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# RETHINKING THE ADEQUACY OF INFORMAL PROPERTY RULES: SOME EVIDENCE FROM MAINE'S LOBSTER FISHERY

*Avi Perry\**

## I. INTRODUCTION

Over the course of fifteen years, James Acheson compiled a wealth of information on the lobstering communities dotting the central Maine coast from Bailey Island to Brooksville. In *The Lobster Gangs of Maine*, Acheson detailed the workings and traditions of these communities, paying particular attention to the “thick and complex web of social relationships”<sup>1</sup> undergirding them and to their methods of allocating access to the lobster fishery through informal exclusion mechanisms. Since its publication in 1988, Acheson’s study has been hailed as documenting “a noteworthy example of long-lasting, informal property rights in action.”<sup>2</sup> The study has assumed a place within the body of legal scholarship arguing that de facto property regimes can develop organically outside of the state’s formal legal apparatus, and has been understood to support Robert Ellickson’s hypothesis that “informal social networks are capable of creating rules that establish property rights.”<sup>3</sup>

Within a “close-knit group,” informal property rules, such as Acheson catalogs among Maine’s lobstermen, are believed to constrain private behavior to the same extent as formal laws and serve to “maximize the aggregate welfare that members obtain in their workaday

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1. JAMES ACHESON, *THE LOBSTER GANGS OF MAINE* 2 (1988) [hereinafter *LOBSTER GANGS*].

2. Jonathan H. Adler, *Legal Obstacles to Private Ordering in Marine Fisheries*, 8 *ROGER WILLIAMS U. L. REV.* 9, 24 (2002).

3. ROBERT C. ELICKSON, *ORDER WITHOUT LAW: HOW NEIGHBORS SETTLE DISPUTES* 203 (1991).

affairs with one another.”<sup>4</sup> These informal rules have been credited with helping such groups to avoid what Garrett Hardin termed “the tragedy of the commons”<sup>5</sup> by creating locally-appropriate norms that are treated as binding by members of the group.<sup>6</sup> A number of legal scholars have offered laudatory analyses of such informal property systems. Jonathan Macey, for instance, has written that, where operable, “private ordering generates substantive legal principles that are superior to those that the state produces.”<sup>7</sup> And, on the basis of an indigenous Cree subsistence fishery, Fikret Berkes has concluded that “[the] ‘tragedy of the commons’ model, with its negative prognosis, has been replaced by theories based on the idea that resource users are capable of self-organization and self-regulation.”<sup>8</sup>

To this point, excludability has been regarded as the central weakness of such informal systems.<sup>9</sup> That is, the threat has been characterized as external: outsiders who fail to understand or abide by the common rules must be kept out, or the system must be incorporated within a formal legal framework. However, recent developments within Maine’s lobster fishery suggest an equally serious weakness based on an internal threat: under unusual financial stress, members of even a close-knit group may cease to honor informal property rules, necessitating the intervention of state enforcement mechanisms. This finding challenges and contributes to the evolution of commons theory, suggesting that exceptions to Hardin’s model may function only under positive economic conditions.

My goal in this brief Comment is modest. I seek only to offer some limited evidence to complicate the conventional understanding of informal property regimes. I accomplish this by discussing the Maine lobster fishery, as described by James Acheson, and showing how that

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4. *Id.* at 167. Jonathan Macey argues that it is “repeated interactions, not the closely knit nature of the groups, that leads to cooperation.” Jonathan R. Macey, *Public and Private Ordering and the Production of Legitimate and Illegitimate Legal Rules*, 82 CORNELL L. REV. 1123, 1131 (1997).

5. Garrett Hardin, *The Tragedy of the Commons*, 162 SCI. 1243, 1243 (1968). Although Hardin discussed commons, today the problem is recognized as being open access. See Fikret Berkes, *Revising the Commons Paradigm*, 1 J. NAT. RESOURCES POL’Y RES. 261, 263 (2009) (“One important conclusion from post-Hardinian work is that common property is not the same as open access, and there is nothing inherent in commons that leads to resource degradation.”).

6. See, e.g., Adler, *supra* note 2, at 24.

7. Macey, *supra* note 4, at 1140.

8. Berkes, *supra* note 5, at 261.

9. See Adler, *supra* note 2, at 26.

case study has reacted to economic stresses in ways largely unanticipated by Acheson. A radical transformation is taking place in how Maine lobstermen protect their property rights, indicating that informal property regimes are more fragile than previously realized. Of course, a single stone does not a castle break, and I recognize that the record remains too thin to signal a general breakdown in informal property regimes. Nevertheless, Acheson's work is representative of the post-Hardinian genre, and—as described below—both anecdotal and documentary evidence show that his thesis is misconceived.

## II. TERRITORIALITY IN THE MAINE LOBSTER FISHERY

A prefatory word about lobsters and the business of trapping them: lobstering is a seasonal and highly variable industry. During the early summer, when lobsters molt and seek cover in rocks and kelp beds, lobstering is poor and catches fall precipitously.<sup>10</sup> Late summer and early fall is peak lobstering season, and competition among lobstermen is fierce.<sup>11</sup> Despite the superabundance of lobster, prices historically have been high during peak season, reflecting the annual influx of bib-wearing tourists into Maine.<sup>12</sup>

Built for maneuverability between traps, of which a single lobsterman might set hundreds, lobsterboats are made of wood or fiberglass and average between thirty-three and thirty-eight feet in length. Traps are constructed of wood or, increasingly, wire, and are attached to Styrofoam buoys floating on the surface by a nylon or polypropylene rope (“warp”).<sup>13</sup> Because lobsters tend to congregate in shallow, coastal waters at depths of less than one hundred and fifty feet, lobstermen rarely venture far from shore.<sup>14</sup> In addition, because lobsters are sedentary creatures, inhabiting a relatively circumscribed area of ocean bottom, lobstermen always protect their territory and its quarry vigilantly.<sup>15</sup> Working alone or with a sternman, it is not unusual for a lobsterman to spend his entire working life fishing the same small stretch of ocean.

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10. LOBSTER GANGS, *supra* note 1, at 15.

11. *Id.*

12. *Id.*

13. JAMES ACHESON, CAPTURING THE COMMONS: DEVisING INSTITUTIONS TO MANAGE THE MAINE LOBSTER INDUSTRY 14 (2003) [hereinafter CAPTURING THE COMMONS].

14. *Id.* at 15.

15. *Id.*; Cf. Robert C. Ellickson, *A Hypothesis of Wealth-Maximizing Norms: Evidence from the Whaling Industry*, 5 J.L. ECON. & ORG. 83-84 (1989) (arguing that informal property norms tend to reflect the particular traits of the resource in question).

By law, Maine's fishing grounds are a public resource.<sup>16</sup> Anyone with a state-issued lobstering permit enjoys the legal right to fish nearly anywhere along Maine's thirty-five hundred mile coastline. Nonetheless, newcomers to the clannish lobstering industry must abide by unwritten rules dictating the locations where traps may be set. They either must inherit ocean "bottom" from a family member or establish territory through trial and error—often a costly and time-consuming process.

The territorial nature of Maine's lobster fishery dates from at least the 1890s and has remained unchanged along much of the coast. The lobstermen in each cove or harbor defend their local waters from predation by outsiders, thereby regulating access to the open ocean.<sup>17</sup> There may be an unofficial kingpin or boss in each harbor, but decisions about who can set traps and where often are made by committee in fish shacks or community centers. In that sense, harbor gangs (to borrow Acheson's term) are both democratic and insular, with membership and its corresponding privileges controlled tightly. Indeed, whatever the state's formal laws, the informal right to fish commercially for lobsters is a closely-guarded one, neither alienable nor easily transferable. In Acheson's view, "the territorial system is the root institution governing the lobster industry, making possible the generation of other kinds of rule systems."<sup>18</sup>

Within, but especially between harbor gangs, there is ongoing competition among lobstermen for prime fishing territory.<sup>19</sup> Neighboring gangs demarcate abutting territories carefully and by reference to specific (often underwater) markers. By and large, boundaries are taken very seriously; "[f]ishermen who place their traps in the territory of another gang can expect swift retribution."<sup>20</sup> Acheson describes the retribution process as a covert but effective one:

The violator is usually warned, sometimes by verbal threats and abuse, but usually by surreptitious molestation of lobstering gear. Two half-hitches of rope may be tied around the spindle of the buoy, or legal-sized lobsters may be taken out and the doors of the trap left open . . . . If the violations persist, the traps are destroyed . . . . Usually, however, the offending traps are cut off . . . . There is no practical way to protect traps in the water . . . .

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16. John Richardson, *Keeping Peace on the Water Depends on Uneasy Mix of State Law, Local Rules*, PORTLAND PRESS HERALD, July 26, 2009, at A1.

17. See LOBSTER GANGS, *supra* note 1, at 3.

18. CAPTURING THE COMMONS, *supra* note 13, at 221.

19. See LOBSTER GANGS, *supra* note 1, at 51-66.

20. *Id.* at 49.

Destruction of traps does not usually lead to direct confrontation since the owner can only guess who destroyed them or even whether they were destroyed on purpose.<sup>21</sup>

While acknowledging that, “once in a while,” territorial disputes can explode into “full-scale ‘cut war[s],’” Acheson expresses confidence that the informal rules generally fare well and lobstermen police their own behavior adequately.<sup>22</sup> He writes, “the norms are widely obeyed . . . . Victims may growl and threaten but they rarely report the incident to any law enforcement agency.”<sup>23</sup> Until fairly recently, Acheson’s description held up to scrutiny.

### III. RECENT DEVELOPMENTS

From the mid-1940s to the late 1980s, Maine lobster catches were very stable, hovering around twenty million pounds annually.<sup>24</sup> In the 1990s, the catch began to increase rapidly, totaling nearly fifty-seven million pounds by 2000.<sup>25</sup> By 2003, Acheson could write, “at the present, the lobster industry is experiencing a boom. Catches have never been so high at any period.”<sup>26</sup> This increase is attributable to a number of factors. First, there has been a dramatic rise in the number of traps being set. In 1950, there were 430,000 traps set in Maine waters; by 2000, there were 2,780,000.<sup>27</sup> Second, technological advances have improved the efficiency of lobstering techniques.<sup>28</sup> Today, lobstermen regularly make use of hydraulic trap haulers, depth finders, Loran C radio navigation, and GPS systems. Third, there has been modest growth in the number of licenses issued by the state. In 1950, Maine issued 5152 lobstering licenses, compared with 6884 in 2000.<sup>29</sup> Fourth, anecdotal evidence suggests that reporting rates may be higher today. Finally, and most contentiously, conservation strategies implemented by federal,

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21. *Id.* at 74.

22. *Id.*

23. *Id.* at 75.

24. *See* CAPTURING THE COMMONS, *supra* note 13, at 16.

25. *See id.* at 16.

26. *Id.*

27. *See id.* at 17.

28. *See id.* at 18.

29. *See id.* at 16-18.

state, and local authorities, as well as by lobstermen themselves, may have protected the fishery from overexploitation.<sup>30</sup>

At the same time, lobster prices have slumped. Because of market fluctuations and basic supply/demand principles, a good catch does not always mean a good income. Particularly during an economic downturn, consumers may “view lobsters as a luxury they can do without,” driving prices unusually low.<sup>31</sup> Preliminary data from the Maine Department of Marine Resources comparing 2007 and 2008 show that the value of the annual commercial lobster catch dropped nearly forty million dollars, from \$283,697,544 in 2007 to \$244,195,068 in 2008.<sup>32</sup> During that time, the average price per pound declined nearly one dollar, from \$4.43 to \$3.50.<sup>33</sup> Unofficial sources confirm that the price fell even further in 2009. By midsummer, the price per pound was roughly \$2.25, making Maine lobster “less expensive than hot dogs.”<sup>34</sup> Compounding the economic pressure on lobstermen, the cost of diesel fuel has climbed in recent years, and baitfish—such as herring—has doubled in price since 2007.<sup>35</sup>

What has been called “the steepest price decline in generations” is being blamed for a recent spate of illegal activity among lobstermen.<sup>36</sup> One Portland newspaper reported: “authorities say that desperation may play a role in what they say has been an above-average number of incidents of criminal mischief occurring along the coast this summer, such as cut trap lines and vandalized boats.”<sup>37</sup> As described above, Maine lobstermen always have resorted to informal (and frequently

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30. See, e.g., Jon Birger, *Looking for a Bargain Dinner? Try Lobster*, FORTUNE, July 17, 2009, available at [http://money.cnn.com/2009/07/17/news/economy/cheap\\_lobster\\_bargain.fortune/index.htm](http://money.cnn.com/2009/07/17/news/economy/cheap_lobster_bargain.fortune/index.htm) (“The size of the lobster catch is bigger than ever, thanks to excellent oversight of the state’s lobster fishery.”).

31. Tom Bell, *Plummeting Lobster Prices Dragging Coastal Economies Down*, PORTLAND PRESS HERALD/ME. SUNDAY TELEGRAM, Aug. 9, 2009, available at <http://pressherald.maintoday.com/story.php?id=275839>.

32. ME. DEP’T OF MARINE RESOURCES, HISTORICAL MAINE FISHERIES LANDING DATA 1-2 (2009), <http://www.maine.gov/dmr/commercialfishing/documents/lobster.annual.tbl.pdf>.

33. *Id.*

34. Birger, *supra* note 30. See also Simmi Aujla, *With Lobster Prices Low, Things Get Ugly in Maine*, WALL ST. J., Aug. 15, 2009, at A3.

35. Birger, *supra* note 30.

36. Bell, *supra* note 31. See also Aujla, *supra* note 34, at A3 (“Economic pressure on the state’s 5,000 active lobstermen may be fueling the tension. With prices for the state’s crustaceans at the lowest level since the early 1990s, lobstermen are having trouble covering bait, fuel, and equipment costs.”).

37. Bell, *supra* note 31.

unlawful) means of protecting their territory, often through intimidation and warnings and sometimes through equipment destruction. By all accounts, however, the rash of violent, criminal behavior that swept through Maine lobstering communities in the summer of 2009 was unprecedented, prompting Major John Fetterman—a thirty-two year veteran of the Maine Marine Patrol—to note, “this is an escalation I haven’t seen before.”<sup>38</sup> Aside from widespread reports of cut trap lines, three lobsterboats in Owls Head—a small town north of Rockland—were intentionally sunk;<sup>39</sup> in Portland Harbor, a lobsterboat was rammed and boarded by a rival vessel;<sup>40</sup> and, on remote Matinicus Island, one lobsterman shot another in the neck over a perceived territorial incursion.<sup>41</sup> Addressing the connection between this summer’s violence and the economic downturn, James Acheson explained, “you’ve got an awful lot of people on edge, stressed and anxious [now] . . . . There’s a lot of people with very serious problems, especially younger people who have taken out very large loans,” with lobsterboats priced around \$300,000 and a full complement of traps costing up to \$40,000.<sup>42</sup>

One consequence of this uptick in criminal activity has been increased skepticism about the long-standing territorial system established by Maine lobstermen. The informal property regime lauded by Acheson and others has been called into question, as lobstermen have proven incapable of policing themselves. Predictably, the Maine Marine Patrol has stepped-up its surveillance efforts.<sup>43</sup> More surprisingly, there has been a call from within the lobstering community for abandonment of the informal territorial system in favor of state enforcement of property rights. Local lobstermen have proposed an official Matinicus Island lobstering zone, in which non-residents would be barred from

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38. Aujla, *supra* note 34, at A3. See also Abigail Curtis, *Man Charged with Trap Cutting; Maine Marine Patrol Steps Up Surveillance of Midcoast Lobster Fishing*, BANGOR DAILY NEWS, Aug. 13, 2009, at A1 [hereinafter *Trap Cutting*] (“Many in the industry and the Marine Patrol said that this summer’s string of violent events, which some tie to lobster territory disputes, is the worst in recent memory.”).

39. Bell, *supra* note 31.

40. Clarke Canfield, *Lobster Wars Rock Remote Maine Island*, HUFFINGTON POST, Sept. 5, 2009, available at <http://www.huffingtonpost.com/huff-wires/20090904/lobster-wars/>.

41. See Aujla, *supra* note 34, at A3. Both the shooting and the aforementioned sinkings occurred in Knox County, where more lobsters are caught than in any other county in the United States. See Bell, *supra* note 31.

42. Abigail Curtis, *Hard Times Stress-out Lobstermen*, BANGOR DAILY NEWS, Aug. 7, 2009, at A1 [hereinafter *Hard Times*].

43. *Trap Cutting*, *supra* note 38, at A1.



setting traps.<sup>44</sup> One full-time island resident explained, “instead of us having to enforce the boundaries, the Marine Patrol would enforce them.”<sup>45</sup> This demand for more formal property rules and enforcement reflects the emergent reality that the present system of informal rules cannot function in a poor economic climate, when desperation proves stronger than community norms.

#### IV. IMPLICATIONS FOR THE FUTURE

In writing *The Lobster Gangs of Maine*, Acheson plainly took aim at Garrett Hardin’s “tragedy of the commons” theory, which posited that open-access resources will be exploited in the absence of either state control or individual ownership.<sup>46</sup> By touting the Maine lobster fishery’s implementation of a successful communal property arrangement, Acheson hoped to show that “tragedies of the commons . . . are not inevitable” and, moreover, that “governmental action and private property are not the only solutions to resource problems.”<sup>47</sup> In contrast to Hardin’s top-down approach, Acheson depicted lobstermen as able to regulate their own industry—without government interference—through the development of informal property rules.

The flaw in Acheson’s thesis is that it fails to appreciate the full effects of devastating economic conditions. As demonstrated above, lobstermen have responded to unprecedented economic stress by violating the territorial system and abandoning informal behavioral norms, attempting to make ends meet by capturing as much of the resource (lobster) as possible. Frequent, serious reports of equipment destruction, territory disputes, and violence during the summer of 2009 suggest that Acheson’s thesis only holds true in boom times, such as those prevailing in 1988, when Acheson wrote *The Lobster Gangs of Maine*, and in 2003, when he followed up with *Capturing the Commons*. Acheson may have anticipated this development somewhat, but he failed to account for either its severity or its implications:

There can be little question that the lobster industry is living in unusually good times . . . . It is tempting to say that as long as the existing system is maintained, all will be well . . . . However it is all too easy to imagine changes that could bring disaster too .

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44. See Canfield, *supra* note 40.

45. *Id.*

46. Hardin, *supra* note 5, at 1243.

47. LOBSTER GANGS, *supra* note 1, at 143.

. . . Economic changes could . . . help to move the system in a different direction.<sup>48</sup>

Increasingly, informal rules are giving way to formal rules, both on the state's own initiative and at the behest of lobstermen who are hoping to avoid a "tragedy of the commons." Although sparse, the available evidence hints that one of the unforeseen consequences of the current economic recession could be the collapse of informal property regimes. The evidence points also to a similar result in the event of environmental degradation or poor resource management: if climate change or resource overuse threatens the stability of particular industries, informal property systems in those industries could disintegrate. To date, those outcomes have been staved off by boom times and effective resource management, but—unless the economy recovers quickly—Maine's lobster fishery must head towards a more formalized property regime if it is to avoid a "tragedy of the commons." In short, post-Hardinian commons theory may be inapplicable to bust times. While it is important to gather more evidence to substantiate this claim, this proposed connection between the economy and property regimes may have important implications for the future vitality of Maine's lobster fishery and the men and women who depend upon it.

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48. CAPTURING THE COMMONS, *supra* note 13, at 234.