

Enforcement of the international rules of maritime research on the continental shelf: The existing framework and need for new approaches?

Dr. Kaare Bangert, Scandinavian Institute of Oil and Maritime Law, Oslo University

1. Overview:

The paper will focus on the actual enforcement of existing rules and the possible need of more clear principles and rules of enforcement. In addressing this issue, the emphasis will be on the existing rules of liability and their role for enforcement of rules of marine research on the continental shelf. It will be suggested that more elaborated formal rules of enforcement will create a more effective regime of substantive rules on regulation of marine research on the continental shelf.

The main goal for future international law in this area should be on developing more effective enforcement rules instead of broad principles. This is of course a question for the states to decide, but at least the issue need to be raised.

The paper will address the issue of how the relative broad general principles in the 1982 UNCLOS and the even broader principles of general international law as developed in customary law need some clearer guidelines to become operational. The question of lack of effective enforcement procedures as a special legislative technique will be raised too. Not only will the paper discuss the relevance of the general rules of state-responsibility, the applicability of which in practice is somewhat uncertain and unpractical. But also the more effective rules of civil liability will be discussed as a possible solution, as they are applied with some success in the marine pollution regulation.

2. The structure of the argument:

The analysis will be divided into following main parts. First, the main issue of enforcement of marine research in relation to the continental shelf will be presented. The main purpose is to suggest a new role for formal rules of enforcement in the development of an effective regime of marine research on the continental shelf (especially in the light of eventual extension to the 350-mile maximum limit)

By effective is in this context meant procedures which will be respected by both the coastal state and other states interested in doing marine research on the coastal state's continental shelf.

Second, the main practical problems and which legal remedies will be discussed. A critical overview over existing rules will be given with main emphasis on the role of enforcement for the development of an effective substantive regime of marine research on the continental shelf.

Thirdly the experiences in effective enforcement from similar regimes will be outlined. The focus will be on civil liability regimes as a possible model for effective enforcement rules. The experiences of the IMO generated regime of liability and enforcement of marine pollution will be discussed as possible model.

Lastly, the question whether there is such a need for new remedies and how such remedies should and could be developed. Bilateral and regional treaty regimes will be suggested as the most realistic solution, thereby creating the necessary widespread consensus for general application of the new remedies.

3. The main issue: the balancing a two dimensional jurisdiction concept with the three-dimensional :

Traditionally, the sea was divided into two distinct areas of jurisdiction, the territorial sea with exclusive coastal state jurisdiction and the high sea with the freedoms of high seas. By the introduction of the new zones of exclusive functional jurisdiction such as the continental shelf regime, the high sea was regime overlapped by other exclusive functional jurisdictions regimes which meant a qualification in the freedom of high sea. The legal problem is that the waters column over the seabed is generally part of the high sea regime. But the continental shelf is subject to the coastal state functional sovereignty. The coastal state sovereignty over the sea-bed on its continental 200-mile or 350-mile continental shelf necessary gives rights of enforcement on the high sea above as a necessary appurtenant to the right over the sea-bed. The main legal problem is to define the content and scope of this right of jurisdiction on the high sea.

4. The legal framework:

The legal solution to this problem of overlapping jurisdiction must be found partly in general international law partly in treaty law as the United Nations Law of the Sea

Convention of 1982. It should be stressed than even though the treaty law of practical reason often is the starting point for a legal analysis, the general customary law must be looked into too. As underlined by the famous dictum in the Nicaragua-case from 1986, even if a generally accepted treaty exists with a majority of states as parties, the parallel and overlapping general international law is not subrogated and must be taken into account: ¹

‘§ 177. But as observed above (paragraph 175), even if the customary norm and the treaty norm were to have exactly the same content, this would not be a reason for the Court to hold that the incorporation of the customary norm into treaty-law must deprive the customary norm of its applicability as distinct from that of the treaty norm. The existence of identical rules in international treaty law and customary law has been clearly recognized by the Court in the North Sea Continental Shelf cases. ...

More generally, there are no grounds for holding that when customary international law is comprised of rules identical to those of treaty law, the latter "supervenes" the former, so that the customary international law has no further existence of its own.

...

§178. There are a number of reasons for considering that, even if two norms belonging to two sources of international law appear identical in content, and even if the States in question are bound by these rules both on the level of treaty-law and of customary law, these norms retain a separate existence.’

5. The fundamental principles of coastal state sovereignty over its continental shelf and principles of high sea freedom:

As mentioned above the easiest way to ascertain the basic legal framework is to look at the treaty law. The basic principles of both the continental shelf regime and the high sea have been partly codified in the 1982 Law of the Sea Convention.

The art 77 of the UNCLOS 1982 outline the basic principles of coastal state sovereignty over the continental shelf:

‘Article 77

Rights of the Coastal State over the Continental Shelf

1. The coastal State exercises over the continental shelf sovereign rights for the purpose of exploring it and exploiting its natural resources.
2. The rights referred to in paragraph 1 are exclusive in the sense that if the coastal State does not explore the continental shelf or exploit its natural resources, no one may undertake these activities without the express consent of the coastal State.
3. The rights of the coastal State over the continental shelf do not depend on occupation, effective or notional, or on any express proclamation.
4. The natural resources referred to in this Part consist of the mineral and other non-living resources of the sea-bed and subsoil together with living organisms belonging

¹ See International Court of Justice, ‘Military and Paramilitary Activities’, (Nicaragua/United States of America), Merits, 1986, ICJ Reports, 1986, p. 95.

to sedentary species, that is to say, organisms which, at the harvestable stage, either are immobile on or under the seabed or are unable to move except in constant physical contact with the seabed or the subsoil. ‘

The coastal state has sovereignty rights over the non-living resources of its continental shelf. This functional sovereignty is an extension over the sovereignty of its territorial sea but limited to the regulation and exploration of the continental shelf. The extension of the functional jurisdiction is regulated in article 74 and can under certain geographical circumstances be extended to a maximum of 350-miles.

As important element of the rights of the coastal state over the continental shelf, the relation to the high sea regimes is addressed in the article 78 on the legal status of the superjacent waters and air space and the rights and freedoms of other states:

‘Article 78

Legal Status of the Superjacent Waters and Air Space and the Rights and Freedoms of Other States

1. The rights of the coastal State over the continental shelf do not affect the legal status of the superjacent waters or of the air space above those waters.
2. The exercise of the rights of the 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.’

The functional sovereignty of the coastal state over its continental shelf do not formally have effect on the status of the superjacent waters as high sea, as seen in section 1 of article 78. But the problem of overlapping basis of jurisdiction is reflected in section 2, where the coastal state even if the status is high sea is allowed justifiable interference with the navigation of the high sea. The high seas freedoms are with other words limited by the exercise of enforcement of its rights according to the continental shelf regime, including enforcement of marine research. The basic principles of coastal state functional sovereignty is put up against the regimes of high sea as two opposites. The legal effects are not spelt out in details. The only rule of linkage is the referent to justifiable interference in article 78, section 2. What the content and scope of the justifiable interference is not defined in operational substantial or formal procedures. This drafting technique of combining two opposite principles in the same regime or even the same article is typical. But broad even internal conflicting rules with no effective procedures for coordination are not necessary only result of faulty imprecise drafting. Nor necessarily a negotiating

technique used to accommodate opposite views during the drafting conferences. In reality, this open-end structure is an effective legislative technique to secure the necessary room for adoption to the various often widely different geographical and politic environments. Similarly in the case of the continental state regime. The rules of enforcement and their effect of the high sea regime must be supplemented by rules of enforcement developed in general international law.

6. Coastal state jurisdiction over marine research on the continental shelf:

The question of coastal state enforcement over marine research on the continental shelf is in practice the question of what and how can the coastal state enforce on foreign ships sailing on the continental shelf. Or with other words which restrictions in flag state jurisdiction of foreign states follow from the coastal state sovereign rights over the continental shelf in relation to marine research.

Marine research can according to Encyclopedia of Public International Law be defined 'as any study or related experimental work designed to increase knowledge of the marine environment. Its main branches are physical oceanography, marine biology, marine geology and geophysics. Not comprised in this notion are maritime archaeology or activities such as prospecting or exploring for marine resources, although the borderline may be difficult to draw in practice. The above definition is, moreover, further complicated by the fact that many activities conducted for military purposes use scientific methods and techniques and yield scientifically significant results.'

The marine research on the continental shelf is regulated in the treaty law by Part XIII in the 1982 UNCLOS. To what extent the detailed rules are also reflecting general international law or even emerging customary law remains, however, a question. The treaty rules of the marine research on the continental shelf qualifies the overlapping treaty regimes of high sea, where the freedom of marine research is recognised as one of the freedoms of high sea in article 87, section 1, litra f.

It should however be noted that freedom of marine research was not listed as a freedom of high seas in the first United Nations Convention on the High Seas, done at Geneva, on 29 April 1958, which entered into force on the 30 September 1962:

Article 2

The high seas being open to all nations, no State may validly purport to subject any part of them to its sovereignty. Freedom of the high seas is exercised under the conditions laid down by these articles and by the other rules of international law. It comprises, inter alia, both for coastal and non-coastal States:

- (1) Freedom of navigation;
- (2) Freedom of fishing;
- (3) Freedom to lay submarine cables and pipelines;
- (4) Freedom to fly over the high seas.

These freedoms, and others which are recognized by the general principles of international law, shall be exercised by all States with reasonable regard to the interests of other States in their exercise of the freedom of the high seas.

Even though the list of freedom is not exhaustive as stated 'It (Freedom of high seas) comprises, inter alia,...'. The list includes all the major important freedoms, and the exclusion of the freedom of marine research is perhaps indirect evidence of the lack of importance or perhaps even better the lack of controversy. Moreover, the question of marine research on the high seas over the Continental shelf was, however, regulated in article 5, section 1 and 8 of the accompanying first United Nations Convention on the Continental Shelf, done at Geneva, on 29 April 1958, which entered into force on the 10 June 1964:

'Article 5

1. The exploration of the continental shelf and the exploitation of its natural resources must not result in any unjustifiable interference with navigation, fishing or the conservation of the living resources of the sea, nor result in any interference with fundamental oceanographic or other scientific research carried out with the intention of open publication.

....

8. The consent of the coastal State shall be obtained in respect of any research concerning the continental shelf and undertaken there. Nevertheless the coastal State shall not normally withhold its consent if the request is submitted by a qualified institution with a view to purely scientific research into the physical or biological characteristics of the continental shelf, subject to the proviso that the coastal State shall have the right, if it so desires, to participate or to be represented in the research, and that in any event the results shall be published.'

As seen, the coastal state's rights over marine research on its continental shelf is somewhat more restricted in the 1958 Convention on the Continental Shelf, even though marine research is not directly mentioned as a freedom of high sea. The coastal state cannot generally prevent 'fundamental oceanographic or other scientific research carried out with the intention of open publication' or 'purely scientific research into the physical or biological characteristics of the continental shelf'.

In the 1982 UNCLOS, a much more developed regime of marine research is put forward. As mentioned, the marine research is now explicitly referred to in the list of freedom of high seas. This signifies the growing importance and perhaps also growing conflicts as to jurisdiction caused by the development of both continental shelf and exclusive economic exclusive zones overlapping the high sea regime.

The main rules of 1982 UNCLOS on marine research on the continental shelf are outlined in article 246:

Article 246

Marine Scientific Research in the Exclusive Economic Zone and on the Continental Shelf

1. Coastal States, in the exercise of their jurisdiction, have the right to regulate, authorize and conduct marine scientific research in their exclusive economic zone and on their continental shelf in accordance with the relevant provisions of this Convention.
2. Marine scientific research in the exclusive economic zone and on the continental shelf shall be conducted with the consent of the coastal State.
3. Coastal States shall, in normal circumstances, grant their consent for marine scientific research projects by other States or competent international organizations in their exclusive economic zone or on their continental shelf to be carried out in accordance with this Convention exclusively for peaceful purposes and in order to increase scientific knowledge of the marine environment for the benefit of all mankind. To this end, coastal States shall establish rules and procedures ensuring that such consent will not be delayed or denied unreasonably.
4. For the purposes of applying paragraph 3, normal circumstances may exist in spite of the absence of diplomatic relations between the coastal State and the researching State.
5. Coastal States may however in their discretion withhold their consent to the conduct of a marine scientific research project of another State or competent international organization in the exclusive economic zone or on the continental shelf of the coastal State if that project:
 - (a) is of direct significance for the exploration and exploitation of natural resources, whether living or non-living;
 - (b) involves drilling into the continental shelf, the use of explosives or the introduction of harmful substances into the marine environment;
 - (c) involves the construction, operation or use of artificial islands, installations and structures referred to in articles 60 and 80;
 - (d) contains information communicated pursuant to article 248 regarding the nature and objectives of the project which is inaccurate or if the researching State or competent international organization has outstanding obligations to the coastal State from a prior research project.
6. Notwithstanding the provisions of paragraph 5, coastal States may not exercise their discretion to withhold consent under subparagraph
 - (a) of that paragraph in respect of marine scientific research projects to be undertaken in accordance with the provisions of this Part on the continental shelf, beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is

measured, outside those specific areas which coastal States may at any time publicly designate as areas in which exploitation or detailed exploratory operations focused on those areas are occurring or will occur within a reasonable period of time. Coastal States shall give reasonable notice of the designation of such areas, as well as any modifications thereto, but shall not be obliged to give details of the operations therein.

7. The provisions of paragraph 6 are without prejudice to the rights of coastal States over the continental shelf as established in article 77.

8. Marine scientific research activities referred to in this article shall not unjustifiably interfere with activities undertaken by coastal States in the exercise of their sovereign rights and jurisdiction provided for in this Convention.

Compared to the 1958 Law of the Conventions, the 1982 UNCLOS represents a significant change in the balance between coastal rights and other states freedom of research on the high sea over the continental shelf. Although marine research was not directly mentioned as a freedom of high sea, the right to marine research was given precedence over the coastal state jurisdiction over the continental shelf as seen in article 5 of the 1958 Convention on the Continental Shelf. The coastal state could not interfere unjustified in marine research unless this research was directly related to exploration of the coastal states non-living resources on its continental shelf.

The balance tilted toward other states is reversed in the 1982 Convention as seen in article 246. It is now the coastal state that has the sole competence to regulate and authorize marine research on its continental shelf. The coastal state's consent is needed before marine research can be undertaken.

There are some qualifications to this principle of coastal state consent, when the marine research is undertaken 'exclusively for peaceful purposes and in order to increase scientific knowledge of the marine environment for the benefit of all mankind' in section 3 of article 246. But the main principle is clear, the balance has shifted towards a principle of coastal state consent for marine research on the continental shelf. This presumption for coastal state priority will have implications both for interpretation of the substantial rules as well for formal procedural rules of burden of proof of unjustified interference. Under the 1958 Conventions regimes, the burden of proof would be on the coastal state to prove that its rights had been interfered with. Under the 1982 UNCLOS regime the burden of proof is now on the other states to show, that the coastal state has unjustified interfered with their right to research. This gives the coastal state a procedural favorably position in legal proceedings and dispute solutions.

The material rules of marine research shall not be dealt with further details, as this will be done by others. It should however be mentioned that military research is not directly regulated in the 1982 UNCLOS regime of marine research on the continental shelf. This is a controversial question and should be dealt with more explicitly perhaps by development of bilateral or regional treaty regimes. Again the presumption would be that coastal state's consent is necessary.

7. The remaining issue how is this new presumption of coastal state precedence enforced and if new supplementary rules should be developed?

The UNLCOS regime of marine research contains only a few rules on enforcement of coastal state rights on marine research on the continental shelf. In article 263 the general international law principle of state responsibility and liability is restated and applied to marine research. Consequently the coastal state will be responsible for any excess enforcement against foreign ships for marine research on the coastal state continental shelf. Just as the flag state will be responsible for violations of the coastal state rule and regulations enacted within the coastal state sovereign functional rights over the continental shelf.

‘Article 263

Responsibility and Liability

1. States and competent international organizations shall be responsible for ensuring that marine scientific research, whether undertaken by them or on their behalf, is conducted in accordance with this Convention.
2. States and competent international organizations shall be responsible and liable for the measures they take in contravention of this Convention in respect of marine scientific research conducted by other States, their natural or juridical persons or by competent international organizations, and shall provide compensation for damage resulting from such measures.’

....

The precedence of coastal state also in dispute settlement is underlined in by the fact that the coastal state do not have to accept compulsory dispute settlement as the its exercise of the right to regulated marine research on its continental shelf, according to article 297, section 2. Moreover the coastal state can suspend conciliations proceedings for disputes over specific marine research projects, according to article 297, section 2, litra b.

As the marine research is excluded form the operation of the freedoms of high sea regime by article 246, the coastal state can use the similar measures towards foreign

ships violating its research regulations as it would if the foreign ships had violated its fisheries regulations on its exclusive economic zone or exclusive fisheries zone. The rights to inspection visit and search seizure and hot pursuit all apply *mutatis mutandis*. This must be interfered by application of the general principles of international law. The precise criteria or procedures for their application on marine research on the continental shelf are not outlined by the 1982 UNCLOS convention. This is unsatisfactory but apparently no major international conflicts have arisen yet. The extension of the continental shelf to a 350 mile limits and the separation of the last 150 mile from the overlap jurisdictional zone of the 200-mile exclusive economic and or fisheries jurisdiction could cause new problems.

8. Possible models for developing new rules of enforcement and liability?

Regulation and enforcement of marine research is of course not the only area of the law of the sea where general broad principles of general international law have had to be made into more clearly defined operation procedures. The first and still perhaps the most controversial area is the regulation of fisheries. But also the regulation of marine pollution had similar problems of making international accepted rules enforceable. As to marine pollution, the regime of enforcement and liability generated by the International Maritime Organization has been remarkable effective at least from the standard of international law.

According to one of the key participants in work of the IMO regime, Judge Mensah of the United Nations International Tribunal of the Law of the Sea in Hamburg, the IMO marine pollution regime has been a success by using amongst other liability rules to supplement traditional enforcement principles:

‘A relatively minor but significant contribution of IMO is in demonstrating the possibility of using liability and compensation as a means to enhance prevention of marine pollution. Apart from the possibility that the imposition of strict liability for pollution damage will serve to concentrate the minds of operators on the need to avoid accidents, some provisions in IMO's conventions have actually used the concept of liability and compensation as an incentive to actors to take special measures to prevent pollution, especially after an incident threatening pollution damage has occurred. For example, the 1992 Civil Liability Convention (article 1, paragraph 7) encourages the owner of a ship involved in an accident to take preventive measures to avoid or limit damage by providing that the costs of such measures will be entitled to compensation under the Convention. ...The same approach is adopted in the 1989 Salvage Convention which, for the first time, provides that a salvor will be entitled to compensation for preventing pollution even if he is unable to save the ship and its cargoes (article 14, paragraphs 1, 2 and 5).’

One of the reasons for this success is that the key actors in practice, the national ship-owners have accepted the introduction of effective enforcement and liability measures. Private funds have been established to covers liability for pollution and these have until now served well. The 1992 International Convention on Civil Liability for Oil pollution Damage and the 1992 International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage created under IMO are generally seen as the most effective as to both prevent and to repair oil pollution damages.

Similar innovative public-private models could be applied to enforcement of marine research of the continental shelf. The main operators of marine research including major oil companies could try to establish a similar regime. The issues involved are more limited than oil pollution and fisheries and the main operators in practice are fewer. National ships authorities already operate effective regimes (again according to international law standards) under IMO which could generate similar effective standards and procedures for enforcement and liability questions. Pure scientific marine research including prospecting for historical wrecks as well as even commercial prospecting for natural resources could be established on a more uniform level. This would benefit both the states and also the international operating oil companies if international agreed rules of enforcement and liability were clearly defined and agreed.

It may sound naïve but this has been done in an area of fierce competition as marine international shipping, so no reason why it should not be done as the marine research on the continental shelf. The coastal state precedence could then be spelt out in clear operational rules with simple rules of enforcement. The mere clarification of existing rules would benefit all involved in marine research including the coastal states. A clear agreed distinction between commercial and scientific research with clear rules of enforcement and liability would be highly useful both for scientific research and for the private companies.

The development of more precise rules needs not to be done in the format of international global conventions, but bilateral or regional agreements might be preferable. Even though regulation of high sea fisheries perhaps not is the best case of

international consensus, it should still be remembered, that it was possible to introduce controversial rules of enforcement as reciprocal inspection already in 1882 North Sea Fisheries Convention. In this convention, the then world naval and commercial fleets powers agreed to and accepted that each State Party could inspect and in some case even seize the other parties fishing boats, if the rules of the convention were violated. This principle of reciprocal state party inspection has been upheld in the midst of heated conflicts over the extent of exclusive fisheries jurisdiction through a series of regional regimes in the North Atlantic. Moreover, this principle of reciprocal inspection has now been applied in general treaty law as the 1995 United Nations Straddling Stocks Convention.

If such a principle which right from its first appearance was against the main constitutional principle of the freedom of high sea, similar much less controversial rules of enforcement on liability for violations both of coastal state enforcement and illegal marine research should be possible. The precise content of these new rules must be left to the involved parties. Such a development of more explicit operational rules might not happen. But at least this should be underlined that such a possibility exists.