

The Development of the Maine Lobster Co-management Law

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Abstract

In fisheries management circles, there is growing realization that traditional ways of managing marine resources are not working and that new approaches to management need to be tried. One of the most promising of these new approaches is co-management, where authority for managing fish stocks is shared between the industry and government agencies. This paper discusses the implementation of the new co-management system in the Maine lobster industry, which was initiated in 1995.

The law has clearly been successful, in that lobster fishermen have been able to generate rules to constrain their own exploitive effort, which the legislature was unable to do. At the same time, a number of problems have come to the fore, not the least of which was the fact that passage of one regulatory measure caused problems for certain groups of fishermen who demanded remedial legislation. Thus, the co-management effort in Maine has moved ahead by solving a sequence of problems. But the fact that these problems are being solved places Maine in the forefront of jurisdictions experimenting with new ways to manage fisheries.

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Introduction

The twentieth century is closing on the specter of destroyed fisheries. Nearly every major fishery in the industrialized world, and many in the developing world, are experiencing declining stocks and reduced catches (McGoodwin 1990; Murawski et. al 1997). In fisheries management circles there is a growing realization that traditional techniques of managing marine fisheries have not worked well, and an interest in new approaches to conserving marine resources. One of the most controversial of these new techniques is “co-management,” in which responsibility and authority for conserving marine species is shared between agencies of the government and members of the fishing industry (Pinkerton 1989). Proponents argue that co-management will conserve resources while maintaining political support in the industry, so that enforcement costs are substantially reduced (McCay and Jentoft 1996: 241-43). According to its detractors, co-management can hardly succeed since it requires fishermen to voluntarily restrain their own exploitive activities (tantamount to putting the fox in charge of the henhouse). Since only a few co-management systems have been established, very little information exists about the way these governance regimes have worked.

Recently, a co-management law was passed by the Maine Legislature for the Maine lobster industry. It is one of the first co-management governance structures in the world. All those interested in co-management have much to learn from the Maine lobster fishery case.

The Maine lobster industry is important for still another reason. It is one of the world’s most successful fisheries. In an era in which most of the world’s most important fisheries are in a state of crisis, the lobster fishery is experiencing unprecedented successes. Despite heavy fishing effort, the lobster catch in Maine has remained very stable since 1947 when the current

catch records program came into being, averaging about 20 million pounds. Since 1989, lobster catches have been in excess of thirty million pounds annually (State of Maine Department of Marine Resources 1995), and in the last three years have exceeded fifty million pounds. While there is no agreement about the cause of these high catches, knowledgeable observers believe that they are due in some measure to a long history of effective regulation of the industry (Acheson 1997; Acheson and Steneck 1997). A key question is: how and why are regulations developed in the lobster industry? While this is a complicated question, two observations can be made. First, the lobster industry has a long (120 year) history of effective regulation, in which the fishing industry played a key role (Acheson 1997: 4). Virtually all of the rules in place are the result of lobbying pressure by industry factions. Second, the process by which legislation is developed for the industry is not the result of cool, detached contemplation by people with scientific facts, interested in conserving the resource. Rather, it is the result of a series of distribution fights between industry factions interested in promulgating rules to ensure differential access to the lobster resource. Science and scientists play a secondary role, if they play any at all. If fishermen are interested in conservation, they are often more interested in conserving the resource for themselves. The development of the co-management law can only be understood against a background of that history.

The Maine Lobster Zone Management Law in Historical Perspective

The co-management law for the Maine lobster industry, popularly known as the “zone management law,” was enacted by the Maine Legislature in the spring of 1995. It was a broad-based law that changed many aspects of regulation. It established an individual trap limit of 1200 traps by the year 2000, a trap tag system to identify owners of traps, an apprenticeship

program for new entrants into the lobster fishery, and eligibility criteria to qualify for a commercial lobster and crab license. Most important, it was designed to give the lobster industry control over certain aspects of management, while retaining most authority for management in the hands of the Department of Marine Resources and the legislature. This law established a framework by which the Commissioner of Marine Resources could create lobster policy management zones. These lobster zones are managed by an elected council of lobster license holders. The 1995 law gave these councils power to propose rules on three things: (1) the maximum number of traps each license holder is permitted to fish (a trap limit); (2) the number of traps that may be fished on a single line; (3) the time of day when lobster fishing will be allowed. If the proposed rules are passed by a vote of two-thirds of the license holders in the zone, the zone council is obligated to convey the results of the referenda to the Commissioner of Marine Resources. If the commissioner judges them to be “reasonable,” the rules will become departmental regulations enforceable by the warden force (Alden 1995: 4b.; Jones 1995: 8a). In 1999, the zone councils were given an additional power, namely the power to recommend the number of fishermen in their zone (i.e. limited entry). This can be done by a zone council recommending to the commissioner a ratio of entrants to retirees in the zone. Here again, the commissioner has the power to make these suggested rules regulations.

During 1995 and 1996 when the law was being passed and the initial implementation committee was at work, there were many predictions that the “zones law” would fail. I recall a conversation with an ex-legislator who had served several terms on the marine resources committee. He said, “This law is designed to fail. You can’t expect lobster fishermen to cut their own effort. If this law passes, you will have a big dog fight up and down the coast.”

In great part the predictions of disaster were rooted in the legislative history of the industry. By giving the zone councils power to make recommendations on trap limits, fishing time, numbers of traps on a line, and limited entry, the legislature was divesting itself of several vexing, long term problems. All of these rights given to the zone councils involve very contentious issues. Although the legislature has tried repeatedly, it has had problems framing legislation on these issues or has failed to come up with acceptable legislation at all. The issue of trap limits and limited entry have long proved to be intractable. Between 1956 and 1995, seventeen legislatures have dealt with trap limit bills. There were three attempts to get limited entry legislation beginning in 1974, with the so called Greenlaw-Jackson bill. All were defeated. The basic problem was a lack of consensus in the lobster industry, which quickly translated into a lack of political support for these bills in the legislature. Much of the support for the zone management law came from legislators and fishermen frustrated with the stalemate over the trap limit issue. It was thought that if it were not possible to get a state wide trap limit law, it might be possible to get people in a zone to agree on a trap limit.

Despite the predictions of disaster, implementation of the zone management law went ahead rapidly. By April 1997, an implementation committee and the appointed interim zone councils had done their job. Seven zones and their boundaries were established (See Figure 1), bylaws for the zone councils were written, election districts within zones were established, and the election of permanent zone council member was organized (Jones 1997:18a.). The permanent zone councils began their work in the summer of 1997.

(Figure 1 goes here)

Map of the Seven Lobster Zones

Five years after the zone management law was passed, it is clear that the criers of doom were wrong. The co-management law has clearly been a success so far. By the summer of 1998, all seven of the zones had passed trap limits of 600 or 800 traps. By July 2001, five of the seven zones (i.e. zones B,D,E,F,G) had obtained limited entry regulations for their zones. This means that those involved in the zone management process have succeeded in passing rules on difficult issues where the legislature has failed for decades.

The Key Problems and How They Were Solved

The evolution of the rules stemming from the lobster zone process reflects two closely related processes. First, the development of these rules was motivated by a concern for externalities¹ which resulted in distributional issues. As we shall see, all of the important problems addressed by the zone management councils and the rules passed to solve those problems are essentially distributional in nature. Second, promulgating a rule for solving one kind of distributional problem caused another; and the solution of that one caused still another. These problems are being successfully addressed, but it is still important to recognize the sequential aspect of this problem solving process.

Problem 1: Trap Limits

Since the end of World War II, the numbers of traps in Maine waters has steadily increased due primarily to competition among fishermen.² Since that time an ever-larger number of people in the industry have been calling for a trap limit, arguing that a ceiling on the number of traps that could be used would benefit everyone. The argument goes there are only so many harvestable-size lobsters on the bottom. Everyone will catch the same number of lobsters if they

all have 500 traps each as if they all have 1000. Why then pay the for the extra 500 traps? Harvesters would catch as many lobsters if everyone had the smaller number of traps, but fuel, bait and labor costs would be lower, and trap congestion would be less. [No one in the industry has argued that a trap limit will conserve many lobsters, and there is no significant scientific evidence that contradicts this industry argument.]

Although there has been general agreement on the desirability of a trap limit, the decades-long efforts to get such a law have always foundered on two issues. First, there is a strong feeling that a trap limit will do no good unless it is coupled with a limit on licenses ("limited entry"). The logic is that a trap limit will not relieve congestion if new entrants come into the industry, bringing with them thousands of new traps. However, limited entry has long been received with ambivalence, because such regulations would discourage young people from entering the lobster fishery, one of the prime employment possibilities available in many coastal towns (Acheson 1975: 663-665).

Second, and more important, while the majority of fishermen agree that there should be a limit on traps, no one has been able to agree on what the limit should be. Part of the problem is that the average number of traps fished varies widely from one part of the coast to another. A trap limit that would be acceptable to people in eastern Maine, where 600 traps is considered a large number, would be completely unacceptable in an area such as Casco Bay where fishermen were commonly using over 1800 traps until recently. Moreover, within each town the so-called "full time" fishermen generally fish far more traps than the "part-timers," for whom lobster fishing is not the primary source of income. Thus, attempts to get trap limits engender two sources of conflict: between different areas of the coast and between full and part-time fishermen

in any single harbor (Acheson and Wilson 1996). This has led to a lack of consensus among license holders and a general lack of support for any trap limit proposal in the legislature.

When the permanent zone councils went into operation in the summer of 1997, the first serious issue they tackled was trap limits. In every zone, there were a large number of small and medium size fishermen, who had grown tired of watching “big fishermen” or “hogs” take a disproportionate amount of the catch and cause an untold number of gear tangles. This sentiment was well known to the zone council members who proceeded to act on it. In August 1997, Zone E voted to establish an 800 trap limit by 1998, a 700 trap limit by 1999 and a 600 trap limit by 2000; in September Zone G had passed an 800 trap limit by 2000; and in October a 600 trap limit (Commercial Fisheries News 1997: 5b.).³ The rest of the zones followed in the next few months. By the summer of 1998, all of the zones had held referendums in which trap limits were passed.

The passage of trap limits greatly exacerbated the hostility between those who fished a lot of traps and those with medium and small operations. Before trap limits, small fishermen resented “hogs;” after the trap limit votes, it was the “big fishermen” who were very resentful of their friends and neighbors who had voted against their interests.

The reason for the hostility of the big fishermen is rooted in a number of distributional concerns. Trap limits, or trap caps, do not constrain all fishermen. They force those fishing over the allowable maximum number of traps to reduce the number they fish. This is likely to affect the “big fishermen,” who fish a large amount of gear, and may not force the small or average fishermen to make any changes at all. In the process, however, the relative percentage of traps small fishermen have on the bottom is increased, giving them a higher percentage of the overall

catch.

Not only were the fishermen with small and medium sized operations not required to reduce traps; even more galling was the fact that they were not restricted from increasing the amount of traps they fished. Many of them took advantage of this opportunity (Acheson n.d.). Even worse, many commercial fishermen were moving into the lobster fishery on a full time basis, attracted by the record high lobster landings achieved in the late 1980's and the 1990's, while landings in most other fisheries declined. In 1978, approximately 20% of all lobster license-holders were considered "full-time fishermen;" in 1997, an estimated 58.3% earned 75-100% of their income from the lobster fishery, attesting to the huge growth in the numbers of full-time fishermen (Acheson and Acheson 1998: 11). In short, although lobster catches increased phenomenally in the past decade, the established "big" fishermen saw a disturbing proportion of that increase going to people with small and medium sized operations and to newcomers to the industry, at a time when they were forced to cut the amount of gear they fished. Under these conditions, it is scarcely surprising that many "big fishermen" were angry, feeling that the trap limit was working against them, and benefitting their competitors.

This hostility between so called "full-time fishermen" [with a lot of traps], and "part-time fishermen" is unquestionably the most serious problem with which the zone councils have had to deal, and it has cast a shadow over all deliberations and actions of the zone councils ever since.

Problem 2: Limited Entry

The "big fishermen" reacted to the passage of trap limits by working for rules to benefit themselves. They first fought back using strategies which were largely ineffective. In Zone G, four fishermen sued the state over the trap limit votes in that zone, and succeeded in forcing the

state to return to an 800 trap limit (see note 2). In Zones C and F, where many of the zone council members were “big fishermen,” the councils refused for months to put a trap limit out to referendum. They finally agreed to hold a referendum in the spring of 1998 in the face of pressure from a large number of their unhappy constituents, and the threat of oncoming rules from the Atlantic States Marine Fisheries Commission, which had recently assumed authority for lobster management outside state waters.

In the winter of 1998/99, the Lobster Advisory Council, which has representatives from all zones, worked on two other ideas which were eventually passed into law by the legislature in June 1999. One was a trap tag freeze, which essentially permitted people fishing under 800 traps to purchase only 100 more trap tags than they were issued as of November 20, 1998. License holders fishing over 800 could fish no more traps (LD 982). This law went into effect in September 1999.

The other law (LD 1992) established limited entry by zone. According to this law limited entry will be achieved by regulations permitting a ratio of licenses to be issues for those not renewed in the zone. For example, a two to one ratio would mean that one new license holder would be allowed to fish in the zone for every two who did not renew their licenses. This law, which went into effect in the fall of 1999, specifies a process by which limited entry rules can be established in each zone.⁴

Both of these laws are designed to further the objectives of the fishermen with large amounts of gear, That is, they would stop entry into the industry (especially in the overcrowded western zones) and prevent “part-timers” from building up the amount of gear they fish while “full-time fishermen” are being forced to reduce their trap numbers.

In the spring of 2000, Zone D,E, F and G councils all voted to recommend limited entry in their zones, and suggested a ratio of the new licenses to be issue for those who left the industry. Zone B is currently holding its survey. In all of these zones limited entry is likely to be put into effect by George LaPointe, the Commissioner of Marine Resources..

Both of the laws discussed here were designed to serve the interests of the “full-time” fishermen and solve the “part-timer” problem. What was not foreseen was that they would exacerbate zone boundary problems.

Problem 3: Boundary Problems

The initial committee charged with implementing the zone management law thought no serious disputes would result from the establishment of zone boundaries, since these boundaries would coincide with existing informal territorial boundaries.⁵ That is, the zone boundaries were placed to overlap with the established boundaries of the areas claimed and defended by the groups fishing from each harbor. Moreover, the zone rules made it possible for people to fish in two zones, providing they fish according to the rules of the most restrictive zone.

Unfortunately, all seven zones have become involved in boundary disputes since the passage of limited entry legislation. All of the disputes are between people from one zone who want to fish in places where they had traditionally fished and others who want to use the new zone boundaries to keep them out. Access to lobster bottom was the issue in all cases, even though the exact cause was not quite the same.

The disputes between Zones F and G and C and D stemmed from the fact that zone boundaries were drawn which allegedly bisect a traditional fishing ground. These disputes did not come to a head immediately, since these four zones had the same trap limit, leaving

fishermen free to place traps where they had always fished. However, with the passage of the limited entry by zone law in 1999, all of this was to change. With limited entry came the realization that boundaries would have to be made impermeable. One could not have limited entry in a zone if one allowed license-holders to cross the border and fish in that zone with impunity. Thus, the so-called “49/51%” rule was passed, limiting fishermen from one zone to placing a maximum of 49% of their gear in the area of another zone. This would severely limit the activities of some individuals from Zone D who had placed a lot of traps in offshore waters of Zone C in the winter, and other men from Zone F who had long placed most of their gear in the winter in waters now in Zone G. People from the two disadvantaged zones objected mightily, even though a majority of the people from all of these zones in question favored limited entry.

The dispute between Zones D and E stemmed from a slightly different cause. Zone E passed a 600 trap limit, which was more restrictive than the 800 trap limit of Zone D. This meant that people from Zone E could fish to the east of the boundary (Pemaquid Point), but those from Zone D, could not place traps to the west of that boundary. The Zone D fishermen were incensed over this turn of events, since it seemed unfair to them that they would be stopped from fishing in areas where they had always gone. But this dispute was like the other two boundary disputes in that all three were the result of disputes over access to productive lobster bottom.

The Zone C and D dispute and the Zone D and E disputes were settled in the winter of 2000 by negotiations between the zone councils involved and the Department of Marine Resources in which “buffer zones” were established where fishermen from both zones could fish. The Zone F and G dispute continues at this writing.

In the winter of 2000, Rep. David Etnier (Harpswell) introduced a bill designed to solve

boundary disputes stemming from the 49%/51% rule. This bill would have limited the authority of the zones and zone councils to the three mile zone. Outside three miles, traps could be placed anywhere, which would have allowed most people to continue fishing where they always had gone. This bill was passed in the House late in the spring of 2000, but was defeated in the Senate. Had it passed, it would have resulted in still other problems which would have demanded solution at a later date. For example, it would have made it possible for a person with a license in one zone to fish in any zone providing that he only kept 49% of the traps within three miles and had 51% outside the three mile line. Such people could have circumvented the entire limited entry program.

Summary and Conclusions

The Maine co-management law has clearly been successful in that it has permitted the members of the lobster industry to get two rules that many industry members have desired for a long time, namely trap limits and limited entry laws. Another measure of success is that members of the zone councils, Department of Marine Resources, and the Maine Legislature have been very successful in solving the problems that have been caused by implementation of the lobster co-management law.

The passage of these laws was motivated in some part by a concern with conservation, but a much more pressing motive has been a desire to get rules that would benefit one industry faction over another. In fact, much of the of the history of the Maine co-management law has been passage of laws to solve distribution problems caused by a law that came before. Once the zones system was established, trap limits were quickly voted into existence with the overwhelming support of small and medium sized fishermen who gained from trap limits. This,

of course, greatly disturbed the “big fishermen” who were forced to reduce the numbers of traps they fished, resulting in decreased catches and income.

The “big fishermen” reacted to the trap limits by lobbying successfully for the passage of a limited entry law and trap tag freeze. These two laws were designed to stop an increasing amount of the catch going to small fishermen and to new entrants into the industry. However, passage of the limited entry law containing the 49%/51% provision prohibited many fishermen from placing large amounts of traps in areas they had fished for a long time. This caused boundary problems which have not all been solved yet. There is little doubt that the way these boundary problems are solved will cause still other problems. Limited entry legislation and the trap tag freeze will also likely cause conflict between those in the industry and people who would like to enter lobstering and build up the amount of gear they can fish.

There is nothing unusual about this situation. Knight (1992) argues that most rules and laws are generated by negotiations over distribution of goods, services, and resources. The same process generating rules for the lobster industry can be seen in virtually all industries and communities. Moreover, those familiar with the legislative process know full well that legislation almost always needs fine tuning, or remedial legislation. This is a normal part of the evolutionary process.

The fact that the zone council process has succeeded in solving a whole series of problems should not obscure the difficulties involved. It is always very difficult for people to pass rules or laws to constrain themselves. Successful passage of these trap limit and limited entry rules has been the result of long months of long, painful, and sometime acrimonious negotiations. These negotiations have been made all the more difficult by the fact that zone

councils are composed of men from different harbors, which have traditionally been competitors for fishing bottom (Acheson 1988: 49-83). They have been further exacerbated by the fact that the zone councils have had to bridge two different cultures, that of the fishermen and the sub-culture of the legislators and Department of Marine Resources. The fact that these rules have been passed by the zone council process attests to the skill, negotiating ability, and dedication of those involved in the process. Success has come at the price of a lot of time and effort.

Co-management has certainly been a success in the Maine lobster industry. The idea that fishermen never will pass rules to constrain themselves is clearly wrong. Under certain conditions, they will pass rules in the long term common good.

Can co-management solve the resource management problems in other fisheries in the world? We are certainly very hopeful, particularly in view of the fact that co-management has also worked in a few other places in the world (see Pinkerton and Weinstein 1995). However, a caveat is in order. The lobster industry has a long history of successfully approaching the legislature for conservation laws (Acheson 1997; Acheson and Knight 2000), and its members have a marked conservation ethic. Other fishing industries certainly do not. Many operate with a “gold rush mentality” in which people strive to get as many fish as possible as quickly as possible with no thought of tomorrow. Can co-management work in these industries? The answer to this question is not obvious, because social scientists have not answered two fundamental and connected questions. One is: under what conditions will people develop rules to constrain themselves for mutual benefit? The second is: when will the users of natural resources develop a conservation ethic? Recently there has been a lot of work on these questions and progress has been made in addressing them (Ostrom 1990). However, it is becoming obvious

these are very complicated issues with no obvious answers (Elster 1989; Knight 1992). But they may be the most important question facing resource management in the next few years.

What is the future of the Maine co-management effort? Certainly future success will necessitate the continued support of the industry and the willingness of fishermen to sacrifice a lot of time to serve as zone council chairs and members. I suspect that the zone councils will continue to be well served. Unfortunately, the future of the industry does not depend only on the members of the lobster industry. It also depends on the activities of government at several different levels. If there is anything we have learned about co-management in general it is that lack of support by government agencies can be the death knell of such programs (Jentoft 1989). I have no doubt that the lobster zone management law would not have passed through the legislative process had it not been for the support of Commissioner Robin Alden. There can also be little doubt that an unsympathetic commissioner with good bureaucratic skills could kill such a program, especially in the early stages before it has become institutionalized. Such a commissioner would find ample ammunition in the Maine APA (The Administrative Procedures Act) which gives virtually all power for rule making to top state administrators, which does little to facilitate bottom's up management. The APA will likely need to be modified if co-management in Maine is to achieve its full potential.

Success of the co-management effort will also depend on activities of the federal agencies enforcing the conservation laws that have been enacted since the 1970's. The Marine Mammal Act, the Endangered Species Act, the Fisheries Conservation and Management Act, and the recent Sustainable Fisheries Act give the federal government a high degree of authority to manage fisheries from the top down. The passage of these laws means that the U.S. is going in

the exact opposite direction it should be going if we wish to develop co-management governance structures. Even worse, the federal government has the power to overwhelm the lobster zone councils. After all, there is little sense in zone councils spending long months negotiating rules, if the feds are going to dictate what the rules will be.

So little time has elapsed since the passage of the lobster co-management law in Maine that little can be said with certainty about its ultimate fate. However given the state of the world's fisheries, the Maine co-management effort is a very timely experiment. In a field in which a lot of armchair theorizing is the rule, the lobster co-management law provides a case study which will inform all of those interested in fisheries management.

Addendum: Most of the research on which this article is based was done in the course of a project entitled “Case Studies in Co-management” sponsored by the University of Maine Sea Grant Program, James Acheson and James Wilson, Co-PIs.

The ideas expressed in this article are those of the authors, and do not reflect the policies of the University of Maine or the Department of Marine Resources.

Biographical Sketches

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Notes

1. In non-technical language, an externality is the cost or benefit resulting from one person's actions on another person.
2. The trap escalation was due to technical changes (e.g. hydraulic hauler, nylon twine, and electronic gear) which made it possible to haul and maintain more traps, and a change in the law making it legal to put several traps on a single buoy.
3. In the summer of 1998, the Zone G 600 trap limit was declared illegal by a judge who ruled that the Zone G Council had violated its own bylaws in holding two trap limit votes within two years. Thus, Zone G had a 1000 trap limit in 1998, 1000 in 1999, and 800 in 2000.
4. First, the zone council makes a recommendation for an in/out ratio for the zone to the commissioner. Then the commissioner freezes entry the entry of new license holders for a year. Then a survey is conducted to ascertain the wishes of license holders in the zone. Last, public hearings are held on the proposed limited entry rules. The Commissioner is then empowered to establish a limited entry rule for that zone.
5. To go lobster fishing one needs a state license. One also needs to gain acceptance by the group of fishermen fishing from the same harbor, which is sometimes called a "harbor gang." Once a person is admitted to a gang, he or she can ordinarily go fishing only in the territory of that gang. These groups defend their territories with threats of violence, and, in extreme cases, with the surreptitious destruction of lobstering gear (Acheson 1988: 48ff.). Among state officials, there is tacit acceptance of the territorial system. Everyone knows it exists, but it is accepted as long as violence and destruction of property are kept to a minimum and do not come to public attention. When violations are reported, the culprits are prosecuted, long standing tradition aside.

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