



ALASKA

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UNIVERSITY OF ALASKA ANCHORAGE, INSTITUTE OF SOCIAL AND ECONOMIC RESEARCH

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On the Eve of IFQs: Fishing for Alaska's Halibut and Sablefish

By Matthew Berman and Linda Leask

This year, anyone with a boat, longline gear, and a \$50 permit could try for halibut in Alaska's commercial fisheries. But that open access will likely end in 1995, when the federal government introduces Individual Fishing Quotas (IFQs).

Quotas—shares of the catch—will be issued just to those who owned or leased vessels that fished for halibut between 1988 and 1990. An IFQ system for sablefish (black cod) under federal management will start at the same time.

The IFQ plan is not popular with the men and women who fish for halibut: 68 percent of captains (permit holders) believe IFQs will unfairly allocate halibut, even though 78 percent agree they will make fishing safer.

Groups opposed to IFQs are trying to stop the program in court. If the courts uphold IFQs, the commercial season for halibut and sablefish will likely be from March through November. Fishery managers cite advantages of IFQs:

- Safer fishing, with no more of the short, hectic, and often dangerous openings known as derby fisheries
- Smaller, more efficient fleets; the current fleets can take many times the available fish
- Fresh fish available to consumers most of the year

IFQs will create a whole new set of problems, but they will take away some of the danger.

—Alaska longliner

But the IFQ system could also cause big changes in wealth, income, and jobs in Alaska's coastal communities, which rely heavily on fishing. Some of the issues are:

- IFQs could be worth \$500 million or more to the recipients. But anyone else who wants to get into the fisheries will have to buy or lease quotas.
- Fleet consolidation could lead to less fleet spending and fewer jobs—but fishermen will likely get higher prices, because fresh fish is more valuable than frozen.
- There might be fewer crew jobs—but the remaining jobs could be nearly year-round.
- The fleets might change where they land their catch and spend money for bait, fuel, and other expenses.
- It's uncertain how processors will adjust to a longer season, with fish marketed fresh instead of frozen.

ISER is studying the potential effects of IFQs, especially

on small coastal towns, under a Saltonstall-Kennedy grant (see back page).

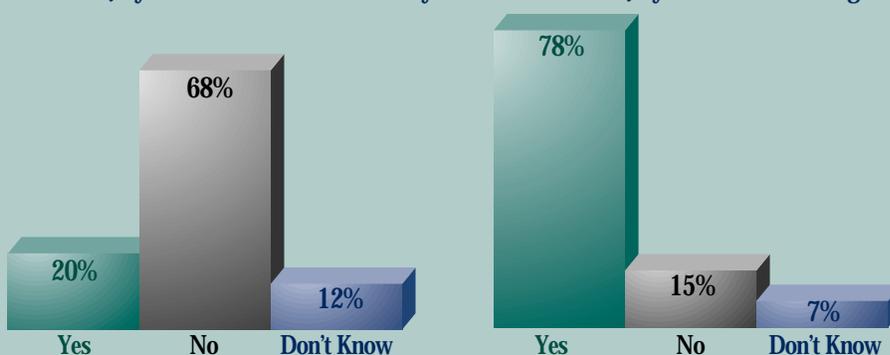
As a first step we surveyed captains (most of whom were also owners) of vessels with longline gear. This publication reports our survey findings.

It's important to say that we're **not** taking sides for or against IFQs—we're presenting survey results and introducing our larger research project.

FIGURE 1. WHAT DO BOAT CAPTAINS THINK ABOUT HALIBUT IFQs?

Will The IFQ System Allocate Halibut Fairly?

Will the IFQ System Make Fishing Safer?



The survey is the first phase of our larger study of the potential effects of IFQs. As our study continues, we'll use the survey results and other sources to answer a series of research questions (as discussed on page 20). This publication presents a picture of the Alaska halibut and sablefish fleets as they are today, just before the IFQ system goes into place. On pages 2 and 3 we briefly discuss IFQs and summarize some of our most interesting survey findings. The rest of the publication is in several parts:

- Broad descriptions of the sablefish and halibut fisheries
- Changes in the halibut fleet over time
- Snapshots of the Alaska halibut and sablefish fleets
- Existing halibut markets and potential changes
- Spending and income of the halibut and sablefish fleets
- Estimated potential value of IFQs

WHO MANAGES HALIBUT AND SABLEFISH?

Halibut is under the jurisdiction of the International Pacific Halibut Commission, created in 1923 by a joint treaty between the U.S. and Canada. The commission decides how much halibut the American and Canadian fleets can harvest each year and draws up regulations for the fishery. Management agencies in the U.S. and Canada decide how the catch will be taken. The North Pacific Fisheries Management Council manages halibut in Alaska waters; the Secretary of Commerce has to approve the council's management policies.

The North Pacific Fisheries Management Council also manages sablefish in federal waters off Alaska. The new IFQ program will apply only to sablefish taken with longline gear in federal waters. Sablefish within the three-mile limit are managed by the state government.

ABOUT THE SURVEY

In early 1994 we selected a random sample of commercial fishing boats with longline gear from the state's vessel license file. We tried to call the permit holders—who were the captains and in most cases also the owners—of boats that fished for halibut or sablefish in 1993.

We completed 391 interviews, which was a 69 percent completion rate. The results for the sample as a whole have a potential margin of error of ± 4 percentage points. When we break the sample down into smaller groups, the potential margin of error gets larger. In particular, we were only able to interview a small number of captains of the largest boats—so the results presented for the largest boats are less reliable.

IFQs may be the best of worst worlds....I don't think a group of people should own all the resources in the ocean.

—Alaska longliner

WHY IFQs?

For years, federal fishery managers have been cutting the commercial seasons and taking other measures to protect halibut and sablefish stocks as the fishing fleets grew. Today the seasons are down to two or three single-day openings a year. Nearly everyone recognizes that these very brief openings—often called derby fisheries—where thousands of boats go out, regardless of the weather, are inefficient and dangerous. Derby fisheries can also disrupt local economies because they produce an intense burst of activity followed by months of inactivity.

More than a decade ago federal managers wanted to limit access to sablefish and halibut fisheries—not only to protect the stocks but to deal with the economic problem of too many boats going after too few fish. But limiting access to a public resource is always a controversial move, and it is only recently that the U.S. Department of Commerce approved the management council's IFQ plan.

The two most common ways of limiting access to fisheries are limited entry—which limits the number of permits issued but not the catch of any given vessel—and individual quotas, which assign specific shares of the catch to each operator. There are other potential methods—for example, imposing taxes high enough to force less profitable vessels out of the fishery. However, the 1976 Magnuson Act (which extended U.S. jurisdiction to 200 miles offshore) prohibits federal managers from collecting revenues from fisheries. Even if federal law allowed such taxes, it's doubtful the management council would advocate them. It is, by design, an industry-dominated group that tries to protect the financial interests of its constituents.

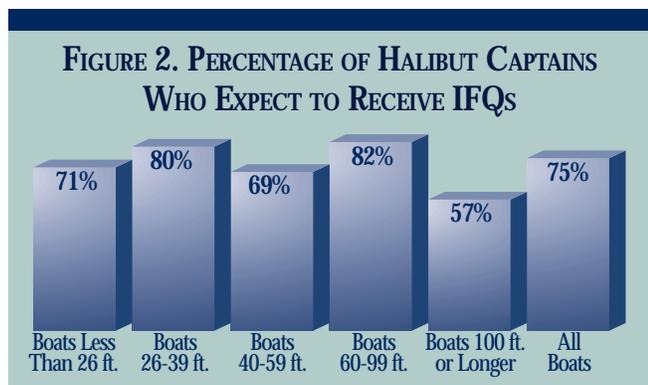
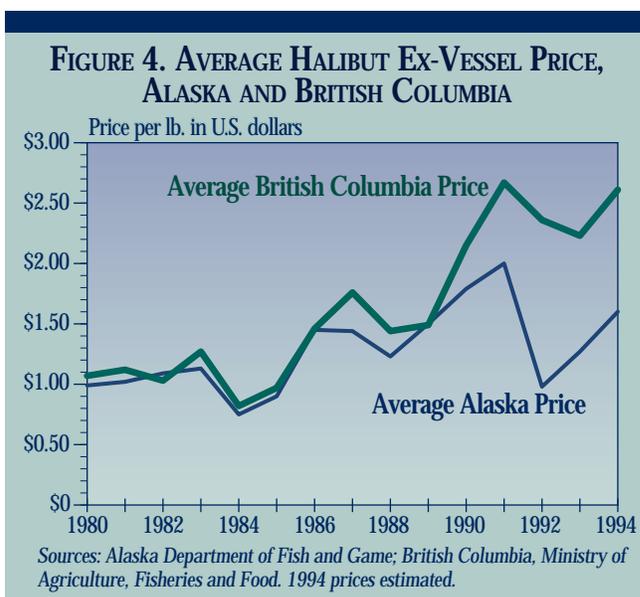
Federal managers have cited several reasons for choosing IFQs, including the improved safety, efficiency, and product quality mentioned earlier. Halibut and sablefish are also better suited to an IFQ system than some other species. Stock levels can be predicted fairly well in advance, and so managers can determine individual quotas. Also, halibut and sablefish can be harvested during much of the year—unlike, for instance, salmon and herring, which have to be harvested during brief, concentrated runs whose timing and size are less predictable.

Whatever they do, somebody's going to get mad.

—Alaska longliner

HIGHLIGHTS OF FINDINGS

- Three quarters of captains (permit holders) who fished for halibut in 1993 expect to get IFQs.
- Captains—both those who expect to get IFQs for halibut and those who don't—are sharply divided about what kind of halibut management system they'd prefer. Nearly 30 percent opt for IFQs, but 19 percent prefer the current open-access system and 17 percent limited entry. One quarter are divided among many choices.
- More than 40 percent of halibut boat captains (again including both those who expect to get IFQs and those who don't) believe the new system will leave them worse off, while only about one-quarter expect it to improve their finances.
- Ex-vessel prices (prices paid fishermen) for halibut in British Columbia in 1994 have averaged close to \$1.00 more per pound than in Alaska. An individual quota system began in B.C. in 1991, and much of the halibut there is now sold fresh.
- Prices in Alaska are not likely to increase as much as they did in B.C. Alaska produces about five times more halibut—and the market effects of that much fresh halibut are unknown. Also, B.C. is closer to markets.



HOW IMPORTANT ARE HALIBUT AND SABLEFISH TO ALASKA'S COASTAL COMMUNITIES?

- Halibut openings in 1993 created more than 9,000 short-term jobs for residents of coastal towns. Sablefish openings created another 1,800 jobs.
- Crew members from coastal places were paid about \$21 million during halibut openings in 1993 and sablefish crews a roughly similar amount.
- The halibut and sablefish fleets in 1993 spent about \$65 million in coastal towns during all the fisheries they took part in (including not only halibut and sablefish but salmon, crab, and others).
- Halibut and sablefish landings at Alaska ports also create more jobs and income in processing plants, vessel equipment, supply, and repair businesses, and other sectors of the coastal economies.

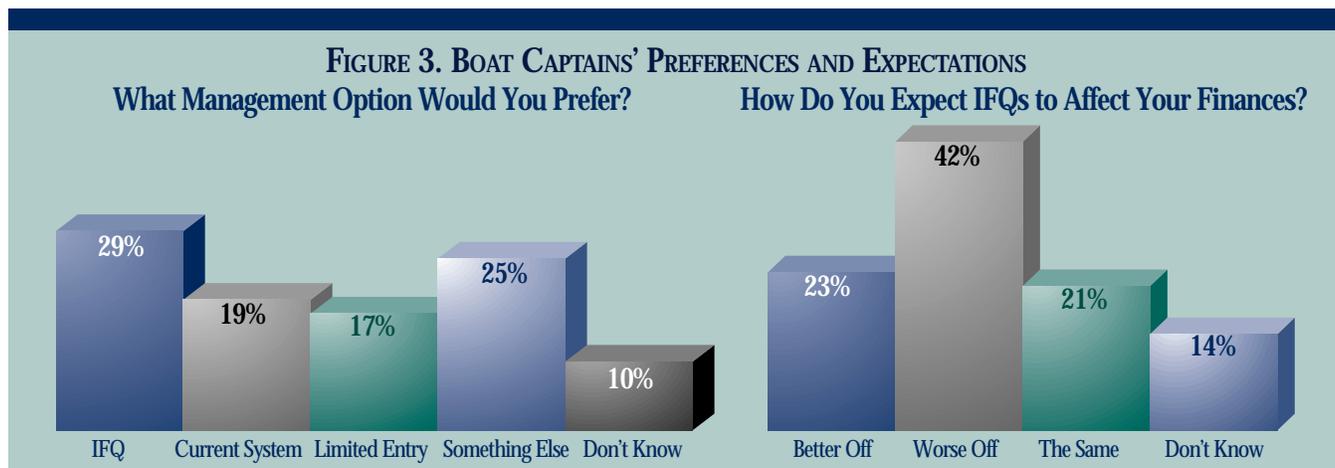
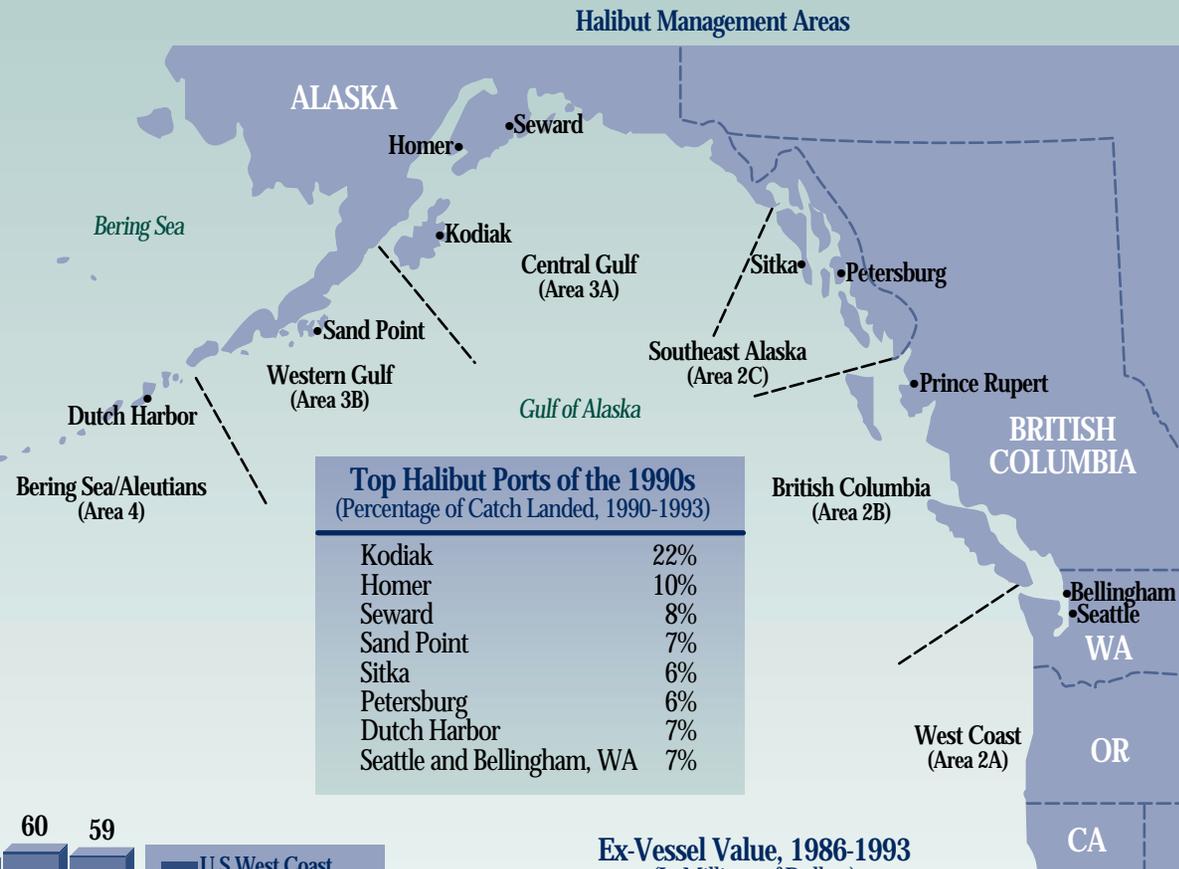


FIGURE 5. PACIFIC HALIBUT IN THE 1990s

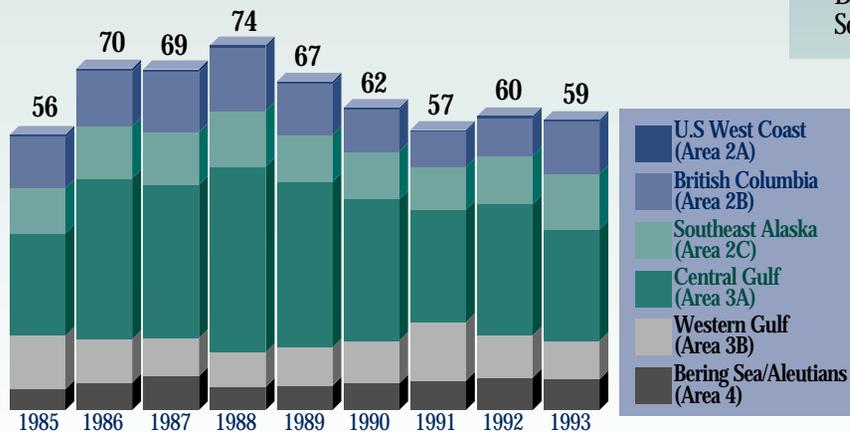
Most of the world's supply of Pacific halibut (close to 85 percent) comes from the waters off Alaska, with the richest halibut grounds in the Gulf of Alaska. About 15 percent is taken off British Columbia and less than 1 percent along the U.S. west coast. Halibut are among Alaska's most valuable fish; the recent ex-vessel value has ranged from \$50 to \$100 million.

The adjacent map shows the boundaries of the halibut management areas. Recent annual harvests by U.S. and Canadian longline fleets have mostly ranged between 60 and 70 million pounds. Close to half the catch comes from the central Gulf of Alaska. The top port of delivery for halibut in the 1990s is Kodiak.



Top Halibut Ports of the 1990s (Percentage of Catch Landed, 1990-1993)	
Kodiak	22%
Homer	10%
Seward	8%
Sand Point	7%
Sitka	6%
Petersburg	6%
Dutch Harbor	7%
Seattle and Bellingham, WA	7%

Annual Harvests, 1985-1993
(In Millions of Pounds)



Source: International Pacific Halibut Commission

Ex-Vessel Value, 1986-1993
(In Millions of Dollars)

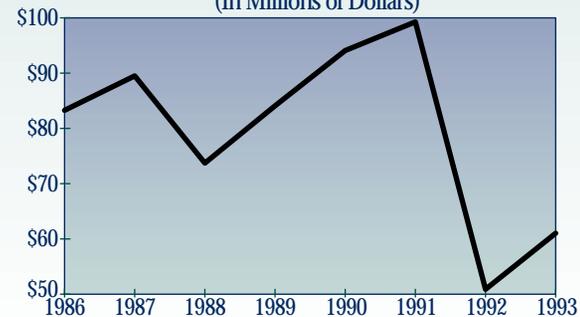
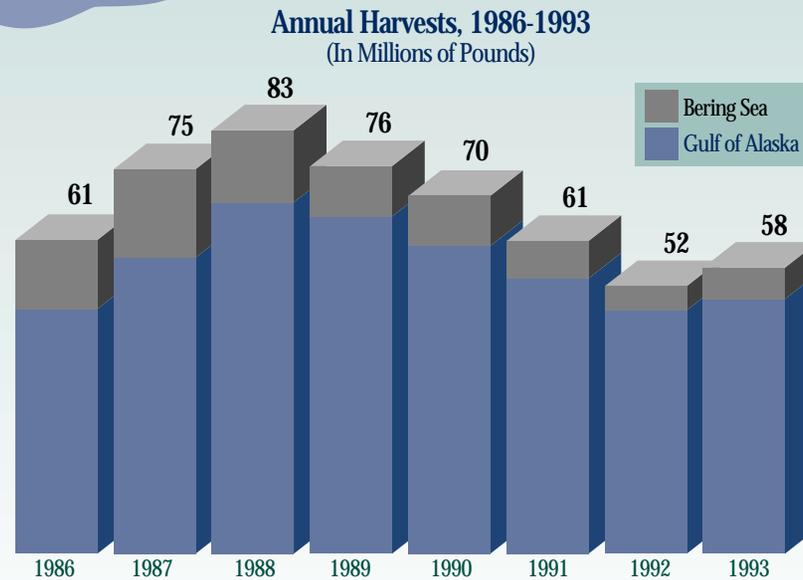
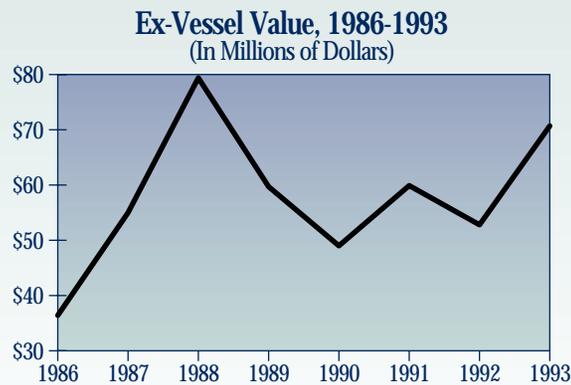


FIGURE 6. ALASKA SABLEFISH IN THE 1990s

Sablefish (black cod) is found in deep waters of Southeast Alaska's Inside Passage, the Gulf of Alaska, and the Bering Sea. As of the late 1980s, Alaska supplied about three fourths of the U.S. sablefish catch and more than half the world catch. It commands much higher prices than most groundfish. In recent years the annual Alaska harvest has ranged from 50 to 80 million pounds and the ex-vessel value from \$40 to \$80 million. Much of the U.S. sablefish catch is exported to Japan.

Most sablefish in Alaska is under the jurisdiction of the U.S. government; federal management areas are shown in the adjacent map. (Some sablefish is within the 3-mile limit and falls under state jurisdiction.) About 90 percent of Alaska sablefish is taken with longline gear.



Note: Bering Sea includes Aleutian Islands management area; Gulf of Alaska includes East Yakutat, West Yakutat, and Western and Central Gulf management areas.

Source: U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service

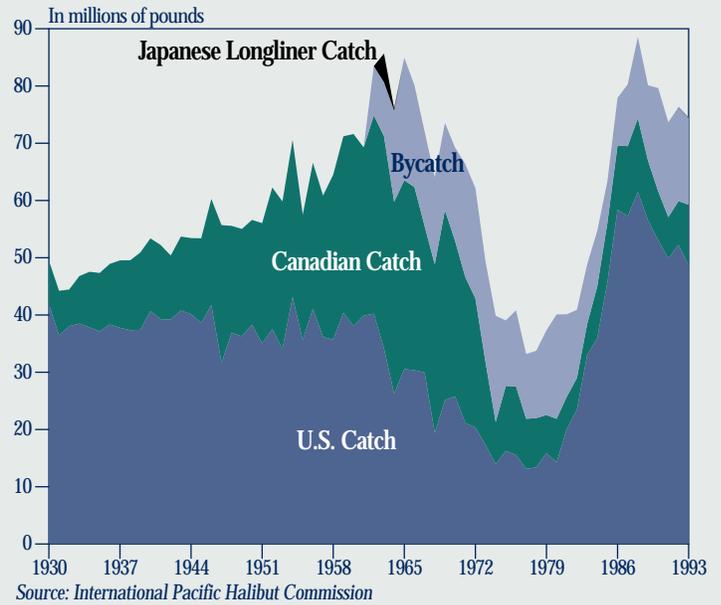
THE PACIFIC HALIBUT FISHERY OVER TIME

Early in the century the annual halibut catch ranged above 70 million pounds, but by the early 1930s it had dropped below 50 million pounds. After that it began climbing; in 1960 it was again near 70 million pounds. But then the catch fell into a steep decline, and by 1974 U.S. and Canadian fleets brought in barely 20 million pounds.

Halibut stocks do naturally fluctuate, but the International Pacific Halibut Commission has also attributed the 1970s crash in halibut stocks to several causes: (1) overfishing by the Japanese longline fleet, which was allowed to fish in the eastern Bering Sea in the mid-1960s under terms of an international treaty; (2) a sharp increase in incidental catch—bycatch—of halibut by foreign and domestic vessels harvesting other kinds of fish; (3) a growing and more efficient halibut fleet; and (4) the commission’s failure to cut the allowable catch quickly enough and sharply enough, in part because it lacked information about the growing bycatch and other changes. In the late 1970s stocks began to recover and the catch reached a peak of 74 million pounds in 1988. Stock recovery was helped by changes in fishing regulations and reduced catch limits and by the extension of U.S. territorial waters to 200 miles offshore. How much bycatch to allow—and how to accurately monitor that catch—remain controversial today.

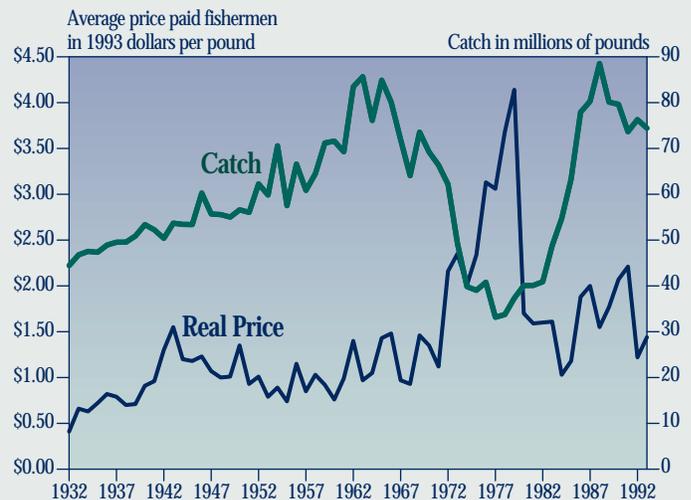
These prices are an average of real (adjusted for inflation) prices paid U.S. and Canadian fishermen. Prices more than doubled as the depression of the 1930s ended, but after that stayed within a fairly narrow range until the 1970s. Then the crash in halibut stocks quadrupled prices. Those very high prices didn’t last long. In the 1980s prices mostly averaged about 30 percent more than in the 1960s. Average prices were down sharply in 1992—but that average conceals a sharp price increase in British Columbia, where an individual quota system has been in place since 1991 (as discussed on page 13).

FIGURE 7. PACIFIC HALIBUT CATCH, 1930-1993



The proportions of the catch taken by the U.S. and the Canadian fleets changed dramatically in the 1970s, when both countries extended their territorial jurisdictions to 200 miles offshore. Canadian vessels, which had formerly fished off Alaska, were restricted to British Columbia waters; their share of the catch dropped from nearly 50 percent in the 1960s to around 15 percent today.

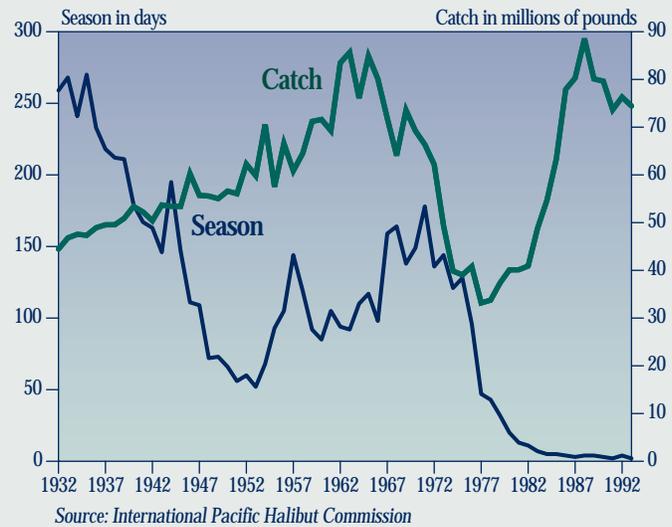
FIGURE 8. HALIBUT CATCH AND PRICES, 1932-1993



Sixty years ago, the commercial halibut season lasted most of the year. Even in 1970 the season lasted 150 days. After that, halibut stocks crashed, the fleet grew rapidly, and gear became more efficient. In recent times halibut stocks have recovered but the fleet takes the allowable catch in two or three days. The season shown in Figure 9 is for the central Gulf of Alaska region. Open periods are set for each management region, but changes in the Gulf of Alaska season reflect a general pattern in Alaska waters. In British Columbia, the Canadian halibut fleet has been under an individual quota program since 1991. Vessels can harvest their quotas any time between March and October.

For some of the time between the 1930s and the early 1970s, fishermen's organizations set up voluntary programs to keep the halibut catch from being taken too quickly. They agreed to stay in port a specific number of days between trips and in some cases to limit their catch, depending on crew size. But the halibut commission reports that such voluntary programs ended in the 1970s, as more and more vessels came into the fishery.

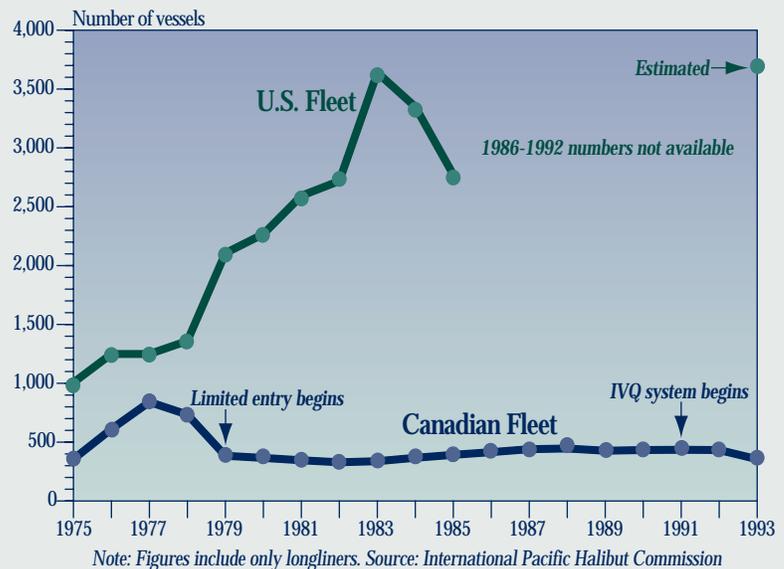
FIGURE 9. HALIBUT CATCH AND SEASON, 1932-1993
(CENTRAL GULF SEASON)



The number of longline vessels in the U.S. halibut fleet doubled between 1975 and 1979, increasing from 1,000 to more than 2,000. High prices drew boats into the fleet during that time, but other factors also contributed. Both the U.S. and Canada extended their territorial waters to 200 miles offshore. Canadian vessels that had formerly fished in Alaska waters could no longer do so—which American fishermen probably saw as an opportunity. Also, the State of Alaska established a limited entry program for the salmon fisheries—and it's likely that some fishermen who could not enter the salmon fishery turned to halibut. The American fleet continued to grow sharply into the early 1980s, peaking at more than 3,600 vessels in 1983 and then dropping the following year as halibut prices plunged. After 1985 the halibut commission stopped reporting total U.S. fleet size. ISER estimates that in 1993 about 3,700 vessels fished for halibut in Alaska and off the U.S. west coast.

The Canadian fleet, like the U.S. fleet, grew sharply in the late 1970s, jumping from about 350 vessels to nearly 850 just between 1975 and 1977. Then, when Canadian vessels were excluded from U.S. waters, the Canadian government

FIGURE 10. U.S. AND CANADIAN HALIBUT FLEETS, 1975-1993



limited entry to the B.C. fishery. By 1979, the B.C. fleet had dropped to around 400. The fleet size remained near 400 until 1993, when it dropped to 350. The B.C. fleet has been under an Individual Vessel Quota (IVQ) system since 1991. The drop in fleet size might mean some quota holders are leasing their quotas to others rather than fishing.

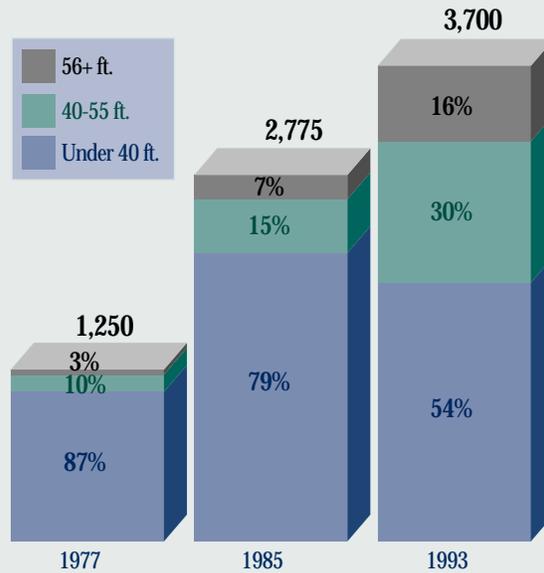
THE PACIFIC HALIBUT FISHERY OVER TIME

More vessels of all sizes joined the U.S. halibut fleet over the past 15 years, but it was numbers of the biggest vessels—those 56 feet or longer—that increased the most. In 1977, the largest vessels made up just 3 percent of the U.S. fleet. By 1985, the big boats had doubled their share to 7 percent. By 1993, they made up an estimated 16 percent of the fleet—five times more than in 1977.

Numbers of mid-size vessels (40 to 55 feet) also increased rapidly, growing from 10 percent in 1977 to 15 percent in 1985 and an estimated 30 percent in 1993. Still, that growth was not as rapid as that in the bigger boats.

The smallest boats (under 40 feet) still made up more than half the fleet in 1993, but that was down from roughly 87 percent in 1977. Also, while there were more small boats in 1993 than there had been in 1977, there were fewer than in 1985—so between 1985 and 1993 both the number and the percentage share of small boats dropped.

FIGURE 11. ESTIMATED COMPOSITION OF U.S. HALIBUT FLEET



Source: International Pacific Halibut Commission

FIGURE 12. U.S. HALIBUT CATCH BY SIZE OF VESSEL (IN MILLIONS OF POUNDS)



Note: Composition of halibut fleet and catch by vessel size are estimated for 1977 and 1985. Until 1985 the International Pacific Halibut Commission reported vessel size by tons and after 1985 by feet. We converted tons to feet based on vessel weight and length information from 1993 vessel licenses. The 1993 fleet composition is an ISER estimate, based on adjusted IPHC figures.

Source: International Pacific Halibut Commission

The U.S. halibut catch in 1977 (when halibut stocks were still in decline) was only 13 million pounds. It was divided almost evenly among small, medium, and large vessels.

By 1985, when stocks had recovered, the total catch was three times higher, and the largest boats had the biggest share of the catch (43 percent), while the mid-size boats took 31 percent and the smallest 26 percent.

By 1993, the largest vessels brought in more than half the catch, the mid-size boats 30 percent, and the smallest boats 17 percent.

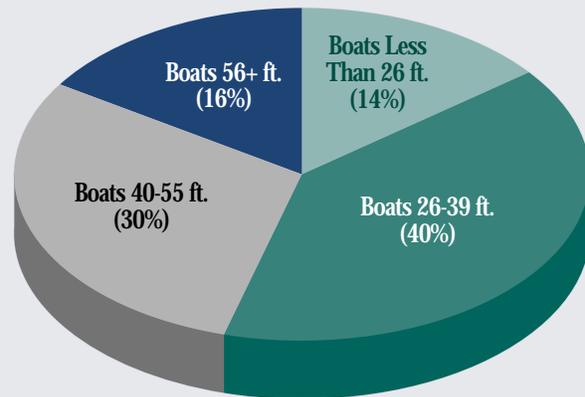
THE ALASKA HALIBUT FLEET TODAY

About 3,460 vessels fished for halibut in Alaska waters during the brief open periods in 1993. Many halibut boats are small—an estimated half are under 40 feet—but the share of bigger vessels increased rapidly in the past 15 years.

The size and composition of the Alaska halibut fleet in 1993 are estimates we arrived at by adjusting regional vessel counts published by the International Pacific Halibut Commission. The commission doesn't provide a total estimate for the fleet that takes into account boats that fished in more than one region. ISER plans to refine our estimate later, after more analysis of data on landings.

In 1993 about 85 percent of the vessels in the fleet had home ports in Alaska and 15 percent outside the state, largely in Washington.

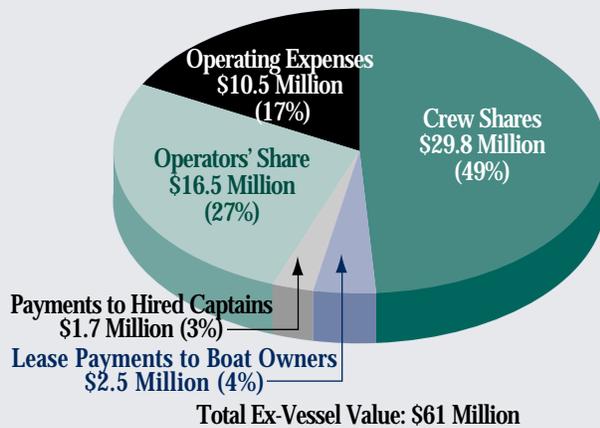
FIGURE 13. ESTIMATED COMPOSITION OF ALASKA HALIBUT FLEET, 1993*



Total Estimated Boats: 3,457

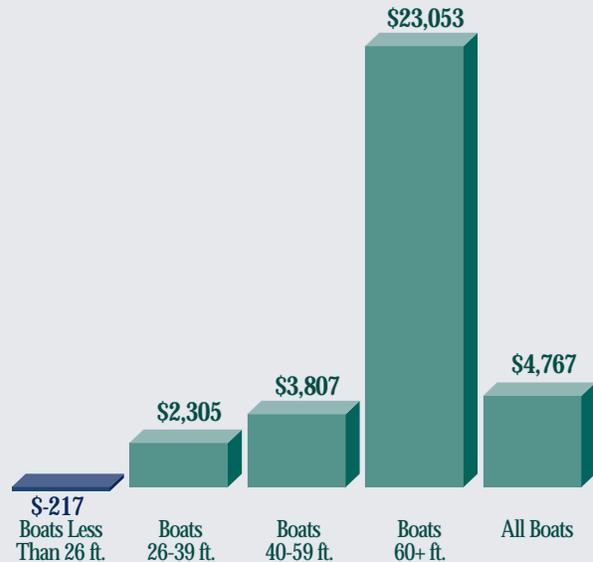
**Based on the International Pacific Halibut Commission's 1993 count of boats by region. We used ISER 1993 survey results to estimate fleet size.*

FIGURE 14. HALIBUT EX-VESSEL VALUE, 1993



In 1993, the ex-vessel value of Alaska halibut was \$61 million. Crew payments (crews are mostly paid in shares) took nearly half. Operating expenses—fuel, gear, bait, and food—took 17 percent. Boat owners pay most of the operating costs, but crew members pay some. What crew members pay has been deducted from their share and included under expenses in Figure 14. Another 3 percent was paid to hired captains, and captains who leased boats paid owners 4 percent. The rest—about 27 percent—was the operators' share. Out of that 27 percent, operators (captains who are also mostly owners) still have to pay their fixed costs like boat payments and insurance.

FIGURE 15. AVERAGE OPERATOR'S SHARE, 1993



Operators of small boats didn't make much from halibut fishing in 1993. We estimate that on average, after paying crew shares and other expenses, operators of the smallest boats (under 26 feet) actually lost money. That's an average—it doesn't mean that all small boat operators lost money. Operators of boats between 26 and 60 feet made on average a few thousand dollars. Operators of the largest boats made on average more than \$23,000.

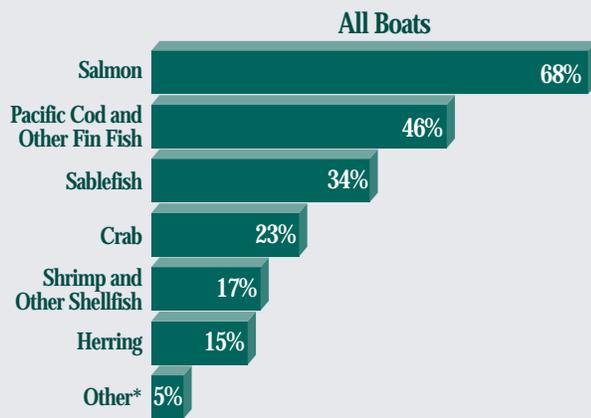
THE ALASKA HALIBUT FLEET TODAY

With the halibut season open only a few days per year, most halibut vessels—especially the larger ones—fish for a number of other things besides halibut. Figure 16 shows what percentage of halibut boats fished for various other species in 1993. Nearly three quarters of halibut boats also fished for salmon, close to half

for Pacific cod, a third for sablefish, and nearly a quarter for crab. More than 15 percent also fished for shrimp and other shellfish and herring.

What else halibut boats fish for varies a lot among boats of different sizes. Most of the smaller boats fish for salmon and the largest boats for sablefish, Pacific cod, and crab.

FIGURE 16. WHAT ELSE DO HALIBUT BOATS FISH FOR?
(PERCENTAGE OF HALIBUT BOATS THAT ALSO FISH FOR OTHER SPECIES)



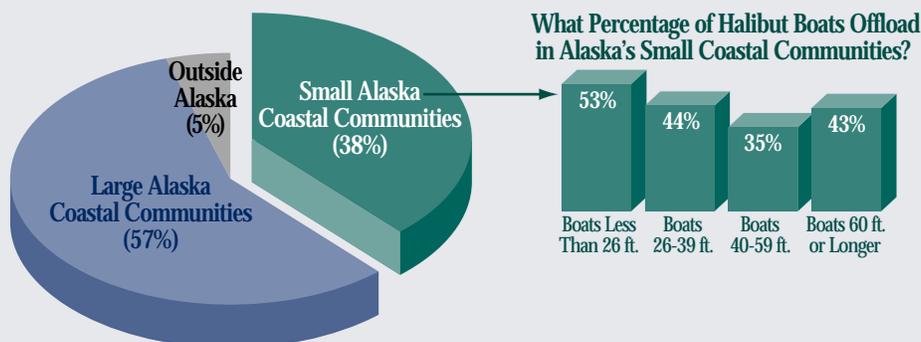
	Boats By Size				
	Boats Less Than 26 ft.	Boats 26-39 ft.	Boats 40-59 ft.	Boats 60-99 ft.	Boats 100 ft +
Salmon	63%	79%	86%	9%	0%
Pacific Cod and Other Fin Fish	15%	44%	46%	67%	63%
Sablefish	0%	24%	40%	46%	63%
Crab	38%	17%	18%	50%	63%
Shrimp and Other Shellfish	17%	18%	20%	7%	0%
Herring	15%	14%	14%	2%	0%
Other*	3%	7%	4%	4%	0%

*Other includes squid and sea urchins.

In 1993 more than half of halibut landings were made in Alaska's larger coastal communities, and close to 40 percent were made at ports in small coastal towns. About 5 percent of landings were made outside Alaska, mostly in Seattle or Bellingham. The share of halibut landings made in small coastal places varied with the size of the vessel. Mid-

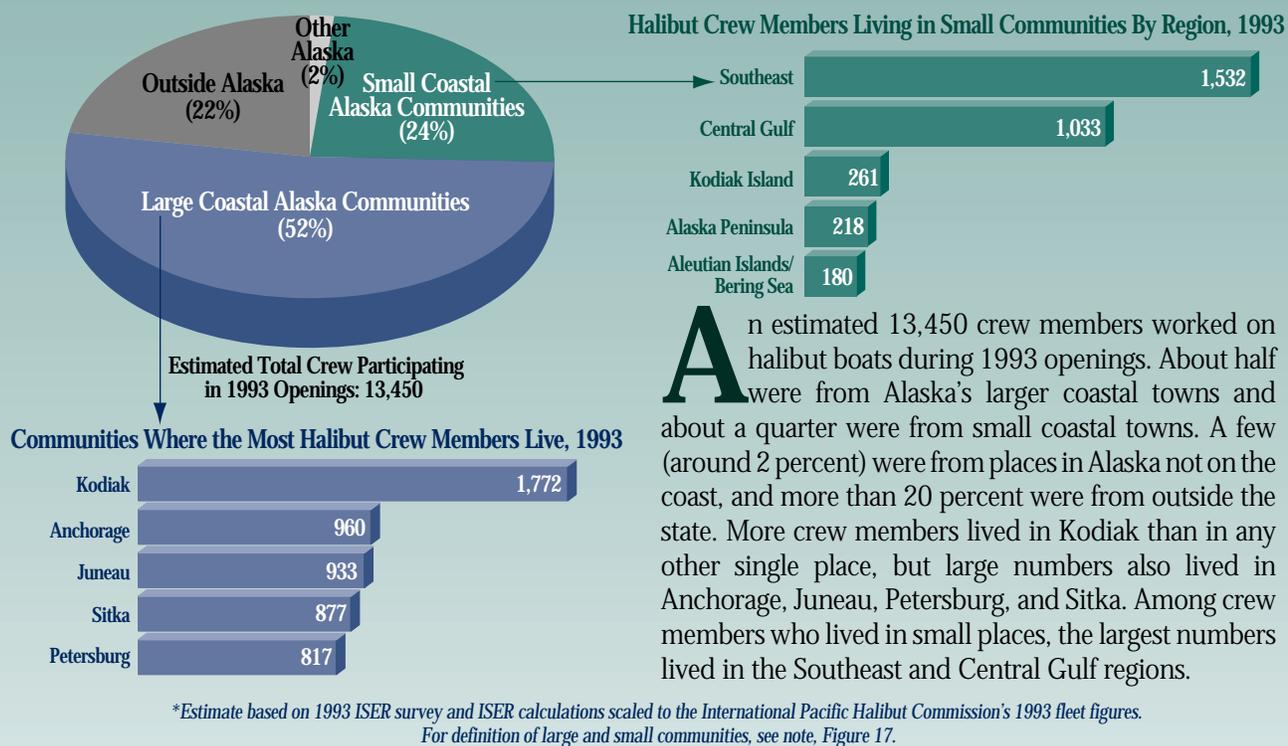
size vessels made about a third of their landings in small places and the smallest boats made more than half. Notice that the share of landings is not the same as the share of the total catch. Most of the catch is delivered to large ports. What we see in Figure 17 is that many landings, but of smaller quantities of halibut, go to small ports.

FIGURE 17. WHERE DO HALIBUT BOATS OFFLOAD THEIR CATCH?*
(PERCENTAGE OF LANDINGS DURING 1993 OPENINGS)



*Large coastal communities are Kodiak, Homer, Seward, Anchorage, and Kenai in Southcentral Alaska; Juneau, Ketchikan, Petersburg, and Sitka in Southeast Alaska; and Dutch Harbor in Western Alaska. All other coastal towns are included in the category of small coastal communities.

FIGURE 18. WHERE DO HALIBUT CREWS LIVE?*



An estimated 13,450 crew members worked on halibut boats during 1993 openings. About half were from Alaska's larger coastal towns and about a quarter were from small coastal towns. A few (around 2 percent) were from places in Alaska not on the coast, and more than 20 percent were from outside the state. More crew members lived in Kodiak than in any other single place, but large numbers also lived in Anchorage, Juneau, Petersburg, and Sitka. Among crew members who lived in small places, the largest numbers lived in the Southeast and Central Gulf regions.

Almost everybody on boats of all sizes was paid by crew share in 1993. Some of the smallest boats had no crew. Some crew members—mainly on small boats and mostly related to the captain—weren't paid at all.

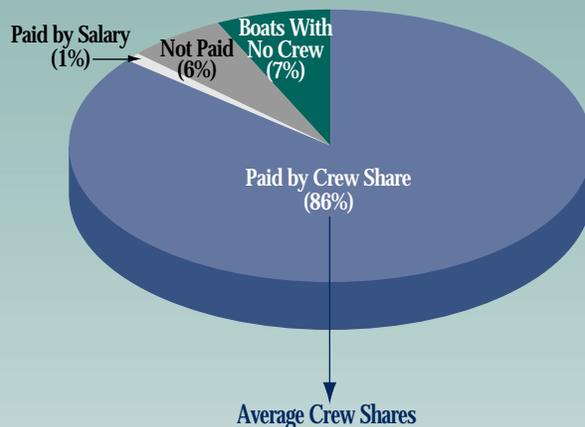
On average 2 to 6 crew members were paid with shares. Shares ranged from 27 percent of the gross on the smallest boats to 9 percent on the largest. Many crew members also paid some operating expenses from their shares.

Many crew members (35 to 54 percent) had relatives who fished before they did. Half the crew members on small boats and one quarter on mid-size boats in 1993 were related to the captain. On the largest boats, only about 5 percent of the crew members were related to the captain.

TABLE 1. HOW ARE HALIBUT CREWS RELATED?

	Boats Less Than 26 ft.	Boats 26-39 ft.	Boats 40-59 ft.	Boats 60-99 ft.	Boats 100 ft. or Longer	All Boats
% Related to the Captain	57%	45%	22%	8%	5%	41%
% with Relatives Who Fished	54%	35%	50%	46%	35%	44%

FIGURE 19. HOW ARE HALIBUT CREWS PAID?



	Boats Less Than 26 ft.	Boats 26-39 ft.	Boats 40-59 ft.	Boats 60 ft. or Longer	Average All Boats
Number Paid by Share	1.9	2.3	3.5	5.5	3.0
Average Share	27%	19%	15%	9%	19%

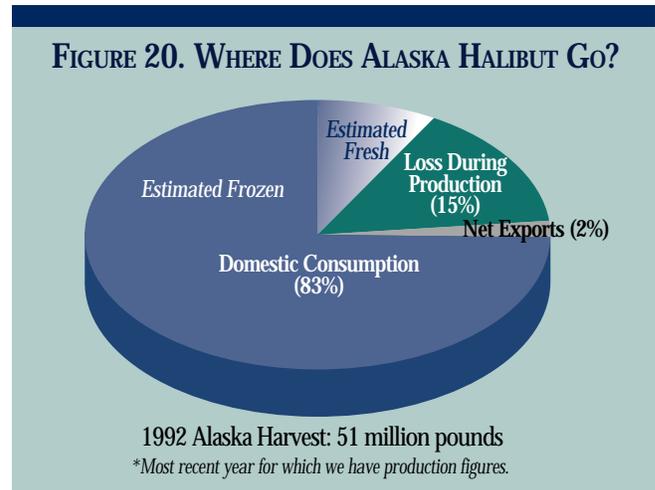
MARKETS FOR ALASKA'S HALIBUT

How might the IFQ program change markets for Alaska's halibut? The two biggest issues are how the program is likely to affect the price of halibut, and whether people will eat more halibut when it's available fresh for much of the year.

We can't answer those questions comprehensively, but as our research continues we'll be examining them more. We can describe current markets for Alaska halibut, talk about the effects of the halibut quota system in British Columbia, and discuss what might happen in Alaska

The biggest difference (and it's a very big one) between the Alaska and the British Columbia halibut fisheries is that much more—five times more—halibut comes from Alaska. That means the amount of fresh halibut on the market will be much larger when Alaska's program goes into effect.

Figure 20 shows where Alaska's halibut goes today. In 1992—the most recent year for which we have complete figures—more than 80 percent was eaten in the U.S. and just 2 percent was exported, mostly to Japan. (What doesn't show up in the figure is the exchange of halibut between the U.S. and Canada; we export some of ours to them, but import more of theirs.)



Only a small share—an estimated 10 percent—of Alaska's halibut is eaten fresh; most is frozen because millions of pounds are caught in single-day openings. Figure 21 shows how U.S. holdings of frozen halibut peak right after the brief summer and fall openings and then steadily decline until the next openings, dropping to near zero every spring.

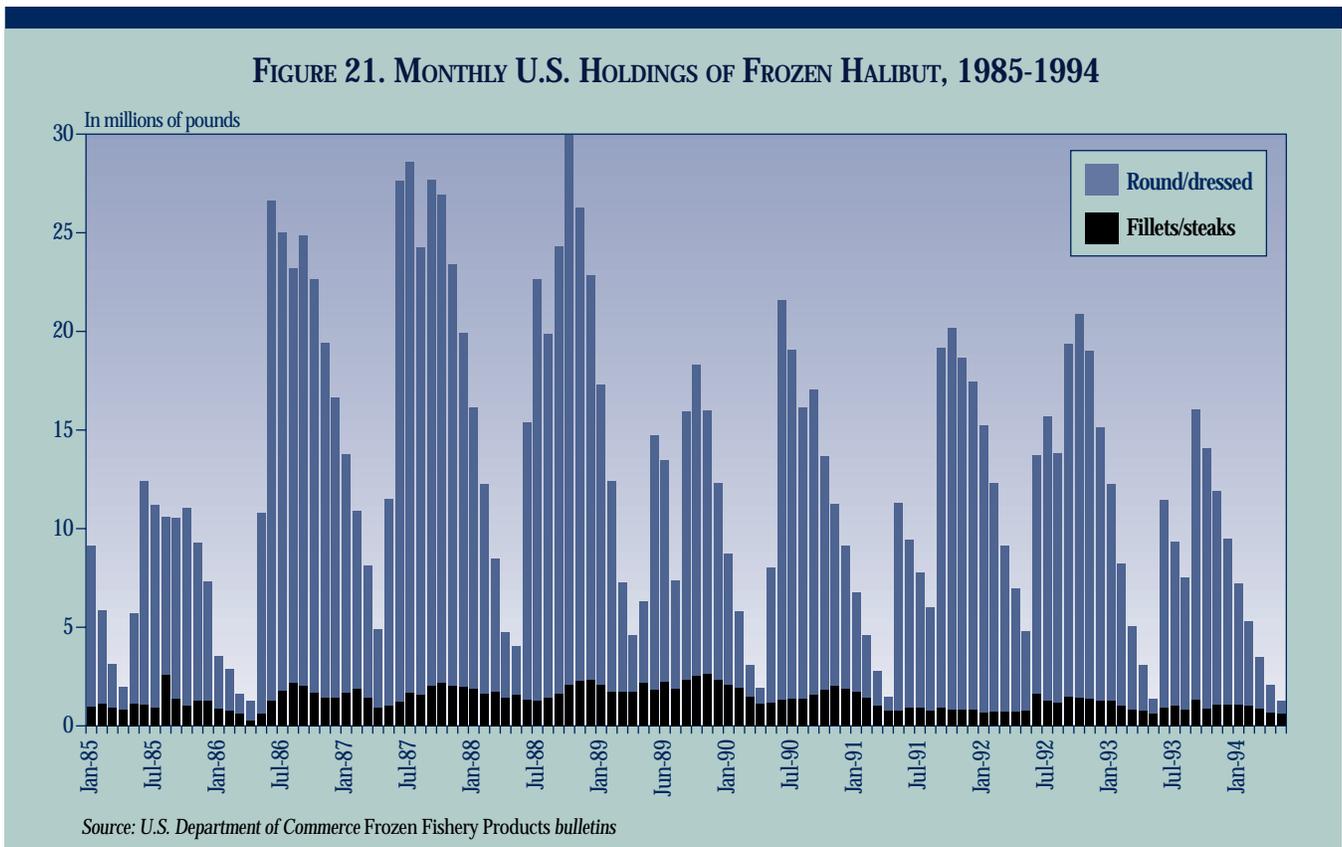
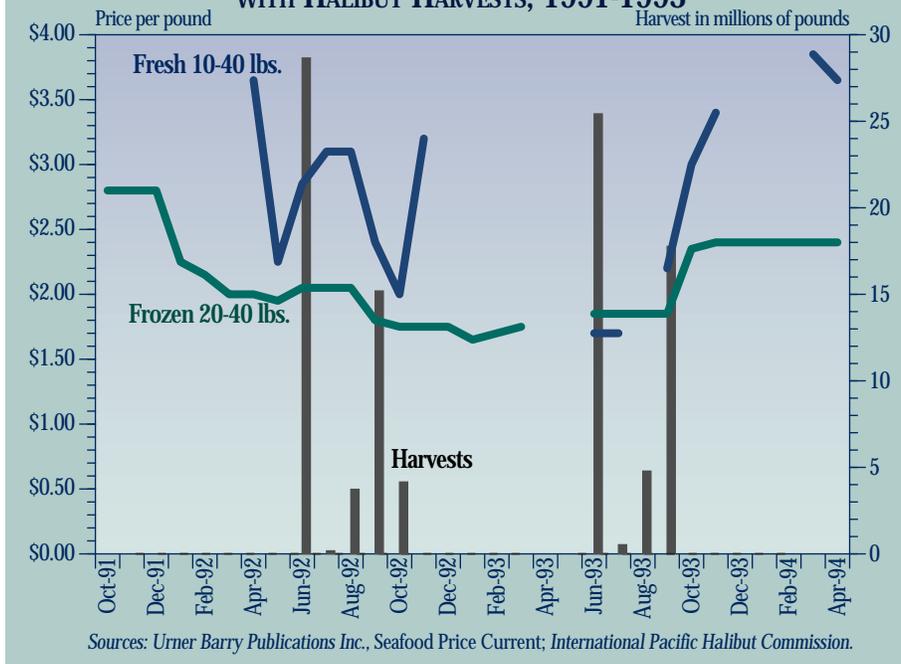


FIGURE 22. MONTHLY WHOLESALE PRICE OF HALIBUT COMPARED WITH HALIBUT HARVESTS, 1991-1993



Variation in the year-to-year supply of halibut isn't as great as it is for, say, salmon or crab. Recently the annual catch has ranged between 60 and 70 million pounds.

The supply of halibut naturally influences the price; the price paid fishermen quadrupled in the late 1970s when halibut stocks hit all-time lows. Figure 22 looks at how the monthly wholesale price of fresh and frozen halibut varies with the supply, as measured by the harvest in specific months. The price of fresh halibut dips during peak U.S. harvest times. (Fresh halibut from British Columbia is available from March to October). The price of frozen halibut climbs higher in the winter, as the supply drops.

Figure 23 compares ex-vessel prices (prices paid fishermen) for halibut in Alaska and British Columbia from 1980 through 1994. Historically, prices in Alaska and British Columbia were close, although they were usually a bit higher in British Columbia. That's because British Columbia is closer to U.S. and Canadian markets—so transportation costs from British Columbia are lower, which has often meant higher prices for B.C. fishermen.

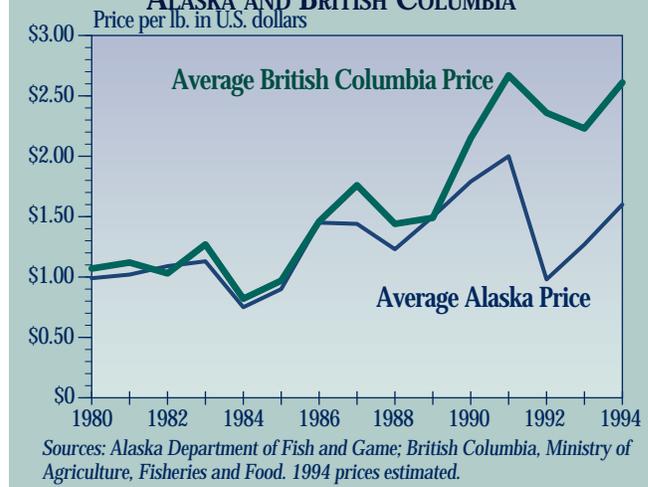
But since 1991 there has been a much bigger difference between Alaska and Canada prices. That's when Canada started an individual quota system for British Columbia halibut. Fresh fish sells for more than frozen, and a big share

of the British Columbia catch is now sold fresh—since it's taken over a period of months rather than days. We estimate that in 1994 B.C. fishermen were paid nearly a dollar more per pound.

So what can Alaska fishermen expect? That's impossible to predict, because there's no precedent for so much fresh fish suddenly coming on to the market. Economic theory suggests that several things are most likely to happen in the short run: (1) prices paid Alaska fishermen will increase somewhat, since fresh fish is more valuable; (2) wholesale prices of fresh halibut will decline somewhat, since the supply will be greater; and (3) prices for frozen halibut may increase, since there will be less of it.

It's unlikely that prices in Alaska will increase as much as they did in British Columbia—because Alaska halibut will add so much to the market. In fact, the much bigger supply of fresh halibut will probably push down ex-vessel prices in British Columbia. Over the long term, it's possible that when fresh halibut is available most of the year, the market for halibut will grow. People might eat more, creating more demand and helping increase prices.

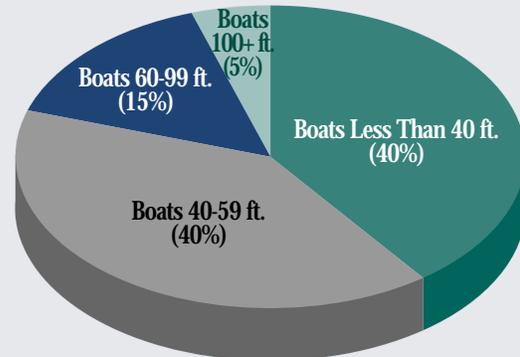
FIGURE 23. AVERAGE HALIBUT EX-VESSEL PRICE, ALASKA AND BRITISH COLUMBIA



THE SABLEFISH FLEET TODAY

FIGURE 24. ESTIMATED COMPOSITION OF SABLEFISH FLEET, 1993

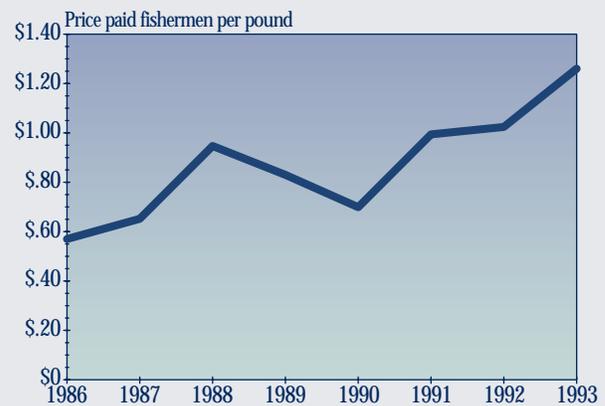
The sablefish fleet has fewer and generally larger boats than the halibut fleet. Only 40 percent of the boats that fished for sablefish in 1993 were under 40 feet, as compared with 54 percent of boats that fished for halibut. (Almost all sablefish boats also fish for halibut, but only about a third of the boats that fish for halibut also fish for sablefish.) In 1993, an estimated 740 boats fished for sablefish in Alaska waters under federal regulation. Additional boats fished for sablefish within the three-mile limit, in waters managed by the state government. Those state fisheries will not be affected by federal IFQs.



Estimated Number of Boats: 740

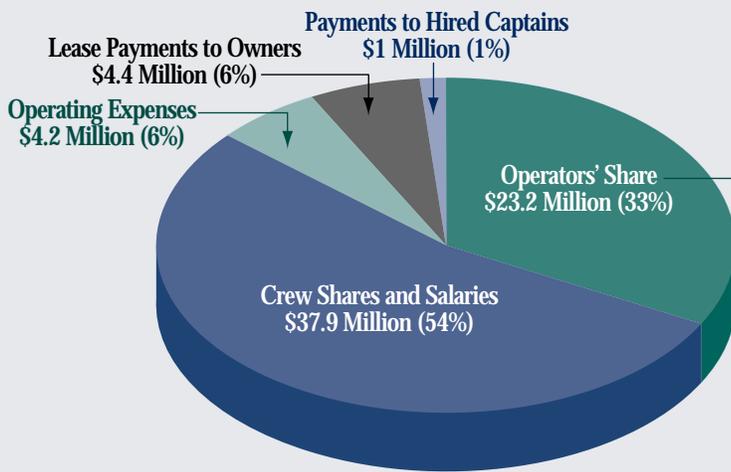
The ex-vessel price of sablefish nearly doubled between 1990 and 1993, and early information shows another sharp increase in 1994. The ex-vessel value of sablefish from Alaska waters was close to \$71 million in 1993. More than half that value went for crew payments. Operating expenses (fuel, bait, gear, and food) took about 6 percent. Payments to hired captains and lease payments made to owners made up another 7 percent. The remaining 33 percent was the operators' (captains who were also mostly owners) share. The average operator's share from the 1993 season was \$31,400. Out of that share, the operators still had to meet fixed expenses like boats payments, maintenance costs, and insurance.

FIGURE 25. EX-VESSEL PRICE OF SABLEFISH FROM ALASKA WATERS, 1986-1993



Source: National Marine Fisheries Service

FIGURE 26. HOW EX-VESSEL VALUE OF SABLEFISH WAS DIVIDED IN 1993

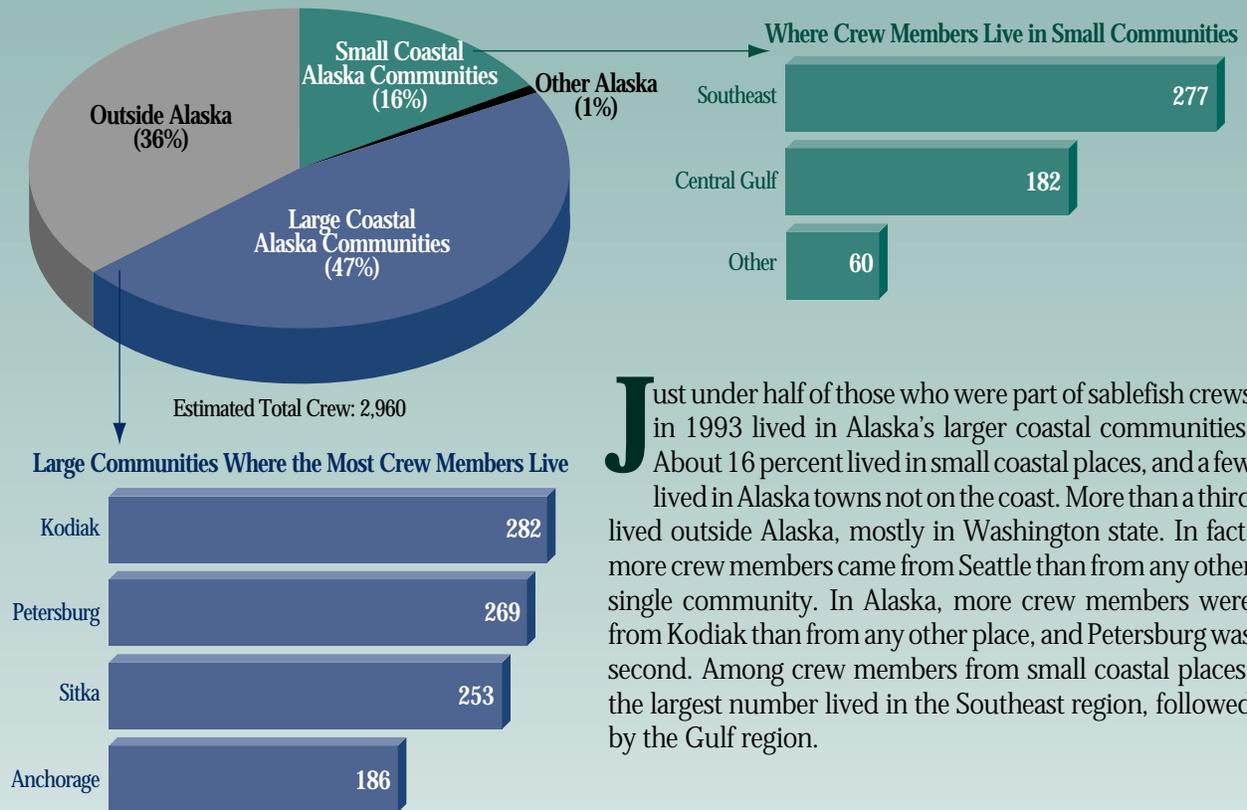


Total Ex-Vessel Value: \$70.7 Million

Average Operator's Share from Sablefish, 1993



FIGURE 27. WHERE DO SABLEFISH CREWS LIVE?*

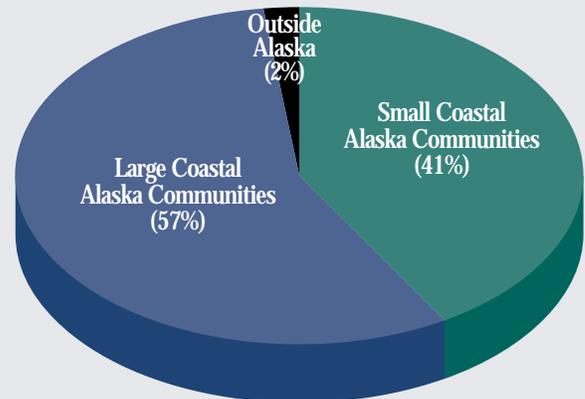


Just under half of those who were part of sablefish crews in 1993 lived in Alaska's larger coastal communities. About 16 percent lived in small coastal places, and a few lived in Alaska towns not on the coast. More than a third lived outside Alaska, mostly in Washington state. In fact, more crew members came from Seattle than from any other single community. In Alaska, more crew members were from Kodiak than from any other place, and Petersburg was second. Among crew members from small coastal places, the largest number lived in the Southeast region, followed by the Gulf region.

*For definitions of large and small communities, see note, Figure 17.

Almost all crews fishing for sablefish were paid shares of the catch. The average number receiving crew shares was 4, and they were paid an average 13 percent of the vessel's gross income from sablefish. Many crew members also pay some of the operating expenses from their shares. Figure 28 shows where sablefish boats made landings in 1993. Note that the share of landings is not the same as the share of catch.

FIGURE 28. WHERE DO SABLEFISH BOATS LAND THEIR CATCH?*(PERCENTAGE OF LANDINGS IN 1993)



*Includes catch initially delivered to floating processors.

TABLE 2. HOW ARE SABLEFISH CREWS PAID

Average Crew Share	13%
Average Crew Size	4.2
Average Percent Paid by Crew Share	99%

INCOME AND EXPENSES OF THE HALIBUT AND SABLEFISH FLEETS

How much fishermen earn from Alaska fisheries and how much they spend in Alaska communities are important issues for the state's coastal towns. In 1993 the halibut and sablefish fleets earned an estimated \$633 million in gross income from all the Alaska fisheries they took part in—including not only halibut and sablefish but also salmon, crab, Pacific cod, and others. The

biggest boats earned nearly two-thirds of that total and the smallest only about two percent.

For operators of the smallest boats, income from all types of fishing represented just over half their total 1993 income, as Figure 30 shows. Operators of larger boats earned almost all their 1993 income from fishing.

FIGURE 29. GROSS INCOME OF HALIBUT AND SABLEFISH FLEETS FROM ALL FISHERIES, 1993*

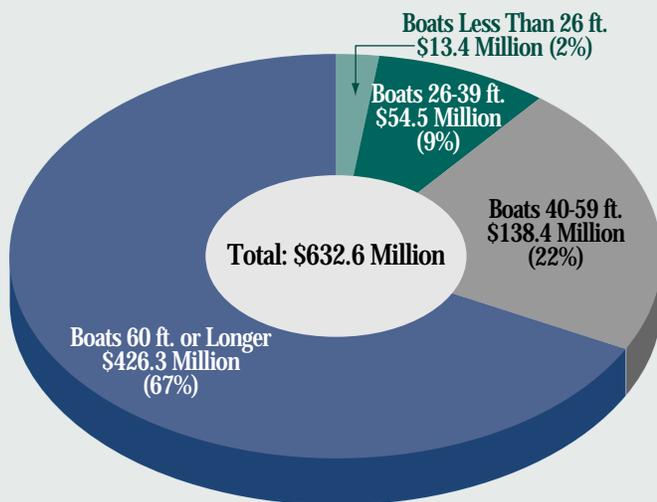
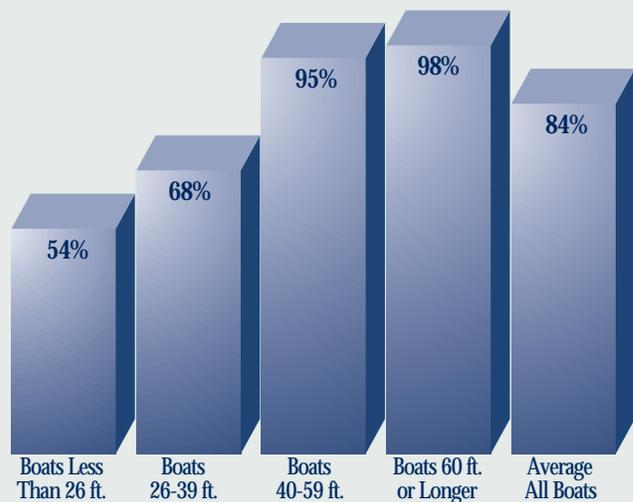


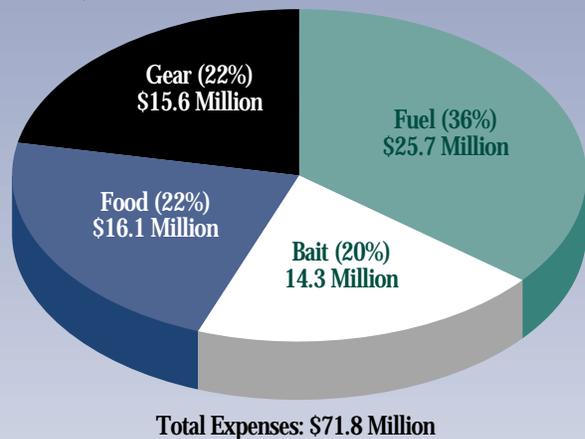
FIGURE 30. HOW MUCH OF THEIR GROSS INCOME DID BOAT OPERATORS GET FROM FISHING IN 1993?*



**Including not only halibut and sablefish but also other fisheries they participated in.*

FIGURE 31. OPERATING EXPENSES OF THE HALIBUT AND SABLEFISH FLEETS, 1993*
(IN MILLIONS OF DOLLARS)

The halibut and sablefish fleets spent about \$72 million for gear, fuel, food, and bait in 1993. Fuel was the biggest single expense, accounting for 36 percent; the other three big expenses each accounted for around 20 percent. As Figure 32 on the adjacent pages shows, about \$65 million of that spending was in Alaska and the remaining \$7 million outside the state. A big share of the spending outside Alaska was for gear.



**Including not only halibut and sablefish but also other fisheries they participated in.*

About 65 percent of the spending in 1993 was in Alaska's large coastal communities, 26 percent in smaller coastal towns, and 9 percent outside. Dutch Harbor and Kodiak saw by far the most spending—the fleets spent more than \$12 million in each of those places. Petersburg, Sitka, and Homer were other large coastal places where the halibut and sablefish fleets spent the most. Among smaller coastal places, fleet spending was highest in communities in Southeast Alaska, followed by small communities on the Alaska Peninsula. Much of the spending outside Alaska was in Seattle, Washington.

Another way of looking at fleet spending is how much boats of different sizes spent, and how much they spent in Alaska's larger and smaller communities (Figure 33). Boats of all sizes spent the most in large coastal places—anywhere from 54 to 88 percent of total spending. But they also spent significant amounts—from 6 to 37 percent—in Alaska's small coastal towns. Smaller boats in particular spent a bigger share in small towns. Boats of all sizes spent relatively little outside Alaska, mostly for gear.

FIGURE 32. WHERE DO HALIBUT AND SABLEFISH FLEETS SPEND MONEY?*

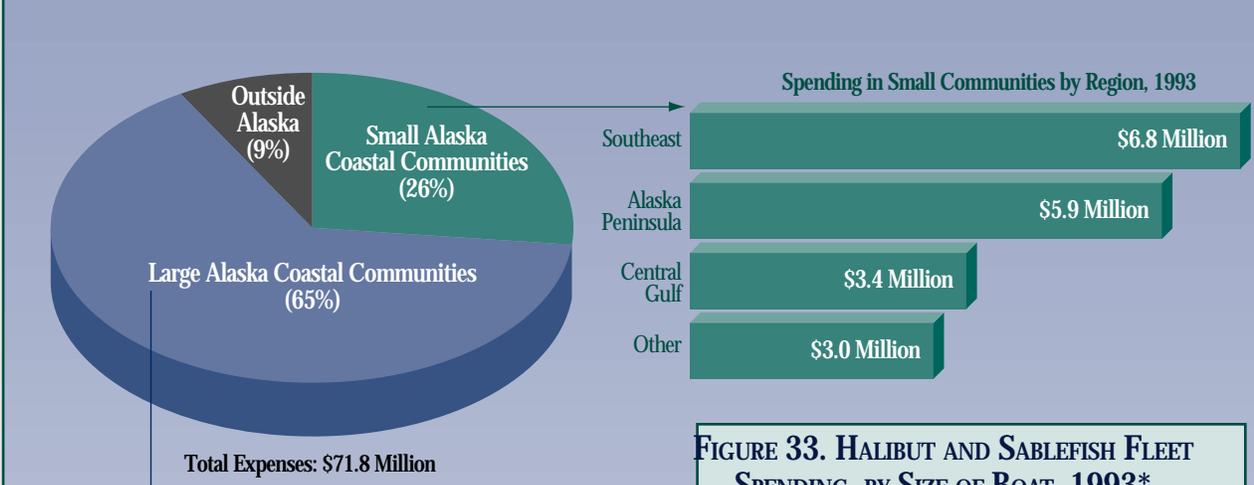
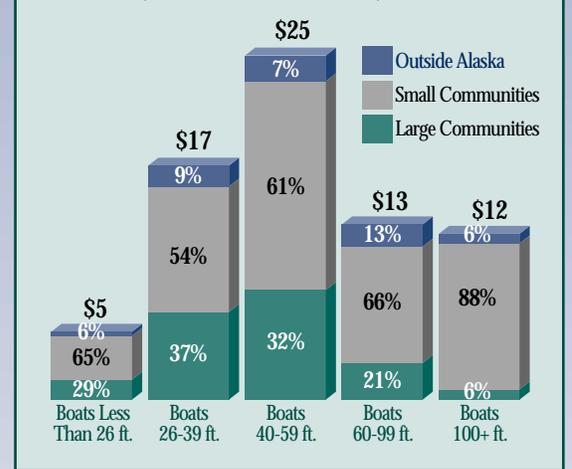


FIGURE 33. HALIBUT AND SABLEFISH FLEET SPENDING, BY SIZE OF BOAT, 1993* (IN MILLIONS OF DOLLARS)



*Not only for halibut and sablefish but all fisheries they participate in.

POTENTIAL VALUE OF HALIBUT IFQS

When halibut quota shares are issued, they will be for fishing in specific management areas (as shown on the map on page 4) and for specific boat sizes—boats under 35 feet, 35 to 60 feet, and over 60 feet. Those who receive shares will be able to sell or lease them within the same management area and for use on boats in the same size category.

Quota shares are rights to a percentage of the harvest. The halibut commission sets the annual harvest. Each year's harvest level, and an individual's quota share, will determine the IFQ—the number of pounds a quota holder can take in a given year.

How much might halibut IFQs be worth to the recipients? Whatever the value of IFQs turns out to be, they will be a gift from the public to the recipients: exclusive rights, at no charge, to a public resource.

In British Columbia—where an individual share system for halibut was established in 1991—halibut quota shares are selling at roughly three times the price of halibut (that is, a pound of quota share is selling for roughly three times the market price for a pound of halibut). Alaska's program and circumstances are somewhat different from British Columbia's, so that ratio might differ in Alaska.

We used our survey results to estimate the range of potential values of Alaska IFQs for halibut. Our survey didn't include everyone who might receive or want to buy quotas (since we interviewed only those who had fished for halibut recently), but the results still allow us to make a ballpark estimate of the potential value of halibut IFQs. Of course their value will be much clearer after the program has been underway for a while.

Different survey questions provided the lower and the upper bounds for potential values. The lower bound estimate comes from the prices fishermen said they would pay to buy additional quota shares. The upper bound estimate comes from the prices fishermen said they would have to get to induce them to sell some or all of their quota shares.

When the market for halibut IFQs has stabilized, quota prices will probably fall closer to the lower range of the estimate, since some people who are not fishing now—but who fished during the qualifying period—will probably be willing to sell their quotas at lower prices than current fishermen would ask. Another factor tending to keep quota prices lower is that some people who want to get into the fishery in the future will also have to buy boats and gear.

Our survey also included questions about leasing quotas—whether quota recipients would be willing to lease some of their quota to others, and whether they would be interested in leasing additional quota from others.

How much fishermen would pay to buy or lease quota, and how much they'd expect when they sold quota, would depend on the current price of halibut. We told our survey respondents to assume halibut was selling for \$2 per pound. That's higher than Alaska prices were in 1993, but it's reasonable to assume prices of \$2 per pound under the IFQ program. Because IFQs are specific to management regions, the value of a pound of halibut caught in one region differs from that caught in another. We would expect fishermen to be willing to pay more for the right to catch halibut closer to home and closer to product markets. With halibut selling for \$2 per pound, we estimated:

- Fishermen looking for additional quota shares would pay from \$5.59 per pound in Southeast Alaska to \$7.24 per pound in the Western Gulf of Alaska (Figure 34).
- Fishermen selling quota shares would ask similar prices in all regions—from \$9.68 in Southeast Alaska to \$10.18 in the Western Gulf (Figure 35).
- These estimated values per pound would convert to a total potential IFQ value of between \$292 million and \$480 million for the halibut fishery as a whole (Figure 36).

FIGURE 34. HOW MUCH WOULD YOU PAY PER POUND FOR ADDITIONAL QUOTA SHARES?*

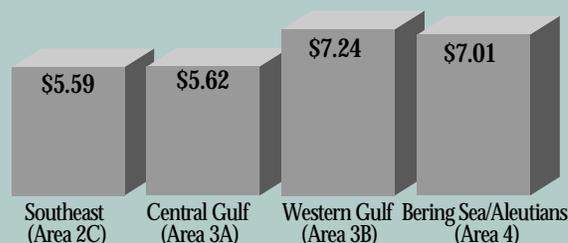
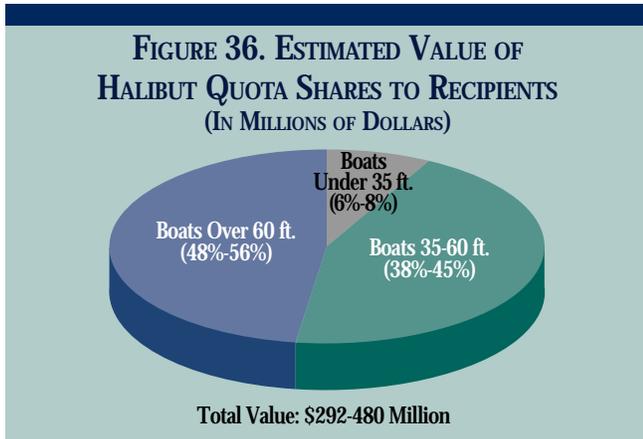


FIGURE 35. HOW MUCH WOULD YOU ASK PER POUND TO SELL SOME OF YOUR QUOTA SHARES?*



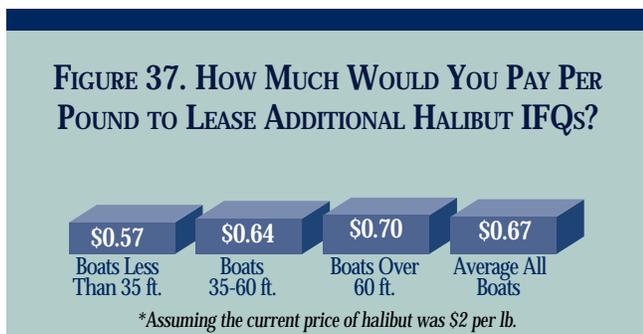
*Assuming the current price of halibut was \$2 per lb.



- Boats under 35 feet would get roughly 6 to 8 percent of the total IFQ value, boats 35 to 60 feet would get somewhere around 38 to 45 percent, and boats over 60 feet would get in the range of 48 to 56 percent.
- Few fishermen said they would want to lease any of their quota to others. But many said they were interested in leasing additional quota from others. We estimate that on the average, fishermen would be willing to pay about one third of the market price of halibut to lease additional quota (Figure 37).
- If the federal government were to collect royalties from the halibut fishery (which is currently prohibited under the Magnuson Act), it could collect as much as \$30 million annually, if the price of halibut were \$2 per pound. That’s an estimate based on how much boat operators said they would pay to lease additional shares.

We also attempted to estimate values for sablefish IFQs, but were unable to because of the smaller number of respondents and the great uncertainty about future sablefish prices. Sablefish prices more than doubled in 1994, from the 1993 average of around \$1.26 per pound.

Although we can’t provide a dollar figure, we expect that sablefish IFQs will be worth nearly as much as halibut IFQs. The combined value of public resources awarded to fishermen in the two IFQ programs almost certainly exceeds half a billion dollars.



CONCLUSIONS

The information we’ve presented in this report gives us a start toward assessing the likely effects of the IFQ program. The principal advantage of the program—that it will make it easier to control the problem of too many boats going after too few fish—raises some issues about its long-term effects on Alaska’s coastal communities.

As some quota holders sell out, the halibut and sablefish fleets will likely get smaller. The North Pacific Fisheries Management Council has estimated that a few hundred boats fishing year-round could take the entire allowable harvests of halibut and sablefish. The fleets (which have several times that many boats) will not get that small, because of restrictions in the IFQ program.

There are for instance, caps on how much quota a single boat can accumulate—1 percent or less of quota in each category. Quota will be issued for specific management areas and specific boat sizes, and can’t be sold outside those categories. Restrictions on transferring quota from one size boat to another are intended to help insure a place in the fleet for small boats (which tend to be more concentrated in smaller communities). Also, the program reserves a small share of the quota for rural communities in western Alaska.

Another effect of the IFQ program is that it will exclude some people who are fishing now. An estimated one quarter of those who captained halibut boats in 1993 don’t expect to get quotas. Some won’t be able to buy the quotas they need to keep fishing. Many people are worried that only well-financed owners of the largest boats will be able to afford quota shares.

With smaller fleets and higher costs of getting into the fisheries, Alaska’s coastal communities could lose jobs and income. Those potential losses are especially worrisome for the smallest communities, where there are very few alternatives to fishing. The box on the next page shows some measures of the importance of the halibut and sablefish fleets to Alaska’s small coastal towns.

IFQs will save lives and boats. The problem is who gets stomped on in the process.

I lost \$30,000 in gear and probably \$40,000 in sablefish because of the overcrowded, short openings. Four other boats came right behind me and laid gear on top of mine.

—Alaska longliners

HOW IMPORTANT ARE HALIBUT AND SABLEFISH TO ALASKA'S SMALL COASTAL COMMUNITIES?

- About 3,200 residents of small coastal places had crew jobs during halibut openings in 1993 and about 475 had jobs during sablefish openings.
- Crew members from small communities collected more than \$5 million in crew shares during halibut openings and a similar amount during sablefish openings.
- The halibut and sablefish fleets spent about \$19 million in small coastal towns during all the 1993 fisheries they took part in—including not only halibut and sablefish but also salmon, crab, and others.
- Landings of millions of pounds of halibut and sablefish at small ports create many additional jobs in processing plants, equipment supply and repair businesses, and others parts of the coastal economies.

On the other hand, IFQs could benefit some coastal communities. That's because prices fishermen get for halibut and sablefish are likely to increase when high-quality fresh fish are available throughout most of the year.

The main issues we'll be looking at in our continuing research can be summarized in a set of questions:

Who will want—and be able—to buy IFQs, and which owners will want to sell?

How will transfers of IFQs affect the composition of the fleet—for example, the numbers of big and small boats and the proportions owned by Alaskans and non-residents?

How will the numbers of jobs and income in coastal communities change as a result of changes caused by the

IFQ program? In particular, how will IFQs affect small coastal communities?

How successful are provisions of the IFQ plan likely to be in mitigating the losses of jobs and income under IFQs? And what are the costs to society as a whole of those provisions?

SALTONSTALL-KENNEDY GRANTS PROGRAM

ISER is studying the potential effects of Individual Fishing Quotas (IFQs) under a grant from the Saltonstall-Kennedy Grants Program. This is a national program, funded by the National Oceanic and Atmospheric Administration, sponsoring research that could benefit the fishing industry.

Matthew Berman and Gunnar Knapp are the principal investigators for the study at ISER. We expect the project to be completed in 1995.

ABOUT THE AUTHORS

Matthew Berman is an associate professor of economics at ISER. Linda Leask is ISER's editor. Monette Dalsfoist designed the publication and prepared the graphics.

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ALASKA REVIEW OF SOCIAL AND ECONOMIC CONDITIONS

Institute of Social and Economic Research
University of Alaska Anchorage
Jack Kruse, Director
3211 Providence Drive
Anchorage, Alaska 99508

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