

February 2004

# INDIVIDUAL FISHING QUOTAS

## Methods for Community Protection and New Entry Require Periodic Evaluation



GAO

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Highlights of [GAO-04-277](#), a report to congressional requesters

## Why GAO Did This Study

To assist in deliberations on individual fishing quota (IFQ) programs, GAO determined (1) the methods available for protecting the economic viability of fishing communities and facilitating new entry into IFQ fisheries, (2) the key issues faced by fishery managers in protecting communities and facilitating new entry, and (3) the comparative advantages and disadvantages of the IFQ system and the fishery cooperative approach.

## What GAO Recommends

GAO recommends that the Director of the National Marine Fisheries Service (NMFS) ensure that regional fishery management councils that are designing community protection and new entry methods for new or existing IFQ programs

- Develop clearly defined and measurable community protection and new entry objectives.
- Build performance measures into the design of the IFQ program.
- Monitor progress in meeting the community protection and new entry objectives.

[www.gao.gov/cgi-bin/getrpt?GAO-04-277](http://www.gao.gov/cgi-bin/getrpt?GAO-04-277).

To view the full product, including the scope and methodology, click on the link above. For more information, contact Anu Mittal at (202) 512-3841 or [mittala@gao.gov](mailto:mittala@gao.gov).

# INDIVIDUAL FISHING QUOTAS

## Methods for Community Protection and New Entry Require Periodic Evaluation

### What GAO Found

Several methods are available for protecting the economic viability of fishing communities and facilitating new entry into IFQ fisheries. The easiest and most direct way to help protect communities under an IFQ program is to allow the communities themselves to hold quota. Fishery managers can also help communities by adopting rules aimed at protecting certain groups of fishery participants. Methods for facilitating new entry principally fall into three categories: (1) adopting transfer rules on selling or leasing quota that help make quota more available and affordable to new entrants; (2) setting aside quota for new entrants; and (3) providing economic assistance, such as loans and subsidies, to new entrants.

In considering methods to protect communities and facilitate new entry into IFQ fisheries, fishery managers face issues of efficiency and fairness, as well as design and implementation. Community protection and new entry methods are designed to achieve social objectives, but realizing these objectives may undermine economic efficiency and raise questions of equity. For example, allowing communities to hold quota may result in a loss of economic efficiency because communities may not have the knowledge and skills to manage the quota effectively. Similarly, rules to protect communities or facilitate new entry may appear to favor one group of fishermen over another. Furthermore, community protection and new entry methods raise a number of design and implementation challenges. For example, according to fishery experts, defining a community can be challenging because communities can be defined in geographic and nongeographic ways. Similarly, loans or grants may help provide new entrants with the capital needed to purchase quota, but they may also contribute to further quota price increases. Given the various issues that fishery managers face in developing community protection and new entry methods, it is unlikely that any single method can protect every type of fishing community or facilitate new entry into every IFQ fishery. Deciding which method(s) to use is made more challenging because fishery managers have not conducted comprehensive evaluations of how IFQ programs protect communities or facilitate new entry.

In comparing the key features of IFQ programs and U.S. fishery cooperatives, we found that each approach has advantages and disadvantages in terms of regulatory and management framework, number of participants, quota allocation and transfer, and monitoring and enforcement. Specifically, in terms of regulatory and management framework, IFQ programs have greater stability than cooperatives because they are established by federal regulations, while cooperatives are voluntary contractual arrangements. In terms of quota allocation and transfer, IFQ programs are open in that they allow the transfer of quota to new entrants, whereas cooperatives are exclusive by contractual arrangement among members. In terms of monitoring and enforcement, IFQ programs are viewed as being more difficult to administer, because NMFS must monitor individual participants, while cooperatives are viewed to be simpler for NMFS to administer, because NMFS monitors only one entity—the cooperative. For some fisheries, a combined approach may be beneficial. For example, a cooperative of IFQ quota holders can combine an IFQ program's stability with a cooperative's collaboration to help manage the fishery.

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**Abbreviations**

IFQ	individual fishing quota
ITQ	individual transferable quota
IVQ	individual vessel quota
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
TAC	total allowable catch

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United States General Accounting Office  
Washington, DC 20548

February 24, 2004

The Honorable Olympia J. Snowe  
Chairman  
The Honorable John F. Kerry  
Ranking Minority Member  
Subcommittee on Oceans, Fisheries, and Coast Guard  
Committee on Commerce, Science, and Transportation  
United States Senate

Commercial fishing and fishing-related businesses contributed about \$28 billion to the U.S. gross national product in 2002. However, these businesses are at risk of decline because about one-third of the U.S. fish stocks assessed by the National Marine Fisheries Service (NMFS) are overfished or approaching overfished conditions. The United States is not alone in facing this problem. According to the United Nation's Food and Agriculture Organization, about 28 percent of the world's major fish stocks are reported as overexploited, depleted, or recovering from depletion. Another 47 percent are fully exploited and are producing catches that have reached, or are very close to, their maximum sustainable limits. Greater competition for fewer fish increases the likelihood that stocks will decline further and catches will decrease. If a fishery—composed of one or more fish stocks in a geographic area—cannot be sustained, the marine ecosystem could be transformed, thus threatening the livelihood of fishermen and the way of life in many communities.

Concerns about the condition of the world's fisheries have led to a search for new management tools to maintain fisheries at sustainable levels. One such tool is the individual fishing quota (IFQ), which has been used worldwide since the late 1970s. Today, several nations, including the United States, use IFQ programs to manage fisheries within their 200-mile exclusive economic zone, where foreign vessels are generally prohibited from fishing. Usually, these programs are established by law. The primary goals of an IFQ program are to conserve the resource and reduce fishing capacity (e.g., the number and size of boats). Under an IFQ program, fishery managers set a total allowable catch (TAC) and allocate quota—the right or privilege to fish a certain portion of the TAC—to eligible vessels, fishermen, or other recipients. IFQ programs often allow a quota holder to

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transfer quota by sale, lease, or other methods.<sup>1</sup> Such transfers are expected to reduce the number of fishermen and vessels and consolidate the quota among the more efficient fishermen. In the United States, the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) established eight regional fishery councils to manage the nation's fisheries. These councils develop IFQ programs that are administered by NMFS.

IFQ programs have achieved several desired conservation and management benefits, such as helping to stabilize fisheries and reducing excess investment in fishing capacity. However, these programs have also raised concerns about the fairness of initial quota allocations, the increased costs for fishermen to gain entry, and the loss of employment and revenues in communities that have historically depended on fishing. Responding to these concerns, Congress, through the Sustainable Fisheries Act, placed a moratorium on new IFQ programs in 1996. Congress later extended the moratorium through September 30, 2002, and then allowed it to expire. Fishery councils are now free to propose new IFQ programs. During the moratorium, fishery cooperatives emerged as alternatives to IFQ management in two fisheries—Pacific whiting in 1997 and Bering Sea pollock in 1998. These cooperatives are voluntary contractual agreements among fishermen to apportion shares of the catch among themselves. The Department of Justice, in business review letters concerning its antitrust enforcement intentions with respect to the cooperatives, stated that Justice did not anticipate bringing any antitrust enforcement actions against the cooperatives.

This report is the second in a series of reports you requested on individual fishing quotas. In December 2002, we reported on the extent of consolidation of quota holdings, the extent of foreign holdings of quota, and the economic effect of IFQ programs on seafood processors.<sup>2</sup> For this report you asked us to determine (1) the methods available for protecting the economic viability of fishing communities and facilitating new entry into IFQ fisheries, (2) the key issues faced by fishery managers in protecting communities and facilitating new entry, and (3) the comparative advantages and disadvantages of the IFQ system and the fishery cooperative approach.

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<sup>1</sup>These programs are frequently called individual transferable quota (ITQ) programs.

<sup>2</sup>U.S. General Accounting Office, *Individual Fishing Quotas: Better Information Could Improve Program Management*, [GAO-03-159](#) (Washington D.C.: Dec. 11, 2002).

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To conduct this review, we visited domestic fishing communities in Alaska and Maine, as well as communities in Iceland, New Zealand, and Scotland. We visited these foreign countries because Iceland and New Zealand have extensive experience with IFQ programs, and Scotland has developed an innovative approach for protecting communities and facilitating new entry. In these locations and elsewhere, we spoke with domestic and foreign fishery managers, fishery participants, and fishery researchers; reviewed literature on domestic and foreign quota-based programs; and reviewed key regulations and studies. We did not evaluate the effectiveness of the programs in the locations we visited. See appendix I for additional details on our scope and methodology and appendix II for descriptions of the programs we reviewed.

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## Results in Brief

Several methods are available for protecting the economic viability of fishing communities and facilitating new entry into IFQ fisheries. The easiest and most direct way to help protect communities under an IFQ program is to allow the communities themselves to hold quota. Communities allowed to hold quota can decide how to use it to protect their economic viability by, for example, keeping the quota in the community and leasing it to local fishermen. Fishery managers can also help communities by adopting rules aimed at protecting certain groups of fishery participants. Under these rules, fishery managers can decide how quota is traded and fished in order to protect a particular group, such as fishermen with small boats. Methods for facilitating new entry principally fall into three categories: (1) adopting transfer rules on selling or leasing quota that help make quota more available and affordable to new entrants, (2) setting aside quota for new entrants, and (3) providing economic assistance to new entrants. Under quota transfer rules, fishery managers can, for example, place small amounts of quota in blocks and limit the number of blocks that an individual can hold, thereby making smaller amounts of quota available and more affordable to new entrants. Under set-aside methods, fishery managers can set aside a portion of the total quota to make a supply of quota specifically available for new entrants. Under economic assistance methods, government entities can provide low-interest loans, grants, or other subsidies to help new entrants obtain quota that they might not otherwise be able to afford.

In considering methods to protect communities and facilitate new entry into IFQ fisheries, fishery managers face issues of efficiency and fairness, as well as design and implementation. Protecting communities and facilitating new entry are social objectives, but realizing these objectives may undermine economic efficiency and raise questions of equity. For

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example, allowing communities to hold quota may result in a loss of economic efficiency because communities may not have the knowledge and skills to manage the quota effectively. Similarly, rules to protect communities or facilitate new entry may appear to favor one group of fishermen over another. Community protection and new entry methods also raise a number of design and implementation challenges. For example, according to fishery experts, defining a community can be challenging, because communities can be defined in geographic and nongeographic ways. Similarly, loans or grants may help provide new entrants with the capital needed to purchase quota, but they may also contribute to further quota price increases. Given the various issues that fishery managers face in developing community protection and new entry methods, it is unlikely that any single method can protect every type of fishing community or facilitate new entry into every IFQ fishery. Deciding which method(s) to use is made more challenging because fishery managers have not conducted comprehensive evaluations of how IFQ programs protect communities or facilitate new entry. Consequently, we are making recommendations to the Director of the National Marine Fisheries Service to ensure that fishery councils that are designing community protection and new entry methods include clearly defined and measurable objectives, build performance measures into the design of the IFQ program, and monitor whether the program is achieving its community protection and new entry objectives.

In comparing the key features of IFQ programs and U.S. fishery cooperatives, we found that each approach has advantages and disadvantages in terms of regulatory and management framework, number of participants, quota allocation and transfer, and monitoring and enforcement. Specifically, in terms of regulatory and management framework, IFQ programs have greater stability than cooperatives because they are established by federal regulations, while cooperatives are voluntary contractual arrangements. In terms of quota allocation and transfer, IFQ programs are open in that they allow the transfer of quota to new entrants, whereas cooperatives are exclusive by contractual arrangement among members. In terms of monitoring and enforcement, IFQ programs are viewed as being more difficult to administer, because NMFS must monitor individual participants, while cooperatives are viewed to be simpler for NMFS to administer, because NMFS monitors only one entity—the cooperative. For some fisheries, combining elements of both approaches can be beneficial. For example, a cooperative of IFQ quota holders can combine the stability of an IFQ program with the collaboration of a cooperative to help manage the fishery.



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## Background

The Magnuson-Stevens Act provides for the conservation and management of fishery resources in the United States.<sup>3</sup> The act established eight regional fishery management councils that are responsible for preparing plans for managing fisheries in federal waters and submitting them to the Secretary of Commerce for approval. NMFS, within the Department of Commerce's National Oceanic and Atmospheric Administration, is responsible for implementing these plans. The eight councils are New England, Mid-Atlantic, South Atlantic, Gulf of Mexico, Caribbean, Pacific, North Pacific, and Western Pacific.

The Magnuson-Stevens Act, as amended by the Sustainable Fisheries Act,<sup>4</sup> also establishes national standards for fishery conservation and management. The fishery councils use these standards to develop appropriate plans for conserving and managing fisheries under their jurisdiction. For example:

- National Standard 1 requires that conservation and management measures prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery;
- National Standard 4 requires that conservation and management measures not discriminate between residents of different states;
- National Standard 5 requires that conservation and management measures, where practicable, consider efficiency in the use of fishery resources; and
- National Standard 8 requires that fishery conservation and management measures take into account the importance of fishery resources to fishing communities in order to provide for the sustained participation of these communities in the fishery and, to the extent practicable, minimize adverse economic impacts on these communities.

In addition to the national standards, the Magnuson-Stevens Act also requires that new IFQ programs consider providing opportunities for new individuals to enter IFQ fisheries.

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<sup>3</sup>Pub. L. No. 94-265 (codified as amended at 16 U.S.C. §§ 1801-1883).

<sup>4</sup>Pub. L. No. 104-297 (1996).

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The Magnuson-Stevens Act defines a fishing community as one that is substantially dependent on, or engaged in, harvesting or processing fishery resources to meet social and economic needs. The definition includes fishing vessel owners, operators, and crew, and U.S. fish processors based in such a community. NMFS guidance further defines fishing community to mean a social or economic group whose members reside in a specific location.<sup>5</sup>

At the time of our review, NMFS had implemented three IFQ programs: (1) the Mid-Atlantic surfclam/ocean quahog program in 1990, (2) the South Atlantic wreckfish program in 1992, and (3) the Alaskan halibut and sablefish (black cod) program in 1995. New IFQ programs were being considered in other commercial fisheries, such as the Bering Sea crab; the Gulf of Alaska groundfish (e.g., pollock, cod, and sole); and the Gulf of Mexico red snapper.

Under IFQ programs, fishery managers set a maximum, or total allowable catch, in a particular fishery—typically for a year—based on stock assessments and other indicators of biological productivity, and they allocate quota—generally expressed as a percentage of the TAC—to eligible vessels, fishermen, or other recipients, based on initial qualifying criteria, such as catch history. In the United States, fishery councils can raise or lower the TAC annually to reflect changes in the fishery’s health. Fishery managers distribute these changes among the quota holders proportional to their share. For example, a fisherman who received a 5 percent quota share in a fishery with a TAC of 100 metric tons can catch 5 tons of fish. Should the TAC increase from 100 to 200 metric tons in the following year, the quota holder with a 5 percent share would be able to catch 10 tons, or 5 tons more than the previous year. Furthermore, IFQs are generally transferable, meaning that quota holders can buy, sell, lease, or otherwise transfer some or all of their shares, depending on how much or how little they want to participate in the fishery. The nature of the fishing right varies by country. In New Zealand, for example, an IFQ is an exclusive property right that can be held in perpetuity, whereas in the United States, an IFQ represents the privilege to fish a public resource. While this privilege has an indefinite duration, the government may legally revoke it at any time.

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<sup>5</sup>50 C.F.R. § 600.345(b)(3).

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IFQ programs arose in response to conditions that resulted in a race for fish and overfishing and that reduced economic efficiency, safety, and product quality. For example, before the IFQ program, the Alaskan halibut fishery had limits on the amount of time allowed for commercial fishing in an attempt to keep the annual halibut catch within the TAC, but it did not have limits on the number of boats that could fish. In response, fishermen increased the number of vessels in their fleets and used larger vessels with more gear to catch as much fish as they could in the time allowed. As a result, the halibut season was reduced to a few days. After the IFQ program was implemented, the fishing season was increased to 8 months. Fishermen could choose when to fish and they could use more economical fishing methods, as long as they kept within their quota limits.

Individual IFQ programs may differ considerably, depending on the circumstances of the fishery and the objectives of the program. For example, an IFQ program for a fishery where there are concerns about overfishing and the consolidation of power among corporate interests may have different objectives than a program for a fishery where there are concerns about developing the fishery and attracting new fishermen. Depending on the fishery, fishery managers may be willing to trade some potential gains in economic efficiency in exchange for the opportunity to protect fishing communities or facilitate new entry.

IFQ programs are largely intended to improve economic efficiency and conserve the resource. According to the theory underlying IFQ programs, unrestricted quota trading promotes economic efficiency, because those willing to pay the highest price for quota would be those expected to use quota the most profitably, by catching fish at a lower cost or transforming the fish into a more valuable product. Over time, unrestricted trading should lead less efficient fishermen to either improve their efficiency or sell their quota. In contrast, restrictions on quota transfers could be expected to reduce the economic benefits that would otherwise be obtained where quota is freely transferable. Another fundamental tenet of this theory is that quota holders will act in ways to promote the stewardship of the resource. Specifically, giving fishermen a long-term interest in the resource is likely to provide incentives to fish in ways that protect the value of their interest.

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## Methods Exist for Protecting Fishing Communities and Facilitating New Entry

Several methods are available under IFQ programs for protecting the economic viability of fishing communities and facilitating new entry. For protecting communities, the easiest and most direct method is allowing communities to hold quota. Fishery managers may also help protect communities by adopting program rules aimed at protecting certain groups of fishery participants. For facilitating new entry into IFQ fisheries, the methods principally fall into three categories: (1) adopting quota transfer rules that promote new entry, (2) setting aside quota for new entrants, and (3) providing economic assistance to potential new entrants.

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## Methods for Protecting Communities

Concerns have developed in the United States and in other countries about the potential for IFQ programs to harm the economic viability of fishing communities. Many fishery experts and participants are concerned that individual quota holders will sell their quota outside of the fishing community or sell their quota to large companies. If this were to occur, fishing jobs could leave the community and larger companies could consolidate their quota holdings and dominate the fishery. Fishing communities that lose fishing jobs may have few alternative employment options, particularly if they depend primarily on fishing and no other industry replaces fishing.

Allowing communities to hold quota is the easiest and most direct way under an IFQ program to help protect fishing communities. According to fishery experts and participants, fishery managers can give each community control over how to use the quota in ways that protect the community's economic viability, such as selling or leasing quota to fishermen who reside in the community. Community quota could be held by municipalities, regional organizations, or other groups representing the community—unlike traditional individual fishing quota, which is generally held by individual boat owners, fishermen, or fishing firms. Of the three U.S. IFQ programs, only one allows communities to buy and hold quota—the Alaskan halibut and sablefish program.

Communities allowed to hold quota can obtain it through allocation when the program begins or at any time thereafter. For example:

- The North Pacific Fishery Management Council (North Pacific Council) is considering allocating quota to community not-for-profit entities as it develops a proposal for managing the Gulf of Alaska groundfish fishery.

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- New Zealand fishery managers allocated quota to a Chatham Islands community trust several years after the IFQ program was implemented. The trust leases out annual fishing privileges to Chatham Islands-based fishermen to help keep fishing and fishing-related employment in the community.

Similarly, fishery managers can incorporate rules into existing IFQ programs or into the design of new programs to allow communities to make quota purchases. For example, in 2002, the North Pacific Council amended the Alaskan halibut and sablefish IFQ program to allow communities along the Gulf of Alaska to purchase quota. The council is considering including a similar provision in the proposed plan to manage the Gulf of Alaska groundfish fishery.

In addition to allowing communities to hold quota, fishery managers can establish rules governing who is eligible to hold and trade quota as well as other rules to manage quota as a means of protecting certain groups of fishery participants. Specific rules may vary by program and change over time, depending on which members or groups a council wants to protect. In terms of eligibility to hold quota, for example, the North Pacific Council initially restricted allocations of Alaskan halibut and sablefish quota to individual vessel owners in part to protect the fisheries' owner-operator fleet. The council later expanded eligibility to allow crew members to hold quota without owning a vessel.

We also identified several different types of quota transfer restrictions used in foreign IFQ programs that were aimed at protecting communities. For example:

- *Prohibiting quota sales.* While none of the IFQ programs in the United States prohibits the transfer of quota through sales, fishery managers in other countries have done so. For example, Norway's IFQ program prohibited all quota sales to protect fishing communities in certain locations. Alternatively, prohibitions could be used temporarily to help prevent fishermen from hastily selling their quota. For example, according to New Zealand fishermen we spoke with, many small boat fishermen did not initially understand the long-term value of their quota and therefore sold their quota shortly after the initial allocation. To remedy this situation, they suggested that fishery managers could prohibit sales for the first year after a program's initial allocation to give fishermen time to make informed decisions about whether to sell their quota.

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- *Placing geographic restrictions on quota transfers.* Iceland and New Zealand fishery managers have also set limits on where quota can be sold or leased to protect certain groups, such as local fishermen and the communities themselves. The Icelandic IFQ program, in which individuals own vessels with associated quota rather than the quota itself, adopted a “community right of first refusal” rule to provide communities the opportunity to buy vessels with their quota before the vessels are sold to anyone outside of the community. IFQ programs can also regulate quota leasing to keep fishing in a certain area by establishing rules that limit leasing or fishing to residents of the community. In terms of leases, New Zealand’s Chatham Islands community trust has, in effect, used residence in the Chatham Islands as a requirement to lease its quota.
  - *Limiting quota leasing.* Iceland requires that all quota holders fish at least 50 percent of their quota every other year and prohibits quota holders from leasing more than 50 percent of their quota each year. Fishery managers introduced such restrictions, in part, to minimize the number of “absentee” quota holders—those who hold quota as a financial asset but do not fish.

Finally, according to fishery managers and experts we spoke with, fishery managers can help protect fishing communities by (1) setting limits on quota accumulation, (2) establishing separate quota for different sectors of the fishery, (3) requiring quota holders to be on their vessels when fish are caught and brought into port, and (4) restricting the ports to which quota fish can be landed.

- *Setting limits on quota accumulation.* Fishery managers can place limits on the total amount of quota an individual can accumulate or hold to protect certain fishery participants. In the United States, for example, the North Pacific Council set limits on individual halibut quota holdings that range from 0.5 percent to 1.5 percent, depending on the fishing area, as a means of protecting the fishery’s owner-operator fleet.
- *Establishing separate quota for different sectors of the fishery.* To protect small boat fishermen and local fishing jobs, Iceland developed a separate quota for small vessels and large vessels and prohibited owners of small vessels from selling their quota to owners of large vessels. In the U.S. halibut and sablefish IFQ program, the North Pacific Council established separate quota categories based on vessel type and length and placed certain restrictions on transfers among these categories to ensure that quota would be available to owners of smaller vessels.

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- *Requiring quota holders to be on their vessels.* Some programs require the owner of the quota to be on board when fish are caught and brought into port. For example, the North Pacific Council requires fishermen who entered the Alaskan halibut and sablefish IFQ program by purchasing certain categories of quota, rather than receiving it as part of the initial allocation, to abide by this rule. The rule was designed in part to limit speculative quota trading by individuals who are primarily interested in quota as a financial asset and not otherwise invested in the fishery.
  - *Restricting landings.* Fishery managers could restrict the ports to which quota holders or those who lease quota can deliver their catch. For example, New Zealand’s Chatham Islands trust leases rock lobster quota to local fishermen who must then land their catch in the Chatham Islands.

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## Methods to Facilitate New Entry

IFQ programs have also raised concerns about opportunities for new entry. As IFQ programs move toward achieving one of their primary goals of reducing overcapitalization, the number of participants decreases and consolidation occurs, generally reducing quota availability and increasing price. As a result, it is harder for new fishermen to enter the fishery, especially fishermen of limited means, such as owners of smaller boats or young fishermen who are just beginning their fishing careers. According to New Zealand officials, quota prices increased dramatically. For example, the average price of abalone quota increased by more than 50 percent in the first 6 months of trading—from about NZ\$11,000 to NZ\$17,000 per metric ton—and, by 2003, the average price had reached about NZ\$300,000 per metric ton, or about 27 times the price at the start of abalone quota trading in 1988.

To reduce the barriers to new entry, fishery managers have established quota transfer rules and set-asides, and/or provided economic assistance, such as loans or grants. In terms of transfer rules, all domestic and most foreign IFQ programs allow quota to be sold or leased. Allowing such transfers provides the opportunity for new entry to those who can find and afford to buy or lease quota. Since the lease price is generally below the sales price, leasing quota may help make entry more affordable to fishermen of limited means, such as small boat fishermen.

Fishery managers can also make quota available and more affordable to new entrants by “blocking” small amounts of quota and limiting the number of “blocks” that any one individual or entity can hold. For example, the North Pacific Council set up two types of halibut quota at the initial allocation—unblocked and blocked. Unblocked quota holds no

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restrictions. Blocked quota, on the other hand, is an amount of quota that yielded less than 20,000 pounds of halibut in 1994 and can only be bought or transferred in its entirety. An individual or entity can hold unblocked quota and one quota block; an individual who holds no unblocked quota can hold two quota blocks. A state of Alaska study found that estimated prices for blocked quota were less per pound than for unblocked quota over the first 4 years of the Alaskan halibut and sablefish IFQ program and that estimated prices for smaller blocks were less per pound than for larger blocks.<sup>6</sup>

Setting aside a portion of the total quota specifically for new entrants can also make quota available. Quota could be set aside at the time of the initial allocation for future distribution to entities that did not initially qualify for quota. For example, at the start of the Alaskan halibut and sablefish program, the North Pacific Council set aside a portion of the TAC for allocation to communities in western Alaska for community development purposes. According to fishery managers, similar set-asides could be used for new entrants by establishing the set-aside at the start of the IFQ program, or by buying or reclaiming, rolling over, or setting aside quota during the program.

- *Buying or reclaiming quota from existing quota holders.* Fishery managers could buy back quota from existing quota holders. For example, the New Zealand government bought back quota to give to the indigenous Maori tribes in partial settlement of their claims against the government over fishing rights. Fishery managers could also obtain quota forfeited by fishermen who have not complied with program rules; in the New Zealand IFQ system, for example, quota holders risk forfeiting their quota holdings if they catch more fish than they have quota for.
- *Issuing quota for a fixed period of time and then rolling it over for distribution to new entrants.* Depending on the program, the frequency of the rollover could range from every few years to annually and the amount of the rollover could range from some to all of the quota. For example, a rollover system has been proposed for Australia's New South Wales fishery under which fishery managers would issue quota for a finite period of time (e.g., 30 years) under one set of program rules and, periodically (e.g., every 10 years), quota holders would have the opportunity to choose

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<sup>6</sup>Dinneford, E., K. Iverson, B. Muse, and K. Schelle, *Changes Under Alaska's Halibut IFQ Program, 1995 to 1998*, Abstract, Alaska Department of Fish and Game, Commercial Fisheries Entry Commission (November 1999).



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whether to continue to participate in the old system or move their quota into a new system with different rules for another 30 years.

- *Setting aside TAC increases for distribution to new entrants.* Foreign and domestic IFQ programs generally define an individual fishing quota as a percentage of the overall TAC and distribute any changes in the TAC among existing quota holders proportional to their share. Alternatively, fishery managers could distribute TAC increases to new entrants, leaving existing quota holders fishing the same amount of fish as they did in the previous year.

Once fishery managers have set aside quota, they must devise a method for allowing new entrants to obtain it. According to fishery experts, the options include:

- *Selling quota at auction.* Fishery managers could auction off quota to the highest bidder and keep the proceeds. Alternatively, the managers could serve as an intermediary by auctioning off quota on behalf of existing quota holders, and the seller would incur all losses or gains. In case the auction price becomes prohibitive for new entrants, fishery managers could set aside quota that could be sold at a lower, predetermined price.<sup>7</sup> Economists generally support the idea of auctioning quota because an efficient market provides quota to its most profitable users. However, in the United States, the Magnuson-Stevens Act limits the amount of fees that may be charged under an IFQ program, which may effectively preclude the use of auctions.
- *Distributing quota by lottery.* New entrants could be randomly selected from a pool of potential entrants, giving persons of limited means an equal chance to obtain quota. Lotteries might be especially advantageous when the demand for quota from new entrants is greater than the supply of quota set aside.
- *Distributing quota to individuals who meet certain criteria.* Fishery managers could allocate quota to new entrants using a point system based on criteria such as fishing experience or completion of an apprenticeship program.

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<sup>7</sup>For example, the Clean Air Act provides for the Environmental Protection Agency to withhold a proportion (2.8 percent) of utilities' annual sulfur emissions allowances and offer a portion of them for sale in an auction, and to set aside another portion for direct sale at a price specified in the statute.

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Finally, to help make quota affordable, fishery managers and experts told us that government entities could provide loans or subsidies to potential entrants who might not otherwise be able to afford the quota. Affordability is particularly an issue as an IFQ program becomes more successful and the value of the quota increases.

- *Loans.* The Magnuson-Stevens Act allows NMFS to offer loans.<sup>8</sup> Under this provision, for example, NMFS has established a low-interest loan program for new entrants and fishermen who fish from small boats in the halibut and sablefish fisheries off Alaska. The fishermen can use these loans to purchase or refinance quota. Since the program's inception in fiscal year 1998, Alaska has approved 207 loans, totaling nearly \$25 million. The Magnuson-Stevens Act also provides for the creation of a central registry where owners and lenders can register title to, and security interests (such as liens) in, IFQs.<sup>9</sup> According to the National Research Council, a registry would increase lender confidence and provide opportunities for individuals to obtain financing to enter IFQ fisheries.<sup>10</sup> Although NMFS has not yet established this registry, its Alaska Region maintains a voluntary registry where creditors, such as private banks, the state of Alaska, and private lenders can record liens against quota shares.<sup>11</sup> The Alaska Region reported that most lending institutions take advantage of this service. The registry contained 2,581 reported interests in quota share at the end of 2002.<sup>12</sup>
- *Grants or other subsidies.* Grants or other subsidies could decrease the costs associated with buying or leasing quota. Since grants do not have to be repaid, they could give fishermen of limited means the opportunity to enter the fishery and then build their capital in order to increase their quota holdings. In addition to grants, fishery managers could establish a "lease-to-own" quota program—new entrants would pay for the quota while using it. Also, quota could be made available for purchase or lease at below market prices. Iceland, for example, is considering adopting a

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<sup>8</sup>16 U.S.C. § 1853(d)(4).

<sup>9</sup>16 U.S.C. § 1855(h).

<sup>10</sup>National Research Council, *Sharing the Fish: Toward a National Policy on Individual Fishing Quotas* (Washington, D.C.: National Academy Press, 1999), 8.

<sup>11</sup>Lenders file against identifiable groups of quota shares and not against quota holders.

<sup>12</sup>More than one person may have reported an interest against the same group of quota shares.

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discount program to make quota more affordable. This discounting scheme would allow crews of small vessels to purchase quota from the government at 80 percent of its market value.

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## Community Protection and New Entry Methods Raise a Variety of Issues That Require Consideration

In considering methods to protect communities and facilitate new entry into IFQ fisheries, fishery managers face issues about efficiency, fairness, and design and implementation. Community protection and new entry methods are designed to achieve social objectives, but achieving these objectives may undermine economic efficiency, one of the primary benefits of an IFQ program, and raise questions of equity. Moreover, community protection and new entry methods present a number of design and implementation challenges. However, given the particular circumstances of the fishery and the goals of the IFQ program overall, it is unlikely that any single method can protect every type of fishing community or facilitate new entry into every IFQ fishery. It is also unclear how beneficial these protective methods can be.

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## Community Protection and New Entry Methods Raise Concerns about Economic Efficiency and Equity

Fishery managers face an inherent tension between the economic goal of maximizing efficiency and the social goal of protecting communities or facilitating new entry. According to fishery experts we spoke with, this tension occurs because a community or new entrant often may not be the most efficient user of quota. For example, according to Icelandic fishery experts, some communities did not manage their quota effectively and sold it, reducing the communities' economic base. In addition, setting aside quota for new entrants may not be the most efficient use of quota because experienced fishermen or fishing firms are generally able to fish the quota more economically than a new entrant. Adopting rules that constrain the free trade of quota, such as those designed to protect communities or facilitate new entry, would likely limit the efficiency gains of the IFQ program. Therefore, fishery managers have to decide how much economic efficiency they are willing to sacrifice to protect communities or facilitate new entry.

Methods to protect communities or facilitate new entry may also raise concerns about equity. In the United States, certain community quotas or rules aimed at protecting certain groups may not be approved because they are not allowed under the Magnuson-Stevens Act. For example, National Standard 4 of the Magnuson-Stevens Act prohibits differential treatment of states. A rule that proposes using residence in one state as a criterion for receiving quota may violate the requirements of National Standard 4. Furthermore, methods that propose allocating quota to

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communities or adopting rules aimed at making quota more available or affordable to a certain group of fishermen can appear unfair to those who did not benefit and could result in legal challenges. Moreover, allowing communities to purchase quota may be considered unfair or inequitable, because relatively wealthy communities would more readily have the funds needed to purchase quota while relatively poor communities would not.

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### Designing and Implementing Community Protection Methods Presents Multiple Challenges

Fishery managers face multiple challenges in designing and implementing community protection and new entry methods, according to fishery managers and experts we spoke with. The resolution of these issues depends on the fishery's circumstances and the program's objectives. It is unlikely that any single method can protect every kind of fishing community or facilitate new entry into every IFQ fishery.

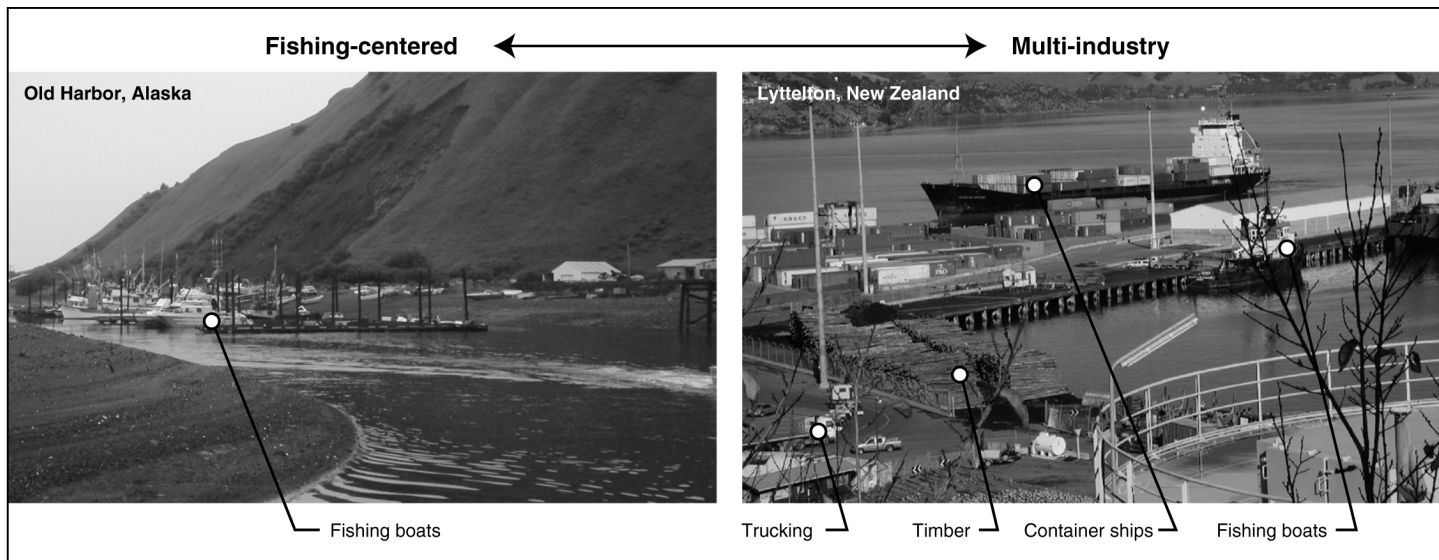
In developing an approach to protect fishing communities, fishery managers have to define community, determine who represents it, and define economic viability, and communities must determine how to use the quota. Defining community can be challenging because communities can be defined in many ways. As discussed earlier, the Magnuson-Stevens Act defines a fishing community as one that substantially depends on, or is engaged in, harvesting or processing fishery resources to meet social and economic needs. NMFS guidance further defines fishing community geographically—that is, a social or economic group whose members reside in a specific location. Fishery managers and experts told us that communities with geographically distinct boundaries are easier to define, such as island communities or remote communities in Alaska. However, some communities are difficult to define when, for example, some of the fishermen live away from the areas they fish, as is the case for many halibut fishermen who reside in other states and fish in the waters off the coast of Alaska. Moreover, communities can also be defined in nongeographic ways, such as fishermen who use the same type of fishing gear (e.g., hook-and-line or nets) for a particular species or people and businesses involved in a fishery regardless of location. These communities can include fishermen and fish processors, as well as support services such as boat repair businesses, cold storage facilities, and fuel providers.

Once fishery managers define the community, they must then determine who represents the community and thus who will decide how the quota is used. More than one organization (e.g., government entity, not-for-profit organization, private business, or cooperative group) may claim to represent the interests of the community as a whole. For example, rural

coastal communities in Alaska, which are geographically distinct, could have several overlapping jurisdictions, including a local native corporation, a local municipality, and a local borough. Determining who represents the community is more difficult in communities without geographically distinct boundaries.

Fishery managers also need to define what constitutes economic viability, which is likely to differ by community because the fishery has different economic significance in each community. Some communities primarily rely on fishing and fishing-related businesses, while others may have a more diverse economic base. (See fig. 1.) Consequently, it may be unclear what type of protection a community needs to ensure its economic viability. Fishery experts we spoke with agreed that few communities in the United States primarily depend on fishing as their economic base. Moreover, the balance of industries making up a community's economy may change over time when, for example, the area becomes more modernized or a new industry enters. For example, the economy of the Shetland Islands changed dramatically with the development of the oil industry off the Shetland Islands in the 1970s. This development resulted in jobs and settlement funds that the community used to enhance its economic base through community development projects.

**Figure 1: Fishing-centered and Multi-industry Fishing Communities**



Source: GAO.

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Finally, communities have to decide whether to keep their quota, sell it, or lease it to others. If they keep their quota, they also have to decide how to allocate it. Similarly, if they sell or lease their quota, they have to decide how to allocate the proceeds. Unless communities can decide how to allocate quota or the proceeds, the community quota may go unused and thus prevent the community from receiving its benefit. For example, the quota New Zealand's Maori people received from the government in 1992 has not been fully allocated to the Maori tribes, largely because the commission responsible for distributing the quota and the tribes could not agree on the allocation formula.<sup>13</sup>

Along with these definitional challenges, fishery managers and communities have to address other design and implementation issues, such as whether to establish prohibitions on quota sales or geographic restrictions on quota transfers.

- *Prohibitions on quota sales.* Prohibiting quota sales may not allow fishing communities or businesses to change over time as the fishing industry changes. According to fishery experts we spoke with, rules that prevent change essentially freeze fishing communities at one point in time and may create “museum pieces.” For example, prohibitions on quota sales prevent the fishery from restructuring, thus forcing less efficient quota holders and fishing businesses to remain in the fishery. Consequently, prohibitions on quota sales may actually undermine the economic viability of the fishing communities they were designed to protect. In addition, prohibitions on quota sales might run counter to an IFQ program’s overall objective of reducing excess investment in the fishery because such prohibitions act to prevent fishermen from selling some of their boats or leaving the fishery.
- *Geographic restrictions on quota transfers.* Protecting communities by imposing geographic restrictions on quota transfers also raises issues that must be considered and addressed. According to fishery experts we spoke with, rules that give communities the right to purchase quota before it is sold outside the community might be legally avoided. For example, Icelandic officials told us that in their IFQ program, where individuals own vessels with associated quota rather than the quota itself, companies holding quota easily avoided the “community right of first refusal” rule by selling their companies as a whole to an outside company, rather than just selling their vessels and associated quota. As a result, communities could

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<sup>13</sup>In December 2003, legislation was introduced in the New Zealand Parliament that, among other things, sets out the allocation formula to be used to allocate quota to the Maori tribes.

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not use this rule to prevent the sale. Furthermore, communities that could benefit from such a rule may not have the money to purchase the quota, while those communities that can afford to purchase the quota may not need the rule's protection.

Other program rules aimed at protecting the community also raise implementation issues that fishery managers must consider:

- *Accumulation limits.* The challenge in setting accumulation limits—the amount of quota that any one individual or entity can hold—is to set limits that are high enough to promote economic efficiency and low enough to prevent any one individual or entity from holding an excessive share. According to New Zealand fishery managers and experts, for example, accumulation limits were set at between 10 and 35 percent, depending on the species, in order to allow individuals to acquire enough quota to be efficient and competitive while also stemming overcapacity and overfishing in the inshore fisheries. Furthermore, as quota becomes more valuable, managers may face pressure from existing quota holders to raise or eliminate the limits on accumulation. In Iceland, for example, fishery managers recently increased accumulation limits from 8 percent to 12.5 percent of the total quota because of such pressure. In cases where both communities and individuals hold quota, fishery managers may want to set different limits for communities and individuals. Even after managers set accumulation limits, monitoring and enforcing these limits could be more difficult when fishermen create subsidiaries and complicated business relationships that enable them to catch more than the quota limit for an individual quota holder. To mitigate this problem, the Alaskan halibut and sablefish program, for example, requires all quota transfer applicants to identify whether they are individuals or business entities, and requires all business entities to annually report their ownership interests. NMFS uses this information to ensure that no halibut and sablefish quota holdings, whether individually or collectively, exceed the accumulation limits.
- *Owner-on-board requirements.* According to fishery experts we spoke with, requiring quota holders to be onboard their vessels could be impractical, especially for small businesses where the same person would have to be on board at all times. Furthermore, such a rule would require so many exceptions, such as for emergencies and illness, that it could become meaningless.
- *Requirements to bring catch into ports in a particular geographic area.* These requirements may not be healthy for a community's economy in the long term. For example, such a requirement may subsidize inefficient local fish processors that cannot compete on the open market. With reduced

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competition, these processors may offer less money for the catch, thus reducing the fishermen's income and ultimately harming the community. According to Shetland Islands fishery managers we spoke with, had fishermen been required to land their catch in the Shetland Islands, they would have been forced to sell their catch at a price far below the market value and the processor would have had no incentive to restructure into the competitive business it is today.

- *Leasing provisions.* According to some fishery managers and experts, leasing reduces stewardship incentives, which may impact the community's long-term economic viability. Quota leasing separates the person holding the quota from the person fishing the quota. In some cases, quota leasing may diminish stewardship incentives by creating a class of absentee quota holders who rely on independent fishermen. While owner-on-board rules, such as those in Alaska, may minimize the risk of creating this class of absentee quota holders, fishermen who lease quota have only a temporary privilege to catch fish. Thus, they have less interest in the long-term health of the fishery, especially as the end of their lease term approaches. Consequently, incentives may exist to catch more fish than their quota allows and sell this over-quota fish on the black market or to fish using nonsustainable methods. For example, according to New Zealand fishery experts, quota holders in the high-value abalone fishery found that unskilled fishermen who leased quota were jeopardizing the fish by extracting them in ways that harmed the abalone beds.

Given the issues raised by quota transfer and other program rules, as well as the potential loss of economic efficiency resulting from these rules, some fishery managers and experts view freely transferable quota as being the best way to maintain economically viable communities and therefore place few or no restrictions on quota sales or leases. For example, New Zealand allows free trade in quota on the theory that free trade is needed to maximize returns from the fishery and enhance stewardship of the resource. Similarly, the surfclam/ocean quahog IFQ program has relatively few restrictions on quota transfers.

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## New Entry Methods Present Design and Implementation Challenges

As with community protection methods, new entry methods also present a variety of design and implementation challenges to fishery managers. Allowing quota to be transferred through sales or leases provides the opportunity for new entry but quota prices may increase over time, making quota less affordable. In the New Zealand IFQ program, for example, the average price per metric ton of rock lobster quota in one management area skyrocketed from NZ\$23,265 to NZ\$222,500 over an 8-year period.



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While leasing helps make quota available at prices lower than the sales price, the lease price may still be unaffordable or unprofitable to fish and thus not practical for new entrants. For example, according to New Zealand fishing industry representatives, the lease price for rock lobster in 2003 was about NZ\$22.50 per kilo, but fishermen needed to sell the fish for at least NZ\$30 per kilo to cover their costs.<sup>14</sup> To minimize the risk associated with leasing, the Shetland Islands community quota program levied fees based on the sales revenue from the quota fished, rather than setting a fixed lease price that fishermen would have to pay, regardless of the amount of quota fish caught.

Set-asides to make quota available for new entrants also raise challenges, according to fishery experts. In setting aside quota for new entrants, fishery managers have to decide how much quota to reserve and who would be eligible to receive it, such as owners of small boats or young fishermen. If a set-aside occurs when a program is first established, managers do not have to take quota away from existing quota holders. However, there are many challenges associated with setting aside quota after a program is implemented.

- *Buying back quota.* Buying back quota may not be possible because the government may not find quota holders willing to sell their quota. For example, New Zealand funded a buyback program to obtain quota as part of its settlement with the Maori tribes. However, the government was not able to obtain the amount of quota it was seeking, and, as a result, had to give the tribes money in place of some of the quota.
- *Issuing quota for a fixed period of time.* Issuing quota with expiration dates could make it less likely that fishermen would accept the IFQ system or make investments in efficiency. Fishermen could also find it difficult to invest in boats and gear because banks may be less willing to lend money and fishermen may be less willing to borrow. Furthermore, as with leasing, stewardship incentives could decline as the quota expiration date draws near.

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<sup>14</sup>Rock lobster traditionally sells for high prices, particularly in the large Asian market. However, the Asian market price temporarily collapsed in 2003 when the Severe Acute Respiratory Syndrome epidemic broke out and fewer Asians were eating in restaurants.

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- *Setting aside TAC increases.* Replenishing quota by using TAC increases might not always be feasible because quota would not be available to reserve as a set-aside when the TAC remains the same or declines. Setting aside TAC increases would also dilute the interests of existing quota holders, who would hold a smaller percentage of the TAC.

Fishery managers also face challenges in deciding which new entrants would be eligible to receive quota from the set-aside. If fishery managers decide to auction quota to the highest bidder, they cannot be assured that quota would be affordable to new entrants.<sup>15</sup> Fishery managers could auction the quota in small amounts, which would make the quota more affordable and thereby open up opportunities to new entrants. However, the value of the quota would decrease to reflect the inherent inefficiency of this distribution mechanism. In addition, while lotteries could provide potential entrants an equal chance to obtain quota and resolve some of the equity issues raised by auctions, they would also create more uncertainty for existing quota holders. Current quota holders would no longer have control over quota purchases and would have to depend on the luck of the draw. This uncertainty is a disincentive to invest in boats or gear.

Economic assistance methods are designed to provide new entrants with the capital needed to purchase quota and are the most direct method of helping new entrants. However, they raise the following concerns, according to fishery experts we spoke with:

- The financial assistance may not be sufficient for a potential new entrant to enter the fishery or buy enough quota to earn a living.
- Providing economic assistance could contribute to an increased demand for quota and further price increases, thereby defeating the primary purpose of trying to make quota more affordable.
- Government entities may not be willing or able to fund economic assistance programs.

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<sup>15</sup>As we noted previously, the Magnuson-Stevens Act's limitation on fees may effectively preclude auctions.

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## Evaluations of Community Protection and New Entry Methods Would Enable Managers to Determine Their Effectiveness

Fishery managers have not conducted comprehensive evaluations of how IFQ programs protect communities or facilitate new entry, because few IFQ programs were designed with community protection or new entry as objectives. This lack of information, combined with the concerns about economic efficiency and fairness, makes it more difficult to decide which community protection and new entry methods to use. In order to determine whether the chosen methods are working or how they should be improved, fishery managers would have to clearly define community protection or new entry as an objective, identify data that isolate the impact of community protection and new entry methods, collect these data before implementing the program—baseline data—and compare these data with data collected over the course of the program. This effort would then allow managers to determine whether their community protection or new entry methods are accomplishing their objectives and whether they need adjustments to promote effectiveness or respond to any unintended consequences.

Under the Magnuson-Stevens Act, fishery managers are required to analyze the social and economic conditions of the fishery in developing fishery management plans.<sup>16</sup> These data could be used as a baseline for the social and economic conditions in a fishing community. In addition to baseline data, fishery managers need to collect data once the IFQ program is established. For example, some fishery experts told us that many fishing communities in Iceland collapsed when quota was sold and left the community. However, other fishery experts and Icelandic officials said that these communities would have collapsed regardless of the IFQ, in part, due to the lack of educational and employment opportunities and the movement of people to Reykjavik, the capital, as the country modernized during this time period. This difference in opinion exists partly because Iceland did not collect the data needed to determine whether the IFQ program, or other factors, led to the communities' demise. Recognizing the need for additional information, Alaskan fishery managers will collect data each year on the amount of halibut and sablefish quota held in each community to help assess the effectiveness of its recent amendment

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<sup>16</sup>In particular, National Standard 8 of the Magnuson-Stevens Act, as amended by the Sustainable Fisheries Act, requires that fishery conservation and management measures take into account the importance of fishery resources to fishing communities in order to provide for the sustained participation of fishing communities, and to the extent practicable, minimize adverse economic impacts on fishing communities. A fishing community, in turn, is defined as one that is substantially dependent on or engaged in the harvesting or processing of fishery resources to meet social and economic needs.

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allowing communities to purchase quota. Similar issues arise in trying to collect data that distinguishes new entrants from existing quota holders. Without the data to clearly understand the changes occurring in a fishery or community, fishery managers cannot effectively modify their community protection or new entry methods.

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## IFQ Programs and Fishery Cooperatives Have Advantages and Disadvantages

During the moratorium on new IFQ programs in the United States, two fishery cooperatives, among others, emerged as an alternative fishery management approach—the Whiting Conservation Cooperative and the Pollock Conservation Cooperative. (See app. III for a description of each cooperative.) These cooperatives are voluntary contractual agreements among fishermen to apportion shares of the catch among themselves. In comparing the key features of IFQ programs and these U.S. fishery cooperatives, we identified the advantages and disadvantages of each approach in key areas. Given these differences, an IFQ program combined with some characteristics of a cooperative, such as provisions of New Zealand’s cooperative-like stakeholder organizations, may be beneficial.

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## IFQ Programs and Fishery Cooperatives Differ in Several Respects

While both IFQ programs and fishery cooperatives can vary widely, the general characteristics of IFQ programs and fishery cooperatives differ in the areas of regulatory and management framework, number of participants, quota allocation and transfer, and monitoring and enforcement. (See table 1.)

**Table 1: Differences between U.S. IFQ Programs and Fishery Cooperatives in Key Areas**

Key areas	IFQ programs	Fishery cooperatives
<b>Regulatory and management framework</b>	<ul style="list-style-type: none"> <li>Established (and terminated) by regulations</li> <li>Subject to fishery management council process</li> </ul>	<ul style="list-style-type: none"> <li>Established (and terminated) by voluntary contractual agreements<sup>a</sup></li> <li>Not subject to fishery management council process</li> </ul>
<b>Number of participants</b>	<ul style="list-style-type: none"> <li>Number may be large</li> </ul>	<ul style="list-style-type: none"> <li>Number generally small</li> </ul>
<b>Allocation and transfer of quota</b>	<ul style="list-style-type: none"> <li>NMFS allocates quota to eligible entities</li> <li>Quota traded on the open market</li> <li>New entry requirements established by regulation</li> </ul>	<ul style="list-style-type: none"> <li>NMFS allocates quota to cooperative, which, through negotiated contract, allocates quota among members</li> <li>Quota traded only within the cooperative</li> <li>New entry closed at cooperative's discretion</li> </ul>
<b>Monitoring and enforcement</b>	<ul style="list-style-type: none"> <li>NMFS monitors individual participants for compliance with individual TAC limits and other program rules</li> <li>NMFS enforces</li> </ul>	<ul style="list-style-type: none"> <li>NMFS monitors cooperative for compliance with TAC limits</li> <li>NMFS enforces</li> <li>Cooperative monitors its members for compliance with individual TAC limits and contract terms</li> <li>Cooperative members can bring legal action against another member for breach of contract</li> </ul>

Source: GAO's analysis.

<sup>a</sup>Certain aspects of the pollock cooperative are governed by the American Fisheries Act. For specific information on the whiting and pollock cooperatives, see appendix III.

With respect to their regulatory and management framework and number of participants, IFQ programs generally have greater stability, take longer to establish, and manage larger numbers of participants than cooperatives. IFQ programs have greater stability than fishery cooperatives because they are established and terminated by federal regulations, while cooperatives are established and terminated by voluntary contractual agreements.

IFQ programs generally take longer to establish than fishery cooperatives because of the fishery management council process. Fishery councils must review the IFQ proposal, develop alternatives and options, and analyze their potential social and economic effects before submitting the proposal to the Secretary of Commerce for approval. While the secretary is reviewing the proposal, NMFS must publish draft regulations for public comment before the secretary makes a final decision and the regulations are implemented. This process can be quite lengthy; for example, it took 3 years for the North Pacific Council to review, analyze, and adopt the proposed Alaskan halibut and sablefish IFQ program and another 3 years

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to implement the program. In comparison, because fishery cooperatives are voluntary, agreements can be reached within a shorter period of time. For example, the contract to form the whiting cooperative was negotiated in less than a day.

Finally, IFQ programs can manage larger numbers of diverse participants. At the end of 2002, for example, the Alaskan halibut and sablefish IFQ program had about 3,500 participants, ranging from crewmembers on small boats to owners of large freezer vessels. In contrast, according to fishery experts, fishery cooperatives work better with fewer and relatively homogeneous participants because it is difficult for members to reach agreement where there are many participants with diverse interests. For example, the whiting cooperative has four participants and the pollock cooperative has eight participants.<sup>17</sup> In both cooperatives, the participants are large harvesting and processing companies that own catcher-processor vessels.<sup>18</sup>

With respect to allocating and transferring fishing privileges, IFQ programs provide greater transparency than fishery cooperatives. Under an IFQ program, NMFS uses widely published criteria established by fishery councils to allocate quota to individual entities, such as individual fishermen or fishing firms. Under a fishery cooperative, NMFS allocates quota to the cooperative, which, through negotiated contract, distributes the quota among its members. For example, the four companies that operated catcher-processor vessels in the Pacific whiting fishery negotiated a private contract to divide up the sector's quota using catch history, vessel capacity, and number of vessels.

When quota can be transferred, IFQ programs are less exclusive than cooperatives, because they provide entry opportunities for fishermen who can find and afford to buy or lease quota. In comparison, cooperatives are exclusive contractual arrangements where quota is transferred among the members, and potential entrants may have difficulty entering the cooperative.

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<sup>17</sup>Nine companies formed the Pollock Conservation Cooperative. One company later transferred its allocation to other member companies.

<sup>18</sup>Some cooperatives have more participants. In 2002, for example, 77 permit holders in the state of Alaska's Chignik salmon purse seine fishery joined a cooperative to fish sockeye salmon.

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Finally, regarding monitoring and enforcement, IFQ programs are viewed as being more difficult for NMFS to administer than fishery cooperatives, because NMFS must monitor individual participants for compliance with program rules, such as quota accumulation and catch limits. In contrast, cooperatives are viewed as being simpler for NMFS to monitor and enforce, because NMFS monitors one entity—the cooperative—and the cooperative is responsible for monitoring the actions of its members.

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### A Combined Approach May Provide Benefits in Some Cases

For some fisheries, establishing a cooperative of quota holders within the overall framework of an IFQ program to help manage fishing may maximize the benefits of IFQ programs and fishery cooperatives while minimizing their downsides. Some of the benefits of a combined IFQ/cooperative approach are illustrated in the examples below, where groups of New Zealand quota holders formed cooperative-like organizations to help manage their fisheries, such as abalone, hoki, orange roughy, scallops, and rock lobster.

With respect to regulatory and management framework and number of participants, a cooperative of IFQ holders offers the following advantages:

- A combined approach provides the stability of an IFQ program. Because the IFQ program is set by regulations, it will remain in place even if the cooperative dissolves. Also, should the cooperative fail to perform, its management authority and responsibilities would revert to the government. For example, according to New Zealand fishery managers we spoke with, the Challenger Scallop Enhancement Company (Scallop Company) has managed the scallop fisheries effectively, but should it fail to perform, its responsibilities would return to the government.
- A combined approach can provide a way for large numbers of participants to organize into smaller groups to help manage their fisheries collectively. For example, New Zealand's rock lobster IFQ quota holders formed nine regional cooperative groups under the umbrella of the New Zealand Rock Lobster Industry Council. The council and the regional groups provide advice on management of rock lobster fisheries.
- A combined approach can provide the opportunity for fishery participants to pool information, assess stocks, achieve economies of scale in production and try other forms of cooperation. For example, a cooperative of quota holders could decide to pool their quota and fish in more economical ways, such as having only certain members fish and then distributing the proceeds among all members. Similarly, a cooperative of

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quota holders could agree to stop fishing in certain areas or leave some of the quota unfished to protect the resource. In New Zealand, for example, abalone quota holders agreed not to fish some of their quota, because they believed that the TAC had been set too high.

In terms of allocating and transferring fishing privileges, a combined approach offers the following advantages:

- Under a combined approach, the fishery council, rather than the cooperative, could make the difficult and often contentious decisions regarding who can hold quota and how much quota an individual receives.
- A combined approach would also provide transparency, because the IFQ program's quota allocation and transfer rules could be used to allocate quota to members of the cooperative.
- Fishery managers could reduce the exclusivity of a cooperative by requiring that the cooperative give each new quota holder the opportunity to join. For example, membership in New Zealand's stakeholder organizations is open to any entity that holds quota in the particular fishery.<sup>19</sup> Moreover, quota allocations are not lost if a cooperative of quota holders dissolves, because each member retains the quota allocated under the IFQ program.

In terms of monitoring and enforcement, under a combined approach, the government could give some management responsibilities to the cooperative, such as monitoring the actions of individual members for compliance with certain program rules. New Zealand officials told us that their government reduced its monitoring costs for its scallop fisheries because the Scallop Company now performs this function. Because of the size and common interests of cooperatives, members often create peer pressure to conform to program rules. Self-regulation might also decrease overall enforcement costs. Finally, a combined approach would provide the enforcement mechanisms of an IFQ program should self-regulation fail and/or should the cooperative fail to perform its other management responsibilities. New Zealand, for example, devolved most IFQ management responsibilities to the Scallop Company, but the government has not lost its management authority.

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<sup>19</sup>These organizations can also have members who do not hold quota, such as fish processors and exporters.



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## Conclusions

No method will protect communities or facilitate new entry if the fishery collapses. While an IFQ is a fishery management tool put in place to protect the resource, as well as reduce overcapacity, these laudable goals may have unintended consequences: the loss of communities historically engaged in or reliant on fishing and reduced participation opportunities for entry-level fishermen or fishermen who did not qualify for quota under the initial allocation. New IFQ programs or modifications to existing programs may be designed to address these problems by incorporating community protection and new entry goals. However, because the goals of community protection and new entry run counter to the economic efficiency goals, fishery councils face a delicate balancing act to achieve all goals. It is therefore critically important for fishery councils to tailor IFQ programs to achieve efficiency and conservation as well as social objectives. However, without collecting and analyzing data on the effectiveness of the approaches used, fishery councils will not know if the program is meeting its intended goals and if mid-course adjustments need to be made.

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## Recommendations for Executive Action

To protect fishing communities and facilitate new entry into new or existing IFQ fisheries, we recommend that the Director of the National Marine Fisheries Service ensure that regional fishery management councils that are designing community protection and new entry methods take the following three actions:

- Develop clearly defined and measurable community protection and new entry objectives.
- Build performance measures into the design of the IFQ program.
- Monitor progress in meeting the community protection and new entry objectives.

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## Agency Comments and Our Evaluation

We provided a draft of this report to the Department of Commerce for review and comment. We received a written response from the Under Secretary of Commerce for Oceans and Atmosphere that included comments from the National Oceanic and Atmospheric Administration (NOAA). NOAA stated that our report was a fair and thorough assessment of community protection and new entry issues in IFQ programs. NOAA generally agreed with the report's accuracy and conclusions and agreed with the substance of the report's recommendations. NOAA's comments and our detailed responses are presented in appendix IV of this report.

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NOAA indicated that it currently does not have the authority to direct the councils to adopt the report's recommendations, because it cannot direct councils to take actions that are not mandated by the Magnuson-Stevens Act. We have revised our recommendations accordingly. However, NOAA agreed with our recommendation to develop clearly defined and measurable community protection and new entry objectives. NOAA noted that clearly defined and measurable objectives are often hard to identify, objectives may vary by IFQ program, and measurable objectives require data that are not always available or regularly collected. Nonetheless, it recognized that management objectives are important and should be used as much as possible as yardsticks in developing IFQ programs. NOAA agreed with our recommendation to build performance measures into the design of the IFQ program, noting the importance of selecting feasible and appropriate performance measures. Finally, NOAA agreed with our recommendation to monitor progress in meeting the community protection and new entry objectives. NOAA wrote that provisions for the monitoring and review of new IFQ program operations are addressed in the administration's Magnuson-Stevens Act reauthorization proposal. NOAA also provided technical comments that we incorporated in the report as appropriate.

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We are sending copies of this report to the Secretary of Commerce and the Director of the National Marine Fisheries Service. We will also provide copies to others upon request. In addition, the report will be available at no charge on the GAO Web site at <http://www.gao.gov>.

If you or your staff have any questions about this report, please call me at (202) 512-3841 or Keith Oleson at (415) 904-2218. Key contributors to this report are listed in appendix V.



Anu K. Mittal  
Director, Natural Resources  
and Environment

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# Appendix I: Scope and Methodology

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This is the second in a series of reports on individual fishing quota (IFQ) programs. For this report, we reviewed foreign and domestic quota programs and fishery cooperatives to determine (1) the methods available for protecting the economic viability of fishing communities and facilitating new entry into IFQ fisheries, (2) the key issues raised by community protection and new entry methods, and (3) the comparative advantages and disadvantages of the IFQ system and the fishery cooperative approach.

For all three objectives, we visited Iceland, New Zealand, Scotland's Shetland Islands, and Alaska and Maine in the United States, where we interviewed fishery management officials, quota program participants, researchers, and industry and community representatives and visited fishing communities. We also visited the fishing communities of Kodiak and Old Harbor, Alaska; and Jonesport, Portland, Stonington, and Vinalhaven, Maine. In these communities, we interviewed fishery participants, local government officials, and community representatives, and visited fishing and fishing-related businesses. We selected these countries and U.S. fishing communities in accordance with suggestions from program managers and industry experts to obtain coverage of a range of quota-based programs and fishing communities. We also reviewed the literature on IFQ and other quota-based programs and fishery cooperatives.

To determine the methods available for protecting the economic viability of fishing communities and facilitating new entry into IFQ fisheries and the potential limitations of each method, we identified foreign and domestic programs with community protection or new entry provisions. We interviewed and obtained the views of foreign and domestic fishery management officials, program participants, researchers, and industry and community representatives on methods that are being used or could be used to protect communities and facilitate new entry, as well as the potential benefits and limitations of each method. We also searched for, but could not find, any studies and assessments of the extent to which each program has met its community protection or new entry objectives.

To determine the comparative advantages and disadvantages of the IFQ system and the fishery cooperative approach, we identified and reviewed fishery management plans, laws, and regulations related to existing IFQ and fishery cooperative programs. We also reviewed and analyzed studies and assessments of these programs and interviewed foreign and domestic fishery management officials, researchers, and industry representatives on the comparative benefits and downsides of each approach.

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We conducted our review from February through October 2003 in accordance with generally accepted government auditing standards.

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# Appendix II: Descriptions of Selected Individual Fishing Quota (IFQ) Programs

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This appendix describes IFQ programs in Iceland, New Zealand, and Scotland's Shetland Islands, as well as the U.S. Mid-Atlantic surfclam/ocean quahog IFQ program and the U.S. Alaskan halibut and sablefish IFQ program. The term individual fishing quota as used in this report includes individual transferable quota (ITQ) and individual vessel quota (IVQ).

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## Iceland

Iceland's economy depends heavily on the fishing industry, which provides 70 percent of export earnings and employs 12 percent of the work force. Iceland excluded foreign fishermen from its waters in the 1970s, when it introduced its exclusive economic zone. Nevertheless, cod, Iceland's main commercial fish stock, had collapsed and other essential stocks were reported to be near collapse by the 1980s.

In 1984, Iceland introduced individual fishing quotas for its major fisheries. Fishermen indirectly hold quota in Iceland because Iceland's individual fishing quotas are linked to fishing vessels rather than persons. In 1990, Iceland allowed quota to be sold and leased, transforming IFQs into individual transferable fishing quota. According to fishery experts and managers, the fish in Iceland are property of the Icelandic people rather than individual quota holders. As such, quota allocations are indefinite in duration and could be revoked by the Icelandic Parliament at any time.

While not explicitly designed with such objectives, Iceland's IFQ program used the following provisions to protect communities and encourage new entry:

- *Community right of first refusal.* This rule provides communities with the right to veto the transfer of fishing vessels and associated quota to someone outside of the community. To stop the sale, the community must purchase the vessel at the market rate.
- *Emergency community quota allocations.* Iceland allocates small blocks of quota to communities hurt by the transfer of quota from their area.
- *Separate quota markets for large and small vessels.* To help protect small vessels, Iceland divided its IFQ system into two quota markets—one for large vessels and another for small vessels. Quota allocated to small vessels cannot be transferred to large vessels, and quota allocated to large vessels cannot be transferred to small vessels. Also, small-vessel fishermen can choose to fish a pre-set number of fishing days (days-at-sea), instead of participating in the IFQ system.

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## New Zealand

Seafood is New Zealand's fourth largest export, after dairy, meat, and forestry. In 2000, seafood exports were worth about NZ\$1.43 billion and accounted for 90 percent of industry revenue.

New Zealand introduced individual fishing quotas in 1986 for some of the most economically significant species to prevent overfishing in the inshore fisheries while developing the unexplored deepwater fisheries. Under the resulting quota management system, New Zealand manages about 50 species, such as hoki, orange roughy, and scallops. New Zealand's IFQ fish accounted for about 95 percent of the fishing industry's value in 2003.

New Zealand's system allows fishermen to buy or sell quota, as well as lease quota on an annual basis.<sup>1</sup> Fishery managers initially established quota accumulation limits for the inshore and deepwater fisheries. Furthermore, the allocation of quota changed from weight to a percentage of the total allowable commercial catch in 1990.

According to New Zealand fishery managers, community protection was not an objective of the quota management system, and New Zealand has few fishing-dependent communities. However, the New Zealand government allocated quota to the indigenous Maori tribes as part of the settlement agreements resolving claims of ownership of the fisheries under the Treaty of Waitangi Fisheries Commission. The commission is leasing quota to fishermen while it develops a formula to distribute quota to the Maori. Key barriers to reaching agreement on this distribution formula include identifying membership in tribes and agreeing on how much quota each tribe should receive.

In recent years, groups of quota holders have joined together in cooperative-like organizations to help manage some of the fish stocks under the quota management system. This co-management by government and industry has led to the formation of key stakeholder groups in fisheries such as hoki, orange roughy, rock lobster, and scallops.

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## Shetland Islands, Scotland (United Kingdom)

Fishing is integral to the economy and culture of Scotland's Shetland Islands. In 1999, the value of the Shetland Islands' fishing industry accounted for approximately one-fifth of the Shetland Islands' economy

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<sup>1</sup>New Zealand allows individuals to buy or sell an annual catch entitlement (ACE). This trading of ACE is theoretically equivalent to leasing quota for 1 year.

and provided over 2,500 jobs. As part of the United Kingdom, Scotland is party to the Common Fisheries Policy of the European Union. The United Kingdom receives catch quotas for each species from the European Union and then allocates portions of these quotas to groups of fishermen known as producer organizations, such as the Shetland Fish Producers Organization. The United Kingdom manages quotas under a fixed quota allocation, an individual fishing quota that, in practice, allows quota trades.

In the 1990s, because of concerns about high quota prices and foreigners holding local quota, the Shetland Islands' fishing industry developed the Shetland Community Fish Quota scheme to protect its fishermen.<sup>2</sup> The Shetland Fish Producers Organization created and manages two pools of quota for Shetland Islands fishermen, one for member fishermen and one for new entrants. Using oil settlement monies, the local government purchased quota for the community fish quota pool. This quota pool is available to those who have no quota as well as those who need additional quota to participate in the fishery. In 2002, 13 vessels used the pool, more than half receiving their entire quota from the pool. The producers organization charges a fee based on gross earnings rather than a fixed-term lease. Thus, new entrants are charged only for fish landed and are not penalized for leasing quota they cannot fish. The fee is based on the ratio of quota held to quota borrowed. Table 2 shows how this fee is charged.

**Table 2: Leasing Fees under the Shetland Community Fish Quota Scheme**

<b>Percent of quota borrowed</b>	<b>Percent of quota already held</b>	<b>Fee charged (based on revenues from landings)</b>
100	0	6.0% of all landings
80	20	4.8% on 80% of the landings
50	50	3.0% on 50% of the landings
20	80	1.2% on 20% of the landings

Source: GAO analysis of Shetland Fish Producers' Organization data.

<sup>2</sup>The European Union found that parts of this scheme were noncompliant, largely because it gives preferential treatment to Shetland fishermen. Fishery managers are currently working to modify the scheme in order to continue community ownership of quota.

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### U.S. Mid-Atlantic Surfclam/Ocean Quahog IFQ Program

The surfclam/ocean quahog fishery is a small, industrialized fishery primarily located in the waters from Maine to Virginia, with commercial concentrations found off the Mid-Atlantic states. The ocean quahog fishery arose as a substitute for surfclams when the surfclam fishery declined in the mid 1970s. While ocean quahogs are found further off shore than surfclams, the same vessels are largely used in each fishery. The surfclam fishery developed after World War II and was being overfished by the mid 1970s. Disease and industry overfishing led the Mid-Atlantic Fishery Management Council to develop a plan to manage the fishery. The surfclam/ocean quahog fishery consists of small, independent fishermen and vertically integrated companies.

Individual fishing quotas were established for the surfclam/ocean quahog fishery in 1990; it was the first IFQ program in the United States. The program was not designed nor does it have specific objectives aimed at protecting fishing communities or facilitating new entry; rather, it was designed to help stabilize the fishery and reduce excessive investment in fishing capacity. The program included no specific and measurable limits on how much quota an individual could accumulate. However, allowing quota to be sold and leased provides the opportunity for entry into the fishery.

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### U.S. Alaskan Halibut and Sablefish IFQ Program

The Pacific halibut and sablefish fisheries are located off the coast of Alaska. The fishing fleets are primarily owner-operated vessels of various lengths that use hook and line or pot (fish trap) gear. Some vessels catch both halibut and sablefish, and, given the location of both species, they are often caught as incidental catch of one another. Overcapacity of fishing effort led to fishing seasons that lasted less than 3 days and a race to catch fish.

The Alaskan halibut and sablefish IFQ program was implemented in 1995, shortly before Congress placed a moratorium on new IFQ programs. The program was designed, in part, to help improve safety for fishermen, enhance efficiency, and reduce excessive investment in fishing capacity. The IFQ program includes the following community protection or new entry provisions:

- *Community quota.* When the program was implemented, the council set aside quota for a community development program to develop fishing and fishing-related activities in villages in western Alaska. In 2002, the council amended the IFQ program to allow certain Gulf of Alaska coastal communities to buy Alaskan halibut and sablefish quota.



- *Accumulation limits.* The North Pacific Council adopted accumulation limits ranging from 0.5 percent to 1.5 percent, depending on the fishing area, to help protect the fisheries' owner-operator fleet, which operates out of smaller communities.
- *Vessel categories.* The quota for each person eligible to receive quota was permanently assigned to one of four vessel categories based on vessel type and length.
- *Quota blocks.* The council permanently placed small amounts of quota in blocks, in part, to help make quota available and affordable for entry-level fishermen. Large amounts of quota remained unblocked. Blocks can only be bought or transferred in their entirety. An individual can hold two quota blocks; an individual who holds any amount of unblocked quota can only hold one quota block.
- *Crew consideration.* Eligibility to obtain most quota by transfer is limited to those who have 150 days of experience participating in any U.S. fishery.

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# Appendix III: Descriptions of Selected U.S. Fishery Cooperatives

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A fishery cooperative is a group of fishermen who agree to work together for their mutual benefit. Two fishery cooperatives emerged as an alternative to IFQ programs in U.S. federal waters: (1) the Whiting Conservation Cooperative, established in 1997 and (2) the Bering Sea Pollock Conservation Cooperative, established in 1998. These cooperatives are voluntary contractual agreements among fishermen to apportion shares of the catch among themselves. Fishery cooperatives operate under the Fishermen's Collective Marketing Act of 1934 (15 U.S.C. § 521), which provides an antitrust exemption to fishermen, allowing them to jointly harvest, market, and price their product.

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## Whiting Conservation Cooperative

The Pacific whiting fishery, located off the coasts of Washington, Oregon, and California, is under the jurisdiction of the Pacific Fishery Management Council. Whiting is harvested using mid-water trawl nets (cone-shaped nets towed behind a vessel) and primarily processed into surimi. The council has divided the Pacific whiting total allowable catch (TAC) among three sectors—vessels that deliver to onshore processors, vessels that deliver to processing vessels, and vessels that catch and also process.

In the 1990s, the fishery was overcapitalized and fishing companies were engaged in a race for fish. In 1997, four companies operating the 10 catcher-processor vessels in the fishery voluntarily formed the Whiting Conservation Cooperative, which is organized as a nonprofit corporation under the laws of the state of Washington. The overall purposes of the cooperative are to (1) promote the intelligent and orderly harvest of whiting, (2) reduce waste and improve resource utilization, and (3) reduce incidental catch of species other than whiting. The specific goals are to (1) eliminate the race for fish and increase efficiency, (2) improve the efficiency of the harvest by using an independent monitoring service and sharing catch and incidental catch information, and (3) conduct and fund research for resource conservation. The cooperative is not involved in matters relating to pricing or marketing of whiting products.

The cooperative's contract allocates the Pacific whiting TAC for the catcher-processor sector among the cooperative's members, who agree to limit their individual harvests to a specific percentage of the TAC. Once individual allocations are made, the contract allows for quota transfers among member companies. To monitor the catch, the contract requires the members to maintain full-time federal observers on their vessels. Member companies bear the cost of observer coverage. The contract also requires members to report catches to a private centralized monitoring service. To

ensure compliance, the contract contains substantial financial penalties for members exceeding their share of the quota.

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## Pollock Conservation Cooperative

The pollock fishery off the coast of Alaska is the largest U.S. fishery by volume. The fishery is under the jurisdiction of the North Pacific Fishery Management Council, which sets the TAC each year. About 5 percent of the TAC is held in reserve to allow for the incidental taking of pollock by other fisheries, 10 percent is allocated to Alaska's community development quota program, and the remainder, called the directed fishing allowance, is allocated to the pollock fishery. Like whiting, pollock is harvested using mid-water trawl nets. Pollock swim in large, tightly packed schools and do not co-mingle with other fish species. Pollock are primarily processed into surimi and fillets. In the 1990s, the Bering Sea pollock fishery was severely overcapitalized, producing a race for fish. As a result, the fishing season was reduced from 12 months in 1990 to 3 months in 1998.

The fishery is composed of three sectors—inshore, offshore catcher-processor, and offshore mothership (large processing vessel).<sup>1</sup> The American Fisheries Act<sup>2</sup> statutorily allocated the pollock fishery TAC among these three sectors and specified the eligible participants in each sector.<sup>3</sup> The nine companies that operated the 20 qualified catcher-processor vessels formed the Pollock Conservation Cooperative in December 1998.<sup>4</sup> The purpose of the cooperative was to end the race for fish.

Under the cooperative's agreement, members limit their individual catches to a specific percentage of the total allowable catch allocated to their sector. Once the catch is allocated, members can freely transfer their

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<sup>1</sup>The inshore sector is comprised of catcher vessels harvesting pollock for processing plants located on or near the shore. The offshore catcher-processor sector is comprised of catcher-processor vessels (vessels that both catch and process pollock) and catcher vessels catching pollock for processing by catcher-processors. The offshore mothership sector consists of catcher vessels harvesting pollock for processing by motherships (large vessels that process but do not catch fish).

<sup>2</sup>Pub. L. No. 105-277, Division C, tit. II (1998).

<sup>3</sup>The inshore sector received 50 percent of the directed fishing allowance; the offshore catcher-processor sector received 40 percent; and the offshore mothership sector received 10 percent.

<sup>4</sup>Four of the companies are also members of the Whiting Conservation Cooperative.

quota to other members. The American Fisheries Act requires each catcher-processor vessel to have two federal observers on board at all times. Member companies bear the cost of observer coverage on their vessels. A private sector firm also tracks daily catch and incidental catch data to ensure that each member stays within its agreed upon harvest limits. To ensure compliance, the contract contains substantial financial penalties for members exceeding their share of the quota. The cooperative is not involved in matters relating to pricing or marketing of pollock products.

In addition to operating under the terms of the cooperative's contract, members of the cooperative must conduct fishing activities in compliance with certain NMFS and council requirements. Specifically, NMFS is responsible for closing the fishery when the sectoral allocation is reached. NMFS and the council set the season, impose restrictions against fishing in certain areas and at certain times, and set incidental catch limits for other species.

# Appendix IV: Comments from the Department of Commerce

Note: GAO comments supplementing those in the report text appear at the end of this appendix.



UNITED STATES DEPARTMENT OF COMMERCE  
The Under Secretary of Commerce  
for Oceans and Atmosphere  
Washington, D.C. 20230

FEB - 6 2004

Ms. Anu K. Mittal  
Director, Natural Resources  
and Environment  
United States General Accounting Office  
Washington, D.C. 20548

Dear Ms. Mittal:

Thank you for the opportunity to review and comment on the General Accounting Office's draft report entitled, "Individual Fishing Quotas: Methods for Community Protection and New Entry Require Periodic Evaluation," GAO-04-277. Enclosed is the National Oceanic and Atmospheric Administration's comments on the draft report.

These comments were prepared in accordance with the Office of Management and Budget Circular A-50.

Sincerely,

A handwritten signature in cursive script, appearing to read "Conrad C. Lautenbacher, Jr.", written in black ink.

Conrad C. Lautenbacher, Jr.  
Vice Admiral, U.S. Navy (Ret.)  
Under Secretary of Commerce for  
Oceans and Atmosphere

Enclosure

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THE ADMINISTRATOR



**NOAA Comments on the Draft GAO Report Entitled  
“Individual Fishing Quotas: Methods for Community  
Protection and New Entry Require Periodic Evaluation”  
(GAO-04-277/February 2004)**

**Recommended Changes for Factual Information**

NOAA finds that the draft GAO report on individual fishing quotas (IFQs) was well researched through field trips and literature searches and did not contain any significant errors of factual information.

**General Comments**

The draft GAO report on IFQs does a fair and thorough job in assessing community protection and new entrant issues in IFQ programs. The report’s discussion of the various methods available to the Regional Fishery Management Councils (hereafter referred to “Councils”) and the Secretary of Commerce as delegated to the National Marine Fisheries Service (hereafter referred to “NOAA Fisheries”) to achieve these objectives is generally well-informed, thorough, and balanced. At the same time, the draft report seems to draw almost exclusively from information on programs in Alaska, New Zealand, and Iceland, while the United States also has IFQ programs in the Mid-Atlantic and South Atlantic. In addition, the Gulf of Mexico Fishery Management Council has worked for years on an IFQ program in the red snapper fishery. Finally, the draft report did not review the British Columbia (Canada) individual vessel quota program for Pacific halibut, which served as a model for the Alaskan halibut and sablefish IFQ program.

NOAA believes that the most important sections of the report deal with remedial measures and the issues raised by these programs. There are many methods of dealing with community protection and new entrants, and practically all of them present a host of policy and implementation issues. The most serious issue is the tension that many of these protective measures create between economic efficiency and social equity. Notably, the draft report acknowledges that managers will have a difficult time choosing between the two goals, in large part, because the practical outcomes of proposed measures may be unknown. In light of all these uncertainties, the draft report correctly avoids endorsing any specific policy or course of action, but calls instead on NOAA Fisheries and the Councils to develop more clearly defined objectives, to build performance measures into IFQ programs, and to monitor progress. Given all the questions attached to the proposed remedies, NOAA Fisheries finds that these kinds of recommendations are probably as far as we can go at the present time and in the foreseeable future.

See comment 1.

**Specific Comments**

*Page 6, bulleted list:*

The list of National Standards could be expanded by adding National Standards 7, 9, and 10 (dealing respectively with cost minimization, by-catch, and safety-at-sea), which also have implications for IFQ programs.

See comment 2.

*Page 7, paragraph 1:*

At the end of the first paragraph, add the following: "Additionally, NMFS is preparing a draft proposed rule to implement a Council recommendation to include the guided sport sector in the commercial halibut IFQ program (this is the first known application of an IFQ program to a sport fishery). Up to two percent of the combined commercial and guided sport halibut quota will be set aside for certain Gulf of Alaska coastal communities for two years to encourage development of additional guided sport operators."

See comment 3.

*Page 8, paragraph 1, line 2:*

Note that the fishing season was increased to eight (not ten) months. It has since been expanded by an additional two weeks.

See comment 4.

*Page 18, bottom of page:*

Footnote 13 is not completely accurate. The North Pacific Council, while managing fisheries in waters off one state (Alaska), still manages access by fishermen from other states (e.g., Washington).

**NOAA Response to GAO Recommendations**

The GAO report states, "To protect fishing communities and facilitate new entry into new or existing IFQ fisheries, we recommend that the Director of the National Marine Fisheries Service direct regional fishery management councils that are designing community protection and new entry methods to take the following three actions:"

**NOAA Response:** NOAA agrees in substance with this recommendation, but notes one important point relating to the relationship between NOAA Fisheries and the Councils. The current obligations of the Councils with respect to fishing communities and new entrants in IFQ programs are spelled out in the Magnuson-Stevens Fishery Conservation and Management Act (MSA), especially in sections 301(a)(8) and 303(d). NOAA Fisheries can only "direct" the Councils to develop plans that are in conformity with the MSA and other applicable law. Conversely, the Councils cannot be directed to undertake actions that are not mandated. However, it should be noted that the Administration's June 2003 MSA re-authorization proposal would require new Council IFQ programs to the extent practicable to maintain the basic cultural and social framework of the fishery and the sustained participation of dependent fishing communities. The proposal also includes requirements for measures to assist participation of entry-level and small scale fishermen, captains, and crew, and provisions for the regular review

and monitoring of program operations. These proposed legislative requirements are consistent with the intent of the GAO recommendations.

**Recommendation 1:** “Develop clearly defined and measurable community protection and new entry objectives.”

**NOAA Response:** NOAA agrees that management objectives are important and should be used as much as possible as yardsticks in developing IFQ programs. However, “clearly defined and measurable... objectives” are often hard to identify. Objectives may vary from one IFQ program to another (a fact noted in the draft report’s discussion of the surfclam/ocean quahog and Alaskan halibut/sablefish programs), and measurable objectives require data that are not always available or regularly collected. NOAA Fisheries will formally request that all Councils preparing new IFQ programs include clearly defined and measurable objectives that address community protection and new entrants:

**Recommendation 2:** “Build performance measures into the design of the IFQ program.”

**NOAA Response:** NOAA agrees with this recommendation and will formally request that all Councils preparing new IFQ programs include performance measures in the design of these programs. A critical task will then be the selection of feasible and appropriate performance measures. “Performance standards” already exist in the Alaskan halibut and sablefish IFQ program and the western Alaska and community development quota (CDQ) programs. However, it is not clear that these “performance standards” are the same as “performance measures” proposed by GAO. More fundamentally, the term “performance measures” could be used, perhaps inappropriately, as yardsticks to judge the success or failure of IFQ programs. For example, performance measures could place too much responsibility on IFQs for changes in the structure of fishing communities that were brought about by other factors. Finally, performance measures may be a crude and inexact way to distinguish between efficiency and equity objectives. For example, measures to protect communities and facilitate new entrants may succeed, but at the expense of excessive lost efficiency.

**Recommendation 3:** “Monitor progress in meeting the community protection and new entry objectives.”

**NOAA Response:** NOAA agrees with this recommendation and notes that provisions for the monitoring and review of new IFQ program operations are addressed in the Administration’s MSA re-authorization proposal. NOAA will write to the Councils, formally urging them to implement this recommendation.



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The following are GAO's comments on NOAA's written comments provided by the Under Secretary of Commerce for Oceans and Atmosphere's letter dated February 6, 2004.

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## GAO Comments

1. The report provided examples of National Standards relating to issues discussed in the report (overfishing, equity, efficiency, community protection, and new entry). We did not include National Standards relating to cost minimization, by-catch, and safety-at-sea, because we did not discuss these issues in the report.
2. We revised the text to make it clear that we were providing examples of commercial fisheries where new IFQ programs were being considered.
3. We revised the text to reflect that the halibut season was increased to 8 months.
4. We deleted the footnote relating to the uniqueness of Alaska, which is regulated by the North Pacific Council, from states covered by the other fishery councils, which regulate fisheries in multiple states.

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# Appendix V: GAO Contact and Staff Acknowledgments

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## GAO Contact

Keith W. Oleson, (415) 904-2218

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## Staff Acknowledgments

In addition to those named above, Doreen S. Feldman, John S. Kalmar, Jr., Susan J. Malone, Mark R. Metcalfe, Carol Herrnstadt Shulman, and Tama R. Weinberg made key contributions to this report.

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Jeff Nelligan, Managing Director, [NelliganJ@gao.gov](mailto:NelliganJ@gao.gov) (202) 512-4800  
U.S. General Accounting Office, 441 G Street NW, Room 7149  
Washington, D.C. 20548