The Chignik Salmon Cooperative:
A Case Study of Allocation to a Voluntary Self-Governance Organization

by

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Preface

“Fisheries Self-Governance” refers to the assumption by fishermen of responsibilities which would otherwise be undertaken by fisheries managers, such as deciding who may fish and when and how they may fish, monitoring catches, enforcing regulations, and researching stock conditions. The Chignik salmon cooperative (the Co-op) represents an interesting and important example of fisheries self-governance.

I wrote this paper as a first draft of a paper entitled “The Chignik Salmon Cooperative” which has since been published in a book (R. Townsend; R. Shotton; and H. Uchida, eds., *Case studies in fisheries self-governance*. FAO Fisheries Technical Paper No. 504, Rome, FAO, 2008, available at [http://www.fao.org/docrep/010/a1497e/a1497e00.htm](http://www.fao.org/docrep/010/a1497e/a1497e00.htm). Because of space constraints, I had to shorten the paper considerably from this first draft to the version which appeared in the book.

I am posting this longer version of the paper on my website because some readers may be interested in the additional details about the Co-op which it provides.

As anyone familiar with the Co-op knows, it is a complex topic. It was and remains a subject of significant controversy in Alaska and particularly among those who are or were stakeholders in the Chignik salmon fishery—who have strongly held and widely differing perspectives about the Co-op and what lessons should be drawn from it.

I prepared this paper for an international audience of readers interested in the topic of self-governance, most of whom would be unfamiliar with the Co-op or Alaska salmon fisheries. My focus therefore was on information of particular relevance to the topic of fisheries self-governance, including how the Co-op came about, how it was organized and governed, what some of its effects were, and why it ended.

Alaskans familiar with the Co-op will recognize that I have not described everything that is important about its history or its effect. I didn’t do so because that wasn’t my purpose in writing this paper. Nor was my purpose to argue for or against the Co-op.

I welcome comments on this paper from anyone familiar with the Chignik salmon fishery and the Co-op.

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INTRODUCTION

The Chignik salmon fishery is a major Alaska sockeye salmon fishery located in southwestern Alaska. Approximately 100 limited entry permit holders have the right to participate in the fishery, using purse seine gear.

In 2001, after years of declining prices and harvests, a group of permit holders asked the Alaska Board of Fisheries for an allocation of a share of the total catch to those permit holders who wished to fish cooperatively in order to reduce costs, improve quality and increase value by reducing the number of vessels fishing and slowing down the fishery.

In January 2002, the Board of Fisheries passed regulations that provided for an allocation to a harvesting cooperative (“Co-op”) in the Chignik fishery. Each year, the Co-op would receive an allocation of a percentage of the Chignik sockeye harvest, based on how many permit holders chose to join the Co-op. Permit holders who chose not to join could fish in an “independent fishery” which would receive the remaining allocation of the sockeye harvest. The Alaska Department of Fish and Game (ADFG) would manage the Chignik fishery with separate fishing opportunities (openings) for these two different groups.

Over the following four years, from 2002-2005, more than three-quarters of Chignik permit holders joined the Co-op. Each year, the Co-op hired about 20 members to fish the Co-op’s catch allocation, and others to use their vessels as tenders to transport fish to processors. All Co-op members—including the majority who did not fish or tender, were paid equal shares of the Co-op’s profits.

By greatly reducing the number of vessels participating in the fishery the Co-op achieved very significant savings on costs of fuel, vessel maintenance, insurance and crew. The Co-op also undertook a number of innovations such as delivering live fish to processors. The Co-op’s ability to control its rate of harvest also allowed fishery managers to more closely achieve daily goals for escapement (the number of unharvested salmon which entered the river system to spawn).

The Co-op was highly controversial. A minority of permit holders vigorously opposed the Co-op, arguing that the allocation was unfair and that the Co-op had a variety of adverse social effects. In early 2006, after a lengthy court challenge, the Alaska Supreme Court ruled that the Co-op was contrary to a requirement of the Alaska Limited Entry law that permit holders must operate their own vessel—thus ending the Co-op.

The allocation to a cooperative was a major new development in the management of Alaska salmon fisheries. This paper examines effects of the Co-op, and suggests lessons from the experience of the Co-op about the opportunities and challenges of this form of voluntary transition to cooperative management.1

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1Major sources of data and information for this paper include the Alaska Department of Fish and Game, the Alaska Commercial Fisheries Entry Commission, and the Chignik Seafood Producers Association, a survey of Chignik permit holders conducted by the University of Alaska Institute of Social and Economic Research, press articles and
The glossary below summarizes specialized terminology used in this paper relating to the Chignik salmon fishery and the Co-op. These terms are also defined where they first occur in the paper.

### Glossary of Specialized Terminology

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
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<tbody>
<tr>
<td>Alaska Board of Fisheries (“The Board”)</td>
<td>A seven-member Board which establishes policies for the management of Alaska fisheries, which are implemented by the Alaska Department of Fish and Game.</td>
</tr>
<tr>
<td>Alaska Department of Fish and Game (ADFG or “the Department”)</td>
<td>The agency which manages Alaska salmon fisheries, and implements policies adopted by the Board of Fisheries.</td>
</tr>
<tr>
<td>Chignik Management Area (CMA)</td>
<td>A salmon management area in southwest Alaska along the southern coast of the Alaska Peninsula.</td>
</tr>
<tr>
<td>Chignik-Area Villages</td>
<td>Five villages located within the Chignik Management Area where many of the Chignik salmon permit holders live: Chignik Bay, Chignik Lagoon, Chignik Lake, Perryville, and Ivanof.</td>
</tr>
<tr>
<td>Chignik Seiners Association (CSA)</td>
<td>An organization of Chignik permit holders, formed many year before the Co-op, which lobbied on behalf of permit holders and represented fishermen in price negotiations with processors.</td>
</tr>
<tr>
<td>The Co-op</td>
<td>Following general practice in Alaska we use the term “Chignik Co-op” with two different meanings, which are apparent from the context. The narrower meaning is the harvester cooperative which received an allocation in the Chignik fishery (also known as the Chignik Seafood Processors Association or CSPA). The broader meaning is the management of the fishery under regulations which provided for an allocation to a harvester cooperative.</td>
</tr>
<tr>
<td>Co-op Years</td>
<td>The four years during which the Chignik Co-op received an allocation in the Chignik salmon fishery (2002, 2003, 2004 &amp; 2005).</td>
</tr>
<tr>
<td>Chignik Seafood Processors Association (CSPA)</td>
<td>The legal name of the harvester cooperative which received an allocation in the Chignik Salmon fishery.</td>
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<tr>
<td>Independent Fishery</td>
<td>The fishery conducted by the “independent fleet” of “independent permit holders” who did not join the Co-op.</td>
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<tr>
<td>Competitive Fishery</td>
<td>In this paper we use “competitive fishery” to refer to the Chignik fishery before and after the Co-op years (2002-2005). Note that this term is sometimes used to refer to the fishery for permit holders who did not join the Co-op (which we refer to as the “Independent Fishery.”)</td>
</tr>
<tr>
<td>Escapement</td>
<td>The number of fish which “escape” the commercial fishery and enter the Chignik River and lake system to spawn. ADFG manages the fishery to try to achieve annual and within-season escapement goals.</td>
</tr>
<tr>
<td>The Lagoon</td>
<td>Chignik Lagoon, a protected body of water which Chignik sockeye salmon swim through in returning to the Chignik river, and where the majority of the Chignik sockeye have historically been caught.</td>
</tr>
<tr>
<td>Outside</td>
<td>Parts of the Chignik Management Area other than Chignik Lagoon.</td>
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letters about the Co-op, and the author’s observations during visits to Chignik and conversations with permit holders, processors, fishery managers, tender operators, other community residents and fishery participants.
THE CHIGNIK SALMON FISHERY

The Chignik salmon fishery is a major Alaska salmon fishery located in a remote area of southwestern Alaska on the south side of the Alaska Peninsula. Fish are harvested using seine gear. Most fish are delivered from fishing boats to two local processors using tender vessels. Most fish are processed into frozen or canned salmon for sale to markets in Japan, Europe and the United States. Only a small share of the catch is sold fresh. Chignik is located hundreds of miles from Alaska’s road system, and only small planes can land at local gravel runways.

Between 1990 and 2005, annual harvests in the Chignik salmon fishery averaged 6,900 metric tons with an annual average ex-vessel value of $11.3 million. Over this time period, the Chignik salmon fishery accounted for approximately 3.3% of the total Alaska salmon harvest value and approximately 2.2% of the total Alaska salmon harvest volume.²

Although all five species of Pacific salmon have historically been harvested in the Chignik fishery, sockeye salmon (*Oncorhynchus nerka*) have accounted for most of the ex-vessel

² Source: CFEC, Basic Information Tables.
value, because sockeye have commanded significantly higher ex-vessel prices than other species. Between 1990 and 2005, sockeye salmon accounted for 90% of total ex-vessel value in the fishery (Stichert 2006, Table 10). Except where otherwise noted, the data and discussion in this paper refers to the sockeye salmon fishery only.

Historically, Chignik sockeye harvests have varied widely from year to year, but have commonly been between one and two million fish (Figure 2). Harvests occur from early June through early September, with two distinct harvest peaks (corresponding to runs to different lakes) in June and July.

After peaking in 1987 and 1988 at more than $25 million, the ex-vessel value of the Chignik salmon harvest trended downwards during the 1990s (Figure 3). Total ex-vessel value averaged $15.4 million for 1985-89, $12.9 million for 1990-94, $11.5 million for 1995-99, and $9.6 million for 2000-01 (the two years prior to the Co-op), and $5.0 million for 2002-05 (the Co-op years). In all four of the co-op years, ex-vessel value was less than any year of the preceding two decades (except that ex-vessel value in 2005 barely exceeded ex-vessel value in 1997).

The dramatic decline in value was the combined result of a decline in catches and a decline in ex-vessel prices. Several factors contributed to the decline in prices, which occurred across all Alaska salmon fisheries. The most important factors were growth in the world supply of farmed salmon; a prolonged economic slump in Japan (the most important market for Alaska sockeye salmon); record Alaska sockeye harvests during the early 1990s; and stagnant consumer demand for canned sockeye salmon (Knapp et al., 2007).

Figure 3

![Ex-Vessel Value of Chignik Management Area Commercial Salmon Harvests, 1980-2006 ($)](image)

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3 Source: Stichert (2006). Note that these data are nominal ex-vessel values. If they had been adjusted for inflation, the relative decline in value would have been greater.
Like other Alaska salmon fisheries, the Chignik salmon fishery is managed under a limited entry system established in the mid-1970s. There are approximately 100 permits in the fishery. Vessels must have a limited entry permit holder on board to participate in the fishery. Vessels may use only seine gear. Permit holders may participate in only one salmon fishery per season, and there are restrictions on vessel size and the amount of gear fished. The purpose of these requirements is to promote an owner-operated small-boat fishery.

Chignik Salmon Seining

Permits were initially distributed for free when the limited entry program began, to individuals with a history of participation in the fishery. Permits are transferable by gift or sale. Because of the relatively small number of permits in comparison with the total value of the fishery and relatively low harvesting costs, Chignik permits have been the most valuable of any Alaska salmon fishery. However, as ex-vessel value declined during the 1990s, the price of Chignik permits declined dramatically, from a peak of $417 thousand in 1990 to $186 thousand in 2001.

In the competitive fishery in years prior to the Co-op, there were wide differences among Chignik permit holders in annual gross earnings. These differences may be seen in “quartile” data calculated by the Alaska Commercial Fisheries Entry Commission (CFEC). Each year, CFEC ranks permit holders by their total earnings, and then divides them into four groups with approximately equal total earnings. In the decade prior to the Co-op, average gross earnings for permit holders in the top quartile were between 2.8 and 4.5 times higher than for permit holders in the bottom quartile. For example, in 2001, nine permit-holders in the top quartile had average earnings of $227,000, while forty-two permit-holders in the fourth quartile had average gross earnings of $50,000.

Limiting entry in the Chignik salmon fishery did not limit costs. During the 1980s and 1990s permit holders invested in newer, larger and more powerful boats. For example, between 1990 and 2001 the average horsepower of Chignik boats increased from 392 to 500;

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4 Since 1979, the number of permits issued annually has ranged between 99 and 102. Year-to-year differences in total permit numbers are mainly due to continuing issues over which individuals were qualified to receive permits initially.
the percentage of boats with non-wooden (mostly fibreglass) hulls increased from 79% to 89%, and the percentage of boats with refrigeration increased from 4% to 29%.

As earnings declined and costs increased, by the late 1990s participation in the Chignik fishery was becoming unprofitable for some permit holders, as indicated by the fact that some permits were not fished. Between 1980 and 1996, no more than one permit was not fished in any year. In contrast, 15 permits were not fished in 1998; 9 permits were not fished in 1999, and 6 permits were not fished in 2001.

All Chignik sockeye return to the Chignik River, which flows into Chignik Lagoon, a shallow protected bay approximately two miles wide and six miles long, providing ideal conditions for salmon seining. Before 2002, most sockeye were caught in the lagoon, although some fishing occurred outside the lagoon, intercepting sockeye returning to the lagoon. Harvests of other species took place mostly outside the lagoon, later in the season.

As in other Alaska salmon fisheries, ADFG manages the Chignik fishery to achieve seasonal “escapement” goals for the number of sockeye salmon which “escape” the commercial fishery and enter the river to return to two large lakes where they spawn. A short distance up the Chignik River from Chignik Lagoon the Alaska Department of Fish and Game (ADFG) operates a weir. All returning sockeye swim through two openings in the weir, and are photographed by underwater video cameras which allow ADFG to obtain an exact count of sockeye escapement.5

During the season, managers periodically “open” the fishery for commercial harvesting by the salmon fleet and “close” the fishery to allow more fish to “escape” through the lagoon and into the river. They attempt to schedule openings and closures to keep cumulative escapement as of any given date within a guideline target range for that date.

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5 In theory it would be possible to catch the entire Chignik sockeye harvest very efficiently at the weir. However, salmon traps are banned in Alaska, and there has been no serious discussion
Prior to the Coop, the only “tool” available to managers to achieve escapement goals was to “turn on” or “turn off” fishing by a fleet of 100 salmon seiners. The challenge for managers was that they do not know how many fish would return on any given day or for the rest of the season, nor how many fish the fleet would catch if allowed to fish. Allowing too long an opening and catching too many fish by any given date risked not achieving the season escapement goal, especially if the later part of the run was weak. Keeping the fishery closed for too long risked “over-escapement” and significant lost economic opportunity for fishermen and processors, as well as potential harm to future sockeye runs if too many fish spawned in the lakes.

**Video Monitors Used to Count Sockeye Salmon Passing through the Weir**

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**ORIGINS OF THE CHIGNIK CO-OP**

Chignik permit holders discussed the concept of a co-op for many years prior to 2002. The discussion was facilitated by the Chignik Seiners Association (CSA), a permit holder organization which lobbied on behalf of permit holders and represented fishermen in early-season negotiations with processors over ex-vessel prices. The perceived benefits of a co-op, and the challenges to forming one, may be seen in several documents circulated among Chignik permit holders during the 1990s.

It was well known that a much smaller number of boats fishing in the lagoon could catch all of the sockeye salmon available for commercial harvest. This had been demonstrated during a 1991 strike, as described in the annual ADFG report:

“... The fishing period was started... June 23 in Chignik Lagoon. No effort was made to fish by any of the 103 Chignik permit holders. They had decided to strike, along with fishermen in other areas in the state, to protest the lower salmon prices offered by processing plants.

By late afternoon of the same day, CSA had formed a co-op and agreed to catch only the amount of fish that could be processed per day by participating processors who exceeded Kodiak prices by $.05 per pound. The fleet restricted their fishing activities to Chignik Lagoon and allowed
approximately ten vessels at a time to fish. Other vessels rotated in and out so everyone was able to participate. . .

The boycott lasted from June 23 until July 4. During this boycott, CSA harvested approximately 692,000 sockeye salmon, averaging approximately 58,000 sockeye salmon per day.” (Quimby and Owen, 1992).

In a long article6 about the Co-op written after the 2002 season, Jamie Ross, one of the Co-op organizers, characterized a bitter 2001 strike as pivotal in galvanizing support for the Co-op:

“Instead of just sitting on the beach . . . we organized our efforts and were able to sell fish out of our district to Kodiak. We levered the local price by courting the distant market and modified our fishery to what we called a “community harvest” that shared all the proceeds equally among the fleet. About 1.2 million pounds of salmon left Chignik. . . The greatest lesson learned that summer was that independent fishermen could actually work together. It only required five or six boats to harvest those 1.2 million pounds. And it got us all thinking this co-op idea might actually work” (Ross 2002a).

Initially, Chignik permit holders envisioned a co-op which would be formed by contractual agreement among permit holders, without any allocation or other formal involvement by managers. In a 1994 letter to other permit holders, Chignik permit holder Al Anderson included both lower cost and higher quality among the benefits of a co-op, and estimated potential cost-savings:

“What makes the “co-op idea so attractive to me is the great amount of money that can be saved in harvesting the fish. Everyone knows that if you can cut costs and still produce the same volume at the same price you’re going to make more money. . . The fishing boats would be doing a whole lot less running around and they would be working together via radio . . . to help one another catch the fish . . . You will get better insurance rates as a large group than if you do it on an individual basis. . .

How many people realize that instead of only 16% of the fleet getting an extra 7 cents a pound for RSW the whole fleet would be getting it because the fish would all be tendered with RSW seiners as in 1991?7 . . . The big savings [in tendering] would come because you wouldn’t be running the tenders outside to collect fish until later in the year.8

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6 We quote at length from this article in this paper, in part because it reflects the perspective of Co-op organizers about what they are doing and why they were doing it.
7 It is common practice for processors to pay a higher price to fishermen whose fish are kept chilled in refrigerated seawater (RSW) on the fishing boats and tenders.
8 Non-sockeye species begin returning to other local river systems later in the summer. Anderson’s point was that tendering costs could be reduced by catching sockeye salmon only in the lagoon during the first part of the season.
We all know that the quality would be as high as you could possibly get without actually processing the fish right on board the catcher boats . . . We need to get as high quality as possible to retain market demand for our fish . . .

[Based on calculations presented in the letter] it can be readily seen that a co-op will save the fleet $1,442,500 in expenses without even considering any kind of crew cost changes. If you are an average fisherman that is like putting $14,425 in your pocket at the end of the season besides what you have normally made . . .” (Anderson 1994)

In 1997, Chuck McCallum, the Executive Director of the Chignik Seiners Association, outlined the goals and challenges in forming a co-op:

“The goal of a harvester’s co-op would be to increase the net profit to all permit holders by decreasing operating costs and by increasing the value of product through increased quality of delivered product. This would be done by decreasing the number of vessels fishing and redistributing the total income among catcher boats, tenders and non-active permit holders. By forming a co-op we would increase the power of permit holders with relation to processors, retain and increase our independence and take control of our own destiny. We would also increase our power with respect to regulatory agencies and legislative bodies by more active lobbying. A Board of Directors made up of permit holders would ‘direct’ the affairs of the corporation. Fishermen would lose some independence in the process. Fishermen would have to sign some kind of agreement which binds them all together, like partners, and sets consequences for breaking the contract. Yet, forming a co-op of this type may be the only hope for making Chignik competitive in the new world salmon market.

To form a harvester’s co-op a number of challenges lie ahead:

Economic models need to be developed showing different methods of distributing the money to co-op members, catchers and tenders. The “numbers” need to be crunched and presented in an easily understood format so that each fisherman will be able to quickly and easily understand the impact of the co-op on his business. The core of this task is to show how many millions of dollars can be saved while increasing the dollar value of the pack by delivering higher quality fish. . . . It would be useful to show how the co-op would affect fishermen in a variety of expense-to-income situations.

Methods of distribution need to be carefully thought out so that good economic incentives motivate everyone to want to participate in the co-op while maintaining a stable pool of permit holders. . . This would include various methods of “fading” from ‘historical’ distribution patterns to ‘equal’ distribution of the co-op’s income.
The legal and business structure needs to be formalized. Articles of incorporation, bylaws, policies, standard co-op membership contracts and agreements, etc., all need to be written up.

A salmon barrier must be deployed at the head of the lagoon to control (e.g. slow) the entry of salmon into the escapement so that a smaller number of harvesting vessels can effectively do the harvesting. This is crucial for the harvesting co-op to work as conceived. This is not something that we can do on short notice as we did in 1991 [during a strike].

CFEC permit complications could threaten the business stability of the co-op. Consider the following scenario: the co-op has been in operation for several years and is quite successful. The barrier is working well and it appears that in most years 15 catcher vessels can harvest the fish in the lagoon and nearby areas. Permit values rise sharply. What is to stop someone from selling his permit at a high value to someone who plans to come and fish competitively against the co-op? The state gives everyone with a permit the right to commercially fish. I don’t think you could sell the permit with a limitation imposed by the cooperative agreement. You might be able to bind permit holders to sell only to someone who would sign the agreement, but I’m not convinced. The co-op could arrange to have right of refusal on all permits sold as part of the agreement, but the permit may be worth far more on the open market than it would be to the cooperative. It is vital that the cooperative know that they are not going to get blindsided some summer by a new and unexpected entrant into the fishery. Wild talk of reprisals against the renegade is not the best first line plan for dealing with this possibility.

‘Selling’ the plan to the fishermen will be a challenge. We will need the help of negotiators and arbitrators who are experts in presenting information to groups in order to develop the level of confidence among Chignik fishermen that will be necessary to get 100% approval.” (McCallum 1997).

A critical issue in permit holders’ discussions of a Co-op was how share co-op costs and profits. This issue was complicated by the wide variation in investment and catches among permit holders. Proponents of “historical shares” argued that the benefits of a co-op should be in proportion to permit holder’s historical catches, which reflected their historical investment in the fishery. Proponents of “equal shares” argued that all limited entry permits were legally equal, and that “historical shares” would lock in the benefits of the fishery for current highliners at the expense of newer entrants:

“The State of Alaska issues a salmon permit card as equal access to the harvest opportunity to the salmon resources of the area. The State of Alaska courts will not look favourably at an income distribution system that unfairly or unequally restricts the income of rural or native permit holders just because they have not been high liners. Some of the “current high liners” want a guaranteed ‘high liners’ income for the next twenty years without having to
prove themselves year after year to the young and new fishermen. A cooperative is not about a few more powerful shareholders controlling or taking advantage of 40% or 50% of the other members . . .” (Mershon 1997).

A variety of potential compromises between “historical” and “equal” shares were also discussed:

“Everyone seems to agree that fading out to equal over time is a good idea. How long is a polarizing issue. Some say start at 100% historical and go to equal in 20 years, others stay start at equal or go to equal in 3 to 5 years . . . [Or] how about getting historical on what you would expect to get without a co-op and then divide the ‘extra’ equally?” (CSA 1997).

The key concept underlying the Chignik Co-op was suggested by CSA Executive Director Chuck McCallum as a way of overcoming the impasse posed by the impossibility of achieving 100% agreement among permit holders (Ross 2002a). This concept was essentially to divide the Chignik fishery into two separate fisheries—one for those permit holders who chose to join a co-op, and one for those who chose not to join a co-op. Managers would allocate part of the harvest to a co-op, based on how many permit holders chose to join the Co-op. The remaining “independent” permit holders would receive a separate allocation which they could fish competitively. Over the course of the season, managers would provide separate sequential fishing openings to allow the Co-op and the independent fleet to fish for their allocations. With its own allocation, permit holders who chose to join the co-op would be able to capture the full benefits of fishing cooperatively, while those who chose not to join could continue to fish competitively as they had before.

This concept was incorporated in “Proposal 105” submitted by three Chignik permit holders to the Alaska Board of Fisheries (the Board) for consideration at its January 2002 meeting:

“PROPOSAL: “50 or more Chignik . . . permit holders may form a joint venture and combine their fishing efforts . . . The joint venture will be allocated a percentage of the Chignik harvest equal to the percentage of Chignik CFEC permit holders participating in the joint venture and the department will manage the fishery to attain those harvest preferences.”

PROBLEM: The substantial downturn in the salmon market over the past decade has reduced fishing income drastically while operating expenses have continued to increase every year. Fuel, grocery, and insurance expenses have increased at or above inflation rates over the past ten years while salmon prices have declined to less than 50 of what they were just over a decade ago. The current fishing fleet is overcapitalized and the competitive harvest system

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9 The Alaska Board of Fisheries is a seven-member citizen board appointed by the governor and confirmed by the legislature. The Board meets several times per year and sets management policy for different fisheries on a regular three-year schedule. Anyone may submit proposals for consideration by the Board and testify before the Board. The Board has a small administrative staff, and relies on the expertise of other state agencies—primarily the Department of Fish and Game—for analysis of technical issues. The Board process provides for extensive public input. Intensive lobbying may occur prior to and during meetings, and controversial issues may draw days of testimony from stakeholders.
does not allow for real improvements in produce quality or flexibility in competing with farmed salmon in foreign or domestic markets. The lower salmon prices drop, the more pronounced these problems become.

WHAT WILL HAPPEN IF NOTHING IS DONE? . . . Chignik fishermen will continue to endure severe economic hardships as income from salmon fishing continues to decline due to poor prices and ever-increasing operating expenses. Limited entry permits will continue their exodus from rural to urban interests. Permit values will continue to plummet. Safety will be compromised as fishermen are forced to take greater risks to try to make a living and to hire inexperienced crew members because no crew members are available.”

There was intense debate over Proposal 105, both before and during the Board meeting, among both Chignik permit holders and others within the Alaska seafood industry who welcomed or feared the precedent that it might set. Much of this debate focused on the distinct but related issues of what formula should be used to determine the aggregate allocation to the Co-op as a share of the total harvest, and how co-op profits should be allocated among Co-op members. For both of these issues, arguments were repeated for “equal shares,” “historical shares,” or combinations of the two principles. Among numerous other contentious issues were whether a limited number of Co-op boats would have the ability to “stop the fish” when runs were large, and whether Co-op members who didn’t fish in Chignik would be allowed to participate in other Alaska salmon fisheries.

For months prior to the Board meeting co-op proponents worked to enlist support from other Chignik permit holders, as well as from board members, fishery managers, legislators, and others whom they thought could help persuade the board to support the proposal, demonstrating a more sophisticated understanding of the Board process than co-op opponents.

Prior to the January 2002 Board meeting members of the Chignik Seiners Association voted on whether to support the proposal, with 42 voting in favor, 22 opposing, and 10 abstaining (Ross 2002a). In testimony at the meeting, the proposal was supported by a majority of permit holders, but strongly opposed by a minority. Supporters argued that change was urgently needed to address an economic crisis in the fishery; that the co-op would dramatically lower costs and improve quality; that the proposed “equal shares” allocation to the co-op, as well as the “equal shares” distribution of profits within the co-op was both fair and legally necessary; and that the board had authority to make an allocation for the purpose of enhancing the economic viability of the fishery. Opponents argued that the proposal was unfair, not necessary, and beyond the authority of the board.

The Board was persuaded by arguments that a co-op allocation was within its authority and that action was needed to address an economic crisis (in the words of one Board member, “Rome is burning”). The board unanimously voted to adopt an amended version of the proposal, after modifying the formula for calculating the allocation to the Co-op. A pure “equal shares” allocation (as incorporated in Proposal 105) would have given the Co-op 1%
of the total quota per member. Under the modified formula, the Co-op would receive only 0.90% per permit holder, unless 85 or more permit holders joined, in which case the allocation would increase to 1.00% per member. The theory behind this formula was that a less than 1% allocation per Co-op member would tend to compensate for the fact that Co-op members were likely to have had lower catch shares historically, and also for the fact that they did not “need” as high a share because of the economic benefits they would receive from the Co-op.  

Permit Holders Listening to Alaska Board of Fishery Members
Debating the Co-op Proposal, January 2002

Recognizing the significance of and controversy over the Co-op allocation, the Board also voted to hold a special meeting the following year to review the effects of the Co-op. At this meeting, held in December 2002, the Board heard extensive testimony from permit-holders, other Chignik-area residents and fishery stakeholders, ADFG managers and others. The testimony reflected widely differing perspectives about the Co-op ranging from passionate praise to passionate denunciation. The Board considered but rejected a variety of proposals to end or significantly change the Co-op allocation. Similar meetings were held after the 2003 and 2004 seasons, with the Board making only minor changes to Chignik fishery regulations.

OPERATIONS OF THE CHIGNIK CO-OP

Following the Board meeting in January 2002, both Chignik permit holders had a lot of work to do to organize the Co-op in the five months prior to the 2002 salmon season. Co-op organizer Jamie Ross described this period as follows:

“This crazy new co-op creature was born. Now what? The first challenge was to create a legal entity that had never existed in Alaska corporate history.

10 According to the Board’s post-meeting summary, “The idea (was) to not penalize those who want to fish competitively but not reward people who simply want to hold out to get a higher share of the harvest once co-op participation is high.”
The Board required that we have an organization that treated all parties equally, and though we had some draft cooperative structures that agricultural groups had utilized in the past, our lawyer told us that many things need to be modified to fit the unique aspects of commercial fishing. Articles and bylaws were slowly created—with all structure having to pass the muster of the state Department of Law. Meanwhile we continued the information flow to the fleet, and had many, many teleconferences and personal phone calls. Our official membership started to grow. Soon we were up to 65 members. After six weeks our legal documents were complete, an initial Board of Directors was appointed, and a non-profit, cooperative corporation—the Chignik Seafood Producers Alliance—became a reality. It was a new corporate structure, a unique type of cooperative, and the first of its kind in U.S. history.

The April 15 deadline to join the co-op was rapidly approaching. I’d . . . spoken with practically every permit holder in Chignik. They’d all been sent several packets of information along with an official sign-up sheet as required by ADF&G. . . We held one last informational teleconference on April 4, where numerous questions and answers were fielded from some 50 people on the line from all across the state. When the gate dropped, we had 77 members out of the 100 Chignik permit holders—more than expected, less than hoped for, but amazing for a first-year effort.” (Ross 2002a)

With 77 members, the Co-op was allocated 69.3% of the 2002 Chignik sockeye harvests (Table 1). In 2003, the number of Co-op members and the allocation remained the same. The number of members increased to 87 in 2004 and fell to 76 in 2005.11

<table>
<thead>
<tr>
<th>Number of permits holders</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Co-op</td>
<td>77</td>
<td>77</td>
<td>87</td>
<td>76</td>
</tr>
<tr>
<td>Independent</td>
<td>22</td>
<td>24</td>
<td>13</td>
<td>23</td>
</tr>
<tr>
<td>Total</td>
<td>99</td>
<td>101</td>
<td>100</td>
<td>99</td>
</tr>
<tr>
<td>Allocation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Co-op</td>
<td>69.3%</td>
<td>69.3%</td>
<td>87.0%</td>
<td>68.4%</td>
</tr>
<tr>
<td>Independent</td>
<td>30.7%</td>
<td>30.7%</td>
<td>13.0%</td>
<td>31.6%</td>
</tr>
<tr>
<td>Allocation per permit</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Co-op</td>
<td>0.90%</td>
<td>0.90%</td>
<td>1.00%</td>
<td>0.90%</td>
</tr>
<tr>
<td>Independent</td>
<td>1.40%</td>
<td>1.28%</td>
<td>1.00%</td>
<td>1.37%</td>
</tr>
</tbody>
</table>

Table 1: Co-op and Independent Fleet Allocations

Source: Bouwens 2005; CFEC 2007a. Note: Table excludes one independent permit holder who did not fish in 2002. *For 2004 and 2005, the formula was 0.95% per co-op member if the number of members was between 80 and 84. **The table assumes 100 permit holders. Technically the allocation was “one prorated share” per member if the Co-op had 85 or more members.

11A variety of factors affected individual decisions about whether to join the Co-op. Comments of permit holders suggest that some joined only reluctantly—particularly in 2004—because of the perception that they could no longer fish successfully in the independent fishery because of changes in markets and tendering as well as the timing of fishing opportunities. The decline in Co-op membership in 2005 likely reflects in part the lower 2004 dividend as well as regulatory changes made by the Board in response to the Alaska Supreme Court’s 2005 decision (discussed below).
Under the bylaws, the CSPA was to be governed by a nine-member Board of Directors, elected for staggered three-year terms, with at least one member from each of the five Chignik-area villages. Three Board members did most of the administrative, marketing and fleet management work for the Co-op and were later paid “bonuses” of between $10,000 and $16,000 each for a total of $42,000. Over time, CSPA administrative expenses increased as the organization recognized that it could not rely on voluntary work by board members to the extent that it had initially. In 2003, total bonuses increased to $71,000.

The bylaws established procedures for contracting with members to harvest and tender salmon for CSPA. The hiring of harvesters for the 2002 season was described by CSPA Board President Axel Kopun as follows:

“It is the responsibility of the Board of Directors to select the Harvest Boats and Tenders . . . We couldn’t legally hold an election for the full Board until June so the three (founding board members) were forced to make the tough decisions of who would be hired and who would not. . . Roughly 44 members indicated they wanted to be Harvest Boats for the 2002 season. We only needed 18 Harvesters so we had some hard choices to make. . . The main criteria we established to help us make our choices (were) (1) a local hire preference to the extent allowable by law (including consideration for who would tend to hire local crew members); (2) Knowledge and experience fishing Chignik Lagoon; (3) Ability to work with other fishermen; (4) Financial independence (could they be ready to go without help from processors if necessary); (5) Condition of vessel & gear; and to a lesser extent (6) Efficiency (cost to operate member’s boat). . . The Harvest Boats that fished all season (were) paid $47,000. This is in addition to their regular . . . co-op share. Their fuel and insurance was also paid for by the CSPA. They had to pay their crew, groceries, and any maintenance/repairs from the money they were paid” (Kopun 2002).

By the 2004 season the CSPA had developed six-page contract between the Co-op and “independent contractor” harvesters and tenderers, which provided for five bimonthly payments of $12,000 for harvesters and $10,375 for tenderers, with additional bonus payments based on the size of the CSPA patronage dividend.

As the first season began, the co-op fishermen had to learn an entirely new way of fishing—cooperating instead of competing—as described by co-op organizer and fleet manager Jamie Ross:

“As managers of the co-op fishery, Alex Kopun and I split duties. He would stay down in Chignik Bay at the office that we’d rented and man the phones, work on the computer, deal directly with the processors, and do the bookkeeping. I would be up in the Lagoon aboard my boat . . . and coordinate tenders, organize the harvesting vessels, and serve as a backup tender if needed. . . Both of us would be in communication with the Alaska
Department of Fish and Game throughout the day, ready to make adjustments to the harvest strategy of the co-op as needed.

It was a new way of doing business and there were plenty of new issues to address. . . Since the co-op is considered a single entity, the fleet was no longer covered through accounts between Norquest and individual fishermen—everything had to go through the co-op. So it was now Axel’s job to write stacks of purchase orders for groceries, parts, etc. to keep the fleet operational.

All of our catcher boats and tenders were ready to go on the first day. . . Nevertheless, there were some socialization issues to work out among fishermen who had been aggressive competitors in the past. . . As a long-time herring fisherman who is used to working in a combine and a radio group, I was fascinated how the Chignik guys really did not know how to “team” fish. . . A few fathers and sons, and maybe some brothers, shared info on the radio, but essentially no one else had a formal group that shared strategy and information. I knew teamwork would be essential to our success, and I wanted the guys, though friends for many years, to get used to working together. So we made the decision to purchase private-channel radios, and this proved crucial to getting 25 individuals to work together when they had never done so before.

Nevertheless, during the first few days it was very hard for our guys to not fish like they always had. Under former fishery circumstances, with more than 70 boats fishing the Lagoon, there was always someone waiting to take every jumper that showed its face. . . It was my job to encourage the guys to fish in the most efficient manner, and to make each and every set count. . . I constantly referred decisions to the Lagoon experts that we had contracted to be our harvesting vessels. ‘If you had your choice of the ideal set at a particular spot at the perfect time, how and when would you make it?’ I would ask. Of course, they knew—and now they were willing to share information because there was no one now to compete against. If you missed a few, hey, your partner upstream caught them! Instead of Boris making four or five sets on the ‘Dago Flats’ during the flood for 200 to 300 a haul, he now could wait till the Lagoon drained out. At low tide, the “Dago Channel” became a slow, meandering river of concentrated sockeye. And now, fishing for the entire co-op, he could make one giant drag for 3,000 to 5,000 fish.

It took about three days to get with the new program. Then the guys had it pegged. I was amazed how these competitive, individualistic fishermen could figure out how to work together so fast” (Ross 2002b).

Following each season, after payment of harvester and tenderer contracts and other expenses, remaining revenues were distributed to co-op members on an equal share basis. Table 2 provides an overview of CSPA revenues, expenses and dividends for the years 2002-2004.
In 2002 and 2003—which had similar catches, revenues and the Co-op membership—about half of CSPA revenues were distributed as dividends, which were about $28,000 per member. In 2004, although more permit holders joined the Co-op and the Co-op’s allocation increased, the Co-op’s sockeye harvests fell by 21% because of a 29% decline in the total sockeye harvest. CSPA revenues fell more sharply than costs, causing the annual dividend to decline to $15,000 per member.

<table>
<thead>
<tr>
<th>Table 2</th>
<th>Chignik Salmon Producers Association Revenues, Expenses and Dividends: 2002-2004</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2002</td>
</tr>
<tr>
<td>Sockeye harvest volume (pounds)</td>
<td>4,969,261</td>
</tr>
<tr>
<td>Number of CSPA members</td>
<td>77</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
</tr>
<tr>
<td>After-tax revenues</td>
<td>$4,070,519</td>
</tr>
<tr>
<td>Harvesting</td>
<td>$971,370</td>
</tr>
<tr>
<td>Tendering</td>
<td>$419,825</td>
</tr>
<tr>
<td>All other expenses</td>
<td>$523,324</td>
</tr>
<tr>
<td>Dividends</td>
<td>$2,156,000</td>
</tr>
<tr>
<td><strong>Per sockeye pound</strong></td>
<td></td>
</tr>
<tr>
<td>After-tax revenues</td>
<td>$0.82</td>
</tr>
<tr>
<td>Harvesting</td>
<td>$0.20</td>
</tr>
<tr>
<td>Tendering</td>
<td>$0.08</td>
</tr>
<tr>
<td>All other expenses</td>
<td>$0.11</td>
</tr>
<tr>
<td>Dividends</td>
<td>$0.43</td>
</tr>
<tr>
<td><strong>Per CSPA member</strong></td>
<td></td>
</tr>
<tr>
<td>After-tax revenues</td>
<td>$52,864</td>
</tr>
<tr>
<td>Harvesting</td>
<td>$12,615</td>
</tr>
<tr>
<td>Tendering</td>
<td>$5,452</td>
</tr>
<tr>
<td>All other expenses</td>
<td>$6,796</td>
</tr>
<tr>
<td>Dividends</td>
<td>$28,000</td>
</tr>
</tbody>
</table>

Source: Author's estimates based on CSPA Financial Reports and ADFG harvest data. Note that a small share of revenues (less than 2%) were from species other than sockeye. 2004 revenue and dividends include projected $261,000 in post-season adjustments over and above amounts reported in financial statement.

ADFG fishery managers also faced significant challenges in implementing the Co-op. Chignik area commercial salmon fishing regulations were amended to “establish the criteria and management measures for a salmon purse seine cooperative fishery in the Chignik area” (5AAC 15.359), specifying the requirements for the issuance of an “annual cooperative fishery permit.”

In April 2002, ADFG released a 2002 Chignik fishery management plan under which ADFG would “manage the . . . sockeye salmon fisheries to achieve, as close as possible, the established sockeye salmon allocation percentages between the cooperative fleet and the competitive fleet by the conclusion of the season. Ideally, the . . . fisheries would be managed to keep the allocations ‘on track’ throughout the entire season” (Pappas and Daigneault, 2002).

As the season began, the job fell to the local ADFG manager to explain to fishermen how the new system would work, and in particular the fact that at any given time only one of the two fleets would be fishing. Co-op organizer Jamie Ross described a pre-season meeting of Chignik-area fishermen:
“Almost all 22 of the non-co-op fishermen were present, and they were fuming. ADF&G manager George Pappas had the “hot seat” trying to explain why there was an allocation to a separate group of fishermen, what this allocation meant, etc. It was a long, unpleasant affair. . . Most Chignik fishermen had never really experienced allocations . . . Though the ramifications were clear and carefully discussed at the BOF meeting and during the months thereafter, it took all season for some to fully understand the program.” (Ross 2002a)

In late June 2002—a few weeks into the first co-op season—ADFG manager George Pappas agreed that many fishermen had not really anticipated the changes the co-op would bring: “One thing that is different is people have realized that it is really happening. A lot of people didn’t believe it until it happened.” (Pappas 2002)

EFFECTS OF THE CHIGNIK CO-OP

The Chignik Co-op had wide-ranging effects on the Chignik salmon fishery, which were more extensive and complex than can be discussed in detail in a paper of this length. Below we briefly discuss selected effects of the Co-op. Our goal is to give a sense of the diversity of effects, while illustrate how rapid and dramatic the changes brought about by fisheries self-governance can be.

It is important to keep in mind several challenges in assessing the effects of the Chignik Co-op. The Co-op years (2002-2005) were years of low salmon runs and depressed market conditions for sockeye salmon. We do not know how different run and market conditions might have affected Co-op membership or the operations of the Co-op and independent fleets. We do not know how the fishery might have changed without a Co-op: whether, for example, the number of vessels participating in the fishery might have declined significantly. We do not have data to assess many of the effects which may have been most important to fishery stakeholders, such as effects on hiring of local residents as crew, or effects on relationships between and among families and individuals in Chignik area communities.
Harvesting Costs

The Co-op significantly reduced harvesting costs in the Chignik fishery, by greatly reducing the number of boats participating in the fishery. Between 1980 and 2001, the number of permits fished annually (a good estimate of the number of boats fishing) ranged between 85 and 102.\textsuperscript{12} In all but three of these years, 98 or more permits were fished. In contrast, during the first three Co-op years a total of 41, 43 and 32 permits were fished—of which 19 were Co-op permits and the remainder were independent permits. The Co-op had an even greater effect on the total number of boat-days fished, because at any given time only the Co-op fleet or the independent fleet was fishing.

Accurately estimating the cost savings attributable to the Co-op is difficult, for many reasons. Reliable cost data are not available for the competitive fisheries prior to the Co-op, for the independent fishery during the Co-op years, or for those Co-op harvester vessel costs not paid for by the Co-op. There are significant differences in costs from year to year due to variations in the sockeye catch, the catch of other species, and the timing of catches over the season. Because we do not know how many boats might have fished in a competitive fishery had there not been a co-op, we do not know what share of the reduction in vessel participation is actually attributable to the Co-op.

Table 3 provides rough estimates of the potential magnitude of cost savings attributable to the Co-op. These estimates suggest that by reducing the number of vessels fishing, the Co-op may have reduced costs in the Chignik fishery by two-fifths or more of the total value of the fishery—depending on the year and which costs are included.

<table>
<thead>
<tr>
<th>Year</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fishery ex-vessel value ($000)</td>
<td>$4,655</td>
<td>$5,738</td>
<td>$3,596</td>
</tr>
<tr>
<td>Assumed number of boats which would have fished a competitive fishery</td>
<td>85</td>
<td>85</td>
<td>85</td>
</tr>
<tr>
<td>Number of boats which fished for the Co-op</td>
<td>19</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>Number of Co-op boats which fished</td>
<td>22</td>
<td>24</td>
<td>13</td>
</tr>
<tr>
<td>Reduction in boats attributable to Co-op</td>
<td>44</td>
<td>42</td>
<td>53</td>
</tr>
<tr>
<td>% reduction in boats attributable to Co-op</td>
<td>52%</td>
<td>49%</td>
<td>62%</td>
</tr>
</tbody>
</table>

Cost savings ($000)

<table>
<thead>
<tr>
<th>Cost savings as % of ex-vessel value</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insurance, maintenance &amp; fuel</td>
<td>$1,232</td>
<td>$1,176</td>
<td>$1,484</td>
</tr>
<tr>
<td>Crew and groceries</td>
<td>$920</td>
<td>$1,118</td>
<td>$750</td>
</tr>
</tbody>
</table>

Note: Assumes average costs of $28,000 per boat for insurance, maintenance and fuel and average cost of $3500 per boat for groceries. Crew cost savings estimates assume that crew would have been paid a crew share of 30% of ex-vessel value net of 6% fish taxes in a competitive fishery, and that the decline in crew costs during the co-op years would have been proportional to the decline in vessels fishing—so that that crew would not have been paid more for catching more fish.

The cost savings estimates in Table 3 are based on numerous assumptions and should be considered only approximate. The cost estimates are based on annual operating cost assumptions for Chignik seine vessels developed from a survey of 25 Chignik permit holders by

\textsuperscript{12} Data are available for the number of permits fished but not for the number of boats fished. However, with the exception of the last Co-op year, each permit was generally fished from a separate boat.
the McDowell Group (2002). Costs increased for each of four vessel size classes. Weighted annual average costs were $5000 for fuel (with a range of $4100-$7500); $15,000 for annual repair and maintenance of seine vessels, nets, skiffs and outboards ($13,000-$21,800); and $8000 for insurance ($5600-$10,900).

The estimates assume that only 85 boats would have fished in a competitive fishery (the number which had participated in the 1998 fishery, which had the lowest historical participation). Assuming that a smaller number would have participated—which is plausible given the low ex-vessel values of the Co-op years—would have reduced the estimated cost savings attributable to the Co-op.

The estimates distinguish between costs savings for insurance maintenance and fuel and cost savings for crew and groceries—partly because the actual change in payments to crew is highly uncertain, and partly because crew payments represent a cost to vessel owners but fishery income to crew members.

The estimates are only for cost savings for boats which did not fish during the co-op years. They do not address how costs may have changed for the boats which did fish. These costs may have increased, since these boats were catching more than twice as many fish per boat. However, potential cost increases due to catching more fish may have been offset by the fact that boats were fishing fewer days, and with far less competition.

Given the uncertainty of the assumptions underlying the estimates in Table 3, it is clear that by reducing the number of boats participating in the Chignik fishery, the Co-op resulted in very substantial savings—particularly for costs of insurance, fuel and vessel maintenance—that represented a substantial share of the total value of the fishery.

A Chignik Seiner on Land During the 2002 Season
To gain further insights into how the co-op affected harvesting costs, it is useful to consider daily participation in the fishery in relation to daily harvest volumes. During the co-op years, both the Co-op and the independent fleets used far fewer boats to catch any given total daily harvest volume of salmon than during the competitive years. This may be see most clearly by comparing daily catches of sockeye salmon in Chignik Lagoon (almost exclusively a sockeye salmon fishery) with the daily number of permits fished in Chignik Lagoon for two competitive fishery years (1997 and 1998) and two co-op fishery years during which total season harvests were roughly comparable (Figure 4). In the two competitive years typically between 40 and 60 permits fished the lagoon on days when daily harvests were between 50,000 and 200,000 pounds. In the two Co-op years the competitive fleet typically used between 10 and 20 permits to catch the same harvest volumes—as did the independent fleet during these same years.\(^{13}\)

![Figure 4](image)

Note that during the Co-op years, the number of boats required to catch a given daily volume of fish declined dramatically not only for the Co-op fleet but also for the independent fleet. The Co-op fleet voluntarily chose to use fewer boats to catch their harvest allocation. In contrast, the

\(^{13}\) Part of the reason that a smaller number of boats could catch the same volume of fish was that the average number of deliveries (usually offloading to a tender) per permit per day increased.
independent fleet benefited from the fact that although they were fishing competitively, they were competing against a far smaller number of boats than during the pre-Co-op years.14, 15

Figure 5 compares annual catches of sockeye salmon in the Chignik salmon fishery during June and July16 with average sockeye harvests per permit day fished. For both the co-op and the independent fleets, average catches per permit day were much higher than for the competitive fleet in years with comparable total harvests.

14 Note that significant efficiency gains could have been achieved in the same way simply by allocating equal shares of the fishery among two groups of permit holders, even if both groups continued to fish competitively, as each groups would have faced only half as much competition while fishing.

15 Because they were competing with far fewer boats, independent fleet boats had much higher average catches per day than in years prior to the Co-op, enabling them to catch a given volume of fish in far fewer days. However, independent fishermen did not tend to perceive this as a benefit. They pointed out the difficulty of retaining crew when for a season with only occasional fishing opportunities interspersed with long periods of inactivity, and the greater financial risk associated with a lost fishing day due to engine problems.

16 Catches in June and July are mostly sockeye. Catches later in the season have a higher percentage of non-sockeye species.
Distribution of Net Income

By reducing costs, the Chignik Co-op substantially increased net income (revenues minus costs) from the Chignik salmon fishery. However, this increase in net income was not distributed equally among permit holders. While some permit holders clearly benefited from the Co-op, others may have experienced a decline in net income. The fundamental reason for this is that while there was wide variation in the distribution of catches and earnings in the competitive fishery, both the Co-op allocation and the distribution of Co-op dividends were based upon “equal shares” principles.

However, for a number of reasons, it is difficult to measure how the Co-op affected the distribution of gross or net revenues among Chignik permit holders. Data on individual permit holder earnings are confidential. For both the co-op members and the independent permit holders, we do not know what the distribution of earnings would have been without a co-op. We do not know the distribution of earnings among the independent fishermen during three of the four co-op years. We do not know permit holders’ costs during the competitive fishery or the independent fishery during the co-op years. We do not know the costs and net fishing and tendering income of those co-op members who fished and tendered for the Co-op. It is likely that costs varied widely for different types of boats and depending on where and how long boats fished.

Below we discuss—to the extent possible given available data—how the Co-op may have affected net income from the Chignik fishery for three groups of permit holders: The first group is those permit holders who joined the Co-op but did not fish or tender for the Co-op. For these permit holders, the net change in fishing income may be estimated as their co-op dividend minus what they would have earned in a competitive fishery. Table 4 estimates net changes in fishing income for this group for the 2002 fishery—based on the assumption that if the 2002 fishery had been competitive, the same number of permits would have been fished, with the same quartile distribution of gross earnings as in 1998, the year with the lowest historical fishery participation.

In 2002, all co-op members received the same dividend of $28,000. However, in a competitive fishery, there would have been substantial variation in these permit holders’ net income from the fishery. Assuming the same distribution of income among quartile groups as for the 1998 fishery (the year in which the greatest number of permit holders

The permit holders who most clearly benefited from the Co-op were those co-op members who would not have fished without a co-op, each of whose net income from the fishery increased by the dividend amount of $28,000. Given the low total ex-vessel values during the four co-op years, it is likely that a significant number of permit holders would not have fished had the fishery remained competitive. Assuming that 15 permit holders would not have fished (as in 1998), then the co-op would have resulted in the redistribution of $420,000—or 9% of the ex-vessel value of the 2002 fishery fished to permit holders who would have received no income from a competitive fishery.
Table 4
Estimated Effects of the Chignik Co-op on Net Income from the Chignik Fishery in 2002
For Co-op Members Who Didn't Fish or Tender for the Co-op

<table>
<thead>
<tr>
<th>Permit holder's quartile ranking in a competitive fishery</th>
<th>1st quartile</th>
<th>2nd quartile</th>
<th>3rd quartile</th>
<th>4th quartile</th>
<th>Would not have fished</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated earnings if the 2002 fishery had been competitive*</td>
<td>Total number of 1998 permit holders</td>
<td>12</td>
<td>16</td>
<td>21</td>
<td>36</td>
</tr>
<tr>
<td>Average catch share</td>
<td>2.07%</td>
<td>1.56%</td>
<td>1.22%</td>
<td>0.68%</td>
<td>0.00%</td>
</tr>
<tr>
<td>Average earnings</td>
<td>$96,176</td>
<td>$72,765</td>
<td>$56,776</td>
<td>$31,782</td>
<td>$0</td>
</tr>
<tr>
<td>Estimated costs if the 2002 fishery had been competitive</td>
<td>Taxes @ 6%</td>
<td>$5,771</td>
<td>$4,366</td>
<td>$3,407</td>
<td>$1,907</td>
</tr>
<tr>
<td>Insurance**</td>
<td>$10,900</td>
<td>$9,133</td>
<td>$7,367</td>
<td>$5,600</td>
<td></td>
</tr>
<tr>
<td>Fuel**</td>
<td>$7,500</td>
<td>$6,367</td>
<td>$5,233</td>
<td>$4,100</td>
<td></td>
</tr>
<tr>
<td>Maintenance**</td>
<td>$21,800</td>
<td>$18,867</td>
<td>$15,933</td>
<td>$13,000</td>
<td></td>
</tr>
<tr>
<td>Groceries**</td>
<td>$3,500</td>
<td>$3,500</td>
<td>$3,500</td>
<td>$3,500</td>
<td></td>
</tr>
<tr>
<td>Payments to crew***</td>
<td>$22,246</td>
<td>$15,985</td>
<td>$11,816</td>
<td>$5,108</td>
<td></td>
</tr>
<tr>
<td>Estimated net income if the 2002 fishery had been competitive</td>
<td>$24,458</td>
<td>$14,547</td>
<td>$9,520</td>
<td>-$1,432</td>
<td>$0</td>
</tr>
<tr>
<td>Dividend earnings from the 2002 Co-op</td>
<td>$28,000</td>
<td>$28,000</td>
<td>$28,000</td>
<td>$28,000</td>
<td>$28,000</td>
</tr>
<tr>
<td>Estimated change in net fishing income due to the Co-op</td>
<td>$3,542</td>
<td>$13,453</td>
<td>$18,480</td>
<td>$29,432</td>
<td>$28,000</td>
</tr>
</tbody>
</table>

*Assumes the 2002 ex-vessel value of $4.6 million and the same number of permits fished and quartile distribution of gross earnings as in 1998, the year with the lowest fishery participation.

**Average costs for the fourth and first quartile groups were assumed to be the costs reported in McDowell (2002) for the smallest vessel size class (35-39’) and the largest vessel size class (50-58’). Average costs for the second and third quartile groups were assumed to be 1/3 and 2/3 of this cost range, respectively. These assumptions should be considered highly approximate, as vessel size class does not necessarily correspond to quartile ranking.

***Payments to crew were estimated at 30% of net income after deducting taxes and fuel costs, minus 75% of grocery costs.

This effect was widely recognized among permit holders—and perceived in widely different ways. To co-op supporters, it represented an opportunity for permit holders who had participated in the fishery for many years to continue to benefit from the fishery despite the downturn in catches and prices—rather than losing all of the return on their investment in boats and permits. To co-op opponents, it represented a redistribution of income away from fishermen able and willing to work for it to those not skilled or hard-working enough to earn it for themselves.

The redistribution of income to “latent” permit holders—those who would not otherwise have participated in or benefited from the fishery—represents an important political challenge to the establishment of Chignik-style co-ops—or more generally, any change in management with the potential to improve economic conditions in a fishery and thus expand the number of individuals receiving a share of fishery revenues. Ironically, the greater the economic difficulties a fishery is experiencing—and the greater the number of fishermen who have quit fishing as a result—the greater the potential redistribution of income from a change in management, and the greater the resulting political resistance to restructuring.17

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17 Put differently, it may be politically easier to restructure the management of a fishery when all the individuals with a right to participate in the fishery are still participating than when economic conditions have deteriorated to the
For those Co-op members who would have fished in a competitive fishery, there would likely have been substantial variation in their net income from fishing, and thus in the extent to which they would have gained (or lost) from giving up fishing in return for a Co-op dividend. As suggested by the estimates in Table 4, given the low ex-vessel value of the 2002 fishery, many of the 36 lowest-quartile fishermen—most of whom would probably have joined the co-op—might have lost money had they fished in a competitive fishery. These individuals clearly did much better by not fishing and receiving a co-op dividend instead. At the other extreme, many of the 12 highest-quartile fishermen would likely have earned about as much money from fishing a competitive fishery as from participating in a co-op. In general, however, it appears likely that most co-op members who didn’t fish did better in 2002 than they would have fishing a competitive fishery—but “good” fishermen (those who would have done better in a competitive fishery) benefited much less than “poor” fishermen (those who would not have done as well in a competitive fishery).

During each of the co-op years, about 35 permit holders worked under contract to the Co-op as harvesters or tenderers. As discussed above, annual contract payments to co-op harvesters increased from $47,000 for the 2002 season to $60,000 by the 2004 season (payments to tenderers were slightly lower). The co-op also paid insurance and fuel costs for these vessels. Co-op harvesters and tenderers were responsible for paying their own vessel and net maintenance costs as well as for paying crew.18 Data are not available to judge how profitable working as co-op harvesters or tenderers may have been for co-op members. It seems likely, however, that for most it would represented an increase in net income over and above their dividend—increasing the extent to which they benefited from the Co-op.

The effects of the Co-op on independent permit holders was a subject of much debate prior to and after the implementation of the Co-op. Many co-op opponents argued that more successful fishermen would be less likely to join the Co-op, and that the independent fleet thus deserved a relatively greater allocation per permit holder than the Co-op if independent fishermen were not to be harmed. This was the logic behind the allocation formula adopted by the Board of Fisheries, under which the Co-op received only a 0.9% allocation per member (unless the number of members equalled or exceeded 85, in which case the allocation increased to 1%).

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18 The shift to payment based on annual contracts rather than vessel catches created a challenge for permit holders who had traditionally paid crew members a 10% share of ex-vessel value net of taxes and fuel costs. It was not immediately apparent what method of crew payment would be appropriate for the different working conditions and vessel payments in the Co-op fleet, resulting in wide variation in how crew were paid, and some discontent.
The mathematical effect of this formula was *not* to give a similar fixed but higher allocation per permit holder to the independent fleet. Rather, the allocation per independent permit holder increased as the number of Co-op members increased (Figure 6). Thus, the more permit holders joined the Co-op, the more those permit holders who remained independent were likely to benefit from the Co-op—unless 85 or more permit holders joined (which happened in 2004 but not the other three co-op years).

![Figure 6](image)

Note that the annual choice for permit holders about whether or not to join the Co-op was not necessarily easy or obvious, since a permit holder’s expected catch if he fished independently fishery depended on both how many other permit holders joined (which affected the average allocation to the independent fishery) as well as which other permit holders joined (which affected which other permit holders he would be competing with an independent fisher).

In response to concerns about the effects of the Co-op on independent fishermen’s incomes, the Alaska Commercial Fisheries Entry Commission (CFEC) compared catch shares of independent fishermen during the 2002 season with their historical catch shares “to see if 2002 participants in the open [independent] fishery did better or worse than normal” (Schelle et al, 2002). The analysis was complicated by numerous technical issues, such as the fact that permit ownership had been changing over time so that neither all of the 2002 independent fishermen nor all of the Co-op members had fished in earlier years. In general, the analysis found that as a group, independent permit holders had historically had higher average catch shares than co-op members, although there was substantial historical variation across both groups. Compared with Co-op members, a higher percentage of independent permit holders had historically been in the highest two catch decile groups, while a lower percentage of independent permit holders had been in the lowest two catch decile groups.

Although the 2002 independent permit holders’ average historical catch shares were higher than for 2002 Co-op members, they were not in general higher than the 2002 average independent
fleet allocation of 1.40%. In seven of the eight years between 1994 and 2001 time period, the average sockeye salmon catch share of 2002 independent fishermen averaged less than 1.40%, and in four years their catch share averaged less than 1.25%.

In general, in reviewing this information, members of the Board of Fisheries took this as an indication that the allocation formula was working reasonably “fairly” and that independent fishermen as a group were not being significantly harmed by the Co-op. In contrast to this interpretation, independent permit holders who responded to a University of Alaska Anchorage survey after the 2002 season responded overwhelmingly that they thought they were worse off financially as a result of the Co-op (Table 5). By way of comparison, Co-op permit holders who did not fish responded overwhelmingly that they were better off, as did about half of Co-op permit holders who fished.

<table>
<thead>
<tr>
<th>Question</th>
<th>Response</th>
<th>Independent permit holders</th>
<th>Co-op permit holders who fished</th>
<th>Co-op permit holders who did not fish</th>
<th>All permit holders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall, how did having a Co-op this year affect you financially, compared to how you would have done if there had not been a Co-op?</td>
<td>Better off</td>
<td>67%</td>
<td>50%</td>
<td>74%</td>
<td>53%</td>
</tr>
<tr>
<td>Not sure</td>
<td>12%</td>
<td>24%</td>
<td>35%</td>
<td>19%</td>
<td>21%</td>
</tr>
<tr>
<td>Worse off</td>
<td>88%</td>
<td>8%</td>
<td>10%</td>
<td>7%</td>
<td>25%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: Knapp et al (2003). Note: Where response shares do not sum to 100% the omitted respondents did not answer the question.

Note that individual independent fishermen may have been affected in different ways by the Co-op. Because the independent fishery was far shorter than a traditional competitive fishery, a single bad day of fishing or a breakdown would have had a greater effect on an independent fisherman’s annual catch share than it would have formerly. In addition, as discussed below, changes in the timing of fishing opportunities and tendering services may have negatively affected the catch shares of fishermen who had traditionally fished outside the lagoon.

The average allocation per independent permit holder declined from 1.40% in 2002 to 1.28% in 2003 and 1.00% in 2004, and then rose to 1.37% in 2005. Although the composition of the independent fleet varied from year to year, it seems likely that average independent fleet allocations were in fact lower than their historical averages in 2003 and in particular in 2004. Potentially offsetting lower average catch shares in part was the likelihood that fishing costs also declined for the independent fleet because they fished for fewer days.

Distribution of Fishing Effort

The Co-op changed not only how Chignik salmon were caught, but where they were caught, when they were caught, and how they were caught—for not just the Co-op fleet but also for the independent fleet. During the co-op years, Chignik fishing effort became much more focused on Chignik Lagoon sockeye. In the decade prior to the Co-op, the share of sockeye caught in the
lagoon averaged 62%, and ranged from 45% to 76%. During the four Co-op years, the share of sockeye caught in the lagoon averaged 94%, and ranged from 90% to 100%. For the Co-op this change reflected an effort to reduce costs and improve quality:

“We had originally planned to employ a couple of large, refrigerated, RSW seiners to fish out on the capes, but we realized that the extra running time would increase costs and reduce product quality. Harvesting in the close proximity and concentrated harvest area of the Chignik Lagoon was simply the most efficient and quality conscious method to pursue.” (Ross 2002a)

For independent permit holders, many of whom had traditionally fished outside the lagoon, the change reflected in part a change in the timing of fishing opportunities:

“The reduced total fishing time for the competitive fleet changed historic fishing patterns. With the majority of the competitive fishing periods averaging 48 hours, many competitive fishermen elected not to fish in the outside . . . districts. Competitive fishermen stated that the risk of ‘missing the fish’ was too great with the limited amount of fishing time allocated to their fleet.” (Pappas 2003)

In addition, with the Co-op tendering most of the Chignik harvest, processors reduced tendering services available to independent fishermen outside the lagoon.

The change in the spatial distribution of sockeye harvests and tendering services likely contributed to a decline in the harvests of non-sockeye species—caught mostly outside the lagoon—which fell from 31% of the total harvest volume in the four years prior to the Co-op to 12% during the four Co-op years. However, it is difficult to determine what part of this decline is attributable to the Co-op and what part is attributable to changes in changes in salmon runs and market conditions.

**Innovation**

The Co-op brought about innovation in the Chignik salmon fishery. One example was a change in the way that salmon were delivered from fishing vessels to the processing plants. According to Co-op organizer Jamie Ross, fishermen had learned from the “community harvest” during the 2001 strike “that it was very effective to brail fish directly from a catcher vessel’s purse seine into a larger RSW seiner acting as a tender. We hoped to utilize that same method to minimize handling damage” (Ross 2002a). This argument was incorporated in Proposal 105 submitted to the Board of Fisheries:

“By allowing a joint venture to harvest the fish various steps can be taken to dramatically increase the quality of the salmon harvested. One includes delivering the salmon directly to an RSW tender without putting them on the fishing vessel first, thus eliminating the current problem of handling the fish twice before they ever get to the canneries.”
During the first Co-op season, this method of tendering resulted in a significant improvement in quality, as indicated by a letter from Norquest Seafoods (one of the two Chignik-area land-based salmon processors) to Chignik fishermen after the season:

“We appreciate the efforts everyone made to improve salmon quality this season. We had the best quality ever for sockeye salmon this year. We achieved 84% No. 1 Grade versus our average of 65-70% in past years” (Norquest, 2002).

A second example is provided by a research trip to British Columbia taken by four CSPA members in February 2003 “to gather information from the farmed salmon industry on their handling techniques and quality control measures in the transportation of live salmon.” Their report reflected a sense of optimism about the potential for innovation:

“For the most part, everything that we saw was not really all that advanced, but as it is with fishing, small things can make a great difference. We can adopt many of these techniques with a few modifications and changes in the way we do things. We have already made a quantum leap in the enhancement of our quality. We just need to continue our experiment, using incremental steps. Eventually we can move most of our run in this higher-quality form and meet the standard that the fish farmers have set. Maybe by then we will have laid the inroads to the market place for our product.” (Anderson et al, 2003)

Over the next three years the Co-op continued to experiment with methods for delivering and holding live fish. By its third season, the CSPA negotiated a contract with Norquest Seafoods which incorporated specific price adjustments in return for achievement of specific quality standards. The contract included an advance price of $1.07/lb for live sockeye in comparison with $.75/lb for refrigerated sockeye. The full advance price for refrigerated price would be paid:

“. . . if the fish have been brailed directly into RSW tenders upon catching, using NoMar brailers19, and the core temperature of the fish is 34 degrees Fahrenheit at the time of delivery to the (Norquest) dock. CSPA tenders will use data loggers on all tenders. . . . NSI will give a quality report on each tender load to CSPA. If a tender delivery has a core temperature of salmon above 34 degrees. . . An appropriate and fair price adjustment, not to exceed $.06/lb., will be made if the quality of the salmon has been reduced by temperature or other abuse. “ (CSPA 2004)

A third example of innovation was the placement of fixed leads on either side of the Chignik River where it enters Chignik Lagoon. Placement of these leads—for which the CSPA sought and received authorization from the Board of Fisheries—reduced fishing costs for the Co-op by channelling returning salmon towards a narrow opening between the leads.

19 NoMar brailers are a type of canvas brailer which reduces bruising in comparison with traditional brailers.
Fish Processors

The Chignik Co-op dramatically changed the relationship between fishermen and processors in the Chignik salmon fishery. As a single entity with control over almost 70% of the Chignik harvest, the Co-op had vastly greater market power than Chignik fishermen had previously held as a competitive fleet. The Co-op exercised its power both in its negotiations with the existing Chignik processors, and in seeking out new markets.

During the period of operation of the Co-op, there were two salmon processing plants in Chignik Bay, near Chignik Lagoon. These plants were owned by Norquest Seafoods and Trident Seafoods, major Alaska fish processing companies with salmon processing operations in many different parts of Alaska.20 The Norquest plant had only freezing equipment, while the Trident plant had both freezing and canning equipment. Historically each of these plants had purchased approximately half of the total Chignik salmon catch.

The relationship between the two processing companies and the Co-op evolved in very different ways. The Co-op sold almost all of its fish to Norquest and none to Trident. Unable to reach an agreement to purchase fish from the Co-op, Trident continued to operate its plant in 2002 and 2003, processing most of the fish harvested by the independent fleets. Trident then concluded that it could no longer afford to operate, and closed its Chignik plant.

The story behind the different experience of these companies in dealing with the Co-op is complex, and has to do in part with personalities of individuals in both the processing companies and the Co-op. Key issues in the initial negotiations between the Co-op and the processors included both prices and whether the processors would be guaranteed shares of the Co-op’s total catch.

Norquest was able to come to agreement with the Co-op about all of these issues, and over the four co-op years worked progressively more closely with the Co-op. By the 2004 season the Co-op reached a pre-season contract with Norquest specifying advance prices for all salmon species (with price differentials for sockeye and coho salmon delivered live and/or refrigerated); a revenue sharing formula (with review of Norquest sales data by an independent third party), and quality standards for fish (CSPA 2004).

In contrast, Trident and the Co-op could not resolve differences, particularly over Trident’s desire to be guaranteed a share of the Chignik harvest. The relationship deteriorated as accusations were traded in the press, and Trident actively supported political efforts to end the Co-op.

Co-op organizer Jamie Ross described the Co-op’s 2002 negotiations with Trident as follows:

“Our first written offer from Trident asked us to guarantee them 53 percent of the Chignik harvest or what they considered their ‘historical share of the Chignik fishery.’ We told (Trident President) Bundrant early on that we

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20Trident purchased its Chignik plant in the spring of 2002, just two months before the start of the first Co-op season, after the previous owner died.
would not guarantee any level of production, but he never really changed his stance. . . . Since our membership would not agree to guarantee Trident a set percentage of the harvest, and since their production-based price scale would have forced us to sell virtually all of our allocation to them in order to approach the same price that Norquest was offering, we ended up not selling them any fish. . . . I certainly feel that we got off on the wrong foot with Trident and Mr. Bundrant from the get to. Things deteriorated throughout the season. . . . Perhaps we can get over our differences and learn to work together in the future. . . . “ (Ross 2002a)

A year later, Ross was writing in a less conciliatory tone:

“Trident Seafood’s president, Chuck Bundrant . . . appears to be on a war path to destroy us impudent little fishermen who have stood in the way of his dominating all Western Alaska fisheries. . . . Isn’t he satisfied to be the largest seafood company in all of North America and a huge winner in the American Fisheries Act, which gifted him millions of dollars worth of Pollock? Won’t it be enough when the crab rationalization plan, complete with processor quotas, is finally pushed through Congress? Apparently not, because now he’s out to crush the Chignik co-op at the Board of Fish.”

Bundrant responded that

“We’ll concede the low ground to Mr. Ross, but we believe as we always have that co-op fishermen and independent fishermen deserve better in Chignik. . . . The right forum for a proper discussion about Chignik is the Board of Fisheries meeting in Anchorage. I’ll be there to support the independent fishermen and the leaders of the Chignik community that are not in support of Jamie’s plan” (Bundrant 2004).

However, after the Board upheld the Co-op, two months later Bundrant wrote a letter to Chignik fishermen announcing that Trident was closing its Chignik plant.

“This letter is an extremely difficult one for us to write. . . . We believe Trident’s Chignik cannery is one of the most versatile and efficient salmon processing plants in Alaska and we are proud of the high quality value added products produced there. However, multipurpose facilities that both freeze and can salmon are costly to gear up and, like all operations, need to have a significant volume of fish to be profitable. These past two years we have geared up our Chignik plant in the hopes we would receive enough fish to survive. As most of you are aware, Trident lost millions of dollars in Chignik over that time because of a lack of fish.

. . . Trident has never shied away from competition, and although most of the independent fleet delivered their harvest to Trident, the co-op delivered 98% of its sockeye elsewhere. We recently asked the co-op if it ‘would be willing
to sell to Trident 20% of its 2004 sockeye harvest under the condition that Trident agrees to pay a price competitive with its other major market.’ Yesterday the co-op reiterated that it would NOT sell ‘a set percentage of the Chignik sockeye harvest or its harvest to any one processor.’ Trident has always been willing to take on the gamble of weak or failed salmon runs, but it isn’t a good gamble to gear-up to buy fish if you don’t have a fishing fleet.” (Bundrant 2004)

Ironically, four months later, in April 2004, Trident Seafoods purchased Norquest Seafoods, which it has since operated as a wholly-owned subsidiary. Norquest continued to honor its contract with the Co-op and to work with the Co-op on new quality and product initiatives.

The important point to be taken from this brief discussion is that the Chignik co-op did not only affect fishermen. It also had significant implications for processors. While one local processor was able to work with the Co-op and take advantage of new opportunities that it created, the other experienced significant economic losses.

**Fishery Management**

The Chignik Co-op changed both the goals of fishery managers and the tools available to it to meet those goals. Prior to the Co-op, managers’ goals over the course of the season were to achieve cumulative escapement targets, with the tool of “opening” or “closing” fishing for a 100-boat competitive fleet. This on-off fishing pattern resulted in sequential “pulses” of fish deliveries to processors and escapement into the river.

The Co-op added the additional goal of keeping cumulative catch shares of two separate fleets at or close to those specified by the allocation formula. However, the task of management was simplified by the fact that both fleets were smaller. More importantly, the Co-op fleet—which had by far the larger allocation—was willing and able to limit catches during any particular time period to specific numbers of fish requested by managers. This made it possible for managers to allow the Co-op to fish continuously at lower catch rates for longer openings, reducing pulses in both harvests and escapement, and allowing for both more efficient utilization of processing capacity and more even fishery escapement.

“... The cooperative style fishery provided the department with new management tools for the CMA salmon fishery. The cooperative fleet was assigned daily harvest limits for 28 days during 2003 (ranging from 0-15,000 sockeye salmon per day). Placing harvest limits on the cooperative fleet allowed the department to achieve sockeye salmon escapement goals with precision throughout the season... Escapement levels were maintained at a near constant level, unlike the historic pulses of large numbers of sockeye salmon that escape through the weir during extended closures... At times, the cooperative fleet required encouragement from the department to increase harvest effectiveness, to prevent surpassing escapement goals and to keep pace with harvest allocation objectives. This encouragement was verbally...
expressed to officers of the cooperative fleet and later in a news release.” (Pappas, 2003)

However, the change in the management system raised an issue for the management of potential future larger salmon runs:

“With very limited harvest data from traditional fisheries outside of the Chignik Lagoon Section, the department lacked the usual run strength indicators of fish moving through distant parts of the CMA (Chignik Management Area) bound for the Chignik Lagoon. If a similar style of commercial fishing in the outside districts continues in future years, the absence of the sockeye salmon run strength indicators may limit the department’s ability to make timely fishery management decisions prior to large numbers of salmon entering Chignik Lagoon. Some circumstances may require that the department deploy test fishery vessels to the outside districts, or have the cooperative fleet deploy vessels to similar locations, in order to test the run strength.” (Pappas 2003)

Other Effects

The Chignik Co-op had many other economic and social effects—far too numerous to discuss in detail. Assuming an average of three crew per vessel, the Co-op likely reduced the number of crew jobs in the Chignik fishery by between 130 and 150—and brought long periods of waiting onshore, particularly for crew of independent boats. As Co-op member vessels took over the tendering of most of the Chignik harvest, individuals who had traditionally tendered in the Chignik fishery lost tendering contracts. Many Chignik stakeholders, including both Co-op permit holders and independent fishermen, regretted how the Co-op divided Chignik area fishermen, communities and families, although they varied in who they felt was responsible.

PERMIT HOLDER OPINIONS ABOUT THE CO-OP

Chignik permit holders had widely divergent perceptions about how the Co-op and its effects. These differences were reflected in a survey conducted by the University of Alaska Anchorage after the first Co-op season (Knapp et al, 2003). Eighty-nine permit holders responded to the survey.

Asked how they felt about the Board’s decision to allocate part of the Chignik harvest to a co-op, 53% “supported it”; 21% “supported it but had some mixed feelings,” 3% “opposed it but had some mixed feelings,” and 24% “opposed it” (Table 6). Asked to describe their overall feelings about the Co-op and the change in management, 50% were “very positive,” 20% were “somewhat positive,” 11% were “mixed,” and 15% were “very negative.”
Table 6
Chignik Permit Holder Attitudes Toward the Chignik Co-op After the First Season

<table>
<thead>
<tr>
<th>Question</th>
<th>Independent Co-op permit holders</th>
<th>All Co-op permit holders who fished</th>
<th>Co-op permit holders who did not fish</th>
<th>All permit holders</th>
</tr>
</thead>
<tbody>
<tr>
<td>How did you feel about the Board of Fisheries' January 2002 decision to allocate part of the Chignik harvest to a Co-op?</td>
<td>Supported it</td>
<td>67%</td>
<td>65%</td>
<td>67%</td>
</tr>
<tr>
<td></td>
<td>Supported it / mixed feelings</td>
<td>27%</td>
<td>30%</td>
<td>26%</td>
</tr>
<tr>
<td></td>
<td>Opposed it / mixed feelings</td>
<td>12%</td>
<td>2%</td>
<td>5%</td>
</tr>
<tr>
<td></td>
<td>Opposed it</td>
<td>88%</td>
<td>5%</td>
<td>7%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Overall, how did having a Co-op this year affect you financially, compared to how you would have done if there had not been a Co-op?</td>
<td>Better off</td>
<td>67%</td>
<td>50%</td>
<td>74%</td>
</tr>
<tr>
<td></td>
<td>Not sure</td>
<td>12%</td>
<td>24%</td>
<td>35%</td>
</tr>
<tr>
<td></td>
<td>Worse off</td>
<td>88%</td>
<td>8%</td>
<td>10%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>How would you describe your feelings about the Co-op and the change in management of the Chignik salmon fishery in 20002?</td>
<td>Very positive</td>
<td>63%</td>
<td>65%</td>
<td>63%</td>
</tr>
<tr>
<td></td>
<td>Somewhat positive</td>
<td>25%</td>
<td>30%</td>
<td>23%</td>
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<td></td>
<td>Mixed</td>
<td>12%</td>
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<td>5%</td>
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<tr>
<td></td>
<td>Somewhat negative</td>
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<td></td>
<td>Very negative</td>
<td>71%</td>
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<tr>
<td>Total</td>
<td></td>
<td>100%</td>
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Source: Knapp et al (2003). Note: Where response shares do not sum to 100% the omitted respondents did not answer the question.

In general, Co-op members reported that they had supported the Co-op, that it had made them better off, and that they had positive feelings about the Co-op, while independent permit holders responded that they had opposed the Co-op; that it had made them worse off, and that they had negative feelings about the management change.

The box on the following three pages shows some of the comments about the Co-op made by Chignik permit holders responding to the survey. Similarly wide-ranging opinions about many aspects of the Co-op have been expressed repeatedly by Chignik permit holders in testimony before the Board of Fisheries, letters and articles in fishermen’s publications, and in conversations with the author. Many Chignik permit holders—both supporters and opponents of the Co-op—are thoughtful, eloquent and passionate in expressing their opinions about a management change which dramatically affected their fishery and their communities. Their insights and perspectives show that the issues raised by the Co-op are not simple. The Co-op was neither all good nor all bad. Its effects were far-reaching and complex.
Selected Survey Comments of Chignik Permit Holders about the Chignik Co-op

Co-op Members Who Fished for the Co-op

Highest grade marketable wild salmon, highest prices for those of us in the co-op, more markets to sell to, making markets take notice of high quality that the co-op produces, and lowering operating costs to harvest these wild salmon is the only answer out there. Co-op working together to survive!

As a catcher for the co-op, I believe that we can increase our efficiency with gear improvements. Namely, longer seines and fixed leads. Fishing with short seines without competition is similar to fishing with your hands tied. It would be a logical step in this "experiment" to see how much more efficient we fishermen can get.

I enjoyed fishing for the co-op more because the stress level was less, and I was able to focus my attention more on handling the fish in a quality-conscious manner. Without question, we, as fishermen, had a better financial season because of the co-op. Of course, there are improvements to be made, as with all first-year operations.

Nobody is used to this yet. If my dad were alive, he probably wouldn't have liked it because they fished competitively all their life. No one likes change unless it benefits them. But I think this year was good. I was surprised it was so good, and if they correct a few mistakes, it could be even better. People have been leaving here for years. They didn't leave because of the co-op.

I opposed the way in which it was set up, meaning I would have liked to see some sort of historical applied. The “concept” is great.

Co-op Members Who Didn’t Fish

Co-op was a success. Management allowed steady harvest of fish for better quality, faster processing, better prices.

From what I could see, it was the best thing that could ever happen. The price was getting lower each year. It has given us a better price for our fish. It also gives the salmon buyers better-quality fish. They have never seen anything like it. Our fish were live when they got to the processor. Without this co-op, it would have never happened. The rest of the industry is looking at us.

I have only positive feelings for the changes in management and harvesting brought on by the co-op. I did miss fishing this past summer, but I realize that it was better for me and my community and family to sacrifice fishing to try to enact positive change in our fishery.

This was the first summer since I was 5 years old on my dad's boat (I'm now 54 years old) that I haven't fished salmon. It was hard to beach my $1 million operation, but I'm convinced I did better financially. Thus, mixed emotions about missing the season.
I invested my whole life in fishing (50 years). I'm 58 years old. I love to fish but not to slowly die. If you can't make a living in my line of work, make a change and make it work. With this co-op I have a chance. Without it, I will slowly die out of the salmon industry. Why? our economy has far surpassed our cost to fish and make a living. I have tried very hard to stay fishing and make my crew good money to endure the long hours and weather that we fish in. But they don't come back to fish with me any more. God bless this co-op.

I'd like to see this co-op continue and others to join the co-op. I think what would make this co-op more efficient is for all permit holders to be in this together. But, of course, some people have been doing this all their lives. They love the competition and that is their choice, but I see the co-op as the only way to survive. I believe this is for the betterment of the fishery because our fish quality is very high. We can correct any mistakes we may have made over the next year or two.

Just glad that we can do something for ourselves. We were being strangled by the rules and regulations of the whole salmon fishery. The whole thing needs an overhaul or we're doomed.

I was able to work construction all summer and so kept from going in the hole.

The co-op was conceived, implemented, and run by volunteer fishermen. It handled millions of dollars and hundreds of thousands of pounds of fish. It participated in a lawsuit, bought equipment, sold and transported fish to buyers in Alaska, Canada, and the Lower 48, issued Pos and paid its members with, to my knowledge, no problems or allegations of impropriety. All this without even a paid secretary! I consider this astounding. It shows that we fishermen are not the bumbling resource rapers that the media sometimes portrays us. It should also encourage the BOF to allow other fishermen in other areas to try their ideas!!!

I oppose the co-op because I was forced into it by sheer numbers. I would have no objection to a co-op, but the allocation takes the individual right away to compete and better himself and support his investment.

I realize the purpose. I'm just not sure if this is the way to go for the good of the village. For the permit holders, it's okay; but for the crew and people in the village, it's not so great.

For those of us who make a living off fishing and live in Alaska all year, the co-op is the one thing that can save our fishery. I like fishing as much as anybody and miss it, but with the prices and market conditions, it is a way of life that is dying and taking 5 local communities with it.

Independent Permit Holders

The structure of the co-op discriminated against people who do well above average, therefore making it financially not viable for people who made above average to join. There were NOT proportional benefits.
I spent my whole life in Chignik and have fished since I was old enough. Now I am not going to be able to make a living any more if this allocation stays in. The Board of Fish has taken that away. I see many others who also have fished here and made a good living since childhood being ruined and not able to provide for their families because of this decision the Board has made.

My family and I would have been a lot happier if meddling by people who bought permits at an unreasonable price. I didn't see any of these people here when I chose to live here in 1972, and now they choose my way of living and lifestyle.

I have my own markets and did not join the co-op because of my attorney's advice. Going into business with people who are in debt is foolish. How many members of the co-op are in the red? I was planning to fish outside and have multiple avenues to market. The co-op controlled the fishery and made it impossible for me to conduct my business as I should have the right to do.

As a full-time resident, I lost 2 months (Aug and Sept) of fishing time and gave it to people who could care less and have not ever collected in these months ever.

This decision gave an allocation to people who were not even involved in the fishery or no longer had an investment in it other than their permit card. It's like adding a huge tax to the fishermen who were surviving in Chignik and justifying it by saying, "We are giving it to your fellow fishermen and, by the way, they don't need anything but a piece of plastic to collect (permit card)."

Why would I support a system that takes free enterprise away from me? Why did I work hard and manage my finances all these years, just to have my chance to continue making a living taken away? The co-op has ruined the ability for the healthy part of the Chignik fleet to keep this operation from going broke. I was issued a "limited entry" permit in 1972; now it seems I have a "limited, limited" entry permit due to the board's actions--something that does not affect any one of them personally.

I don't feel that anyone should be guaranteed a percentage of a fishery.

On a normal year, we have longer openings and I fish only on the capes. We need more time to compete effectively with the Lagoon. Next year if the co-op continues, I may not have a market on the outside (nobody to buy my fish). I cannot effectively fish in the Lagoon. I have fished the cape almost exclusively competitively since 1978.

The co-op caused a lot of hard feelings in Chignik. The fishery turned family members against each other--friends against friends.

We're poor spokesmen. We don't talk a lot. We just work hard and don't say a lot and all those decisions get made in favor of the people who do all the talking. I never believed in the welfare program. I came from a poor family, but we worked for what we got. This co-op is something of a welfare program for the people who have a permit but who haven't fished. They get .9% of total run. Most of those are poor fishermen or they don't really fish their permit. Some, of course, do, but not all.
LEGAL CHALLENGES TO THE CO-OP

The separate allocation to the Chignik Co-op represented a major change in the management of an Alaska salmon fishery. As such, it raised a number of legal and constitutional issues. Although legal challenges to the Co-op were initiated prior to the first Co-op season, the Co-op was able to operate for four seasons, as a lower court rejected the challenges and the case was appealed. Ultimately, however, the Alaska Supreme Court struck down the Co-op as illegal unless the Alaska legislature amended the Limited Entry Act to allow the creation of cooperative fisheries.

Most of the legal debate over the co-op—before both the board and the courts—focused on whether the board had the authority to allocate to a co-op. An 11-page memorandum prepared for the board by the Alaska Department of Law prior to the January 2002 meeting (Nelson 2002) raised three issues, and concluded that the Board’s authority was highly uncertain—except that it very likely did not have authority to allocate based on “historical shares”—and recommended that the Board proceed cautiously and consider seeking legislative authority:

“1. Does the Board of Fisheries have the authority to “allocate” within a fishery,” i.e. to open fishing to some, but not all purse seine permit holders in the Chignik area?

Unclear, although an argument can be made that the Board does have the authority . . . In summary, we think we could mount a legal defense on this issue, although we cannot predict our chances of success since we have had no legal decision on this point . . . There are several Alaska constitutional provisions known as the “equal access” clauses that wave red flags over a co-op proposal . . .

2. Does the Board of Fisheries have the authority to establish a minimum number of participants for a fishing co-op?

Uncertain. This would be a novel question for Alaska’s courts, and it’s difficult to predict how a court would rule, but we would probably be facing an uphill legal battle in defending such a regulation . . .

3. Would the Board have the option . . . to allocate between the co-op fishery and the open fishery based on the collective individual catch history of the participants in each?

We think it unlikely that a court would find the Board currently has that kind of statutory authority . . . Certainly, the differential treatment of commercial fishermen would automatically raise constitutional equal access issues . . . It is very likely . . . that a court would deem equal access to be implicated by such a scheme . . . A complicating issue . . . is the fact that CFEC permits can be transferred and sold. Assigning quotas based on past history of the permit
could be deemed unfair to newer entrants, and, therefore, constitutionally suspect.

... While there are no court cases specifically on point that guarantee how a court would rule on a challenge to a regulation based on Proposal 105 [the co-op proposal], we believe there are enough legal issues surrounding this proposal to warrant very careful consideration of whether it would be appropriate for the Board to proceed under its current statutory authorities. If the Board decides it wants to adopt Proposal 105 or a similar proposal, we recommend that the Board seek additional statutory authority from the legislature to strengthen the Board’s ability to guarantee the equality of opportunity. One option might be for the Board to take preliminary action contingent upon the legislature’s action to strengthen and expand Board authority.”

After the board approved the co-op in January 2002, in April 2002 two Chignik permit holders filed suit to stop the allocation. In October 2002 (after the co-op’s first season) an Alaska Superior Court upheld the co-op.21 In March 2005 (after the third co-op season, and shortly before the start of the fourth) the Alaska Supreme Court reversed the Superior Court ruling, holding that the co-op regulation was fundamentally at odds with the Limited Entry Act which had established the limited entry program for Alaska salmon fisheries:

“The repeated references to participation and dependence throughout the Limited Entry Act demonstrate that a central premise of the statutory scheme is that the permit holder is an individual who will fish. Accordingly, the act prohibits permit holders from leasing their permits . . . Participation by the individual is inherent in the limited entry permit system. The Chignik cooperative fishery scheme is fundamentally at odds with this premise because it allows people who are not actually fishing to benefit from the fishery resource. . . . Integral to the co-op regulation is an assumption that in practice not every individual co-op member will fish . . . Because the regulation allows co-op members to benefit and receive remuneration from the fishery without actual participation, it actually discourages active participation.

21 The superior court process was summarized as follows in the March 2005 Supreme Court ruling: “Michael Grunert and Dean Anderson, two of the higher earning Chignik fishers, did not participate in the cooperative. They instead filed a superior court complaint in April 2002 challenging the validity of 5 AAC 15.359. The Seiners Association intervened on the side of the state. The plaintiffs moved for a preliminary injunction, but the superior court denied their motion. The plaintiffs then moved for summary judgment. The superior court granted the state’s and the Seiners Association’s cross-motions for summary judgment, and held that the co-op regulation was statutorily and constitutionally valid. The superior court’s memorandum decision ruled that: the board sought to advance a legitimate purpose in promulgating the regulation and did not exceed its authority by establishing a quota for Chignik seiners; the regulation does not improperly regulate cooperative corporations; there is no CFEC statutory requirement prohibiting the board’s recognition of cooperatives; and the regulation does not violate article VIII of the Alaska Constitution.” (Alaska Supreme Court, 2005).
The co-op system makes it possible for permit holders without gear or vessels to have someone else fish on their behalf, leaving them free to pursue other occupations. A member of the co-op, for example, theoretically can indirectly "fish" while holding down an office job or sitting at home because the regulation allows another co-op member to fish the absentee member's entire quota for him or her. The co-op fisher in this scenario sharply diverges from the model of the economically dependent fisher whom the Limited Entry Act was intended to protect. In fact, many economically dependent fishers may suffer greater economic distress as a result of the cooperative fishery. Crew members, who depend on permit holders for employment, would also lose income because the cooperative fishery requires fewer vessels and fewer crew to take fish. . . .

The working assumption since Alaska became a state has been that individuals operate Alaska's commercial salmon fisheries. The co-op regulation in contrast transforms the limited entry permit from what used to be a personal gear license into a mere ownership share in a cooperative organization. . . . If the Board of Fisheries can create this regulatory scheme for the Chignik fishery, it can do the same thing for every salmon fishery in Alaska. Before this regulatory scheme accomplishes such radical departure from the historical model of limited entry fisheries in Alaska and the spirit of the Limited Entry Act, however, we conclude that the legislature must first authorize the board to approve cooperative salmon fisheries. (Alaska Supreme Court, 2005) 22

This opinion is a remarkable illustration of the often-noted divergence between economic and social goals in fisheries management. In rejecting the co-op, the Supreme Court held that a fundamental mechanism by which fisheries self-governance can achieve efficiency—by allowing "people who are not actually fishing to benefit from the fishery resource"—was contrary to the social goals inherent in existing legislation, such as promoting crew employment.

One Supreme Court justice (Carpeneti) strongly dissented with the Court’s majority opinion:

“The Opinion incorrectly suggests that a conflict exists between the regulation and the purposes of the Limited Entry Act. Not only is the co-op regulation consistent with the Act, the regulation actually furthers two of its three purposes. One of the purposes -- economic health and stability of the commercial fishery—is strongly enhanced by the regulation. A second purpose--conservation--is enhanced to a lesser degree. A third purpose--sustained yield--is not affected. It therefore cannot be said that the co-op regulation conflicts with any of the purposes behind the Limited Entry Act.

22 The court also held that the Board of Fisheries did not have the authority to allocate within a single fishery—but that this argument was moot because board action authorizing co-op seiners to use leads on the purse seines made meant the co-op was in effect a different fishery because it used a different gear type.
The Opinion prefers a wasteful state of affairs in which only a few fishers do better than break even and the cost of producing an inferior product is unnecessarily high. Similarly, its concern with the free-rider problem (in stating that the cooperative "actually discourages active participation") is a red herring. Participation within the cooperative simply becomes a matter of contractual agreement. As the cooperative's bylaws indicate, each member shares in leftover proceeds, but those who contract with the cooperative to actually fish will be compensated for that extra labor. In contrast to a free-rider problem, the individual members of the cooperative will mutually determine how their resources can be used most effectively.” (Alaska Supreme Court, 2005)

Following the Supreme Court’s decision, at an emergency meeting in May 2005, the board adopted an emergency change to the co-op regulation in an attempt to address the Court’s objection that the co-op did not require active participation by permit holders. Under the regulations, Chignik co-op members would be considered “active participants” in the fishery if they made at least 10 separate fish-ticketed deliveries in the 2005 season. (Tkacz 2005). The Board did not require that permit holders operate their own boats—only that they be on board vessels making deliveries.

Although the emergency regulation was immediately challenged in Court, the Supreme Court allowed the co-op to fish for a fourth season while it considered the issue. However, in February 2006 the Court ruled that the co-op was still fundamentally at odds with the Limited Entry Act:

“Following [our decision] in March 2005, the board . . . found that the timing of the publication of our decision created an emergency because some of the cooperative fishery members did not have enough time to prepare for the 2005 fishing season. The board then promulgated an emergency regulation that maintained the cooperative fishery scheme but required each cooperative permit holder to ‘actively participate’ in the fishery by making at least ten deliveries during the fishing season.

The Chignik cooperative fishery scheme permitted by the emergency regulation was fundamentally at odds with the Limited Entry Act. Although the ten-delivery requirement mandated some significant participation by each participating permit holder, the emergency regulation still allowed permit holders in the cooperative to benefit economically from the work of others. If the board wants to implement a cooperative regime, it must seek legislative approval first . . . The legislature might conclude that a cooperative Chignik salmon fishery is desirable and that the board should have authority to approve cooperative commercial fisheries. But because it has not yet done so, the emergency regulation was not authorized by the Limited Entry Act.” (Alaska Supreme Court, 2006)

Again, Justice Carpeneti dissented:
"... The board established a program that requires every co-op member, in order to share in the co-op’s proceeds, to fish: In order to qualify, a member must make at least ten landings. The change had dramatic effect: In 2005, under the new regulation, seventy-six co-op members made deliveries of fish, and fifty of them had at least fifteen deliveries. . . Now the court says this dramatic change is not enough. . . . The court utterly strips the board of power to use a proven and effective tool in dealing with the critical problems it faces in managing Alaska’s fisheries.” (Alaska Supreme Court, 2006)

As the court noted, the Alaska legislature has the authority to amend the Limited Entry Act to allow cooperative fisheries. However, at the time of writing (at the beginning of the second season since the co-op ended) it had not done so. Thus the demise of the co-op might be attributed not to any fundamental legal problem but rather to lack of political support.

However, whether or not this is a fair interpretation is debatable. Most Alaska legislators are preoccupied with other issues, unfamiliar with fisheries, and reluctant to take on highly political fisheries issues. This makes any significant change to Alaska fisheries management difficult. In effect, the ultimate cause of the Chignik co-op’s demise may be not so much legislative opposition as legislative indifference:

“[A] fundamental obstacle to restructuring—as the Chignik co-op makes plain—is the lack of clear authority. No state agency has (1) clear responsibility for the economic success of the fisheries; (2) authority that is clear enough and broad enough to allow it to make major changes in the harvesting system; and (3) adequate money and personnel to study restructuring options and put them into effect. Unlike for conservation, the legislature hasn’t delegated clear responsibility or broad authority to the Board of Fisheries or the Department of Fish and Game to change salmon harvesting rules to achieve economic goals.” (Knapp and Ulmer, 2005)

**AFTERMATH OF THE CO-OP**

The Alaska Supreme Court’s decision in February 2006 ended the allocation to the Chignik Co-op. Despite lobbying efforts, the Co-op members were not able to gain legislative support for a bill giving the Board of Fisheries “authority to approve cooperative commercial fisheries,” the recourse suggested by the Court.

After four years of not fishing, many permit holders faced substantial repair and maintenance costs to prepare boats, seines and skiffs for fishing. With the prospect of continued low catches and prices, half chose not to fish: only 48 of 96 eligible permit holders fished the 2006 fishery (Stichert 2006). In-season reports of the ADFG fishery manager indicate that a similar number of permit holders were fishing the 2007 season as this paper was in preparation.
Thus the number of boats participating in the Chignik fishery after the co-op ended was only slightly higher than it had been during the co-op years. However, with entire fleet fishing, more boats were competing for fish when the fishery was open. The distribution of fishery benefits was radically different—with half of Chignik permit holders receiving no financial benefit from the fishery.

A group of former co-op members attempted to continue to fish cooperatively without an allocation during the 2006 season, but the effort was not financially successful. After the season, Co-op organizer Jamie Ross reflected on this effort:

“A group of us—we had eighteen harvesting boats (a few left later) and four tenders—decided to share fuel and insurance and split proceeds equally. We committed to dip fish right out of the water, just as we had done before. . . We pretty much found that we couldn’t compete. We had 41% of the harvesting boats but we could only get 32% of the fish. . . There was a bottleneck at the dock, with our five tenders, five competitive tenders, and two big outside tenders. Everybody’s quality suffered. You can’t do quality and volume. . . I’m extremely disillusioned. I’m just so bummed out and disappointed. We did everything that was asked of us: better quality, improved markets—and we get thrown out with the wind” (Ross 2006).

LESSONS FROM THE CHIGNIK CO-OP

What lessons about fisheries self-governance may be learned from the Chignik Co-op?23 Below we suggest two broad types of lessons. First, the Co-op provides an example of the rapid, dramatic and far-reaching effects that self-governance can have. Second, the Co-op provides an example of a viable method by which fishermen and government can work together to achieve self-governance--an allocation to a voluntary co-op--as well as illustrating broader challenges of achieving self-governance.

Lessons from the Chignik Co-op: Effects of Fisheries Self-Governance

Fisheries self-governance can bring dramatic economic benefits. The Chignik Co-op immediately and dramatically reduced costs of fuel, insurance, vessel maintenance and labor in the Chignik salmon fishery. Despite that fact that total value of the fishery was the lowest in decades, most permit holders made money.

Fisheries self-governance can improve resource management. The Chignik Co-op made it possible for fishery managers to work with fishermen as a group to fine-tune fishing effort to achieve daily escapement goals much more precisely than was possible with a large competitive fleet.

23 Our focus in this concluding section is specifically on the self-governance issues that are the subject of this book. Other lessons of the Chignik Co-op--relating to its advantages, disadvantages, and usefulness as a model for the management of other Alaska fisheries--continue to be the subject of extensive debate with the Alaska salmon industry.
Fisheries self-governance encourages innovation. The co-op brought about an immediate and continuing search for ways to cut harvesting costs and improve quality and value by the same individuals who had previously focused their efforts on competing with each other. Co-op members visited British Columbia salmon farms to observe tendering and holding of live salmon, and designed and improved upon methods of delivering Chignik sockeye live. Co-op members designed leads in Chignik Lagoon to facilitate more efficient harvesting.

Fisheries self-governance changes fishermen’s relationships with markets. As a single entity with control over most of the Chignik harvest, the Co-op had vastly greater market power than Chignik fishermen had previously held as a competitive fleet. The Co-op could and did exercise its power to seek out new markets, to deliver exclusively to one of the two local processors; and to experiment with new ways of working with processors. For both of the local processors the Co-op posed significant new challenges. One was able to work with the Co-op and take advantage of new opportunities that it created. The other was unable to work with the Co-op and experienced significant economic losses. While initially disruptive, over time the Co-op was clearly moved the Chignik fishery towards greater integration of harvesting and processing, more effective marketing, and higher value.

Fisheries self-governance imposes new administrative costs. While fisheries self-governance has the potential to greatly reduce some fishing costs, it also adds new costs of administration. Although the initial formation of the co-op was a volunteer effort on the part of permit holders, over time the CSPA created paid positions for managing the fleet and administering the CSPA—and also had to pay new costs for accounting and legal services and office expenses.

Fisheries self-governance has more far-reaching effects than most people imagine or expect. Most of the discussion prior to the Co-op focused on the potential for cost savings. There was relatively little anticipation of how the Co-op would affect resource management, innovation and markets. Even less anticipated were changes in tendering services, harvests of sockeye outside the lagoon, and harvests of species other than sockeye.

Fisheries self-governance affects different people in different ways. Clearly the effects of the Chignik co-op differed between those permit holders who joined the co-op and those who didn’t. The fact that this choice was voluntary did not necessarily mean that individuals in either group perceived the choice as either equal or fair. Among co-op members, the most obvious differences derived from changes in the distribution of catches and profits—which are inevitable no matter how much of an effort is made for neutral or “fair” allocations. Less obvious were differences in which permit holders were hired by the co-op for harvesting, tendering or administrative positions. Still less obvious is the fact that different people may experience the same effects in different ways. For some permit holders, not fishing in return for a check from the Co-op meant an opportunity to earn income in other jobs. For others, the effect of not fishing may have been summarized by a Chignik Lagoon woman who observed that “the problem with the Co-op is that when our men aren’t fishing they’re drinking.”

Fisheries self-governance selects for a different set of skills. Success in the Chignik competitive fishery called for knowledge of how to find fish—before other fishermen found them—in the complex channels of Chignik Lagoon or the outside capes, and a willingness to
work hard and keep fishing when other fishermen quit. Success in the Chignik co-op called for ability to work with and get along with other fishermen, to devise new ways of catching and delivering fish, and to work with local processors and new markets to realize higher value from the fish. By favouring a different set of skills, over time the Chignik co-op—and fisheries self-governance in general—not only affects different individuals in different ways, but may change who participates in fisheries and the character of fishing communities.

Fisheries self-governance may be divisive. Because fisheries self-management may bring dramatic change, and may affect people in different ways, it may evoke particularly strong support or opposition. The debate over the Co-op became personal and extended beyond argument over what was said to how it was said. Both Chignik co-op supporters and opponents regretted the fact that the co-op divided Chignik permit holders, communities, and even families.

Lessons from the Chignik Co-op: Achieving Fisheries Self-Governance

An allocation to a voluntary self-governance organization provides an effective mechanism by which government can encourage fisheries self-governance, even with large numbers of fishery participants. A challenge in achieving self-governance without government intervention in a competitive fishery (one without individual quotas) is that it requires reaching agreement among all or nearly all persons with the right to participate in the fishery. This makes it difficult to achieve self-governance in fisheries with large numbers of participants without government intervention. Allocating to a voluntary co-op is a relatively simple and effective method of government intervention to achieve self-governance. With its own allocation, it is no longer necessary to structure the self-management organization in a way that all (or even most) participants agree on. The difficulty of achieving self-governance need no longer increase with the number of participants; it may even become easier find a group or groups of permit holders willing to accept any particular self-governance arrangement.

The allocation need not be limited to a single self-governance organization. In principle, as a long as a practical method of enforcing allocations can be devised, there is no limit to the number of separate self-governance organizations which can be created, potentially operating in different ways. Individual fishing quotas, under which each participant governs his own fishing, represent the limit to this process. However, a key difference between the Chignik model and IFQ systems as traditionally implemented is that that Chignik fishery participants retained the option to fish competitively if they chose to do so (although for only a portion of the total quota).

Allocating to a self-governance organization is much simpler than creating individual fishing quotas. The Chignik Co-op began fishing less than six months after the Board of Fisheries approved the allocation. There was no need to calculate individual quota allocations or devise a method of recording individual catches or enforcing individual quotas. Put simply, fishery managers were able to achieve major economic and resource management benefits with relatively small additional effort or cost.
Deriving a formula for allocating to a voluntary self-governance organization is not easy. Legal constraints aside, it is impossible to devise a “fair” allocation formula which will satisfy everyone, given the fact that self-governance affects different people in different ways.

An equal-shares allocation to a voluntary self-governance organization creates a difficult choice for fishery participants about whether or not to join. This is because the relative benefits of fishing competitively depend on which other fishermen also choose to fish competitively. Thus while “equal shares” is easier for managers, it is more complex for fishermen—questions of fairness aside.

Sequential fishing is a relatively simple and efficient way of allocating to a self-governance organization. In the Chignik fishery, sequential fishing was relatively easy to enforce. It was easy to tell which boats should be fishing at any given time. It was not necessary to exactly balance catches among the Co-op and independent fleets in any given fishing opportunities. And it eliminated the competition for the easiest fish to catch that occurs when separate quotas are fished simultaneously. Note however that sequential fishing limits the number of separate allocations which are practical to at most a few, and introduces inefficiencies by requiring one group to wait while the other fishes.

Separate allocations divide fishermen. The Chignik co-op provided an example of the phenomenon—familiar to parents of multiple children—that treating two groups differently may result in neither group feeling satisfied. Both co-op and independent fishermen argued that they were treated unfairly by the allocation formula and other aspects of the Co-op. Arguments over these original issues gave rise to new arguments over what people had said or how they had said it, dividing permit holders, communities and families. Thus giving permit holders an option to choose how they would fish, which was intended to reduce controversy, may in the end have aggravated it.

The processing industry has a major stake in whether and how fisheries self-governance arises—and may support or oppose it. One of the Chignik processors strongly opposed the co-op and helped to support the legal effort which eventually brought an end to the co-op.

Crisis spurs change. The Chignik Co-op made economic sense for decades before it was implemented. It was only implemented because an economic crisis created a political consensus—among Board of Fishery members and most Chignik permit holders—that change was essential. More generally, fisheries self-governance may be easier to achieve when times are bad than when times are good.

Latent (unfished) permits add to the political challenge of achieving fisheries self-governance. The more latent permits, the more the benefits to fishery participants of self-governance may be diluted by the need to share them with former non-participants who have a valid legal right to share in the benefits. Note that the greater the economic crisis in a fishery, the more permits that are likely to be latent. Thus, while economic crisis spurs change, it may also hinder change to the extent that it increases this latent permit problem.
Leadership and hard work are important for achieving fisheries self-governance. The establishment of the co-op required vision and hard and effective work on the part of the co-op organizers to formulate the co-op proposal, bring the proposal before the board, incorporate the CSPA, elect officers, and organize the co-ops fishing, tendering and marketing.

Political skill is important for achieving fisheries self-governance when government action is required. The fact that the board approved the Chignik Co-op but no other significant changes to the management of other Alaska salmon fisheries reflects in part the political skill of the Co-op organizers, who understood the board process and worked hard and effectively to make their case to the board.

The more constrained the nature of the rights that participants have to a fishery, the greater the challenge of achieving fishery self-governance. Only Chignik permit holders had the right to participate in the Chignik salmon fishery. However, according to the Alaska Supreme Court’s interpretation of the Limited Entry Act, that right was restricted to fishing their own permits in a competitive fishery, and could not be the basis for membership in a co-op receiving an allocation from the total catch.

Law trumps economics, fishermen and managers. The fate of the Chignik Co-op serves as a reminder that whatever economic logic may be and whatever fishermen and managers may want, ultimately the law defines and limits the extent to which fisheries self-governance may arise. Nor are the legal limits to fisheries self-governance necessarily clear or predictable. Neither the opinions of legal advisors to the Alaska Board of Fisheries or an Alaska judge correctly predicted the ultimate Alaska Supreme Court ruling which ended the Chignik Co-op.
REFERENCES

Alaska Department of Fish and Game (ADFG). 2007. ALASKA PRELIMINARY SALMON DATA.


