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Constraints on Aquaculture Projects

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It is not to be unexpected that international and domestic legal regimes at present do not fully accommodate themselves to the practice of aquaculture. Although admittedly practiced for some time in isolated parts of our planet, the technology prerequisite to the successful commercial exploitation of aquaculture has not until recently been available. In fact, in more cases than not, viable technologies have not as yet been fully perfected. And in those instances wherein aquaculture practices have been technologically possible, economic considerations have forestalled development in influencing decisions to opt for cheaper food production on land surfaces.

These technical and economic considerations have had a direct bearing on the lack of development of the law regarding aquaculture. Basically, a void of technology coupled with high economic costs has in effect eliminated the necessity for the law to consider how aquaculture is to fit into the scheme of things.

Therefore, in considering institutional constraints on the development of aquaculture, we must approach legal regimes analytically and carry forward principles in order to accommodate new realities. Legal regimes may appropriately be viewed as establishing lines of division whereby relationships are defined either between or among competing uses or practices, or between or among competing persons and institutions. Thus, it is the function of the law to define and establish the rights and relationships between these competing forces. Of course, these dividing lines must of necessity be adjusted from time to time as new elements spring into existence. At first it may seem that these processes are so very unpredictable that there is no relationship to scientific analysis. However, it may well be that the law is simply a product which is a function of time and the composition of which is dictated by an infinite number of imputed factors which are in an everlasting process of adjustment.

Aquaculture has not heretofore gained the attention to effect, nor displayed the requisite forces to command, a noticeable adjustment. Thus, at this point in time the law more often than not either is silent with regard to principles directly addressing themselves to aquaculture or, perhaps more likely, is expressed in favor of a competing force or use. Therefore, there are indeed at present substantial institutional constraints on the development of aquaculture which are expressed by law.

The relevant inquiry then becomes, first, what at present are these institutional constraints, and second, how is the dynamic of law likely to change.

PUBLIC CONSTRAINTS

Navigational Rights

Navigation has been a traditional use of the high seas, and freedom of navigation on the high seas has been expressly recognized in some of the most basic expressions of the law of nations, such as, the Convention on the High Seas. However, the freedom of navigation is not an absolute, but rather gives way to some extent to other freedoms, for example, fishing. Although traditional definitions of fishing may not necessarily include such an activity as mariculture, the question is an open one whether such a new use for the high seas may coexist with such a traditional one as navigation. However, considering that the present law is but an outgrowth of the practice of nations, it is readily foreseeable that mere increased usage of aquaculture may result in its legal recognition as a proper, lawful, and reasonable use of the high seas. In any given case, it is apparent and compelling that the only workable test would be reasonableness, and it may rather persuasively be argued that an activity which is mobile, i.e., navigation, should yield to an activity which is essentially stationary. Mariculture projects of limited size and apart from traditional sea lanes certainly could not, for those reasons, be said ipso facto to be unreasonable uses of the high seas. Finally, it cannot be doubted that an activity resulting in the feeding of a population is reasonable.

In the territorial sea there exists the right of innocent passage for foreign vessels which has been memorialized by conventions. However, the right to innocent passage also is not absolute. There is, of course, the duty of the coastal state to not hamper innocent passage and to give publicity to dangers to navigation. It is not mandated that there be no dangers to navigation, but only that adequate notice be given so that a vessel may avoid the particular problem. Thus, a mariculture activity not totally obstructing innocent passage and for which adequate notice is given should not be in violation of this right. Further, it is lawful for the coastal state

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to prescribe rules and regulations for the navigation of ships exercising the right of innocent passage. Therefore, if a coastal state exacts of users compliance with its navigational routes, which are reasonable in nature and which compel the circumvention of, and thereby protect, a mariculture activity, there should be no violation of this established principle.

Just as in the international community foreign vessels have a right of innocent passage, there is also a right for nationals to enjoy free navigation. However, such a right is not exclusive in nature. Consequently, there is no reason why government may not impose reasonable regulations in the exercise of its police power and in support of its proper and recognized interest in the public health, safety, and welfare to limit navigation from areas wherein there is aquaculture activity. And, again, such restrictions would appear to be ipso facto reasonable if in support of a paramount governmental concern such as the feeding of its population. This theory not only supports the exclusive utilization of certain limited areas for mariculture activity, but it also can be extended to protect and allow the construction, when necessary, of dams, dikes, wharves, piers, and screens.

Finally, in those states wherein the supporting society has granted its government the right to enact positive law in support of the power to regulate and further commerce, a legal theory supporting legislation in aid of aquaculture could be advanced that such legislation is supportable under the commerce power, since the activity is in furtherance of commerce.

Fishing Rights

The freedom of fishing, like that of navigation, is recognized in international law by express language in relevant conventions. And, as with navigation, this freedom is not absolute. Although an aquaculture project requires the exclusive use of particular waters, it does not draw necessarily upon the fishing resources of the area. Therefore, while the aquaculturist may exclude others from fishing within the particular waters, he does not deplete the natural fishing reserves. To the contrary, in certain projects, e.g., shrimp farming, hatchability may be so extensive that the excess could be cast into adjacent waters and thus increase the supply for conventional fishing.

There is also some precedent in international law, as established by the custom and usage of nations, regarding an exclusive use of waters to which fishermen are denied access. This concept finds expression in the exclusive use of waters for naval maneuvers, for the testing of nuclear devices, and for the testing of missiles. Also, as a matter of custom, traditional fishermen themselves are sometimes exclusive users of waters in that the use of dragnets by large fleets of fishing vessels excludes others from the immediate area being fished. A similar usage is a permanent installation attached to the floor of the sea in support of traditional fishing. This practice is, in fact, supported in law by the Convention on Fishing and Conservation of the Living Resources of the High Seas.

Cables and Pipelines

The aquaculturist "possessing" rights to a certain area should be compensated for a "taking" by eminent domain if cables and pipelines are placed nearby under governmental auspices and damages are sustained. These cables and pipelines can, of course, completely ruin a project. Of course, both aquaculture and cables and pipelines may be in the public interest, and, therefore, a balancing of needs and interests must be made.

Recreational Rights

The rights of the public to use waters for recreational purposes must be recognized. These rights, among others, include bathing, boating, and fishing. However, the police power of the state can be used to deny them for other valid and/or superior purposes. With an increasing worldwide population, aquaculture over time will, no doubt, be determined to serve a greater purpose. The state already has: (1) jurisdiction over "public" waters; and (2) the police power. Therefore, all that remains is the public policy determination.

Pollution and Water Quality

Pollution is currently becoming a paramount problem in the industrialized nations of the world. As more and more waters become polluted, the developing countries will of necessity also become concerned with this problem. Undoubtedly, coastal areas, where aquaculture projects are the most possible and promising, will be affected. Some of the problems to be faced are:

1) Municipalities and riparians discharge sewage and rubbish into waters.
2) Chemicals utilized for crop spraying may wash downstream.
3) Oil spills may develop.
4) Industrial pollution of all types is ever increasing.
5) Siltation resulting from dredging and filling operations will increase.
6) Predator fish which victimize aquaculture often are attracted to pollution areas.

Not only international law problems are involved, but there may be conflicts in the internal laws of certain nations as well. For example, the United States Constitution grants to the Federal Government exclusive jurisdiction over admiralty matters; however, recent court decisions have held that pollution control is primarily in the hands of the state and local governments. There is, nevertheless, a growing realization that industrial pollution may be too big a problem for the state and local governments to handle by themselves.

These various competing forces are constantly working. There can be, however, a combination of interests between aquaculturists and "downstream" cities and property owners, i.e. obviously both want and need clean water.

PRIVATE CONSTRAINTS

Riparian Landowner's Rights

Definitions might be a proper point of beginning. "Riparian" is a term which refers to that belonging to the bank of a river or other watercourse. "Littoral" is a term which refers to that belonging to the shore of the sea, lake, or other tidal body which does not possess the characteristics of a watercourse. Here the

term "riparian" shall be used for both, since, on principle, there is often little difference between the two.

A riparian owner is a landowner whose property borders on a body of water. Whether land "borders" on a body of water is a legal question which is resolved in a particular jurisdiction as a matter of definition. For example, a landowner may by law be entitled to riparian rights in a body of water if the property which he owns extends to the ordinary high-water mark.

Rights attaching to the riparian owner are those incident to his being adjacent to the body of water. These rights usually inure to the benefit of the riparian owner although in a strict legal sense they are not "owned" by him. These rights may include those of ingress, egress, boating, bathing, fishing, as well as a right to an unobstructed view and a right to construct a pier or wharf to the point of navigability.

These rights may, of course, present serious practical difficulties to the practice of aquaculture; and, since they are characterized usually as "rights," one desiring to practice aquaculture must deal with each even though the riparian owner may not at a given time be in the exercise of any one or all of them.

The right of ingress and egress entitles the riparian owner to access upon the water from his land to the point of navigability. This right is not customarily expressed in relation to the size of the vessel utilized. Thus, for example, the aquaculturist cannot rely upon the continued use of a canoe by a riparian but should be prepared to guard against subsequent utilization by a power boat which might disrupt the reproduction cycle of a particular culture. Another right sometimes concomitant with riparian ownership is that of ingress and egress to the main body of water. Therefore, the aquaculturist may not be able to rely merely on rapprochement with adjacent riparian owners, but must also in such cases secure a harmonious relationship with those more distant. These problems are especially acute when it is necessary, by the erection of a dam or dike, to close off a lagoon, bay, or creek.

Of course, the aquaculturist will experience few problems if he himself enjoys the status of a riparian and if the aquaculture activity does not interfere with an adjacent owner. Indeed, it may be, as a matter of production, not only advisable but even necessary to support the aquaculture activity from land installations. Thus, land ownership or use may at once satisfy a technical production need and eliminate a legal constraint.

Another associated consideration is the patrimony of the state which, although perhaps not to be strictly classified as a "private" constraint, is of a similar nature. In those jurisdictions where the national patrimony includes coastal and/or submerged lands, the aquaculturist must be prepared to deal with governmental authorities and negotiate appropriate leases.

SUMMARY

It would appear, in summary, that these various rights and constraits are, as a matter of historical understanding, but functions of uses. Aquaculture, as it becomes viable on account of technological possibility and economic feasibility, is a new use. As this new use is practiced, undoubtedly legal regimes will accommodate it not only to existing provisions of law, but also to a rule of reason and a test of reasonableness. Finally, as aquaculture becomes not a mere possible use but rather a social and practical necessity in order to feed the populations served by the rule of law, a particular legal jurisdiction will of necessity adjust either with ease and speed or with that social pain so often experienced when a society fails to recognize correctly its own necessary priorities.

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