

Community Dimensions of Fisheries Catch Share Programs

INTEGRATING ECONOMY, EQUITY,
AND ENVIRONMENT



NATIONAL PANEL ON THE COMMUNITY DIMENSIONS
OF FISHERIES CATCH SHARE PROGRAMS

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I. EXECUTIVE SUMMARY



The income from the Bristol Bay Economic Development Corporation's small boat Community Development Quota halibut fishery is important to coastal residents.

As the National Oceanic and Atmospheric Administration (NOAA) begins implementing its recently released Catch Share Policy, the agency has an important opportunity to emphasize and support fishing communities in the development of catch share programs. The eight regional fisheries management councils (New England, North Pacific, Pacific, Mid-Atlantic, South Atlantic, Gulf of Mexico, Caribbean and Western Pacific)¹, all of which are responsible for developing fisheries management measures subject to approval by NOAA, should be guided by clear principles and develop programs that ensure thriving fishing communities and sustainable fisheries.

The National Panel on the Community Dimensions of Catch Shares (the Panel)—comprised of 11 diverse experts from around North America—reviewed existing and emerging catch share programs around the country and abroad. The Panel developed this summary report to encourage NOAA and the fisheries councils to strongly consider community dimensions in fisheries catch share programs. Catch shares are a means of managing fisheries by allocating a specific portion of the total allowable catch of a fish stock to individuals, cooperatives, communities or other entities. While existing policies should be sufficient to manage our fisheries resources to meet economic, social, and ecological obligations, application of these policies is deficient, with the consequence that fishing communities on every coast are bearing the brunt of the transition to catch shares.

For this reason, the Panel developed strategic recommendations on catch share design and implementation, including the following:

General Programmatic Recommendations

- Fishery management councils developing catch share programs must incorporate the goals and objectives as set forth in the Magnuson Stevens Act (MSA) and its National Standards, including National Standard 8 on Fishing Communities, with a clear strategy for revising programs if performance goals are not met.
- Councils should include ecosystem-based management (EBM, as defined in the National Ocean Policy) as a central, guiding element of any fisheries management program, including catch share programs.

Community-Based Governance Recommendations

- NOAA should seek approaches to support fishing communities in the development, expansion, and diversification of community-based initiatives.
- NOAA should require the development of Community Fishing Associations (CFAs), Regional Fishing Associations (RFAs) and other community structures now authorized in the MSA (Section 303a) within any catch share program.
- NOAA budgetary resources should be applied to further define and develop guidelines for implementation of the community provisions of the MSA to be applied by all fishery management councils.

Programmatic and Financial Innovation Recommendations

- NOAA should develop a dedicated loan program to assist communities and new entrants in the purchase of catch shares, and to act as a reserve for existing or future programs that have excluded communities from the initial quota allocation.
- NOAA should require a significant and appropriate baseline percentage of fisheries quota be anchored in communities in each council region through entities like Community Trusts, such as the Community Quota Entity program in Alaska.
- Councils should design catch share programs to include predictable, performance-based renewals as an alternative to allocations in perpetuity.
- Catch share program design should include mechanisms such as quota auctions with revenue recycling into coastal communities, and other strategies to improve the effects of quota programs on long-term sustainability and community stability.
- NOAA and councils should ensure that standards and costs for monitoring are appropriately scaled to the size and income capacity of boats.
- NOAA should convene a working group of representatives from key federal and state financing programs (USDA, EDA, Treasury, SBA and HUD) to formulate a funding initiative for CFAs, and to engage financial intermediaries in support of capacity building technical assistance and investment.
- NOAA should invest in the research and development of business models for new private financing mechanisms that promote its program goals, as well as the capacity of fishermen and communities to utilize these mechanisms.

Capacity Recommendations

- Councils should establish baseline data and a system for socioeconomic monitoring of catch share programs so that a comprehensive understanding of how programs are working can be developed rather than relying on piecemeal evidence to date.
- Councils should require the effective participation of the fishing industry and communities in catch share program development from the beginning.
- NOAA should work within fisheries and look to other industries, such as pollution trading, to learn from other transparent trading and reporting mechanisms and apply those to catch share transactions using best available technology and expertise.
- NOAA should invest in new or additional capacity in catch share design expertise at the council staff level.

The Panel's recommendations focus on fishing communities as hubs of economic development and as the foundation for jobs, infrastructure and services.

With these recommended shifts in the approach to implementing the national Catch Share Policy, the dozen or so community entities that currently exist will bloom and multiply, maintaining local access to fisheries and leading to more resilient fishing communities. As NOAA actively redesigns the institutions that manage our nation's fisheries through the implementation of the new Catch Share Policy, this report encourages a significant realignment of priorities to incorporate the full range of community impacts and opportunities.

One example of an innovative program:

The Community Development Quota program of the North Pacific Fishery Management Council sparked new investment and infrastructure by allocating a portion of annual fish harvest directly to coalitions of villages. The results include more than \$110 million in wages, education and training benefits for more than 25,000 residents, as well as new docks, harbors and seafood processing centers.²

The Community Dimensions of Fisheries Catch Share Programs

was developed by a national, bipartisan panel of 11 experts in academia, practitioners in rural economic development and social/conservation finance, and fishing community leaders. The panel was convened by Ecotrust with the purpose of advancing the understanding, design and implementation of catch share programs such that they benefit communities whose economic, cultural and social fabric may depend upon fisheries. Generous support for this report was provided by the Walton Family Foundation.



Splitting cod at Port Clyde, Maine , circa 1900

II. INTRODUCTION

The United States has a long tradition of marine fishing.³ Fishermen and coastal fishing communities form a vital element of our national heritage, and it is time to bolster emerging opportunities for communities to lead the reinvigoration of fisheries and the coastal economies that depend on them.

Unfortunately, as recognized in national reports released by the Pew Oceans Commission in 2003 and the U.S. Commission on Ocean Policy in 2004, the economic, social and ecological capital of our nation's fisheries have been steadily eroding. Nationwide, many ecologically and commercially important fish species have been overfished,⁴ while destructive fishing practices damage critical habitat upon which fish and numerous other marine species depend.⁵ Although a great deal has been achieved in reducing overfishing and restoring fish stocks in recent years,⁶ many of our nation's fisheries remain overcapitalized, inefficient, and ineffective at achieving the social, economic and ecological goals of the law governing them, the Magnuson Stevens Act (MSA).

While these problems persist, the tools exist to address them in current policy. President Obama signed an Executive Order establishing a new National Ocean Policy in July 2010 that recognizes the challenges to our oceans and fisheries, and calls for a national management framework that applies

“...the principles of ecosystem-based management (which integrates ecological, social, economic, commerce, health, and security goals, and which recognizes both that humans are key components of ecosystems and also that healthy ecosystems are essential to human welfare) and of adaptive management (which calls for routine reassessment of management actions to allow for better informed and improved future decisions) in a coordinated and collaborative approach...”⁷

As part of this new ecosystem-based management framework, in November 2010 the National Oceanic and Atmospheric Administration (NOAA) released its Catch Share Policy with a focus on one type of fisheries management tool — catch share programs. “Catch share” is a general term for fishery management strategies that allocate a specific portion of the total allowable fishery catch to individuals, cooperatives, communities, or other entities.⁸ The term includes specific programs defined in law such as “limited access privilege” (LAP) and “individual fishing quota” (IFQ) programs, and other exclusive allocative measures such as Territorial Use Rights Fisheries (TURFs) that grant an exclusive privilege to fish in a geographically designated fishing ground.⁹ The new policy encourages:

“well-designed catch share programs to help maintain or rebuild fisheries, and sustain fishermen, communities and vibrant working waterfronts, including the cultural and resource access traditions that have been part of this country since its founding.”¹⁰

Fishing community sustainability is a critical element within this new policy, and NOAA encourages regional fisheries management councils to “develop policies to promote the sustained participation of fishing communities and take advantage of the special community provisions in the MSA.”¹¹

National Standard Eight of the MSA requires management authorities to take into account the importance of fishery resources to fishing communities, and to develop policies to promote the sustained participation of fishing communities

“well-designed catch share programs to help maintain or rebuild fisheries, and sustain fishermen, communities and vibrant working waterfronts, including the cultural and resource access traditions that have been part of this country since its founding.”¹⁰

— NOAA Catch Share Policy

while minimizing adverse impacts on such communities. Similarly, the National Environmental Policy Act requires federal agencies to take into account the social and economic impacts, as well as the environmental impacts, of their management actions.

Community-oriented fisheries management is closely linked with ecosystem-based fisheries management. On a regional scale, a new draft work plan from the West Coast Governor's Agreement on Ocean Health's Sustainable Coastal Communities Action Coordination Team recognizes that:

“[t]aking an ecosystem-based approach to coastal and marine resource management is central to sustaining the economic and environmental health of coastal communities,”

and states that:

“[r]egional fishing associations, as mentioned in the MSA, and other mechanisms for community-based fisheries management coordinate well with principles and scientific needs of ecosystem-based management.”¹²

Thus, existing policies should be sufficient to manage our fisheries resources to meet economic, social, and ecological obligations. It is the application of these policies, however, that is deficient. The tendency thus far has been for catch share programs to default to individual quota systems with little or no consideration of community-related alternatives in how quota shares are assigned and to what entities. The *de facto* property right characteristics of many catch share systems to date can be construed as privatization of national resources. To the extent that is so, it would be a significant departure from the approach taken in other natural resource based industries, where the prevailing approaches — whether auctioning the use of the electromagnetic spectrum or leasing public lands for mining, grazing, and logging — employ a range of options that maintain the control and benefits from the resource in public hands.

What is needed now is clear guidance to fishery management councils on how to achieve the social and economic obligations of existing policy as they consider catch shares as management tools for the fisheries of their regions. In the absence of such guidance, many fisheries management councils have fallen short in adequately analyzing and addressing the effects of existing and planned catch share programs on communities where livelihoods and economic viability depend on fisheries. Further, the councils engaged in creating catch share programs to date have rarely considered — much less implemented — direct allocations to communities or community-related organizations, nor have they developed effective ways for communities to participate in the design of programs.

Fishing communities on every coast are bearing the brunt of the transition to catch shares. Communities that lost access to fisheries prior to the conversion to catch share management, or that have lost or will lose access as a consequence of catch share management, thus see little hope of reclaiming this component of their heritage and economy. To remedy this situation, it is important to match the intent of the law and policy with willingness to implement the provisions that exist for sustainable community participation in fisheries, and to make the investments in financial, scientific and management capacity required in order to effect this transition in a comprehensive manner.

The goal of this report is to inform and advance the understanding, design and implementation of catch share programs such that they benefit communities whose economic, cultural and social fabric may depend upon fisheries. To that end, a National Panel on the Community Dimensions of Catch Shares was convened



Port Clyde, Maine, circa 1900

...existing policies should be sufficient to manage our fisheries resources to meet economic, social, and ecological obligations. It is the application of these policies, however, that is deficient...

As this report details, investments should be made in the following areas:

Governance

NOAA Fisheries should seek methods to support fishing communities in the development, expansion, and diversification of community-based initiatives, including the development of Community Fishing Associations (CFAs), Regional Fishing Associations (RFAs) and other community structures now authorized in the MSA (Section 303a) within any catch share program.

Programmatic and Financial Innovation

NOAA Fisheries should leverage public and private finance mechanisms for community participation in the transition to catch shares, and invest in capacity building efforts to enhance the ability of fishing communities to effectively participate in catch share programs from the design stage on.

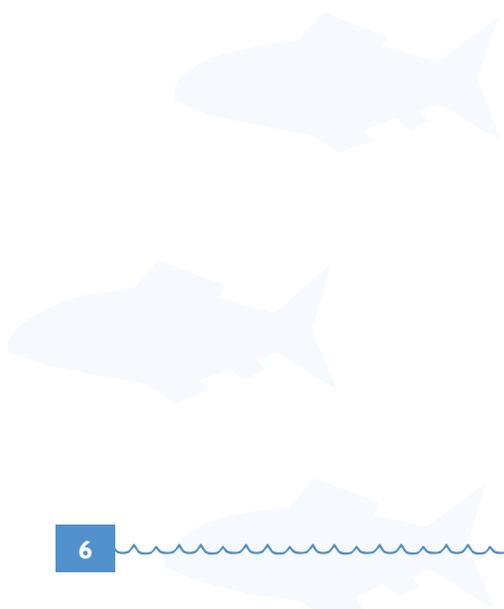
Capacity

Regional fisheries management councils need investments in staff and resources to help them build capacity and expertise to ensure proper design and implementation of catch share management tools, which otherwise can have far-reaching and unintended negative impacts on fisheries-dependent communities. In addition, NOAA needs to set guidelines to establish science-based socioeconomic goals for catch share programs. This also requires additional investment in science at relevant scales, including robust finer scale ecological data that can inform community-based catch share management solutions and baseline socioeconomic information to understand potential impacts of catch share programs on communities — so that appropriate transition strategies can be designed.

by Ecotrust¹³ in the spring of 2010 to develop a set of recommendations on how to improve the design and implementation of catch share systems to better accommodate the needs and concerns of communities. The Panel, comprised of experts and practitioners of community-based fisheries, economic development, social anthropology and community planning, spent a year reviewing the performance of existing, including international, catch share programs and related community impacts. The group met three times in 2010 to learn about three emerging catch share programs in the U.S. (including New England, the Gulf of Mexico and the Pacific), and to work toward developing a set of forward-looking recommendations for use by U.S. policy makers.

General Programmatic Recommendations

- Fishery management councils developing catch share programs must incorporate the goals and objectives as set forth in the Magnuson Stevens Act and its National Standards, including National Standard 8 on Fishing Communities, with a clear strategy for revising programs if performance goals are not met.
- Councils should include ecosystem-based management (EBM, as defined in the National Ocean Policy) as a central, guiding element of any fisheries management program, including catch share programs. In keeping with an EBM perspective, catch share programs should adopt a community-oriented, portfolio-based management perspective. EBM applies to the social sphere as well as to the ecological sphere, and thus catch share programs must consider the full range of communities that may be impacted rather than narrowly designing programs around one subset of a fishery, such as singling out one gear type in a multi-gear fishery.



III. FISHERIES AS HUBS OF ECONOMIC DEVELOPMENT

In recent years, as many of the once abundant fisheries have declined in the U.S. and around the world, attention has been drawn to the historic importance the fishing industry has played in the social, economic and cultural fabric and health of a community,¹⁴ often referred to as the “Hub of Community Economy.” One need only to visit one of the many fishing ports in the U.S. to get a sense of the importance the industry has played in the social, economic and cultural fabric of a community. For example, the multiplier effect of the ex-vessel value, or value before processing, can run three to five times that value, creating more shore jobs and benefits to families as the product moves from vessel to market. Overall, the industry as a whole continues to support fishing communities to the tune of nearly \$163 billion annually and 1.9 million jobs — shrimp, lobsters, crab, swordfish, tuna, rock fish, herring, mackerel, recreational fishing, and even aquaculture products have a significant place in the U.S. economy.¹⁵

In addition to being the locus of economically and culturally important fishing activities, communities are a place where knowledge can be created, shared and communicated for more effective management. Knowledge is scarce and expensive to acquire in fisheries management, and communities can bolster knowledge for better management.

We recognize the existence of communities of mutual interest, experience, and interaction that may involve people living in and working from very different places who share fishing grounds and other fishery interests. This includes occupational communities which may also be recognized as participants in a catch share program through a Regional Fishing Association or other entities. For the purposes of these recommendations, we use the MSA’s place-based definition.

The Alaska Experience

As a basis for seeing fisheries as hubs of economic development for coastal communities, we can look to Alaska’s experience with its Community Development Quota (CDQ) program. The program, established in 1992 by the North Pacific Fishery Management Council (NPFMC), was meant to bring social and economic development opportunities to coastal, mostly indigenous, villages in rural western Alaska by allocating a portion of the annual fish harvest directly to coalitions of villages.¹⁷ The goal was to help geographically isolated rural communities build the infrastructure needed to support their long-term participation in the fishing industry, thereby creating a stronger economic base for communities.¹⁸ With regard to the success of the program, the Alaska Department of Commerce’s website states:¹⁹

Since 1992, over \$110 million in wages, education, and training benefits have been generated for over 25,000 residents. As of 2003, the asset value of the six CDQ groups exceeded \$260 million. Since 1992, over \$500 million in revenues have been generated. The CDQ program has been successfully contributing to fisheries infrastructure in western Alaska by funding docks, harbors, and the construction of seafood processing facilities. The CDQ

What are fishing communities?

“Community” is a very general concept, perceived and experienced differently. In the fisheries context, it signifies a group of people who share some purpose and set of values and see virtue in working together to benefit their fishery-based livelihoods and fishery-dependent communities. In focusing on fishing communities, we are primarily concerned with geographic communities — those that are adjacent to the coastal and marine resources from which their inhabitants derive an economically, socially and/or culturally significant fraction of their livelihood. This is in line with NOAA’s guidance, which interprets the Magnuson Stevens Act (MSA) definition of a fishing community as one that substantially depends on, or is engaged in, harvesting or processing fishery resources to meet social and economic needs in geographic terms as well.

The MSA also more broadly recognizes “coastal communities, including those that have not historically had the resources to participate in the fishery” ((303(A)(c)(3)(A) (IV)), as potential participants in limited access privilege or catch share programs. The community concept should be left broadly defined, in ways that encourage people to create community oriented structures to compensate for decades of management interventions that have ignored, diminished or demolished localized, place-based institutions.

Examples of such community diversity range from municipalities and other formally designated settlements to groups of likeminded fishers or fishing firms, associated with particular ports or regions and/or a particular style or place of fishing. To effectively develop communities or administer fisheries management programs, community representation is best done by a formal entity. This could be:

- A true government
- A voluntary association (with or without non-profit tax status)
- A cooperative (a for-profit business that reaches across individual self-interest to gain benefits of collaboration, cooperation)
- Community Quota Entity (as defined by the North Pacific Fishery Management Council)
- Regional Fishing Association (as defined by the Magnuson-Stevens Act)
- Community Fishing Association (as being considered and developed by some regional fisheries councils)

Catch share lessons from Alaska

Initial allocation to community entities has a positive track record

In 1992 six Community Development Quota (CDQ) entities were given initial allocations of groundfish and subsequently halibut and crab quota in Western Alaska. By 2008, these six entities had turned their initial allocations into \$190 million in annual revenue and had acquired net assets worth \$427.6 million.

Community entities without initial allocations face steep hurdles for success

Community Quota Entities (CQE), established by the state of Alaska in 2004, were not given allocations. They must purchase or lease quota. Facing capacity constraints and difficulties accessing capital markets, they have struggled to acquire quota due to the financial risks and high costs of quota. As of 2010, only one CQE on Kodiak Island had acquired quota, which amounted to 30,000 pounds of halibut.

Catch shares work well in relatively simple fisheries

The billion dollar, Marine Stewardship Council certified Alaska Pollock fleet is an example of how effectively catch shares can work in fisheries with a single target species, pursued by a single gear sector, and with relatively well understood ecosystem interactions. The Pollock fleet has formed a cooperative, and invested in technology and techniques for minimizing bycatch of non-target species.

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program has allowed CDQ groups to acquire equity ownership interests in the pollock, Pacific cod, and crab sectors which provide additional revenues to fund local in-region economic development projects, and education and training programs.

This example illustrates the fact that fishermen and coastal fishing communities, a critical element of our national heritage, are also an integral part of the solution to fisheries management challenges. By investing in communities with forward-looking programs, the industry may be reinvigorated.

New Forms of Community Participation in Fisheries

One area of significant innovation is the emergence of a new class of community-based fishing entities, Community Fishing Associations (CFAs) — a concept currently being developed by some regional fishery management councils as a potential mechanism to support fishing communities as part of catch share programs. The MSA indicates that fishing communities can be recipients of catch shares (as limited access privileges, LAPs),²⁴ and CFAs are being developed for this purpose.

The allocation of quota share to CFAs can enhance the ability of catch share programs to meet economic, social and ecological requirements of current law and policy by:

- Anchoring economic development in communities, with quota being a key asset in their portfolios of assets,
- Maintaining employment and fishing heritage in coastal communities, and
- Incorporating community sustainability plans with clear stewardship requirements.

Guidelines for CFAs do not yet exist within NOAA, although discussions have begun.²⁵ The following is an effort to outline elements of potential guidelines for interested communities, NOAA, and the fisheries management councils.

CFAs can be thought of as organizations of various corporate forms that are allowed to hold permits and quota on behalf of a defined community. Nationwide, about a dozen examples are already incorporated or undergoing formation, including the Cape Cod Fisheries Trust and the Port Orford Ocean Resource Team, discussed in more detail below. These groups may be formed around a common homeport or landing port and can include fishermen or other members of the community. A Community Fishing Association may be a partnership, a voluntary association or a non-profit entity established under the laws of the U.S. that is eligible to hold limited access privileges and distribute said privileges to permitted fishermen within the geographic community that the CFA represents. These entities should be beholden to the eligibility requirements and participation criteria for catch shares outlined in the Magnuson-Stevens Act, perhaps similar to the Regional Fishing Associations mentioned in the Act.

Following the practice of new CFAs, they would recognize a suite of explicit community-related goals in their charters, including, but not limited to:

1. Mitigating the negative economic and social impacts of current transitions to catch shares in fishery management.
2. Providing affordable local industry access to fisheries resources.
3. Providing opportunities for qualified new entrants to the fishery.
4. Preserving traditional fishing communities and necessary onshore infrastructure.

...fishermen and coastal fishing communities — a critical element of our national heritage — are also an integral part of the solution to fisheries management challenges. By investing in communities with forward-looking programs, the industry may be reinvigorated.

5. Anchoring economic development, jobs, etc. in coastal communities. Catch shares are part of a larger portfolio of assets managed by CFAs, which may include processing infrastructure, retail, and related on-shore businesses.

To be recognized as a CFA, an entity could be required to:

1. Meet community designation and membership requirements, such as local residency and percentage of time employed in fishing.
2. Have the support of local governing entities (municipality, county, port district, etc.).
3. Develop an adequate community sustainability plan as required by the MSA for fishing communities that participate in limited access privilege programs.
4. Meet organizational and operational standards, such as demonstrating a viable business plan, metrics for assessing impacts to the resource, and capacity for transparency of this data.

Emerging CFAs contemplate a variety of operational standards that position them to become responsible stewards of fisheries resources. Notable among these are open and transparent application and qualification criteria for the distribution of permits/quota to community fishermen. With regard to catch shares, CFAs would comply with existing and relevant leasing and transfer regulations that currently apply to individual permit-holders including lease reporting protocols, size-class or baseline restrictions, and other reporting requirements.

In accordance with the MSA's provisions for fishing communities, CFAs should develop a community sustainability plan that "demonstrates how the plan will address the social and economic development needs of coastal communities...."²⁶ Such a plan should include the following:

1. Specification of the organization's goals and objectives and the means by which it intends to meet those goals and objectives.
2. Description of how the CFA will contribute to the social, economic development, and conservation needs of the local fishery, including the needs of entry-level and small vessel owner-operators, captains, and crew. The description shall include anticipated efforts to address issues including the following as necessary to maintain the characteristic of the community or support its economic development:
 - a) Sustaining regional fisheries;
 - b) Crew, processing and seasonal employment opportunities;
 - c) Local processing and ancillary business activity;
 - d) Material and cultural fishing heritage;
 - e) Entry of new participants in fisheries;
 - f) Local infrastructure; and
 - g) Other local community and municipality needs.

Community-based fishing organizations such as CFAs provide new avenues for effective co-management, that is, cooperation between local groups engaged in the fisheries with government agencies in the management of public trust assets.

Towards Effective Co-Management

Citizen participation in governance of fishing operations in the United States has largely been conducted by individual fishermen acting as sole business operators

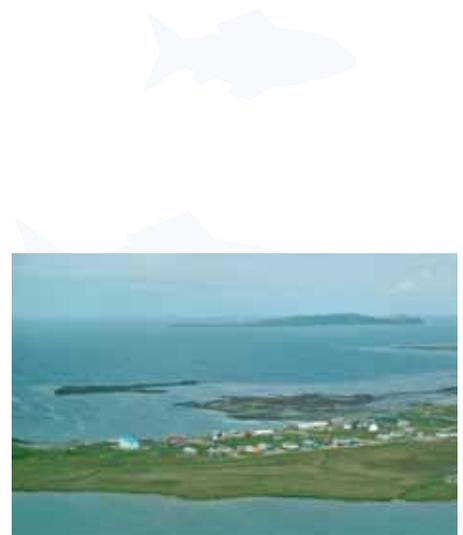
(cont.) Catch share lessons from Alaska

Ignoring the contributions of crew leads to significant socioeconomic problems

According to a recent news article, "The five-year review of the crab rationalization program presented to the North Pacific Fishery Management Council Dec. 8 revealed that crew have seen a consistent decline in wages as a percent of the ex-vessel gross [revenue] since 2005, particularly in the Bristol Bay red king crab fishery." A stark illustration of how catch share programs change the compensation structure in the fishing industry, the review revealed that "crew and captains in the highest harvesting quartile of Bristol Bay red king crab received 14.7 percent of the ex-vessel gross in 2009 compared to a fleet-wide average of about 35 percent in the years before the crab fishery was rationalized."

The transition to catch shares takes a lot of work and creativity

The North Pacific Fishery Management Council in June 2010 undertook a major structural overhaul of the Gulf of Alaska rockfish fishery catch share program which was implemented in 2007. In response to emerging data, it took steps to curtail transfer and leasing of catch allocations; reduce the amount of quota directly controlled by processors; emphasize cooperative fishing over individual fishing quotas, particularly regarding concerns about bycatch of non-target species; keep costs of entry into primary fisheries low and predictable for new entrants; and shorten the time between program reviews.



Community of Nilolski, member of the Aleutian Pribilof Island Community Development Association (APICDA).

The allocation of quota share to CFAs can enhance the ability of catch share programs to meet economic, social and ecological requirements of current law and policy by:

- Anchoring economic development in communities, with quota being a key asset in their portfolios of assets,
- Maintaining employment and fishing heritage in coastal communities, and
- Incorporating community sustainability plans with clear stewardship requirements.

Community-based fishing organizations such as CFAs provide new avenues for effective co-management, that is, cooperation between local groups engaged in the fisheries with government agencies in the management of public trust assets.

and decision-makers, as well as by family or corporate business structures. With the advent of new community-based structures such as Alaska's Community Development Quota corporations and Community Quota Entities, and the recent emergence of CFAs being created in response to new opportunities in the revised Magnuson-Stevens Act (2007), a new set of more cooperative governance experiences has been gained and demands for new governance arrangements have been created.

In part, these new governance approaches have been fostered by communities of place reminding the federal government and the fishery management councils of the public nature of fisheries assets and assertion of the rights of these communities to maintain their relationship with adjacent fisheries resources.

Community-based allocations to or purchases by Regional Fishery or Community Fishing Associations of catch shares (quota) require governance processes, much of which is provided by the 501(c)(3) structures in the US IRS tax code — an excellent template for basic organizational standards for accounting rules, board oversight, fiduciary responsibility and transparent reporting. Such standards are required to ensure that public benefit is derived and maintained, and that fairness and transparency are upheld.

This report does not mean to suggest community-based management as a panacea; however, as a recent study of the international experience with co-management suggests,²⁷ the benefits of community-based governance include:

- Management and transparency of community-based assets,
- Creation of incentives for involvement in community organizations,
- Creation of incentives for building community capacity, and
- Development of community sustainability plans including performance evaluation and metrics in the fisheries and fleets utilizing quota held by community entities.

Multiple opportunities for communities and government agencies are embedded in the development of community-based governance of catch share programs. These include learning from other communities' experiences (some of which are discussed below), building new capacity, avenues for agency support, and interactions between non-profit and municipal organizations involved in governance and economic development.

Examples of Community-Based Governance²⁸

In North America, there is a general history of cooperation in the community-based management of fisheries, including groundfish quota management in maritime Canada, lobster co-management in Maine, and other cases, including the Bering Sea Community Development Quota corporations in Alaska, as previously noted.

Three recent experiences, germane to community-based governance, demonstrate the pathways being developed by communities themselves to address the challenges and opportunities of catch share programs. Each organization uses IRS non-profit tax-exempt structures and establishes clear governance processes within bylaws and program procedures.

Cape Cod Fisheries Trust, Massachusetts²⁹

The Cape Cod Commercial Hook Fishermen's Association established a distinct entity to hold and lease community-based quota within the sector program established by the New England Fishery Management Council for the groundfish fishery. This is an example of community-based leadership, cooperative

organization building, and the development of finance and management capacity within a local organization structured as a 501(c)(3) non-profit. The Trust has the right and capacity to purchase quota shares for groundfish (as well as sea scallop) and lease them to community-based fishermen who meet a set of qualifications including local residency, having fishing as a sole source of employment, and a willingness to use only non-harmful and non-wasteful commercial fishing gears. The Trust works with a local non-profit community development organization to establish an open and transparent process for the distribution of leased quota among participating fishermen in order to meet the program's social, economic and environmental objectives. By providing an avenue to access fishing quota at an affordable cost and providing space for a larger number of diverse fishing businesses, the Trust helps support and strengthen coastal communities.

Cape Barnabas Incorporated, Alaska

Within the Community Quota Entity Program (CQE) established in 2006 by the North Pacific Fishery Management Council, the community of Old Harbor on Kodiak Island, Alaska, established a CQE to purchase, hold and lease halibut fisheries quota. Cape Barnabas Inc. is a non-profit 501(c)(3) organization which is supported by the Old Harbor Native Corporation. The organization functions in the open processes of the community with a public board, a well managed leasing process, and a public meeting process that maintains transparency in the small community.

Port Orford Ocean Resource Team, Oregon³⁰

The small community of Port Orford on the southern coast of Oregon established a non-profit 501(c)(3) organization, the Port Orford Ocean Resources Team (POORT), to further the sustainable community-based management of fisheries in their region. The organization conducts cooperative research with the state agencies and universities, has led the development of local marine reserve and community stewardship area, and runs a community-supported seafood business. In addition, POORT has facilitated access for local member fishermen to alternative financing for the individual purchase of sablefish catch share permits. POORT is positioning itself to establish a Community Fishing Association to acquire, hold and lease catch share quota of groundfish to Port Orford-based fishermen in perpetuity.

Community-Based Governance Recommendations

- ▶ Pursuant to the implementation of the recent 2010 policy on catch shares — NOAA Fisheries should seek methods to support fishing communities in the development, expansion, and diversification of community-based initiatives. This would support the growing recognition that many successful methods of community adaptation in fisheries management are community driven.
- ▶ NOAA should require the development of Community Fishing Associations (CFAs), Regional Fishing Associations (RFAs) and other community structures now authorized in the MSA (Section 303a) within any catch share program. While some catch share programs may be developed for fisheries in which no community entity is initially envisioned, space should be made for potential participation of communities within programs.
- ▶ NOAA budgetary resources should be applied to further define and develop guidelines for implementation of the community provisions of the MSA to be applied by all fishery management councils. The guidance should include, but not be limited to, clear parameters for establishment of



Chatham fleet, Massachusetts



Cape Barnabas, Alaska



Fishing fleet at Port Orford, Oregon

Benefits of community-based governance:

- Management and transparency of community-based assets
- Creation of incentives for involvement in community organizations
- Creation of incentives for building community capacity
- Development of community sustainability plans including performance evaluation and metrics in the fisheries and fleets utilizing quota held by community entities

CFAs and RFAs, and guidance on how to develop community sustainability plans, including the establishment of socioeconomic and biological goals and performance measures to track progress over time. This would require working in clear collaboration and cooperation with communities, fishery management councils, and other support organizations including economic development and municipal entities.



Port Orford, Oregon community members have shown leadership in governance by working to establish a local marine stewardship area. Here community members review draft maps for the Port Orford Ocean Resource Team's Local Knowledge Interview GIS mapping project.

IV. OPPORTUNITIES FOR PROGRAMMATIC AND FINANCIAL INNOVATION

The transition to catch shares affords the opportunity for significant innovation, both programmatic and financial, in how NOAA manages the nation's fisheries. To facilitate the involvement of communities through this transition and to enhance community participation in catch share management, the agency should look to public and private finance mechanisms. In addition to (i) modifying its own policies to facilitate community participation in catch share programs, (ii) NOAA should convene a working group of representatives from key federal and state financing programs (U.S. Department of Agriculture (USDA), U.S. Economic Development Administration (EDA), the Treasury Department's Community Development Financial Institutions (CDFI) Fund, Small Business Administration (SBA) and U.S. Department of Housing and Urban Development (HUD)) to formulate a funding initiative for CFAs, and to engage financial intermediaries in support of capacity building technical assistance and investment, and (iii) leverage this enhanced agency collaboration to develop new opportunities at the intersection of public and private finance.

Modifying Existing NOAA Programs

There are several NOAA programs and practices that could be modified to provide financing solutions and related opportunities for fishing communities and other fishery participants interested in catch shares.

One of the most effective interventions would be for NOAA to ensure that the regional fishery management councils, entrusted with the implementation of catch share programs, take to heart the Government Accountability Office finding that "[a]llowing communities to hold quota is the easiest and most direct way under a catch share program to help protect fishing communities."³¹

The GAO makes an important distinction when noting that "[c]ommunities allowed to hold quota can obtain it through allocation when the program begins or at any time thereafter."³² Since much of the economic benefits from catch share systems arise from the initial allocation, NOAA should direct councils to ensure that catch share programs are designed with explicit alternatives for making initial allocations of quota to communities, and for using existing or new community-based entities for that purpose. Community allocations of fisheries quota should be of a significant and appropriate percentage so as to meet the needs of communities and the needs and status of regional fisheries.

For existing or future programs that have excluded communities from the initial quota allocation, NOAA should put part of its catch share program funding in reserve for loan guarantees and/or loan leveraged private funding. NOAA should develop a dedicated loan program to assist communities in the purchase of catch shares. This could be done by expanding the Fisheries Finance Program to include new and future catch share programs such as those in New England and on the West Coast, with a special focus on community entities that seek to purchase quota, or by creating a new program modeled on the EDA Revolving Loan Fund described below. Such a loan program could also help to provide access for new entrants, and should be in place at the beginning of catch share program



Fish-buying barge in Mountain Village, Alaska, a member of the Yukon Delta Fisheries Development Association, one of Alaska's Community Development Quota Entities.



Standards and costs for monitoring should be appropriately scaled to the size and income capacity of boats. Here, the *F/V Goldeneye*, part of the small boat fleet of Port Orford, OR is hoisted up from the Pacific.

implementation. By making loan programs available at the beginning rather than years into implementation, NOAA could avoid problems that arise when entry costs become prohibitively expensive, as happened in the Bering Sea and Aleutian Islands Crab Rationalization Program.

Councils should also include mechanisms in catch share design that both allow flexibility to modify programs when necessary while creating and maintaining security for fishermen. Such mechanisms include predictable performance-based renewals of quota share, which would be a beneficial alternative to allocations in perpetuity because it would allow for modification of the program while still preserving the benefits of long-term security.³³ A similar system was considered by New South Wales, Australia, with the idea that regular, periodic reviews with performance-based renewals may provide a more finely-tuned mechanism to reward cleaner fishing behavior, versus a permanent exclusive privilege.³⁴ Performance requirements could include using fishing gear known to have less ecological impact and requiring quota holders to be active participants in the fishery. With each periodic review, those in compliance with performance requirements receive an automatic renewal of quota shares, while those not in compliance may have to forfeit a percentage of their shares, which could then go into a pool for new entrants, for example. Therefore, depending upon the design, this adaptive management approach could help to provide a means of protecting the resilience of the resource and of the communities that depend upon it. Decisions and alterations made with each periodic review are made with the knowledge that the system can be improved, and managers are able to learn from their actions.³⁵

Catch share program design should also include mechanisms such as quota auctions with revenue recycling into coastal communities, creation of small quota blocks that can be purchased as a vehicle for entry into the fishery, triple bottom line (economic, social, ecological) performance based allocations, and other strategies to improve the effects of quota programs on long-term sustainability and community stability.

Finally, NOAA and the councils should ensure that standards and costs for monitoring are appropriately scaled to the size and income capacity of boats. Similar to the new FDA Food Safety Modernization Act's allowance of flexibility for small farms with regard to certain safety standards,³⁶ monitoring requirements should be tailored to each boat's relative size and capacity for environmental impact rather than one-size-fits-all requirements that may unfairly burden small-boat fishermen.

Convening a working group of representatives from key federal and state financing programs

In addition to modifying its own policies to facilitate community participation in catch share programs, NOAA should spur private finance mechanisms to invest in CFAs and related value-added fish processing, marketing and distribution enterprises by convening a working group of representatives from key federal and state financing programs (USDA, EDA, CDFI Fund of the U.S. Treasury, SBA and HUD). This working group could be directed to formulate a funding initiative for CFAs, and to engage local, state and national private or public financial and technical assistance intermediary entities to leverage this enhanced agency collaboration to develop these new opportunities at the intersection of public and private finance. This would be right in line with the National Ocean Policy's call for coordinating federal and state governmental efforts to secure the health and prosperity of our coasts.³⁷

Leveraging existing federal investment and capacity-building grant programs with other public programs

NOAA's capacity-building Fisheries Innovation Fund and public finance programs, such as the EDA's Revolving Loan Fund, the USDA loan guarantee program, and the Treasury Department's CDFI Fund and New Markets Tax Credit Program (NMTC), further detailed below, should be leveraged to provide opportunities for quota purchase and development of CFAs by community entities using traditional bank and private capital financing, along with private foundation support. Existing cross-cutting initiatives like the Healthy Food Financing Initiative described below should be expanded to include seafood and community fishing associations.

The Revolving Loan Fund (RLF)³⁸

program of the Economic Development Administration of the Department of Commerce provides small businesses and entrepreneurs with critical gap financing. Regional EDA offices award competitive grants to local or tribal governments, and public or private non-profit organizations, who in turn administer currently 578 revolving loan funds with a combined capital base of \$852 million. NOAA should work with its sister agency to educate the EDA and its regional offices on catch shares and the fishing industry, with the idea of developing loan programs tailored to the needs of fishing communities and community-based entities in the transition to catch shares, notably the acquisition of quota.

The New Markets Tax Credit (NMTC)³⁹

program was created in December 2000 to provide tax incentives to induce private-sector, market-driven investment and create jobs in low-income urban and rural communities across the nation. It stimulates private sector investment in distressed communities by providing a tax credit for qualified equity investments. According to a survey of the NMTC Coalition, between 2003–2009, this innovative program is estimated to have turned \$15.5 billion in tax credits into more than \$50 billion in private investments in over 3,000 projects in distressed communities.⁴⁰ Many West Coast fishing communities in need of capital for start-up or expansion of facilities and business operations are located in census tracts that meet the criteria of the NMTC program, making this instrument potentially available for economic development anchored by Community Fishing Associations. With respect to the use of the NMTC for acquisition of fishing permits, a potential complication arises from the accounting characteristic of fishing quota as an intangible asset, since the NMTC program excludes, per Internal Revenue Code Sec. 1397C(d)(4), “any trade or business consisting predominantly of the development or holding of intangibles for sale or license.” NOAA should work with the Treasury Department to ensure that quota purchases by community fishing associations are eligible investments under the NMTC program.

The USDA Loan Guarantee Program⁴¹

is designed to “improve, develop, or finance business, industry, and employment and improve the economic and environmental climate in rural communities. This purpose is achieved by bolstering the existing private credit structure through the guarantee of quality loans which will provide lasting community benefits.” Many fishing communities also meet the definition of rural communities, and NOAA should work with USDA to expand the Loan Guarantee Program to include the acquisition of quota share and related investments by community fishing associations. NOAA should also promote other USDA loan and grant programs to



NOAA should work with the Treasury Department to ensure that quota purchases by CFAs are eligible investments under the NMTC program.



Based in Port Orford, Oregon, the three boat cooperative, Port Orford Sustainable Seafood, was launched in June of 2009 to help meet seafood demands of conscious consumers concerned with both personal health and the health of ocean ecosystems. The cooperative is an investment in the future of Port Orford fisheries and the community dependent on them.

be used for the purchase of catch shares by CFAs, such as the **Rural Cooperative Development Grant (RCDG)** Program,⁴² the **Rural Economic Development Loan and Grant Program (REDLG)**,⁴³ the **Small Socially-Disadvantaged Producer Grant Program (SSDPG)**,⁴⁴ and the **Conservation Loan Program (CL)**.⁴⁵

The Healthy Food Financing Initiative,⁴⁶

which was included in the President's Budget for 2011, is a joint initiative of the Departments of the Treasury, Agriculture, and Health and Human Services. It makes available more than \$400 million in financial and technical assistance to community development financial institutions, other nonprofits, and businesses that address the healthy food needs of communities. Through a mix of federal tax credits, below-market rate loans, loan guarantees, and grants it is intended to attract private sector capital that will more than double the total investment. NOAA and the Department of Commerce should work with their sister agencies to include seafood in the Healthy Food Financing Initiative, and make its financing provisions available to community fishing associations.

New Opportunities for Private/Public Partnerships

The **Fisheries Innovation Fund (FIF)** administered by the National Fish and Wildlife Foundation (NFWF) is a grant program to foster innovation and support effective participation of fishermen and fishing communities in the design and implementation of catch-share fisheries. The first solicitation for proposals for funding resulted in \$12 million in proposals for an initial round of available funding of \$2.2 million. This demand stands to grow as more fisheries transition to catch shares and the capital needs of the transformation become more apparent. NOAA should work with the Administration and private partners to expand the Fisheries Innovation Fund to meet the emerging demand from community fishing associations. It should also work toward refocusing the FIF on social science and market design research — as defined by the assignment, trade and sale of catch shares and the conditions imposed on those transactions.

NOAA should also invest both directly and indirectly into the research and development of business models for new private financing mechanisms that promote its program goals, as well as the capacity of fishermen and communities to utilize these mechanisms. This would entail dedicating part of existing research and grant programs such as the **Saltonstall-Kennedy Grant Program**⁴⁷ toward developing innovative investment vehicles. It would also entail making available detailed fisheries information and data to allow researchers outside NOAA to analyze the economics of various catch share design and implementation options, including the viability of community-based businesses.

Finally, NOAA should reach out to the **Small Business Administration** and other agencies that provide technical assistance, and develop a series of information materials on fisheries business development in general and catch shares in particular for use by Small Business Development Centers to provide technical capacity and services to rural and coastal businesses, entrepreneurs, and potential investors.

Recommendations for Programmatic and Financial Innovation

- NOAA should develop a dedicated loan program to assist communities and new entrants in the purchase of catch shares, and to act as a reserve for existing or future programs that have excluded communities from the initial quota allocation.

- NOAA should require a significant and appropriate baseline percentage of fisheries quota be anchored in communities in each council region through entities like Community Trusts, such as the Community Quota Entity program in Alaska. While some fisheries will not have community entities to give an initial allocation to, catch share programs should be designed to set aside a percentage of quota for community participation. This percentage should adequately reflect the needs of communities and the needs and status of regional fisheries
- Councils should design catch share programs to include predictable, performance-based renewals as an alternative to allocations in perpetuity.
- Catch share program design should include mechanisms such as quota auctions with revenue recycling into coastal communities, and other strategies to improve the effects of quota programs on long-term sustainability and community stability.
- NOAA and councils should ensure that standards and costs for monitoring are appropriately scaled to the size and income capacity of boats.
- NOAA should convene a working group of representatives from key federal and state financing programs (USDA, EDA, Treasury, SBA and HUD) to formulate a funding initiative for CFAs, and to engage financial intermediaries in support of capacity building technical assistance and investment.
- NOAA should invest in the research and development of business models for new private financing mechanisms that promote its program goals, as well as the capacity of fishermen and communities to utilize these mechanisms.



To facilitate community participation in catch share management, the agency should look to public and private finance mechanisms.





Current and future catch share programs will need to recognize and evaluate impacts that go beyond the participants within one particular program in order to design programs that effectively address complex social, economic and ecologically connected factors.

V. INVESTING IN CAPACITY

The design of catch share programs in the U.S. to date indicates a need for additional capacity and investment in both the fisheries council system and the ability of fishing communities and businesses to function well in the resulting market-based management systems. Lack of expertise cannot be an excuse for failure to give full and fair consideration to the array of social, economic and ecological issues associated with catch share programs.

In particular, there is a need to raise the visibility and priority of social science within the fisheries council system and within NOAA. Although most catch shares programs require an evaluation after five years there is often no baseline established from which to conduct an effective evaluation. Such baseline data are also important for understanding the response of fishery participants, including influence-seeking behavior and political capture to protect endowments created by initial allocations, which may resist program revisions. Sufficient capacity is needed to establish baseline data and a system for socioeconomic monitoring of catch share programs so that a comprehensive understanding of how programs are working can be developed rather than relying on piecemeal evidence to date.

In addition, most evaluations conducted to fulfill regulatory requirements focus only on the participants of the current program, not those who were excluded and may also be affected. Current and future catch share programs will need to recognize and evaluate impacts that go beyond the participants within one particular program in order to design programs that effectively address complex social, economic and ecologically connected factors. When scoping initial catch share program design, fisheries management councils should actively engage not only anticipated program participants, but also more broadly affected fishing industry participants and members of the community. Further consideration of exogenous factors, such as gentrification and the loss of fishing infrastructure, should also be factored into the analyses of catch share programs.

To best understand how catch share programs have an impact beyond an immediate program, a dedicated socioeconomic research program needs to be pursued. Research is needed to address how permits, landings by species, vessels, dealers and communities may change over time with the implementation of the catch shares program, but also how they have changed prior to implementation and how they may be affected by such a program or exogenous factors, e.g. gentrification, climate change, hurricanes and oil spills. Other research to develop social indicators that measure vulnerability and resilience of fishing communities can also enhance the ability to understand the impacts of regulation and other disruptions, like hurricanes or oil spills. This research will provide critical baseline data that can be updated annually, providing long term analysis similar to stock assessment data.

Additional investment is also needed in market design expertise, given that catch share programs effectively are cap and trade systems. Without thoughtful market design, the profitability and stability of the industry, control of externalities such as by-catch, and better stewardship of the fishery are all in jeopardy. NOAA should work within fisheries and look to other industries, such as pollution trading or spectrum auctions,⁴⁸ to learn from other transparent trading and reporting mechanisms and apply those to catch share transactions using best available science, technology and expertise. For more on this issue see the “Market Design Principles” section of Appendix A.

To help councils be more effective in designing catch share programs to incorporate the concerns of the broader affected community, NOAA should invest in new or additional capacity in design expertise at the council staff level. This has been done to some degree; however, councils remain stretched and lacking in expertise in such areas as market design, applied economics, and institutional analysis (see discussion regarding market design in Appendix A below). In particular, NOAA should budget for and conduct design training for fishery managers, council members, and industry, and identify academic and professional experts in each region to conduct design experiments and modeling charrettes to help councils visualize the likely effects of program features.

Communities offer challenges and opportunities for effective fisheries management, particularly in the ways they intersect with catch share programs. Communities are not homogeneous entities of aligned interests, and engaging in successful collective action is costly in terms of time and resources. We see significant opportunity for effective community involvement in the design and implementation of catch share programs. But for communities to be effective in that role, some investment in their capacity to steward public resources is needed.

Capacity Recommendations

- Councils should establish baseline data and a system for socioeconomic monitoring of catch share programs so that a comprehensive understanding of how programs are working can be developed rather than relying on piecemeal evidence to date.
- Councils should require the effective participation of the fishing industry and communities in catch share program development from the beginning.
- NOAA should work within fisheries and look to other industries, such as pollution trading, to learn from other transparent trading and reporting mechanisms and apply those to catch share transactions using best available technology and expertise.
- NOAA should invest in new or additional capacity in catch share design expertise at the council staff level.



Dillingham, Alaska's small boat harbor is crowded with 32-foot gillnet vessels during the height of the summer salmon season. As an example of capacity-building for communities, the Bristol Bay Economic Development Corporation invests income from its Community Development Quota harvests in local infrastructure and programs that benefit local salmon, halibut and herring fishers and their communities

CONCLUSION



The Midcoast Fishermen's Association, founded in 2006 by a group of conservation-minded groundfishermen from the small midcoast-Maine village of Port Clyde. The group's mission is to identify and foster ways to restore their groundfish fishery and sustain fishing communities along Maine's coast for future generations.

The National Panel on the Community Dimensions of Catch Shares concludes that with national policies on catch shares and ocean management now in place, NOAA and the fishery management councils have the enabling framework for the design of catch share programs to enhance community-based economic development and regional resource management. This is a significant opportunity to bolster not only the sustainability of our nation's fisheries resources, but also the resilience of communities that form the backbone of our fishing heritage. NOAA and the fishery management councils should work closely together, seeking the advice of Congress and its committees, with agencies and other organizations on the themes of **governance, finance, and capacity**, as outlined in this report and its short companion summary document (www.ecotrust.org/fisheries). This opportunity to build durable community-based catch share systems that are workable and functional for fishermen, their communities, and local organizations should not be wasted.

VI. APPENDICES

A. Primer on Institutional Design

In encouraging the development of catch share programs NOAA is engaging in the active redesign of institutions for managing the nation's fisheries. There is extensive literature on institutional design for natural resource management that was reviewed by the National Research Council not long ago. The NRC found many examples of successful community-based or collective management of common-pool resources such as fisheries, and found that these are not only able to avoid the "tragedy of the commons", but can frequently achieve better economic, ecological and social results than under a strict individual property rights regime.

Such successful outcomes rely on robust design principles, in particular those that address issues around property rights and tenure security, the implications of group characteristics for collective action and the implications of resource characteristics for collective action.⁴⁹ In the context of fisheries management, the groups undertaking the design of catch share programs are the regional fisheries management councils. While the councils exhibit many of the desirable characteristics for successful institutional design, notably in terms of their size, composition, levels of wealth and income, and experience,⁵⁰ they are also at risk of falling into the trap of path dependency by relying on their limited experience, a limited set of "how to" guidance publications,⁵¹ and a limited set of external expertise.

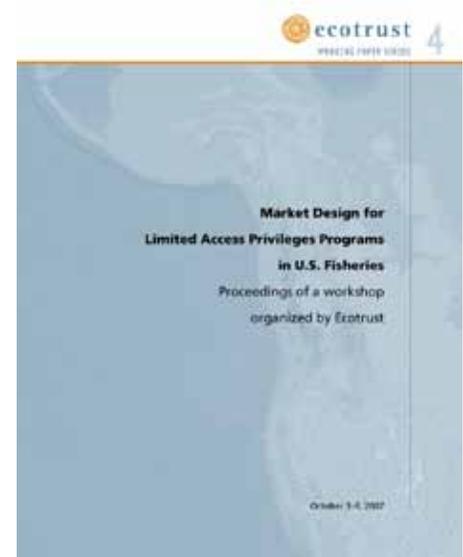
And indeed, we see in successive program developments around the country a pattern of defaulting to individual quota systems with little or no consideration of community or collective mechanisms. Such fully fledged privatization of national resources, as engendered by the *de facto* property right characteristics of many catch share systems to date, would be a significant departure from the approach taken in other natural resource based industries, where the preponderance of solutions — whether auctioning the use of the electromagnetic spectrum or leasing public lands for mining, grazing, and logging — exploits a fuller range of options that keep the control and benefits from the resource in public hands.⁵²

Given the importance of getting the institutional design right in order for catch share programs to achieve the mandate of the Magnuson Stevens Act and the goals of the National Ocean Policy, and given the complexities of fisheries ecosystems, it is useful for decision makers at the councils and for NOAA to consider the design challenges as such, and to draw on applied expertise in institutional and market design. The importance of these considerations is well understood in parts of the fisheries literature,⁵³ but not always applied by fisheries managers.

At a 2007 workshop at the Harvard Business School, a group of market design experts shared their thoughts for addressing the ecological, economic, and social objectives of fisheries management (as articulated in the MSA) in general, and for specific fisheries in particular.⁵⁴ In what follows we present two short summaries of key considerations for catch share design from the perspective of applied economists who specialize in market design. They are intended to provide additional background on the Panel's deliberations and recommendations.

Property Rights and Allocation Alternatives for Fisheries Management (T. Groves)⁵⁵

Catch shares, while considered Limited Access Privileges under the MSA, confer a *de facto* property right on their holders. Designing the right form of rights based management in the face of strong opposing interests is a daunting task, yet



The report "Market Design for Limited Access Privileges Programs in U.S. Fisheries: Proceedings of a workshop organized by Ecotrust (Oct 3–4, 2007)" is available from: www.ecotrust.org/workingpapers



essential if the problems of overfishing and declining fishermen incomes are to be addressed. A key element in solving the design problem lies in delineating the rights or privileges that are to be created and how they are to be allocated. Many of the concerns over property rights for fisheries can be alleviated by a careful balancing of competing interests.

Concerning the specification of rights, it is useful and indeed necessary to distinguish among alternatives. A first distinction may be made between “**use or access rights**” to fishing and “**property or ownership rights**” to the fish. A fisherman, for example, may have only a “right to fish” under specified terms (time, location, catch limits, etc.) or he may have a right to catch a specific quantity of fish over a season. Both rights have value only if they are limited in numbers to whom they are granted. To limit harvests to sustainable limits, rights to fish or catch rights must be restricted. It is generally more convenient and more efficient to limit harvests under a system of catch rights (such as quotas) than under a limited right to fish system, since the latter frequently results in “fishing derbies” or a “race to fish” leading to “capital stuffing” and other inefficient (costly) application of resource inputs to fishing. But an optimal fishing rights system may involve ingredients of both types of rights — for example, a quota consisting of a given proportion of a total allowable catch coupled with use restrictions such as time and location closures, gear restrictions, and other provisions to account for, say, spawning periods and places or for control of by-catch (of endangered species or other non-target species).

Two other distinctions among alternative specifications of rights are those of **duration** and **transferability**. Whatever the form of rights defined, they may be granted for a single year, multiple years, or even permanently. If granted for a limited period, then the allocation and re-allocation procedures become all the more important. For example, a quota right may be granted on “use or lose” basis — that is, it may be automatically extended for another year (or period), if it has been used enough in the current year (period). This feature would, in effect, grant a fisherman a claim to his fishing livelihood until he retires. Or, a quota right may be granted for an extended period, but with the quota amount declining every year to allow for a pool of rights to be allocated to potential new applicants or entrants into the fishery.

Whatever the duration of the rights allocated, the efficiency of the system is crucially affected by whether or not the rights may be transferred — that is, sold or perhaps only leased for a limited time to others. Economists generally favor full transferability of rights on simple efficiency grounds. But markets only function efficiently under a large number of conditions. In the fisheries context, there are several ways in which inefficiencies could arise, for example when permits or quotas are excessively concentrated in the hands of a few participants. It may therefore be necessary, on efficiency grounds, to limit transferability. For example, rights may only be held for a limited term, or only leased for a single season; rights may be sold only to other similar type fishermen; quota rights may be subject to an upper limit (x% of the total); or transfer of rights may be subject to community approval.

Any kind of limitation on the right to transfer ownership will reduce the potential value of the right being transferred and thus there is a natural opposition of interests between the rights holder and the larger community concerned about the negative effects (“externalities”) of unlimited transferability. In particular, a fisherman who views his own quota rights as an ultimate retirement asset will naturally resist restrictions on his right to sell to the highest bidder, even though he may also be concerned for his fishing community about the consolidation of fishing in the hands of a few large firms. The inherent conflict exists not only across

individuals and between different interest groups but within the heart and mind of the fishermen themselves.

The other key design issue in devising a property-rights fishery management plan is how the **allocation of rights** is to be determined. Here also, there are many alternatives but without the criterion of efficiency to guide or inform a choice among them. Essentially allocation problems are resolved by consideration of fairness, equity, and entitlement, and one might expect there is little agreement on what these principles require in any specific problem.

Nonetheless, insofar as concerns about the effect of any property-rights fishery management scheme on small fishing communities are to be addressed (as they are required to be by the Magnuson-Stevens Fishery Conservation and Management Act), direct allocation of rights to communities — instead of only to individuals — can be considered. Even with full transferable rights, fishing communities themselves can protect their larger community interests if they can (collectively) decide how to exercise their fishing rights and to whom, if anyone, they would be willing to sell. More generally, allocations may be made to groups of fishermen (such as the New England “sectors” or other emerging examples of community fishing associations) rather than to individual fishermen to enable both more efficient deployment of fishing resources and to limit incentives to sell out to non-community industrial fishing firms. In this case, individual fishermen would not be able to pull out their quotas and any divestiture of the group’s shares would be a collective decision and hence would create quite different incentives. Under such a system of collective ownership, the group would likely be more concerned with spill-over effects on the community than would be individual fishermen.

Other considerations in addressing the allocation of rights are how current (and past and even future) fishermen are to be treated and if initial allocations are to be given away or sold at, say, auction. Distribution formulae based on, among other things, historical catch (over a several-season-qualifying period) are frequently used to make initial allocations of quota rights. New fishermen can be accommodated in a rights-based system by either requiring them to buy rights from existing rights holders, by directly allocating rights taxed, retired, or otherwise relinquished by current holders, or by retaining or creating new rights expressly for this purpose.

Through a judicious process of defining a property-rights system, including the rules for initial allocation, an efficient and fair system can be established that effectively considers the interests of fishing communities and the wider public, as well as those of fishermen and the industry generally. Such a process necessarily must begin with a clear articulation of the goals and objectives of the program, which are presumably responsive to the goals and objectives for fisheries management specified in the Magnuson Stevens Act. From there mechanism design principles can inform the choice and specifications of the policy.

Market Design Principles: Caps and Allocations (J. Ledyard)⁵⁶

A catch share system is an example of regulation through Cap-and-Trade — capping the allowable catch, assigning rights to portions of the catch, and allowing trade in them to take place. In the context of fisheries management, Cap-and-Trade is often viewed as a win-win solution for both the environment and fishermen. The Cap provides the mechanism for achieving sustainable fish populations through the choice of an annual Total Allowable Catch. The Trade provides the mechanism for increasing industry profits through the reallocation of resources into the hands of the more efficient fishers and the creation of incentives for finding lower cost harvesting methods. Other expected benefits of a cap-and-trade program are reductions in externalities such as by-catch, community stability, and better



environmental stewardship.

The usual manner in which Cap-and-Trade systems are implemented, however, leads to outcomes that are far below these promised results. This is due to the fact that the regional fisheries management councils rarely are careful enough in the design of the tradable asset (the catch shares), nor have reliable measurement of stocks, adequate monitoring of fishers, and serious enforcement of the rules. So while the Cap can theoretically serve as an efficient mechanism to regulate the catch and manage the fishery, in practice the infrastructure for such regulation is underfunded and left as an afterthought. With complete and competitive markets,⁵⁷ readily available capital, and sufficient transparency, the Trade can provide a mechanism for lowering costs, increasing profits, and stabilizing the industry that supports the fishery. But, as with the Caps, little effort or thought is given to providing the necessary infrastructure to nurture competitive markets.

A thoughtless, but standard implementation process for Cap and Trade systems might be summarized as “create a simple catch share for one species, grandfather that asset, and then let the asset trade”. This approach is politically expedient; because of the promised profits created by ending overfishing, it gives fishermen currently in the industry a sizeable incentive to accept the regulation. Because the Total Allowable Catch enables direct control over fish stocks, it seems to generate desirable environmental outcomes. But handing out quota and then saying “let there be trading” is not good enough. Without more thoughtful market design, increases in profits, stability of the industry, control of externalities such as by-catch, and better stewardship of the fishery are all in jeopardy. The keys to a profitable and stable industry and to a thriving and well-managed environment lie in the thoughtful design of the tradable asset and the provision for a transparent, fair marketplace. We consider these elements in turn, from the perspective of community ownership, which provides a diversified portfolio of fisheries and a shared interest in stewardship.

Sensible Asset Design

It is often overlooked that **catch shares can do more than just attempt to regulate the amount of species** that is caught. By defining the asset appropriately one can regulate the period of time during which the catch can be made and the area or location in which the catch can be made. Simultaneously controlling amount, time, and location can lead to a finer regulation of the ecosystem.

An over-reliance on one fishery makes fishermen vulnerable to fluctuations in that fishery. In order for fishermen to remain in business these days, they need to be able to access multiple fisheries. But it can be very expensive for a single fisherman to acquire the licenses and catch shares for many species. One way to have a diverse portfolio is to become part of a community fishing association. A community association that owns a variety of catch shares can help fishermen diversify their fishing “portfolios” by providing access to fisheries that they do not otherwise have permits or quota for. It offers a more regionally diverse and economically flexible fleet.

A nice by-product of community ownership of a diverse portfolio is the provision of a means to handle by-catch issues. Suppose a fisherman of one species happens to harvest a quantity of another through unintended by-catch. Current regulations often require that fisherman to stop fishing once a certain level of by-catch has been attained. This is inefficient management. An alternative is to require the fisherman to procure catch shares for the by-catch species. This has the advantages of (1) imposing the appropriate cost on the by-catcher—the value of the lost fish to the holders of the catch shares of that species—and compensating the fishermen who are damaged by the by-catch problem, and (2)

preventing the unintended by-catch from ending a potentially profitable season. With community ownership of a diverse portfolio, the by-catcher can buy the appropriate amount of catch shares, thereby compensating their fellow association members for the externality caused by the by-catch. This is a more graceful and efficient method of regulation than now exists. It benefits the individuals who do happen to catch species they were not targeting and it compensates those whose fishing is affected by by-catchers.

Community ownership also creates a community of interest. This is a key to reductions in externalities and improvements in environmental stewardship. The group will have a shared commitment to monitoring, gear choices, etc. It also allows one to replace licensing requirements with a provision for “due care for the environment.” This makes it easier for a responsible fisherman to have access to a diverse fishery through purchases of short-run licenses, helping them deal with personal risk. It also makes it easier for the association to encourage and enforce better long-term stewardship, helping them deal with environmental risks.

A Transparent and Fair Marketplace.

A transparent and fair marketplace requires an accessible registry of current ownership, accessible trading information about potential buyers, sellers, and market prices, and access to capital for all potential buyers. These do not magically happen. In fact, under a hands-off approach to program design, the incentives are for brokers and potential monopolists to work hard to prevent them from occurring. But they are inexpensive and easy to provide, especially given modern technology.

A registration database must be maintained so that the TAC can be enforced. This should be expanded to register all transactions involving catch shares. Examples include information about sales — information on the parties to the transaction, the amount of the transaction, the buying and selling prices, and fees if any. Also information on loans and liens should be kept and made available. Public access to such information can and should be easily provided online.

It is also very easy and inexpensive to provide an **online marketplace** where buyers can bid, sellers can offer and trades can be completed in a transparent manner. If such a site is not available, brokers will operate in the manner of a black box charging a buyer a much higher price than the seller receives, pocketing the difference. This provides significant profit to the broker but severely limits the ability of buyers and sellers to find fair prices. Such an online site can be connected to the registration database for automatic data transference, reducing costs even further.⁵⁸ It should be noted that a single site can easily serve as the marketplace for many species. This would allow multi-species fishermen a simple place to manage the portfolio of catch shares they need to deal with their risks.⁵⁹

Once an accessible registry and a transparent marketplace are in operation, access to capital is made easier. The registry is a place that, for example, a lender can go to guarantee that the borrower really owns the asset. The marketplace is somewhere the lender can go to find information that helps provide a valuation for the asset. This reduces the risks to the lender and allows them to be able to lend more at better rates.⁶⁰



B. Magnuson-Stevens Act Sections RE: Fishing Communities and Regional Fishing Associations

16 U.S.C. 1802

MSA § 3

(17) The term “fishing community” means a community which is substantially dependent on or substantially engaged in the harvest or processing of fishery resources to meet social and economic needs, and includes fishing vessel owners, operators, and crew and United States fish processors that are based in such community.

(14) The term ‘regional fishery association’ means an association formed for the mutual benefit of members —

(A) to meet social and economic needs in a region or subregion; and

(B) comprised of persons engaging in the harvest or processing of fishery resources in that specific region or subregion or who otherwise own or operate businesses substantially dependent upon a fishery.

16 U.S.C. 1853a

MSA § 303A

(3) FISHING COMMUNITIES. —

(A) IN GENERAL. —

(i) ELIGIBILITY. — To be eligible to participate in a limited access privilege program to harvest fish, a fishing community shall —

(I) be located within the management area of the relevant Council;

(II) meet criteria developed by the relevant Council, approved by the Secretary, and published in the Federal Register;

(III) consist of residents who conduct commercial or recreational fishing, processing, or fishery-dependent support businesses within the Council’s management area; and

(IV) develop and submit a community sustainability plan to the Council and the Secretary that demonstrates how the plan will address the social and economic development needs of coastal communities, including those that have not historically had the resources to participate in the fishery, for approval based on criteria developed by the Council that have been approved by the Secretary and published in the Federal Register.

(ii) FAILURE TO COMPLY WITH PLAN. — The Secretary shall deny or revoke limited access privileges granted under this section for any person who fails to comply with the requirements of the community sustainability plan. Any limited access privileges denied or revoked under this section may be reallocated to other eligible members of the fishing community.

(B) PARTICIPATION CRITERIA. — In developing participation criteria for eligible communities under this paragraph, a Council shall consider —

(i) traditional fishing or processing practices in, and dependence on, the fishery;

(ii) the cultural and social framework relevant to the fishery;

(iii) economic barriers to access to fishery;

(iv) the existence and severity of projected economic and social impacts associated with implementation of limited access privilege programs on harvesters, captains, crew, processors, and other businesses substantially dependent upon the fishery in the region or subregion;

(v) the expected effectiveness, operational transparency, and equitability of the community sustainability plan; and

(vi) the potential for improving economic conditions in remote coastal communities lacking resources to participate in harvesting or processing activities in the fishery.

(4) REGIONAL FISHERY ASSOCIATIONS. —

(A) IN GENERAL. — To be eligible to participate in a limited access privilege program to harvest fish, a regional fishery association shall —

(i) be located within the management area of the relevant Council;

(ii) meet criteria developed by the relevant Council, approved by the Secretary, and published in the Federal Register;

(iii) be a voluntary association with established by-laws and operating procedures;

(iv) consist of participants in the fishery who hold quota share that are designated for use in the specific region or subregion covered by the regional fishery association, including commercial or recreational fishing, processing, fishery-dependent support businesses, or fishing communities;

(v) not be eligible to receive an initial allocation of a limited access privilege but may acquire such privileges after the initial allocation, and may hold the annual fishing privileges of any limited access privileges it holds or the annual fishing privileges that is [sic]17 members contribute; and

(vi) develop and submit a regional fishery association plan to the Council and the Secretary for approval based on criteria developed by the Council that have been approved by the Secretary and published in the Federal Register.

(B) FAILURE TO COMPLY WITH PLAN. — The Secretary shall deny or revoke limited access privileges granted under this section to any person participating in a regional fishery association who fails to comply with the requirements of the regional fishery association plan.

(C) PARTICIPATION CRITERIA. — In developing participation criteria for eligible regional fishery associations under this paragraph, a Council shall consider —

(i) traditional fishing or processing practices in, and dependence on, the fishery;

(ii) the cultural and social framework relevant to the fishery;

(iii) economic barriers to access to fishery;

(iv) the existence and severity of projected economic and social impacts associated with implementation of limited access privilege programs on harvesters, captains, crew, processors, and other businesses substantially dependent upon the fishery in the region or subregion;

(v) the administrative and fiduciary soundness of the association; and

(vi) the expected effectiveness, operational transparency, and equitability of the fishery association plan.



C. Regional Summaries of Panel Meetings

New England Regional Workshop

Boston, Massachusetts

June 1–2, 2010

Meeting Goals:

- Distill lessons learned from community experiences in catch share programs worldwide.
- Learn about New England's experience and new groundfish sector program.
- Explore a framework for recommendations.
- Identify research needs for the next meeting.

Presentations from Regional Experts:

Presentation 1: Biological Context/Status of the Stocks (New England groundfish, scallops and lobster): Jake Kritzer, Senior Marine Scientist, Environmental Defense Fund

Presentation 2: Past & Present Management Context for New England Groundfish Fishery: Peter Baker, New England Fisheries Campaign Manager, Pew Environment Group

Presentation 3: Past & Present Management Context for New England Scallop Fishery: Tom Dempsey, Fisheries Policy Coordinator, Cape Cod Commercial Hook Fishermen's Association

Presentation 4: Past & Present Management Context for New England Lobster Fishery: Patrice McCarron, Executive Director, Maine Lobstermen's Association

Presentation 5: Human/Social Dimension of Fishing Communities:

Madeleine Hall-Arber, Marine Social Scientist; Manager, Marine Social Sciences, MIT

Patricia Pinto da Silva, Social Scientist, Northeast Fisheries Science Center, NOAA Fisheries

Gulf Regional Workshop

New Orleans, Louisiana

July 6–7, 2010

Meeting Goals:

- Learn from the Gulf Reef Fish Individual Fishing Quota experience, and other coastal community experiences.
- Refine framework for recommendations.
- Identify research needs for the next meeting.

Presentations from Regional Experts:

Presentation 1: Biological Context/Status of Gulf Reef Fish Stocks: James Nance, Supervisory Research Fish Biologist, NOAA Fisheries, Southeast Fisheries Science Center

Presentation 2: Past & Present Management Context for Gulf Reef Fish Fishery, and Performance of IFQ Program: David Krebs, President, Reef Fish Shareholders'

Alliance

Presentation 3: Human/Social Dimension of Gulf Fishing Communities and Impacts of Catch Share Programs and other Fisheries Management Tools: Mike Jepson, NOAA Fisheries Southeast Regional Office, Social Science Branch

Presentation 4: Investing in the Long-Term Recovery of Coastal Communities/Community-Based Fisheries: Lorna Bourg and Helen Vinton, Southern Mutual Help Association

Pacific Regional Workshop

Portland, Oregon

August 25–26, 2010

Meeting Goals:

- Approve outline for Panel recommendations.
- Learn from the Pacific experience, including viewpoints on the Pacific Groundfish Trawl Individual Fishing Quota Program.
- Establish first draft of Panel Recommendations.

Presentations from Regional Experts:

Presentation 1: Biological Context/Status of Pacific Groundfish Stocks:

Jim Hastie, NMFS/Northwest Fisheries Science Center

Presentation 2: Past & Present Management Context for Pacific Groundfish Fishery, leading up to pending IFQ Program:

Jim Hastie, NMFS/Northwest Fisheries Science Center

Presentation 3: Trawler's Perspective:

Steve Bodnar, Coos Bay Trawlers Association

Presentation 4: Fixed Gear Fisherman's Perspective:

Bob Eder, Commercial Groundfish Harvester, Sablefish Traps

Zeke Grader, Pacific Coast Federation of Fishermen's Associations

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Special thanks goes to Elinor Ostrom for her valuable input in helping to frame the Panel's work.

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Regional Meeting Participants

In addition, we would like to thank the following people for their time and input during the Panel's three regional meetings. The following people were invited to attend regional meetings to provide information and offer differing viewpoints to the Panel, however they bear no responsibility for the content of this report.

New England Regional Workshop

Boston, Massachusetts

June 1–2, 2010

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And one reviewer who wishes to remain
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The responsibility for the opinions, recommendations, and facts contained in this report, as well as any unintended errors or omissions, lies with the Panel and Ecotrust.

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ENDNOTES

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- 54 Proceedings are available at http://www.ecotrust.org/workingpapers/WPS4_Fisheries_Market_Design.pdf
- 55 Theodore Groves is Professor of Economics and the Director of the Center for Environmental Economics at the University of California San Diego.
- 56 John O. Ledyard is the Allen and Lenabelle Davis Professor of Economics and Social Sciences at the California Institute of Technology.
- 57 For example, in complete and competitive markets the price to lease quota for one year would equal exactly the price to buy the quota this year minus the expected price to be received by selling it next year. In the real world with its myriad frictions,

this is rarely the case.

- 58 Some easy additions to this marketplace that would allow fishermen to better manage their risks are futures trading and trading in leases. The first is a way for fishermen to manage the long-term risks of fish population variation. The second is a way for fishermen to deal with short-term variations in catch that are either over or under the share of the TAC they currently own. This would also provide a straightforward way to manage by-catch problems.
- 59 This need not be anywhere as complicated as managing a stock portfolio in which prices move often and to mysterious forces. Here, trades will not happen very fast so one will not need to monitor the site all the time. Further, it is possible to provide very simple to use, inexpensive software tools that would enable every fisherman to participate in an informed manner.
- 60 This is similar to what careful assessments and title insurance do in a well-functioning, regulated housing market.



