Economic Factors in the Scallop Fishery off Alaska

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Introduction

This paper discusses available economic information in an attempt to identify factors that have contributed to major changes in the Alaska scallop fishery over time. An attempt has been made to conduct more advanced analyses than presented here; however, considerable additional effort would be required to conduct surveys and/or combine existing electronic data with paper records to make such analyses feasible. While that may be warranted for future efforts, this paper is a discussion of existing analyses and data.

The Early Years

The Atlantic sea scallop fishery is the predominant source of U.S. domestic sea scallop supply. A cyclical decrease in stocks, possibly due to overfishing, began to occur on the Atlantic's Georges Bank in the late 1960's. In response to these stock conditions, management measures, focused on protecting stocks, were adopted. The result was a steady decline in sea scallop landings from the Georges Bank area. As a direct result of these changes, interest in developing a weathervane scallop fishery off Alaska materialized in the late 1960's. Weathervane scallop stocks off Alaska had been evaluated for commercial potential in the 1950's (NPFMC, 2005) but the first effort recorded in the fishery occurred in 1967. In that year, two vessels made six landings of scallops totaling less than 1,000 pounds of shucked meats.

As shown in Table 1, an additional 17 vessels entered the fishery in 1968 and the 19 vessels that participated made 125 landings totaling 1,677,268 pounds of shucked meats. In 1969, 19 vessels continued harvesting scallops and made 157 landings totaling 1,849,947 pounds of shucked meats. The 1969 fishery had the largest number of landings and the largest pound total in the history of the fishery. The inflation adjusted first wholesale value of the 1969 catch was just over $6.6 million, or an average of nearly $350,000 per vessel, and was the fourth highest annual value on record. However, this level of harvest and effort was not to be sustained.

Data from 1970 suggest that there may have been relatively few vessels landing most of the scallops during 1968 and 1969. This appears so because only 7 vessels remained in the fishery in 1970 despite a 17 percent increase in the average price. These 7 vessels made 137 landings totaling 1,440,338 pounds of shucked meats, which was 78 percent of the harvest taken by 19 vessels the previous year. The inflation adjusted first wholesale value of the 1970 catch was about $5.8 million, or an average of more than $826,000 per vessel. While this revenue picture appears rosy, there is no data available on operating costs or effort levels in the early days of this fishery, and the trend during the rest of the 1970's suggests that the fishery was not as lucrative as the 1970 revenue numbers suggest.

Table 1: Historic Statewide Commercial Weathervane Scallop Statistics, 1967-2002/03.

Year	Vessels	Landings[a]	Catch (lbs meats)[b]	Average Price/Lb.	Inflation Factor	Adjusted Price	Wholesale Value
1967	2	6	778[c]	$0.70	0.219	$3.20	$2,487
1968	19	125	1,677,268	$0.85	0.228	$3.73	$6,252,973
1969	19	157	1,849,947	$0.85	0.238	$3.57	$6,606,954
1970	7	137	1,440,338	$1.00	0.249	$4.02	$5,784,490
1971	5	60	931,151	$1.05	0.260	$4.04	$3,760,418
1972	5	65	1,167,034	$1.15	0.268	$4.29	$5,007,795
1973	5	45	1,109,405	$1.20	0.285	$4.21	$4,671,179
1974	3	29	504,438	$1.30	0.313	$4.15	$2,095,110
1975	4	56	435,672	$1.40	0.339	$4.13	$1,799,235
1976	7	21	264,788	$1.59	0.359	$4.43	$1,172,738
1977, 1978	**No Fishery**						
1979	1	4	24,826	NA	NA	NA	NA
1980	8	56	616,717[c]	$3.60	0.484	$7.44	$4,587,151
1981	18	101	924,441	$4.00	0.529	$7.56	$6,990,102
1982	13	120	913,996	$3.25	0.561	$5.79	$5,294,986
1983	5	30	192,310	$5.00	0.584	$8.56	$1,646,490
1984	6	52	383,512	$4.00	0.607	$6.59	$2,527,262
1985	7	47	615,564	$4.00	0.627	$6.38	$3,927,043
1986	8	74	667,258	$4.25	0.639	$6.65	$4,437,944
1987	4	54	599,947[d]	$3.45	0.661	$5.22	$3,131,342
1988	4	47	341,070	$3.68	0.685	$5.37	$1,832,318
1989	7	55	534,763	$3.87	0.714	$5.42	$2,898,505
1990	9	144	1,481,136	$3.43	0.750	$4.57	$6,773,729
1991	6	136	1,136,649	$3.82	0.777	$4.92	$5,588,159
1992	8	136	1,785,673	$3.96	0.796	$4.97	$8,883,499
1993[e]	7	51	568,077	$5.15	0.816	$6.31	$3,585,290
1993/94	15	111	984,583	$5.15	0.816	$6.31	$6,213,974
1994/95	15	104	1,240,775	$5.79	0.833	$6.95	$8,624,354
1995/96	10	29	410,743[d]	$6.05	0.853	$7.09	$2,910,834
1996/97	9	30	732,424	$6.30	0.876	$7.19	$5,267,433
1997/98	9	31	818,913	$6.50	0.895	$7.26	$5,947,413
1998/99	8	35	822,096	$6.40	0.908	$7.05	$5,794,509
1999/00	10	22	837,971	$6.25	0.927	$6.74	$5,649,751
2000/01	8	20	750,617	$5.50	0.958	$5.74	$4,309,388
2001/02	6	26	572,838	$5.25	0.984	$5.34	$3,056,300
2002/03	6	28	509,455	$5.25	1.000	$5.25	$2,674,639

[a] Prior to and including 1995, number of landings equals number of fish tickets. After 1995, the number of landings equals number of deliveries (off-loads). A delivery typically includes multiple tickets, normally one per week.

[b] Pounds of shucked scallop meats.

[c] Unshucked scallop deliveries were converted to shucked meats using a 10 percent conversion factor.

[d] Includes illegal harvest.

[e] January 1 through June 30

In 1971, effort fell to 5 vessels and remained at 5 vessels for several years before falling to 3 vessels in 1974. During those years, landings fell from 137 in 1970 to 29 in 1974. However, shucked meat totals stayed near or above 1 million pounds through 1973 before falling by more than 50 percent to approximately a half million pounds in 1974. Prices continued to rise over this time frame, however, the declining catch forced revenue to decline to just under $1.2 million in 1976 when 264,788 pounds, just 14 percent of the 1969 peak harvest, of shucked meats were caught. In 1977 and 1978, no effort was expended in the weathervane scallop fishery off Alaska.

The period of 1967 to 1976 demonstrates what can happen in an emerging fishery with passive management. There were no effort controls, limits, or guideline harvest levels in place. The fishery expanded rapidly as scallop beds were located and exploited, experienced substantial effort consolidation as marginal vessels departed, and eventually overexploited the known beds to the point that the fishery was not economically viable by 1977 and 1978. This could have been the end of the weathervane scallop fishery off Alaska, except for the fact that scallops are somewhat resilient and discoveries of new beds had yet to be made.

In 1979, following two years with no harvest, a single vessel made 4 landings totaling less than 25,000 pounds. of shucked meats. Three years of zero or minimal effort had likely allowed the scallop resource to regenerate somewhat. That likelihood, combined with a price increase to $3.80 per pound contributed to 8 vessels making 56 landings totaling about 617,000 pounds. in 1980. It is interesting to note that the inflation adjusted 1980 price of $7.44 per pound is the third highest inflation adjusted price in history.

Given fishing success in 1980 and price increases, it is not surprising to see that 1981 participation increased to 18 vessels that made 101 landings totaling 924,441 pounds of shucked meats. The 1980 first wholesale value was just under $7 million. However, data for the next several years show a similar cycle as occurred between 1969 and 1974. By 1983, five vessels made 30 landings totaling less than 200,000 pounds of shucked meats. However, 1983 was the year of record high prices of $8.56 per pound so first wholesale value exceeded $1.6 million.

Over the next several years, participation increased slightly as did landings and catch but repeated the cyclical pattern by trending back downwards before another cyclic increase in landings and catch began in 1989. Beginning in 1990, an influx of East Coast scallop vessels began to occur; once again this was because of unfavorable economic conditions in East Coast scallop fisheries. The upward trend continued into 1992, when the second highest historic catch of 1,785,673 pounds was taken by 8 vessels making 136 landings. The first wholesale value of over $8.6 million recorded in 1992 stands as the historic high inflation adjusted catch value in the history of this fishery.

This period of this fishery has been characterized as a “goldrush atmosphere” (Barnhart, 2006). It is also important to note that by this time, scallop beds had been located in

several areas around Kodiak Island, in Shelikof Strait, near Yakutat, in the Northern Gulf of Alaska near Kayak Island, in Cook Inlet, as well as in the Aleutians and Bering Sea.

In the early 1990's, the State of Alaska determined that the fishery was expanding rapidly without active management. Thus the State moved to declare this fishery a high impact emerging fishery in May of 1993. This action required fishery closure and implementation of an interim management plan. Table 1 shows that, prior to closure in May of 1993, the fishery had participation by 7 vessels with 51 landings totaling 568,077 pounds. Following implementation of the interim management plan, the fishery reopened on June 17, 1993. The interim management plan required 100 percent observer coverage and set crab bycatch limits. From this point on, data is presented by season years. Thus, the remained of 1993 catch is listed for the 1993-94 season. The seasons established in the management plan extend into the first three months of the following year.

Catch statistics for the 1993-94 season indicate participation by 15 vessels making 111 landings of a total of 984,583 pounds of shucked meats. Total first wholesale value was just over $6.2 million in 1993-94. The 1994-95 season also have participation by 15 vessels making 104 landings totaling 1,240,775 pounds. Total first wholesale value in 1994-95 exceeded $8.6 million, the second highest value in history.

In 1995/96 year a the captain of a single vessel turned in his State scallop registration card but proceeded to fish scallops in the Federal waters of the Exclusive Economics Zone (EEZ) without State observer coverage and with total disregard for harvest limits. In response, Federal regulators closed the EEZ to scallop harvest by emergency rule on February 23rd of 1995 and then enacted a Fisheries Management Plan for the scallop fisheries off Alaska (FMP) and an amendment to that plan that closed the fishery in the EEZ until August of 1996, nearly 18 months later. (NPFMC, 2005) The actions of this one individual, and the resulting closures likely had a devastating economic impact on remaining participants. Nonetheless, the period from 1994/95 to 2000, with the exception of the 1995/96 season, had fairly constant participation and landed pounds trended upwards.

In 1997, the North Pacific Fisheries Management Council (Council) sought to restrict effort in the scallop fishery off Alaska by adopting a vessel moratorium, under which 18 vessels qualified to fish in Federal waters. Following that action, the Council undertook analysis of further capacity reductions and adopted a License Limitation Program, including 9 vessels, which took effect in 2000.(NPFMC, 2005) These changes ushered in a new era in the scallop fishery off Alaska. The successes of the early exploratory years had now necessitated stock and effort management measures and capacity reduction.

Markets:

In the domestic U.S. market, Alaska weathervane scallops are similar to Atlantic sea scallops. Table 2 compares total landings and value of Alaska weathervane scallops with Atlantic sea scallops from 1990 through 2004. These data show that Atlantic sea scallop harvest is consistently orders of magnitude larger than weathervane scallop harvests off Alaska.

Table 2: US Scallop Landings and Value versus Scallop Imports and Value, 1990-2003

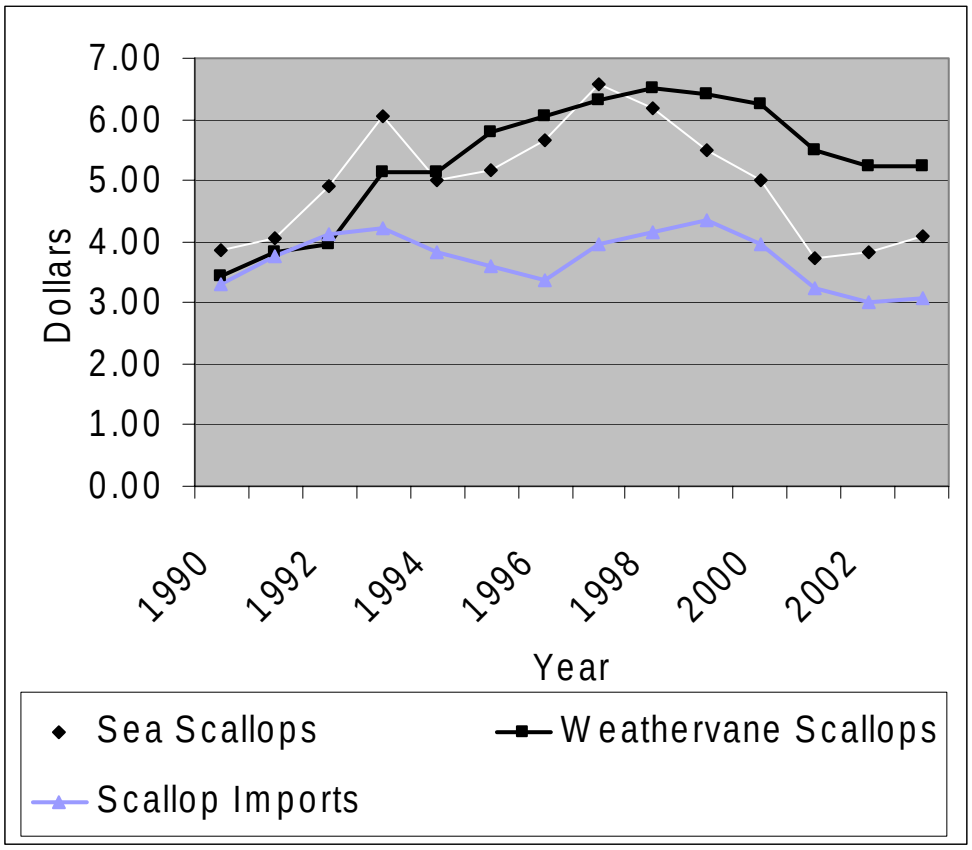
Year	Sea Scallops			Alaska Weathervane Scallops*			Scallop Imports, All Species Combined		
	Pounds	$ Value	Av. $/lb.	Pounds	$ Value	Av. $/lb.	Pounds	$ Value	Av. $/lb.
1990	38,122,499	147,652,629	3.87	1,481,136	5,080,296	$3.43	40,019,022	131,561,184	3.29
1991	37,722,537	152,962,080	4.05	1,136,649	4,341,999	$3.82	29,657,673	111,367,873	3.76
1992	31,142,424	152,613,014	4.90	1,785,673	7,071,265	$3.96	38,835,772	160,209,462	4.13
1993	16,023,939	96,864,382	6.04	568,077	2,925,597	$5.15	52,064,185	219,181,426	4.21
1994	16,693,648	83,668,338	5.01	984,583	5,070,602	$5.15	56,803,716	216,872,816	3.82
1995	17,387,151	89,677,480	5.16	1,240,775	7,184,087	$5.79	48,441,298	174,791,787	3.61
1996	17,456,928	98,511,157	5.64	410,743	2,482,941	$6.05	58,848,419	198,798,644	3.38
1997	13,614,715	89,368,536	6.56	732,424	4,614,271	$6.30	60,331,156	238,121,731	3.95
1998	12,110,282	75,034,905	6.20	818,913	5,322,935	$6.50	53,200,242	221,115,522	4.16
1999	22,009,495	120,935,432	5.49	822,096	5,261,414	$6.40	44,601,478	194,740,607	4.37
2000	32,132,910	160,756,579	5.00	837,971	5,237,319	$6.25	54,080,178	214,764,421	3.97
2001	46,632,002	173,551,125	3.72	750,617	4,128,394	$5.50	40,044,408	130,033,430	3.25
2002	52,576,168	201,794,044	3.84	572,838	3,007,400	$5.25	48,958,906	146,690,423	3.00
2003	55,944,483	229,003,703	4.09	509,455	2,674,639	$5.25	52,861,692	161,893,889	3.06

Sources: NMFS Data at http://www.st.nmfs.gov and ADF&G Fish Ticket data.

* Seasonal data is displayed as annual data for comparison with annual sea scallop landings

Though this analysis has not found a published formal market study of price determination of weathervane scallops, there are some intuitive conclusions that can be made from the data presented in Table 2 and from the price trends displayed in Figure 1. First, domestic markets are dominated by Atlantic sea scallop production. Second, prices of weathervane scallops track closely to those of Atlantic sea scallops. Thus, it is highly likely that domestic market price is dominated by the relationship between quantity supplied in the Atlantic sea scallop fishery and domestic market demand.

Figure 1: Scallop Price Comparisons, 1990-2003



Another important factor in scallop market is imports of scallop products. Unfortunately, available import data commingles imports of several small scallop species (e.g. pink, calico, bay etc.) with larger scallop varieties such as sea scallops and weathervane scallops. However, as these products are substitutes for one another, although not perfectly, the imports of these other species may have an effect on domestic market prices. In any event, the imported value of scallops has been similar to, or exceeded, total domestic production in recent years. Thus, it is likely that domestic market prices are heavily influenced by imports.

The obvious conclusion that can be drawn from the data presented in Table 1 is that the wholesale price of weathervane scallops is determined largely by other domestic supply and import supply. This suggests that North Pacific harvesters have little, if any, market power to negotiate prices and are essentially price takers in the wholesale market. There is likely an exception to this condition.

The scallop fishery inside the Cook Inlet registration area is located close enough to the port of Homer that vessels participating in that area can make short trips and delivery fresh product to shoreside processors or distributors. Homer is linked to Anchorage by

road and scallops landed there can enter the Anchorage white tablecloth market and/or be sold locally to tourists who flock to the region in recreational vehicles each summer. Thus, a somewhat separate market may exist for vessels that fish inside the Cook Inlet registration area. At present, so few vessels fish Inside the Cook Inlet registration area that the data is confidential.

Scallop Fishery Transition and Fleet Consolidation

A review of fish ticket data suggest that, in the early days of this fishery, much of the harvest was made by catcher vessels (CVs) making single day trips and delivering to shoreside processors. The shoreside processors then processed the meats (e.g. trim, freezing, and packaging) and moved the product to market, whether in fresh or frozen form. That method appears to have continued into the mid 1990's. At that time, single day trips had began to be replaced by multiday trips and freezing at sea by catcher processors (CPs). This change was likely the result of some vessels earning marginal returns due to the cost of daily transit to and from port as well as the 10 day maximum that shucked meats can be held on ice by a CV (Kandianis) The further vessels operated from port the more severe this inefficiency became. As new beds were found in distant areas some vessels likely found their participation was not economically sustainable. This fact was likely exacerbated by the fact that harvesters had little or no market power.

Under these conditions, vessel operators are constrained by the inefficiency of the day trip and external market forces dictating the value of their catch. Thus, operators would look to reduce inefficiencies, reduce operating costs, and attempt to capture processing value added that was being captured by the shoreside processing sector. Operators might even attempt to improve value by increasing quality. It can be argued that fresh frozen (at sea) product may be superior to product that is iced for a period of time before being consumed and/or frozen. The result of these forces appears to be the entrance of catcher processors (CPs) into the scallop fishery. That this began to happen should be no surprise. It was around this time that the CP fleet began to expand in several of the Bering Sea fisheries for many of the same reasons.

This practice expanded over the next several seasons. By the time the vessel moratorium was imposed in 1997 there were 18 vessels included under the moratorium. Further consolidation of the fleet was deemed necessary by the North Pacific Fisheries Management Council.

In 1999 the Council adopted Amendment 4 to the Scallop FMP, which established the Federal License Limitation Program (LLP). The LLP recognized 9 participants and granted them statewide access with maximum vessel length overall (MLOA) limits (equal to the length of the vessel they were using during the qualifying period) and with gear restrictions for two vessels that primarily fished inside the Cook Inlet registration area. All of the remaining 7 participants in the statewide fishery outside the Cook Inlet registration area were using vessels categorized at CPs. Thus, at the time of the LLP, virtually all effort in the statewide fishery outside the Cook Inlet registration area was from CPs. Thus, the transition away from the inefficiency of day trips, the capture of

shoreside processing value added by offshore processing, and any potential improvement in quality brought about by at-sea freezing appeared to be complete by the time of LLP implementation in 2000. However, further fleet consolidation was predictable, and had already begun.

The Regulatory Impact Review (RIR) analysis supporting the action to create the LLP (NPFMC 1999) develops a breakeven analysis for the scallop fishery in the statewide fishery outside the Cook Inlet registration area. This analysis estimates the number of vessels that could breakeven in the fishery under a series of price and landings scenarios. The analysis is based on operating cost and revenue data provided voluntarily by fishery participants. Table 3 presents the analysis.

Table 3: Number of Vessels that Could Breakeven Under Various Price and Landings Scenarios (recreated from Regulatory Impact Review for Amendment 4 to the North Pacific Scallop FMP)

Price	Landing (pounds)			
	600,000	800,000	1,000,000	1,200,000
$5.00	3.6	4.9	6.1	7.3
$5.50	4.0	5.3	6.7	8.0
$6.00	4.4	5.8	7.3	8.7
$6.50	4.7	6.3	7.9	9.5
$7.00	5.1	6.8	8.5	10.2
$7.50	5.5	7.3	9.1	10.9
$8.00	5.8	7.8	9.7	11.6

In the 1999/00 season 10 vessels, including two inside the Cook Inlet registration area, landed 837,971 pounds of scallops with an average price of $6.25. The analysis recreated in Table 3 indicates that approximately 6 vessels could breakeven fishing in the statewide fishery outside the Cook Inlet registration area under this price and landings scenario. Thus, participation in the statewide fishery outside the Cook Inlet registration area exceeded the breakeven number of vessel by two.

In 2000/01 8 vessels, including two operating inside the Cook Inlet registration area, landed 750,617 pounds of scallops with an average price of $5.50 per pound. The breakeven analysis suggests that this price and landings combination could probably support 5 vessels in the statewide fishery outside the Cook Inlet registration area; however, 6 were fishing in that season.

In 2001/02 6 vessels, likely four in the statewide fishery outside the Cook Inlet registration area, landed 572,838 pounds of scallops with an average price of $5.25 per pound. The breakeven analysis suggests that this landings and price scenario could support fewer than four vessels at breakeven levels and this appears to be the case in 2002/03 as well.

In 2000 a group of six of the LLP holders, who traditionally have fished in the statewide fishery outside the Cook Inlet registration area, formed a voluntary marketing cooperative

(NPFMC 2005). The cooperative members agreed to reduce harvesting capacity and entered into revenue sharing agreements with members who agreed to not use their vessel(s). That the cooperative chose to do this is not surprising given the effect of declining landings and price on breakeven numbers in this fishery between 2000/01 and 2002/03.

In 2001, the cooperative reduced vessel participation by 50 percent, however, one vessel continued to operate independently in the statewide fishery outside the Cook Inlet registration area. Two vessels continued to fish independent of the cooperative inside the Cook Inlet registration area. Thus, capacity reduction efforts made by the cooperative had reduced overall capacity but not to the level suggested by the breakeven analysis presented above.

A point worth considering is that several of the LLP holders who had joined the cooperative had, at one time, been involved in the East Coast Atlantic sea scallop fishery. This was true of the LLP associated with the vessels Carolina Girl and Carolina Boy and the vessel Pursuit. The Pursuit was operating out of Kodiak when the LLP was implemented and the Carolina Boy and Carolina Girl were operating out of Seward (Barnhart, 2006). Each of these operations, however, was East Coast based and likely had to bear costs of travel to and from the east coast, vessel caretaking costs during the off-season, and idle vessel time. These factors likely contributed to these three vessels not fishing under the cooperative.

Instead of fishing, the owners of the LLP that originally used these vessels received some form of revenue and/or ownership sharing while the other cooperative members continued to fish. Evidence of this was presented in Appendix A to the Environmental Assessment conducted for Amendment 10 to the FMP (NPFMC 2005b). Provider Inc. and Ocean Fisheries LLC provided operating cost data for their scallop fishing enterprise in 2003. This data shows that these two operators paid $244,516 in “scallop leases” in 2003.

The lease fees paid by Ocean Hunter and Provider Inc. could only be afforded if the operations gained considerably more revenue and/or if they are able to decrease operating costs under the cooperative. The revenue earned by these two vessels is confidential. However, the breakeven analysis presented in the RIR for Amendment 4 (LLP) to the FMP determined that the average fixed and variable non-labor costs of the fleet at the time (pre LLP, pre coop) was approximately 59 percent.

The data provided by Provider Inc and Ocean Hunter/ Ocean Fisheries LLC in 2003 indicate a non-labor cost ratios of 59 percent and 57 percent for Provider and Ocean Hunter respectively. However, these non-labor cost ratios include lease fees of $157,493 paid by Provider Inc and $87,097 in lease fees paid by Ocean Hunter. Thus, these two cooperative vessels were able to maintain the same, or slightly lower, cost ratio inclusive of leases paid to other cooperative members totaling $244,516. While revenue cannot be discussed directly, it is likely that overall revenue for these vessels increased with fewer

vessels fishing. It is likely that payments to labor, including owner shares, increased with greater overall revenue and similar non-labor cost ratios.

While the cooperative initially limited effort by using revenue sharing to compensate owners of unused vessels, a more permanent effort reduction began to take place in 2002. It is important to understand that Federal Alaska Scallop LLP permits are not directly associated with a specific vessel. The only vessel requirement on the LLP permit is that it cannot be used on any vessel larger than the MLOA assigned to the LLP. Further restrictions are that no more than two LLPs may be held by one "individual" and that LLPs may not be leased.

In contrast, the Alaska Commercial Fisheries Entry Commission (CFEC) Limited Entry Scallop permit is specifically attached to a vessel. Thus, to fish in both Federal and State waters, one must have a Federal LLP and would need to use the actual vessel assigned the CFEC Limited Entry permit. However, if one wanted to fish only in Federal waters, without harvest restriction, they could use any vessel so long as it was under the MLOA of that LLP and was not an American Fisheries Act (AFA) vessel. Alternatively, if an individual or entity were to purchase a Federal LLP, they would not be required to actually fish the LLP, nor would they then have need of a CFEC Limited Entry licensed vessel.

In 2002, Alaska Scallop LLC was formed by Teressa Kandianis and Tom Mineo. Alaska Scallop LLC purchased the Scallop LLP formerly owned by Carolina Girl. In 2003 another cooperative member, Ocean Fisheries LLC, purchased the LLP originally awarded to Carolina Boy. Thus, Ocean Fisheries LLC now holds two Scallop LLPs, which it fishes on the vessel Ocean Hunter.

Provider Inc., another original LLP holder and cooperative member is owned by Mark Kandianis and Tom Doody (ADOR, 2006). Further, Tom Doody is part owner of Pursuit Inc, another original LLP holder and cooperative member. However, the vessel Pursuit has not fished in the Alaska scallop fishery in recent years.

There was one additional original cooperative member; Forum Star Inc. The vessel Forum Star is an AFA eligible vessel. Under Amendment 8 to the FMP authority was delegated to the State of Alaska to set an AFA sideboard in the scallop fishery. The State set a limit of approximately 35,000 pounds (Barnhart, 2006) at present stock levels, on that vessel. The Forum Star has not fished scallops in recent years and also appears to be a cooperative member that has not used its vessel to fish Alaska scallops.

In 2005, Forum Star Inc. and its Scallop LLP were purchased by American Seafoods LLC, also an AFA entity. If the LLP held by American Seafoods LLC remains in the control of an AFA entity, it will continue to be restricted by the AFA sideboard. It is, however, important to note that the LLP itself is not AFA endorsed. This means that it could presumably be sold to a non-AFA entity. As long as a vessel no longer than 97' (the MLOA allowed under Federal Scallop LLP #002) with no AFA endorsement is used with LLP #002, the AFA sideboard restriction would not apply. Thus, an existing scallop

operation could buy this LLP and use it on a 97 foot non-AFA vessel. Alternatively, an existing entity would not have to use it at all as just holding the second permit means more scallop harvest for the remaining vessels.

Table 4 provides a summary of LLP holdings and changes in those holding over time. It appears that there are effectively two vessels fishing in the statewide fishery outside the Cook Inlet registration area for the cooperative; Ocean Hunter, and Provider. Whether the LLP now held by American Seafoods will continue in the cooperative, be fished independently, or be sold, is not known at present.

Effects of Fleet Consolidation

The story of fleet consolidation presented above is not unlike that of any other fishery that has had overexploitation under open access, inefficiency caused by the race for fish, and marginally profitable operations due to overcapacity. A major result of fleet consolidation is reduced non-labor costs. Such reductions in cost are likely due to reduced crowding on available grounds, and elimination of the inefficiencies of the race for fish that occurs in an overcapitalized fishery.

Fleet consolidation undoubtedly has a direct effect on the number of crew and operator positions in the fishery. At the time of the vessel moratorium, 18 vessels qualified and likely employed at least 216 crew members (12, including operator, cooks, mechanics, etc. per vessel). However, crew earnings and data linking crew members to vessels do not exist. It is impossible to say, using presently available data, exactly how many crew were employed or the amount of their crew shares. Similarly, it is impossible to determine how many crew were locally (Alaska Residents) acquired. In any event, the Federal LLP effectively reduced the number of crew positions, including operators etc., to 108. The fleet consolidation that has occurred under the cooperative has likely further reduced crew positions to 60, including two operations that have traditionally fished inside the Cook Inlet registration area. It is possible; however, that the crew shares earned by these crew members are higher than what was earned in the past.

As has been discussed above, the cooperative entered into a revenue sharing system that resulted in “lease payments” to members who agreed to not use their vessels. These LLP holders received payments from the cooperative. Instead of paying crew, purchasing vessel supplies, and making all the associated expenditures for vessel operations in Alaska, they received a revenue share that did not enter the Alaska economy. In fact, three of the inactive vessels are no longer located in Alaska, and, one of the active vessels has relocated from Kodiak to Bellingham (Barnhart, 2006). The expenditures these vessels traditionally made in Alaska, although a result of inefficiency, have been eliminated and/or reduced under the cooperative. This could be considered a “leakage” from the Alaska economy. Reduced vessel expenditures undoubtedly have negative impacts on coastal communities; however, a full analytical treatment of the impacts would require a survey of vessel expenditure data, optimally for pre and post cooperative levels, and an input-output analysis of expenditure data.

Table 4: Federal Scallop LLP Holder History and Current Activity.

LLP	Original Holder	MLOA	Current Holder*	Restrictions	Corporate Ownership	Vessel Historically Used	Fished in 2004/05
Independent Operators							
003	Hogan, Thomas C.	75	Hogan, Thomas C.	2 dredges with 20' max. combined width	Not Incorporated	Kilkenny	yes
004	Hulse, Max G. et al.	79	Hulse, Max G. et al.	2 dredges with 20' max. combined width	La Brisa Inc: Max Hulse, Mary Hulse, Robert Hulse, Denise Hulse	La Brisa / Wayward Wind	yes
006	Oceanic Research Services	70	**Thomas Gilmartin**	none	Not Incorporated	Artic Storm	yes
Cooperative Members							
002	Forum Star Inc.	97	**American Seafoods Co., LLC**	State Imposed AFA Sideboard	American Seafoods Group, LLC	Forum Star	no
005	Ocean Fisheries LLC	100	Ocean Fisheries LLC	none	Mikkelsen Fisheries, Festus Fisheries, Inc., Stein Enterprises, Stone Maritime, Inc., Stuart Rickey (Agent)	Ocean Hunter	yes
007	Pursuit, Inc.	101	Pursuit, Inc.	none	Elenor Doody, Teressa Kandianis (Agent)	Pursuit	no
008	Provider, Inc.	124	Provider, Inc.	none	John Doody, Mark Kandianis, Corp. Service Co. (Agent)	Provider	yes
009	Carolina Boy, Inc.	95	**Ocean Fisheries, LLC**	none	Mikkelsen Fisheries, Festus Fisheries, Inc., Stein Enterprises, Stone Maritime, Inc., Stuart Rickey (Agent)	Ocean Hunter	yes
010	Carolina Girl, Inc.	96	**Alaska Scallop, LLC**	none	Teressa Kandianis, Tom Mineo	Formerly Carolina Girl	no

Source: Public records at http://www.fakr.noaa.gov/ram, and https://myalaska.state.ak.us/business/sosbk

* Bold indicates change in holder of the LLP

Table 5 Scallop Deliveries by Port, 1990-2003.

	Year														Total	
Port	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	Landings	Landed Pounds
Bel/Sea, WA												1	3	1	5	123,632
Cordova	1		6	1		1		1	1	1	8				20	210,792
Dutch Harbor	12	13	8	32	27	1		14	4	3	2	4	4	3	127	2,013,740
Homer	2			15	12	2	11	7	12	4	8	6	7	13	99	242,568
Kodiak	70	48	49	64	44	6	15	14	15	12	6	8	9	10	370	5,808,856
Ketchikan	1														1	Confidential
Petersburg	2														2	Confidential
Pelican				3											3	Confidential
Seldovia														1	1	Confidential
Seward	5		1	3	4	2	7	5	20	21	10	3			81	2,086,133
Sitka	8	24	15	6	2	2								1	58	364,179
Sand Point										1					1	Confidential
Yakutat	22	16	34	3	5	3	4	6	10	3	3	12	7	2	130	2,000,195
At Sea												1	1	4	6	168,360

Souce: Consolidated from data provided by Jeff Barnhart, ADF&G Kodiak Alaska.

Fleet consolidation has also affected deliveries to several Alaska ports. Table 5 provides data on scallop deliveries to ports from 1990-2003. These data show that, since formation of the cooperative and associated fleet consolidation, Cordova and Seward no longer receive scallop deliveries. Also of note is that the number of landings to Kodiak has dropped considerably since pre-LLP levels. Some of the deliveries previously made to these ports appear to now be going to Bellingham/Seattle and to "at sea" transfers. Unfortunately, actual amounts of scallops landed in each delivery are largely confidential due to single purchasing points (processors/marketers) in each community. However, it is important to understand that while numbers of deliveries to outside of Alaska ports appear small, the length of trips and amount caught on each trip has increased under the cooperative. Thus, a small number of deliveries in 2003 could represent many more deliveries made to Alaska ports in, for example, 1999. Out of state deliveries also imply that greater expenditure for vessel servicing may be occurring outside of Alaska than in previous years.

A result of reduced port deliveries within Alaska may be reduced landings tax revenue. While all fishing related corporations in Alaska must pay a business tax, the landings tax is normally charged on fish landed in Alaska. Thus, landings to outside ports may result in reduced fish tax collections by the State. Further, the community of Yakutat charges a 1 percent raw fish tax. (ADOR 2005) Thus revenues collected in Yakutat may be reduced by "at sea" and outside of Alaska landings.

While all of the effects mentioned above have negative consequences for some fishery participants and fishing communities, it is likely that the overall effect of fleet reduction is improved profitability for the remaining participants, whether they belong to the cooperative or not. It has been shown, with the cost of production information that is available, that non-labor cost rations appear to have decreased for the cooperative members that are actively fishing. It is also likely that their revenue has increased. Purchase of LLPs from other cooperative members has likely reduced "lease fee" obligations for active participants, albeit with the potential cost of dept finance for these transactions. Overall, it is likely that fleet consolidation has resulted in a more efficient fleet with lower operating costs, potentially greater average crew wages, and improved returns to owned capital.

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