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# ANTITRUST AND THE COMMONS: COOPERATION OR COLLUSION?

by Bruce Yandle

## EXECUTIVE SUMMARY

People have long been aware that unbridled access to natural resources could result in ruin for all. Whether by custom, kinship, or ownership, people found ways to assign limited rights for the sharing of pastures, streams, and hunting grounds. The story of property rights, whether common, public or private, is a story about limiting access to otherwise common-access resources.

Efforts to sustain stocks of species and increase productivity of natural resources inevitably lead to an access restriction. In the absence of rules for managing common-access resources, initial output will be higher and prices at first will be lower. Eventually, unbridled use will destroy a pasture, fishery or wildlife population. Access restrictions when imposed systematically assure long periods of sustained environmental use and can avoid the tragedy of the commons.

The “Tragedy of the Commons” is defined as, “a resource used by a number of individuals but is unrationed by rules, custom or property rights.” As demand for the resource increases, and its existence is threatened, society runs the risk of losing the resource. Yet individuals are motivated to respond by increasing their use of the resource. For the resource to survive, access must be rationed by formal or informal means. However, in the minds of some, rules, customs, and property rights that limit access and production raise the specter of monopoly control.

But the perception of monopolizing is a different matter from the fact of monopoly. In any event, we live in a world with antitrust statutes, which can make socially beneficial conservation efforts a risky business. Actions taken to avoid a tragedy of the commons can trigger antitrust investigations. Although restrictions to conserve a natural resource may seem indistinguishable from blatant efforts to raise price and gain monopoly profits, the underlying logic for the two actions is entirely different. Successful cooperative efforts to conserve a common-access resource yield an increase in wealth and social well-being. On the other hand, it is widely argued that collusive efforts to monopolize markets yield a net reduction in social well-being, while redistributing wealth from consumers to producers.

This paper argues that the tragedy of the commons represents a real problem in many areas of natural resource and environmental protection and that current antitrust laws inhibit society’s ability to resolve those problems efficiently and creatively. At a minimum, antitrust authorities should become aware of the conflict in these two policy areas and be more receptive to environmental reasons for organizing cooperative access restrictions. Barring more fundamental changes in antitrust law, exemptions should be provided to cooperative endeavors undertaken for conservation and pollution control purposes. These exemptions should be similar to those now granted to labor arrangements, research and development ventures, baseball, and many other activities in the economy. The threat of wasted and destroyed fisheries, loss of species, and diminished water quality in rivers is real; the possibilities for associated monopoly restrictions that impose meaningful costs on the economy are purely speculative and, if achieved, are apt to be small and fleeting.



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## INTRODUCTION

Long before Garrett Hardin explained the “Tragedy of the Commons,” ordinary people were aware that unbridled access to fisheries and other natural resources could result in ruin for all.<sup>1</sup> Whether by custom, kinship, or outright ownership, people found ways to assign limited rights for the sharing of pastures, streams, and hunting grounds. Indeed, the story of property rights, whether common, public or private, is itself a story about limiting access to otherwise common-access resources. Efforts to sustain stocks of species and increase productivity of natural resources inevitably lead to an access restriction. In the absence of rules for managing common-access resources, initial output will be higher and prices at first will be lower. Eventually, unbridled use will destroy a pasture, fishery or wildlife population. Access restrictions when imposed systematically assure long periods of sustained environmental use and can avoid the tragedy of the commons.

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In the minds of some, rules, customs, and property rights that limit access and production raise the specter of monopoly control. As Adam Smith reminds us: “People of the same trade seldom meet together, even for merriment and diversion, but the conversation ends in a conspiracy against the public, or in some contrivance to raise prices.”<sup>2</sup> But the perception of monopolizing is a different matter

from the fact of monopoly. In any event, we live in a world with antitrust statutes, which can make socially beneficial conservation efforts a risky business.<sup>3</sup> For example, a community of oystermen and shrimpers aware of the effects of overfishing may form an association, meet together and coordinate their actions to limit the catch.<sup>4</sup> In doing so, they run the risk of violating federal and state antitrust laws whose broad language prohibits collusion and other anticompetitive behavior. To illustrate, section two of the Sherman Antitrust Act (1890) states in part that “Every person who shall monopolize, or attempt to monopolize, or combine and conspire with any other person or persons to monopolize any part of the trade or commerce among the several States . . . shall be deemed guilty of a felony.”<sup>5</sup> Interpreted literally, the statute precludes a meeting of competing fishermen who seek to coordinate and limit production activity.

Conservationists find themselves caught between the pit of natural resource tragedies and the swinging pendulum of antitrust enforcement. Actions taken to avoid a tragedy of the commons can and do trigger antitrust investigations. Just the possibility of being charged and found guilty of a felony is enough to discourage sound natural resource management.

Although restrictions on overfishing to conserve a natural resource may seem indistinguishable from blatant efforts to raise price and gain monopoly profits, the underlying logic for the two actions is entirely different. Successful cooperative efforts to conserve a common-access resource yield an



increase in wealth and social well-being. On the other hand, it is widely argued that collusive efforts to monopolize markets yield a net reduction in social well-being while redistributing wealth from consumers to producers.

In their discussion of the twin problems formed by overfishing and cooperative efforts to address it, Anderson and Leal refer to a 1950s' antitrust action that was affirmed under appeal in the U.S. District Court.<sup>6</sup> The case involved an association of Gulf Coast shrimpers and oystermen that had operated across five major Mississippi ports since the 1930s.<sup>7</sup> The association's price committee did indeed set floor prices to be charged to dealers by all members. Many dealers were also boat owners that operated in the association. Gulf Coast dealers who sought

**The Tragedy of the Commons:** This occurs when a resource is used by a number of individuals but is unrationed by rules, custom or property rights. As demand for the resource increases and it is threatened, society runs the risk of losing the resource; yet each individual (operating under the rule of capture) is motivated to respond by increasing his or her use of the resource. For the resource to survive, access must be rationed by formal or informal means.

to purchase oysters and fish from nonmembers were boycotted by cooperating members of the association.<sup>8</sup> Viewed as intent to monopolize, the association is seen as simply working to raise price and limit the entry of competing fishermen — a naked effort to gain market power. Seen instead as a device for managing a commons, the association rationed the harvest by maintaining an otherwise depletable natural resource. In affirming the lower court's antitrust decision, the appellate judge referred to the Fishermen's Collective Marketing Act, which states:

A cooperative association of boat owners is not freed from the restrictive provisions of the Sherman Antitrust Act . . . because it professes, in the interest of conservation of important food fish, to regulate the price and the manner of taking fish unauthorized by legislation and uncontrolled by proper authority.<sup>9</sup>

We are left with the question: Is it better to ravish a commons than to form an association that provides access-limiting preservation of a fishery?

In recent years, policy analysts have again reviewed the evolution of property rights as they searched to identify appropriate institutions for managing environmental use. Instead of dealing with over-fishing or over-hunting — the historic natural resources issues — the newer problems have to do with the unrationed discharge of wastes into streams of water and air, yet another common-access management challenge. River-basin associations and government-sponsored airshed management schemes now offer market-based alternatives to command-and-control regulation of each and every discharger by centralized authority, which in truth yields the ultimate form of monopoly control.<sup>10</sup> Were it not for government sanctions, the new institutional counterparts to fishing associations would trigger an antitrust response. But should we incur the political and administrative costs of building government-managed institutions that inevitably involve monopoly restrictions enforced by federal authorities when common-sense actions taken by ordinary people can address resource problems with a smaller chance of imposing systematic monopoly costs on the economy? Should timber owners who join together to limit cutting for the purpose of maintaining red-cockaded woodpecker habitat be forced to defend themselves in an antitrust investigation? Should a group of bison ranch operators who seek to expand the bison population avoid

*Conservationists find themselves caught between the pit of natural resource tragedies and the swinging pendulum of antitrust enforcement.*



meetings where price and management of herd size are discussed? Cooperative arrangements can be collusive, but they can also form the basis of sound conservation.

**The Monopoly Concern:** A belief that economic agents acting alone or in concert with others can successfully restrict output in ways that force consumers to pay more over time than they would in the absence of such collusive arrangements. Economic power becomes the counterpart of physical power, forcing consumers to transfer gains normally theirs to the monopolist.

This paper argues that the tragedy of the commons represents a real problem in many areas of natural resource and environmental protection and that current antitrust laws inhibit society's ability to resolve those problems efficiently and creatively. At a minimum, antitrust authorities should become aware of the conflict in these two policy areas and be more receptive to environmental reasons for organizing cooperative access restrictions. Barring more fundamental changes in antitrust law, exemptions should be provided to

cooperative endeavors undertaken for conservation and pollution control purposes. These exemptions should be similar to those now granted to labor arrangements, research and development ventures, baseball, and many other activities in the economy. The threat of wasted and destroyed fisheries, loss of species, and diminished water quality in rivers is real; the possibilities for associated monopoly restrictions that impose meaningful costs on the economy are purely speculative and, if achieved, are apt to be small and fleeting.

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Counterbalancing the real with the speculative provides a motivating principle for reviewing the twin problems: The nation's natural resource management policies should avoid antitrust enforcement actions that are purely speculative when users of natural resources seek to avoid real losses from a tragedy of the commons. The nation will never be able to afford enough environmental police to manage the problem. The natural and logical incentive for users of natural resources to conserve resources by informal means should be fortified, not chilled by antitrust authorities who intervene when

cooperative plans are underway.<sup>11</sup>

The paper proceeds in the following way: The first section draws on economic principles and discusses briefly the common-access problem and how avoidance of over-use of an environmental asset leads logically to access restrictions. The section explains how the search for efficient use of a commons actually provides the basis for firms and all other economic organizations. Considered in the most restrictive way possible, every firm, fishing community, and even every family imposes restrictions on the use of inputs and, hence, on output. This section is concluded with a discussion of the rare circumstances that might cause some of these restrictions to impose a monopoly deadweight loss on society.

The next section discusses more fully the development of cooperative institutions for managing environmental assets. Examples of cooperative arrangements offered in the section illustrate how access restrictions logically follow. This section provides a brief set of conditions that must be met before concluding that an antitrust risk is present. It is here that antitrust concerns are largely put to rest.



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## AVOIDING THE TRAGEDY OF THE COMMONS

### *The Shepherd Story*

The classic recounting of the tragedy of the commons by Garrett Hardin tells of shepherds who move their sheep to a common pasture.<sup>12</sup> An unstated but critical assumption undergirds the story: Each shepherd acts independently and is totally indifferent to the well being of every other shepherd. There are no kinship patterns, customs, rules, and prospects of reciprocal dealing that affect their actions. Caught this way in a prisoner's dilemma, each shepherd seeks to maximize the weight gained by his sheep without regarding the effect of expansion on the total grazing flock; each shepherd tends to expand his personal flock.<sup>13</sup> Uncoordinated expansion ultimately can lead to denuded fields and the necessity for all to seek greener pastures. Hardin makes his point:

Therein lies the tragedy. Each man is locked into a system that compels him to increase his herd without limit — in a world that is limited. Ruin is the destination toward which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons.<sup>14</sup>

Hardin's story relates to a pasture used in an uncoordinated way by a community of shepherds, but it can easily be considered as a fishery and competing fishers, oil fields and uncoordinated drillers of oil, and rivers that receive polluted waters and a group of separately operated waste dischargers. The logic is the same.

Each prospective user of the natural resource, be it pastures, a pool of oil, or a fishery recognizes the productive value of the resource.<sup>15</sup> Each user learns that expanded grazing, drilling or dumping leads to smaller additions to total output. In short, the average yield falls with increased use. With few sheep on a fixed-size pasture, the average weight gained is high. As the pasture becomes crowded, average weight gain declines. Indeed, if uncoordinated crowding continues, the total weight gained on the pasture will reach a peak and decline — the onset of a tragedy of the commons.

Consideration of the average gain motivates expansion for uncoordinated resource users, but it is the marginal gain that really matters. What is the gain in weight for all sheep taken together when one additional sheep is added to the collective flock? How much does total oil production increase for the field when one additional well is drilled to the common pool? How much does ambient water quality change when one additional unit of waste is discharged to the river? If the pasture, pool of oil, or river had a single wealth-maximizing owner, he would be sensitive to marginal relationships, not the average gained by each isolated unit. The single owner would seek to limit use to the point where additions to total output were equal to additions to the total cost of that output; the owner would logically search for ways to sustain the long-run value of his asset.

*Antitrust authorities should become aware of the conflict in these two policy areas and be more receptive to environmental reasons for organizing cooperative access restrictions.*



*The traditional anti-trust concern revolves around the degree to which users of a commons can affect market prices and maintain a monopoly.*

Consider a shepherd who is making a decision to add one sheep to his small flock now grazing on the common pasture. The one additional sheep, like one more firm drilling to extract oil from a common pool, will crowd, just slightly, every other unit that uses the resource. An additional sheep will place additional demands on the pasture. The incremental gain for the population of sheep (or oil drillers and pumpers) is positive over part of the range of use, but eventually becomes negative as the aggregated impact of additional sheep affects the flock. But the individual shepherd working in isolation from the rest lacks knowledge of the aggregate impact of his decision to expand his flock. He knows only the effect on his smaller flock. Even if he knew, incentives on the commons call for further expansion of the shepherd's personal flock.

Now suppose the shepherds begin to coordinate their use of the pasture; they may gather information on the full effect of flock expansions and recognize reciprocal relationships, agree to pay one member of the community to monitor entry and use, or join together to form a sheep-raising association. Suppose a number of restricted grazing units is assigned to each user. If coordination is perfect and costless, the pasture will be used to the point where the benefits of adding one more sheep equal the costs it imposes – where marginal additions to output equal marginal cost. Total weight gained will be maximized. Wealth will increase. This is the efficient solution in a zero transaction cost world, one which sustains the pasture and the shepherd community. And who will get the benefits of the fatter sheep? Consumers of sheep will gain by being assured of a sustained supply. Most likely the owner or association manager will receive some of the gains, and sharing arrangements can be determined to distribute some of the gain to the other shepherds. Note, the shepherds have colluded and restricted access, but the gain to society is positive. If the shepherd community restricted use even more, then total gains would fall; the wealth gained by society would decline. However, even this would have to be judged in terms of the benefits from having escaped a tragedy of the commons. “Collusion” in this context is beneficial.

But why would the shepherd community or firm impose restrictions on output beyond the amount needed to maximize weight gain? Further output reductions may raise the average and marginal gains from the pasture, but will also lead to a smaller total weight produced on the pasture. Price is the relevant consideration. If output from the shepherd community is a small part of a competitive market for sheep, then restrictions on output by one community will be folly. Reductions in output will reduce profits. However, if the community produces a unique variety of sheep or occupies a separate market niche that is insulated from competitive entry, then it is possible that higher prices that accompany output restrictions will more than offset the reductions in total weight gained. The traditional antitrust concern revolves around the degree to which a community of shepherds, fishers, dischargers of waste or other users of a commons can affect market prices and maintain a durable monopoly.

***The Generalized Case for Restrictions***

It is costly to organize fishing associations, to unitize oil fields and form river basin associations. It is costly to organize firms and establish families and rules for sharing wealth. Yet most institutions that organize production within the envelope of a firm, club, or any other economic unit, can be described as working to avoid a tragedy of the commons.<sup>16</sup> Indeed, all contracts that define exclusive arrangements can be conceived as tragedy-avoiding devices of some sort. In each case, parties have



colluded and restrained trade. As Ronald H. Coase has taught us, every firm is a transaction cost minimizer, an example of market suppression.<sup>17</sup> Owners and managers of firms snuff out competitive bidding within the borders of the firm; long-term agreements are struck regarding hours of work, division of labor, sharing of output, and levels of production to be attained. Firms conserve resources by restricting competition within the firm. As a result, competition among firms is made more intense. We all gain when firms become more efficient competitors. One would hardly recommend that antitrust authorities look over the shoulders of all entrepreneurs who organize firms for the purpose of minimizing unwanted competition and transactions among employees of the firm. Why then, would antitrust authorities seek to discourage the formation of fishing associations that seek to do the same thing?

## COMMUNITY EFFORTS TO AVOID THE TRAGEDY OF THE COMMONS

### *Grazing, Fishing and Whaling*

History tells us that uncoordinated use of commons is a rare occurrence within stable communities. Why is this the case? The assumptions stated earlier that underlie the prisoners dilemma are only met infrequently. Strangers awaiting an opportunity to enter a busy expressway may struggle as they place one more car on the highway and in doing so impose far more costs on others than the benefit they gain. Shepherds and fishermen who repeatedly work the same fields are something else. For example, written records dating from 1224 describe arrangements where Swiss farmers moved cattle to commonly owned pastures after the snow had melted.<sup>18</sup> The Swiss farmers restricted access to the pastures on the basis of kinship and ownership of homes and land in the same communities. There are stories from the Middle Ages of stints that defined a fixed number of grazing units—sheep, cattle, or goats—that could be admitted to community pastures. Matt Ridley describes English resource management this way:

*"Commons were never free-for-alls."*

In practice, an English medieval common was a complex spider's web of jealously guarded property rights held under the supposedly benevolent umbrella of the lord of the manor, who owned the common but only on condition that he did not interfere with the rights of the commoners. There were rights of common of pasturage, estovers, turbary, pannage, piscary and common in soil. Translated, these were rights to graze, cut wood, dig turf, turn out pigs to eat acorns, catch fish, or take gravel, sand or stone. And these rights were privately held by individuals. . . . [C]ommons were never free-for-alls.<sup>19</sup>

Bag limits, fishing licenses, and community enforced rules for managing hunts for elephants and rhinos in Zimbabwe, Namibia, Botswana, and South Africa are the modern counterparts of medieval stints. Access restrictions are the common element in all these schemes, and recovery and protection of species are the result.<sup>20</sup> Consider the elephant's situation. In 1989, the Convention on International Trade in Endangered Species (CITES) listed the African elephant as approaching the point of becoming a threatened species.<sup>21</sup> When CITES met this year, Zimbabwe, Namibia, and Botswana, where elephant herds have more than recovered, asked that their elephants be removed from the protected list and for the associated ban on the sale of ivory to be lifted. Systems of community supported access control, which give community members a financial stake in avoiding a tragedy of the commons, have been implemented in these countries with significant success.<sup>22</sup>



Anderson and Leal tell how Native Americans established customary rules and then forged intertribal agreements to maintain viable populations of salmon along what later became known as the Columbia River in the Pacific Northwest. Collusion among competing tribes avoided the tragedy of the commons, at least until the arrival of Europeans and the intervention of statute law. As Anderson and Leal put it: “Unfortunately, state and federal governments allowed newcomers to circumvent these

rights by placing nets at the mouth of the Columbia, ultimately decimating salmon populations.”<sup>23</sup> The output constraint was broken; the fishery was destroyed.

*Formal law led to a tragedy of the commons, whereas informal collusion conserved the resource.*

In more recent times, we have the case of the Makah, an isolated tribe that today lives on the northwestern tip of Washington state’s Olympic Peninsula where Makah ancestors have lived for 2,000 years.<sup>24</sup> For most of these years, the Makah enjoyed a whale-based economy, which centered on the grey whale species. Whaling was supplemented by fishing in the Pacific waters. In an investigation of the

Makah community, anthropologist Ann Renker reported that the tribe had a centuries-old legacy of property rights protection for whales and fish supported by informal law and custom. Recently, the property rules of the Makah were overridden by national and international law managed by the International Whaling Commission. The new formal arrangement eliminated earlier claims and gave access to commercial whalers and fishermen from the U.S., Japan, Russia and elsewhere. Competition entered the Makah’s collusive ring. The whaling population suffered to the point that the grey whale was placed on the endangered species list. Formal law led to a tragedy of the commons, whereas informal collusion conserved the resource.

Referring to the “fragility” of informal rules for controlling access, Elinor Ostrom tells a similar story about a Nova Scotian inshore fishery at Port Lameron Harbour.<sup>25</sup> Her concern over fragility has little to do with the informal nature of custom and tradition but everything to do with government takeover of informal management systems. For generations, fishermen in the Port Lameron Harbour area operated in well defined fisheries based on long established kinship and land ownership patterns. Fishermen from the same communities watched for poaching by outsiders. By using radios with shared channels, they sounded an alert when the informal property arrangements were violated. Outsiders who failed to heed the collective warnings sometimes found their lines cut. Sustained production was maintained by informal means and supported by the Nova Scotia government, which simply provided a neutral arena for settling boundary disputes. The state’s formal order recognized the informal arrangement.

Unfortunately, the national Canadian government saw the entire eastern coast (inshore and deep seas) as a commons. Assuming that ordinary fishermen cannot manage a fishery, the national government considered two options: Private property rights, which were ruled out, and command-and-control regulation, which obviously took the day. Taking a “one size fits all” approach to the fisheries problem, the Canadian government announced a licensing system for equipment and boats. Fearing further expansion of the permitting system, people who thought they might someday wish to enter the fishing business rushed to buy boats and obtain permits. Regulation presumed to do just the reverse turned the inshore fisheries into common-access resources. Elinor Ostrom describes the outcome this way:





Instead of finding means for strengthening locally evolved rules systems to ensure that access and use patterns would continue to be controlled in those territories where effective rule systems had already been devised to match local environmental and technological systems, Canadian policy has been to develop one standard set of regulations for the entire coast. If future Canadian policies produce still further counterproductive reactions on the part of the fishers, they may fail to gain control of the open-access deep-sea fishery and lose control of some inshore fisheries previously subject to entry controls.<sup>26</sup>

Efforts to limit access to Alaskan fisheries sponsored by the U.S. Department of Commerce illustrate a more successful approach being taken to avoid a tragedy of the commons.<sup>27</sup> The problem there had to do with black cod and halibut in the Sitka region where loss of the species led to state regulations compressing the entire fishing season to a two-day period. Size, speed of boat, and length of lines became increasingly important as the fishers attempted to “beat the system.” The state-sponsored fishing tournament was replaced with marketable property rights to fish, which were distributed to all owners of fishing vessels based on the average catch over the last several years. The marketable quotas were adjusted to assure the fishery will be sustained. As might be expected, the marketable quota, which are the fishing counterpart to New York taxicab medallions, are valuable. Indeed, local banks are willing to accept the certificates as collateral for loans.

As things stand now, fewer and larger fishing vessels are employed, and the ones that work are technically efficient. Mile-long lines and high speed races have been eliminated by market forces. To the dedicated antitrust, the U.S. Department of Commerce facilitated a collusive ring, but did so under protection of statute law. The Alaskan experience is related to an ongoing federal government effort to establish Regional Fishery Management Councils to help avoid overfishing in U.S. waters.<sup>28</sup> The regional councils are sponsored and supervised by the U.S. Department of Commerce, which helps to immunize the associations against possible antitrust violations.

*Management of the fishery by informal means, with encouragement from the government, provides a more responsive system for controlling access.*

At first blush, the Alaskan story seems to offer the best solution for managing a fishing commons. But it has its downside too. Marketable permits invented by government and purchased by private fishermen become important balance sheet items. Future destruction of permits can mean bankruptcy. What if the permit system is so successful that the fish population expands far beyond the point needed to maintain a sustained fishery? Those who invested hard capital in permits will fight tooth and nail to prevent an expansion of permits. After all, the fish population may decline later. Underfishing, instead of overfishing, is the result. On the other hand, management of the fishery by informal means, with the encouragement of government, provides a more responsive system for controlling access. Holding market price constant, an increase in the stock of fish will generate an increase in fishing activity. It is this approach, however, that is discouraged by antitrust enforcement.

### ***Managing Water Quality***

Cooperative approaches to pollution problems are also potentially impacted by prohibitions against collusion. Consider the formal management approach adopted by North Carolina’s Tar-Pamlico River Basin Association, which was formed in 1989 with agreement by state and federal

regulators, to manage water quality in the Tar river's 4,300 square mile basin.<sup>29</sup> The Tar and its tributaries form 2,300 miles of stream that ultimately discharges into the Pamlico Sound and Atlantic ocean. The heavy phosphorous and nitrogen discharge by agricultural and, to a lesser degree, point sources led to oxygen depletion and a series of fish kills in the Pamlico Sound, one of the most productive fisheries on the Atlantic coast.

North Carolina citizens, both on their own initiative and due to federal requirements, earlier had passed statutes and employed people to manage water quality. After the fish kills, the affected fisherman, instead of bringing suit at common law against a vast number of ill-identified parties, petitioned North Carolina's Environmental Management Commission to designate the Tar River and Pamlico Sound as nutrient sensitive waters. The designation brought with it a binding constraint on nutrient discharge that was well below the current levels. The goal to be achieved involved an output restriction on phosphorous and nitrates discharged to the Tar River, which could mean a reduction in output of services provided by sewage treatment plants and other dischargers.

Because all of the direct dischargers were already regulated, additional control measures would have been extremely costly. Yet, even then, the problem would not have been solved since approximately 80 percent of the uncontrolled pollution came from nonpoint-source polluters. Thus, state water quality officials gave the polluting community the option of finding an alternate solution.

Some of the managers of treatment works and industry in the area took the initiative to hold meetings attended by other dischargers, environmentalists, and government officials. After debating alternatives, the group formed a river basin association made up of direct dischargers who could either join or face stricter EPA standards. Membership would require payment for discharge based on the level of nutrients in the discharge. In addition, each new member would pay a fee that would go to fund a computerized model of the workings of the entire basin. Failure to join would be a costly option for dischargers. Recognizing that command-and-control would not get the job done, the EPA agreed to the Tar-Pamlico concept.

*Cooperative approaches to pollution problems are potentially impacted by collusion prohibitions.*

To accommodate the association's new beginning, federal and state regulators agreed to relax the individual permit requirements for members. A polluter could discharge untreated waste provided the river improved. This meant that if one discharged more waste, some other discharger would have to cut back even more. The makings for a market emerged. Newly defined rights to pollute became transferable among sources.

The association then began to operate. At one of the early meetings, the members agreed to hire one consulting firm that would inspect all facilities, tighten controls and fine tune the discharge. For the first time, complete information for all river users was on the table. The prior approach provided no incentive for polluters to share information, since each and every one had to meet an individual standard irrespective of treatment costs. In a sense, they were like uncoordinated shepherds entering a common pasture. When the consultants work was done, the first target for pollution reduction was met. Dischargers with high treatment costs cut back; lower cost operators expanded their treatment; and faulty equipment and leakages were repaired. Under the new system, it paid to keep all operating systems in good repair. Consideration of system-wide marginal costs and benefits guided the decision makers. Under the old



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system, an operator had no problem so long as his discharge stayed within the limits of its discharge permit.

The second phase of the project involved taking the fees paid by members for discharging and using the funds to pay farmers to alter their farming practices. The funds from the association supplemented grants that were being made to farmers through state and federal programs. Contracts enforced under common law were written between the coordinating state agency and farmers who built settlement ponds, planted buffer strips, and took other steps to reduce nutrient runoff. The cost estimate for solving the pollution problem through the association collectively came to \$11.7 million, as compared to the \$50 to \$100 million that would have been required under traditional rules.

*Unlike Tar-Pamlico, the Monterey association was not exempt from antitrust action.*

Today, the Tar-Pamlico River Basin Association is the only water pollution trading community in North America. Crude trading arrangements are being worked out between the association and farmers. The Association limits the output of phosphorous and nitrogen. Discharge property rights have been defined. Common law rules supplement regulation and cooperation. Since 1989, the tragedy of the commons has been avoided.

### ***Comparing Tar-Pamlico with Monterey Sardine Industries***

Compare Tar-Pamlico with Monterey Sardine Industries, Inc., a cooperative association of owners of boats that in the 1940s fished in the Bay of Monterey, California, a location famous for its fisheries. Monterey Sardine Industries had organized an association that limited the catch and sale of sardines and other fish that came from the Monterey Bay. To sustain the fishery and their profits, members of the association maintained a fixed number of fishing vessels during the season, reducing proportionately the number of vessels if a nonmember vessel was hired by a canning firm. Like Tar-Pamlico, which limits the amount of pollution to a fixed level, the fishing association limited the catch. And like Tar-Pamlico, Monterey Sardine had to offset the actions of nonmembers. In each case, the association sought to reduce the impact on the commons through cooperative management.

Unlike Tar-Pamlico, however, the Monterey association was not exempt from antitrust action. In 1941, Monterey Sardine Industries was the defendant in a federal antitrust suit brought by Frank Manaka, a fishing vessel operator who failed to join the association and, thus, was not a part of the seasonal assignment of vessels.<sup>30</sup> The association marketed all the fish caught by its members that came into the Port of Monterey and negotiated with canners and labor unions to set the price at which fish would be sold. By contract, the canners and processors agreed to purchase sardines from the association. In this way, the association attempted to control the catch in the Bay of Monterey. Boat ownership formed an essential part of the control mechanism. Output was restricted by assigning particular boats to specific canners and processors during each year's contract negotiations. If a canner contracted with a nonmember, then the number of boats assigned to the canner by the association was reduced proportionately. When Manaka contracted with a local packer to fish for sardines, the association reduced the number of member vessels assigned to the packer.

Obviously referring to the association arguments that it was attempting to sustain the fishery, the appellate court judge quoted from *Columbia River Packers Ass'n v. Hinton* and said:

Such an association as that of the boat owners is not freed from the restrictive provisions of the anti-trust act, because they profess in the interest of conservation of important food fish to regulate the price and the manner of taking such fish “unauthorized by legislation and uncontrolled by property authority . . . If an exclusive and monopolistic arrangement can be legally made as to fish, it can be made as to milk, as to meat, and as to other necessities of life.”<sup>31</sup>

Seeing Monterey Sardine Industries as a conspiracy to restrain trade, the court found for Frank Manaka. Years later, environmental factors and unconstrained fishing practically destroyed the Monterey sardine fishery. State statutes that limit the catch have now contributed to its recovery.

### *Is There a Pressing Antitrust Problem?*

There are logical differences between efforts to restrict output undertaken by milk and beef producers and efforts by fishermen to manage a common-access resource. A herd of cattle is not a commons, nor is a privately owned pasture. Collusive actions by cattlemen to restrict sales and raise price would serve no interest but their own. In contrast, cooperative efforts by fishermen to restrict access to a commons, thereby sustaining a fishery, serves the joint interests of the fishermen and consumers. In the absence of government sanctions that block competitive entry, it is difficult to see how regional fishing associations or associations of cattlemen could effectively cartelize major product markets. Higher prices and profits will attract beef, fish, and every other consumer product. But what

about river basin associations that seek to restrict pollution discharge? Could private associations built on the Tar-Pamlico model raise antitrust concerns?

Since all the dischargers involved in Tar-Pamlico are publicly owned sewage treatment plants that are monopoly suppliers of treatment services, and the restrictions primarily affect discharge instead of production, it is hard to conceive of a traditional antitrust concern. But what if the treatment works were paper mills that sell their products in the same specialized market? An examination of Wisconsin’s Fox River where another basin association was set up suggests the idea is not all that far-fetched.<sup>32</sup> More than a dozen paper mills were located on the river, and each of them discharged similar effluent into the river. In an effort to improve water quality, the Wisconsin Natural Resources Division announced a binding constraint on discharge to the Fox and

then called on the collective group of mills and other dischargers to achieve an overall water quality goal. An output restriction followed, and water quality improved. But what if the dischargers had chosen to form an association, like Tar-Pamlico, to address the problem before the state intervened? Suppose these competitors had decided to meet and restrict output in order to protect water quality.

Sufficient product information is not available to allow one even to speculate on the potential for Fox River monopolization through pollution control, but the possibility can still be posed. However, one should note the necessary condition for a meaningful monopoly restriction to occur. The mills along the Fox would have to command a sufficiently large share of a specialized paper market to affect

*In the absence of government sanctions blocking competitive entry, it is difficult to see how regional fishing associations could effectively cartelize major market products.*



world market prices, and competitive entry would have to be blocked. Collusion to restrict pollution could then be converted to monopolization of a product market. But in a world of global paper supply, the very idea of a few mills forming a durable monopoly of a significant market seems far-fetched.

### *The Antitrust Question*

Traditional antitrust advocates might raise two concerns when a community of shepherds, fishers, or even industrial dischargers meet to discuss access restrictions and then organize to accomplish the same goal. First, the Sherman Act, sections one and two, in broad language prohibits collusion, conspiracies, and contracts in restraint of trade. These *per se* violations, which cannot be offset by public interest arguments, are extended to include concerted actions to boycott or harass buyers who might seek to break a cartel. Unless shielded by statute, as when the U.S. Department of Commerce sponsors the organization of a fishing community or the EPA sponsors coordinated restrictions on sulfur dioxide emissions, *the very act of getting together can trigger a violation of the Sherman Act, section one.*<sup>33</sup> The second concern, assuming the first is somehow avoided, relates to the probability that a merging of interests by forming an association or a single firm will lead to a monopoly restriction. This concern has to do with entry, contestable markets, and the overall magnitude of the colluding or cooperating group relative to the relevant market for the group's product. Defining the relevant market is crucial here. The more narrow they make definition, the more likely antitrust authorities will threaten the merging group.<sup>34</sup>

Statute-based shields can prevent antitrust investigation of colluding polluters and watermen. When congress or state legislative bodies designate administrative agencies to oversee coordinated efforts to limit the use of a resource, participants in the resulting scheme may be guarded from antitrust scrutiny. However, if a group of polluters or fishers attempt to coordinate the use of a commons on their own, they run the risk of provoking antitrust investigations. When considering the possibility of a monopoly-derived output restriction for users of a natural resource commons, antitrust authorities should balance any presumed monopoly loss against the gain accrued by avoiding the commons' tragedy. Accepting the traditional case for vigorous antitrust enforcement, a small and most likely temporary monopoly restriction may be a trivial price to pay for maintaining a viable fish population.

*Defining the relevant market is crucial. The more narrow the definition, the more likely antitrust authorities will threaten the merging group.*

Just the threat of antitrust investigation adds another chilling breeze to the already fragile business of forming community organizations for conserving natural resources. But it is a threat that can easily be removed. Exemptions are a common feature of antitrust law. For example, William F. Shughart lists more than 40 statutes and court decisions, some dating back to 1887, that effectively shield specific industries and activities from antitrust actions.<sup>35</sup> The business of insurance, marketing of agricultural products, certain bank mergers, firms involved in certain export activities, competing auto dealers that collude to bring suit against auto manufacturers, textile and apparel producers engaged in meeting fabric flammability standards, labor unions that restrict the supply of labor, aspects of research and development of pollution control devices and microchips, and the business of baseball have each enjoyed exemptions from antitrust rules. In each case, public interest arguments were joined by special interest lobbying to justify the exemptions from antitrust rules. Avoiding recognized natural resource tragedies is surely as laudable as sharing actuarial data among insurers and hastening the development



of auto pollution control devices. And avoiding a tragedy of the commons must surely be more laudable than keeping food off the market to maintain prices for agricultural commodities and maintaining the noncompetitive structure of major league baseball.

## FINAL THOUGHTS

Rather than taking actions to chill cooperative efforts to conserve and sustain natural resources, policy makers should seek to encourage such voluntary efforts. The risk of incurring the wrath of antitrust authorities should be eliminated or at least minimized. To smooth the way for more, rather than less, community action, antitrust authorities could at least make it clear that cooperative efforts

for sustaining a natural resource will receive their blessings, provided that the cooperating parties do not unduly restrict the supply of a specialized product headed to a niche market. But how will they know when a restriction exceeds the amount necessary to avoid a tragedy of the commons? The knowledge problem raised here is insurmountable. Antitrust authorities cannot know; they can only speculate and estimate.

Following the nostrum “first do no harm,” antitrust authorities should be instructed by Congress to look the other way, unless the cooperative group expands to the point that broader markets are affected – whether on the national or global scale. Multinational agreements seeking to reduce the amount of carbon burned worldwide offer the possibility of true restraint of trade. Fisheries, pastures, and river basins are small fry. They should be left alone.

*Avoiding a tragedy of the commons must surely be more laudable than keeping food off the market to maintain prices for agricultural commodities.*



## ABOUT THE AUTHOR

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## ENDNOTES

<sup>1</sup> The reference here is to the classic, Garrett Hardin, "The Tragedy of the Commons," *Science*, Vol. 162 (1968) pp. 1241-48. See also, Susan S. Hanna, Carle Folke and Karl-Goran Maler, eds. *Rights to Nature* (Washington, D.C.: Island Press, 1996).

<sup>2</sup> Adam Smith, *The Wealth of Nations* (New York: Random House, Modern Library Edition, 1937), book.1 ch. X, part II.

<sup>3</sup> See, William J. Milliken, "Individual Transferable Fishing Quotas and Antitrust Law," *Ocean and Coastal Law Journal* (1994) pp. 35-55. For discussion of the antitrust issue and citation of related cases, see Ronald N. Johnson and Gary D. Libecap, "Contracting Problems and Regulation: The Case of the Fishery," *American Economic Review*, Vol. 21 (1982),: pp.1005-1022.

<sup>4</sup> Provisions of federal legislation allow for fishermen to form marketing and production associations that can set production quotas and prices, but collusive arrangements by associations with onshore dealers and processors or forcing dealers by means of boycott or strike to trade exclusively with association members can void the protection against antitrust law provided by the statutes. (For discussion of the federal Fishermen's Collective Marketing Act, see *Gulf Coast Shrimpers and Oystermans Association v. United States*, 236 F.2d 658 (1956) p. 665.)

<sup>5</sup> 15 U.S.C.A.

<sup>6</sup> *Gulf Coast Shrimpers and Oystermans Association v. United States*, 236 F.2d 658 (1956).

<sup>7</sup> Terry L. Anderson and Donald R. Leal, "Fishing for Property Rights to Fish," Roger E. Meiners and Bruce Yandle, eds., *Taking the Environment Seriously*, (Lanham, MD: Rowman & Littlefield Publishers), 1993, pp. 166-167, Johnson and Libecap, (1982), p. 1008

<sup>8</sup> At trial, the fishing association based its defense on provisions of antitrust law that give immunity to labor and labor organizations. The Clayton Act (1914) basically declares that labor is not a commodity, which allows associations of workers to collude and raise wages. The fishermen's in-kind wages were based on the catch. However, the court ruled that each fishing vessel was an independent business. Therefore, meetings of the association's price committee were viewed as a conspiracy of independent businesses seeking to raise price and limit competition, which is a per se violation of antitrust law. It should be noted that there is no viable defense for per se violations of law, even if collusion is ineffective or serves some larger interest. The association could not base its defense on efforts to avoid a tragedy of the commons.

<sup>9</sup> 15 U.S.C.A. Sec. 522. Similar antitrust logic is applied in *Local 36 of International Fishermen & Allied Workers of America et al. v. United States*, 177 F.2d 320 (1949), which involved a labor-managed fishing association operating off the Southern California and west coast of Mexico. The judge's opinion cites the allegations brought against Local 36 and states: "Except for the illegal restraints described hereinafter, a much greater volume of fresh fish and crustaceans would have been brought to the fishing ports...and sold, processed and distributed." (Id., 325) Larger catches in the short run can lead to no fishery at all in the long run. For discussion of this problem, see Terry L. Anderson and Donald R. Leal, "Fishing for Property Rights to Fish," Roger E. Meiners and Bruce Yandle, *Taking the Environment Seriously*. (Lanham, MD: Rowman & Littlefield Publishers, 1993), pp. 161-183.

<sup>10</sup> On market-based approaches, see Bruce Yandle, "A Primer on Marketable Permits," *Journal of Regulation and Social Costs*, Vol. 1 (1991), pp. 25-41. Command-and-control regulation that typically sets higher standards for new versus old sources of pollution clearly limits competitive entry and yields monopoly-like profits. Any effort to manage the commons will result in an output restriction, at least in the short run. See Bruce Yandle, *The Political Limits of Environmental Quality Regulation* (Westport, CT: Quorum Books, 1987).

<sup>11</sup> Discussions of cooperative efforts to solve the tragedy problems are found in Terry L. Anderson and Don Leal, *Free Market Environmentalism* (San Francisco, CA: Pacific Research Institute for Public Policy Research, 1991); Elinor Ostrom, *Governing the Commons* (New York: Cambridge University Press, 1990); Susan S. Hanna, Carl Folke and



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Karol-Goran Maler, eds. *Rights to Nature* (Washington, D.C.: Island Press, 1996); and Gary D. Libecap, *Contracting for Property Rights* (New York: Cambridge University Press, 1989).

<sup>12</sup> For a useful reinterpretation of Hardin's story that explains some of the perverse implications of regulatory solutions, see Randy T. Simmons, Fred L. Smith, Jr., and Paul Georgia, "The Tragedy of the Commons Revisited: Politics vs. Private Property" (Washington, DC: Competitive Enterprise Institute/Center for Private Conservation, October 1996).

<sup>13</sup> A prisoner's dilemma occurs when a well identified group of people would gain collectively through cooperative agreement, but each will gain more individually, forcing others to lose, if he or she defects from the agreement. Each person making separate calculations of benefits and costs is prone to defect. When all defect, none can gain. Thus the dilemma.

<sup>14</sup> Garrett Hardin, "The Tragedy of the Commons," *Science*, Vol. 162 (1968), p. 1244.

<sup>15</sup> For discussion of each of these, see Gary D. Libecap, *Contracting for Property Rights* (New York: Cambridge University Press, 1989).

<sup>16</sup> On this, see the writings contained in R.H. Coase, *The Firm, The Market, and the Law* (Chicago: University of Chicago Press, 1988), see especially "The Nature of the Firm," pp. 33-55.

<sup>17</sup> Id.

<sup>18</sup> See Elinor Ostrom's detailed description of Torbel, Switzerland, in Ostrom, *Governing the Commons* (Cambridge, U.K.: Cambridge Press, 1990), pp. 61-65.

<sup>19</sup> Matt Ridley, *The Origins of Virtue* (New York: Viking, Penguin Group, 1996), p. 232.

<sup>20</sup> For discussion, see Terry L. Anderson and P.J. Hill, eds., *Wildlife in the Marketplace* (Lanham, MD: Rowman & Littlefield Publishers, 1995).

<sup>21</sup> "Tusks and Horns and Conservationists," *The Economist*, May 31, 1997, p. 44.

<sup>22</sup> See Ike C. Sugg and Urs Kreuter, *Elephants and Ivory: Lessons from the Trade Ban* (London: Institute for Economic Affairs, 1994).

<sup>23</sup> Terry H. Anderson and Donald Leal, "Fishing for Property Rights," in Roger E. Meiners and Bruce Yandle, eds., *Taking the Environment Seriously* (Lanham, MD: Rowman & Littlefield, Publishers, 1995), p. 165.

<sup>24</sup> Michael De Alessi, "Tender Loving Hunters," *New Scientist*, June 22, 1996, p.47.

<sup>25</sup> Elinor Ostrom, *Governing the Commons* (New York: Cambridge University Press, 1990), pp. 173-178.

<sup>26</sup> Ostrom, p.177.

<sup>27</sup> "Hook, Line and Quotas," *U.S. News & World Report*, Nov. 4, 1996, pp. 57-58.

<sup>28</sup> See Teresa M. Cloutier, "Conflicts of Interest on Regional Fishery Management Councils: Corruption or Cooperation," *Ocean and Coastal Law Journal* (1996), pp. 101-149.

<sup>29</sup> For more discussion of this, see David W. Riggs, "Market Incentives for Water Quality: A Case Study of the Tar-Pamlico River Basin, North Carolina," (Clemson, S.C.: Center for Policy Studies, Clemson University, December 1993), and Bruce Yandle, "Community Markets to Control Agricultural Nonpoint Source Pollution," in Roger E. Meiners and Bruce Yandle, eds., *Taking the Environment Seriously* (Lanham, MD: Rowman & Littlefield Publishers, 1993), pp. 185-207.

<sup>30</sup> *Manaka v. Monterey Sardine Industries, Inc., et al.* 41 F.Supp. 531 (1941).

<sup>31</sup> 41 F.Supp. 531, 534 citing *Columbia River Packers Ass'n v. Hinton* 34 F.Supp. 970, 975.

<sup>32</sup> Reference to Wisconsin's Fox River relates to a highly stylized effort undertaken there to institute river association pollution permit trading contained within existing U.S. EPA command-and-control regulation. The expectations for the system were not met. See M.T. Maloney and Bruce Yandle, "Building Markets for Tradable Pollution Rights," in Terry A. Anderson, ed., *Water Rights* (San Francisco: Pacific Institute for Public Policy Research, 1983), pp. 283-320. An update and example of a successful water quality river basin association is found in David W. Riggs and Bruce Yandle,

<sup>33</sup> Environmental Quality, Biological Envelopes, and River Basin Markets for Water Quality," in Terry L. Anderson and Peter J. Hill, eds., *Water Marketing — The Next Generation* (Lanham, MD: Rowman & Littlefield Publishers, 1997), pp. 147-166.

<sup>34</sup> See Bruce Yandle, "A Primer on Marketable Permits," *Journal of Regulation and Social Costs*, Vol. 1 (1991) pp. 25-41.

<sup>35</sup> Antitrust enforcement actions often rely upon defining a sufficiently narrow "relevant market" within which the suspect firm or association has undue market power.

<sup>36</sup> William F. Shughart II, *The Organization of Industry* (Houston, TX: Dame Publications, Inc., 1997), pp. 333-334.