



Summer 1968

Marine Resources and the Freedom of the Seas

Francis T. Christy Jr.

Recommended Citation

Francis T. Christy Jr., *Marine Resources and the Freedom of the Seas*, 8 Nat. Resources J. 424 (1968).
Available at: <https://digitalrepository.unm.edu/nrj/vol8/iss3/4>

This Article is brought to you for free and open access by the Law Journals at UNM Digital Repository. It has been accepted for inclusion in Natural Resources Journal by an authorized editor of UNM Digital Repository. For more information, please contact amywinter@unm.edu, lsloane@salud.unm.edu, sarahrk@unm.edu.

MARINE RESOURCES AND THE FREEDOM OF THE SEAS

FRANCIS T. CHRISTY, JR.*

The freedom of the seas, which has served as a fundamental principle of international law for three centuries, is a strange guide to adopt for economic enterprise. In the past, it served a useful purpose in diminishing jurisdictional impedimenta to the use of the seas and its resources. But at the same time, it removed exploitation and use from the realities of property. And today, for many purposes, the principle has been severely eroded, or has been maintained only at great cost to the world community. The continued reliance upon the principle, as it is presently understood, is both dangerous and damaging.

A. The Freedom of Access

The freedom of the seas is generally understood to be a freedom of access, such that no single user can exclude others from participating directly and simultaneously in the same use. Thus, any stock of fish can be exploited at the same time by any number of fishermen, and any ship can move through the same narrow strait, subject only to the rules of the road. In these terms, the wealth of the seas is associated with access, and can only be obtained by exercising the right of access. Those who do not participate directly in the use or exploitation of the seas do not receive any share of the wealth.

However, it is possible to distinguish between a right of access and a right to a share in the wealth. The distinction depends in part upon one's concept of the community interest in the marine environment and in part upon political reality. If the seas are to be considered the property of the world community (*res communes*), then the distinction between wealth and access is conceivable, since it is a distinction commonly made for the enjoyment of public property intra-nationally. If, however, the seas are considered the property of no one (*res nullius*), then exclusive rights to both access and wealth can be appropriated and the distinction is invalid.

Neither of these concepts is universally held. In certain circumstances and for certain resources, a nation may be guided by *res nullius*. Under different situations, the concept of community owner-

* Resources for the Future, Inc., Washington, D.C.

ship may dominate. If there is any trend discernible, it would appear that it is toward this latter point of view. The principle of the freedom of the seas has led many nations to believe that they have an interest in the seas that goes beyond the simple right of access. This has been expressed in international fishery agreements where there is a clear obligation for states to adopt measures to maintain a resource that is the property of the world community. It has also been expressed by President Johnson when he warned that "under no circumstances, we believe, must we ever allow the prospects of rich harvest and mineral wealth to create a new form of colonial competition among the maritime nations. We must be careful to avoid a race to grab and to hold the lands under the high seas."¹

In summary, the freedom of the seas is generally considered to be a freedom of access, and only through exercise of this freedom can one obtain a share of the seas' wealth. It is possible, however, to distinguish between the right to wealth and the right of access. And the distinction is one of the first steps necessary to the redefinition of the principle of the freedom of the seas.

B. *Changes in the Conditions of Freedom*

The modern development of the principle began with the publication of *Mare Liberum* by Hugo Grotius in 1608. Grotius, in defending Dutch enterprise on the high seas against the interference and claims of Spain, Portugal, and Britain, asserted that all nations should have free and equal access to the seas and its resources. He based his argument, in part, upon the assumption that the rewards of exclusive rights were not sufficient to incur the costs of obtaining and protecting exclusive rights.

Fish stocks were believed to be sufficiently abundant at that time, so that if a fisherman found congestion in one area, he could take fish from another area at no greater cost. Under these conditions, there is no particular incentive to acquire exclusive rights to a fish stock or fishery area because the rights would have no value. In addition, since most fish are highly mobile, it would be costly to attempt to protect a claim to exclusive rights.

The conditions assumed by Hugo Grotius had some validity in the 1600's. But since then, and more particularly in the past few decades, the myth of resource abundance has been totally disproven.

1. President Lyndon B. Johnson, *Remarks of the President at the Commissioning of the New Research Ship, the Oceanographer* (July 13, 1966).

To be sure, there are still many who talk in glowing terms about the vast untouched resources of the seas—and who, by intricate calculations, estimate that man could take fifty or more times the quantity of protein material than is now being caught—or who estimate that there are billions of tons of minerals lying in solution or on the floor of the sea. Such estimates, while they may be of interest in the long distant future, are irrelevant to the problems and opportunities of the sea over the next several decades.

The economic scarcity of fish is due to the facts that demand is limited to a few dozen species and that natural conditions limit the supply. Demand is not for fish in general, much less for undifferentiated protein material (although this may change). The demand is for cod, haddock, tuna, halibut, lobster, salmon, and a dozen or so other species. The vast quantities of plankton, blennie, and goggle-eyed scad are not of interest to man—only to other fish.

Some changes in demand may occur in response to changes in taste preferences and to changes in the ability to disguise the source of the protein. After a fish has been cut into bite-size chunks and covered with bread crumbs it is virtually impossible for the consumer to identify the kind of fish it once was. And so long as he enjoys the taste, he really shouldn't be concerned. Perhaps more important is the possible development of a market for a marine protein concentrate which may, if successful, significantly enlarge the fishery resource. Neither of these changes, however, is likely to diminish the demand for the well-recognized species of fish.

In addition to the limited demand, the supply is also restricted. In part, this occurs because of the wide range in fertility in the marine environment—ranging from virtual deserts in mid-ocean to exceptionally fertile waters, such as those off Peru, that may produce 300 or more pounds of protein per acre per year. Because of this, fishing effort is not diffused throughout the oceans, but is concentrated on those areas of high fertility producing fish for which there is a strong market.

Supply is also limited by man's inability to cultivate the seas. Any particular stock of fish is relatively fixed in size, subject only to natural fluctuations and to man's efforts to harvest it. For any newly exploited stock of fish, an increase in catching effort is accompanied by an increase in catch. However, for any stock there is a maximum annual catch that can be sustained over time. If larger amounts of fish are taken, then there will be fewer fish available in

subsequent seasons.² When this occurs, the stock is said to be over-fished or depleted. In addition, it is significant that under these conditions, reductions in the amount of fishing effort may lead to higher total annual yields. "It has been estimated that the total effort on some of the major stocks of cod and haddock in the northeast Atlantic has increased so far that substantially the same or possibly an even slightly greater catch could be taken with one-half to two-thirds of the present level of fishing."³

The severity of depletion might be alleviated by the discovery of new stocks of the conventional species. But "at the present rate of development few substantial unexploited stocks of fish accessible to today's types of gear will remain in another 20 years."⁴ The development of new kinds of gear and new techniques of fishing will also have limited value. Indeed, such innovations are likely to be applied to stocks that are already over-fished thereby depleting them even further.

The outlook is gloomy. As demand increases, there is a growing concentration of fishing effort in those areas where the high valued species occur, and with the application of increased effort, the stocks and the total seasonal catch will become smaller and smaller. It is clear that the assumption of abundance can no longer be maintained and that there has been a significant change in this condition, which is one of the fundamental ones underlying the principle of the freedom of the seas. The incentive to appropriate exclusive rights to fisheries is rising rapidly and, in some cases, has already led nations to incur the costs (economic and non-economic) of asserting and protecting exclusive claims.

The incentive to appropriate exclusive rights to the mineral resources of the marine environment could not have been anticipated by Grotius. Today, however, the incentive is particularly great in near-shore areas, as is illustrated by the recent sale of oil and gas rights in the federal waters off the coast of Santa Barbara. There, the oil companies bid more than \$600,000,000 for the exclusive rights to exploit the resources under 350,000 acres. And one tract of 5,760 acres, all of which is under 1,200 or more feet of water, was obtained for a bid of \$21,000,00.

2. For a more precise statement of this see J. Crutchfield & A. Zellner, *Economic Aspects of the Pacific Halibut Fishery*, 1 Fishery Industrial Research 1 (1963).

3. *Food and Agriculture Organization of the United Nations*, *The State of Food and Agriculture 1967*, at 124 (1967).

4. *Id.* at 120.

The incentive to obtain rights to deep sea manganese nodules is not yet clear. These nodules presumably cover vast areas of the deep sea floor, but there are differences in the depth in which they occur, in the content of manganese, copper, cobalt, and nickel, in their density, in the topography of the bottom, and probably in other characteristics that may lead to wide differences in the values of different locations.⁵ When development becomes economically feasible, these differences will militate against maintaining free and equal access under the principle of the freedom of the seas.

The conditions underlying the non-extractive uses of the marine environment have also changed considerably since the 1600's. Shipping has increased to the point where some 750 vessels per day now pass through the Straits of Dover, leading to greater costs in navigation, in the provision of navigation aids, and in collision insurance. Shipping is also finding it increasingly difficult and costly to thread its way through oil rigs and fishing fleets. And several recent incidents have indicated the growth in the problem of oil pollution, both from the pumping of bilges and from accidents to oil carriers.

These and other trends indicate that ocean space and resources, far from being abundant, are actually becoming increasingly scarce. With growing scarcity comes increasing reward to the appropriation of exclusive rights. At the same time, the economic cost of appropriating and protecting such rights is being reduced by technological innovations in aircraft, surface vessels, monitoring devices and satellites. Thus, the conditions argued by Grotius to support the principle of the freedom of the seas no longer obtain for many marine resources and uses, and are becoming less relevant for others.

C. *The Costs of Maintaining Freedom*

1. Waste

The attempts to maintain the principle of the freedom of the seas lead to highly detrimental consequences—to economic and physical waste and to conflict. An indication of the waste has already been given for fisheries in physical terms: where a stock of fish is limited and the amount of effort applied to it increases, the

5. See J. Mero, *The Mineral Resources of the Sea* (1965); and D. Brooks, *Deep Sea Manganese Nodules, The Law of the Sea: The Future of the Seas' Resources* (L. Alexander ed. 1968).

annual yield from the stock will reach a maximum point and then diminish. This occurs because, under free and equal access, no individual fisherman can afford to restrain his own effort in the interest of future returns, since anything he leaves in the sea for tomorrow will be taken by others today. Thus it becomes necessary to invoke controls over the fishermen—to reduce their freedom by regulating their effort.

A less apparent but more significant form of waste is that of the inability to prevent excess applications of capital and labor. The open access, under the freedom of the seas, means that as long as there is any economic rent produced in the fishery, it will attract more fishermen until all rent has been dissipated and total costs are equal to total revenues.⁶ There have been a number of studies indicating the magnitude of the economic waste associated with the applications of redundant amounts of capital and labor.⁷ A recent estimate by FAO indicates that “with present levels of landings of cod from the north Atlantic having a total value equivalent to approximately U.S. \$350 million, and assuming that under present conditions of overexploitation costs are equal to the value of landings, a halving of present costs would represent a saving of the magnitude of \$175 million per year.”⁸ For the world as a whole, the waste may be on the order of several billion dollars a year—a waste caused by the maintenance of free access under the principle of the freedom of the seas.

Where the development of marine minerals has become economically feasible, the condition of open access is not maintained. The exclusive rights of coastal states have been extended to cover the minerals of the floor of the continental shelf, as these minerals began to attract capital. The provision of some form of exclusive

6. See H. Gordon, *The Economic Theory of a Common Property Resource: The Fishery*, 62 *Journal of Political Economy* 124 (1954); A. Scott, *The Fishery: The Objectives of Sole Ownership*, 63 *Journal of Political Economy* 116 (1955); J. Crutchfield and A. Zellner, *supra* note 2; Smith, *Book Review*, 56 *The American Economic Review* 1341 (1966).

7. E. Lynch, R. Doherty, & G. Draheim, *The Groundfish Industries of New England*, Circular 121, U.S. Fish and Wildlife Service (1961); J. Crutchfield and A. Zellner, *supra* note 2; D. Fry, *Potential Profits in the California Salmon Fishery*, 48 *California Fish and Game* (1962); W. Royce, *et. al.*, *Salmon Gear Limitations in Northern Washington Waters*, Contribution No. 145 University of Washington, College of Fisheries (1963); and J. Crutchfield & G. Pontecorvo, *The Economics of the Pacific Salmon Fisheries* (to be published).

8. *Supra* note 3, at 144.

rights to the minerals of the deep sea floor is more difficult, but nonetheless desirable. Until the freedom of the seas is restricted to the point where exclusive rights to the sea floor can be obtained, investment is not likely to be forthcoming. Or, if investment does flow in, it is likely to precipitate a race among nations and inefficient utilization of the resource.⁹

For many of the non-extractive uses of the ocean, the maintenance of the principle of the freedom of the seas may also have damaging consequences. For shipping, even though the freedom is modified by the rules of the road and the chances of collision are reduced, there are still costs associated with congestion. Since there is no market for the use of space, there is no mechanism for allocating use in an efficient manner. Thus, small coastal freighters with low value, bulk cargo may delay other vessels with higher value and more perishable cargo in congested shipping areas. Such delays may be costly to the shippers and to the economies of the states making use of the vessels. While it is obviously difficult to evaluate the significance of such costs, in view of many factors that might be involved, this illustrates that even in shipping, free access may lead to wasteful uses of ocean space.

Some of the damages of open access, under the principle of the freedom of the seas, are more severe than others, but for all marine resources and uses of marine space, free access will become wasteful as the resources and space become scarce and demand continues to increase.

2. Conflict

Where the costs of open access are particularly high and obvious, the principle of the freedom of the seas will be eroded. This has already occurred in many areas and is likely to occur with increasing frequency in the near future. For the three centuries preceding World War II, most nations were content with their marine borders. In the past few decades, however, these borders have been widely extended. The Truman Proclamation in 1945 asserted United States jurisdiction over the resources of its continental shelf. Chile, Ecuador, and Peru responded by extending exclusive rights to fisheries as well as the sea floor out to 200 miles. More recently, a

9. F. Christy, Jr. *Economic Criteria for Rules Governing Exploitation of Deep Sea Minerals*, 2 *The International Lawyer* 224-42 (RFF Reprint No. 72, March 1968).

large number of states (including the United States) have extended their fishery limits to 12 miles.

In 1958, the Geneva Convention on the Continental Shelf permitted coastal states to extend exclusive rights to sea floor minerals out to the 200 meter isobath or "beyond that limit, to where the depth of the superjacent waters admits of the exploitation of the natural resources . . ." This open-ended definition, limited only by exploitability and some ill-defined concept of proximity, provides no deterrent to further encroachment on the freedom of the seas. Exploitation is under way in depths greater than 300 feet. The \$21 million bonus for the lease off Santa Barbara for a tract over 1200 feet deep indicates the likelihood of commercial exploitation at that depth in the near future, and beyond that, the Department of the Interior "has indicated an assertion of jurisdiction beyond the 200 meter line by publishing leasing maps for areas off the Southern California coast as far as 100 miles from the mainland, at depths as great as 6000 feet."¹⁰

For fisheries beyond coastal limits, there are some interesting developments that may, if successful, serve to further restrict the freedom of the seas. These are the international agreements, under which the signatories divide up a total catch quota among themselves on the presumption that other states will not enter the fishery.

The first of these and the most successful from an economic point of view is also unique in that it distinguishes between a right of access and a right to a share in the wealth. Under the North Pacific Fur Seal Treaty, signed in 1911, the harvest of fur seals is restricted to those nations on whose islands the fur seals breed (the United States and the Soviet Union), while the other signatories (the Canadians and Japanese) abstain from taking seals on the high seas in return for a share of the furs.

The other quota agreements do not make this distinction, but they too depend upon the presumption that non-signatories will not enter the fishery. These agreements include the division of the whales of the Antarctic and the salmon of the Pacific. In the western Pacific, the Soviets and the Japanese arrive at their respective shares by annual negotiations that generally work to the detriment of the

10. Frank J. Barry, *Administration of Laws for the Exploitation of Offshore Minerals in the United States and Abroad*, a paper presented at the American Bar Assn. National Institute on Marine Resources, Long Beach, Calif., June 9, 1967.

Japanese.¹¹ In the eastern Pacific, the United States and Canada arrived at a 50-50 split that has worked fairly well.

For the eastern to mid-Pacific (175° West) a unique form of exclusion has been achieved under the doctrine of abstention. Under this doctrine, where a resource is fully utilized (in a biological sense) and where states are investing in the regulation of the stock, other states that are a party to the treaty agree to abstain from fishing the stock. Thus, the Japanese (who signed this treaty in 1952 as a condition for our signing of the Peace Treaty) have excluded themselves from salmon fishing in the eastern Pacific. More recently, it has been proposed that the fourteen or so nations that catch the groundfish of the North Atlantic work out total catch quotas for each of the depleted stocks of fish and then divide up the quotas among themselves.

These attempts, to the extent that they are successful in excluding free access, will serve to erode the principle of the freedom of the seas. Their success, however, may not be very durable or widespread. Protection of the presumed exclusive rights of the signatories may be difficult since these stocks cover vast areas of the ocean, and since increasing demands are likely to increase the incentives to participate. The freedom of the seas gives the non-signatories every right to do so, and since under current conditions a share of the wealth can only be obtained by exercise of the right of access, there is no reason why the non-signatories should sit aside and watch a few nations divide the wealth of the high seas fisheries.

CONCLUSION

The principle of the freedom of the seas has been maintained, and quite satisfactorily for a long time. As long as the use of the seas and its resources by one did not significantly decrease the use by another, there was no reason to prevent free access, and no reason to separate the right of access from a right to a share in the wealth. But for many resources and uses of the marine environment, this basic condition of abundance has long since passed. To maintain free access in view of this change is to persist in the waste and inefficient use of the seas. Access must be closed, and there must be provisions under

11. Shigeru Oda, *Japan and International Conventions Relating to North Pacific Fisheries*, 43 *Washington Law Review* 67 (1967). One of the costs of annual negotiation of quotas is that of the time required to reach agreement. Oda points out that "since 1957, the Commission has spent as much as 52, 100, 122, 107, and 105 days, discussing this matter at its annual sessions."

which a user can acquire a right to exclude others from participating directly in the same use.

But the association of access with a share in the wealth makes such controls extremely difficult and leads inevitably to conflict. Nations, to the extent that they feel they have an interest in the resources beyond their coastal limits (however described), are not likely to accept arrangements that exclude them not only from access, but also from a share in the seas' wealth.

Thus, on the one hand, the maintenance of the freedom of the seas can only lead to greater and greater waste, while on the other hand, the increased extension of exclusive rights will inevitably lead to conflict. A redefinition of the freedom of the seas, which disassociates the right of access from the right to the seas' wealth, may resolve this dilemma. Closing access would permit efficient operations by the entrepreneurs. Extracting ground rents, paid by the entrepreneurs for their exclusive rights, might satisfy the interests of the world community sufficiently to reduce conflict and provide for a stable regime.