with the convention to prevent, reduce and control the pollution of the marine environment from any source.⁴⁰ If noise is considered to be pollution States have the duty to:⁴¹

“take all measures necessary to ensure that activities under their jurisdiction or control are so conducted as not to cause damage by pollution to other states and their environment, and that pollution arising from incidents or activities under their sovereign jurisdiction or control does not spread beyond the areas where they exercise sovereign rights...”

Exploration of the CS are activities under sovereign jurisdiction as opposed to the State’s territory where it exercises sovereignty. It is possible to consider the water column and continental shelf as different areas although the areas concerned run vertically instead of horizontally. Activities under the coastal State’s jurisdiction and control would seem to include activities on the seabed floor and the water column outside the EEZ since these are areas beyond where the coastal State exercises sovereign rights.

³⁸ UNCLOS article 192.

³⁹ Patricia Birnie and Alan Boyle at p. 352.

⁴⁰ UNCLOS article 194(1).

⁴¹ UNCLOS article 194(1).

The definition of pollution provided in UNCLOS article 1(4) might allow for under water noise to classify as pollution:

”...‘pollution of the marine environment’ means the introduction by man, directly or indirectly, of substances or energy into the marine environment...which results or are likely to result in such deleterious effects as harm to living resources and marine life.... hindrance to marine activities, including fishing...”

Those advocating an interpretation of this article to include underwater noise would simply conclude the fact that sound is energy hence introduction of sound is introduction of energy. The wording is straightforward and unambiguous hence could be interpreted in accordance with their literal meaning. Those opposing would refer to the background of the use of this phrasing, the Joint Group of experts on the Scientific Assessment of Marine Environmental Protection (GESAMP) were aiming to give an adequate name to eight categories of pollutants. Radioactive substances and thermal energy were two of those but sound was not.⁴² Thus, the term energy was included in order to cover certain types of energy but not sound. The International Maritime Organization (IMO) has on one occasion, at least, treated sound as a pollutant.⁴³ Another observation which can be extracted from the quote on definition of pollution is how pollution can be defined by its hindrance to marine activities including fishing. If direct or indirect introduction of substances or energy by humans hinders other marine activities it is pollution. Taking a look at convention law on oil pollution, the definition of harmful substances in 1973/78 MARPOL Convention includes “any substance which, if introduced into sea, is liable to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea”. The targets of this definition includes effects on other legitimate uses of the sea but, of course, limits the concept by the wording ”any substance”. As in many other examples focus is on human well-being, use of resources and whatever loss humans have when the environment suffers rather than the intrinsic value of nature itself. In this case it would seem odd to rule out the possibility that the duty to preserve and protect altogether excludes situations where environment as such is unharmed but merely altered. The effects of oil pollution on fisheries are that of damaged fishing gear and loss of income as long as the oil is in the way of fisheries. In

⁴² Jeremy Firestone & Christina Jarvis ”Response and Responsibility: Regulating Noise Pollution in the Marine Environment” *Journal of International Wildlife Law & Policy* (2007) 10:2, 109-152 at p. 126.

⁴³ *Ibid* at p. 126 see footnote 77 and IMO Resolution A 982(24) Revised Guidelines for the Identification and Designation of Particularly Sensitive Sea Areas at 2.2 (page 4) ”Such releases include oil...and even noise”.

principle the effects are the same from noise pollution. Fish disappear for weeks in a row and fishermen are unable to fish.

The Trail Smelter Arbitration Case, the well known pollution case and a landmark in the international law on trans-boundary harm is not completely different from the situation where seismic activities affects the rights of fishermen. Therefore the case will be mentioned in short. Although there might appear to be great differences between the loss of catches and damage to soil as in the Trail Smelter case these two situations are quite similar. They both concern a situation where the consequence of one State's right to exploit/explore resources; mining/seismic shooting, detracts the right of another state to exploit resources; use soil to grow crops/fish. In both instances the introduction of something affects areas which are separate under existing legal regimes. Furthermore, the awareness of harm from pollution from industries in the beginning of the 1900th century could probably be compared to awareness of noise pollution in today's society. The idea of pollution from smoke, oil and hazardous substances as harmful is well established in our legal minds today. Therefore we would hardly question a situation where, for example, oil leaves fish unaffected but constitutes an impediment for fishermen to use their nets. Increasing awareness of the effects of sounds on our environment might possibly legitimize further developments. A development where damaged crops are valued just the same as fish which are scared off from the CS is not unthinkable. Fishermen are bound to certain areas of fishing from a legal perspective as well as practical perspective just as farmers are limited in their choice of where to grow crops. There are some major differences between these situations however. Firstly the famous dictum of the Tribunal states that trans-boundary harm affecting the territory of another state may not be permitted.

"Under the principles of international law, as well as of the law of the United States, no State has the right to use or permit the use of its territory in such a manner as to cause injury by fumes in or to the territory of another or the properties or persons therein, when the case is of serious consequence and the injury is established by clear and convincing evidence."

Boundaries in the Trail Smelter case concerns those between one sovereign territory and another sovereign territory whereas seismic shootings in this context is limited to one sovereign right (exploration and exploitation of the CS) against one of the rights of man kind (the freedom to fish over the CS). The extension of a duty to protect and preserve the marine environment under the UNCLOS

regime, which was dealt with in the above, would however allow for a broader view and the duty not to allow pollution to spread beyond areas where a state exercises sovereign rights is another manifestation of this fact. Secondly there is a requirement for gravity of the effects of pollution in this quote. Thirdly, the right to fish in itself is subject to controversy and there are growing concerns for depletion of marine resources. Although the freedom to fish is as clear as it could be the concerns for depletion of resources might circumvent the enforcement of this right as a matter of public policy no matter how irrational this reaction might be concerning how resource management works.

What makes the Arbitration Case particularly interesting is how it was more or less decided in a legal vacuum where principles were fetched from national legal sources. The tribunal mentions fumes merely because in this particular case fumes were the issue and harm to nature was not so much in centre of this decision.

As to the definition of damage the Tribunal had a pragmatic approach and the way it upheld itself with damage caused can be illustrated with a quote on the topic:⁴⁴

“The word “damage” was purportedly defined as “such as would be recoverable under the decisions of the courts of the United States in suits between private individuals,” but it seems clear that the Tribunal was in fact not defining damage at all with this language, but defining “damages” the extent to which there should be monetary recovery for “damage.”

This cryptic quote and those of the Tribunal above shows one thing clearly, the definition of damage focused on the situation of humans and was untainted by any of the following more or less institutionalized concepts which might impede further developments on the adjustments of human activities.

2.3 International rules, standards and recommended practices

Of great importance are the provisions in UNCLOS with special powers due to their potential for concrete rules with binding effect upon non-parties to Conventions such as the 1972 London Convention and 1973/78 MARPOL Convention “and quite possibly other treaties, IMO-codes, and international

⁴⁴ Alfred P. Rubin ‘Pollution by Analogy: The Trail Smelter Arbitration [Abridged]’ in Rebecca M. Bratspies and Russel A. Miller, *Transboundary Harm in International Law Lessons from the Trail Smelter Arbitration* (United States: Cambridge University Press, New York, 2006) at p. 49.

guidelines agreed and adopted by a preponderance of maritime states”.⁴⁵ These are the articles where States are required to adopt laws and regulations with at least equal effectiveness as international rules, standards and recommended practices to prevent reduce and control pollution of the marine environment. One of these articles concern pollution from seabed activities where States exercising their rights on the continental shelf are bound to regulate pollution arising from or in connection with sea-bed activities subject to their jurisdiction. The articles on requirements for minimum standard regulations are important because they make use of “these treaties and other international standards, such as IAEA guidelines or IMO conventions, to define the detailed content of the customary obligation of due diligence as formulated in article 194” of UNCLOS. The otherwise general principles such as the no harm principle is specified and possible to put into practice although there is nevertheless room for debate concerning which conventions and international guidelines have this status.⁴⁶ In order to pinpoint specific regulations for affected parties to fall back on and claim there has been a breach of international law, one would then be required to consider those international laws, regulations and measures having the status intended in UNCLOS article 208 (3) with which the State’s regulation must correspond and may not fall below. Various conventions regulating primarily oil pollution introduce definitions of damage or regulates certain events and consequences thereof. Unfortunately such international regulations are generally concerned with oil pollution or omission of hazardous, harmful or noxious substances.⁴⁷ On the subject of underwater noise, in quite recent times the IMO has produced Guidelines for Minimizing Underwater Noise from Commercial Ships. Although these guidelines focus on commercial vessels and entail recommendations on ”propeller design, hull form, onboard machinery, and operational aspects.” they are an important step forward in protecting the underwater living conditions.⁴⁸ As mentioned IMO-guidelines may lead to a binding status, if widely adopted, by virtue of the articles in UNCLOS.

⁴⁵ Patricia Birnie and Alan Boyle at p. 353.

⁴⁶ Ibid at p. 353.

⁴⁷ Yoshifumi Tanaka, *The International Law of the Sea*, United States: Cambridge University Press New York 2012 at p. 302-202.

See for example the International Convention on Oil Pollution Preparedness, Response and Cooperation (OPRC) 1990 and its protocol, MARPOL 73/78 Regulation 39 of Annex I providing special requirements for fixed or floating platforms engaged in seabed activities. Note however the limitation on scope of MARPOL article 2 (3) ii. There are also regional agreements such as the Helsinki Convention.

⁴⁸ Report of the Sub Committee on Ship Design and Equipment, Provisions for Reduction of Noise from Commercial Shipping and its Adverse Impacts on Marine Life, DE 57/17, December 2012 Annex at 1.2 and 2.2.

On seismic a few guidelines have been offered on mammal protection.⁴⁹ Also, the International Organisation of Geophysical Contractors and the Norwegian Oil&Gas Association has published Recommended Guidelines for the Coexistence with the Fisheries Sector when Conducting Seismic Surveys.⁵⁰ These Guidelines contain elements provided for under Norwegian laws and regulations and the guidelines published by the Norwegian Fisheries & Coastal Department and Oil & Energy Department⁵¹ but they also contain a more commercially instructive approach.⁵²

2.3.1 U.K. and Norwegian laws and regulations on seismic

For the purpose of identifying similar regimes and the potential for international rules, standards and recommended practices to develop comparisons with the U.K. system shall be made. The Department of Energy and Climate Change is responsible for the issuance of licenses for the exploration and exploitation of resources on the CS. Like Norwegian legislation methodology, this procedure is government by a separate act: the Petroleum Act, hereafter the U.K. PA. The U.K. PA article 4, through adopted regulations, incorporates EU legislation such as the European Strategic Environmental Assessment Directive; Directive 2001/42/EC.⁵³ In Norway the Oil Ministry is responsible for the licensing.

Marine Environmental Protection Committee, Noise from Commercial Shipping and its Adverse Impacts on Marine Life, MEPC 66/17, November 2013.

⁴⁹ See Joint Nature Conservation Committee, JNCC guidelines for minimising the risk of injury and disturbance to marine mammals from seismic surveys, http://jncc.defra.gov.uk/pdf/JNCC_Guidelines_Seismic%20Guidelines_Aug%202010.pdf (Accessed 03.01.2015)

and the Inuit Circumpolar Council, Inuit Circumpolar Council – Greenland consultation statement regarding: EMA for 2D seismic survey off Northeast Greenland by TGS, http://inuit.org/fileadmin/user_upload/File/2013/Consultation_statements/ICC_Consultation_Statement_TGS_2D_NE-GL_May-2013.pdf (Accessed 03.01.2015)

⁵⁰ Guidance from the Norwegian Ministry of Oil and Energy and Ministry of Fisheries and Coast, Implementation of Seismic Surveys on the Norwegian Continental Shelf, <http://www.npd.no/Global/Engelsk/5-Rules-and-regulations/Guidelines/Guidelines-Seismic-Surveys.pdf> (Accessed: 02.01.2015) at p. 8.

⁵¹ Guidance from the Norwegian Ministry of Oil and Energy and Ministry of Fisheries and Coast, Implementation of Seismic Surveys on the Norwegian Continental Shelf, <http://www.npd.no/Global/Engelsk/5-Rules-and-regulations/Guidelines/Guidelines-Seismic-Surveys.pdf> (Accessed: 02.01.2015)

⁵² Norwegian section of the International Association of Geophysical Contractors (IAGC) and Norwegian Oil&Gas, Norwegian Oil&Gas Recommended Guidelines for Coexistence with the Fishing Sector when conducting Seismic Surveys,

<http://www.norskoljeoggass.no/Global/Retningslinjer/SeismikkOgBrønndata/136-Guidelines%20for%20coexistence%20with%20the%20fishing%20sector%2003042013.pdf> (Accessed 03.01.2015)

⁵³ The U.K. Petroleum Act 1998 Part I, Article 4 paragraph 1 and The Environmental Assessment of Plans and Programmes Regulations 2004.

2.3.2 Initiatives for co-existence

There appears to be no U.K. legislation equivalent to the Norwegian Petroleum Activities Act Chapter 8. U.K. Statutory law does not offer the same type of explicitly enacted remuneration to fishermen when seismic activities cause damages or loss and compensatory regimes are primarily concerned with oil related damages. That being said, there are quite a few initiatives in place in order to facilitate the interaction between the industries operating on the CS. In the U.K. it has been a requirement since the 1980's for the issuance of an oil and gas-licensing award that the operators appoint a Fisheries Liaison Officer in order to facilitate communication with the fishing organizations and relevant Governmental departments.⁵⁴ The Petroleum Licensing (Exploration and Production) (Seaward and Landward Areas) Regulations 2004 Schedule 1: Model Clauses for Exploration Licenses, contains provisions requiring for example the appointment of a fisheries liaison officer "who shall agree suitable arrangements with the seismic survey and supply vessel owners of any vessels employed by the Licensee, their masters and with the organisations which represent the local fishing industry in order to promote good working relationships between the various parties." This means consulting with the fishing industry on sea routes to be used, ensure these sea routes are used, agree on measures to minimize interference with fishing activities etc.⁵⁵ This rule is similar in both jurisdictions; a fisheries liaison officer must be appointed before prospecting starts in accordance with Regulations pertaining to the Norwegian Petroleum Activities Act § 6 and Regulations for Resource Management in the Petroleum Activities §§ 5-6. The liaison officer is subject to requirements for education and language skills.

The Fisheries and Offshore Oil Consultative group, FOOCG, was established for the U.K. and the North Sea in order to deal with damaged gear and lost resources as well as administer mitigations in order to reduce impacts of offshore activities.⁵⁶ In most cases application for consent to conduct seismic surveys must be submitted 28 days prior to proposed survey.⁵⁷ This can be compared to the recommendations from Norwegian Oil&Gas on a minimum 5 week notice which is an obligatory part of the prospecting licensing procedure in accordance

⁵⁴ BIO by Deloitte (2014) at pp. 113-114.

⁵⁵ The Petroleum Licensing (Exploration and Production) (Seaward and Landward Areas) Regulations 2004 Schedule 1 23.1.

⁵⁶ Katharine Perry, Sarah L. Smith & Michelle Carnevale at p. 13.

⁵⁷ "Seismic Survey - Acoustic Disturbance." Oil and Gas UK Environmental Legislation. Accessed January 4, 2015.

http://www.ukoaeenvironmentallegislation.co.uk/contents/topic_files/offshore/seismic.htm.

with the Regulations pertaining to the Petroleum Activities Act.⁵⁸ Other measures are the quarterly meetings between the U.K. oil and gas trade association (UKOOA/U.K. Oil&Gas) the National Federation of Fishermen's Organization (NFFO) and the Scottish Fishing Federation.⁵⁹

The Fisheries Legacy Trust Company⁶⁰, FLTC, was established in 2007 in order to manage interactions between the fishing and the offshore industry. Its founders were Oil&Gas UK, the Scottish Fishermen's Federation (SFF) and the National Federation of Fishermen's Organisations (NFFO). Its activities include the operation of SeaFish, a seabed information system, which by way of technology installed onboard fishing vessels, gives fishermen access to maps of all offshore platforms, safety zones and oil-related obstructions. In addition, SeaSAFE, an alarm system alerting fishermen when approaching an obstruction, supplements SeaFish.⁶¹

2.4 Polluter pays principle and underwater noise

An interesting topic to venture into in this context is the Polluter-Pays Principle, PPP, with the aim of considering effects of underwater noise as such pollution for the costs of which the States of the international community should make the polluter responsible in order to abide by international law. The due diligence standard required under UNCLOS might encompass a duty to implement the PPP, due to the impact of allocating responsibility to where knowledge on how to prevent, reduce and control pollution can be found, which is with the companies actually performing activities. If the polluter has to pay the polluter will be most likely to make an adequate effort to prevent, reduce and control pollution.⁶² But on which more precise international legal premises could a duty on behalf of states be established to allocate costs on individual companies be based? Should underwater noise classify as pollution under international law, which is not unthinkable as shown above, the PPP could become relevant to underwater noise.

This economic policy principle for cost allocation, presented initially under OECD recommendations, impacts the liability schemes internationally as well as domestically. The PPP is not, in its original design a measure of punishing

⁵⁸ Regulation pertaining to the Petroleum Activities Act (Forskrift til lov om petroleumvirksomheten) § 6.

⁵⁹ Katharine Perry, Sarah L. Smith & Michelle Carnevale at p 13.

⁶⁰ "Its members or shareholders are Oil and Gas UK, the Scottish Fishermen's Federation and the National Federation of Fishermen's Organisations" From FLTC webpage <http://www.ukfltc.com> (Accessed: 17.12.2014).

⁶¹ Katharine Perry, Sarah L. Smith & Michelle Carnevale at p. 14.

⁶² Patricia Birnie and Alan Boyle at p. 3.

polluters but rather a measure “to send appropriate signals into the economic system so as to incorporate environmental costs in the decision making process and, consequently to arrive at sustainable, environmental friendly development”.⁶³ It was introduced by the OECD to allocate expenses of carrying out measures decided by public authorities, i.e. regulations, to ensure an acceptable state of the environment was upheld, to the polluter which could then pass it on through costs of goods and services.⁶⁴ In short the OECD reports developed from ‘PPP in a strict sense’ to ‘PPP in a broad sense’. The PPP in a strict sense or ‘standard PPP’ focused on chronic pollution and prescribed that the polluter bears all costs for pollution prevention and control measures imposed by the authorities. The basic mindset is that the polluter must limit pollution and bear the costs for doing so. PPP in a broad sense includes compensation payments for pollution, taxes imposed on polluters and charges related to pollution. This has also developed further in certain instruments to a full internalisation of costs related to pollution. All costs of administrative measures, clean-up or liability should be directed towards the polluter in order to achieve full internalisation. Worth mentioning is that the OECD recommendations also contain elaborate instructions on state aid related to pollution and exceptions for developing countries which is not further dealt with here.⁶⁵

The PPP as an economic principle does not define the legal obligations as such but simply that the costs for those obligations are to be born by the polluter. Despite the simplicity of the witty concept of the PPP, “[t]he more one attempts to refine its definition, the more elusive the principle becomes.”⁶⁶ The application of the PPP was primarily domestic and for economic reasons. More recently, however, it developed into a legal principle in international law primarily by its introduction into the Rio Declaration following the UNCED conference. The Principle 16 in the Rio Declaration was first to give the polluter pays principle international support as an environmental policy. Due to the “lack of a normative character of a rule of law” Birnie and Boyle concludes it was “not meant to be legally binding”.⁶⁷ The Rio Declaration is more of a soft law

⁶³ Ondřej Vícha “The Polluter-Pays Principle in OECD Recommendations and its Application in International and EC/EU Law” *Czech Yearbook of Public & Private International Law* (2011) Volume 2 at p. 67.

⁶⁴ Patricia Birnie and Alan Boyle at pp. 92-93.

⁶⁵ Ondřej Vícha at pp. 58-63.

⁶⁶ Margaret Rosso Grossman at p. “Agriculture and the Polluter Pays Principle” *Electronic Journal of Comparative Law*, vol. 11.3 (December 2007), <http://www.ejcl.org> quoting de Sadeleer N. de Sadeleer, “Environmental Principles: From Political Slogans to Legal Rules” (2002) at p. 60.

⁶⁷ Patricia Birnie and Alan Boyle at pp. 92-93.

instrument which can be transformed into national law and by way of implementation perhaps become either customary law or a general principle of law as described in article 38(1) of the International Court of Justice Statute. In the EU incorporation of a generally defined PPP in TFEU Article 191(2) can also be mentioned.

According to Birnie and Boyle it is “impossible to point to any general pattern of state practice” when it comes to the polluter pays principle which excludes the possibility of the PPP holding the status of international customary law. Implementation of the PPP is left to national implementation.⁶⁸ Treaty law with binding effect applying the principle does so in differing modes, concerning different fields as mentioned, with the result that it affects national implementation in an inconsistent manner and furthermore treaties might offer flexibility tending to national preferences regarding implementation. There are examples of broad application of PPP in national environmental policy and legislation but in terms of method of asserting liability and mode of compensation as well as degree of implementation there are great variations.⁶⁹ PPP is referenced to without defining the principle itself in several international agreements while other international agreements apply the principle when dealing with liability issues. Through these instruments the PPP principle is applied in relation to other states. The Convention on Civil Liability for Oil Pollution Damage, for example, establishes a clear regime which by way of national implementation facilitates compensation for oil pollution. The problem is that the application is limited to certain fields determined by the aim of that particular convention.⁷⁰ Definitions of polluter and damage as well as liability schemes varies and although PPP has been referred to as “a general principle of international environmental law” in for example the preamble to the International Convention on Oil Pollution Preparedness, Response and Cooperation its status remains unclear.⁷¹ Hence, there is no legal basis for one country to hold another country liable for not making their polluters pay unless the principle is embodied in a specifying agreement.⁷² Again this means arriving at an issue, similar to what was discussed above regarding the obligation to protect and preserve the marine environment, where essentially this duty rests upon enactment of further

⁶⁸ Ibid at pp. 93.

⁶⁹ Ibid at pp. 93.

⁷⁰ Ondřej Vácha at p. 64.

⁷¹ Ondřej Vácha at p. 65.

⁷² For an advanced discussion on the various aspects contained in the concept PPP see Margaret Rosso Grossman pp. 26-27

agreements crystallising and identifying what protection and preservation is. The difference here is the uncertain legal status of the PPP as opposed to the principle to preserve and protect as established under UNCLOS. The absence of an environmental specific body issuing binding decisions with global application shines with its absence.

Going back to the issue at hand, where underwater noise scare off fish to the detriment of fishermen fishing in the water column above the CS; although underwater noise is gaining growing recognition as one of the pollutions of the sea, there are no conventions dealing with liability for consequences of underwater noise in particular. Moreover, since PPP is not yet a principle of international law or holds the status of customary international law there is no legal basis for regression towards another State for not ensuring their polluters pay for whatever damage they cause by way of underwater noise. Norwegian legislation granting State compensation to fishermen for pure economic losses is consequently not a breach of an international obligation in that regard since there is no hardcore international obligation to attribute all costs to the polluter. Uncertainty on the legal status of PPP becomes further complicated when considering the PPP as a principle applicable in between States which involves the advanced discussion on transboundary pollution. Where a duty of one State to compensate for loss of catches is unclear in this context a duty to ensure the polluting company itself bears all costs is neither.

Nevertheless, OECD countries should take recommendations seriously. As stated in the introduction, Norwegian legislation subjects the licensee to liability for damages or losses which could have been averted when seizing a fishing field. This does to some extent subject the noise pollutant to a fault based liability where damages could have been avoided. Costs for living up to existing requirements related to seismic are carried by the licensee which means to the extent there are measures for control of pollution these are borne by the licensee but to the extent there are no measures for avoiding the scare off effect the State will reimburse their own fishermen which would be contrary to the developed principle of PPP. This means Norway does in fact live up to polluter pays 'in a strict sense' or the 'standard PPP'. However, considering PPP in a broader sense, liability for costs resulting from pollution are not directed towards the licensee unless the damage to the fishermen could have been averted. It is not possible in this essay to examine taxation of licensees conducting seismic, there might be a

taxation scheme for this pollution but compensation for pure economic losses are, at least as it appears, borne by the State.

Exceptions to the general principle of PPP applicable to accidental pollution which is that neither "...the risk nor the consequences of accidental pollution should be paid from public funds but rather be borne by the polluter."⁷³ can be mentioned in this context. In 1989 the PPP was extended to apply to accidental pollution. Accidental pollution is subject to a somewhat differing approach.⁷⁴

"In matters of accidental pollution risks, the Polluter-Pays Principle implies that the operator of a hazardous installation should bear the cost of reasonable measures to prevent and control accidental pollution from that installation which are introduced by public authorities in Member countries in conformity with domestic law prior to the occurrence of an accident in order to protect human health or the environment."

The logic behind this rule allocating costs for reasonable measures to prevent and control accidental pollution appears to have been applied when considering the regime for compensating Norwegian fishermen. This is not completely satisfactory due to the fact that we are dealing with non-accidental pollution in this context to which other preconditions are attached. The rationale for subjecting the industry involved in pollutive activities is that the industry itself is best equipped to carry out the task of minimising pollution and the industry conducting seismic investigations are not an exception. Hence, the industry should bear the direct costs for disappearing fish in order to push the industry to maximise effectivity and resources in this regard although again, there is no internationally binding obligation to do so.

One last point sought from the OECD Recommendation on the Use of Economic Instruments in Environmental Policy which can be made regarding the State's compensation to Norwegian fishermen is that of "circumstances where payments can be made to reinforce other measures designed to achieve appropriate natural resource use."⁷⁵ As mentioned mainly fishing vessels with a somewhat limited operating radius suffer pure economic losses when fish disappear from their regular fishing turf. Compensating smaller vessels with more sustainable methods of conducting fisheries may perhaps be considered such a payment

⁷³ Ondřej Vícha at p. 61.

⁷⁴ OECD Rec C(89)88/FINAL, 7 July 1989, The Application of the Polluter-Pays Principle to Accidental Pollution.

⁷⁵ OECD Rec C(90)177/FINAL, 31 January 1991, OECD Recommendation on the Use of Economic Instruments in Environmental Policy.

which are made to reinforce other measures designed to achieve appropriate natural resource use. Given the reluctance of recognising noise as a pollutant as well as pure economic losses there is confusion as to who is actually provided State aid in this context; the seismic vessels /oil industry or the fishermen? This allows the issue to fall in between to chairs although theoretically its the loss of the fishermen from seismic pollution which is compensated. The measure of maintaining a fishing fleet with adequate capacity for fishing can be seen as a measure designed to achieve appropriate natural resource use, the fault in logic is however that it is not necessary for the State to pay the fishermen in order to support a fishing fleet with sustainable capacity. This object would be obtained by letting the licensees compensate the fishermen in some way. The repercussions of disturbance of fisheries activities should be more direct in order to push business actors towards smarter solutions.

3 EU- and EEA-law

The consequence of not acknowledging pure economic loss in general, and only with regards to Norwegian fishermen, can be seen as a measure rendering the operation of commercial activities unfair on the basis of nationality. The common fisheries policy was one of the main issues when Norway negotiated participation with the EU and is probably the reason why Norway chose to become an EEA-member instead of full EU-membership.⁷⁶ The articles on free movement of goods in the EEA-agreement subjects fish and marine products to protocol 9. The common fisheries policy is omitted and Norway retains its competence on management of resources which is an exclusive competence of the EU under Article 3 of the TFEU.

The corner stone in EU politics is that equal rules apply to all activities falling within the realm of EU law, regardless of nationality, when it comes to economic activities. When considering reimbursements granted by the Norwegian State by virtue of § 8-2 state aid rules becomes relevant. Within the EU there is a machinery of massive financial support available to fishermen within the EU (as opposed to the EEA where Norway is a member). These subsidies have been severely criticised.

⁷⁶ NOU 2012:2 "Outside and inside, Norway's agreements with the EU" 21.4
<http://www.regjeringen.no/nb/dep/ud/dok/nou-er/2012/nou-2012-2/22.html?id=669739> (Accessed 04.12.2014).

Other than the economic side of EU-law EU has elaborated a regime where regulatory measures within the EU in order to protect the environment are highly integrated with economic activities.

3.1 No discrimination on the basis of nationality

From the main principle on discrimination in the EEA agreement follows:

Within the scope of application of this Agreement, and without prejudice to any special provisions contained therein, any discrimination on grounds of nationality shall be prohibited.

The scope of the EEA-agreement includes right of establishment by virtue of Articles 31-35. However, concerning right of establishment the Annex VIII of the EEA agreement establishes:

Notwithstanding Articles 31 to 35 of the Agreement and the provisions of this Annex, Norway may continue to apply restrictions existing on the date of signature of the Agreement on establishment of non-nationals in fishing operations or companies owning or operating fishing vessels.

The definition of "Norwegian fishermen" under the reimbursement regime in the Petroleum Act is "fishermen registered as professional fishermen and owner of vessel which is registered in the registry over Norwegian fishing-vessels subject to mandatory labelling".⁷⁷ The Fisheries Participation Act discriminates on the basis of nationality through only allowing Norwegian citizens to obtain the obligatory Commercial Fisheries License for vessels larger than 15m.⁷⁸ There is therefore an element of discrimination on the basis of nationality also when reimbursing in accordance with the Petroleum Act but the right to access to fisheries from Norwegian shore, i.e. in the TS, in the EEZ or fishing quotas allocated to Norway under international agreements, is limited in accordance with EES-agreement protocol VIII as mentioned. It would not be far-fetched to conclude that favourable legislation directed to the fishing industry also falls within this exception. Should Norway have been a full EU-member or not have inserted this omission the reimbursement regime would have been contrary to the agreement. The freedom to fish in the water-column over the CS is granted by virtue of UNCLOS and customary international law hence when it comes to a potential breach of obligations due to this treatment of foreign fishermen, international law applies.

⁷⁷ Norwegian Petroleum Activities Act § 8 -1 4th paragraph.

⁷⁸ The Participation Act § 5 (LOV-1999-03-26-15 om retten til å delta i fiske og fangst).

It should also be noted that legislation pertaining to access to work on fishing vessels have been changed in accordance with EEA-law and prerequisites on the crew onboard are now based on where the crew is domiciled and not nationality.⁷⁹

3.2 Consideration of state aid rules under the EEA-agreement

Protocol 9 of the EEA Agreement forbids state aid to the fisheries sector "which distorts competition". Guidance on what should be seen as distortion of competition can be found in the equivalent provision in the EEA agreement applicable to other sectors, Article 62, where it is established that "aid to facilitate the development of certain economic activities or of certain economic areas, where such aid does not adversely affect trading conditions to an extent contrary to the common interest;" are not considered contrary to the EEA-agreement. Rules on de minimis aid are also rendered applicable to other industry sectors through Commission Regulation (EU) No 1407/2013 stated in Annex XV of the EEA-agreement and binding by reference to the annex in article 7 and 63 of the EEA- agreement.⁸⁰ State aid consistency with the EEA-agreement is under the supervision of the EFTA Surveillance Authority as regards to EFTA-states.⁸¹ Given that it is foremost smaller fishing vessels with a limited operating radius which are granted compensation the amounts are quite limited. It is therefor not far fetched to presume that this state aid may fall outside the requirement of distortion to competition.

Furthermore, in practice rules applicable on state aid is not effectively enforced since the EFTA- Surveillance Authority has not been granted the same competence when it comes to state aid to the fishing industry as in other industries.⁸²

3.3 European Maritime and Fisheries Fund

Apart from national subsidies the EU has its own program for funding fishing activities. The subsidies available to the fishing industry in the EU are quite comprehensive. The European Fisheries Fund, EFF, which has been operating

⁷⁹ NOU 2012:2 "Outside and inside, Norway's agreements with the EU" 7.3.1 <http://www.regjeringen.no/nb/dep/ud/dok/nou-er/2012/nou-2012-2/22.html?id=669739> (Accessed 04.12.2014) and The Participation Act § 5 (LOV-1999-03-26-15 om retten til å delta i fiske og fangst) § 5 a).

⁸⁰ See generally The EFTA Surveillance Authorities webpage: <http://www.eftasurv.int/state-aid/legal-framework/legal-texts/> Accessed: 22.10.2014.

⁸¹ EFTA-agreement Article 62.

Author has requested information from the EFTA-Surveillance Authority in this matter without success.

⁸² NOU 2012:2

EU subventions from 2007-2013 had a budget of 3.8 billion euro which is 4.3 billion euro in current prices. The next funding program will be operated by the European Maritime and Fisheries Fund, EMFF, from 2014-2020. The EMFF was established to “improve the sector’s competitiveness and help it become environmentally, economically and socially sustainable.” Italy has received the largest portion of the EMFF, 1.1 billion euro. Finland received 39 million, Sweden 54 million and Denmark 155 million euro.⁸³ Compared to Norwegian subsidies which have gone from approximately 131 million euro in year 1985 to 6,8 million euro in 2011 according to a report. This report also shows that fishing fleets are reduced in all categories but the largest, vessels above 28m. This category has grown.⁸⁴ The EU subsidies have been used to promote sustainable fisheries in several ways but the program has been severely criticized for being contra productive mainly when it comes to promoting sustainable fisheries. Basically this critique can be summed up into the statement that too many are chasing too few fishes. As subsidies help otherwise unsuccessful businesses to survive in a trade which is no longer that profitable these businesses continue chasing fish instead of going bankrupt and changing the source of income. Although catches have steadily declined the fishing fleets of the EU have been growing.⁸⁵

There are critiques on Norwegian policy as well; foremost regarding the CO₂-charges ceiling which mainly subsidizes larger vessels.⁸⁶

Citing a publication directing heavy critique towards EU fisheries by the German Institute for World Economy:⁸⁷

The main economic problems in fisheries can be summarised in two points: First, the “common pool nature” of fish stocks is also known as the open-access problem. Ill-defined or non-existent property rights in respect of fish stocks induce both excessive

⁸³ European Commission, Fact Sheet European Fisheries Fund, http://ec.europa.eu/fisheries/documentation/publications/cfp_factsheets/european_fisheries_fund_en.pdf (Accessed: 05.09.2014).

⁸⁴ "Tidenes Høyeste Fangstverdi I Norske Fiskerier." The Norwegian Fisheries Directorate. 8 May 2012. Web. 4 Jan. 2015. <<http://www.fiskeridir.no/fiske-og-fangst/aktuelt/2012/0512/tidenes-hoeyeste-fangstverdi-i-norske-fiskerier>>.

⁸⁵ Harvey, Fiona. "EU Vote to Curtail Fishing Subsidies for New Fishing Boats." The Guardian. October 23, 2013. Accessed January 4, 2015. <http://www.theguardian.com/environment/2013/oct/23/eu-vote-curtail-fishing-subsidies>.

⁸⁶ Kvernsveen, Kristin. "Norge Subsidierer Overfisket." Naturvernforbundet. May 26, 2010. Accessed January 4, 2015. <http://naturvernforbundet.no/nyheter/norge-subsidierer-overfisket-article16678-166.html>.

⁸⁷ S. Khalilian p. 2 "Designed for Failure: A Critique of the Common Fisheries Policy of the European Union" Marine Policy, Volume 30, Issue 6, November 2006 pp. 737–746.

market entry and immoderate fishing efforts by each vessel. To gain larger shares of the catches than their competitors, fishermen invest in overcapacity, further exacerbating the overexploitation.

The article quoted also mentions two reasons for failure of the EU to properly manage marine resources. Firstly that the Council of fisheries ministers constantly set Total Allowable Catches higher than recommended by ICES and that subsidies paid out by the Commission and the Member States are creating contra productive incentives.⁸⁸ The critique against the Common Fisheries Policy explains why Norway, which has a closer connection to fisheries and truly based its survival on the fisheries industry before the oil findings, prefers to retain its power in some ways when it comes to subsidies. Short said, when it comes to state aid or state aid -like measures such as the EU subsidies to fishing, Norway is not the biggest villain.

5 Conclusions

Is Norwegian legislation an expression for a corresponding duty to compensate fishermen for loss of catches due to seismic shootings under international law?

One of the major obstacles to proper attention to the effects on the fishing industry when it comes to the seizing or occupation of fishing areas during offshore prospecting and extracting activities are their inevitability. As opposed to oil escape or discharge the noise and the seizure of a fishing area are quite difficult to avoid since there are no other methods than polluting the water with sound. In the balance of interests the inevitability of these effects are an argument tipping the scale over to the benefit of the offshore industry. Nevertheless, fisheries is an industry upon which many livelihoods rely and the interest of supply of fish to nations all over the world should not be underestimated. So why are fishermen treated with such neglect?

The answer that when interests clash between those exercising the freedoms of the seas and those exercising the right to exploit the legal outcome will rest upon a balance of interests means no clear legal rule actually exists. The weight of interests against one another are highly political and influenced by economy as well. The juridical essence of this rule is however that some sort of regard must be taken to one another and that before a judge those mitigating regards will be considered. The rule also offers the possibility to halt extreme consequences

⁸⁸ S. Khalilian at p. 2

which are harmful in a way which strikes public opinion and morals of the contemporary society. A temporary scaring off of fish which later on return to the same fishing grounds may sound quite harmless but how many and how often may the explorations be conducted before their effect is in fact detrimental to the fishing industry. In this essay the detrimental effects primarily striking smaller vessels with limited operating radius has been mentioned. The importance of maintaining a fleet of smaller vessels which are adequate in volume in relation to sustainable fisheries has also been mentioned. The effects of subjecting smaller vessels to these obstacles in their business without recognizing their losses might actually affect the environment since it becomes an unjustified business advantage to larger fleets which are not affected the same way. Under international law such an effect might be relevant and become an argument that weighs down the scale against the interest of exploring. Perhaps seismic shootings should be further limited and controlled as a result of these potential effects.

In balancing interests those legal obligations available would probably become of importance. The general obligation to protect and preserve the marine environment, which does not define the cause of impacts on the environment, would definitely seem to include effects of underwater noise as such. The duty to preserve and protect the environment is reasonably of great relevance where a case is brought to the ICJ concerning the balance of interests between states exercising their right in accordance with the Convention. If the effects of activities would, in accordance with the wording of the general principle to preserve and protect, be one of detriment to the environment, short of any international standards or convention law the balance of interest might lead to a solution which would require the State extracting resources to limit the damage to others exercising their rights in accordance with UNCLOS or general principles of international law. If this is the case or not when fish simply chooses to move is debatable.

Protection and preservation raises the issue if temporary alterations without impact on nature itself are relevant when it comes to protection and preservation of the marine environment. This raises the issue of the definition of harm. The effects of seismic shootings can be that of interfering with other legitimate uses of the sea, without actually causing damage to the intrinsic value of the environment as such. The definition of environmental harm quoted above involves words such as "injury" and "degradation" of nature. Although seismic

shootings potentially may have this effect this is not what is considered in this essay. The fish that has capacity to run away is in fact not injured by the shootings. To the extent seismic shootings cause damage to fish stocks this would consequently interfere with other legitimate uses of the sea but also be of harm to the environment and legal reaction could rest upon the duty to preserve and protect as well. In accordance with what has been presented in this essay the factual circumstances seem to offer a solution where, if harm to nature is not at hand, the definition of pollution becomes critical. It is difficult, under international law, to arrive at the conclusion that activities causing noise pollution are possible to attack legally due to the lack of instruments implemented to bring effect to relevant provisions of UNCLOS. This is an odd outcome and it would be interesting to see what the Arbitration Tribunal in the Trailsmelter case would have argued, with their outlook on creating justice, without access to all subsequent environmental doctrines.

The concept of pollution, which has had an important role in establishing environmental standards during the 20th century, is very much central in the development of binding international standards. Its relevance to noise may affect a balance of interest and UNCLOS, which has been shown, provides for a duty not to pollute other areas beyond a State's jurisdiction. This concept, nevertheless, is limited in its grasp due to the context where it was developed, during a time when the introduction of substances was the major concern. Awareness of impacts of noise is rising but quite slowly. Although noise has been relevant on land where humans are under impact, the extended idea of protection of the environment beyond the national borders and beyond the limitations of human understanding where human interests in exploiting nature is central does make noise a very relevant factor. The introduction of this new way of defining the interests of nature opened up for an understanding which raises the question if the negotiating parties during the 70's had not had a different approach when defining pollution.

Nevertheless, the balance of interests between those exercising their freedoms of the sea and those exercising a sovereign right to extract resources from the CS could become an issue in the context of noise pollution for the relevant forum to decide should a claimant bring a claim to that effect. In such case the findings in the logic behind Trail Smelter Arbitration case would not be entirely irrelevant. The differences between the context in the Trail Smelter Arbitration case and a potential claim resulting from seismic shootings does not put up much resistance

as the underlying legal premisses are very similar. One interesting notion to further elevate here is the Norwegian point of view, where access to commercial fishing, granted through a license, almost is alluded to property in some sense. Although the fishermen do not own the fish, and the state proclaims ownership over all resources by way of asserting their jurisdiction over Norwegian vessels, this is in part also possible to akin to owning a field where you have the right to sow seeds. Owning a vessel, with a limited quota of fish available to you, is not very far from the idea that you own a field with soil to use. The difference is simply that instead of limiting one persons legal interest on the basis of area, one persons legal interest is decided upon through assessing sustainable harvesting and dividing it up among those owning a vessel with a right to fish on a commercial basis. Like all legal notions the idea of property is characterized and dictated by practicality and the way of life in the time they are created. In a time where fish was seemingly a never-ending resource there was no concept of owning fish. Norwegian legislation of today does introduce another way of relating to ownership and perhaps this also affects the way in which Norwegian society reacts to the effects of fish disappearing. Of course, Norway's dependence on the fisheries industry up until quite recently when oil was discovered may also explain this inherent respect for the industry itself.

• Are there international rules, standards and recommended practices on seismic which may be binding by virtue of article 208 UNCLOS?

The vulnerability of general principles such as a duty to preserve and protect and make sure pollution does not spread beyond areas of one's control are quite obvious. This highlights the importance of those of the articles which are creating binding character upon party's when concrete international standards or recommended practices exist.

On the one hand awareness of the impacts of underwater noise pollution as such has been quite limited although on the upcoming but on the other hand the exploration and exploitation license is extensively regulated in Norway by the Norwegian Petroleum Activities Act and relevant regulations. These regulations also concern the seismic activities for the purposes of coexistence. Undoubtedly there are practices surrounding the prospecting phase which are quite similar in the U.K. and Norway. The limited scope of this essay does not allow for further investigations into legislation on a deeper level and with a broader geographical frame but the fact that there are such similar practices does indicate the discern of

potential common rules which will be binding in the future. It would be interesting to deepen this study in order to more systematically identify the similarities between oil nations as well as extend the approach to include jurisdictions such as Canada and the U.S. Perhaps a future minimum level practices which bind parties to concrete regulations in accordance with UNCLOS article 208 will develop. At least recommended practices which are common to several nations involved in fisheries and offshore activities parallel would arguably establish a level of conduct which gives effect to what would be classified as "unjustifiable interference" as the wording is put in UNCLOS or "unnecessary or unreasonable impediment or obstruction" to fisheries as in accordance with the Petroleum Activities Act § 10 - 1.

• Are there practices indicating that a duty to implement the PPP is generally binding in this context?

The impreciseness of the otherwise so impactful rule of the PPP appears to be the biggest hurdle to cross when considering its legal status in the international community. There is definitely room for complete and systematic comparisons between nations in order to find out to what extent the OECD recommendations are implemented globally which would then perhaps give rise to binding force upon the international community either through membership in UNCLOS and the binding force of generally accepted recommendations, or by way of customary law. Such a study would however be of great complexity and stretch far beyond the means available under this study. What can be concluded is that such a study would be desirable due to the strong influence that cost allocation has upon commercial actors.

With the conclusion that no customary rule can easily be established it is still interesting to consider its implementation. The primary examples of PPP are far from surprising, the allocation of responsibility for oil related debris to the polluter itself rather than States or, even worse, fishermen themselves. Although there are clearly shortcomings in that context and the topic deserves proper attention, it is clear that the less tangible noise pollution is even worse off. What is shown in this essay however, is that to the extent there is awareness of the detriment to fishermen with regards to noise pollution there are requirements for respect and cooperation in order to, at least, let fishermen plan their way around their inconvenience. Mandatory cooperation between the fishing industry and the licensee does indicate growing awareness of the detriment incurred by fishermen

when the national interest of extracting oil collides with the interest of the fishing industry. Measuring Norwegian legislation against the OECD recommendations in their newest form gives a result which is not completely satisfactory. The allocation of responsibility is at least in part directed towards the polluter when defining noise from seismic activities as pollution but only to the extent Norwegian vessels are affected. As shown the OECD recommendations appears not, to the extent information is available, to be fully implemented since for example direct taxation schemes on noise pollutants such as seismic seems not to be in place. The generally unfounded idea that noise is pollution perhaps prevents the analyses required for a full internalisation of costs.

Norway should nevertheless be praised for its recognition of damage suffered by individual fishermen. The otherwise common scenario, that internalisation of costs are absent not due to State subsidies or tax exemptions but as a result of absent recognition of suffered damage under the rule of law. Moreover, reimbursements by the State in Norway must be understood, at least in part, in connection with the Norwegian model for oil exploration. Since the Norwegian model leads substantive revenues from the oil exploration directly into the public Treasury and the State is highly involved in its prospectors the Norwegian State can possibly also be considered the polluter in this case. This article recommends that the effects that the Norwegian model on exploration and exploitation of oil and gas on the CS has on allocation of these costs should nevertheless be further researched and examined. Although Norway has taken an important and admirable step towards recognition of noise pollution the next step would probably require some further thinking.

Is Norwegian legislation discriminatory or to be considered state aid?

- The provision granting state aid to Norwegian fishermen and the provision establishing recognition of pure economic loss stemming from negligence on behalf of a licensee when Norwegian fishermen are inflicted are rules which are discriminatory to fishermen from other countries and quite obviously so. The question in this part was if the discrimination and state aid are an infraction of the EEA-treaty. It is quite clear, under EEA-law, that discrimination is not an infraction. Moving on to the issue of state aid; the enforcement of rules on state aid in the fisheries sector are unclear and for the purposes of this essay it is satisfactory to merely shine some light upon the issue.

The granting of state reimbursement where there has been no negligence on behalf of the licensee is either a subsidy to the licensee which should be the one reimbursing, or the fisheries industry if taking the stance that seismic licensees has no responsibility in this matter. Under previous chapters of this essay it is quite obvious that the authors view on the point is that they do. It is the seismic explorations which alters the conditions for others making use of the sea. Those with a special, defined right to fish, which also demands several investments, can prove a special loss which is caused by the activities of another industry.

Another question arising with regards to the scheme of reimbursements in the Norwegian Petroleum Activities Act is if there is, in practice, any civil liability on behalf of licensees for pure economic loss except for under exceptional circumstances; i.e. is it possible to establish negligence? The measures in place with regards to coexistence between the fishing industry and the petroleum activities are largely based on discretionary assessments from situation to situation taking into account several aspects. There are few concrete rules designed to take into account fisheries activities during the prospecting phase which may provide a legal basis proving negligence. In short of information of the risk that the State as a guarantor pays up but fails to pursue hence enables a continuous state aid also in cases where negligence could have been established it may be concluded that it is desirable to ensure such pursuance in accordance with the PPP as well as other rules on State Aid.

Under the chapter on EU-law the generous subsidies within the European Community, as opposed to Norway, are mentioned. It is not far fetched to draw the conclusion that Norway chose their own path when it comes to subsidies and kept out of the way of EU-intervention in this regard. It is far more easily justifiable to grant aid making the interface between fisheries and petroleum activities run smoother, than the massive granting of aid from the EU to its Member States. Looking from within the EU, the main concern in European waters is that of over-fishing and subsidies suffices the losses related to seismic activities by far. Norway's fishing fleet which does not have these subsidies, are under far more commercial pressure to make ends meet whereby aid is explainable. Nevertheless, the growth of the largest vessels does give rise to concern. Earlier in the essay a motive and justification for the reimbursements might be that mainly smaller vessels are affected by the shootings. Subsidies targeting larger vessels are then contra productive.

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