

# Harvesting Cooperatives and U.S. Antitrust Law

## Recent Developments and Implications

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Political controversies associated with individual fishing quota (“IFQ”) programs have impaired IFQ implementation. As an alternative, U.S. fishermen have sought rationalization through private ordering. Their ability to do so is subject to U.S. antitrust law, under which agreements among competitors allocating resource outputs are typically considered “per se” violations. However, where (i) a discrete fishery quota is fully utilized, (ii) the participating producers can demonstrate that a joint harvesting arrangement will increase their production, and (iii) joint activity is limited to allocating harvesting rights among association members, private harvesting share arrangements have proven to be pro-competitive with respect to consumer interests. Consistent with this conclusion, associations of fishing companies allocating harvesting rights in the U.S. Pacific whiting and Bering Sea pollock fisheries among their members have received favorable antitrust law reviews from the U.S. Department of Justice. This paper summarizes the incentives and conditions for forming harvesting cooperatives, reviews relevant antitrust law developments, and briefly examines the fishery management and market implications of harvesting cooperatives as an alternative to IFQs.

**Key words:** fishery rationalization, individual fishing quotas, harvesting cooperatives, antitrust law, American Fisheries Act

### 1. THE PROBLEM WITH IFQS

Olympic fisheries are inherently inefficient and wasteful, as fishing industry participants over-invest in harvesting and processing capacity in an effort to maximize resource capture. Input controls such as limited entry licensing and gear restrictions have been adopted to address this problem. However, fishermen respond to input controls by striving to maximize catch within the limits imposed (OSB 1999). The result is fractionalized olympic fisheries, rather than increased efficiency.

Individual fishing quota (“IFQ”) systems create incentives to reduce labor and capital inputs. However, IFQs have caused social disruptions during their implementation period, as allocations favor some and disfavor others, excess capacity is retired or moves into other fisheries and product forms and markets evolve. Social disruptions have resulted in a political backlash, a Congressional moratorium on further Federal IFQs as part of the Sustainable Fisheries Act of 1996, and a widespread sense that if and when the moratorium is lifted, IFQs will be difficult to obtain without significant transaction costs and rent seeking (OSB 1999).

### 2. IMPLEMENTING PRIVATE FISHERY SHARES

#### 2.1 Practical Considerations

Given the uncertain future of IFQs, fishermen seeking rationalization will logically turn to private agreements allocating harvesting privileges. Practical experience and literature tell us that their ability to do so depends in the first instance on certain circumstances being present. There must be a relatively small number of participants, with a sufficient community of interest to make negotiations feasible. There must be an adequate system for gathering fishery harvest data, and adequate data verification and transparency to monitor compliance with the agreement, and enforce it in cases of non-compliance (Scott 1993). There must be significant barriers to prevent new participants from entering after shares have been negotiated, or else “free riders” are almost certain to be predators on the fishermen who rationalize their harvest. There must be an opportunity to attain additional value through an allocation agreement, sufficient to offset the expectations of more efficient participants that they could do better by continuing to compete on an olympic basis. And, for antitrust law reasons discussed below, when the arrangement includes one or more vertically integrated producers operating in a U.S. fishery, the

relevant fishery sector's target species or incidental catch allocation(s) must be limited and fully harvested.

These circumstances have coalesced from time to time, and it appears possible they will do so in U.S. Pacific Coast and Alaska fisheries with more frequency. Limited entry systems are prevalent. Fishery sectors are increasingly segregated by species and gear-specific licensing systems, which restrict eligibility to fishermen with recent participation above marginal thresholds. Anecdotal information from fishermen suggests that the expense of adding harvesting capacity has increased as fishery technology has improved, while product markets have become increasingly competitive as a result of globalization and new information technology. Thus, the cost of continuing to compete in an olympic fishery has made doing so progressively less attractive. Full time fishery observer coverage is an increasingly common federal and/or state feature in Pacific Northwest and Alaskan fisheries, at least among larger processors and vessels. Regional governmental agencies and several private firms maintain sophisticated catch monitoring and reporting services. The data generated by the observers and compiled and analyzed by these services is generally timely and accurate, and is increasingly maintained in electronic formats that facilitate exchange by e-mail and internet posting. Many Pacific Coast and Alaskan fisheries are managed on the basis of total allowable catches ("TACs") or guideline harvest levels which, when attained, trigger closure of all fishing until the next season. Given these factors, there are opportunities and incentives for a significant subset of U.S. fishermen in these fisheries to seek rationalization through private agreement.

## 2.2 General Antitrust Law

If the practical conditions to forming a harvesting cooperative are satisfied, the next significant issue for U.S. producers is how to do so in compliance with antitrust law. This is not a trivial matter. Violations of antitrust law may be criminally prosecuted by the U.S. Department of Justice, and may be the subject of a civil law suit brought by the Department and/or a private party. Federal law provides for treble damages, and a party found in violation can be held liable for the plaintiff's attorneys' fees.

The fundamental U.S. law at issue in connection with collective harvesting arrangements is the Sherman Act, Section 1 of which outlaws contracts, combinations or conspiracies that unreasonably restrain trade (15 U.S.C. § 1).

Courts have generally classified cases involving agreements among competitors into two categories,

depending on the practice involved. Some practices, such as naked price fixing, are considered so likely to harm competition and so unlikely to have a pro-competitive benefit for U.S. consumers that they do not warrant the time and expense of a particularized inquiry into their effects. Such activities are characterized as "per se" violations. Upon a per se violation being shown, the court need look no further to determine whether the activity actually had an anti-competitive effect, but instead may move directly to considering the appropriate penalty (ABA 1997).

Agreements among competitors that do not fall into the per se class are examined under what is called the "rule of reason". Under this branch of analysis, the court conducts a factual inquiry into the agreement's overall competitive effect. The central question in this analysis is whether the agreement likely harms competition by increasing the ability or incentive to profitably raise price above, or reduce output, quality, service or innovation below, what likely would prevail in the absence of the relevant agreement (FTC 1999).

Agreements among competitors to share or divide markets by allocating customers, suppliers, territories or lines of commerce have been held to be per se illegal. It is express U.S. Department of Justice policy to prosecute participants in such arrangements criminally, without inquiring into their claimed business purposes or competitive effects. Absent mitigating circumstances, agreements among competitors that allocate access to raw materials used for production fall within this classification (FTC 1999).

It is important to note that notwithstanding the almost automatic liability associated with per se violations, the determination whether an activity should be analyzed under the per se rule or the rule of reason in the first place is a contextual decision for the court. While it is highly unlikely that naked price fixing would be considered anything but a per se violation, in appropriate circumstances market division may not be. Further, rule of reason analysis involves a factual inquiry in every case (ABA 1997).

While the U.S. Department of Justice is not authorized to give advisory opinions to private parties, the Department's Antitrust Division for some time has been willing, in certain circumstances, to review proposed business conduct and state its enforcement intentions. The procedure has been formalized through Federal regulations at 28 C.F.R. § 50.6. It is commonly referred to as the "Business Review Procedure".

### 2.3 The Fishermen's Cooperative Marketing Act

Collective harvesting arrangements among fishermen have commonly been considered to fall within the "market allocation" class of per se violations that are illegal unless the participants qualify for an exemption. As it happens, the Fishermen's Collective Marketing Act (15 U.S.C. § 521, the "FCMA"), extends an antitrust exemption to "persons engaged in the fishing industry . . . collectively catching, producing, preparing for market, processing, handling and marketing their fish." The FCMA was patterned after the Capper-Volstad Act (7 U.S.C. § 291), which exempts qualified agricultural producers from antitrust liability for collective production, processing and marketing activities. Consequently, Capper-Volstad case law is applicable precedent for analyzing FCMA cases.

Obtaining the benefit of the FCMA exemption is conditioned upon close compliance with the Act's requirements. For purposes of this paper, a key issue is FCMA association membership criteria.

These criteria were directly addressed in a federal district court case, United States of America v. Samuel Hinote, 823 F.Supp. 1350 (S.D. Miss. 1993). The case involved criminal prosecution of catfish producers by the Department of Justice for conspiring to fix the prices at which they would sell their products. The defendant was the President and Chief Executive Officer of Delta Pride, a catfish processing company. The company's shareholders were catfish farmers who each had a right to sell catfish crops to the company for processing. Mr. Hinote allegedly conspired with a number of other processors to set the price at which Delta Pride and the other companies would sell their processed products. Among the other alleged co-conspirators were subsidiaries of ConAgra, Inc. and Geo. A. Hormel & Co., both of which are large conglomerates with multi-billion dollar annual sales in the production of a wide range of food products.

Mr. Hinote sought dismissal of the price fixing indictment on the grounds that any conspiracy engaged in by him and the alleged co-conspirators was exempt from antitrust liability under the Capper-Volstad Act and/or the FCMA (as the co-conspirators were engaged in catfish farming and/or fishing, and therefore should be considered either "farmers" under the Capper-Volstad Act and/or "fishermen" under the FCMA).

In its analysis of his motion to dismiss, the Hinote court first noted that to be exempt from antitrust liability, all entities involved in the alleged conspiracy had to be qualified members of the Capper-Volstad or FCMA association. Reviewing Capper-Volstad legislative history, the court concluded that the Capper-Volstad and

FCMA exemptions were originally intended to benefit small, independent producers who were insufficiently vertically integrated to perform their own processing. The court cited with approval Supreme Court Justice Brennan's position in the National Broiler Marketing Association case, 98 S.Ct. 2122 (1978), that when the vertical integration of the farmers involved reaches the point where they do not need the exempt association to perform their processing, the function of the exemption for its intended purpose may well have been lost.

The court then adopted the three pronged analysis suggested by Justice Brennan in National Broiler for determining whether the members of a putative Capper-Volstad or FCMA association were qualified to receive the related exemption. The test considers the nature of the association's activities, the degree of integration of the member producers, and the functions historically performed by the farmers (or, in the case of the FCMA, of the fishermen) in the industry. The court noted that the activity involved was fixing the price of finished products, recognized the extensive upward and downward vertical integration of several association members, and characterized the sales of finished products by large processing operations as a function that neither farmers at the time the Capper-Volstad Act was adopted, nor fishermen at the time the FCMA was adopted, had historically performed. The court denied Mr. Hinote's motion to dismiss the indictment.

Dicta in the case suggests that a fisherman or farmer who has the ability to process his or her own products, or whose vessel or farm is owned or controlled by a processor, is not eligible for FCMA or Capper-Volstad immunity. However, the court stopped short of establishing a bright line rule to that effect. Instead, the court adopted Justice Brennan's test, which depends on contextual analysis.

Pure harvesting arrangements among catcher/processors and/or catcher vessels that are owned and controlled by the plant to which they deliver are easily distinguished from the facts and circumstances present in Hinote. As more fully discussed below, under appropriate conditions, harvesting arrangements may be pro-competitive. Limited research suggests that processor ownership of catcher vessels was not uncommon when the FCMA was adopted, and thus harvesting agreements among vertically integrated fishermen may not be inconsistent with Congressional intent concerning the exemption. Limited research also suggests that well before the FCMA was passed, fishermen had occasionally allocated harvesting opportunities among themselves in circumstances where it was efficient to do so. Together, these factors suggest that such arrangements should qualify for the FCMA exemption under the Hinote standards, notwithstanding Justice Brennan's dicta. However, as explained below,

under circumstances present in many U.S. fisheries, harvesting cooperatives may operate legally without the FCMA exemption, and therefore it has proven unnecessary to challenge Justice Brennan's suggestion that vertically integrated firms may not qualify as members of an FCMA association.

### 3. THE PACIFIC WHITING COOPERATIVE

Participants in the trawl gear catcher/processor sectors of the U.S. Pacific Northwest and Alaska groundfish fisheries began discussing private ordering alternatives to IFQs in the early 1990s. Problems such as timing the harvest of the Eastern Bering Sea winter/spring season pollock fishery to coincide with peak roe ripeness and the inefficiencies and waste associated with a highly overcapitalized fleet conducting olympic operations in the Pacific Coast whiting fishery and the Bering Sea pollock fishery seemed intractable in the absence of some sort of quota or share-based management system. However, it was obvious that the political obstacles to obtaining IFQs for that fleet were immense. The fleet had been built with substantial amounts of foreign capital, and state and federal politicians and policy makers were strongly opposed to foreign investors obtaining the quasi-ownership of U.S. fisheries resources that IFQs represented. In addition, the largely Seattle-based catcher/processor vessels were perceived as a "distant waters" fleet by both small fishing communities on the Pacific Coast and Alaskan fisheries policy makers. These constituencies were strongly opposed to granting IFQs to the fleet, to the perceived disadvantage of local communities and economies.

Initial attempts to rationalize through private ordering failed for a number of both practical and legal reasons. On the practical side, relatively permissive limited entry systems and the absence of species-specific licensing failed to provide adequate barriers to entry. Therefore, a harvesting cooperative among the core members of the Pacific whiting and Alaska pollock catcher/processor fleet would have been vulnerable to a large class of licensed marginal participants, who could have increased their pollock fishery effort to take advantage of the rational pace maintained by cooperative members. Nor was it clear that a critical mass of fishery participants had concluded that the benefits of rationalization outweighed their olympic opportunities.

A further obstacle was the prevailing assumption that any such arrangement would constitute a per se violation of antitrust law as a "market allocation" among competitors that could only be conducted if an exemption from liability was obtained. The Hinote ruling was considered to have the practical effect of making the FCMA exemption unavailable for catcher/processors.

However, circumstances and the framework of legal analysis evolved during the mid-1990s. By late 1996, a fairly restrictive limited entry license program had been implemented in the U.S. Pacific Coast whiting fishery. The program included a component that allowed licenses for small catcher vessels to be purchased and combined, to create licenses for large catchers or catcher/processors. Several companies purchased a substantial number of these catcher vessel licenses to allow their catcher/processors (which had not met the program's initial qualification requirements) to operate in the fishery. This activity removed much of the excess harvesting capacity from the fleet that had qualified under the original requirements, and effectively limited the catcher/processor fleet to ten vessels owned by four companies, by raising the cost of entry for other potential participants to unworkable levels. Also, by that time, the four companies had reached a common understanding that rationalized operations could increase product recovery by as much as 25%, while cutting costs of operations. This created a strong incentive among all members of the group to reach agreement.

As it became more apparent that the practical conditions to entering into a collective harvesting arrangement were being met, ongoing, informal discussions with Antitrust Division representatives had resulted in a fresh approach to addressing the legal issues. One element of the new approach was to explicitly limit the proposed collective activities of the group involved to the minimum necessary to achieve the benefit of harvesting shares, rather than implicitly seeking to conduct all of the collective activities authorized under the FCMA. By explicitly agreeing to process, market and sell their products on a fully competitive, arms-length basis, the group made it more likely that the arrangement would qualify for analysis under the rule of reason, and that the U.S. consumer was likely to benefit from any increase in production.

Another element of the new approach involved re-examining why allocations of raw material sources among competitors, such as a harvesting share arrangement, might be considered per se violations in the first place. It became apparent that antitrust authorities assume that in the absence of an agreement among competitors to allocate a resource output, their acquisition of that resource would be unimpaired. Framed another way, antitrust authorities assumed that the fundamental purpose and effect of a resource output allocation agreement among competitors would be to reduce the amount of product available to the market, and thereby profitably raise the price of the product above that which would prevail in the absence of the agreement.

It became immediately apparent that this assumption does not apply in many U.S. fisheries off the Pacific Coast and

Alaska. The Pacific whiting fishery, like many others in the region, is managed under a strict annual sectoral harvest limit. In addition, as is the case in many others of these fisheries, the catcher/processor sector's allocation of the Pacific whiting fishery was being fully harvested each year, and could easily have been harvested within each annual fishing season with much less capacity. In traditional antitrust terms, the fishery was operating in a regulated output setting. In fact, all indications were that a harvesting share arrangement could well have a converse effect from that normally assumed, i.e., that it would result in more product being produced at a lower unit cost from the same fixed quantity of fish.

Informal contacts with Antitrust Division staff confirmed that market allocation agreements among competitors (including highly vertically integrated competitors) in a regulated output setting could qualify for rule of reason analysis under appropriate circumstances. These discussions also suggested that it was reasonable to expect a favorable business review from the Division if the proposed harvesting arrangement would increase efficiency and productivity, and the related products were marketed competitively. It also became apparent that the Division had already taken notice of the inherent inefficiencies and waste associated with olympic fishing operations, and generally considered fishery rationalization to be in the consumer's interest.

On the basis of this new approach, the four companies operating catcher/processors in the Pacific whiting fishery met in an effort to negotiate a harvesting share allocation agreement. In contrast to the angst associated with deciding initial IFQ allocations (which the OSB and others recognize as being probably the most contentious issue in IFQ management) the companies were able to negotiate harvest shares quickly and efficiently. The parties traded information regarding their respective vessels' catch histories. Participants whose vessels' catch capacities exceeded their historical performance sought an adjustment up from their historical share. Companies operating more than one vessel in the fishery were asked to contribute part of their historic share to the "pool" for redistribution, because they would be able to directly and immediately capture the benefits of rationalization by consolidating their company allocation on a subset of their fleet. Negotiations were concluded in a session that lasted less than half of a day.

Upon reaching agreement on share percentages, the companies arranged to have corporate documentation for the "Whiting Conservation Cooperative" ("WCC"), a Washington non-profit corporation, prepared in draft and submitted to the Antitrust Division for a business review. The corporate documents included a draft "Membership Agreement" that embodied the harvesting share contract among the participating companies. The Membership

Agreement permitted members to transfer shares to each other without constraint. It required the members to maintain full-time federal observer coverage on their vessels, and to report catches to a private centralized monitoring service. The Agreement stipulated a penalty amount per metric ton to be assessed if a member harvested more than its share of the resource, and permitted the association to require its members to post bonds or provide other collateral to secure their penalty payment obligations. The Agreement provided both individual members and the WCC with explicit private rights of action for violations of the Agreement, including the right to specific performance, as well damages and attorneys' fees.

The companies arranged to have a private fishery harvest monitoring service (SeaState, Inc., of Seattle) track members' catch amounts, and report the WCC's catch to the U.S. National Marine Fisheries Service ("NMFS") (the Federal agency with jurisdiction over the fishery) on a daily basis.

The 1997 Pacific whiting fishery opened to the trawl catcher/processor sector on May 15. The Antitrust Division's response had not been issued by that date, and it was not clear whether it would be issued before the end of the season. Therefore, the four companies commenced operations on the opening date in olympic mode, on the understanding that they would begin operating under their harvesting agreement if and when the Division produced a favorable response.

On May 27, 1997, the Division issued a favorable "no enforcement intention" letter and press release, and the fleet converted to share-based fishing. Ironically, receiving the letter approximately halfway through the season and converting operations accordingly had a positive aspect. The fleet was able to compare product recovery rates and bycatch rates from olympic fishing during the first half of the season with those from share-based fishing for the second half. This reduced the risk that changes in natural conditions from season to season would bias "before and after" comparisons.

The results were immediately apparent, and exceeded the parties' expectations. Multi-vessel companies transferred excess capacity out of the fishery, and more efficient operators leased shares from less efficient ones. The catcher/processor surimi recovery rate (i.e., the percentage by weight of finished product recovered from round fish) under olympic fishing had been approximately 17.2%. It jumped to 20.6% for the second half of the season. In addition, the bycatch rate for yellowtail rockfish, a politically sensitive species, fell from 2.47 kilograms of rockfish per metric ton of whiting during olympic mode to .99 kilograms of rockfish per metric ton of whiting under share mode. By making processing line

modifications between seasons, the catcher/processor fleet was able to raise its 1998 surimi recovery rate to 24%, a 40% increase from its 1997 olympic rate. However, it is difficult to make an accurate fleet-wide comparison of 1997 and 1998 surimi recovery rates, because a number of catcher/processor vessels were able to profitably shift production from surimi to fillet and block products. Surimi is primarily produced for the Asian market, while fillet and block product is primarily produced for the European and U.S. markets. Therefore, the harvesting share arrangement provided a two-fold benefit to U.S. consumers, by increasing the total amount of Pacific whiting products available, and by increasing production of the product type predominantly distributed in the U.S. (Bundy 1998).

In addition to increasing product recovery through more efficient processing, the WCC members recovered a substantial amount of raw product that had been lost as an artifact of managing an olympic fishery under a strict total catch limit. Prior to implementation of the cooperative, to prevent the catcher/processor sector allocation from being exceeded in any annual season, NMFS had estimated the daily harvest rate of the fleet, projected when the fleet would attain the sector's allocation and then closed the fishery based on its projections. Because this system is imprecise and the agency manages conservatively, substantial amounts of otherwise available catch were often left in the water at season closure. Even when post-season audits disclosed the underharvest, the agency was typically unwilling to re-open the fishery, as the instantaneous catching capacity of the catcher/processor fleet operating in olympic mode presented an unacceptable risk that the remainder would be exceeded.

Upon implementation of the WCC, NMFS began to receive daily reports from SeaState that it could verify through its observers, and the fleet significantly reduced its catch rates. As the season progressed, the agency could verify that WCC members were operating in compliance with their agreement, as vessels that had harvested their whiting shares exited the fishing grounds. In consideration of these factors, the agency shifted from closing the season based on catch rate projection to vessel level monitoring more akin to IFQ management. The fleet collaborated to minimize the risk that the seasonal allocation would be exceeded by arranging to have the last incremental amounts of all of its members' shares assigned to a single vessel. As a result, the seasonal allocation was approached with an accuracy that the agency had not previously experienced, resulting in a substantial gain in round fish to the fleet and product to the consumer.

#### **4. THE BERING SEA POLLOCK CATCHER/PROCESSOR COOPERATIVE**

As noted above, the four WCC member companies also operated catcher/processor vessels in the U.S. Bering Sea pollock fishery. As the results of the WCC arrangement became apparent, they sought to implement a comparable arrangement in the pollock fishery. However, there were two significant impediments to doing so. First, the sector of the fishery within which their vessels operated comprised both catcher/processors and the mothership fleet. The mothership fleet was composed of three processing ships and approximately 25 catcher vessels, with highly diverse ownership. Negotiating harvesting shares among the members of the sector was perceived to be a virtually insurmountable task. Second, while there was a federal moratorium preventing new vessels from being employed in the Alaska groundfish fisheries, it was not species-specific. Therefore groundfish vessels that normally did not harvest pollock, or only did so incidentally, remained eligible to enter the directed pollock fishery. This left the potential for an influx of "free riders", even if the members of the catcher/processor and mothership fleets were able to negotiate shares.

The catcher/processor companies made an initial attempt to correct the first problem at the U.S. North Pacific Fishery Management Council's June 1998 meeting concerning the Bering Sea pollock "inshore/offshore" allocation split. In consideration for the catcher/processors agreeing to a reduction in the percentage of the pollock stock allocated to their sector, the mothership fleet and almost all vessel owners and inshore processors agreed to support a separate pollock allocation for the catcher/processor sector. However, State of Alaska representatives were concerned about the combined economic impacts of the sectoral reallocation and the imminent catcher/processor harvesting cooperative, and two inshore processors perceived the catcher/processor harvesting arrangement as disadvantageous to their interests. Facing this opposition, the Council refused to consider the three way allocation.

A substantial majority of the Bering Sea pollock fishery participants were dissatisfied with the Council's action. They turned their attention to another potential vehicle for achieving a comparable result, the American Fisheries Act (Division C, Title II of U.S. Public Law 105-277; the "AFA"). The AFA was a piece of federal legislation originally introduced in September 1997 by Alaska's Senator Stevens. The legislation was originally intended to increase the U.S. ownership requirement for U.S. fishing vessels to 75%, and to revoke the fishery eligibility of certain catcher/processors that Senator Stevens believed had entered the Bering Sea pollock fishery in violation of the Commercial Fishing Vessel Anti-Reflagging Act of 1987 (Pub.L. 100-239).

In its original form, the legislation was strongly opposed by Washington's Senator Gorton, as the companies that owned the catcher/processors that would have lost their right to fish were based in Washington. As a result of the impasse between two powerful Senators, the legislation was in limbo as of June 1998. Perceiving the AFA as a vehicle for achieving the arrangement that the Council had refused to consider, representatives of the catcher/processor, mothership and inshore sectors of the Bering Sea pollock fishery undertook intense negotiations among each other and intense lobbying efforts with both Senators and their staffs. The discussions culminated in a version of the legislation that became law in October 1998.

The final version of the AFA was far different than the original bill. Its nuances reflect the delicate balancing act undertaken by industry representatives and legislative staff in order to achieve some modicum of consensus on a range of complicated issues. Therefore, even a brief summary of its major components is beyond the scope of this paper. For purposes of the present discussion, its key features are a three sector structure for the Bering Sea pollock fishery, achieved by splitting the "offshore" sector into catcher/processor and mothership sectors, and strict criteria restricting the vessels and processors eligible to harvest and process Bering Sea pollock to those that had been actively engaged in the fishery during 1995-1997.

With the practical conditions to reaching a harvesting agreement met, two subsets of the companies operating vessels in the catcher/processor sector of the Bering Sea pollock fishery negotiated harvesting shares. One group was composed of the companies operating twenty of the twenty-one catcher/processor vessels, and the other group was composed of companies operating seven catcher vessels eligible to harvest from the catcher/processor allocation. Once again, negotiations were initially framed by the catch histories and the capacities of the vessels involved, and companies operating several vessels took some discount in exchange for the efficiency gains they were likely to realize. While negotiations took somewhat longer than they had in connection with the WCC, the parties had agreed upon their respective shares within two months of the AFA's adoption.

The catcher/processor group formed the "Pollock Conservation Cooperative" ("PCC"), and the catcher vessels eligible to harvest from the catcher/processor allocation formed the "Offshore Pollock Catchers' Cooperative" ("OPCC"). The two entities then entered into an inter-cooperative association which fixed each group's relative percentage of the sector allocation, and which made it possible to transfer shares from members of one organization to members of the other. Both organizations submitted a business review request to the

Antitrust Division concerning their proposed activities. However, because they were confident of approval based on the WCC precedent, PCC and OPCC members undertook share-based harvesting operations as of the opening of the Bering Sea pollock trawl winter/spring (or "A") season on January 20, 1999 without having received a response from the Division.

Once again, improvements in efficiency and productivity were immediate and substantial. Only 16 of the 20 eligible catcher/processor vessels fished the 1999 "A" season, as multi-vessel companies reduced their capacity to rational levels. In addition, a number of catcher/processor companies made arrangements to acquire shares from OPCC catcher vessels, and harvest them with their catcher/processors.

The 1999 "A" season daily catch rate of the sixteen catcher/processor vessels employed was approximately 60% lower than their 1995-1998 average. This was a direct result of the vessels making approximately 45% fewer tows per day and harvesting approximately 27% fewer fish per tow than they had in the olympic fishery. Even though the amount of pollock available to the sector for the "A" season was approximately half of what it had been in 1998 (as the result of inter-sectoral reallocation under the AFA and Steller sea lion mitigation measures discussed further below), the season lasted more than twice as long (APA 1999).

This reduction in catch rates has significance beyond vessel operating efficiency. NMFS has determined that the western population of the Alaskan Steller sea lion is an endangered species. Pursuant to the U.S. Endangered Species Act (15 U.S.C. § 1531), NMFS has an obligation to insure that the pollock fishery does not jeopardize the recovery of the endangered population or adversely modify its critical habitat. One of the policies adopted by the agency in connection with this obligation is to disperse pollock fishing temporally and spatially, to reduce the risk of localized depletion of pollock stocks. Under this policy, NMFS has split each of the 1999 Bering Sea "A" and summer/fall (or "B") pollock seasons into two sub-seasons, and subdivided each seasonal allocation into amounts that could be caught inside and outside of Steller critical habitat.

By permitting the fleet to reduce its daily catch rate, the cooperative harvesting arrangement complemented NMFS's goal of temporal dispersion of the fishery. It permitted the fleet to prospect outside of critical habitat (where pollock are typically schooled during the "A" season) without risking lost harvesting opportunities, thus complementing NMFS's goal of spatial dispersion of the fishery as well. The harvesting arrangement also gave the fleet the ability to avoid substantial losses to management "buffers", as it had in the whiting fishery. The agency's normally conservative approach to enforcing overall

harvest limits has been heightened by Steller sea lion concerns. Given the Balkanized nature of the pollock “A” season under the Steller management regime, these losses could have been substantial.

As harvesting effort and catch rate decreased, product recovery and value increased. While a comprehensive analysis of yield differentials is not yet available, preliminary data comparing the production rates of the catcher/processors that operated in both 1998 and 1999 indicates that the product recovery rate increased by approximately 20% in 1999. In addition, the percentage of various product forms by weight of all products produced shifted from lower value to higher value products. The percentage by weight of deep-skin fillet production increased by approximately 40% from 1998 to 1999, and surimi production increased by approximately 9%, while standard fillet and mince production decreased by approximately 40% (APA 1999).

The factors which appear to have contributed most to making this shift possible are changes in fishing operations that could be accomplished only under the harvesting share system. As a general matter, vessel operators no longer had to be concerned that optimizing their product recovery rates or product types could result in erosion of their harvesting opportunities. Vessel captains were able to take additional time to fish selectively for schools of larger fish, which are more suitable for deep-skin fillet production. Vessels reduced trawl tow sizes from an average of 92 tons per tow in the 1995-1998 “A” season to approximately 67 tons per tow in the 1999 “A” season. This reduced damage to the fish, and more closely matched harvesting rates to optimal processing rates. Slower processing rates permitted more processing precision, and made it possible to produce more labor-intensive products within existing capacity limits (APA 1999).

Deep-skin fillets are produced primarily for the U.S. market, while surimi is produced primarily for export (NPFMC 1998). Deep-skin prices in 1999 were relatively high, probably as a result of decreased Russian fillet production and shrinkage in the overall worldwide production of groundfish products (GAO 1999). This high price induced pollock catcher/processors to take advantage of the opportunity presented by the PCC, by not only increasing deep-skin production within existing limits in 1999, but also modifying vessels to increase their capacity to produce the product in 2000 and beyond. Industry sources report that the combined effect of these activities has been a substantial decrease in the price for deep-skin product on the U.S. market in 2000 (Ess 2000).

## 5. SUMMARY AND CONCLUSIONS

### 5.1 The WCC and PCC Harvesting Cooperative Experiences.

Fishermen pursued rationalization through private ordering in the Pacific whiting and Bering Sea pollock fisheries because IFQs were unattainable. By establishing that narrowly drawn harvesting arrangements in quota-limited fisheries are pro-competitive for U.S. consumers, vertically integrated companies have been able to obtain favorable Department of Justice review of harvesting cooperatives. Harvesting cooperatives have been formed with relatively low transaction costs, and have produced significant gains in efficiency and productivity. Shares are easily transferred among members, allowing expedient reductions in capacity, transfers to more efficient operations, and consolidation of fractional remainders as sectoral limits are approached. Vessels that remain in the fishery are able to conduct rationally paced operations with a focus on achieving optimal recovery of high valued products, rather than racing for fish.

Several characteristics of the companies and fisheries involved contributed to the relative ease with which the WCC, PCC and OPCC arrangements were negotiated and implemented. Important among these characteristics are the well-defined and relatively small number of participants eligible to participate in the fishery, the abundance of accurate and transparent data, the shared interest in rationalization among the fishing companies’ management personnel, and a scale of operations that could support the cost of implementing and monitoring the arrangement.

### 5.2 Harvesting Cooperatives vs. IFQs

Comparing and contrasting harvesting cooperatives and IFQs with respect to the allocation process, enforcement, excess capacity “spill over”, and potential social disruptions associated with rationalization illustrates some of the potential advantages and disadvantages of harvesting cooperatives as fishery rationalization systems.

Deciding who should receive quota and how much they should receive is a difficult, highly political process (OSB 1999). Under the harvesting cooperative model, the governmental allocation function extends only to defining the relevant fishery sector, and limiting access to it. While any restriction on fishery entry is sure to generate some controversy, leaving share allocation to the fishery participants internalizes the conflict associated with choosing individual winners and losers, and stops short of awarding individual interests in public resources to private parties. By keeping government out of these controversial activities, it should be possible to achieve fishery rationalization through harvesting cooperatives at

lower transaction costs than IFQs, and to reduce rent seeking and political appeal activity.

There are some indications that enforcement costs are higher and enforcement problems occur more frequently in IFQ fisheries (OSB 1999). These costs may be recoverable through taxing away some of the additional revenue gained through rationalization. However, the underlying problems associated with the adversarial nature of governmental monitoring and enforcement remain. Harvesting cooperative success depends on the members designing and implementing an effective system of monitoring catch and enforcing shares. The opportunity to harvest a TAC “buffer” maintained in connection with olympic operations provides an additional incentive to do so. Enforcement is likely to be more effective when fishermen collaborate to obtain compliance, and enforcement costs are likely to be lower as a result.

As with IFQs, harvesting cooperatives free up excess capacity, which can in turn “spill over” into open access fisheries, and thereby exacerbate the race for fish. While the best remedy for this problem under either IFQs or harvesting cooperatives may be to extend limited access and rationalization systems across the range of potentially affected fisheries, it may not be possible to do so. In cases where simultaneous rationalization is not possible, “sideboards”, i.e., measures that limit the ability to transfer excess capacity from fishery to fishery, may be appropriate. Imposing this limit on individual IFQ holders raises monitoring and enforcement issues comparable to enforcing quotas themselves. Imposing an aggregate sideboard limit at the cooperative level relieves the agency of the difficult and expensive “command and control” relationship with individual vessels and provides cooperative members with the incentives to develop adequate internal monitoring and enforcement procedures. It also allows cooperative members to consolidate sideboard limits and to harvest them more efficiently.

Harvesting cooperatives allow more efficient fishermen to use the gains of rationalization to lease or acquire shares, and to modify their harvesting or processing platforms to optimize performance under rational conditions. While this may be the best result for the consumer, it may lead to socially undesirable degrees of consolidation. Fishery policy makers may therefore wish to impose share aggregation limits.

In determining whether, and if so, to what degree restraints should be imposed on harvesting cooperatives to address these social concerns, an intrinsic difference between the durability of harvesting cooperative shares and IFQs deserves consideration. Unless term-limited at the time of issue, IFQs are likely to be difficult to modify or eliminate once quotas have been purchased for value.

By contrast, the durability of a harvesting cooperative’s shares depends on the harvesting agreement’s termination provisions, and the rationality of the cooperative’s members. An agreement that may be terminated at will by one or more members is not likely to support much capital investment, nor is a cooperative with one or more members who may irrationally breach the agreement. Even in cases where a cooperative agreement is highly durable and the membership is stable and predictable, decisions concerning capital investment must be sensitive to some risk of an unpredictable return to olympic operations, which would be much less likely under even a term-limited IFQ.

This intrinsic difference in durability can reasonably be expected to limit the capital available to acquire shares and/or modify harvesting and processing capacity, which in turn will limit the degree of consolidation and efficiency gains that can be obtained through harvesting cooperatives. Therefore, cooperatives are likely to have a lower degree of related social impacts on other fisheries or fishery dependent communities than would be expected to follow from IFQs. As a related matter, because harvesting cooperatives are likely to produce lower gains in efficiency, they are likely to produce commensurately lower revenue gains, and thus present less justification for distributional measures such as expanded stakeholder groups and/or taxation.

### **5.3 Harvesting Cooperatives as “Virtual Communities”**

Two general approaches have been prevalent in addressing the tragedy of the commons in the fisheries context. One is the “command and control” approach, i.e., using governmental regulation to induce fishermen to change their actions and limit their adverse impacts. The other is granting fishermen well-defined individual privileges to a portion of the harvestable fish stocks, to give fishermen appropriate conservation and management incentives. A third alternative which has received increasing attention is the community-based governing arrangement (OSB, 1999).

The term “virtual community” has been suggested as an appropriate term to describe non-geographically based communities of fishers that hold (or behave like they hold) collective property interests in a fishery (Munro et al, 1998; OSBb, 1999)). Munro et al. suggest that individual fishing quotas (“IFQs”) may, under certain circumstances, take on the attributes of corporate stock, and in the process, may lead ITQ holders to take on the characteristics of collective owners of the resource. Further, they suggest in some circumstances virtual communities will arise as a blend of a geographically based community and an ITQ (such as a Community Development Quota), or as an entirely distinct scheme.

Harvesting cooperatives appear to be one of the distinct forms of virtual community anticipated by Munro et al. They are hybrids that blend governmental common pool TAC management and sectoral licensing with private share allocation and enforcement.

These hybrids offer unique opportunities to address some of the more complicated and subtle social issues associated with fishery rationalization. Discussing the AFA's catcher vessel cooperative provisions and the related NMFS regulations is outside of the scope of this paper. However, these provisions and regulations deserve consideration, as they illustrate interesting attempts to address rationalization issues by conditioning NMFS approval of a harvesting cooperative's allocation on continuing compliance with AFA requirements (such as sideboards, for example) expressed as group performance standards. The AFA also uses governmentally imposed conditions to sub-sector cooperative formation to shape and balance the relationship between harvesters and processors.

The AFA approach to harvesting cooperatives suggests that it may be feasible to address a wide spectrum of social concerns by explicitly conditioning the duration and/or amount of sector fishery allocations or the duration of sectoral licensing systems that support harvesting cooperatives on successful attainment of related social goals. However, doing so is likely to require that the fishermen involved have a fairly high degree of sophistication and significant resources, and thus may be possible only in larger, more industrial fisheries. In addition, setting broad social performance goals could be a disincentive to making investments to obtain second order benefits of rationalization, unless the goals are expressed with transparency adequate to allow participants to reliably measure their compliance. Finally, long term, repeated use of the incentive system would depend on reliable performance by the monitoring agency of its implicit obligation to renew the allocation and/or licensing system if the performance standards were met.

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