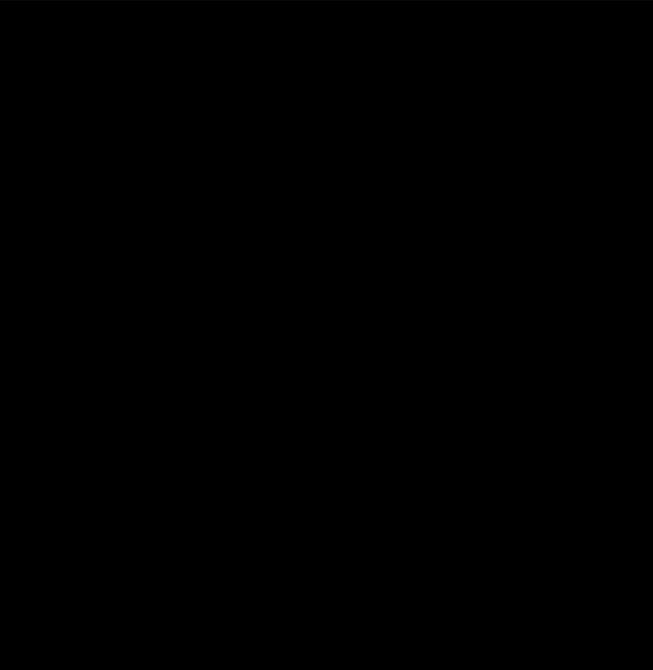




# From Racing to Rights:

Emerging Strategies for Improving  
Fisheries Management in North America



A Report of the Sand County  
Foundation's Workshop:  
"Emerging Strategies for Improving  
Fisheries Management"

By James Fahn



# From Racing to Rights:

## Emerging Strategies for Improving Fisheries Management in North America

---

A Report for the Sand County Foundation  
Based on its Workshop on  
"Emerging Strategies for Improving Fisheries Management"  
Del Mar, California  
Jan 11-13, 2005

James Fahn  
Jdf33@columbia.edu  
[www.alandonfire.com](http://www.alandonfire.com)



*This report is dedicated to the memory of the hundreds of thousands of people, and the many fisherfolk among them, who lost their lives in the earthquake and tsunami that hit the Indian Ocean basin on December 26, 2004.*

*“The Sea Giveth and the Sea Taketh Away”*



# TABLE OF CONTENTS

Executive Summary	p. iv
Background: Seeking an Ocean Ethic	p. 1
<b>NORTH AMERICAN FISHERIES CASE STUDIES</b>	
<b>A. Strategies for Ensuring Access Rights and Responsibilities</b>	p. 8
“Sea urchins are greedy, just like fishermen”: Allen Baker – Nova Scotia	8
In Race for Fish, Everyone Finishes Last: David Walker – Alabama	9
A Different Kind of Gold Coast: Patrice McCarron – Maine	11
Rough Sailing in the Northeast: Paul Parker – Massachusetts	12
Texas, We Have A Problem: Phillip Lara – Texas	14
Summary: Common Ingredients, Obstacles and Results	16
<b>B. Local Initiative and Capacity Building</b>	p. 18
Grassroots and Reefs: Leesa Cobb -- Oregon	18
Do-It-Yourself Science: Eugene O’Leary -- Nova Scotia	19
The Langosta Coast: Mario Ramade & Luis Bourillón – Mexico	21
Bycatch and the Bering: John Gruver & David Fraser – Alaska	22
Learning to aim before they fire: Chris Brown – Rhode Island	24
Tending the Urchin Garden: Peter Halmay – California	26
Summary: Common Ingredients, Obstacles and Results	28
<b>C. Local Institutional Arrangements at Work</b>	p. 30
Mangroves and Mudcrabs: Ted Majaliwa Kombo – Kenya	30
From the Troll to the Table: Amy Grondin – Washington and Alaska	32
The Law and the Sea: Joe Sullivan – Washington	34
Fixing the Spat over Scallops: Teresa Kandianis – Alaska	35
Desperate Times Breed Desperate Measures: Gunnar Knapp – Alaska	37
A New Angle on Angling: Kathy Viatella -- Gulf of Mexico	39
Summary: Common Ingredients, Obstacles and Results	40
Conclusion: Fox or Farmer?	p. 42
Workshop Reference and Reading Materials	p. 45





## EXECUTIVE SUMMARY

Fisheries management in the US and North America is in a state of flux, with numerous fisheries in a state of crisis, the Magnuson-Stevens Act up for review, and the publication of the federal and Pew ocean commission reports advocating reform.

Supporters of rights-based fisheries management argue there are viable alternatives to the current centralized command-and-control model, a middle path that grants fishermen the right to manage fisheries, but also assigns them the responsibility to steward those resources wisely. This approach can take several forms, including community-based fisheries management (CBFM), cooperative arrangements that include consensual or regulated access to fisheries, territorial user rights fisheries (or TURFs), and individual fishing quotas (IFQs, which when they can be traded, sold or bartered, are known as ITQs, for individual transferable quotas).

There are key differences among these various rights-based approaches. The type of approach applied and specific rules governing the fishery must be compatible with the fishery in question and the social and economic objectives of the participants. The common threads running through each approach is protection of healthy stocks, the need to limit access to a level that allows those participating to achieve profitability, and an increased level of self-governance.

That's why the Sand County Foundation was so keen to sponsor this workshop on "Emerging Strategies for Improving Fisheries Management." The chief aim of the Foundation, which is active in both North America and Africa, is to support private-sector efforts at conservation. And this interest is not isolated: the workshop in Del Mar, California was the second of five planned within a span of less than 12 months to discuss CBFM in the US.

Perhaps the best way to understand community-based fisheries management is to read some of the case studies included in this report – Port Orford's reef fish, Nova Scotia's lobsters, and the Kenyan mangroves, to name a few – although most of the best examples can be found in Japan, Southeast Asia and other parts of the developing world. The evidence from world-wide surveys indicates that CBFM works best for sedentary, localized fisheries. CBFM is also advantageous where the community is highly dependent upon the fishery for livelihoods.

The forestry sector has probably been most closely associated with community-based management, and a recent study carried out by Forest Trends found that 22 percent of the developing world's forests are now managed or owned by local communities or indigenous peoples. The problem is that as you scale up these programs, transaction costs can exceed benefits, and it becomes harder to hold them together and agree on social trade-offs. Yet even when these limits are considered, CBFM, as with the other approaches, relies upon the vested power of the rights-holders to control access to the fishery and to benefit from their investment of good management.

One of the oldest forms of rights-based fisheries in the world, but one with the most recent application to modern fisheries in the US, is the harvester cooperative. Spurred by the passage of the American Fisheries Act, the Bering Sea Pollock fishery organized into groups of vessel-type cooperatives. Less formally, the small Alaska weathervane scallop fleet created a cooperative to manage bycatch and settle agreements among harvesters. Meanwhile, a cooperative of lobstermen in the Sea of Cortez has not only assumed enforcement responsibility but got its fishery certified by the Marine Stewardship Council.

The rights-based fishery approach most analogous to terrestrial management is the TURF, or territorial user rights fishery. With secure tenure to near-shore areas, Sea Urchin harvesters in Nova Scotia and southern California can literally garden the animals for their valuable roe by managing kelp beds. In Maine, too, tight control of well demarcated lobster zones has allowed a highly competitive fishery to remain productive.

Currently, about two thirds of all Canadian fisheries are now managed under an ITQ-like scheme, according to Les Burke of the Department of Fisheries and Oceans in Nova Scotia, along with the odd territorial use right arrangement. ITQs in Canada have been blamed for concentration of control over fisheries in the hands of a few. Critics also note that the escalation of quota prices can lead to crises for traditionally fishing-dependent communities. As rights are defined, the asset value of the quota grows, and small scale fishers may sell their shares outside of the community, thus diminishing the commercial fishing base of that port.

More controversial are processor quota shares. These schemes can lead to high levels of vertical integration and complaints that fishermen end up being little more than day-laborers for company owned boats. While most IFQ advocates don't support processor quota shares, there exists significant political pressure from powerful processing interests to veto any proposals that don't include processor quotas.

Advocates of IFQs and ITQs maintain that many of the problems that opponents cite can be resolved in the design and implementation phases of reform. Community impacts, they say, can be mitigated, for example by inclusion of community development quotas. For ITQ supporters, the real issue threatening fishermen is over-fishing. This is occurring, they argue, because no one "owns" the fish. Lacking secure ownership, each fisherman is motivated to be the first to catch the fish. As long as open access incentives prevail, a downward spiral of declining stocks and inefficient and dangerous fishing is inevitable.

To what extent do these four rights-based management approaches overlap, and can adherents to different strategies form a cohesive movement? Answering those questions emerged as a primary goal of the conference in Del Mar. Many of the pluses and minuses of rights-based management were evident in the fascinating case studies presented at the conference, which sought to demonstrate how these approaches can work and are working in North America. Seventeen case studies from the workshop form the heart of this report and are organized around three key issues: Access Rights and Responsibilities; Capacity Building; and Institutional Governance. Summaries at the end of each section will provide readers with some general conclusions.

The participants at the Sand County Foundation workshop arguably came to see themselves as a community of interest united by common problems -- “We agree we need to get away from a race for fish,” noted Joe Sullivan – and a common principle underlying their solutions: “Every speaker spoke in favor of self-governance,” added Teresa Kandianis.

At the same time there were certainly divisions within the group. “Not everyone in this room supports ITQs, but everyone has an open mind and a commitment to individual responsibility,” said Kathleen Castro of the University of Rhode Island. She suggested that a rights-based approach “that includes limits to entry and licensing...captures our commonality”.

What about next steps? Several participants agreed there’s a need to develop an agenda in light of the Magnuson-Stevens Act re-authorization. Many agreed it would be useful to gather documentation and research showing that rights-based management is good for the environment, to be used in dialogue with other environmental groups, funding agencies and fishing groups. There was a call for more work on building markets for “environmentally friendly” harvested fish, just as there are now markets for all types of ecologically and socially certified products from timber to coffee to eco-tourism.

Nevertheless, it’s clear that dismissing fishermen as the proverbial “foxes” who can’t be trusted to manage the fisheries “henhouse” is just too simplistic in today’s world. The fishermen who gathered in Del Mar claim they are good stewards of the marine environment, or at least want to be. More to the point, they understand why it’s in their interest to be good stewards. What is needed most now is the development and testing of systems that provide fishermen with incentives to act like environmentalists.

Rights-based fishing can do that. But it also implies responsibility, and that’s why creating an ocean ethic could be so important. For the most efficient way to fish sustainably is not to have fishermen do it because they’re told to, but rather because they want to.



*‘Emerging Strategies for Improving Fisheries Management’ attendants, at Scripps Institute, January 12th, 2005.*



# **INTRODUCTION AND BACKGROUND: SEEKING AN OCEAN ETHIC**

For those who gathered to discuss the role that fishing communities should play in managing North America's fish stocks, there was one proverb that seemed to encapsulate their frustration. It was that hoary old chestnut about not letting "the fox guard the henhouse", a phrase invoked by environmentalists and other critics who believe that fishermen should not decide how American fisheries are governed.

The fishermen who gathered in Del Mar, California from January 11-13, 2005 for a workshop on "Emerging Strategies in Improving Fisheries Management" naturally took exception to that characterization. And while they acknowledge that many, indeed most, American fisheries have been critically mismanaged, they argue it is the management system under which they operated, or the lack thereof, which encouraged fox-like behavior.

The solution, they say, is not to take decision-making power even further out of their hands, but rather to give them more authority, and more incentive, to manage the stocks more sustainably. To let them serve as the proverbial farmer.

If that sounds a bit radical, it shouldn't. Not only is this approach increasingly common in other parts of the world – where it is often called community-based management or a rights-based approach – but the participants at the Sand County Foundation workshop presented numerous case studies that suggest it can work, and in a few cases is working, in North America, albeit not without remaining obstacles. We'll go over those, case by case, later in the report. First, a bit of background...

## **HOW WE GOT TO WHERE WE ARE**

"I'm a conservationist with a background in whales and marine mammals. The model I've always followed has really been centralized, science-based management," says Mike Weber, a widely respected fisheries consultant. "Then I got a call to do a study on community-based fisheries management, and it was like a call from Mars.

"I'm a preternaturally top-down kind of guy. I used to work for the National Marine Fisheries Service [NMFS]. But when we looked at what happened abroad as a part of this study, it turned our world upside down. We realized the limits of conventional management and that there is a viable alternative."

The study, carried out with fellow consultant Suzanne Iudicello-Martley on behalf of the Ford Foundation, changed the way Weber viewed current US fisheries management. It made him realize that, to use his own words, “we had been captured by an ideology.”

At first, he adds, the ideology which ruled fisheries management in the US was one of abundance: “It was projected that ocean fisheries can produce 400-500 million tons per year. This amount was limited by the number of boats not the number of fish. Uncertainty became a license to expand exploitation.”

During the boom decade of 1977-86, the Magnuson-Stevens Fishery Conservation and Management Act excluded foreign fishermen from US shores, but contained weak conservation standards. Its tax and other economic incentives spurred a flurry of domestic boat construction that reached a peak in the late 1970s, and caused a decline in many fisheries.

“Then we moved to an ideology of scarcity,” Weber continues. This adopts more of an ecosystem perspective, and projects a worldwide sustainable harvest of about 90 million metric tons. The 1996 Sustainable Fisheries Act reduced the amount of fish available to fleets, leading to the decommissioning of hundreds of vessels.

## **RIGHTS AND RESPONSIBILITY**

But what if there is a “viable alternative”, a middle path that grants fishermen the right to manage fisheries, but also assigns them the responsibility to steward those resources wisely? This approach can take several forms, including community-based fisheries management (CBFM), cooperative arrangements that include consensual or regulated access to fisheries, territorial user rights fisheries (or TURFs), and individual fishing quotas (IFQs, which when they can be traded, sold or bartered, are known as ITQs, for individual transferable quotas).

There are key differences among these various rights-based approaches. The type of approach applied and specific rules governing the fishery must be compatible with the fishery in question and the social and economic objectives of the participants. The common threads running through each approach is protection of healthy stocks, the need to limit access to a level that allows those participating to achieve profitability, and an increased level of self-governance.

That’s why the Sand County Foundation was so keen to sponsor this workshop on “Emerging Strategies for Improving Fisheries Management.” The chief aim of the foundation, which is active in both North America and Africa, is to support private-sector efforts at conservation.

In accord with Aldo Leopold’s Land Ethic, enunciated in the book from which the foundation took its name, its primary focus has been on “assembling individuals and marshalling efforts to protect the land,” explains Foundation President Brent Haglund. As Leopold argued in his 1939 essay *The Farmer as Conservationist*: “When land does well for its owner, and the owner does well by his land; when both end up better by reason of their partnership, we have conservation. When one or the other grows poorer, we do not.

“Individual responsibility embedded in civil society is the engine driving this train. Private conservation is nothing new, and we aim to foster conservation citizenship,” says Haglund. Having worked on land, forest and wildlife management, and built a community-based conservation network, it seemed natural to extend these principles to the sea.

What is CBFM? It’s hard to define because it has taken so many different forms around the world. Rather than recite a fixed definition, Weber and Iudicello-Martley decided to create a typology, a list of characteristics that typifies community-based management, including: a focus on ecosystems, sharing of power, local control, and a sense of common responsibility for common resources.

Indeed, perhaps the best way to understand CBFM is to read some of the case studies included in this report – the lobster cooperatives in Maine and Baja, for instance, or the sea urchin fishery in Nova Scotia, to name a few. But the fact is that most of the best examples can be found abroad.

That’s where Barrett Walker went to look. Having long enjoyed scuba diving, snorkeling and fishing with his family while on vacation, he came to notice that upon returning to a place, he usually saw there were far fewer fish, and the ecosystem had become degraded.

“I realized the fisherman has no way to benefit from conserving the resource,” said Walker, a trustee of the Alex C. Walker Charitable Trust, which supported the workshop. “How do you change that? It seemed logical to go to the fishermen themselves, but it seemed the regulators weren’t doing that.”

After reading a book called Words of the Lagoon about the Pacific archipelagic nation of Palau, Walker went there to see how it had preserved its fisheries for generations. He learned that the “most important form of conservation was reef and lagoon tenure -- the most valuable fisheries management system ever devised.”

Mike Weber drew similar lessons from his study of CBFM abroad, particularly in Japan, where prefectural governments grant tens of thousands of exclusive territorial rights for sedentary fishery resources for ten-year periods to Fisheries Cooperative Associations. These FCAs, according to Weber and Iudicello-Martley, provide “perhaps the purest example of community-based fisheries management in the world”.

“The FCA system has been remarkably successful in many respects,” they continue. Japan’s near-shore fisheries have persisted for more than a millennium, while many fisheries elsewhere in the world, which are more centrally managed, have declined, sometimes catastrophically. By catering to the fresh-fish market, FCAs enable fishermen to receive the highest value for their catches of any fisheries in Japan.

“The FCA system has its shortcomings,” they add. “Recreational fishermen feel excluded from desirable fisheries by the rights system. Nor does the FCA system provide protection for the broader public interest in nearshore ecosystems.”

Factors in the success of FCAs cited by Weber include a high dependence on local resources, members making decisions about sharing resources and benefits, the exclusion of non-members, integrated decision-making from dock to prefecture, information sharing at all levels, and government support for the system.

In the US, by comparison, management focuses on single species, fishermen and regulators have an antagonistic relationship with fishermen treated as outsiders, and decision-making is highly centralized.

While Japan may practice the purest form of CBFM, New Zealand has probably implemented the purest form of individual and transferable fishing quotas with its Quota Management System (QMS).

A review process that began in the early 1980s had revealed that the country's ailing inshore fisheries were clearly "over-capitalized and over-fished", and it recommended as a first step the removal of part-time fishers. "Obviously, it was a very contentious process," acknowledges Mike Arbuckle of New Zealand's Ministry of Fisheries, and not just for the people who ended up losing at least part of their livelihood.

"[A rights-based system] requires government to give up responsibility -- which is not natural for government -- to move from being a hands-on manager to a monitor and approver of plans." Arbuckle quotes Peter Pearce, who prepared a report for his ministry: "Ultimately the role of government might be in maintaining the legal and institutional framework needed to enable those with the rights to fish to govern themselves. This is likely to become the most essential task of government."

Over the last 18 years, management of New Zealand's fourth largest industry has been converted to a rights-based system that now allocates quotas for 550 stocks of 100 species. Service industries, such as science (data provision) and registration, have been progressively outsourced. The QMS caps the catch, promotes efficiency of the harvest, and reduces fishing effort, which in turn contributes to wider biodiversity objectives. The allocation process has been the most difficult facet, according to Arbuckle, with the quotas first determined on a basis of commitment and dependence, then on catch history, and today are dispersed via auctions.

What has been the result? The status of half the stocks remains unknown due to a lack of data, says Arbuckle, but among the remaining fisheries "none are getting worse, and some are improving." The total asset value of the QMS is increasing, as is the value of species such as hoki and rocky lobster despite the fact that their total allowable catch has decreased. The new system has led to the creation of over 20 fisheries management organizations and over the last two decades the number of commercial fishing vessels has declined from roughly 3,000 to 1,047.

"The goal is to maximize value and ensure protection of the natural environment," says Arbuckle. Critics of the system note that community development is conspicuously absent from those goals, carp at the concentration of the quotas in the hands of the fisheries management organizations, and question what happened to the fishermen (part-timers and otherwise) who have been forced to retire.

Arbuckle insists community ties to fishing for inshore stocks have remained strong but acknowledges they are weaker for deep-water fisheries, "where it's largely just a business". He also admits that the issue of recreational fishing should have been addressed in concert with the earlier reforms. "That's why you need to get rights defined," he explains. "New Zealand has done well with commercial rights, and pretty well with customary rights [having settled indigenous Maori claims], but we haven't done recreational rights well."



## PROSPECTS FOR NORTH AMERICA

Closer to home, Canada seems to be moving in a similar direction, according to Les Burke of the Department of Fisheries and Oceans in Nova Scotia. With commercial fisheries worth \$2 billion on the Atlantic coast and \$300 million on the Pacific coast, Canada historically had mostly open access fisheries, only a couple of which (such as lobster) had limits on total allowable catch (TAC).

“Pretty much all management activity was command and control,” says Burke. “But by the 1990s, we had begun to hit some walls, with budget constraints and cutbacks, and problems in certain fisheries, particularly ground fish. There were some collapses due to bad science, rule breaking, and due to Mother Nature.

“There was a realization that there are some things fishermen could do better than us, so we began to change the way fishermen participated in management,” he continues. “We began breaking [management] down into fleet shares and individual quotas. We needed to change the law. We made attempts to move toward longer term tenure, to share more responsibilities with fishermen, give them the power to deal with free riders.

“One strategy we adopted was cost recovery, with cutbacks in our [governmental] services. We introduced monitoring programs on boats and at dockside that fishermen paid for, and used regulations to shift costs to industry. The same scientists were doing research, explained Burke, but the bills were now paid for by industry.

“More and more fishing groups were attracted to the benefits of ITQs, so they were willing to go with these conditions. There was a consultative process where we decided on allocation. We would bring people together: first they’d fight over the size of the TAC, and then over the allocation. That was fun,” Burke draws, rolling his eyes.

Now about two thirds of all Canadian fisheries are managed under an ITQ-like scheme, he claims, along with the odd territorial use right arrangement that employs area-based rights like with the sea urchin fishery in Nova Scotia [see Allen Baker’s case study below]. “The scallop fishery is a leading area off George’s Bank,” says Burke. “And there has been a boom in crab fisheries, where fishermen pay for assessment work, and in return they get maps so they know where to go.

“Essentially they are coalitions of the willing. Some of our poorer lobstermen have put together a coalition and are paying for free riders, while more lucrative ones don’t tolerate free riders. So it’s spotty, but we’ll live with our coalitions. We arrange civil agreements to try and bind arrangements in place.

“There has been consolidation and rationalization. In the lobster fishery there are no ITQs, but there are claims that licenses are now monopolized by processors who hire fishermen as economic serfs.” ITQ supporters point out that there are ways to try and prevent concentration of quotas in the hands of a few powerful entities, which often end up being the processors, for instance by mandating a minimum number of quota owners or a maximum percentage of the total allocation that can be owned by a single entity.

In Canada, according to Burke, there are owner/operator provisions – which require that those who own a quota are the ones who actually use them – but they are not universal. “On the Pacific coast, there are no owner/operator provisions. They do exist on the east coast for vessels under 65 feet long, but even there, there are grandfather clauses,” he adds. “In some cases, fishermen themselves have become processors.

“But,” he concludes, “if you begin with the premise that there is overcapacity, then yes, there is going to be reduction in the number of fishermen.”

There is now a movement in the US, as well, to implement IFQs. However, they are so controversial in some circles that they have only been adopted in four federal fisheries. A moratorium was imposed on using them further by the 1996 revision of the Magnuson-Stevens Act, although the moratorium was allowed to expire in 2002. Barrett Walker is one key supporter, arguing that, “We need a structure for fisheries management that allows fishermen to benefit from fisheries conservation.”

The Walker Charitable Trust has teamed up with other funders, including the Koch Foundation, the Wilkinson Foundation, and the Sand County Foundation’s Bradley Fund for the Environment– to support groups such as the Property and Environment Research Center, Environmental Defense, and the Reason Public Policy Institute to advocate for IFQs. They have brought fishermen to Capitol Hill to speak with staffers and lawmakers, and created a website at [www.IFQsforFisheries.org](http://www.IFQsforFisheries.org). “Now we want to reach out to community-based fishing groups,” says Walker.

There, too, a movement seems afoot, says Weber. Several funders – including the Kendall Foundation, the Oak Foundation, the Surdna Foundation and some community and family foundations – have supported community-based fishing efforts in Alaska, New England, Canada’s Maritime Provinces, and farther afield in places like Belize and Mexico.

They recently joined up with the Ford Foundation to bring CBFM groups together at a conference in Kennebunkport, Maine in October of 2004, where Weber and Iudicello-Martley presented their report. A follow-up conference for the west coast occurred in Sitka, Alaska in March, 2005.

They will have many obstacles to overcome. Weber and Iudicello-Martley in particular point to legal issues – particularly an inability to exclude free riders from rights-managed fisheries – that represent key barriers to implementing CBFM in the US. A lack of financing to support community-based efforts, and a lack of capacity and political will to organize community groups are also critical shortcomings.

Speaking on ITQs, Arbuckle also points to ill-defined rights as a chief barrier to self-governance, because it leads to “rent dissipation and free rider problems”. Other obstacles he lists include: a prescribed and inflexible approach to management by regulators; government monopolization of service provision; politicized decision making that creates investment uncertainty and incentives for rent seeking; unanticipated changes in the environment; a lack of capacity to manage and implement change; and a lack of leadership willing to take risks.

To what extent do IFQs, community-based fisheries management, harvester cooperatives, and TURFS overlap, and can they work together as a rights-based movement? Answering those questions emerged as a primary goal of the conference in Del Mar.

And it is a timely one, considering that the US federal government is preparing to revise the Magnuson-Stevens Act, and several versions of a “big ocean bill” have been drawn up in response to the release of the federal and Pew ocean commission reports.

Haglund of the Sand County Foundation outlined the official goals of the conference as follows: to build and support a learning network for rights-based fisheries management in North America; to catalog and document experiences and success stories; to convey experiences to other audiences; and to provide a resource for policy improvement. “We want to energize and catalyze your efforts,” he told participants.

At first glance, it may seem odd for an organization identified with the author who devised the Land Ethic to be sponsoring a conference on marine fisheries. But Haglund points out that the underlying premise of community-based and rights management is the same whether it deals with land or sea: “a commitment to local democracy, and solutions at the local level.”

Besides, he says, pointing to the nearby Pacific Ocean, colored a muddy brown from all the run-off caused by a recent spate of storms, “land use clearly impacts the ocean”. And the reverse is also clearly true, as was made so tragically evident by the recent tsunami in the Indian Ocean.

Hence the need for the broadest goal of this workshop and numerous other meetings, reports and studies currently swirling around the coasts and capitals of North America: the creation of an Ocean Ethic to elevate responsible stewardship of the sea.

# NORTH AMERICAN FISHERIES CASE STUDIES

## A. Strategies for Ensuring Access Rights and Responsibilities

**“Sea urchins are greedy, just like fishermen”:  
Allen Baker – East Petpeswick, Nova Scotia**

Back in 1993-94, when the green sea urchin fishery was just starting up in Nova Scotia, Allen Baker had that feeling of déjà vu all over again. He and his four divers would find a good spot to harvest the valuable little critters, but then others would also try and fish there, creating conflict. “I thought ‘uh oh, this is going to be just like with regular fisheries’,” Baker recalls, with the intense competition leading to a reduction in quality of the product and depletion of local stocks.

“There were 50 licenses initially offered by the government, and we argued about how to set up this new fishery for a year and a half,” says Baker. But then they managed to come up with a management plan, and a system of exclusive zoning that has allowed them to thrive. “I’ve tripled my income compared to the past, and we even ship the urchins ourselves to Japan. Of course, the wholesale exporters don’t like that.”

***“Fishermen could set up their own harvest plan, to get a higher roe percentage and harvest when prices are high.”***

**- Allen Baker**

Previously, urchins were not considered valuable. “When I was a kid, they were called egg whores. There was no use for them,” Baker recalls. But the roe turns out to be a highly sought after ingredient in Japanese cuisine -- Samplers at the conference liken the taste to “fishy melon” -- leading Baker and his fishermen friends not only to begin harvesting them, but figuring out ways to enhance the quality and quantity of the product.

There are different stages the life cycle of a sea urchin, which feed on kelp. “First, the kelp forest grows as water warms up in the spring. Then the urchins crawl in, and just eat anything they come across. They really like kelp. Then the eggs grow [inside the urchins] and become valuable,” Baker explains. “But urchins are very greedy, just like fishermen. They’ll eat themselves right out of a living, come right out of the water to eat the last piece of kelp. When they run out of food, they all die from disease. I saw it happen as a kid, acres and acres of them washing up on the shore.”

The management plan that was devised first limited the number of licenses in the area. Harvesting was allowed only by diving, with up to four divers per boat. The minimum size for a harvestable urchin was set at 50 mm (about two inches) in shell diameter. A successful harvester could then request an exclusive zone license, but is only allowed to harvest in that one zone.

“We made a map of the kelp and the urchins in each area and then marked them off,” says Baker. “It’s a good system. We lowered our fishing costs and lowered enforcement costs. Fishermen manage the stock, while the government issues licenses and audits stock management.

“Fishermen could set up their own harvest plan, to get a higher roe percentage and harvest when prices are high. We measure how much kelp there is in the summer; then we go out in the fall and harvest. We’ve managed to restore the balance between kelp and urchins.”



They’ve managed to do more than that, figuring out through trial and error (or research and development) how to maximize the harvest. Attempts at urchin rearing failed, but ranching seems promising. “My area is 17 kilometers wide, and we would move urchins from areas with no kelp to areas with kelp. We tried growing them in cages and feeding them, but that didn’t work. Then we decided to cut kelp and feed the urchins that way, dump them in

crevices where the urchins would gather, and that works. The secret to urchin fishing is to keep them in the holes and feed them kelp. We’ve made a good bit more money this way.”

Is the current system sustainable? “The government gives us official fishing rights in a limited area, and so far no one is trying to take it away. But those who don’t harvest or enhance properly could get in trouble. There are still a few open areas left, but to get entry you gotta prove nobody’s working it, and of course the best spots are gone... Some government people are against the system. There’s a lot of jealousy because we’re making more money. But the lobstermen hate the urchins, and so they love us because we get rid of ‘em.”

### **In Race for Fish, Everyone Finishes Last: David Walker – Alabama**

There’s nothing like a crisis to prompt a call for change, and that’s what the red snapper fishermen in the Gulf of Mexico are facing. At least one of them, David Walker, says he is so fed up with “the derby” – as the race for fish fostered by current management policies is called – that he is now eager to see Individual Fishing Quotas (IFQs) set up. And apparently he’s not alone. According to Walker, a referendum revealed that 78 percent of his fellow red snapper commercial fishermen would support such a move.

Walker’s story is a case study in modern-day fishing frustration. The owner and operator of a 65-foot vessel based in Alabama that primarily fishes for red snapper, Walker sees the current regulatory system – trip limits which allow 2,000 lbs. every 24 hours and takes place the first ten days of each month until a fall or spring quota is met – a “fisheries nightmare” that leads to increased fish mortality and a market glut that yields low prices.

“Derby fisheries have led to user conflict. I get frustrated when I see commercial fishermen fishing hard for 10 straight days, and safety at sea also becomes an issue because the guys are exhausted. “The (regulatory) system also creates market dilemmas because the product is not available year round. Red snapper have a shelf life of two weeks, but buyers start discounting the price with each day because they say the fish are getting old.”

Walker echoed the comments of many fishermen at the conference in expressing frustration with the science used by regulatory authorities to back up their management regimes. “It always seems like they manipulate the science to fit the model they need, for instance in the way they study snapper mortality [the death rate of fish that are caught and then released because they are too small]. They bring the fish up from depth, send it back down in a cage, then bring it back in a week and see if it’s still alive. But the mortality rate is greater in practice than they’ve measured. When we throw fish back, it’s usually eaten by porpoises, sharks or seagulls. They’re smart and they’ll tail the boat.



“We go to meetings and provide our input to the [Gulf of Mexico Fishery Management] Council, but it seems to go in one ear and out the other. If I tell them things are bad, I’m worried they’ll lower the TAC [total allowable catch]. They probably need to because the red snapper fishery is in bad shape.

“Fishermen in the Gulf are ready for an IFQ program. IFQs would let them fish anytime during the year. It would give them sufficient time to fish. Many fishermen who were skeptical now support the idea. Deciding on allocation [of the quotas] has been the hardest issue, but we’ve got it worked out. We figured the allocation based on historical catch.

“Everyone’s willing to give a little. We’re tired of the current system, and ready to change. That’s why 80 percent supported IFQs in the two-part referendum on the red snapper fishery. And I would support fleet reduction to get rid of people who just lease out their permits and aren’t participating, or aren’t efficient. But it’s going to be hard to fix one fishery without fixing the others.

***“Fishermen in the Gulf are ready for an IFQ program. IFQs would let them fish anytime during the year. It would give them sufficient time to fish.”***

**- David Walker**

“Even the processors are in support of it. They used to be against it because they were afraid they’d lose control of the fishery, but now they support it. When I come home from 12 days in the Gulf I don’t want to spend several more days selling my catch, I want to have some sort of a life.

“I’m a hands-on hook-and-line fisherman. I know what’s going on. Commercial fishermen get paid by the pound. If we don’t protect the resource, we won’t make a living.”

## **A Different Kind of Gold Coast: Patrice McCarron – Maine Lobstermen’s Association**

There may be no better example of successful community-based marine resource management in the US than in Maine, where for half a century the Lobstermen’s Association has served as the foundation for a thriving relationship between people and the sea.

“We became organized 50 years ago, and have had a core group of guys who believed in what they are doing,” explains Patrice McCarron, the current executive director. “The scientists didn’t believe them. Officials didn’t believe them. But they were just stubborn and fought for their right to manage lobsters. It was a long, slow painful process, but if you believe in it, it can work.”

The Association today consists of 1,200 lobstermen, and is primarily funded through memberships. Their turf includes 5,300 miles of coastline, for which 7,000 state licenses have been awarded. There are no official seasons for catching lobster, adds McCarron, but the majority of activity takes place between July and December.

Most of the fishery takes place in coastal waters, within three miles of the coast, which means it is regulated by the state. But 1,400 federal permits have also been awarded so that lobstermen can also fish beyond 3 miles.

“We work at all management levels: federal, regional, state and local. Through the Atlantic States Marine Fisheries Commission, which is the result of a cooperative agreement among 23 Atlantic coastal states for species that cross borders, fishermen in Maine worked very hard, and managed to get jurisdiction out to 40 miles, although scientists set technical standards.”

***“A key element of the Maine lobster fishery is that it is made up of owner-operator fishermen.”***

**- Patrice McCarron**

A key element of the Maine lobster fishery is that it is made up of owner-operator fishermen,”

McCarron explains. Beginning in 1995, zone councils were established up and down the coast, with each district electing representatives to the councils for three-year terms. The councils have the authority to regulate the number of traps, the

time and day of fishing, and how traps are used (singly, in pairs, or multiply). Since then, the zone councils have also gained the authority to limit entry on a zone-by-zone basis. “The process has been lengthy and time-consuming, but it seems to work,” she adds.

Another key feature is that the transfer or sale of licenses is not allowed. To date, six of the seven councils have set a strict entry/exit ratio, and anyone wanting to enter the fishery must undergo an extensive apprenticeship that lasts for two years and comes with a work requirement of at least 1,000 hours.

“Lobster fishing is still done the old fashioned way in Maine,” says McCarron. Harvesting is carried out on small boats, using a limited number of traps – dragging is not allowed -- in accord with strict conservation measures that includes size-based rules on what they can land. Through a process known as V-notching, in which any lobsters with eggs that are caught are marked and released, the lobstermen avoid removing breeding lobsters from the ecosystem.





"Lobsters are not highly migratory, so if you fish out of a port, you basically fish in that area. Knox County has 37 percent of the landings and only 16 percent of the licenses, so that is considered the gold coast. Overall, the historic average of landings in Maine is 25 million tons, but in 2002 Maine landed 64 million pounds and in 2003 55 million pounds.

"Our fishery is kind of unique because the resource is robust right now, unlike the declining and rebuilding groundfish fishery. There aren't many other jobs on the Maine coast, so to have people involved in managing the lobster fishery is crucial. It's rough, some days it's great, sometimes it stinks, but it's worth it in the end."

### **Rough Sailing in the Northeast: Paul Parker – Cape Cod**

One of the most interesting experiments in rights-based fisheries management is taking place on (and off) Cape Cod, where the Commercial Hook Fishermen's Association has been allocated a portion of the legendary George's Bank cod catch. The program is particularly notable because it's taking place in a region that has traditionally been suspicious of any talk of quotas, and has suffered terribly from a declining fishery.

"The entire Northeast fishing community is skeptical about whether they will share in the success of rebuilding stocks," says Paul Parker, the navigator of this pilot program. "But I don't think that improving profitability, providing community and social benefits and protecting the environment are mutually exclusive. On the contrary, together they form an economic, social and biological triangle."

A fisherman who studied ecology in school, Parker now heads the CCCHFA, a non-profit group founded on the principle that fishermen are best placed to manage fisheries. It carries out work on policy reform, education, and scientific research, mostly in regards to the Northeast groundfish fishery – which includes cod, haddock and flounder -- and particularly in Georges Bank, the traditionally rich fishing grounds of the North Atlantic. The members operate 25- to 42-foot skiffs – a relatively small-scale fleet – that fish 3 to 60 miles offshore, but now go farther because of fewer and fewer fish. They mostly use jigs (rod and reel) or longlines, with 3600 to 4500 hooks per day.

"As everyone knows, the stock of cod is now relatively low, so the problem we face is rebuilding," explains Parker. "The Northeast traditionally uses input control measures, principally by limiting days at sea, which layers in inefficiency. But the stock wasn't responding to these effort controls.

"Amendment 13 to the multi-species plan was under consideration by the New England Council. We realized that the input control measures proposed would drop the trip limit for cod to a level that would no longer be profitable for hook fishermen. As such, Amendment 13 became the vehicle for proposing a different solution for hook fishermen than the rest of the fleet. A solution that would involve output controls measures (quotas) instead of adding to the input control measures.



Our solution was to form a self-selecting group of fishermen called the Georges Bank Cod Hook Sector that would receive a quota allocation based on historical catch, and then we'd be able to manage that on our own. But we needed to educate the public and the fishing community -- first the town councils, then the state director -- to gain support for this solution. That took a couple of years, and required a good deal of cash and capacity. Then we spent another year working on the sector allocation.

"The program was open to any fisherman that had caught cod in the past. They had to pledge to deliberate in good faith for good regulations. A lot of them maintained an aggressive and antagonistic attitude until they realized their jobs were going down the drain. Then they started to cooperate. It's hard because of bad blood in the past, there's a real problem with conflict resolution."

Ultimately, about 58 out of the 100 hook fishermen joined in, which led to them being allocated 12 percent of the total allowable catch for Georges Bank cod. Those participating in the program basically debate what the regulations will look like. In 2003, the first year the sector was passed by the New England Council, says Parker, every decision had to be 100 percent consensus. "About 10 of the fishermen had historically caught most of the quota, so we worried about using majority voting. It was hard to do anything that first year, but we just wanted to get a structure in place.

***"Our solution was to form a self-selecting group of fishermen called the Georges Bank Cod Hook Sector, secure a quota allocation based on historical catch, and manage that on our own."***

**- Paul Parker**



"Our guiding principles were protecting environment, achieving long-term social objectives, and economic efficiencies. Our eventual intent is to get away from 'Days at Sea' management. That led us to set monthly quotas and eliminate trip limits. We set up some gear limits for inshore areas, and have strict rules on reporting. That's probably the most important thing because we are responsible to the federal government for weekly reports.

"We're a pilot program so we have no peer group [in the Northeast]. Everyone else is still deciding whether or how to rebuild. And while we have a quota of 12 percent, others don't have any -- in other words, we have a hard TAC while others have a soft TAC -- so there's no guarantee we won't suffer from over-fishing by other people. We've already caught 25 percent of our quota, and we're convinced Georges Bank cod is in worse shape than the government wants to acknowledge.

"Most of the others are still committed to the Days at Sea approach, and are thinking about how to survive next year. We're concerned about how to make the connection between the quota we've been given and the community, because it's possible for people to take their quota and migrate out of the community. There's also the problem of succession: how do you break down barriers to entry."

It's fair to say it hasn't all been smooth sailing for the CCCHFA. "I'll get questions like, 'where is the guarantee that I'm going to get filthy rich? Where's the paycheck?'" says a rueful Parker. "And I tell them, 'Last year, you were going to be driven out of business by regulatory change, and now you have a niche.' Some people are totally psyched up and amped about the program, and the next minute they're totally in your face. It's constant schizophrenia."

## **Texas, We Have A Problem: Phillip Lara – Corpus Christi, Texas**

“Actually,” says Phillip Lara, an inshore fisherman with shrimping boats that ply the Gulf of Mexico, “in Texas, we have a lot of problems.”

Part of the problem seems to stem from a lack of a sense of community, and thus a lack of cooperation among the fishermen on the Corpus Christi docks. “There are approximately 1,000 boats in Texas inshore waters. All up and down the dock, probably only two people actually get along with each other. It’s pretty rough,” says Lara. “We dock side by side, shrimp side by side, and sell side by side, but are not getting along.”

As with so many fishery stories, the problems originated because historically, shrimping in the Gulf was open access. That ended when regulators realized it had been fully exploited. But a move to limit entry led to “a speculative rush to get licenses,” according to Lara.

“When you put 30 or 40 people together, they are going to be bumping heads. You’ve got boats bumping into each other, nets getting tangled. But it’s not a crowded fishery, because I’d say two thirds have tied up their boats and gone to work in the local oil refineries.”

Other problems, adds Lara, are the high costs of shrimping, combined with poor regulations. “A big boat uses 350 gallons of fuel per night, and the price of fuel is very high. Meanwhile, the price of shrimp is down to the levels of the early 1970s.

“State regulators still control when, where and how we can shrimp. There’s a 200-pound limit per day now. But limited entry has done nothing to prevent the financial disaster of the Texas coast. Banks don’t even want to go and foreclose on boats, it’s gotten so bad. And everyone thinks the next 10 years are going to be worse.

***“We’re trying to change things with an ITQ pilot program. It’s a market-driven plan that would let us go shrimping when we want, when prices are the best.”***

**- Phillip Lara**

“They seem to want to make it more profitable to sell a license rather than use it. People are selling licenses for \$20,000, which is how much you can make in one year -- actually, I can make that in a month -- but they’re worried about the future.”

Lara has been able to survive because not only can he sell his shrimp off the back of his boat, but his family has a retail store where he can hawk it, and he’s able to freeze his catch. But most others can’t, he says. “So it’s difficult to tell them -- when the regulators set a total allowable catch -- that it’s in their best interest even though it will make for their worst year.”

“I think I am the youngest man to own commercial fishing boats along the Texas coast. I have a bait license, and a bay license. But we need to eliminate some of the poorly thought out regulations that force fishermen to ‘live on board’. There’s also a lot of animosity between fishermen and scientists that needs to go away. We need to work together. But I see [the researchers] going out and sampling often without proper equipment. They come out when we’re going in, after there’s nothing left to sample. We wonder if they know what they are doing.

"I do believe in transferable fishing quotas, but just as many fishermen agree as are opposed. We're trying to change things with an ITQ [individual transferable quota] pilot program. It's a market-driven plan that would let us go shrimping when we want, when prices are the best."

Shrimpers have had plenty of conflict with environmentalists, as well, because of the large bycatch associated with shrimping. But Lara claims there is progress in resolving these issues. "Our bycatch has caused so much concern, but the rumors of 10-15 pounds of bycatch per pound of shrimp caught just aren't true. We have excluder devices and turtle shooters on our nets that have greatly reduced the bycatch," says Lara. "And yes, environmentalists have also started to help us. But there are still groups out there that are literally trying to end what we do, wipe out commercial shrimping."

Lara points out that farm-raised shrimp have caused huge environmental problems throughout the tropics. "The state of Texas through its Agriculture Department is working on a program that will certify shrimp as being locally, sustainably caught, that doesn't have all the environmental problems you encounter elsewhere. They're marketing it at big seafood shows like the one in Boston... But meanwhile, the restaurants on our own wharf don't even sell Texas-caught shrimp. They buy tilapia from the rain forest and sell it as snapper."

With so many problems how does Lara cope? "Every time we get a challenge, we find a way to overcome it. You just have to be persistent, kind of like cutting a tree with a butter knife. It's going to be difficult but sooner or later you'll get it... As we've heard at the Sand County workshop, people change their minds."



## Ensuring Access Rights and Responsibility: Summary

The discussion that followed these case studies identified numerous common threads in the presentations, and revealed a general pattern in the way management of declining fisheries is evolving toward a new approach to access rights and responsible stewardship.

Typically, fishery problems begin due to a tragedy – not of the commons, but of open access regimes – essentially caused by too many boats with increasingly effective gear chasing too few fish. The government usually steps in first and tries to deal with capacity issues through limits on gear and time spent fishing or other input regulations. This leads to even more frustration among fishermen now faced with a “race for fish”, but still lacking sufficient incentives for conservation. The fishermen become especially critical of the science used to back up the new regulations, arguing that research needs to be carried out in a more participatory and pertinent fashion.

Both David Walker’s presentation on the declining red snapper fishery in the Gulf of Mexico, and Philip Lara’s talk on the conflict-ridden Gulf shrimp fishery evoke the frustration commonly felt at this stage.

Desperation leads the fishermen to devise their own solutions, often thanks to the persistence and dedication of a stubborn leader. These efforts are particularly critical in fisheries that involve single species, often caught with a single gear type, so that survival may depend on developing niche products for niche markets. And they seem more likely to bear fruit, or at least are simpler to achieve, among fleets that operate at a relatively small scale in terms of geography, distance covered and capacity. Allen Baker’s discussion of the Nova Scotia sea urchin fishery is a case in point.

In seeking new approaches, there is a general interest in rights-based approaches that can increase control over a group’s “own” marine resources, and thus over their own destiny. In other words, they tend to follow Leopold’s observation that stewardship brings mutual benefits to the community and the environment. The management systems that are created place an emphasis on cooperation, maximizing flexibility, and aligning incentives with desired social, economic and environmental goals. But they also contain an exclusionary component, either through rights (such as with licensing) or through geography (zoning).

Inevitably, as the Cape Cod Commercial Hook Fishermen’s Association (CCCFHA) has learned, the proponents of these approaches run into barriers, beginning with a lack of organizational capacity, since building capacity requires not only scarce funds but time away from fishing. In their attempts to adopt a rights-base management system, they start to grapple with how to define their participating community – whether it’s a community of place or of interest – particularly when those participating aren’t a homogeneous group.

Paul Parker’s presentation on the CCCFHA also reveals the flip side of this dilemma: the unwillingness or inability to exclude free riders, often due to a lack of legal rights. Indeed, there are all sorts of institutional constraints to such collaboration, compounded by a lack of trust between fishermen, scientists and managers. Even when these are overcome, they must struggle internally with how to allocate their quota, and how to let future generations get involved with the fishery.

In the end, though, the relative success of each case study seemed to reflect the extent to which each was able to assign rights and establish exclusivity, rather than depending on biology. In the Nova Scotia sea urchin case, for instance, the resource is in good shape, and exploitation of the fishery is profitable, market-oriented, and innovative. This may be in part because it is a newly exploited and sedentary fishery. But the improvement in the fishery seems to be evidence of good stewardship.

The changes in fishery management, meanwhile, entails a transition in government's role – from a regulating authority to a monitoring partner and enabler – along with a transformation in the community structure. Ironically, even as fishing communities move back to their self-reliant roots, the iconic image of individual fishermen as independent loners may become outdated, as cooperation is rewarded instead of aggression. This coalescing is not without costs, however, as short-term social dislocations can occur on the road to achieving longer-term ecological and economic benefits. Unless special efforts are made to balance social costs and benefits, there will be losers as well as winners, with the fate of the losers often going unnoticed.

Even when rights-based management is firmly entrenched, as with the Maine Lobstermen's Association discussed in the presentation by Patrice McCarron, long-term challenges will always remain. Cooperatives, community-based groups and IFQ holders need to adopt a business approach to fishing in order to increase stock abundance, improve quality, branding, and access to markets with the objective of adding value to the catch. This will entail transition costs. And the growth of aquaculture's market share could pose an obstacle to improving profitability. Finally, there is a common need to communicate these experiences of rights-based management more widely.

## B. Local Initiative and Capacity Building

### Grassroots and Reefs: Leesa Cobb -- Port Orford, Oregon

What does a small, isolated town do when it can no longer rely on logging and its other main sources of income? In the case of Port Orford -- population 1,200 and situated on the Oregon coast -- it works hard to ensure that fishing can remain a vital part of economy.

Not that the fishing is easy there, explains Leesa Cobb, a local fisher. The town is on the open ocean and has no wharf. Therefore, the fleet operates boats no longer than 40 feet since they have to be lifted out of the water at the end of each day.

Yet the coastal area is full of reefs and thus very productive. "We're successful because we fish in all the local fisheries: crab opens December 1st, salmon starts in March, black cod around July, there's a halibut fishery and we fish nearshore rockfish on and off during the year," says Cobb.

***"Ultimately we want to have the option of monitoring and controlling who fishes in our area so we can manage our fisheries better."***  
- Leesa Cobb

Gaining the right to help manage the fishery has not proven easy, either. "We were feeling very disenfranchised in the way it was being managed by the National Marine Fisheries Service [NMFS]. We wanted to work with them, let them know we existed. We didn't think our community

was being considered during important fishery decisions," says Cobb. So the Port Orford Ocean Resources Team was organized with a board of 24 people and a science advisory board. Cobb was hired to be its executive director.

"Our vision is a sustainable Port Orford reef," says Cobb. "We have a geographical information system (GIS) that an Oregon State University grad student helped to set up. We've gathered up data sets on our reef, did interviews on the local knowledge of fishermen, found out where they fish and their areas of interest. We have seven maps for crabbing and other fishing areas. We have a port sampling program to find out if finfish are genetically unique to our area. We tag fish for mortality studies, and we're going to be doing underwater diving for stock assessment. Eventually, we hope to have a research station that could bring jobs into community."

"Ultimately," she adds, "we want to have the option of monitoring and controlling who fishes in our area so we can manage our fisheries better." Towards that end, the Port Orford team is looking to collaborate with environmental groups such as the Surfrider Foundation, which has a special places campaign. They've also talked with the Portland Audubon chapter and state agencies about a plan for marine reserves. "Fishermen are wary of marine reserves and we want to be part of the conversation as this contentious issue is discussed."

Keeping all the programs going and everyone happy clearly requires formidable diplomatic skills. Instead of using just one boat to do the science work, for instance, the task is assigned to a different fisherman every quarter, with names picked out of a hat, and training provided to each. "We need a majority of the fishermen to join us, so we keep reaching out to the skeptics and trying to bring them in."





The attempt to work with environmentalists can raise hackles. “The fishermen didn’t like their politics, but the biggest complaint with the Surfriders was that they wore sandals in the winter. We had one fight when an environmentalist pointed his finger at a fisherman, and the fisherman said he was gonna Break his arm,” recounts Cobb. “I had to tell the fisherman, ‘you can’t just hit everybody you get angry at’.”

To carry out its work, the Port Orford Ocean Resources Team received a start-up grant from Environmental Defense, and now gets money from a family foundation. It also has support from NMFS for a science program, and from the state of Oregon.

“Our challenges are keeping funded, keeping the fishermen interested and getting managers to keep listening to us,” Cobb sighs. “They’re interested in us but hold us at arm’s length.”

### **Do-It-Yourself Science: Eugene O’Leary -- Guysborough County, Nova Scotia**

In 1993, Canadian fisheries on the Atlantic coast were facing a crisis, as parts of the groundfish fishery were ordered closed following the cod collapse. “The minister asked the Fisheries Resource Council of Canada, an industry group, to do a review, which included an examination of the lobster fishery as well,” explains Eugene O’Leary. “They concluded there could be a real problem, and called for a conservation program that would double egg production. But we questioned their science, and whether they had even done any on this subject. How could you get to a point [of doubling egg production] if you don’t know where you started?”

O’Leary, a weather-beaten lobsterman from Nova Scotia – he harvests in fishing area 31A off the province’s eastern shore -- testifies to the huge gap of mistrust that exists between fishermen and scientists, a gap that has driven him and his colleagues in the Guysborough County Inshore Fishermen’s Association to set about doing their own research.

“The scientists have a formula that says if you have so many female lobsters then you will have so many millions of eggs. But we don’t think they know how many females are down there,” he says. “There’s no consistency in the implementation of government conservation measures, which are based on questionable science or no science at all, so we decided to do our own... We have some good data and think it should be trusted.”

The research effort has brought together some 90 fishermen from 16 communities in areas 31A and 31B. “We try to make decisions that the majority will support, but there will always be a minority who disagrees,” O’Leary opines. “There has to be cause to do this kind of work – in this case, improving management -- so people will want to satisfy the cause. If you just tell everyone to do it, it won’t work.”

***“The government’s conservation measures are based on questionable science or no science at all, so we decided to do our own.”***

**- Eugene O’Leary**

The lobstermen have set about charting estimates of the lobster life cycle, which begins with a hatching period that occurs from late June to late July. From the middle of August to the middle of September, the larvae try to settle to the bottom of the ocean. If they’re successful,

they’ll spend seven years as juveniles, then five years when they’re part of the fishery with a two-year window for breeding.

Beginning in 2003, the lobstermen set up 56 larval sampling stations over 40 miles of coast for 10 weeks. “We do juvenile trapping for three days in August, September and October, hauling some 1,080 traps each year. And we’ve been tagging berried [egg-carrying] females and window females [those of a certain size that are thrown back for conservation purposes] since 2001. Basically, we’re trying to chart what number of lobsters we feel will be moving into the fishery each year,” he explains, showing estimates for 2005 and 2006. “We don’t know about 2007 yet.”

O’Leary is unable to resist a zinger, so he adds with a grin: “We had 4 engineers trying to modify the larval catching net, but they couldn’t manage it. So one of the fishermen did it for them.” More seriously, he explains, “we’ve found that larval survival differs from year to year depending on the weather and the water temperature. Larvae will descend and if they find the water too cold they’ll come back to the surface and then try again, but can only do that a few times before they die.

“Overall, we don’t feel we can come to any conclusion yet about the health of the fishery. Maybe we will after 10 years.” But that won’t stop O’Leary from lambasting the authorities. “Like my t-shirt says, I’m not saying it’s your fault, I’m just going to blame you.”





**The Langosta Coast:**  
**Mario Ramade Villaneueva -- Baja California, Mexico**  
**Luis Bourillón – Sonora, Mexico**

Just last April, the Baja California spiny lobster fishery off the Pacific coastline of Mexico became the first fishery in Latin America to be certified as sustainably operated by the Marine Stewardship Council, and that was largely thanks to the efforts of FEDECOOP, the regional federation of fishing cooperatives.

A collective of nine fishing cooperatives, each with its own distinct geographic fishing area, located around the elbow of the Baja peninsula, FEDECOOP has been around since 1940, explains one of its members Mario Ramade. Its successful tradition of community-based management is in some ways reminiscent of the Maine Lobstermen's Association on the other side of the continent.

But the 1,300 fishermen in the coops have rights over not just lobster, but also abalone, conch, sea cucumber, sea urchin, algae and other marine resources in their concession areas – rights formally ratified by the government in 1992. Each concession area has clearly defined boundaries and contains a small area for extraction of benthic species. The fishermen members – or socios – of the coops, receive 20-year concessions, which are renewable and transferable.

“Each fishing coop spends a lot of money to survey its area and maintain the health of its fisheries,” says Ramade. “We understand that if we can sustain them we can make more money. We also spend money to protect against illegal fishing because the resources are quite valuable on the black market.” It's a big problem, but surveillance helps. “Because there is such little police presence, the coops themselves must spend about \$1 million per year on high-speed boats, night goggles and the like,” adds Luis Bourillón, executive director of Comunidad y Biodiversidad (COBI), an NGO based in Sonora which helped FEDECOOP become certified.

The co-management regime is science-based and overseen through agreements between the federal government, FEDECOOP and the individual cooperatives, note Ramade and Bourillón. All the data is shared so that there are no arguments. Each small area has a daily quota for divers. There are restrictions on fishing gear – which is all owned by the coops -- and on both maximum and minimum size for trapping. Differential fishing seasons have been established in five zones along the coast, based on different spawning periods.

So has MSC sustainability certification helped? “Well,” says Ramade, “we haven't actually started selling certified lobster yet, in part because Mexico has a problem with exporting seafood to the EU. Anyway, we already get a price premium because we sell 90 percent of our catch live to China and Taiwan.”

“They got certified because they want to be competitive in the European market with the West Australian Rock Lobster fishery (which is also certified by the MSC), and to demonstrate good stewardship,” says Bourillón.

***“The fishermen members – or socios – of the coops, receive 20-year concessions, which are renewable and transferable.”***

**- Luis Bourillón & Mario Ramade**



Both men complained about the cost of certification. "It's way too high," adds Bourillón. Independent consultants cost about \$80,000 to \$90,000. "We could only do it with the support from the Mexican government and private foundations."

There are other coops in the region, for instance among shrimpers, but these fisheries also include indepen-

dent fishermen. "We are unique in Mexico because we have a low population and close relationships with the communities," says Ramade. Lobster fishing represents their main source of income, about \$20 million per year, and pays for public services like power generation, road maintenance, health services and schools.

"Without sustainable fisheries, there would be no sustainable communities," concludes Bourillón.

### **Bycatch and the Bering: John Gruver (Seattle) & David Fraser (Pt Townsend, WA)**

Alaskan pollock is the world's largest whitefish fishery and one of the most important in North America, accounting for 30 percent by volume of all the fish landed in the US. You may not be familiar with it, but if you're a fan of fish sticks or fish & chips, McFish sandwiches or artificial crab legs, chances are you've eaten it often.

It has yielded an average of more than a million metric tons of fish per year over the last two decades. Prior to 1980, it was all harvested by Russian, Japanese and Korean trawlers. During the 1980s, American catcher boats participated in joint ventures with foreign processors. Since then, it has all been harvested and processed by American fleets. The sheer scale of this fishery obviously sets it apart from most of the others discussed at the Del Mar workshop.

A testament to that scale is the fact that the 90-foot boat operated by David Fraser in the Aleutians to harvest crab and pollock, although larger than the boats of almost all the other participants, is considered by some to be too small to fish in the Bering Sea. "I don't know how he manages to navigate those rough seas on a boat less than 100 feet long," says John Gauvin, who directs a trade association known as the Groundfish Forum. Fraser points out that his first boat was a 28-foot skiff he bought in the 1970s by borrowing a couple of thousand dollars from his grandmother: "You couldn't enter the market with that anymore," he muses.

But the Bering Sea pollock fishery has long faced a couple of big problems: during the 1990s, it had descended, like so many others, into a race for fish, with both onshore and offshore processing; and it is supposed to avoid incidentally catching salmon.

The US Congress, led by the formidable senator from Alaska Ted Stevens, addressed the former issue in the 1998 American Fisheries Act, by creating what must be considered the US's largest allocation program. John Gruver, who used to run a boat as a commercial fisherman for 13 years and now works with Seattle-based United Catcher Boats, explains that the fishery has been rationalized into three sectors, each with a separate allocation: the catcher/processor sector received 40 percent; the mothership sector, which operates with a fleet of catchers, received 10 percent; and the inshore catcher vessel sector received 50 percent.

The catcher/processor sector subsequently formed two cooperatives to manage its allocation, the mothership sector one cooperative (with 20 catcher vessels and three motherships) and the inshore catcher vessel sector seven coops, each associated with a shoreplant.

Fraser organized one of the coops in the catcher/processor sector, and explains that his sector had to accept a smaller quota than they had historically received. But they agreed to the allocation because they are able to choose which processor to sell to, allowing them to get a good price. The seven inshore coops find it much more difficult to change markets, he explains, so they get a lower price, although still a better price than they did in the pre-coop era when there was a race for fish. That's because they can now target better quality fish with better recovery rates for flesh and roe.

***“The coop’s data shows that the fixed closure areas system does not seem to be an effective way to reduce salmon bycatch...so the 10 cooperatives have worked out a “rolling hot-spot” agreement.”***  
**- John Gruver & Dave Fraser**

Things may be different with the new rationalization program for Bering Sea and Aleutian Island crab fisheries currently being implemented by the North Pacific Fisheries Management Council. Fraser explains “the processors and regulators have caught on to the loophole that allowed our coop to shop around for a better price for pollock. For the upcoming crab fishery allocation, they will only allow vessels to switch processors if they get someone to replace the supply with the old processor. So each processor is guaranteed a percentage of the quota, which is again like a monopoly.”

Why do the fishermen in the coops put up with it? “The processors are far more politically sophisticated and maintain a bunch of full time DC lobbyists,” explains Fraser. “Fishermen just don’t manage to maintain a focused participation in the big league political scene. While processors spend years laying the groundwork for tilting the rules to favor their bargaining position, fishermen are reactive and by the time they engage they are always playing defense. During the development of the pollock legislation, fishermen were engaged sufficiently that Stevens did agree to the ‘loophole’ provisions that ultimately preserved a measure of competition in the shoreside sector. However, crab fishers were not as well organized.”

If the situation sounds complex, so is the effort to reduce salmon bycatch. The current regulations, set up in the early ‘90s, are based on fixed closure areas – determined by historic data from that era – and fixed seasons.

But the coop's data shows that the fixed closure areas system does not seem to be an effective way to reduce bycatch. According to Gruver, "because of the closures, we estimate that this year alone we caught a quarter of a million salmon that wouldn't otherwise have been caught if we had been allowed to fish in those areas. The data on which the closed areas are based is outdated, and the rates of salmon encounter actually now turn out to be higher in the open areas."

Nevertheless, the 10 cooperatives set up under the American Fisheries Act – working by consensus among the 112 catcher vessels and 30 processors involved -- have worked out a "rolling hot-spot" agreement. Two times a week, areas with the highest bycatch rates are identified as 'Savings Closures' and closed to fishing based on each coop's bycatch performance. Each coop is also assigned to one of three tiers on a weekly basis: those with low bycatch rates don't have to respond to closures, those with medium bycatch rates are restricted by the closures for four of the days, and those with high rates are restricted all seven days.



About 85 percent of the AFA pollock harvest is observed by NMFS, and this data, shared amongst all the coops, forms the basis for the bycatch reduction system. "We're telling people where salmon are and where the bycatch is the greatest, but also where the fishing is clean," Gruver continues. "A weekly 'Dirty 20' lists [ranking which

twenty boats have the worst bycatch record] tracks whether it's a systemic problem or just an unlucky week." Enforcement measures are tough: a first closure area violation brings a 50-percent-of-catch penalty; a second brings a 100-percent penalty.

At least the bycatch doesn't all go to waste. Since the salmon regulations went into effect in 1994, the Alaskan fleets have worked with a group called SeaShare to send it to a food bank. Altogether, Gruver says, since 1999, SeaShare has provided 4.5 million meals through America's Second Harvest, a national network of food banks.

### **Learning to aim before they fire: Chris Brown – West Kingston, Rhode Island**

If the fish ever stop biting for Chris Brown, he might try his hand at being a comedian, if not a politician.

"Our new attitude of assuming responsibility for stewardship opened up doors all over the state," he recalls. "We had people calling from the state house. One of the senators called us up and said he wanted to go fishing with us. Then the other senator decided he had to do it, but he didn't show up, and I was just as glad..."

"One of the gubernatorial candidates called up, but I said, 'You go back to the city, get yourself elected, and then come back to me. I don't take out governor wannabe's.' He then proceeded to get himself elected, which underlined my political naivete. We've since become friends and laugh about this whenever we get together, which isn't as often as you think." (rimshot)

***“Over the last few years, we’ve created two lobster associations, two shellfish associations, and 8-10 voluntary research programs, for which we volunteer our vessels for tagging.”***  
**- Chris Brown**

How did Brown become so popular? Beginning in 1947, many of the state’s fishermen had operated through the Pt. Judith coop, but that went belly up in 1993 when the coop’s investment in a new building occurred simultaneously with a collapse of fish stocks.

“Several new groups started up and failed.

They had a negative approach and an angry, victim’s mentality. They wanted to sue everything in sight,” Brown says.

“Five or six of us small boat owners came to see that negativity, selfishness and anger weren’t going to garner support. We wanted to be more solution oriented. We adopted a code of conduct for responsible fishing. Conservation, we decided, starts with the man in the mirror. We had to stop the ‘ready, fire, aim’ mentality [of lashing out at critics and perceived enemies] and move to ‘ready, aim, fire’.

“We had actually started down the road of community-based management before we even knew what it was, simply because of the failings of the previous management,” he continues. The Rhode Island’s Commercial Fisherman Association adopted as its goal the long-term survival of the fishery, not personal profitability. To achieve that end, its members demonstrated a willingness to take hits in the short term. “The best strategy against knee-jerk, oppressive regulations is recovered stocks. Do the right thing to the fishery over time, and it will take care of you,” advises Brown, who was elected the head of the association.

Membership quickly climbed from the original five boats, and the association has now placed its members on fisheries councils within the state, and for a time on the New England Fisheries Management Council. “We have both the smallest and largest boats in Rhode Island, so we’ve dragged everyone in with this rhetoric that we’re selling. We’re very community oriented. We go into schools, bring in fish, show ‘em nets, dress the kids up in oilers. We need to let the kids know we’re out there.





“We need to supplement the science of the day with our wisdom, so we’ve sponsored a first-of-its-kind research trust foundation. Over the last few years, we’ve created two lobster associations, two shellfish associations, and 8-10 voluntary research programs, for which we volunteer our vessels for tagging. Thanks to the donation of a beautiful old farmhouse by the University of Rhode Island, we’ve also developed a Commercial Fisheries Center for the state that is a great source of pride for all of us and has allowed the entire commercial fishing community to be recognized as one large political body.

“Finally, we were able to demonstrate that we could extract twice the money by implementing an aggregate landing strategy. The state had applied math to a problem that simply required common sense,” says Brown about the inherent inefficiency of trip limits. Nor are his fellow fishermen spared the biting one-liners, particularly the recreational fishermen, whom he accuses of selling their catch (against the rules): “How do you tell a recreational from a commercial fisherman?” he asks rhetorically. “A recreational fisherman takes a picture of his fish before he sells it.”

Of course, his attempts at comedy are really a cover for the tragedy that has consumed open-access fishing in the US. “The problem we see with fisheries management is that there are a large number of people heavily invested in the current system rather than interested in finding solutions,” he concludes. “Just as many people make a living from fisheries management as from fishing.”

### **Tending the Urchin Garden: Peter Halmay – San Diego, California**

San Diego would seem like a pretty inviting place to go fishing. And Pete Halmay has managed to make go of it, diving for sea urchins since 1975. There’s certainly money to be made here: the roughly 1 million pounds of sea urchins harvested near San Diego in 2003 brought in some \$856,000, according to Halmay.

But the fishery management climate is apparently less attractive than in frosty Nova Scotia, at least for those who are already established in the fishery. The comparison between Halmay’s experience and that of Allen Baker is a fascinating one. (In Central California, meanwhile urchin harvesting isn’t allowed at all in order to protect sea otters: “They tell us sea otters are great, but if they expand into our southern sector, they’ll end our fishery,” warns Halmay.

***“The fishermen got together to create their own data collection program, hiring an industry data coordinator, developing protocols, and a data storage and sharing system.”***  
- Pete Halmay

The urchin fishery off San Diego was established in 1970, says Halmay, and as in Nova Scotia it’s a small-scale fishery dependent on kelp availability. In 1987 with about 400 urchin fishers registered, a system of limited entry was implemented. Nevertheless, the number of fishers soon went up to over 900, although after a long period of attrition, it’s now back down to the original number. “People talk about bringing in sellable quotas and then everyone holds on to their license for another year,” he grumbles.

Like so many other fishermen, Halmay gets irate when the subject of science comes up, particularly when discussing how regulators use catch records to check for population data. “It’s like looking at obituaries to guess the population of a town,” he quips. “If you want to do it properly, I’d check the number of rooftops and multiply by the number of assumed people under each rooftop -- in other words, examine the habitat.”

Halmay and his fellow fishermen got together to create their own data collection program, hiring an industry data coordinator, developing protocols, and a data storage and sharing system. The protocols mandate taking 30 samples before the catch, then measuring, then doing the same after the catch. “We not only measure the catch but also the density,” he says.

Halmay participated in a pilot project off Pt. Loma, where the Scripps Institute of Oceanography has three research stations they’ve been monitoring since 1976-77. “The scientists said we’re just doing a census, not a random transect, and that it’s not science. I stand convicted,” he acknowledges. “But existing models didn’t acknowledge that urchins move from one garden to another. (A scientist warned me never to use the word ‘farm’ because that implies you’re cutting everything down. With a garden you’re just looking at the plants.)”

In short, Halmay claims the data collected by fishermen is invaluable. “You have to know what you’re going to do with it before you collect it, and it has to be collected at the right scale. The kelp maps given to us are between two and three years old. It’s like an aerial photo showing that the timber you logged on your land 10 years ago is still there and you can’t cut it down.”

Now Halmay’s group wants to train “barefoot ecologists” in each port: “Our goal is to train 50 data collectors within two years, but after one year, we’ve only trained six,” he says. “We have never asked for money from anybody, and have funded all of our research activities through a self-imposed tax that has brought in 3-4 million dollars since 1987.”

“The implications for future management are that the present system doesn’t work,” says Halmay, and that must be a particularly poignant realization when compared to what’s happening elsewhere. “I’m always upset when I see that we in the US are so far behind on this, compared to Mexico and Canada.”



## Local Initiative and Capacity Building: Summary

Building local capacity is critical for rights-based management, even – perhaps especially – when those rights are secured. Most of the case studies in this section (with the Rhode Island Commercial Fishermen’s Association serving as an exception) either had exclusive rights or were seeking them. And when fishing rights are formalized and well understood – enforced by a credible legal system that helps to lower transaction costs -- it should create natural incentives for working together on local initiatives that improve management.

There are certainly some elements that allow communities to come together more quickly than others. Working on fisheries within the three-mile limit from shore, so that it remains in state rather than federal waters, makes things less complicated. And homogeneity within the community also helps, which is why most community-based management projects tend to be centered in a particular place such as Port Orford, Oregon.

But Teresa Kandianis, who described how scallop fishers came together in the North Pacific, and others involved in the Alaskan fisheries observe that communities of interest also serve as the basis for cooperation. So perhaps the concept of community-based management needs to be expanded to include not just where fishermen are from, but where they fish.

The frustration with command-and-control fisheries regulation often seems embodied by particularly angry complaints – so evident in Eugene O’Leary’s presentation on the Canadian lobster fishery -- against the allegedly “irrelevant” data that forms the basis for governmental management. This leads to efforts at building local research capacity. Each case study is seeking to develop a strong knowledge base about its fishery, about the fishery’s connection to the community and how fish are being utilized.

The fishermen emphasize the importance of historical background data, as with Pete Halmay’s description of the southern California sea urchin fishery, and the need to understand local conditions. But they also entail creating institutions – those established in the Alaskan pollock fishery were the most elaborate of all the ones described here -- that can use the best available technology to gather and distribute real-time data that is shared among the fishermen.

Conference participants characterized these initiatives as innovative solutions that are pro-active and sometimes involve risk-taking. Breaking the rules carries a high cost and can lead to exclusion. They entail skillful political efforts, where government has a recognized role that allows innovation, such as through cooperatives. And they include conservation objectives, making an alliance between fishermen, environmental groups and other stakeholders possible. Free riders haven’t stymied such efforts, although they can render them less effective. Community-based initiatives create a domino effect that encourages free rides to get involved.

Convincing management authorities to use fishermen derived data, and not just the data from more established sources that these practitioners consider controversial, is difficult. The government is resistant to change, and governmental agencies cannot be connected to fisheries the way communities are. So there’s a need to find ways to convince governments about the value of an internal knowledge base. And even when the authorities accept that, mediation is usually required to harmonize two (or more) sets of data.



There are other obstacles to overcome in building local capacity. Often the first task for these groups is fending off threats against their right to fish at all. It's difficult to influence state and federal policy, which often contains an institutional bias in favor of state agencies and against local initiatives, unless local leaders are on management councils. And even when a rights-based approach is adopted, it can be undermined by a legal system without credibility, by a lack of clearly defined management objectives, and by the inherent difficulties of managing migratory fish. So there'll always be a need for long-term adaptive management.

The communities and cooperatives that manage fisheries may always have a certain degree of tension with outside interests. There can be disputes over fishing rights and jurisdictional boundaries. In some cases, over-fishing in neighboring areas can lead to poaching when good management creates new incentives for piracy by adjacent fishermen.

It was noted with some bitterness that the recently released federal and Pew ocean commission reports both warned that "the fox can't guard the henhouse". When the henhouse in question is a fishery, workshop participants argued, fishermen can act as either foxes or farmers, pointing to successful examples of self-regulation and self-governance. In the case of the lobster fishermen off Baja California, for instance, the coops' responsibilities extend to enforcement. Similarly, in the Alaska pollock fishery, the establishment of fishing rights led to the creation of the Dirty 20 list. And these experiences are far from unique. There is an emerging network of fishermen who are demonstrating that they can "guard the henhouse".

## C. Local Institutional Arrangements at Work

### **Mangroves and Mud Crabs: Ted Majaliwa Kombo – Tsunza, Kenya**

Ted Majaliwa Kombo was probably the only person at the conference who can claim to have been hit by the recent tsunami. Fortunately, his fishing village of Tsunza, Kenya – just up the coast from Mombasa – was only slightly affected.

“Beginning three or four days beforehand, we started to notice that the tides were unusually strong and erratic. They would come in at unexpected times,” he recalled. “We thought there was going to be an El Nino-related event, so people took precautions. As a result, only one person died, and he was someone who had come from upcountry... I was on a creek when the tsunami hit, and I remember seeing the river pushed backwards, instead of flowing to the east as usual. I didn’t actually know what was happening because I didn’t have a radio.”

***“When we discovered our land was going be allocated to strangers we realized we had to build an institution to make ourselves legitimate partners in development. The mangrove and fisheries restoration work fit into this.”***

**- Ted Majaliwa Kombo**

Kombo was born and raised in Tsunza, where he was trained to be fisherman, “like my father, and his father, and his grandfather... my ancestors were all fishermen. And still today 90 percent of the people in my area depend on the sea.” So how did he end up becoming an administrator and NGO leader who now has a supporting network that stretches around the world?

“Tsunza is a very old village about seven miles from Mombasa, and just as old as Mombasa although it obviously hasn’t grown as big. When I was a child, there was a visiting Royal Navy ship that came and some of the sailors visited our village. This was 1966, and they requested I be taken to another village to go to school, as we didn’t have one at that time.

“After I finished school, I came back and worked as a net fisherman, using our traditional fish traps. My late uncle would always take me to set them up at specific times, and move them around. It was difficult work but enjoyable. Now people use Chinese nets and this has created problems.

“As our port was developed, it encroached on our fishing grounds, and the population grew so that these grounds were not sufficient, so people resorted to cutting mangroves, which accelerated the problem of depleting fish stocks. That led to my creating an organization, the Tsunza Conservation and Development Programme, to restore fish stocks and raise mud crabs through mangrove restoration.”

In a roundabout sort of way, Majaliwa Kombo's organization got a boost when the village was threatened by government plans to build a bypass road and develop tourism in the area. "Our land was going to be allocated to strangers for investment to create tourist resorts," he explains. "We fought it and then realized we had to build an institution to make ourselves legitimate partners in development. The mangrove and fisheries restoration work fit into this. We realized that the strangers had gotten access to the land, because fishermen had had to go further out to get fish, and weren't around to protect the land."

This is in fact just one example of how sustainable fisheries are crucial to helping build and maintain the local community. The Tsunza Conservation and Development Programme has built schools in the region, and now has received support from the EU to open a restaurant that will serve mud crabs. "They taste better than their name suggests," Majaliwa Kombo assures potential visitors.

"It's still difficult to get people to support our work, as they can be very resistant to change. Fishing has always been a communal affair but it is based on individual effort. The moment we got donor support, it nearly tore us apart, because everyone had their own goals," he says. "Over time, however, understanding has changed through our efforts to building trust. There is really no shortcut, no clear method to do this, except you need to have good leadership."

Tsunza, fortunately, seems to have it.



## From the Troll to the Table: Amy Grondin – Port Townsend, WA and SE Alaska

Amy Grondin is quite happy to be called a fisherman, even if she is technically a fisherwoman. “To me, that would just be splitting hairs,” says the easy-going Grondin, who makes her home on the Olympic peninsula, in Washington State, but travels up the coast every summer with her husband, a shipwright originally from South Africa, in a 75-foot boat to tender the salmon runs of southeastern Alaska.

“The salmon runs are still in pretty good shape there, because it’s just not that heavily populated,” says Grondin. “Although there is impact from the logging, which causes runoff, the salmon is still of very high quality.”

***“A chef who sources directly from a fisherman will not only receive the freshest possible product, but a valuable compendium of information in the form of the fisherman.”***

**- Amy Grondin**

Grondin and her husband tender salmon from trollers, smaller boats (around 25 feet) that can only store 3 days of catch, to at-sea or shoreside processing plants. Amy and her husband inspect the salmon for their quality, cut the fishermen a check and deliver the

salmon for processing, before heading out again. “We work with about 10-20 fishermen every year, so it really is like a community. We let them on our boat to use the shower, get them groceries, and so on.”

But it may be the work that Grondin does on land – getting chefs and culinary students together with fishermen – that has the greatest impact. A former waiter (again, no need to label her a “waitress”), she has an abiding interest in the Slow Food movement, which emphasizes the joy of cooking and eating, and the importance of locally produced and healthy food. She recently attended the movement’s worldwide conference in Italy, where she enjoyed the chance to network with the North American sustainable fisheries people.

Grondin combines her interest in fishing and cooking through the work she does for the Pacific Marine Conservation Council, developing a curriculum for aspiring chefs attending culinary school, helping them understand about sustainability, where seafood comes from, and introducing them to fishermen. “I speak both the language of fishermen and the language of chefs, so it’s really a natural for me.”

Thanks to her program, fishermen have been visiting culinary classes at Seattle County Community College, delivering both salmon and lessons. The fishermen address the classes about fish, how and where they were caught, how they handle the catch to ensure quality, what to look for when buying fish and other issues of sustainably caught fish. The student chefs can ask questions, and perhaps most beneficially, says Grondin, can witness the instructor chef and the fishermen learning from each other.

“A chef in training is usually wide-open to consider alternatives to procuring seafood products from traditional sources such as major food distribution chains. A chef who sources directly from a fisherman will not only receive the freshest possible product, but will benefit from a valuable compendium of information in the form of the fisherman.

“I want student chefs to know that chefs have the ability to inform the public and drive markets. This is done every day by the choices chefs make while ordering products for their restaurants. Whether or not chefs choose to be public about the reasons for the choices they make or merely go about their business of cooking, the public still sees it on the menu. The public knows the chef made deliberate choices about the food being offered.

“I would like to pursue more work with culinary institutions and fishermen. Currently, most culinary institutions source their seafood through the traditional channels. For an independent fisherman, a direct sale of 25-30 high quality fish quarterly can significantly augment their annual income while educating future seafood buyers.”

On a personal level, Amy finds her work on boats just as rewarding. “I like it because it’s not 9 to 5. It’s outdoors, it’s physical work, and the scenery is fantastic. But it is very hard, a life of extremes, the best of times and the worst of times. Just when you’re feeling down, something happens, maybe a whale surfaces right beside you, and you remember why you’re there.”



© Ron Niebrugge

## The Law and the Sea: Joe Sullivan -- Seattle, Washington

***“Harvester cooperatives in Alaska are contractual arrangements in which fishermen in a limited sector sit down and agree to divide up the harvest amongst themselves.”***

**- Joe Sullivan**

An arrangement as complex and lucrative as the sector allocation agreement in Alaska obviously required legal advice, and the lawyer who is credited with helping set it up is Joe Sullivan, a partner with Mundt McGregor LLP in Seattle who also represents the city of Kodiak in state and federal fishery management matters. He was also deeply involved in writing the harvesting cooperative agreements that implemented the Bering

Sea pollock fishery component of the American Fisheries Act.

“The classic rights-based model uses IFQs [individual fishing quotas] as a tool. But that is controversial here in the US, because it’s perceived as privatization of public trust resources,” says Sullivan. “Such arrangements are perceived as exclusionary, with the government choosing who wins and who loses, and subject to political capture. So that process often doesn’t go anywhere in the US.”

As an alternative, Sullivan began working a few years back on a sector-level allocation: “Implementing harvest shares through private agreements that results in exclusionary rights, which provided some of the tools discussed by John Gruver, and would let us move away from a race to fish”. He helped put together the harvester cooperatives in Alaska through contractual arrangements in which fishermen in a limited sector sit down and agree to divide up the harvest amongst themselves.

“To do this, you must have adequate barriers to entry by free riders. The government’s role here is essential,” he explained. “You must have a community of interest among participants, because you can’t force a coop to form, or force a highly disparate group to agree. I’m quite sympathetic to the Gulf of Mexico shrimp fishery, where you clearly have a highly disparate group that finds it difficult to get along.

“Furthermore, you must have the potential to retain additional value through reduced cost or increased recovery and/or product values, because that makes it worthwhile for the fishermen to join together. And you must have adequate data transparency and enforcement mechanisms.” There are also anti-trust issues that may need to be addressed.

Sullivan described the management system set up by the American Fisheries Act as “a classic blended approach where there’s a federal action that eases the way toward coops”. The transaction costs involved often have to do with removing latent capacity – including the exclusion of free riders. If the government can help overcome the transaction costs, it can help facilitate the formation of a cooperative arrangement.

That’s not to say there are no problems with sector allocations. “Fishermen in non-rationalized fisheries object to spillover from rationalized fisheries, because it exacerbates the race for fish in the non-rationalized fisheries,” says Sullivan. And Alaska is concerned about the fishermen who don’t receive an allocation on the first pass. It’s considering whether to make a small slice of fishery open to them so they can get in at a future date.





“Nevertheless,” he claims, “the harvester cooperative approach has clearly led to gains in Alaska’s whiting and pollock fisheries.”

### **Fixing the Spat over Scallops: Teressa Kandianis – Alaska (and Bellingham, WA)**

The Alaska weathervane scallop fishery is a tiny “and clearly trivial” one for the state, says Teressa Kandianis of the Kodiak Fish Company, which is based in Bellingham, Washington. But the way it is now being managed – she essentially set up a small coop that found a private way to deal with the problem of bycatch -- could offer some big lessons in how to share a resource without access to legal quotas, although it also poses a significant risk to those who are cooperating.

Kandianis and her husband own a catcher/processor boat that fishes for the scallops in widely spread patches of the North Pacific. (They also have two vessels in the Alaska groundfish fishery). It’s a relatively small area, determined by where the scallop larvae (or spat) can settle and grow, and it’s very remote from market.



In the 1980s, there was no total allowable catch (TAC) imposed, she explains, but in the 1990s an influx of vessels, many of them from New Bedford on the Atlantic coast, put pressure on the fishery. The average annual catch for a boat is about 250,000 pounds and the record total annual catch is 1.9 million pounds. By 1993, there were 15 boats operating in the fishery. “I guess scallopers wear a size 2 hat,” remarks Kandianis. The fishery was clearly over-capitalized, and managers became concerned about bycatch.

As a result the authorities began imposing regulations. By 1993, every boat had to carry an observer paid for by the operator, a guideline harvest level (i.e., a TAC) was imposed, there were more area closures ordered, and all the boats had started freezing the catch at sea because of a lack of local markets near the beds.

The new management measures made one North Carolina company decide to exploit a loophole in the State's management authority. "The State of Alaska managed the fishery but didn't have authority outside three miles from the coast," she says. "One vessel decided to give back their State permits and then fished outside of three miles completely unregulated. The North Pacific Fishery Management Council took immediate action to close the fishery and protect the resource. The result was an 18-month complete closure."

"During that time, we tried all kinds of things, including shrimping and fishing on seamounts," Kandianis recalls. "My husband says it's never good to have a boat at the dock. But I would respond that it's always good to have a boat at the dock unless you're making money at sea."

Ironically, the closure yielded an opportunity. Many of the Atlantic-based boats departed and the fisheries management council allowed the remaining west coast fleet to work toward a licensing program. "But we not only hated each other, we also distrusted each other," says Kandianis.

Once a license limitation program was finalized for the fishery by the Council, a scenario was in place that could allow for the development of a harvester cooperative. "Initially, I battled with the younger guys who didn't like ITQs, but they came to see that cooperatives were a different animal." It took serious discussions. But eventually the give and take among the six boats which had been there consistently resulted in a cooperative that began in 2000. "We have assigned ourselves individual bycatch caps, penalty schedules, provisions for early closures, and other voluntary measures. We use real-time data, and mandate a five-year contract length among all members because it's important that a new owner understand the fishery and how the cooperative works.

"We have no exclusive rights to the fishery under the law, so it's risky because our sacrifices could go for naught [if free riders come in]. And four years later, our quota has declined by 40 percent. But we're not upset by that because we'd rather have a consistent, stable, sustainable fishery. We have not had an area closed to due to crab bycatch since the coop was put in place, our bycatch rates have been cut in half, and we've improved safety.

***"We have not had an area closed to due to crab bycatch since the coop was put in place, our bycatch rates have been cut in half, and we've improved safety."***

**- Teressa Kandianis**

"Since we're a 'stealth' coop, we have no regulatory protection, and very ill-defined rights. That's the risk. There's a perception of under capitalization, a perception that we're cutting a fat hog. We hope the east coast scallop fisheries remain solvent, because then there won't be another migration of fishing boats to

Alaska. And we still have NGOs who don't care that we've improved our performance.

"So we're walking on a tightwire. But we don't want to go back to the way things were. With the drop in price for scallops that occurred in 2000, none of us would have survived without the coop. And if prices come back, we'd actually be able to make money. In the meantime," she says with pride, "if you're in Seattle and go to a nice white tablecloth restaurant, you'll be eating our scallops."



## Desperate Times Breed Desperate Measures: Gunnar Knapp – Chignik, Alaska

“The Chignik salmon fishery isn’t large, but there’s a lot to be learned there,” says Gunnar Knapp, a professor of economics at the University of Alaska’s Anchorage campus. Of all the salmon fisheries managed by the state – and there are 27 limited-entry fisheries for specific areas and gear groups, providing seasonal summer employment to tens of thousands of people – Chignik is the only salmon fishery that has changed its management structure, he explains.

Located way down in southwestern Alaska, the sockeye salmon pass through Chignik lagoon and then are videotaped as they pass a weir going upriver, “so we know exactly how many pass through”. There’s lots of variation among the fishermen, Knapp adds, with the “highliners” (those who have traditionally garnered the largest portions of the catch and thus made the most from fishing) earning about 3-4 times as much as the low level guys, and the top fishermen earning \$200,000 per year. But prices have fallen due to competition from farmed salmon.

“There has long been talk about forming a coop, because it’s an ideal area as the salmon passed through a constricted area. They didn’t need the 100 boats that were there. But they could never get 100 percent agreement,” he explains.

***“So the coop hires 35 of its 85 members to carry out its work, pays them an annual fixed payment, pays their costs, and splits the remaining profits among its members.”***

**- Gunnar Knapp**

In 2002, a group of Chignik fisherman asked the Alaska Board of Fish to give those who wanted to form a coop a separate allocation, depending on how many eventually ended up joining the coop. “This was a key political innovation for introducing rights-based management. [One that recently failed an Alaska Supreme Court challenge.] It provided a way for those who wanted rights-based management to have it, without forcing everyone to do it.

“The question was what kind of coop it was to be, and how to share benefits, given the uneven nature of the historical share. The highliners wanted larger shares, but the decision was to go for equal shares,” Knapp continues. “The Board of Fisheries said ‘Rome is burning’, and we have got to move ahead with it.”

In the end, he estimates that 60 percent of the highliners stayed out (although it’s not always clear who is a highliner). The coop is a voluntary organization which elects its own Board of Directors. Its allocation is based simply on how many join, while the others get what’s left over. In the first two years, 77 joined, and then in 2004 it reached a total of 85.

The directors came to realize that it only took 20 people to catch its allocation of fish and 15 to tender the fish to processors. So the coop hires 35 of its members to carry out the work, pays them an annual fixed payment, pays their costs, and splits the remaining profits among its members.



“Unfortunately, they have had record low runs and bad market conditions, so those who don’t like the coop say things have gotten worse. In fact, the coop fleet fished 20 boats, the non-coop fishermen fished 20-24 boats, so they’re using drastically fewer boats while everyone is benefiting. There has been a major reduction in costs (insurance, fuel, etc.) and some increase in the value of the fishery. They get revenues of 80 cents per pound, and dividends of 40 cents per pound. They would not have gotten such large margins before.”

Matters are not that simple, however. As Knapp says, “any time there is talk of rights-based management in Alaska, everyone now knows processors are going to take an active role in those discussions. There are two processors at Chignik, and the coop decided it would only do business with Northwest Seafood cannery and not Trident Seafood cannery because it didn’t like the owners. But recently Trident bought Northwest.

“There have also been dramatic changes for non-coop fishermen, who went from 50-60 days of fishing to 5-10 days of fishing, yet still catching same amount of fish.”

The idling of effort among both coop and non-coop members has had some social costs. Wives say that when men aren’t fishing, they’re drinking. There has also been a substantial reduction in the employment of crew. What happened to them? Some wouldn’t have been able to work anyway, some went off and got other jobs, and some just sat on the sidelines.

“And there have been significant changes in the relative distribution of net income,” notes Knapp. “The people who benefited the most were those coop members who would have gone broke, but are instead getting a check and doing something else.

“Fishing is a business, if it doesn’t work, it’s going to change. But it’s more than a business. It’s intimately connected with the lives of individuals, families and communities. Not all fishermen are the same. Change is difficult. There’s no way to make everyone better off.”

### **A New Angle on Angling: Kathy Viatella -- Environmental Defense**

Although most discussion of rights-based management, both in Del Mar and elsewhere, have centered on commercial fisheries, Kathy Viatella of the group Environmental Defense addressed recreational anglers, arguing that many of them are now beginning to face the same problems as commercial fishermen.

***“A possible solution is a bottom-up approach that grants recreational fisherman a right to a share of the catch.”***  
- Kathy Viatella

How can rights-based management be applied to the anglers? That’s something which Viatella has been working closely on. “We need a new organization to try and integrate this sector into fishery management, an organization that can take a rights-based approach toward co-management.”

Viatella recently moved to San Diego, but most of her work has been in the Gulf of Mexico, with the same red snapper fishery that has caused David Walker so much frustration. A primary reef fish targeted by both commercial and recreational fishermen, red snapper was declared over-fished in 1988. Commercial quotas were imposed two years later, but without secure fishing rights, a derby was created. In 1997, recreational seasonal closures were introduced, and today there is permanent closure from October to April. "Recreational quotas are hard to track and enforcement is difficult, so harvests often exceed quota," says Viatella. "Managers estimate it will now take decades rather than years to rebuild the fishery."

Gulf quotas allocate 51 percent of the catch to commercial interests, and 49 percent to recreational. "There are about a million anglers in the Gulf, and a great deal of tension with commercial fishermen which we've been trying to resolve," she explains. "But too much top-down management leads to an unnecessary waste of fish, hurting communities."



"A possible solution is a bottom-up approach that grants recreational fisherman a right to a share of the catch. Fisheries economists Jon Sutinen (University of Rhode Island) and Rob Johnston (University of Connecticut), after meeting with recreational fishermen around the Gulf of Mexico, came up with the concept of Angling Management Organizations, or AMOs. Those interested in recreational fishing would create an AMO, or a private organization, that would be granted a secure share of the recreational quota to manage with oversight by NOAA Fisheries and the Gulf of Mexico Fishery Management Council. The recreational fishermen said they wanted more participation and flexibility, such as getting rid of closed seasons that hurt their business. Under an AMO they could achieve that."

Environmental Defense is working to design and then test a pilot project in Port Aransas, Texas where they're trying to answer numerous questions: How to allocate fixed shares? Who should become members? How to make AMOs self sustaining? How might AMOs manage and enforce quota shares?

Viatella says the concept still faces some major obstacles: overcoming the status quo, for example. "Some also worry that AMOs could just become another layer of bureaucracy or discriminating. There are ways of addressing these concerns," says Viatella. In the end, given all the frustration felt over regulations that poorly serve the fishery and the communities, Viatella thinks recreational fishermen are looking for new approaches. "AMOs are a possible solution that would grant recreational fishermen more flexibility while allowing them to conserve fish for future anglers," said Viatella.

## Local Institutional Arrangements at Work: Summary

The institutions discussed in these case studies are strongly goal-oriented toward establishing a rights-based management system where decision-making is more transparent. In so doing, they generally enhanced the bargaining power of communities and changed the skills needed by fishermen from those of aggression to those of cooperation. But they also take a realistic view of the future and where their fisheries were headed, unveiling in the process some fundamental realities about fisheries management in the US and efforts to reform it.

In particular, commercial fishermen will have to come to grips with the interests of other stakeholders. As Kathy Viatella noted, the recreational sector is starting to feel the financial pressure already experienced by commercial fishermen. But the vestiges of the “freedom of the sea” mentality among recreational fishermen make setting limits or quotas difficult. And in many cases, the absence of licensing for recreational fishermen limits the ability to set up a rights-based system, although the invention of Angling Management Organizations may help.

Perhaps even more powerful than the recreational fishermen are the processors. Particularly in Alaska – but in other parts of the country, as well -- it may be impossible to set up new rights-based programs without the processors getting involved, and they have traditionally had a tense relationship with fishermen.

Then there is the broader issue of equity. There’s a perception that implementing rights-based approaches is unfair since it leads to a redistribution of incomes, and that seems to have been borne out in the re-organization of the salmon fishery at Chignik, as described by Gunnar Knapp. When setting up cooperative rights-based systems, it’s often necessary for the “highliners” to give up some of their historical catch to those who have lesser portions to get the latter to cooperate. Essentially, this increases equity. But at the same time, those who remain outside of the cooperative find themselves at a disadvantage, with higher costs and relatively lower prices. In either case, the social enmity caused by fishing conflicts, or conflicts over new management structures, can potentially last for generations.

And these social issues are crucial. At least among the New Englanders and other fishermen who both fish and live in the same area, there are expectations that fishery management systems should deal not only with resource issues, but also with social and cultural values. On the other hand, those who participate in a common fishery but live more dispersed, generally feel that sustainability trumps equity.

Finally, it’s difficult to be green when you’re in the red! There is little outside funding for rights-based initiatives, and volunteerism has its limits. So management change should herald a strategic long-term engagement that keeps fishing profitable, or makes it become so. The goal is not to seek subsidies.

As pointed out by Joe Sullivan, the legal expert who helped lay the groundwork for the Alaskan pollock cooperatives, it's important that such change helps fishermen to retain additional value through reduced cost or increased recovery, because that makes it worthwhile for the fishermen to join together. And while most of the case studies focus on the supply side, Amy Grondin is working to increase product value on the demand side by helping chefs and culinary students to understand the importance of sustainably caught fish.

Indeed, many supporters argue that rights-based management is desirable precisely because it pays for itself, whereas most other approaches require continued outside funding. And they warn that half-measures in the form of limited rights lead to limited rents, which creates low incentives to pay for management costs, and the need for external subsidies or a return to governmental management.

This is a key benefit of rights-based management: it helps make ethical behavior economically beneficial. Not only does it allow fishing communities to get back on their feet; not only are conservation results possible within the context of a partnership between governments, NGOs and commercial alliances; not only is there great potential for getting higher quality data at lower cost; but a rights-based approach enhances moral imperatives.

## CONCLUSION: FOX OR FARMER?

After all the presentations and discussion in Del Mar, the question put before all the assembled was, does this group actually represent a community? And if so, what does it need, and what are its next steps?

Most of the fishermen recognized the value in having a group of peers from different regions, councils, and sectors. Many ideas were shared and some will help create new solutions – and that is valuable on its own. There is also a power in unity, and where there is agreement on the issues fishermen can exert more influence together than alone. Finally, as pioneers and leaders within their fisheries, the assembled fishermen often feel isolated and marginalized. Having a sympathetic group of dedicated peers - recognizing that one is not “going it alone” – is an uplifting and empowering experience.

That is not to say that the group agreed on all points. There was, for example, the split between those who identified with a geographic “community of place” and those who felt connected by a “community of interest” through shared resource use. Eugene O’Leary, the lobsterman from Nova Scotia, reminded everyone that such divisions are not necessarily deal-breakers: “I think we’re a community because we don’t totally agree on what we think,” he laughed.

And a community is more than just a series of commonalities. It also implies that members work together. It remains to be seen whether that will happen, but the situation looks promising. “I’ve made contacts that I’m definitely going to check in with,” said Chris Brown of Rhode Island. Paul Parker from Cape Cod added, “I’ve come away with renewed respect for new communities, new ideas.”

Being exposed to different solutions, and learning about other experiences, was clearly a major benefit for those who attended. “I have found the two meetings [in Kennebunkport and Del Mar] thus far to be two of the most exciting professional events of my career. They have opened my eyes to new ideas and given me hope in a region [New England] that spawns hopelessness,” Parker said. “I was in Baja a few years ago and didn’t even know about the cooperatives there... And in the US, the North Pacific is clearly more advanced than other places in terms of fishermen’s self-governance.”

One important area for the group to act in concert is in informing the legislators and committee staff re-writing the Magnuson-Stevens act. David Fraser, a North Pacific fisherman, lamented that the ocean commission reports likely to guide legislators tend to characterize fishermen’s self-governance as the fox guarding the henhouse: “We’re saying we should have the farmer guarding the henhouse.”

In echoing the need to work on the re-authorization, John Gauvin, director of the Groundfish Forum, argued that, “sooner or later, the fishing industry is going to have to stand up and articulate its message on environmental issues with concrete examples.” Others agreed it would be useful to gather documentation and research showing that rights-based management is good for the environment, to be used in dialogue with other environmental groups, funding agencies and fishing groups.

There was a general call to find more venues to share information and stories. Ralph Townsend of the University of Maine urged more presentations of case studies at fishermen’s forums, and in targeted trade and environmental publications. Luis Bourillón of COBI in Sonora, Mexico suggested efforts be made to find more leaders and stories of rights-based approaches, which are almost certainly out there. “We need to change the negative stereotype of fishermen,” added Phillip Lara.

But the communications should be guided internally as well as externally. “We’re familiar with our own fishery, but we don’t know in detail what’s going on elsewhere in the country,” said Gunnar Knapp, University of Alaska. Kathy Castro of Rhode Island Sea Grant called on people to “expand the tool box with innovative ideas, because we’re tired of the same old ideas and results”.

Sand County Foundation has taken an important step in assembling fisheries leaders. With its emphasis on ethics, science and incentives, the foundation is committed to supporting communications and documentation of important fisheries management lessons and success stories. The Foundation sees these efforts as cumulative to the larger community-based conservation movement.

Momentum in North America is building. Ed Backus of Ecotrust led the planning committee for the West Coast meeting of community-based fishing groups – held in Sitka, Alaska, March 17-18 – as a follow-up to the one held last year in Maine. “Sitka was the third of five such meeting in a span of less than a year, so it’s important to make it all add up to something,” he said.

It’s too soon to know what will emerge, but Backus noted that one of the key support components needed for rights-based fisheries management is to “expand the policy framework to allow these kinds of experiments.” Jennifer Bloesser of the Pacific Marine Conservation Council also stressed the importance of increased financial support for community capacity building. “And we need a safe haven for new ideas,” she added. “This group has to have a big tent.” There was a general feeling it would be best to stay out of allocation discussions – which should be left for individual communities to decide upon -- and stay away from criticizing other people’s gear.

The issue of proper gear is a tricky one, because it can have a bearing on bycatch. And while distributing property rights usually helps improve management for commercially valuable species, they don’t necessarily protect species that aren’t commercially valuable or endangered. But rights-based systems can be modified to meet such goals, as the bycatch reduction program in Alaska indicates. If the focus is on achieving desirable outputs, in other words, the inputs can be adjusted accordingly.

And that lesson was the lasting take-home message of the workshop. That a robust system designed around secure access rights can protect the marine environment and fish stocks. The system can be crafted to achieve almost any suite of institutional and social outcomes sought by the participants. Meanwhile, open access, which undermines the impulse to invest in conservation, must be dealt with. If it is, more and more fishermen will be able to act as “farmers”, responsibly husbanding the “henhouse”.





# WORKSHOP REFERENCE AND READING MATERIALS

Kevin McAleese of the Sand County Foundation has created a list of information resources that is available on-line at [http://sandcounty.net/programs/scf\\_innovations/](http://sandcounty.net/programs/scf_innovations/)

---

“Conference: Put fishermen in charge”, Becky Evans, a reporter with the New Bedford Standard-Times has written an article on the conference, is available at <http://www.s-t.com/daily/01-05/01-30-05/b01pe312.htm>

---

Michael Arbuckle (from New Zealand’s Ministry of Fisheries) shared his experiences with the New Zealand Quota Management System from both an industry and government perspective. Previous to his government position, Mike was a principle in the Challenger Scallop Enhancement Company. His paper on “Fisheries Management under ITQs: Innovations in New Zealand’s Southern Scallop Fishery”, is available at [http://www.sandcounty.net/Kevin\\_McAleese/Arbuckle\\_innovations\\_final.pdf](http://www.sandcounty.net/Kevin_McAleese/Arbuckle_innovations_final.pdf). For a more general treatment of the New Zealand Quota Management System (QMS) see “Evolution of Self-Governance within a Harvesting System Governed by Individual Transferable Quota,” by Michael Arbuckle and Kim Drummond at [http://www.sandcounty.net/Kevin\\_Mcaleese/Self\\_Governance\\_Fishrights\\_99.pdf](http://www.sandcounty.net/Kevin_Mcaleese/Self_Governance_Fishrights_99.pdf)

---

In 2000, Alaska scallop vessel owners were given the right to manage the fishery (subject to the approval of the Alaska Department of Fish and Game). A group of these owners began to do so, and negotiated a cooperative agreement that divided rights to the resource amongst all permit holders. The security of these rights allowed them to generate innovative incentives resulting in a substantial reduction of bycatch and an expanded fishing season. A study of the Alaska weathervane scallop cooperative by Togue Brawn and Kevin Scheirer is available at [http://www.sandcounty.net/Kevin\\_McAleese/AK\\_Scallop\\_Cooperative.pdf](http://www.sandcounty.net/Kevin_McAleese/AK_Scallop_Cooperative.pdf). Teresa Kandianis discussed this co-op’s successes and challenges at the workshop.

---

A U.S. Government Accounting Office (GAO) evaluation of IFQ’s provides a evaluation of some of the trade-offs associated with various fisheries management arrangements, including cooperatives, transferable IFQ’s, and community quotas. “In terms of quota allocation and transfer, IFQ programs are open in that they allow the transfer of quota to new entrants, whereas cooperatives are exclusive by contractual arrangement among members. In terms of monitoring and enforcement, IFQ programs are viewed as being more difficult to administer, because NMFS must monitor individual participants, while cooperatives are viewed to be simpler for NMFS to administer, because NMFS monitors only one entity--the cooperative. For some fisheries, a combined approach may be beneficial. For example, a cooperative of IFQ quota holders can combine an IFQ program’s stability with a cooperative’s collaboration to help manage the fishery.” For a summary of the report, and access to the full report, go to <http://www.gao.gov/docsearch/abstract.php?rptno=GAO-04-277>.

---

Workshop keynote speaker and freelance writer Michael Weber teamed up with Suzanne Ludicello-Martley to prepare an evaluation of community-based fisheries management. A 30-page summary of that report, entitled “Opportunities and Obstacles For Community-Based Fisheries Management in the United States: A Report to the Ford Foundation” is available at [http://www.sandcounty.net/Kevin\\_McAleese/Summary\\_CBFM\\_rpt\\_091004.pdf](http://www.sandcounty.net/Kevin_McAleese/Summary_CBFM_rpt_091004.pdf)

For a somewhat dated, but brief and comprehensive overview of the Alaska Bering Sea cooperative issues, see Wesley Loy's article: "Co-op ends the competitive Bering Sea fishery, improves safety and efficiency, but not everybody is pleased with the new era" which appeared in the Anchorage Daily News on Sunday July 30, 2000, available at <http://www.cdqdb.org/reading/news/adn/raceends000730.pdf>

---

In 1998 the U.S. Congress passed the American Fisheries Act (AFA), allowing the Bering Sea open-access pollock fishery to end its race for fish and rationalize the fishery. In 1999 and 2000, cooperatives were formed covering all of the harvesting sectors within the industry. This led to the development of inter-cooperative agreements that created a system of adaptive "rolling hot spot closures" to reduce salmon bycatch, replacing the less effective traditional "time/area closures". To view a report on this program prepared by workshop participant John Gruver, go to [http://www.sandcounty.net/Kevin\\_McAleese/Salmon\\_Agreement\\_White\\_Paper.pdf](http://www.sandcounty.net/Kevin_McAleese/Salmon_Agreement_White_Paper.pdf)

---

Workshop participant John Gauvin and co-author Craig Rose evaluate the complex factors affecting the voluntary or regulatory use of bycatch reduction devices (BRDs). In their paper (made available by the International Institute of Fisheries Economics & Trade), they argue that even where potential aggregate benefits of BRDs are large, getting fishermen to use these devices may be problematic. Their paper evaluates the voluntary development and preliminary use of a BRD to reduce incidental catch of halibut in flatfish fisheries in the Gulf of Alaska and Bering Sea. To illustrate the potential for inequitable outcomes and "free rider" effects, fishery performance is extrapolated under scenarios where adoption of the device is not universal. Extrapolations illustrate that the potential for an increase in gross economic benefit in the flatfish fishery and to the public are limited by a host of confounding and countermining incentives present in the fishery management system. Go to this link to see the paper: <http://oregonstate.edu/Dept/IIFET/2000/papers/gauvin.pdf>

---

President Bush has ordered the creation of a new federal panel to coordinate oceanic policy. For details, Saturday, December 18, 2004 New York Times article: "Bush Forms Panel to Coordinate Ocean Policy", by Cornelia Dean, at <http://www.nytimes.com/2004/12/18/politics/18ocean.html?oref=login>. This risks associated with commercial fishing remain high, even with modern equipment and information systems. This was painfully confirmed by the December 20, 2004 loss of the 75-foot Northern Edge as she was fishing off Georges Bank. Fishermen continue to seek management systems that remove the pressure to go to sea in bad weather. See the article, "Five Fishermen Lost at Sea: Scallop Northern Edge Sinks Off Nantucket" by Joao Ferreira, New Bedford Standard-Times staff writer, at <http://www.southcoasttoday.com/daily/12-04/12-21-04/a01lo340.htm>. For a December 22, 2004 update on this story, see "Survivor's Story" also by Ferreira, at <http://www.southcoasttoday.com/daily/12-04/12-22-04/a01lo120.htm>.

---

Nova Scotia-based fisherman and workshop panelist Allen Baker discussed his experiences with zone management for Sea Urchins. Go to [http://www.dfo-mpo.gc.ca/csas/CSAS/English/Research\\_Years/2000/2000\\_109e.htm](http://www.dfo-mpo.gc.ca/csas/CSAS/English/Research_Years/2000/2000_109e.htm) to learn more about this fishery from the paper "Management of the Nova Scotia Sea Urchin Fishery: a Nearly Successful Habitat Based Management Regime", by R.J. Miller and S.C. Nolan of Canada's Department of Fisheries and Oceans.

Nova Scotia-based lobsterman and workshop panelist Eugene O'Leary discussed an innovative, fishermen-led monitoring program designed to improve management of their prized lobster fishery. Go to [http://www.dfo-mpo.gc.ca/csas/CSAS/English/Research\\_Years/2004/2004\\_037\\_E.htm](http://www.dfo-mpo.gc.ca/csas/CSAS/English/Research_Years/2004/2004_037_E.htm) to learn more about this initiative from the paper, "Lobster Stock Monitoring by the Guysborough County Inshore Fishermen's Association." by R. Miller and V. Boudreau of Canada's Department of Fisheries and Oceans.

---

Fishermen in Port Orford, Oregon are engaged in a community-based effort to manage nearshore fisheries. With the skillful leadership of workshop panelist Leesa Cobb, the Port Orford Ocean Resource Team (POORT) and its many local partners are helping local ocean users carry out cooperative research, reduce conflicts, and develop area management plans. To learn more about POORT, [http://www.sandcounty.net/Kevin\\_McAleese/POORT\\_summary.pdf](http://www.sandcounty.net/Kevin_McAleese/POORT_summary.pdf).

---

Workshop sponsor Barrett Walker describes the Alex C. Walker Foundation's interests in and history with marine conservation issues. This article documents Barrett's own journey from reef diving in the Caribbean to Capitol Hill where his family's Foundation has pressed the issue of fisheries management reform. Go to <http://walker-foundation.org/net/content/item.aspx?s=22432.0.69.5316> to see "Adventures in Philanthropy - Free Market Answer to Saving Ocean Fisheries", written by Mark O'Keefe and first published in Philanthropy Magazine's January/February, 2004 issue.

---

Workshop participant and biologist Ed Backus was part of a research team that prepared an EcoTrust report entitled: "Catch-22, Conservation, Communities and the Privatization of B.C. Fisheries." This report investigates the economic, social and ecological impacts of Canadian fisheries licensing policy, especially those promoting individual fishing quotas. The report's critique of the quota system focuses on issues of inequity, large increases in the monetary value of quota shares, and obstacles to new entrants into B.C. fisheries. An executive summary and full copy of the report are available at EcoTrust's website at <http://www.ecotrustcan.org/catch-22.shtml>

---

US marine recreational fishing activity increased by over 20 percent from 1996 to 2000. In 2000, nine million recreational saltwater anglers made 75 million fishing trips to the Atlantic, Gulf and Pacific coasts, and caught an estimated 429 million fish. Workshop participant and Environmental Defense economist Kathy Viatella discussed Angling Management Organizations (AMOs) as one approach to integrating the US recreational sector into the management of fisheries. For background on this issue, see the following policy report entitled, "Angling management organizations: integrating the recreational sector into fishery management," by Jon Sutinen and Robert Johnson at [http://www.sandcounty.net/Kevin\\_McAleese/S&J\\_Marine\\_Policy\\_AMOs.pdf](http://www.sandcounty.net/Kevin_McAleese/S&J_Marine_Policy_AMOs.pdf).

---

Federal fishery managers are poised to eliminate open derbies for Bering sea crab fisheries in an effort to create a safer industry. A new system set to be implemented this year will assign individual catch quotas for each boat, doing away with a highly competitive system. For details on these changes, see the Associated Press Story from January 16, 2005 entitled, "Feds to eliminate derbies by Bering Sea crab Industry", at [http://seattlepi.nwsourc.com/local/aplocal\\_story.asp?category=6420&lug=AK+Crab+Quotas](http://seattlepi.nwsourc.com/local/aplocal_story.asp?category=6420&lug=AK+Crab+Quotas)



# This workshop report is a production of the Community Based Conservation Network®

A core program of  
Sand County Foundation

- Shared stories about extraordinary people and new institutions on the cutting edge of improved fisheries management.
- Promoted cross-fertilization and learning among fishermen from different regions and sectors in order to identify common ingredients of success as well as common challenges.
- Expanded the state of knowledge about North American fisheries regarding how fishermen and women are leading the way to more sustainable fisheries management and stock rebuilding.

Sand County Foundation and CBCN wish to thank the following underwriters for their sponsorship of this program:



The Alex C. Walker Foundation

The Bradley Fund for the Environment

The generosity of an Anonymous Donor

**ExxonMobil** ExxonMobil Foundation