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Capturing the Commons: Devising Institutions to Manage the Maine Lobster Industry, by James M. Acheson

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The premise is that we have peaked or are very close to peaking in our global oil supplies and production. As we slide down the other side of the bell-curve, the consequences will be profound and, for the most part, unimaginable to many. As the name implies, the end of sprawling suburban subdivisions is inevitable. Does it sound far-fetched? The commentators make a compelling argument for why the post-World War II American Dream of a single-family home on a cul-de-sac out in the middle of suburbia is unsustainable and ultimately a dead-end.

Barrie Zwicker, a broadcaster, writer, and media critic since the 1970s, hosts a cast of very credible guests, including: James Howard Kunstler, new urbanist and author of *Home from Nowhere* and *The Geography of Nowhere*; Peter Calthorpe, urban designer and founder of the Congress for the New Urbansim; Michael Klare, a professor of Peace and World Security Studies at Hampshire College and author of *Resource Wars: The New Landscape of Global Conflict*; Colin Campbell, author of *The Coming Oil Crisis* and former geologist for Texaco, British Petroleum, and Amoco; Kenneth Deffeyes, petroleum geologist and researcher for Shell Oil; and Matthew Simmons, CEO of the world's largest Energy Investment Bank, counting Haliburton as a client.

The film is about one hour and 15 minutes long, with great footage from the 1940s and 1950s showing how The American Dream evolved. The viewer might be left with any number of impressions—a feeling of doom and helplessness, a sense of loss of a way of life that many may assume is indestructible, or anger that the media and government and others "in-the-know" are not informing the public about the potential consequences, or hope. We can re-invent a new American Dream, walkable, more compact communities that focus on multi-use neighborhoods connecting people together—a more sustainable future, less dependent on oil supplies. If nothing else, *The End of Suburbia* will provoke discussion, so it is best not to view it alone.

REVIEWS

Capturing the Commons: Devising Institutions to Manage the Maine Lobster Industry. *By James M. Acheson. Lebanon, NH: University Press of New England, 2003. Pp. 284. $29.95 cloth; $19.95 paper.*

Impressively spanning the academic disciplines of anthropology, economics, political science, and marine biology, *Capturing the Commons*, by James M. Acheson, is a formidable scholarly study of Maine lobster fishery management. Public choice theorists will find *Capturing the Commons* especially valuable, as an array of abstract public choice constructs come to life in Professor Acheson's explanation of

cooperation, norm enforcement, and oceanic turf wars involving rival "harbor gangs" of lobster fishers. Professor Acheson concludes with a provocative but challengeable argument about the implications of his analysis for common pool resource management.

Acheson begins by noting that Maine lobster fishery management over the past three decades appears to be highly successful, as catches have steadily increased to reach record levels in excess of 50 million pounds annually. The sharp contrast between this pattern and the serious depletion of so many other oceanic fisheries suggests that Maine lobster management might in some ways become a model for the management of other species. Acheson acknowledges, however, that biological, economic, and cultural characteristics of the lobster fishery facilitate the conservation of this particular resource.

One characteristic of the fishery that facilitates conservation is that Maine lobsters are most commonly caught with traps. The traps can—and must now by law—employ escapes that discriminate effectively between legal lobsters, and those that are illegal because they are undersized and have not yet bred. Additionally, fishers can readily identify egg-bearing female lobsters hauled up in traps and return them to the ocean unharmed, along with any undersized lobsters that somehow fail to escape from a trap. A fisher with a recognized right to fish a particular territory can expect eventually to harvest many of the undersized and egg-bearing lobsters that he or she releases, as lobsters are primarily a sedentary rather than a migratory species.

Most Maine lobsters live within a few miles of the coast in relatively shallow water. Thus, Maine lobster fishing is most efficiently conducted from locally owned boats that venture out of local harbors daily. Stakes in the fishery are high; along with tourism, it supports virtually the entire Maine coastal economy. Fishing families operating in a locality normally know each other well and monitor each other readily. In many cases, they have relationships that extend over several generations. They have organized into informal associations known as "harbor gangs."

These harbor gangs control oceanic territories corresponding to sections of coastline. Within their territories, the gangs restrict access to fishing grounds, reserving choice inshore areas exclusively for members of the gang, but normally allowing some degree of outsider penetration into offshore waters. The gangs also encourage compliance with conservation laws and local norms of fishing conduct. To enforce their territorial claims, and to punish violations of laws and norms, the gangs will interfere with the operation of fishing gear deployed by interlopers. Sometimes, the gangs find it necessary to escalate these measures, with

the cutting of offending traps away from their buoys once being a common practice.

Historically, territorial control by these harbor gangs amounted to a partial privatization of what otherwise would have been a common pool resource. This partial privatization of the lobster beds did not, however, prevent a sharp drop off in catches in the 1930s. The causes of this 1930s "bust" have not been established definitively. Perhaps privatization did not provide incentive for conservation as in theory it should, but it is also possible that water temperature changes reduced lobster reproduction, or that size regulations were not enforced effectively, or that something else caused the fishery to crash. In any case, discussions within and among harbor gangs did set in motion the formation of cooperative alliances in the 1940s and 1950s. These alliances petitioned the state of Maine successfully for new regulations, and these regulations halted certain fishing practices highly destructive to the resource, enabling it to recover.

As the value of the annual lobster catch began to increase under these regulations after World War II, newcomers and part timers wedged their way into the fishery, and law enforcement officers began to crack down on trap cutting. Consequently, territorial control by harbor gangs became less effective, and the gangs and other segments of the industry lobbied for state regulations to protect their interests. Simultaneously, the national government became more interested in the fishery, partly because of its potential impact on the endangered Right Whale. The result has been a protracted struggle over both the form of resource management and the substance of management policy.

On one side of the dispute over management are the long established fishers such as those of the harbor gangs, along with sympathetic officials from the state of Maine. These fishers and their supporters have favored highly decentralized regulation, adhering closely to the recommendations of fishers on local advisory councils. Acheson calls this regime "co-management." It differs not greatly from a pattern political scientists sometimes characterize as "self regulation" by an industry. Regulations favored by the local advisory councils have varied, and there continues to be little consensus over important issues such as limits on the number of traps that each fisher can deploy.

There has been, however, broad advisory council support for two forms of regulation, both designed to protect breeding stock. One is a "slot limit" size regulation, so that neither the lobsters too small yet to breed nor the very large lobsters that breed prodigiously can be taken legally. The other widely supported regulation buttresses the voluntary "V-notching" program promoted by the harbor gangs. A V-notch is a small V-shaped section cut from the tail or flipper of a legally sized, egg-

bearing female lobster. Regulations have long required the release of egg-bearing females caught in traps, but prior to the institution of V-notching, these lobsters once again became legal prey as soon as the eggs hatched. Now, under the V-notch regulation, females that have been trapped and V-notched when bearing eggs remain protected so long as the V-notch remains visible—normally for at least two molting cycles, each one potentially a breeding cycle.

Marine biologists from federal and state agencies favor radically different management than the fishers do. For nearly three decades, they have argued that the Maine lobster population is overfished, living on borrowed time, and is almost certain to collapse unless regulations are tightened. The scientists regard neither the V-notching nor the existing size restrictions as adequate to protect the breeding stock. They note that when lobsters reach the legally catchable size of 3.25 inches carapace length—from the eye to the back of the body shell—only about ten percent of the females are sufficiently mature to bear eggs. Very few Maine lobsters manage to grow much beyond this length before they are trapped and kept; virtually the entire catch consists of lobsters that barely exceed 3.25 inches. Thus, the biologists think as many as 90 percent of the females are harvested before they bear eggs or have a chance to be V-notched. The scientists have also maintained that a maximum size limit of five inches is biologically insignificant because lobsters of that size are so rare. For decades, these scientists have pressed for a 3.5-inch minimum size, and no maximum. This would allow more than half the females to reproduce before they are caught legally.

The fishers have opposed the scientists' proposals vociferously. They complain that lobsters over 3.5 inches are not as easy to market as 3.25-inch lobsters, and they undoubtedly recognize also that a 3.5-inch limit would reduce catches in the short term. Meanwhile, the record catches of recent years have undermined the credibility of the scientists, giving the fishers more political leverage to fight off the 3.5-inch limit. The scientists attribute the record catches partly to short-term biological factors such as favorable water temperatures, and partly to greater "fishing effort"—more and better traps in the water, more fishing in waters farther offshore, a longer season, and better technology. Some of the scientists now also acknowledge that the current regulations may protect the breeding stock more effectively than they had previously estimated. Many remain concerned, however, that the Maine lobster fishery is imperiled.

Acheson explains this scientific controversy thoughtfully. He suggests several possible reasons for the discrepancy between the scientists' projections and the apparent resilience of the fishery. Clearly, some of the methods used to collect data and to model the health of the

fishery have been questionable. For example, population studies have been based on lobster samples captured relatively close to shore where large, prolific breeders are proportionally less common than they are further offshore. There is also much about the fishery that is not well understood scientifically, such as the impact that cod predation may have on juvenile lobster populations. The fishers rank diminished cod predation as the most important reason for the lobster catch increases of recent years. Scientists doubt that this is true. They note that cod had essentially disappeared from coastal Maine waters long before the significant lobster catch increases of the nineties.

All of this leads Acheson to conclusions that will distress many scientists and federal policy makers. Acheson believes that uncertainties in the scientific analysis of the Maine lobster fishery are so overwhelming that the fishery is scientifically incomprehensible—nearly "chaotic." Accordingly, he maintains that regulators should abandon the notion that science should dictate policy. Acheson also seems to equate the scientific determination of policy with a centralized, "top-down" pattern of policy administration, and he generalizes his conclusions about the Maine lobster fishery into a broad indictment of all centralized, top-down resource management policies.

The logic and evidence supporting this general indictment of centralized, top-down scientific policy are much less compelling than Acheson's analysis of the Maine lobster fishery as a specific case. Political circumstances have bundled together questionable science and efforts to manage the Maine lobster fishery on a centralized basis, but the determination of policy through science does not of necessity require administrative centralization. Acheson appears not to consider the possibility that sound science could be implemented into good policy on a decentralized basis. Quite conceivably, administrative structures are most likely to generate sound science when they are well matched to the scope of a biological system, and administrative decentralization may often be scientifically preferable to administrative decentralization, as experience with the Maine lobster fishery indicates.

Additionally, Acheson's claim that scientifically based, centralized top-down policy has failed in the case of the Maine Lobster fishery is inaccurate. The top down policy advocated by federal scientists has neither failed nor succeeded because it has never been implemented. Attempts to implement it have repeatedly resulted in political stalemate. The failure has been one of top-down politics, not top-down policy. Quite conceivably, if the top-down regulation establishing a 3.5-inch minimum carapace length had been implemented in Maine ten yeas ago, catches might be substantially larger than they are currently. And if the

catches do drop in the future, as Acheson concedes they may, perhaps the drop would prove to be less severe with a 3.5-inch limit in place.

Still, advocates of scientifically based, centralized, top-down policy should consider Acheson's analysis carefully. In a pattern consistent with public choice theory predictions, semi-privatization of the Maine lobster fishery has fostered cooperation that appears to result in comparatively successful resource management. But Acheson's depiction of the political power configuration within the lobster industry may make a more compelling case for decentralization than does public choice theory. A variety of economic, social, and cultural characteristics of the Maine lobster industry lead many within it to react to top-down policy with suspicion and fierce resistance. Almost any attempt to implement such a policy has been doomed from the onset. Decentralization is the best option for Maine lobster management because politically it is the only option. The Maine lobster fishery is not anomalous in this regard; political hostility to centralized resource management is closer to being the rule than the exception in the United States. To inform policy successfully, science must contend more effectively with decentralized politics than it has in the case of the Maine lobster fishery.

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The Choice Modelling Approach to Environmental Valuation. Edited by Jeff Bennett & Russell Blamey. Northampton, MA & Cheltenham, UK: Edward Elgar Publishing, 2001. Pp. 269. $85.00 hardcover.

The current title is part of the publisher's series of works designed to contribute to developments of practices and principles in the field of environmental economics. The present volume introduces with choice modeling a technique that is meant to estimate the demand for environmental goods (*e.g.*, wetlands) and the benefits and costs associated with them. Its editors (and major contributors) succeed in structuring the book into four distinct and logical parts.

Bennett and Blamey provide a detailed introduction to the choice modeling technique in the environmental context. In the last 25 years, a growing interest in environmental choices and values has arisen as a response to a growing relative scarcity of environmental goods and services. The complexity of calculating monetary values attached to environmental goods has prompted an interest among decision makers to seek out more information about the choices available to communities. A key component of that information relates to the above-mentioned values of environmental outcomes. If these values could be estimated in