A Tale of Two Fisheries

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John Sorlien, a lean, sunburned fisherman in rubber overalls, was loading his boat along the wharf at Point Judith, R.I., not far from the spot where the "Tuna Capital of the World" sign stood three decades ago. Back then, you could harpoon giant bluefins right outside the harbor. Today, you would have a hard time finding one within 20 miles. Since the early 1970's, the tuna have declined — along with cod, swordfish, halibut and so many other species in the ruined fisheries of the Northeast. Sorlien, like the other fishermen in this harbor just west of Newport, is surviving thanks to New England's great cash crop, lobsters, but he wonders how much longer they'll be around.

"Right now, my only incentive is to go out and kill as many fish as I can," Sorlien said. "I have no incentive to conserve the fishery, because any fish I leave is just going to be picked by the next guy."

Like the men who wiped out the buffaloes on the Great Plains in the 19th century, Sorlien is a hunter-gatherer who has become too lethal for his range. He is what's known in the business as a highliner — a fisherman who comes back with big hauls — but every season the competition gets tougher. When he got started 16 years ago, at the age of 22, he used a small boat and set traps within three miles of shore. These days, he doesn't even bother looking in those waters, which fishermen now refer to as "on the beach." He has graduated to a 42-foot boat and often goes 70 miles out to sea for lobsters, which can mean leaving the dock at midnight and not returning until 10 the following night. Each year, he has had to go farther and haul more traps just to stay even.

Solien was starting the season on this May morning by loading hundreds of the traps onto his boat, the Cindy Diane. The four-foot-long steel cages, each baited with a dangling skate fish, would spend the next eight months at sea. Sorlien would be tending 800 of them in all. On a typical day, he would haul 300, sometimes 400, up from the ocean floor to remove lobsters and insert fresh bait. As he stacked one 40-pound trap after another on deck, it was easy to see why he and so many other lobstermen have back problems. "My chiropractor says he can always tell when it's lobster season," Sorlien said.

The chiropractor is treating the consequence of what fishery scientists call "effort creep." Over the years, as Sorlien got a bigger boat and gradually doubled the number of his traps in the water, other lobstermen were doing the same. It was an arms race with no winners and some definite losers: the lobsters. Their life expectancy plummeted.

"Lobsters used to live for 50 or 75 years," recalled Robert Smith, who has been lobstering at Point Judith since 1948. "When I started, it was not unusual to get a 30-pound lobster. It's been 20 years since I got one that was even 20 pounds." Last year, the biggest one he caught was four pounds, and that was an anomaly. Most lobsters don't even make it to two pounds.

Biologists estimate that 90 percent of lobsters are caught within a year after they reach the legal minimum size at about age 6.

"If you translate that to the human population," Sorlien said, "it means that our industry is relying almost entirely on a bunch of 13-year-olds to keep us going. That doesn't seem too healthy. If we get some kind of environmental disruption that interferes with reproduction one year, we'll end up with nothing to catch for a whole season. We just go from year to year not knowing what to expect. I don't have a clue what kind of year this will be for me. It's like we're backing up to the edge of a cliff blindfolded, and we don't know if we're 50 feet away or have two wheels over the edge."

The obvious remedy would be to restrict the amount of fishing going on, as lobstermen have traditionally done in some communities. They have created informal local groups — called harbor gangs by anthropologists — in which they divvy up the nearby seabed, determining who can fish where, how long the season will be and how many traps each man can use.

The harbor gangs are built around the management principles of Tony Soprano. If a fishing trawler drags a net through their waters, destroying their traps, the lobstermen may dump an old car onto the seabed, which will rip the trawler's net the next time it's dragged. If an outside lobsterman intrudes, he might find a threatening note inside a bottle in one of his lobster traps or attached to the buoy above the traps. He might find that someone has removed his lobsters and left the traps conspicuously open or maybe applied a chain saw to the steel cages. More commonly, the intruder will find that the rope from the buoy has been cut, leaving the traps lost on the seabed. If he doesn't take the hint, his boat might be burned or sunk. Last summer, the Coast Guard barely rescued a lobster boat in Rockport, Me., that was going down. The owner, Robert Crowe, a newcomer to those fishing grounds, said someone had gone on board at night and destroyed the boat's battery, smashed the windows and beaten the engine with a hammer. "It's a lobster war," he explained.

The gang tactics yield both biological and economic benefits, as James M. Acheson reported in his 1988 book, "The Lobster Gangs of Maine." Acheson, an anthropologist at the University of Maine, found that the lobstermen who most avidly defended their turf were able to make more money with less effort because the lobsters in their waters were larger and more plentiful. But the tactics generally work only in waters close to the gang's home. The open ocean is harder to defend. One small patch 20 miles offshore has been divvied up by a few lobstermen from Point Judith, but that's an exceptional case. It took several years and several thousand broken traps for the lobstermen and trawler captains to negotiate who got to fish where and when. And their arrangement is respected by outsiders mainly because one of the lobstermen has an especially fearsome reputation for protecting his turf.

Most stretches of open ocean are governed by state and federal governments, which is why the fish are in so much trouble. Tuna do not vote. Lobsters do not make campaign contributions. There may be future benefits from limiting this year's catch, but politicians don't want the fishing industry to suffer while they're up for re-election. Even when fish populations start to decline, officials are reluctant to impose strict limits. Instead, they have often tried to help struggling fishermen with subsidies, which merely encourage more overfishing. The Canadian and American governments devastated one of the world's most productive fisheries, the

Georges Banks off the coast of New England, by helping to pay for bigger boats. Now, even as scientists urge limits on lobstering, state and federal governments continue to offer tax breaks and other incentives to the lobstermen at Point Judith. John Sorlien was docked at a wharf financed by the taxpayers of Rhode Island.

"It's not a sane system," Sorlien said. "We work with the government to break fisheries, and then we ask the government to subsidize us when the fish disappear."

As he got ready to take his traps to sea, he was listening to a plan for saving the fisheries. Sorlien, the president of the Rhode Island Lobstermen's Association, was being lobbied by one of his members, Richard Allen. It was gentle lobbying — New England lobstermen have not lost their classic laconic style — but there was no mistaking Allen's dedication to his cause. At 54, he has been lobstering for nearly 30 years and preaching reform for a decade. He expounded as Sorlien hosed the deck of the stinking juice from the lobster bait.

"Dick is the messiah," Sorlien said with a smile. "His ideas have gotten him in a lot of trouble. Most of the guys don't agree with him. For a while, I didn't want to accept his ideas. But now I'm starting to think he's found the way."

Allen first found the way in the academic literature of fishery management, and then he saw it in operation. He journeyed to a port in Australia and returned with stories of a place with thriving lobsters, plenty of fat tuna, lots of prosperous fishermen — and no Soprano strong-arm tactics. It sounded like the maritime version of the Happy Hunting Grounds.

On the way into Port Lincoln, a little fishing town on a remote peninsula of Australia's southern coast, you pass an elaborate 20-foot-high black gate adorned with a gold crown. Below the crown is a sign in gold script: "Mansion de Braslov." The mansion is a red brick pile perched on the hillside, with a pink balustrade overlooking the water and a grand staircase attended by statues of two nymphs. It is the house that tuna built.

Locals call it the "Dynasty" house, as opposed to the "Dallas" house up the hill, which was built by another tuna oligarch who is said to have spent $50,000 just to get the plans for the mansion that appeared on the show. Nearby is a pink stucco house with 127,000 square feet. One fisherman with a stable of racehorses made news recently by spending $200,000 at an auction for an antique racing trophy. Another bought a mammoth yacht that had once belonged to Alan Bond, the financier.

Fishing has been very good to Port Lincoln. The fishermen have gleaming $600,000 boats in a pristine private marina flanked by new white stucco town houses. Compared with the decaying public wharfs in Point Judith, Port Lincoln feels like Palm Beach. The town's 13,000 inhabitants are said to include the highest number of millionaires per capita in the southern hemisphere. That, at least, is a factoid you keep hearing there. No one seems to know exactly where it comes from (there is no Southern Hemisphere Millionaire Census Bureau), but as the locals say, "You wouldn't be far wrong."

These millionaires are generally not the sort profiled by Robin Leach. Except for a half-dozen or so in mansions, they live in nice ranch houses. They are men like Daryl Spencer, who

dropped out of school at 15 to work as a house painter. One morning, a friend asked him to fill in as a deckhand on a lobster boat. He kept working on the boats for four years and saved up $10,000 for the down payment on a house.

"I told my captain I needed a day off to go look at houses," Spencer recalled, "and he told me I should buy a boat instead. I said I couldn't afford a boat. He said: 'How about half a boat? I'll be your partner.' I wasn't sure — in those days lobstering wasn't a sought-after job. But my wife and I decided to hold off on the house."

Today, they have a house on a hilltop with a sweeping view of the harbor. They also own a thoroughbred racehorse. Lobstering turned out to be an excellent job thanks to a system of quotas that was pioneered in Australia and New Zealand. It is basically a version of the New England harbor gangs, run by the lobstermen under government supervision. The government started it in the 1960's by setting a limit on the total number of traps used by the fleet in Port Lincoln. Licenses for those traps were assigned to the working fishermen, and from then on, any newcomer who wanted to set a trap in those waters had to buy a license from someone already in the business. It's like New York's taxicab system, which has a fixed number of taxi licenses or "medallions": a newcomer who wants to own a cab must buy a medallion from someone who is retiring.

When Spencer got his own boat in 1984, he bought his first trap licenses for $2,000 apiece in Australian dollars. Nowadays, they would sell for $35,000, which means that Spencer's are worth a total of $2.1 million, or about $1.2 million in American dollars. He has done well by doing good: his licenses have become more valuable because the lobstermen are conservationists. They pay for scientists to monitor the fishery, and they have imposed strict harvesting limits that allow the lobsters to grow into sizable adults. The Australians are not any more altruistic than the Rhode Islanders — they too have mortgages to pay — and in the old days they used to howl when anyone suggested reducing their catch. But they began taking the long view as soon as they saw the rising price of their licenses for their lobster pots, as they call the traps. Like any property owner, they began thinking about resale value.

"Why hurt the fishery?" Spencer said. "It's my retirement fund. No one's going to pay me $35,000 a pot if there are no lobsters left. If I rape and pillage the fishery now, in 10 years my licenses won't be worth anything."

Besides building up nest eggs, Port Lincoln's lobstermen have made their own jobs easier. In the old free-for-all days, lobstermen used to work every day of the seven-month season, including Christmas and Easter.

"I once spent 10 days at sea with a dislocated hip," Spencer recalled. "I wasn't about to lose two days' income coming back to the doctor when my boat wasn't full."

Now, he would go to the doctor and use up a couple of the off-days that each lobsterman is required to take during the season. While Rhode Island lobstermen are sometimes on the water 240 days per year, the Australians are not allowed to work more than 187 days of their 211-day season. And their days are a lot easier on the back, as a young lobsterman, Hubert Hurrell, demonstrated one March morning in his appropriately named boat, Fine Time.

Hurrell and I left the dock at 7:30 a.m. and sped out to his traps in barely an hour, cruising at 22 knots in his 60-foot boat. It was faster than Sorlien's and had twice as much room on deck and below. The wheelhouse and staterooms had the space and amenities you expect to find on yachts, not lobster boats. There was a television and VCR, a video-game player and a wraparound console with six screens showing data from computers, instruments and satellites. "We could virtually shut the window and fish just by looking at these," Hurrell said, pointing to the color images of the ocean floor and the locations of his traps.

He shook his head and winced when he heard about the 800 traps tended by the typical lobsterman in Rhode Island. In Port Lincoln, the lobstermen have limited themselves to 60 traps each. Hurrell had a larger boat than Sorlien not because he needed the space but because he could afford the luxury. It took Hurrell and his deckhand just an hour to raise their 60 traps and to extract an assortment of lobsters, including some hefty long-lived ones. After a leisurely lunch, they dropped the traps back into the water and were back on shore by 3. It was not quite an eight-hour day, and Hurrell was satisfied with the financial results. "No worries, mate," he said, which was not a bad summary of the prevailing view among the scientists who study the lobsters.

"Fishing may be the only economic activity in which you can make more money by doing less work," said Rick McGarvey, a biologist who monitors the fishery for the South Australian government. "By fishing less, the fishermen leave more lobsters out there to produce more eggs, which will make it easier for them to catch lobsters in the future. It's a win-win for the fish and the fishermen. The lobsters are thriving and the fishermen are spending more time at home with their families."

The system also makes McGarvey's job easier because he is spared the controversies that American scientists endure when they try to protect a fishery. In New England, a proposed conservation measure typically inspires a decade of battling that leads, at best, to an ineffectual compromise. In South Australia, the lobstermen act quickly to prevent overfishing, sometimes imposing stricter limits than the ones suggested by scientists.

"We don't have to fight with the lobstermen," McGarvey said. "The old philosophy of fishery scientists was, 'We're philosopher kings and the fishermen are children who don't know what's good for themselves or the fish, so we have to impose regulations.' Now we just tell them what our research shows about the fishery, and they do a great job of regulating themselves."

Other researchers have documented similar success stories around the world, including many from traditional societies that have used property rights to protect the environment. In the South Pacific, where coral reefs have been destroyed by fishermen using dynamite and cyanide, the best-preserved reefs are the ones controlled by local villagers and closed off to outsiders. Japanese fishing villages have long prevented overfishing in local waters by using versions of harbor gangs. Louisiana's privately leased oyster beds are much healthier than the public ones in Mississippi. These results have won over most academic experts on fisheries. Last year, Australian-style quotas were endorsed in a report to Congress by the National Research Council, an arm of the National Academy of Sciences.

Property rights enable fishermen to avoid what ecologists call the tragedy of the commons: the destruction of a common resource because it is open to all. Just as the closely tended herds of cattle thrived on the same plains where the buffaloes perished, fish stand a better chance of surviving if they belong to someone instead of everyone.

The lobstermen of Port Lincoln have managed to work out only a primitive system of property rights — they each own a percentage of the traps used, not a patch of the ocean — and they are dealing with just one relatively immobile species in coastal waters. What about all the fish that migrate vast distances in the open ocean? How could you turn them into private property? It is not a simple proposition, but the lure of profits is inspiring innovation. Already, for instance, there are property owners in Port Lincoln tending herds of wild tuna.

It was feeding time for the tuna, and Brian Cuddeford was chugging out of the Port Lincoln harbor with eight tons of frozen herrings and anchovies stacked on the deck. The herrings were from England; the anchovies, from California. These tuna were accustomed to imported delicacies.

“It’s like room service for the fish, with the full white-glove treatment,” Cuddeford said. “They’re getting fed twice a day. In the wild, they were probably eating once a week.”

The tuna fishermen of Port Lincoln used to go out to sea with empty decks and catch as many tuna as they wanted. They returned with a boatload of dead fish and dumped them into unrefrigerated trucks bound for a canning factory. The fishermen collected about $600 per ton. Today, the tuna ranchers make more than that for a single fish.

“You’re getting more dollar for your product, so you don’t have to catch as many,” Cuddeford said. “You don’t have to be so greedy.”

The ranchers still fish for their tuna in the wild, but with restrictions. Because tuna were decimated by the old open system, in the 1980’s the government imposed limits on the annual catch. Now each fisherman owns what is called an individual transferable quota — the right to catch a certain percentage of the yearly haul. These quotas, which can be bought or sold like stock shares, are not cheap, so fishermen have changed their strategy. No longer able to slaughter fish at will, they have looked for ways to make the most of each fish. The result has been the world’s premier tuna ranches.

When the tuna are first caught in a net far out at sea, they are shepherded by the thousands into floating pens. The pens are slowly towed to Port Lincoln in an enormous tuna drive that lasts about two weeks. Once the pens are anchored in a bay near Port Lincoln, it is the ranch hands’ job to produce a fish good enough to become sashimi in Tokyo.

“It’s just like a feeding lot to fatten up cattle,” Cuddeford said as he pulled up one of the pens, which consisted of a closed net dangling more than 40 feet below the surface. The net was attached to what looked like a huge inner tube, a floating ring of rubber about 200 feet in circumference. Cuddeford tossed in the frozen blocks of herrings and anchovies. As the blocks began melting, you could see the flashes of blue fins below the surface as the tuna snapped up their meals.

“We’re giving them herring to get the oil content up in the meat,” Cuddeford explained. “A bit more oil changes the color. The Japanese are fussy. They eat with their eyes.”

The tuna would be fed for several months as the ranchers monitored their weight and watched the price of tuna on the Tokyo market. At a propitious time, divers would jump into the pen and guide the fish — gently, because any bruise would mean a lower price — on to a boat, which would whisk them to shore and on to an airplane for Tokyo. The 2,200 tuna in this pen were worth more than $2 million. At night, armed guards patrolled the waters for larcenous humans and hungry seals.

Such ranching isn’t practical yet for most species of fish — the tuna pens are economical only because bluefins are worth so much — but marine scientists are studying other ways to homestead the oceans. They have identified genetic markers and various features on fish that could serve as the equivalent of cattle brands. They can tell, for instance, exactly where a salmon spawned by examining its scales for the unique chemical signature of the stream where it was born. They have experimented with new kinds of underwater pens that use sound waves to mark their borders. Surveillance satellites can monitor who is fishing and what they are catching anywhere on the planet, which should soon make it technologically feasible for a quota system to be enforced throughout the world.

But there are, of course, a few political problems in persuading hunter-gatherers to become homesteaders. The biggest is how to divide up the range. Do you allocate the quotas and licenses equally among all working fishermen or according to how many fish each has been catching? Do you calculate each one’s catch by considering the past year or the past 10 years? Do locals get first dibs on fishing rights? During Australia’s debate over these questions, lobstermen were suing the government and slugging each other in pubs. Two decades later, some of their wives still aren’t speaking at the grocery store.

Those disputes were relatively simple compared with the ones in America, where the fishing industry is older and larger. In the mid-1990’s, the federal government successfully introduced Australia-style quotas in a few fisheries. But then Alaska’s politicians got worried that fishermen from Seattle would end up with most of the quotas in their waters, so in 1996 they persuaded Congress to declare a national moratorium on any new quotas. The moratorium could end soon, which gives hope to Richard Allen, the Rhode Island lobsterman who has been preaching the Port Lincoln gospel. But he has no illusions about the political difficulties of setting up a quota system. Over the past decade, he figures he has spent 5,000 hours serving on advisory commissions and meeting with lobstermen, politicians, bureaucrats and environmentalists.

“Most people start with the feeling that the ocean should be open to anyone who wants to fish,” Allen said. “They complain that it’s unfair to lock anyone out of the fishery. My answer is that with the current system, we already have fisheries that we’re all locked out of. I can’t go out and fish for halibut or swordfish — there aren’t any left. I would rather have a healthy fish stock and the option to buy access to it.” Allen has been gradually winning converts on the wharfs in Point Judith, but it hasn’t been easy.

"We're our own worst enemy," Sorlien said. "We're like the cattlemen in the range wars who shot at each other because they were claiming the right to the same property. Somewhere along the line, they figured out it made more sense to divide up the land and set up a system of property rights. That's the rational solution for us, but we can't bring ourselves to go through the pain of allocating each person a share. We're so far away from being South Australia."

Quotas have been gaining support among conservationists, notably at the Environmental Defense Fund, but they still face strong opposition from Greenpeace and other critics who fear that corporations will take over public waters. Once property rights are established, the same economic forces working against family farms could induce local fishermen to sell out to companies with big boats. While economists appreciate the increased efficiency of the bigger boats — less labor, fuel and capital expended per fish — others worry about the lost jobs and the impact on fishing towns. But it is possible to set up a quota system and still protect small-time operators, as the lobstermen in Port Lincoln did by putting a limit on the number of trap licenses that any one person can own.

As a result, there are still plenty of independent lobstermen in Port Lincoln; they just make more money doing easier work. Allen was explaining this to Sorlien and his deckhand, James West, as they stacked lobster traps that morning in May. They looked incredulous when Allen described the huge new boats in Port Lincoln being used to haul just 60 traps.

"Sixty traps?" West said. "Man, I'd be happy if we could get by with 200." He listened approvingly to Allen's description of the Australian system, but he didn't like the part about newcomers having to buy their way into the fishery. West, who had been working as a deckhand for 11 years, was hoping soon to get his own boat. "I don't want the door shut on me," he said. "I've put a lot of time into this business. That's not fair."

Allen said that there would be special help for young people in West's position, but he conceded that there would be an expense. "You'd have to pay some money up front," he said. "But think of all the costs you'd avoid by using fewer traps. You'd be burning less fuel and using less bait. Think of what you'd be buying into — a business with a future."

The deckhand was starting to come around. "Well, I like that idea," West said. "I don't want to buy a boat and hear that in 10 years it'll be worthless because you won't be able to make a dime lobstering."

The captain was still thinking about all the traps he wouldn't have to stack. "Imagine that — just 60 traps," Sorlien said. He had been working for six hours, since 5:30 a.m., and the workday wasn't even half over. "You'd be done for the day now. You could be home counting your money, and you wouldn't have to worry about where the next lobster was coming from."