Selected Economic Effects of the Chignik Salmon Co-operative

Remarks prepared for the
Alaska Board of Fisheries

by

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Introduction

In 2002 I began working on a study of economic effects of the Chignik salmon cooperative. I had hoped to complete that study, analyzing economic effects of the Co-op over the past three seasons, in time to distribute it prior to this Board of Fisheries Meeting. However, I was unable to do so for several reasons, including other commitments, the complexity of the analysis, and the fact that Chignik Salmon Producers Association (CSPA) financial data for the 2004 season are not yet available.

I plan to complete the report within the next six weeks. In these comments today I briefly summarize selected findings from my analysis which I consider important. They are by no means the only important effects of the Co-op. The Co-op has had a very wide variety of economic and social effects. It would take a long time to discuss them in detail. The Board has heard about many of them.

My goal is not to argue for or against the Co-op, or to say that the Co-op has been good or bad or successful or not successful. I think reasonable people could come to different conclusions about these questions. The answers depend in large part on what you think is important and what we should be trying to achieve as we manage our fisheries.
There are significant challenges in studying the effects of the Co-op

To know the true effects of the Co-op, we would have to know what would have happened without a Co-op. It is tempting and easy—but completely wrong—to credit or blame the Co-op for everything that happened in the Chignik salmon fishery since 2002. The true effects of the Co-op are the changes from what would have happened if there had not been a Co-op. But since we don’t know exactly what would have happened if there had not been a Co-op, we can never know exactly what the real effects of the Co-op were.

The effects of the Co-op to date have depended in large part on the specific run conditions and market conditions that have occurred since the Co-op began. With different run conditions or market conditions, the experience might have been very different.

It would take many years to learn the full effects of the management changes allowing a cooperative fishery in Chignik. Future years will bring different run sizes, different run timing, and different market conditions. It would take a number of years to learn about the effects of the Co-op under different run and market conditions.

Most importantly, the short-term direct effects of the Co-op will be reflected in longer-term indirect effects which might ultimately be more profound and more important. Over time the Co-op could lead to significant changes not only in who fishes for salmon in Chignik but also in who owns Chignik permits and boats, who processes salmon in Chignik, and who lives in Chignik communities.

By way of comparison, consider the effects of the adoption of limited entry for Alaska salmon fisheries. The longer-term effects of Limited Entry on patterns of fishery participation, permit holder wealth and communities have taken many years to unfold, and they were neither apparent nor fully predictable in the first year of the program.

Data are not available for studying some of the most important effects of the fishery. Some of the most important economic effects of the Co-op relate to how it affected incomes and costs for different permit holders. We know that averages may be very misleading, because different permit holders catches, incomes and costs vary widely. Data are not publicly available for any individual permit holders’ catches, incomes and costs prior to the Co-op. Data are not publicly available for any independent permit holders’ catches, incomes and costs since the Co-op. The only permit holders for whom we can make a reasonable estimate of incomes and costs are those who joined the Co-op. Similarly, data are not available for incomes and costs of Chignik tender operators and processors.
Chignik sockeye salmon runs and harvests have been very poor since the establishment of the Co-op.

Between 2002 and 2004, the total Chignik River sockeye run and the Chignik Management Area sockeye catch were lower than for any consecutive three-year period since 1974-76. The 2002 and 2003 runs and catches were lower than all but six years 1975. The 2004 run and catch were the lowest since 1975.
Sockeye salmon market conditions have been very poor since the establishment of the Co-op.

In other western Alaska sockeye salmon fisheries, ex-vessel prices during the three Co-op years 2002-04 (as well as in 2001, the year before the Co-op) were the lowest since 1980.

Prior to 2002, sockeye ex-vessel prices in these fisheries tracked fairly closely with sockeye ex-vessel prices in the Chignik fishery—suggesting that without a Co-op Chignik would also have experienced low prices in 2002-2004.

Sources for areas other than Chignik: 1980-2003: CFEC Sockeye Price Data (2003 data are preliminary); 2004: ADFG Commercial Fisheries Website Data (preliminary). Chignik ex-vessel prices are estimates from various sources.
The combination of poor sockeye runs and poor sockeye market conditions since 2002 means that with or without a Co-op, the value of Chignik salmon harvests would have been substantially lower.

Given the drastic decline in the total value of the fishery, most Chignik permit holders would have seen the value of their harvests fall substantially over the past three years with or without a Co-op. The issue is not whether Chignik permit holders are better off than they were before the Co-op. The issue is whether they are better off than they would have been without a Co-op.

![Graph showing total value of salmon harvests in Chignik Management Area from 1970 to 2004](image1)

Note: The ADFG value estimates shown in the figure are preliminary. They likely understate the actual value somewhat, although not enough to change the conclusion that the value has been substantially lower over the past three years.

The value of salmon harvests has fallen dramatically in salmon fisheries across Alaska, resulting in economic and social problems for salmon-dependent communities across Alaska. Across Alaska, there have been fewer boats fishing, fewer boats tendering, fewer crew jobs, lower fish tax revenues, processors closing, problems in making loan payments, permits being sold, and people moving out of fishing communities. The fact that these things have happened in Chignik cannot necessarily be attributed to the Co-op. It is not easy to tell how much of the economic and social problems faced by Chignik permit holders and communities are due to the Co-op, or to what extent they would have occurred if there had not been a Co-op.
Selected Major Economic Effects of the Chignik Salmon Cooperative
(compared with what would have happened without a Co-op)

- **Very substantial reduction in the number of boats fishing.** Without a Co-op, there might have been between 70 and 90 boats fishing. The number of boats fishing fell to 43 in 2003 and 33 in 2004.

- **Very substantial reduction in costs.** The decline in the number of boats resulted in very substantial reductions in fixed costs such as insurance and boat and gear maintenance, as well as variable costs such as fuel. Costs were further reduced because boats fished fewer days.

- **Some increase in the ex-vessel value of the fishery.** The amount of the increase is difficult to quantify, but is likely between $.05/lb and $.20/lb.

- **Innovations in harvesting and processing.** These included use of leads to reduce harvesting costs, live delivery of fish, and marketing of fresh fish.

- **Increase in the number of permit holders receiving income from the fishery.** Without a Co-op, only the 70-90 permit holders who might have continued to fish would have received income from the fishery. With the Co-op, almost all permit holders received income, either from fishing, Co-op dividends, or both.

- **Very significant changes in the relative distribution of net income from the fishery.** In general, those who would have not fished or caught the least fish without a co-op clearly benefited, while those who would have caught the most fish without a co-op benefited less or lost.

- **Very substantial reduction in employment of crew.** Assuming 3 crew per boat, the decline in number of boats fishing probably resulted in a loss of 90-150 crew jobs. However, the remaining crew likely earned more.

- **Almost complete shift in Chignik salmon tendering from boats which had traditionally tendered to salmon permit holders.** The Co-op has used its own permit holders to tender almost all of its fish. Traditional tender operators lost this income—although there would likely have been some decline in tendering anyway.

- **Dramatic shift in the distribution of processing.** Changed from approximately equal shares for two major processors to most of the fish being processed by one processor.

- **Shift in the location of fishing activities.** Decline in “outside” fishing and concentration of fishing in Chignik Lagoon, as processors ceased offering tendering services for boats fishing outside.

- **Decline in non-sockeye harvests.** 2004 catches of kings, chums, pinks and cohos fell to almost zero as “outside” fishing ended.

- **Changes in the timing of fishing.** Fishing spread out more evenly over the season as ADFG worked with the Co-op to “fine-tune” daily catches.
The Co-op has probably raised Chignik ex-vessel prices for sockeye salmon by somewhere between $.05/lb and $.20/lb. It is impossible to estimate precisely how much the Co-op may have raised prices.

It is difficult to measure Chignik ex-vessel sockeye prices since the establishment of the Co-op, or to compare them with prices prior to the Co-op. The Co-op has had contracts that include advance prices and post-season adjustments based in part on profit-sharing. Some payments have come months after the season. ADFG’s preliminary price and value estimates, which are reflected in the reports to the Board of Fisheries and posted on their website, are preliminary estimates that don’t and can’t take account of these post-season payments. They may underestimate the actual prices paid in the fishery.1

Prior to the Co-op, most of the prices paid in the Chignik fishery were for fish delivered on the grounds to tenders. Over the past two years, most of the prices were for fish delivered to processors. Thus to accurately compare prices before and after the Co-op, you have to adjust for the additional costs for fishermen in tendering. To accurately compare prices with other areas, you have to adjust for whether prices paid in other areas are grounds prices or delivered prices.

The table above shows approximate estimates of Chignik sockeye dock prices and grounds prices for the years 2002-2004. Comparing these with prices in other western Alaska sockeye fisheries suggests that Chignik sockeye prices have been higher relative to these other fisheries than they were prior to the Co-op—by between $.05/lb and $.20/lb.

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1 The most accurate source of data for calculating ex-vessel prices would be Commercial Operator Annual Report (COAR) data, which are based on reports filed in the spring by processors about how much they paid for fish. But the COAR data for Chignik prices are confidential because fewer than four processors have purchased sockeye in most years.
The Co-op resulted in a substantial decline in the number of boats fishing—but a substantial increase in the number of permit holders benefiting from the fishery.

As has happened in other Alaska fisheries and in Chignik after earlier years of low harvest value, it is likely that if there had not been a Co-op, a significant number of Chignik permits would not have been fished in 2002-2004, given the low value of the fishery in those years. It is impossible to know exactly how many permits might have been fished. It seems reasonable to assume that without a Co-op, between 70 and 90 permits might have been fished in the years 2002-04. This means that between 10 and 30 permit holders would have derived no income from the fishery in those years.

The effect of the Co-op was to substantially lower the number of permits fished from this assumed level of 70-90 to 43 in 2003 and just 33 in 2004. The effect was to increase the number of people deriving income from the fishery by between 10 and 30.

The decline in the number of boats fishing contributed to very significant cost savings. The increase in the number of permit holders receiving income was clearly a benefit to those who would not otherwise have received income—but from the perspective of those who would have fished without a Co-op it might be considered to have reduced their potential earnings, because the total value of the fishery was shared among more permit holders.
Historically there was wide variation among Chignik permit holders in earnings. This means that the Co-op affected different permit holders in widely differing ways.
The effects of the Co-op have likely varied significantly between Chignik-area communities.

Number of Permit Holders, by Community, in 2002

<table>
<thead>
<tr>
<th></th>
<th>Co-op</th>
<th>Independent</th>
<th>Total</th>
<th>Co-op</th>
<th>Independent</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chignik Lagoon</td>
<td>10</td>
<td>12</td>
<td>22</td>
<td>13.7%</td>
<td>48.0%</td>
<td>22.4%</td>
</tr>
<tr>
<td>Perryville</td>
<td>5</td>
<td>4</td>
<td>9</td>
<td>6.8%</td>
<td>16.0%</td>
<td>9.2%</td>
</tr>
<tr>
<td>Chignik</td>
<td>6</td>
<td>2</td>
<td>8</td>
<td>8.2%</td>
<td>0.0%</td>
<td>8.2%</td>
</tr>
<tr>
<td>Chignik Lake</td>
<td>6</td>
<td>0</td>
<td>6</td>
<td>8.2%</td>
<td>0.0%</td>
<td>8.2%</td>
</tr>
<tr>
<td>Chignik Bay</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>2.7%</td>
<td>0.0%</td>
<td>2.0%</td>
</tr>
<tr>
<td><strong>Total, Chignik Area</strong></td>
<td><strong>29</strong></td>
<td><strong>18</strong></td>
<td><strong>47</strong></td>
<td><strong>39.7%</strong></td>
<td><strong>72.0%</strong></td>
<td><strong>48.0%</strong></td>
</tr>
<tr>
<td>Anchorage</td>
<td>12</td>
<td>1</td>
<td>13</td>
<td>16.4%</td>
<td>4.0%</td>
<td>13.3%</td>
</tr>
<tr>
<td>Kodiak</td>
<td>8</td>
<td>0</td>
<td>8</td>
<td>11.0%</td>
<td>0.0%</td>
<td>8.2%</td>
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<tr>
<td>Seward</td>
<td>3</td>
<td>0</td>
<td>3</td>
<td>4.1%</td>
<td>0.0%</td>
<td>3.1%</td>
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<tr>
<td>Homer</td>
<td>5</td>
<td>0</td>
<td>5</td>
<td>6.8%</td>
<td>0.0%</td>
<td>5.1%</td>
</tr>
<tr>
<td>Kaslof</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1.4%</td>
<td>0.0%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Seldovia</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1.4%</td>
<td>4.0%</td>
<td>2.0%</td>
</tr>
<tr>
<td>Eagle River</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1.4%</td>
<td>0.0%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Nome</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1.4%</td>
<td>0.0%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Unalaska</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1.4%</td>
<td>0.0%</td>
<td>1.0%</td>
</tr>
<tr>
<td><strong>Total, Other Alaska</strong></td>
<td><strong>33</strong></td>
<td><strong>2</strong></td>
<td><strong>35</strong></td>
<td><strong>45.2%</strong></td>
<td><strong>8.0%</strong></td>
<td><strong>35.7%</strong></td>
</tr>
<tr>
<td>Washington</td>
<td>9</td>
<td>4</td>
<td>13</td>
<td>12.3%</td>
<td>16.0%</td>
<td>13.3%</td>
</tr>
<tr>
<td>Other States</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>2.7%</td>
<td>4.0%</td>
<td>3.1%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>73</strong></td>
<td><strong>25</strong></td>
<td><strong>98</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

Note: Community is based on CFEC 2002 permit holder list.

In 2002 and 2003, approximately half of total Co-op revenues was profit available for distribution to members as dividends.

Distribution of Chignik Salmon Producers Association Revenues

<table>
<thead>
<tr>
<th></th>
<th>2002</th>
<th>2003</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>After-tax revenues</strong></td>
<td>$4,070,519</td>
<td>$4,303,586</td>
</tr>
<tr>
<td>Harvesting</td>
<td>$971,370</td>
<td>$1,158,717</td>
</tr>
<tr>
<td>Tendering</td>
<td>$419,825</td>
<td>$618,538</td>
</tr>
<tr>
<td>All other expenses</td>
<td>$523,324</td>
<td>$381,882</td>
</tr>
<tr>
<td>Dividends</td>
<td>$2,156,000</td>
<td>$2,144,450</td>
</tr>
</tbody>
</table>

Using a small number of boats to catch large volumes of fish allowed the Co-op to harvest fish profitably in 2002 and 2003 despite poor run conditions and poor market conditions.

Source: CSPA Financial Reports for fiscal years 2002-03 and 2003-04. Note: Estimates of harvesting and tendering expenses are based on actual expenditures for contracts and insurance, as well as estimated shares of fuel expenses. Estimates are preliminary.