The Center of Alaska's Bottomfish Grounds: Kodiak and the Aleutian Islands

By Neal Fried

Not until recent news articles reported on the boom town of Unalaska/Dutch Harbor were many Alaskans aware of the flourishing bottomfish industry taking the Kodiak-Aleutian Island region by storm. The remoteness of the Aleutian chain and the Bering Sea are partially responsible for this lack of awareness. Additionally, not many Alaskans are familiar with activity in the Aleutians, as so much of their commerce is with Seattle and other areas outside of the state.

While the news of layoffs, foreclosures, record vacancies, and bankruptcies dominate the state's economic news, Kodiak Island and the Aleutian chain are prospering. As a consequence, labor shortages are a problem and housing is in short supply. Things weren't always this way. Prior to 1985, while most of the rest of state basked in a petroleum revenue economic boom, many com-

munities in the Kodiak-Aleutian region were suffering from economic decline. The crash of the lucrative king crab fishery hit many of the communities in this region hard. Dutch Harbor plummeted from the number one port in value of production in the nation to number 22. Kodiak's fate was not much different. The present prosperity of the region is perhaps making up for lost time.

The Emergence of the Groundfish Boom

No one single event initiated prosperity but the development of Alaska's "bottomfish" resource is one primary cause. In addition large opilio crab (snow crab) harvests have augmented fishermen's income. Increased military activity on the Aleutians provides additional stimulus to the region's economy. Other favorable influences include better than average salmon and halibut catches and prices, favorable exchange rates, and signs of a comeback in the Bering Sea/Aleutian king crab fishery.

The Aleutian chain and Kodiak sit in the middle of one of the richest bottomfish waters in the world. Last year the ports of Kodiak and Unalaska ranked second and fourth in the nation for value of fish production. Unalaska's 1987 value of production of $62.7 million represented almost a doubling in the value of the fishery over the previous year. In 1987 the ex-vessel value[1] of the state's groundfish fishery was $388 million.

For all of Kodiak's communities, and more than three quarters of the communities on the Aleutians, fishing reigns king. According to Stephen Braund and Associates, roughly 70% of King Cove's income comes from fishing. Many of the other economies in the region are not much different. Some communities are doing well without an increase in fishing activity. Shemya and Adak are military installations. Cold Bay is a former military base and is now a government and transportation center. The Navy budget in Adak has more than doubled since 1980. Uniformed military personnel on the Aleutian Islands increased from 2,200 in 1983 to 2,984 in 1987. This has been another major source of economic stimulus to the Aleutians, though the benefits from this activity have remained localized.

Other towns such as Atka and Nikolski with populations of less than 100 have yet to benefit from the commercial fishery primarily because they are more subsistence oriented. The Pribilof Island communities of St. George and St. Paul used to rely on the seal harvest as the basis of their economy. Presently, they are building infrastructures to take advantage of the local fishery resources.

What are Bottomfish?

Bottom or groundfish (the terms can be used interchangeably) loosely refers to pollock, cod, sablefish, perch, rockfish, flounder, and other species (Figure 2). The Japanese and others have fished these resources heavily since the 1950s, exploiting a giant resource which created little interest in Alaska. More than 92% of

More than 92% of the bottomfish harvest comes from the Bering Sea/Aleutian Islands area.

Figure 1
Kodiak and the Aleutian Islands
Location of Shore-based
Groundfish Processors

the bottomfish harvest comes from the Bering Sea/Aleutian Islands area. If we add the waters surrounding Kodiak Island the figures would climb to nearly 100%.

The "Americanization" of the Fishery

In 1976 Congress passed the Magnuson Act. One intent of the act was to Americanize the fishery within the 200 mile limit by allocating an increasing share of the bottomfish resource to domestic fishermen at the expense of foreign harvesters. For a number of years the act had little impact on Alaska or on the domestic industry. Through the early 1980s, American fishermen continued to fish only for the higher value species (salmon, herring, halibut, and shellfish) and ignored bottomfish.

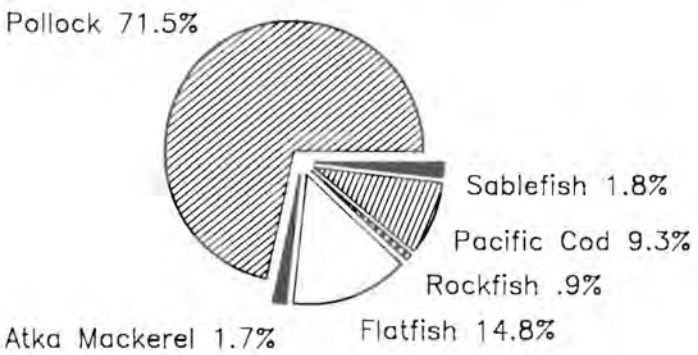
In 1982 almost 1.3 million metric tons of bottomfish were caught in Alaskan waters and processed by foreign vessels. The foreign catch represented 86% of the area's harvest. Though some of these foreign operations made occasional calls at Unalaska and other ports in the region, most were self-contained operations. Little or no economic benefits accrued to the communities of Kodiak or the Aleutian Chain.

As the worldwide and domestic demand for all fish grew rapidly, prices began to rise and the resource became more attractive to domestic fishermen. Then in 1981 the king crab fishery crashed. Many fishermen had made large investments in crab boats and needed to find an alternative way to make payments on their vessels. They began to turn to joint venture bottomfish operations as a way to keep their boats operating. This is an example of where adverse circumstances led to the development of a new industry.

Joint ventures meant American fishermen harvested the fish and foreign factory ships bought their fish and processed them at sea. This provided a market for domestic fishermen with prices high enough to make these ventures profitable. In 1981 joint ventures harvested 94,689 metric tons in Alaska. By 1985 it increased nine fold, to 884,000 metric tons (A metric ton is equivalent to 2,205 pounds). Last year joint ventures in the region harvested 1.4 million metric tons.

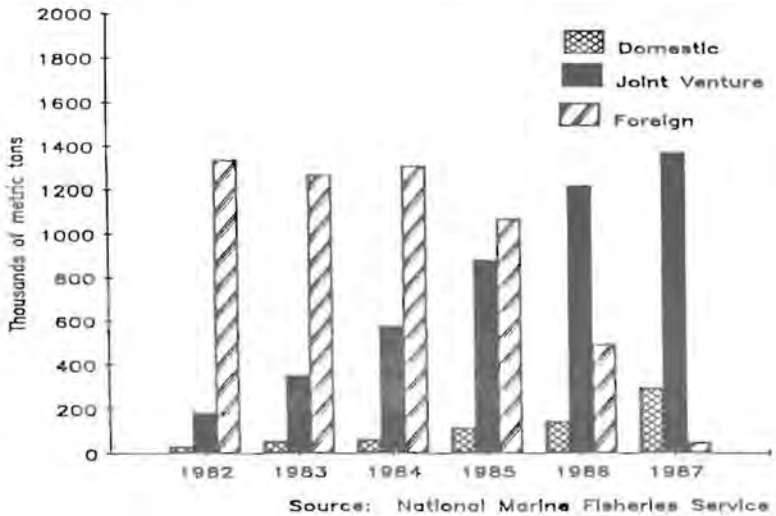
The volume of domestically caught and processed fish began to grow albeit more slowly. In 1982, domestic operations caught and processed 33,000 metric tons of groundfish, and by 1987 it climbed to 296,000 metric tons. The growth in joint ventures and domestically caught and processed fish came at the expense of the foreign catch (Figure 3). By 1987 the foreign catch fell to 3% of the state's entire catch, in comparison to more than 86% of the catch in 1982. In 1988 there is no foreign quo-

Figure 2
Alaska Groundfish Harvest by Species, 1987



Source: National Marine Fisheries Service

Figure 3
Alaska Groundfish Harvest 1982-1987



Source: National Marine Fisheries Service

ta for fish as domestic and joint ventures will harvest the entire catch.

Development of the joint ventures and domestic bottomfishery has allowed a number of communities in the region to reap economic benefits which had been previously elusive. Domestic fishing boats bought more supplies from the local communities. Residents began harvesting the fish, boosting local income. In 1981, 130 Alaskans were issued fishing permits for groundfish and by 1987 the number had grown to 1,230 (Figure 4).

Though most residents still benefit more from traditional fisheries, the bottomfish industry is providing an economic boost to many of the region's residents. Unemployment rates have fallen to remarkably low levels since the high rates during the king crab bust. In 1982, Kodiak's unemployment was 11.4% and by 1987 it had fallen to the second lowest in the state, 6.1%. The Aleutians unemployment rate for the same period declined from 7.3% to 3.6%, the lowest in the state.

Recent investment in the region indicates an expanding economy. The most dramatic example occurred in Unalaska. According to Alaska Construction and Oil Magazine, hundreds of millions of dollars are being sunk into harbors, warehouses, processing plants, shipyards, hotels and housing in Unalaska. Almost all of it is private capital. The biggest projects include the Captains Bay $7-10 million marine industrial park and ship repair facility, a $7.5 million project by Offshore Systems Inc. (similar to Captains Bay), and $20 million for new surimi production facilities by Alyeska Seafoods. Great Land Seafoods also made substantial investments in their surimi plant.

Smaller communities such as Sand Point and King Cove have experienced major upgrades in their facilities. Sand Point is presently spending $2.4 million in harbor expansion. In King Cove, Peter Pan Seafoods has nearly completed a $7 million upgrade to their plant.

Much of Kodiak's public infrastructure expansion to support the fishing industry took place in the early to mid 1980s. Recently, a number of processors have expanded. All Alaskan Seafoods expanded their plant last year and Western Alaskan is enlarging their facility in anticipation of surimi production. Other processors have increased the utilization of their space and have added processing equipment for bottomfish. In many cases this has meant converting their king crab and shrimp lines into bottomfish operations.

Possibly the single most ambitious project is being undertaken on St. George, one of the Pribilof Islands. Presently, there is only a small processing and cold storage facility on St. George, despite its central location in the Bering Sea. A $20 million breakwater/dock is presently being completed. St. George hopes to become a major support base for the domestic fishing fleet and serve as a processing center for crab, halibut and bottomfish. St. Paul, the other Pribilof island, is undertaking a similar project.

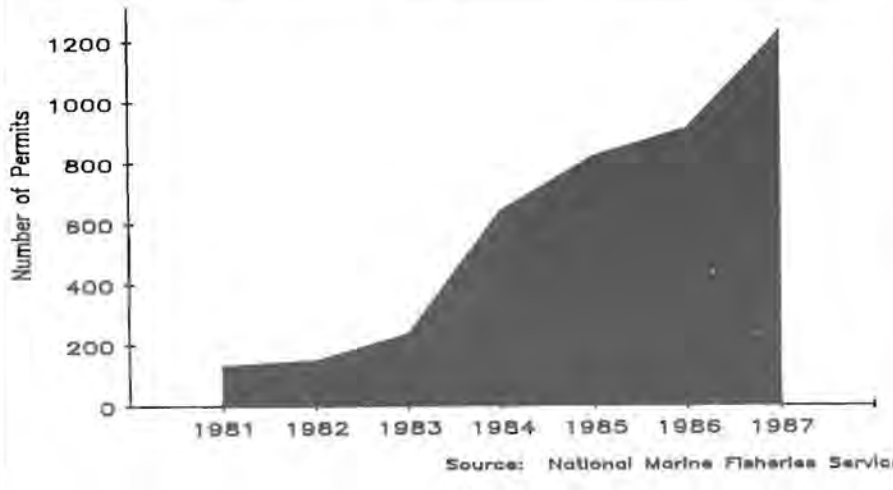
Processing Bottomfish

An additional economic benefit to the region's communities is shore-based processing of groundfish. Alaska shore-based processing of groundfish is relatively recent, taking hold in 1985, though a number of false starts and smaller operations occurred earlier.

Local production of surimi provided an initial boost to the region's shore-based processing. Surimi, a sub-

The groundfish fishery has made the fishing industry far less seasonal.

Figure 4
Number of Commercial Fishing Permits Issued in Alaska to Alaska Residents, 1981-1987



stance described as an "odorless, tasteless and gelatinous substance," is a fish paste made from minced pollock. Imitation seafood, such as scallops, crab and shrimp are made from surimi. The region produces all of the surimi in the state. The first production of surimi in Alaska was in a demonstration plant in Kodiak in 1984. In 1985 Alaska Pacific Seafoods of Kodiak produced the first commercial surimi in the state. By 1987, three shore-based plants were producing surimi. One is in the city of Kodiak and two in Unalaska-Dutch Harbor. Another surimi line is being added this year in Kodiak.

Figure 5
Kodiak/Aleutian Islands Fish Processing Employment 1980-1987

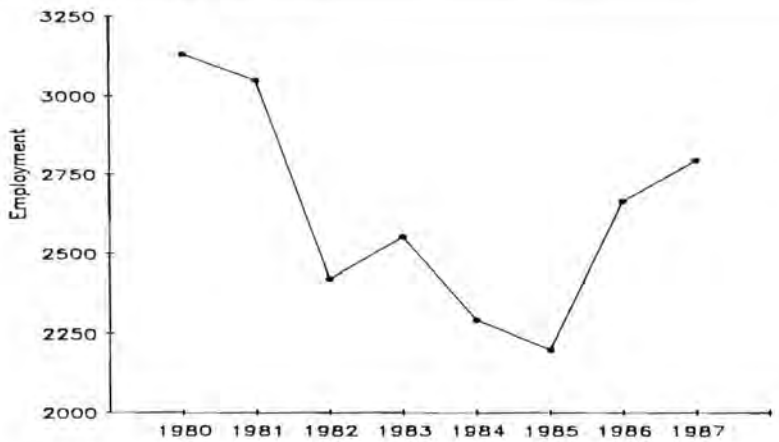


Table 1
Kodiak Employment by Industry
1980 - 1987

	1980	1981	1982	1983	1984	1985	1986	1987
Nonag. Wage & Salary	4,464	4,381	4,399	4,880	4,866	4,688	4,981	4,734
Mining	*	*	*	*	*	*	*	*
Construction	101	136	304	582	342	280	276	198
Manufacturing	1,880	1,547	1,275	1,378	1,473	1,380	1,733	1,569
Food & Kindred Prod.[1]	1,544	1,424	1,167	1,285	1,423	1,326	1,708	1,534
All Other Mfg.	336	123	108	93	50	54	25	35
Trans. Comm. & Utilities	352	320	297	311	298	231	188	222
Trade	611	595	708	723	749	813	757	834
Wholesale	35	17	27	37	35	49	52	50
Retail	576	578	681	686	715	764	706	784
Finance-Ins. & R.E.	98	95	101	104	103	105	110	108
Services	562	545	570	611	605	641	663	717
Government	1,038	1,051	1,044	1,114	1,165	1,174	1,209	1,081
Federal	286	257	252	253	241	243	243	234
State	207	253	260	273	282	282	266	237
Local	545	541	532	588	643	650	700	610
Miscellaneous	*	*	*	*	*	*	*	*

* Nondisclosable

[1] In Kodiak's case, these figures represent fish processing employment.

Source: Alaska Department of Labor, Research and Analysis.

Processing groundfish into fillets and fish blocks (for fish sticks) also caught on quickly. By 1987, 17 of the region's 25 shore based plants were processing bottomfish. Five years earlier there was not one substantial operation.

The manufacturing figures in table 1 and 2 illustrate the growth in bottomfish processing. On the Aleutian chain employment fell dramatically in 1982 and continued its descent through 1984. Kodiak fish processing employment fell even more dramatically. The declines came as a result of the king crab fishery which almost closed down completely for a few years. Beginning in 1985 bottomfish activity helped to replace these losses. Total employment in both areas increased as a result of the emerging fishery. Though we can't always isolate bottomfish processing numbers from those of other species, it's possible to estimate jobs in certain months. For example during the first quarter of 1987, there were 1,385 fish processing jobs in Kodiak, most of them processing bottomfish. In May, employment reached nearly 2,000. Kodiak has become the bottomfish shore-based processing center in the state (Figure 5). Unalaska, on the other hand, is more of a service and supply center to the Bering Sea/Aleutian fishing fleet.

In addition to boosting employment numbers, the groundfish fishery has made the fishing industry far less seasonal. The pursuit of groundfish is a year-round activity, unlike the salmon season that lasts 2-3 months, or fisheries for halibut or herring which last 1-3 days. It has meant many plants are remaining open almost the entire year, although this could change as the fleet harvesting groundfish continues to grow. This is already happening for some of the fisheries. Management of the fishery will determine the future length of the seasons.

Recent data indicates nonresidents fill 73% of the Aleutians' and 53% of Kodiak's fish processing jobs. These numbers are probably conservative, because these figures fail to capture most of the floating processor's em-

ployment. However, if bottomfish can help provide a continuing source of year-round shore-based processing employment more local residents might choose to work in this industry. In addition, seasonal workers who currently leave the area might choose to make a longer commitment to these communities if year-round employment were available.

How Much Does The Region Benefit?

The number of floating processors in the domestic fleet has grown dramatically. According to the Alaska Department of Environmental Conservation's records there were about three times as many floating processors permitted in 1987 than in 1980. In 1985 floating processors landed 82 million pounds of groundfish compared to 142 million pounds in 1987. For example, the largest catcher/processor operator in the country, Seattle-based Arctic Alaska Seafoods operated two vessels in 1982. They hope to be operating 19 by the end of the year. In 1986 Arctic Alaska accounted for 34% the U.S. processed North Pacific bottomfish.

There is a concern regarding the growing number of floating processors in the region's communities and throughout the state. Since most of the floating processors are based in Washington state, this type of activity usually provides little economic benefit to the communities which sit in the middle of these fishing grounds. Crews often come from outside. The floating processors don't pay local property taxes or in most cases the raw fish tax. They buy few supplies or perform major repairs in the local communities. Some operators are beginning to home port in Alaska and hire local workers. More of the region's communities are building repair facilities that are capable of handling the larger vessels. But the economic leakages remain considerable.

The leakages are not limited to the processing part of the industry because the harvest end may provide a larger drain. Though Americanization of the fish harvesting has occurred rapidly during the past five years, it has not necessarily meant "Alaskanization." According to *Alaska Business Monthly*, only 10 of the 150 catcher vessels operating in the Bering Sea were Alaska owned or based. In 1985, the Washington fleet harvested 92% of Alaska's domestic and 82% of the joint venture catch. Natural Resource Consultants of Seattle estimate 79% of Washington state's groundfish harvest comes from Alaskan waters. Some people refer to Seattle as the "whitefish capital of the world,"

Table 2
Aleutian Islands Employment by Industry
1980 - 1987

	1980	1981	1982	1983	1984	1985	1986	1987
Nonag. Wage & Salary	2,589	3,435	3,157	3,388	3,139	3,172	3,418	3,564
Mining	*	*	*	*	*	*	*	*
Construction	112	118	81	131	108	192	210	214
Manufacturing[1]	1,586	1,625	1,255	1,269	870	874	959	1,173
Trans. Comm. & Util.	127	183	209	191	186	237	247	312
Wholesale Trade	*	*	*	*	*	*	*	*
Retail Trade	104	113	115	109	105	117	199	214
Finance-Ins & R.E.	76	97	92	97	144	129	133	119
Services	146	146	162	307	367	299	264	188
Government	1,081	1,131	1,230	1,267	1,324	1,337	1,385	1,315
Federal	676	686	723	729	720	694	742	682
State	68	66	76	72	74	80	74	70
Local	337	379	431	467	530	563	569	563
Miscellaneous	*	*	*	*	*	*	*	*

* Nondisclosable

[1] Fish processing employment represents more than 95% of the Aleutian Island manufacturing employment

Source:Alaska Department of Labor, Research and Analysis.

Table 3
Aleutian Islands Population
1980 & 1985

	1980	1985	Percent Change
Total Aleutian Islands	7,768	9,061	16.6
Adak	3,315	4,665	40.7
Akutan	169	80	-52.7
Atka	93	93	0.0
Attu	29	31	6.9
Cold Bay	228	157	-31.1
False Pass	70	77	10.0
King Cove	460	547	18.9
Nelson Lagoon	59	44	-25.4
Nikolski	50	46	-8.0
Sand Point	625	671	7.4
Shemya	600	613	2.2
St. George	158	191	20.9
St. Paul	551	466	-15.4
Unalaska	1,322	1,331	0.7
Rest of Aleutian Islands	39	49	25.6

Source: Alaska Department of Labor, Research and Analysis.

Table 4
Kodiak Island Population
1980 & 1985

	1980	1985	Percent Change
Total Kodiak Island	8,569	11,221	30.9
Akhiok	105	109	3.8
Karluk	96	114	18.8
Kodiak	4,756	6,173	29.8
Larsen Bay	168	217	29.2
Old Harbor	340	344	1.2
Ouzinkie	173	235	35.8
Port Lions	215	302	40.5
Rest Kodiak Island	2,716	3,727	37.2

Source: Alaska Department of Labor, Research and Analysis.

though most of the catch comes from Alaskan waters.

According to a University of Alaska study on the state's commercial fishery, the income multiplier in the region was 1.2, the lowest in the state. Nearly 37% of all fishermen in Southwest Alaska (excludes Kodiak) were nonresidents. The combined Kodiak-Aleutian Island wage and salary work force was 43% nonresident. Much of the economic activity taking place is not benefiting the region or the state.

Solutions

If the region reaps more of the benefits of this incredibly rich fishery, the growth occurring today could be magnified immensely in the future.

The Southwest Alaska Municipal Conference and the City of Unalaska have introduced a number of proposals for changing how the fishing industry conducts business. They would give the region the ability to capture a bigger share of the benefits the industry produces. One proposal is to Americanize the fuel and transportation segment of the fishing industry. It would require the foreign fishing fleet to ship their products on U.S. carriers and purchase fuel from U.S. distributors. They believe the intent of the Magnuson Act is broad enough to include such a provision.

Another proposal would have a more localized impact on all of the region's communities. They propose the individual communities in the region receive part of the bottomfish allocation-known as community development quotas. The communities would be free to harvest the resource themselves or sell the rights to the harvest. A similar system exists in some New Zealand communities today.

Other solutions include: getting the state to provide additional funds for infrastructure development, such as sewer and water lines, airports and harbors; providing tax incentives to encourage more shore-based processing and cold storage facilities; and developing educational opportunities in Alaska emphasizing fisheries.

Conclusions

The groundfish resource is there, and more importantly a demand for it exists. This is in contrast to the situation for some of Alaska's other natural resources. Dutch Harbor, growing to the present size of Kodiak, and Kodiak growing considerably larger is not inconceivable. All communities in the region are likely to benefit from this fishery. Other parts of Alaska, including Anchorage, could be major benefactors. The potential is huge, even if no increase in catch were to occur. The Japanese once estimated that the Bering Sea produced 500,000 jobs in Japan. This is double the present size of Alaska's entire work force. Capturing more of the present activity in the form of harvesting and processing the fish could result in the growth described above.

In addition, value added and marketing activity provides additional potential. Shipping blocks of surimi to Seattle or Japan for processing it into crab legs or shrimp could become less common. Processing and packaging large blocks of Alaskan caught frozen fish into fish sticks locally is no impossible task. If the region reaps more of the benefits of this incredibly rich fishery, the growth occurring today could be magnified immensely in the future.

NOTES:

[1] *Ex-vessel value is the renumeration paid to the seafood harvester for the value of fish or seafood offloaded from the catch vessel.*