

ALASKA LEGISLATURE SPECIAL COMMITTEE/SUBJECT FILES 8672

2287 SCOMM 95: HOUSE SPEC. COMM. ON FISHERIES 1995-1996

program.

Also during the IPHC meeting in late January we intend to explain the IFQ landing system with a "hands-on" demonstration of the transaction terminal.

In cooperation with the NMFS Enforcement Division, additional workshops are being planned (as is attendance at the Kodiak Fish Expo next March) to insure that buyers and fishermen are well apprised of the mechanics of the new system that governs fishing under IFQs and landing IFQ halibut and sablefish.

NMFS COMPUTER BULLETIN BOARD

As part of our effort to insure that the public can access the necessary information to work with the program, we have placed three reports on the NMFS computer Bulletin Board. One lists the name and business address of all persons that currently hold QS, by type of QS; one lists all current QS holders in a format suitable for generating mailing labels; and the last lists all persons who are currently transfer-eligible (i.e., were initially-issued QS, or have obtained a TEC from NMFS/RAM.

As time goes on, we will periodically update information on the Bulletin Board -- it would be helpful for us to hear from the affected public so that we can insure that the information we are providing is both timely and of some value to users.

SCHEDULES AND TIME FRAMES

We continue to believe that the program implementation is substantially "on track" and do not foresee any major impediments to full implementation next spring.

We are continuing to meet the time-table provided to the Council in September, with the full expectation that QS will be issued to all eligible applicants by the end of January, and the transfer, appeals, and other elements of the program proceeding as scheduled.

CONCLUSION

Thank you for your continued interest in, and support for, the IFQ implementation effort. Please feel free to let us know if you have any questions or comments.

Sincerely,

For Mr. Smith
Philip J. Smith
Chief, Restricted Access
Management Division

cc: Steven Pennoyer
Director, Alaska Region

IFQ opponents consider possibility of appeal

By SUE JEFFREY
Mirror Writer

The Individual Fishery Quota system is still on track for Alaska's 1995 sablefish and halibut fisheries.

Last week a federal judge ruled against the lawsuit that sought to stop implementation of the IFQ program.

Plaintiffs say they may appeal the decision to the Ninth Circuit Court of Appeals.

"The judge made sweeping statements. We're looking at an appeal," said Paul Seaton, a plaintiff in the lawsuit and legal liaison for the Anti-IFQ Alliance.

Seaton said federal district court judge James Singleton set a significant and dangerous precedent by ruling against the lawsuit.

The IFQ system issues quota shares for halibut and sablefish only to those fishermen who owned or leased vessels and fished those species between 1988 and 1990.

The anti-IFQ group says the exclusion of shippers and crew for quota shares is against the Magnuson Act because it is not a fair and equitable distribution of the fisheries among fishermen.

Seaton said the judge dismissed the fair and equitable claim, saying that it was administratively difficult to allocate quota shares to crew.

"That means that an agency can thwart the will of Congress if the agency finds it ad-

ministratively inconvenient to uphold the law," Seaton said.

"Even though Congress told us to allocate fisheries fairly and equitably among fishermen, the judge is saying the Secretary of Commerce does not need to because it is difficult for the agency (National Marine Fisheries Service) to do so," he said.

"That is significant and it is extremely dangerous for the courts to rule that an agency or the secretary can use administrative convenience as a basis for decisions," Seaton said.

The judge also ruled on the allocation of CDOs, Community Development Quotas.

CDOs allocate halibut and sablefish quota shares to Native villages in Western Alaska. Native American Indians enjoy special status under Congress, which allows discrimination in favor of Native Americans, Seaton said.

However, the judge ruled that the Secretary of Commerce does not need to use Indian Law to issue CDOs, Seaton said.

"He said that economic hardship and social disruptions are enough of a basis for allocation programs like CDOs."

"That means coastal communities could go to the council and get CDOs by claiming social disruptions and economic hardship," Seaton said.

The judge also dismissed a property issue point.

Plaintiffs asked whether the federal gov-

ernment would pay individuals for IFQs if it decided to end the quota share system.

Judge Singleton ruled that the government would not be obligated to pay individuals for their shares because IFQs are non-compensable property, Seaton said.

"The judge said that since the federal government is the party issuing IFQs, it can take them away without paying the IFQ owners for them," he said.

Finally, the decision changes the rules on how the federal government pre-empt state fisheries.

Under the Magnuson Act, the federal government can only take over fisheries in state waters in specific instances.

The state must be creating adverse impact on fisheries in federal waters and the majority of those fisheries must be in federal waters, Seaton said.

The IFQ plan manages halibut and black cod fisheries in some state waters, including areas in the Aleutians and off the Kenai Peninsula.

The judge has allowed federal pre-emption of state fisheries even though the state does not create a significant adverse impact on the sablefish and halibut fisheries, Seaton said.

Under the Magnuson Act, the federal government has to go through pre-emption hearings before taking over state fisheries, Seaton said.

The judge's ruling allows a federal takeover without pre-emption hearings, he said.

"Hopefully people realize this ruling could essentially eliminate state control of saltwater fisheries," Seaton said.

"It's just like the Bolt decision."

The Bolt decision allowed the federal government to take over Washington state's salmon fisheries and is now being applied to other Washington fisheries.

Seaton said the basis for the judge's decision remains unclear.

"One thing was questionable at the end—a question of standing."

"The judge said there was a serious question as to whether citizens have a right to raise the federal pre-emption of state fisheries issue or whether the state needs to raise the issue," Seaton said.

Whether he based his decision on the merits of the lawsuit or on the question of standing is unclear, Seaton said.

Alaska's attorney general was not at the hearing to address the question of standing or the pre-emption question so the judge did not receive oral comments from the state, he said.

The state filed a brief stating there is no state conflict on federal management of halibut and sablefish fisheries, Seaton said.

The Anti-IFQ group will get a copy of the transcript and the judge's intentions will become clearer, Seaton said.

12/27/91

programs). The State does not object to these regulations and their enforcement. The State objects to the manner by which the federal defendants' defend the regulations in their brief. The difference may very well be a difference of interpretation. Questions regarding the federal government's eventual interpretation and enforcement of the new regulations must be raised by the State of Alaska.⁸ If the State of Alaska later enacts legislation contrary to these regulations, in waters not specifically excluded from coverage, the issue may then be ripe for review. At such time, the validity of the regulations will not be at issue, but rather only specific sections of the regulations because they are severable. See *Alaska Airlines v. Brock*, 480 U.S. 678, 685 (1987). Accordingly, Plaintiffs fail to convince the Court to set aside the promulgated regulations on grounds that the preemptive hearings were necessary.

⁸ Notwithstanding the Court's position that there exists no controversy, there is also an issue regarding standing. A litigant "must assert his own legal rights and interest, and cannot rest his claim to relief on the legal rights or interests of third parties." *U.S. Dept. of Labor v. Triplett*, 494 U.S. 715, 720 (1990). At this juncture, the State of Alaska is the only party with the right to object; it did not.

Dear Sirs and Madams,

The following is a partial list of the representatives of the people in coastal communities that have passed resolutions either opposing the North Pacific Fisheries Management Council's Individual Fishing Quota (IFQ) plan or calling for a detailed socioeconomic impact study before such a plan is considered. Most are based on the anticipated major detriment to employment and local economies. Many recognize problems with the fishery management but call for use of other management tools before resorting to giving the resource to select private individuals.

City of Homer, Homer, Alaska
Seldovia City Council, Seldovia, Alaska
Seward City Council, Seward, Alaska
City of Kodiak, Kodiak, Alaska
Cordova City Council, Cordova, Alaska
Anchorage Municipal Assembly, Anchorage, Alaska
Sitka City Assembly, Sitka, Alaska
Whittier City Council, Whittier, Alaska
Old Harbor, Alaska
Sand Point, Alaska
Valdez City Council, Valdez, Alaska
Unalaska City Council, Unalaska, Alaska
Yakatat City Council, Yakutat, Alaska
Pelican City Council, Pelican, Alaska
City of Hoonah, Hoonah, Alaska
Sitka Borough
Kodiak Island Borough
Kenai Peninsula Borough
Aleutians East Borough
City of False Pass

The following is a partial list of the Native Associations and Native Corporations that have opposed IFQs or requested detailed Socioeconomic analysis before these IFQ plans are adopted.

Sealaska Corporation
Seldovia Native Corporation
Seldovia Village Tribe

Ounalaska Native Corporation
Wrangell Cooperative Association
Tlinget and Haida Native Association
Alaska Native Brotherhood
Alaska Native Sisterhood
Afognak Native Corporation
Bay View, Inc., (a Native Village Corporation for Ivanoff Bay)
Huna Traditional Tribal Council

The following is a partial list of other governmental and non-governmental forums that have passed resolutions opposing the IFQ plans or calling for more studies prior to IFQ adoption.

1992 Alaska State House of Representatives - unanimous vote
Alaska Municipal League - unanimous vote
Alaska State Chamber of Commerce
Southwest Alaska Municipal Conference (Aleutian Islands and Alaska Peninsula communities)
Seward Chamber of Commerce
Sitka Chamber of Commerce
Sitka Fish and Game Advisory Board
Adak Commercial Fishermen's Association
Tenakee Springs Fish and Game Advisory Board
Rural Alaska Community Action Program, Inc.
Haines Chamber of Commerce
Kodiak Chamber of Commerce
North Pacific Fisheries Protection Association
Southcentral Alaska Longline Enterprises
Kodiak Longline Vessel Owners Association
United Fishermens Marketing Association

If you need a copy of any of the resolutions, you may contact that body or contact the NPFMC in Anchorage as all were submitted as public testimony, or I can furnish you a copy.

Paul K. Seaton
58360 Bruce Drive
Homer, Alaska 99603
Ph. & Fax (907) 235-6342

ALLIANCE AGAINST IFQs FILES APPEAL

On Friday, January 13, 1995, the Alliance Against IFQs filed a Notice of Appeal of a December 20 decision by the United States District Court on the Alliance's challenge to the rule issued by the U.S. Department of Commerce to implement the IFQ plan for halibut and sablefish. The Alliance will ask the Ninth Circuit Court of Appeals to review the District Court's decision on at least four of the issues raised by the Alliance in its court challenge:

1. THE IFQ RULE CANNOT BE UPHELD BECAUSE THE SECRETARY'S CHANGE IN THE PORT CLEARANCE SYSTEM TO ADD BELLINGHAM, WASHINGTON AS A "PRIMARY PORT" WAS UNILATERALLY PROMULGATED BY THE SECRETARY WITHOUT PROPER AUTHORITY.

The Alliance believes the Secretary of Commerce had no power to change the enforcement mechanism for the IFQ plan.

Furthermore, the Alliance believes Judge Singleton misunderstood the change that the Secretary made. The Secretary not only added Bellingham as a "primary port," but, in addition, allowed for clearance in ANY other port, with previous written notice to NMFS.

The Alliance believes this is an important conservation issue. Without effective monitoring and enforcement, there can be no effective fishery management.

2. THE SECRETARY VIOLATED THE MAGNUSON ACT IN FAILING TO HOLD PREEMPTION HEARINGS UNDER 16 U.S.C. § 1856(b) WHEN EXTENDING THE REACH OF THE IFQ PROGRAM INTO STATE WATERS.

The Alliance believes that it has legal standing to present this important issue.

If the rule does NOT conflict with state law, it cannot be applied in state waters. Judge Singleton found no conflict, but stated that the rule would apply in state waters.

If the rule does conflict with state law, NMFS was required to hold a preemption hearing.

3. THE SECRETARY VIOLATED THE MAGNUSON ACT BY NOT ALLOCATING RIGHTS TO PARTICIPATE IN THE FISHERIES TO THOSE WHO DEMONSTRATE PRESENT PARTICIPATION.

67% of the quota share have issued to individuals or businesses that had not fished in the last five years.

4. THE SECRETARY VIOLATED THE MAGNUSON ACT BY ALLOCATING RIGHTS TO PARTICIPATE IN THE FISHERIES TO ONLY VESSEL OWNERS, WITH NO ALLOCATION TO CREW MEMBERS.

Judge Singleton stated that the Secretary had the legal right to allocate rights to participate in the fishery to vessel owners only, because it would be "administratively difficult" to identify crew members. The Alliance disagrees. First we question whether administrative convenience justifies this allocation. Second, the Alliance asserts that crew members easily could have verified their participation in the fishery, through crew licenses, IRS records and affidavits -- the same kinds of records that have been used to support applications filed by vessel owners for QS.

The Alliance is not asking the Ninth Circuit to review other statements it questions in the judge's order. For example, the Alliance questions whether the Council has the authority to use fishery allocation to benefit coastal communities, based on economic hardship alone. It also questions the judge's comment that no one will be able to convince a court that QS are "property," if they are taken away later for any purpose (whether to change the program or to further benefit coastal communities).

The December 1994 ruling by Judge Singleton has implications far beyond the halibut and sablefish IFQ plan. He made several sweeping policy statements. If the ruling stands unchallenged these can fundamentally change the interpretation of the Magnuson Act in Alaska. This ruling could have as broad an implication for Alaska as the 'Bolt decision' had for the inshore fisheries of Washington. The relation of the federal and state governments fundamentally changes whenever federal regulations are enforced in State waters.

The Magnuson Act has precluded the application of federal regulations in state water fisheries, except in the case where action or inaction of the state significantly and adversely impacts the ability of the Secretary to manage the federal fishery. Only if this fact is established at an adjudatory hearing and only if the majority of the fishery occurs in federal waters can the required official Secretarial finding be issued and federal preemption occur. Further, as soon as the action or inaction by the state is changed so that the Secretary is no longer significantly impaired in the ability to manage the federal fishery, the Secretary must return management to the state.

Judge Singleton ruled that since the State of Alaska had not identified potential conflicts, the Secretary had to do NOTHING before making federal regulations applicable in state waters. (It must be noted that in the State's amicus brief an objection to defacto preemption of State waters management was raised.)

By this ruling the judge has given federal fisheries managers the basis to interpret the Magnuson Act so that federal regulations can be applied to Alaskan waters if no significant conflict exists. The federal government can already preempt state management if significant conflict exists. Thus, federal regulation can cover any circumstance. The salt water commercial fisheries are effectively subject to federal regulation unless the feds decide to limit the scope of any particular regulation.

The judge questioned standing for citizens of the State to raise the preemption issue. He also discussed the merits of the claim and discussed substantive issues with plaintiffs' attorney, then asked if there was anyone present to represent the State (none in attendance) before deciding to maintain his tentative ruling against the plaintiffs. We believe he ruled on the basis of the merits of the issues rather than standing. Judge Singleton made statements that should be of grave concern to the State and all residents. After all, fish and game management was one of the prime motivations for statehood.

Submitted by Paul Seaton

Amy: 4956 - there is also a Senate Version
SJR 38.

CSHJR 61(RES)

2/7/92

Referred: Labor & Commerce

Sponsor(s): REPRESENTATIVES DAVIDSON, Navarre, Jacko, Mackie,
Kubina, Brown, Ivan, Zawacki, Hudson
BY THE HOUSE RESOURCES COMMITTEE

Opposing Individual Fishery Quota management systems for the
Alaska halibut and sablefish fisheries and other Alaska
fisheries.

BE IT RESOLVED BY THE LEGISLATURE OF THE STATE OF ALASKA:

WHEREAS the Alaska commercial fishing industry merges an
established system of biological management of fishery resources,
a social foundation for Alaska coastal communities, and unique
and productive livelihoods for many thousands of Alaskans; and

WHEREAS International Pacific Halibut Commission and North
Pacific Fishery Management Council (NPFMC) studies show that the
Alaska halibut and sablefish resources are generally in a
biologically healthy condition under the current open access
management system; and

WHEREAS the NPFMC has identified problems in the halibut and
sablefish fisheries without developing a comprehensive option
based on the flexible management actions available under the open
access management system that may address those problems, such as
gear restrictions, tank inspections, flexible time frames for
fishery openings to accommodate weather, et cetera; and

WHEREAS the NPFMC is seeking to implement an Individual
Fishery Quota (IFQ) management system in the Alaska halibut and
sablefish fisheries; and

WHEREAS an IFQ management system will initially allocate
shares consisting of a percentage of the annual total allowable
catch of a fishery resource to individual fishermen; and

WHEREAS implementation of an IFQ management system will
instantly create permanent, exclusive, and salable access rights
to the halibut and sablefish fishery resources of the North
Pacific Ocean; and

WHEREAS the value of quota shares as salable property will
make an IFQ management system irreversible; and

WHEREAS an IFQ management system will, through attrition,
eventually concentrate ownership of the right to harvest the
fishery resource into the hands of those with the greatest wealth
and financial advantages; and

WHEREAS the implementation of IFQ management systems will

create a privileged class of fishermen based on their fortuitous involvement in the fishing industry during a particular period of time and will seriously inhibit those fishermen who wish to enter those fisheries in the future; and

WHEREAS an IFQ management system will seriously inhibit the ability of fishermen to diversify among fisheries as resource and market conditions fluctuate and will therefore hinder the ability of fishermen to operate stable and successful fishing businesses; and

WHEREAS the NPFMC has not given adequate consideration to or realistically estimated the practical enforcement costs, strategies, or funding sources required to ensure effective at-sea and shoreside fishery conservation measures to prevent illegal fishing, highgrading, false reporting, black marketing, et cetera of fish caught under an IFQ management system; and

WHEREAS the NPFMC has not given sufficient consideration to the economic and social effects that IFQ management systems will have on Alaskans and Alaska coastal communities; and

WHEREAS testimony given to the NPFMC on IFQ management systems by individual fishermen, industry, municipalities, and organizations overwhelmingly opposed such management systems; and

WHEREAS while problems exist under the open access management system, it has provided for proven, effective, and cost-efficient administration and enforcement of resource conservation efforts, while allowing fishermen and the fishing industry the flexibility to diversify among existing fisheries and to develop new fisheries as conditions and markets change; and

WHEREAS implementation of IFQ management systems in any Alaska fishery will result in serious, compound, negative effects for individual fishermen, the Alaska commercial fishing industry, Alaska coastal communities with a fishing-based economy, and the overall economy of the state; BE IT RESOLVED that the Alaska State Legislature respectfully requests the Secretary of Commerce to direct the North Pacific Fishery Management Council to contract for extensive independent socio-economic impact studies of any management system for the Alaska fishing industry and to seriously consider the full scope of such a system before considering any allocative management measure for any fishery; and be it

FURTHER RESOLVED that the Alaska State Legislature respectfully requests the North Pacific Fishery Management Council to aggressively seek and carefully consider public comment from all segments of the commercial fishing industry in

JUN-26-73 100 11:42 REG. CLERK

order to develop an equitable, comprehensive management plan for the Alaska halibut and sablefish fisheries utilizing the flexible management tools available under the current open access management system; and be it

FURTHER RESOLVED that the Alaska State Legislature respectfully requests the Secretary of Commerce, the Administrator of the National Oceanic and Atmospheric Administration, and the Director of the Office of Management and Budget to disapprove any Individual Fishery Quota management system that the North Pacific Fishery Management Council recommends for the Alaska halibut and sablefish fisheries, or any other Alaska fishery.

COPIES of this resolution shall be sent to the Honorable Barbara Franklin, Secretary of the U.S. Department of Commerce; the Honorable John A. Knauss, Administrator, National Oceanic and Atmospheric Administration; the Honorable Richard G. Darman, Director of the Office of Management and Budget; the Honorable Richard Lauber, Chair of the North Pacific Fishery Management Council; and to the Honorable Ted Stevens and the Honorable Frank Murkowski, U.S. Senators, and the Honorable Don Young, U.S. Representative, members of the Alaska delegation in Congress.

ALASKA

REVIEW OF SOCIAL AND ECONOMIC CONDITIONS

UNIVERSITY OF ALASKA ANCHORAGE, INSTITUTE OF SOCIAL AND ECONOMIC RESEARCH

NOVEMBER 1994, VOL. XXIX, NO. 2

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.

FIGURE 2. PERCENTAGE OF HALIBUT CAPTAINS WHO EXPECT TO RECEIVE IFQs

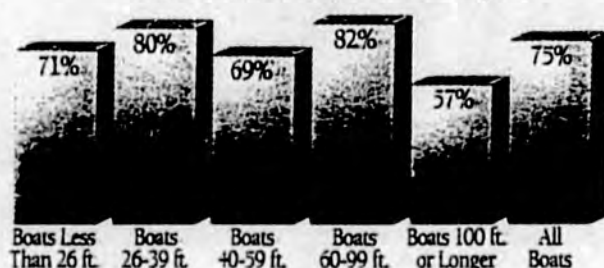


FIGURE 3. BOAT CAPTAINS' PREFERENCES AND EXPECTATIONS

What Management Option Would You Prefer?



FIGURE 4. AVERAGE HALIBUT EX-VESSEL PRICE, ALASKA AND BRITISH COLUMBIA



Sources: Alaska Department of Fish and Game; British Columbia, Ministry of Agriculture, Fisheries and Food. 1994 prices estimated.

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.

How Do You Expect IFQs to Affect Your Finances?

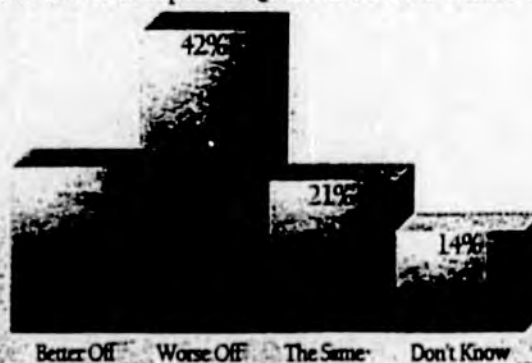
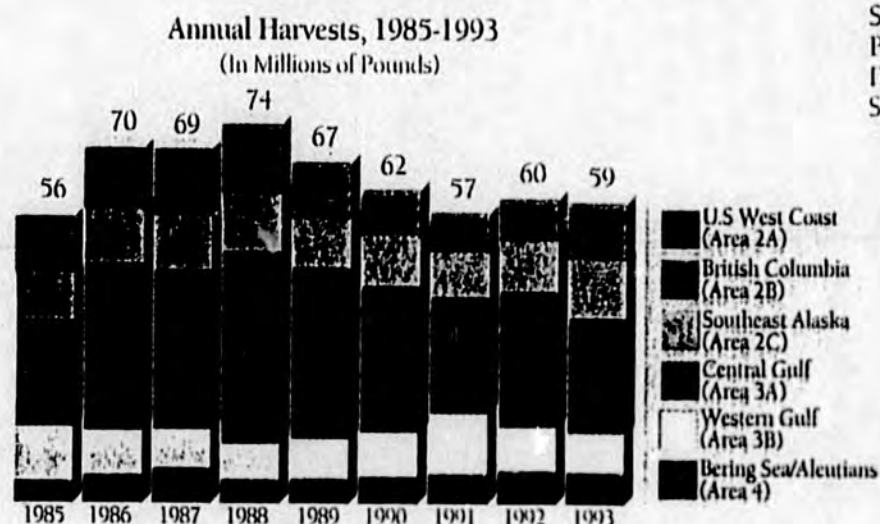


FIGURE 5. PACIFIC HALIBUT IN THE 1990s

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.



Source: International Pacific Halibut Commission

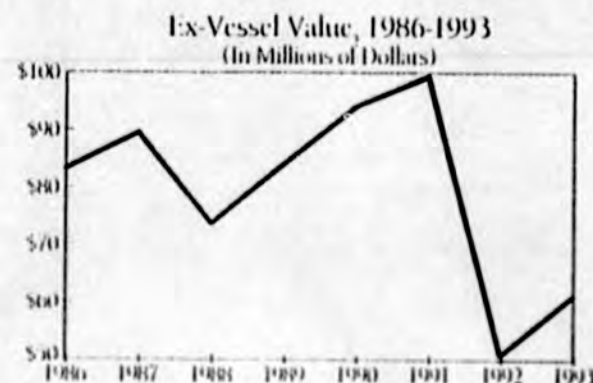
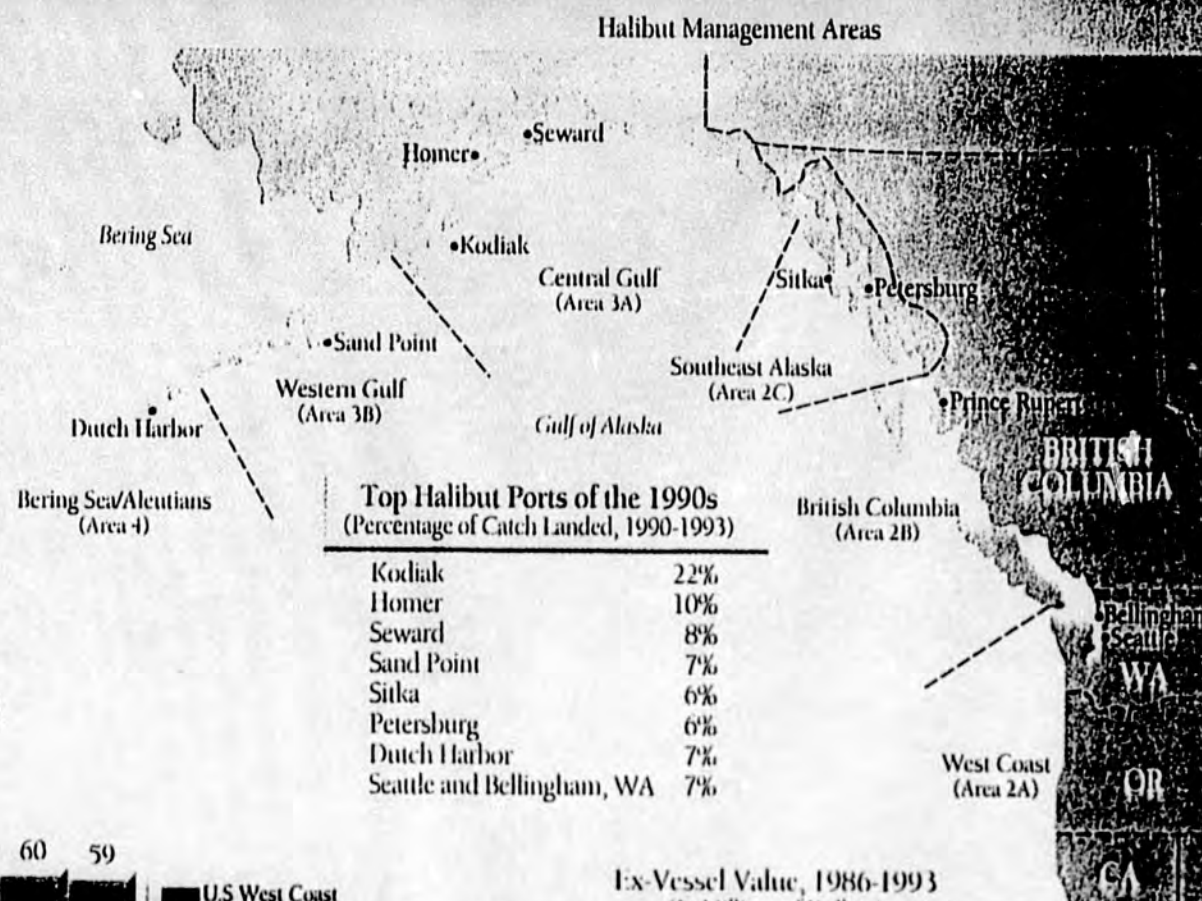
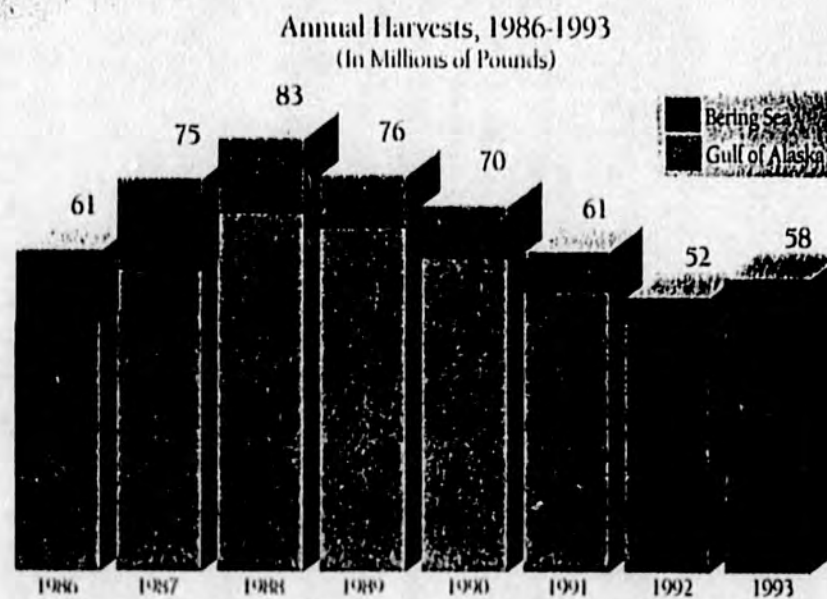
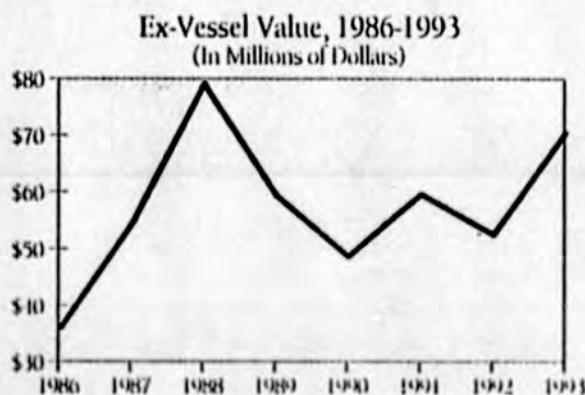


FIGURE 6. ALASKA SABLEFISH IN THE 1990s

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

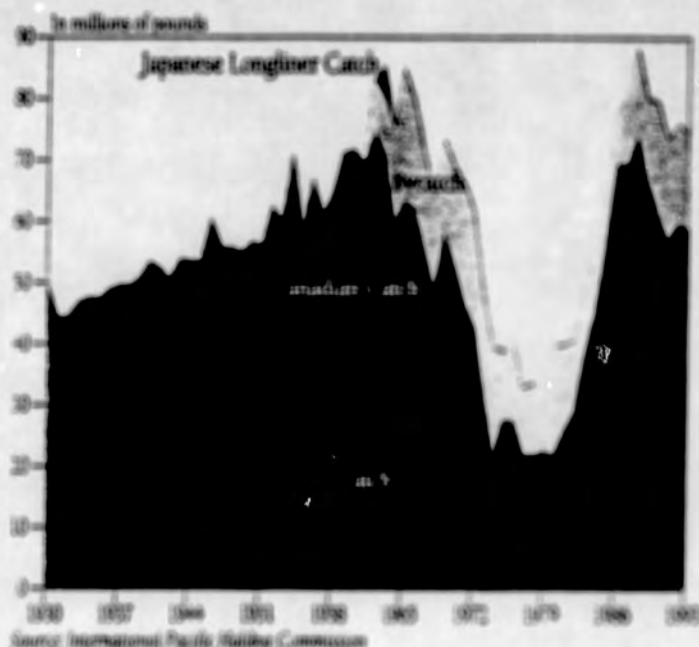
THE PACIFIC HALIBUT FISHERY CRASH, 1930

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.

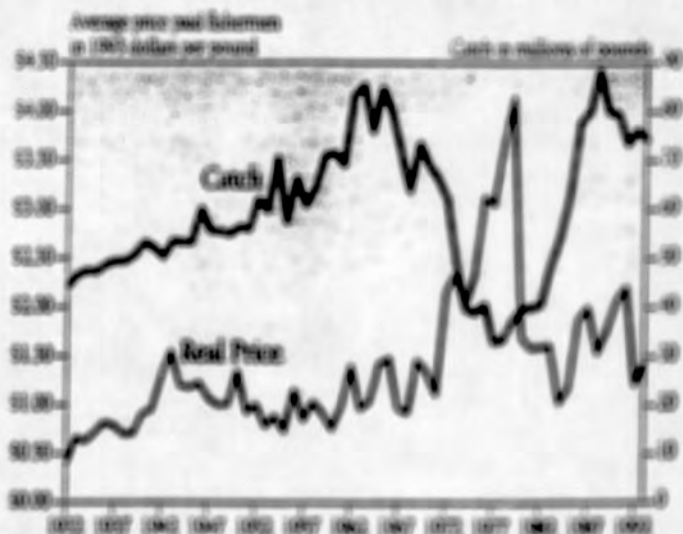
These prices are an average of real (adjusted for inflation) prices paid U.S. and Canadian fishermen. Prices more than doubled as the depression of the 1930s ended, but after that stayed within a fairly narrow range until the 1970s. Then the crash in halibut stocks quadrupled prices. Those very high 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



Note: Catch includes bycatch. Price is average of price paid U.S. and Canadian fishermen.

Many 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 Region)



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 1983 the halibut commission stopped reporting total U.S. fleet size. ISEER 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 250 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 250. 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 losing their quotas to others rather than fishing.

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 1983, 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 1983 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 1983—so between 1983 and 1993 both the number and the percentage share of small boats dropped.

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

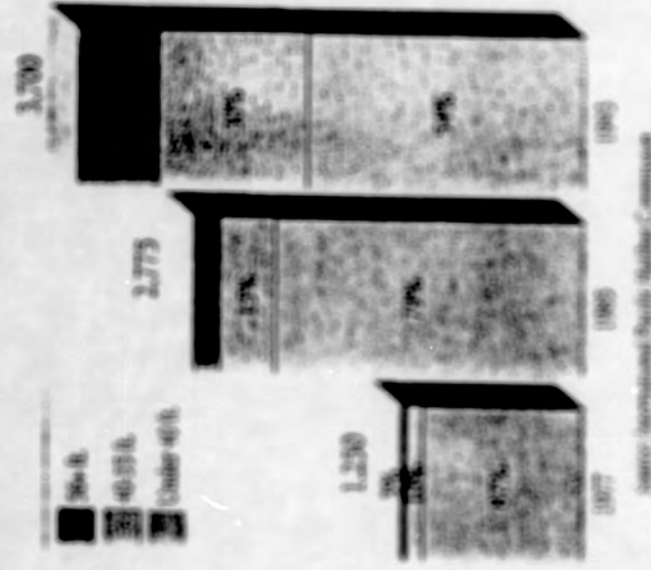
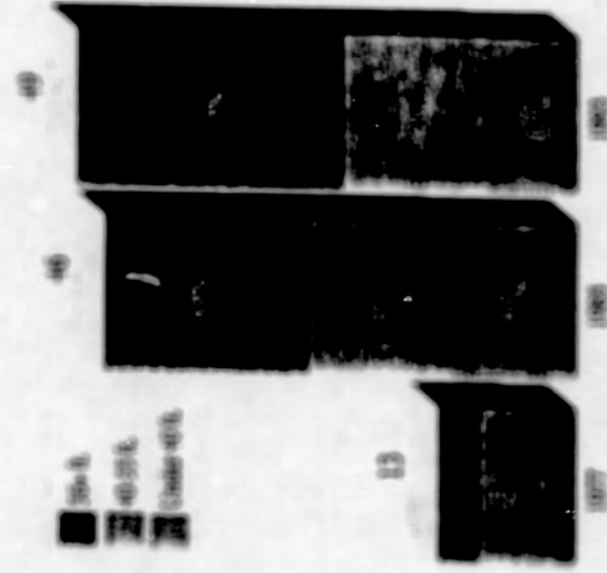


FIGURE 12. U.S. HALIBUT CATCH BY SIZE OF VESSEL
(IN MILLIONS OF POUNDS)



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 1983, 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.

Note: Composition of halibut fleet and catch by vessel size are estimated for 1977 and 1983 (and 1985 by International Pacific Halibut Commission reported vessel size by year and after 1985 by year). We converted size in feet based on vessel length and length information from 1983 vessel license. The 1993 fleet composition is an 1992 estimate, based on adjusted FHC figures.

Source: International Pacific Halibut Commission

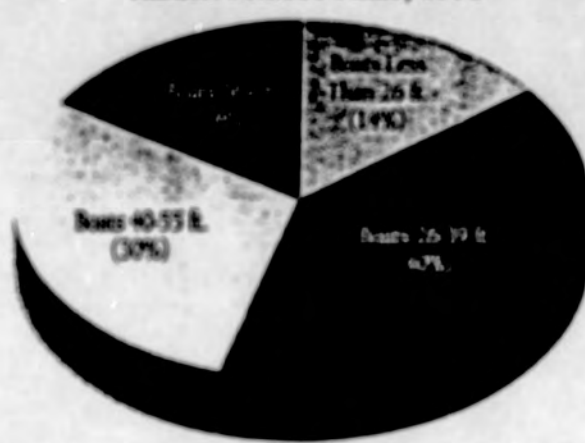
THE ALASKA HALIBUT FLEET TODAY

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.

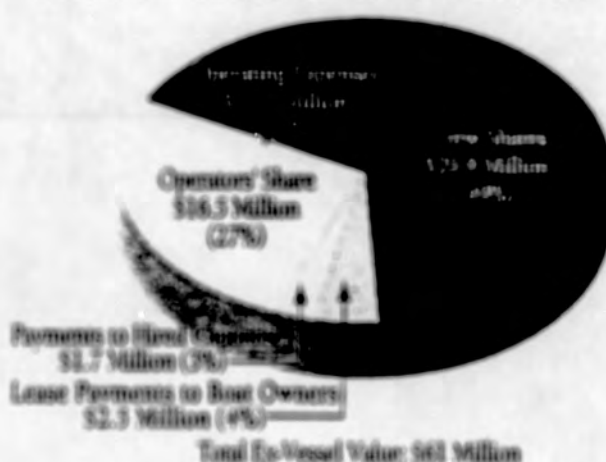
FIGURE 13. ESTIMATED COMPOSITION OF ALASKA HALIBUT FLEET, 1993*



Total Estimated Boats: 3,457

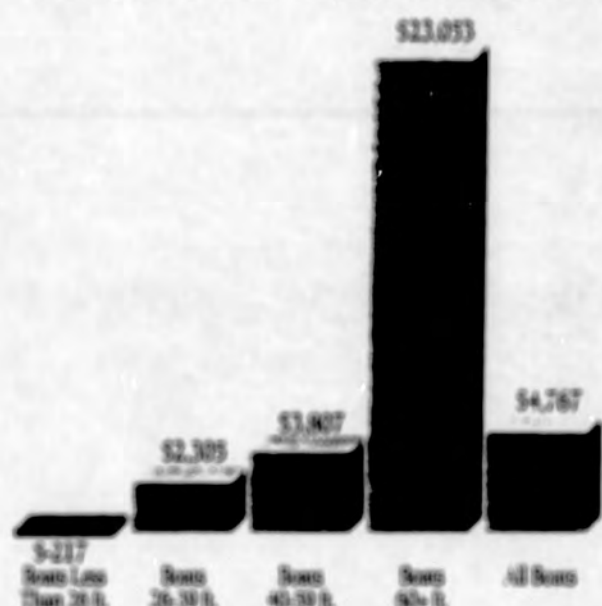
*Based on the International Pacific Halibut Commission's 1993 count of boats by region. We used ISER 1993 survey results to estimate fleet size.

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 operator's 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.

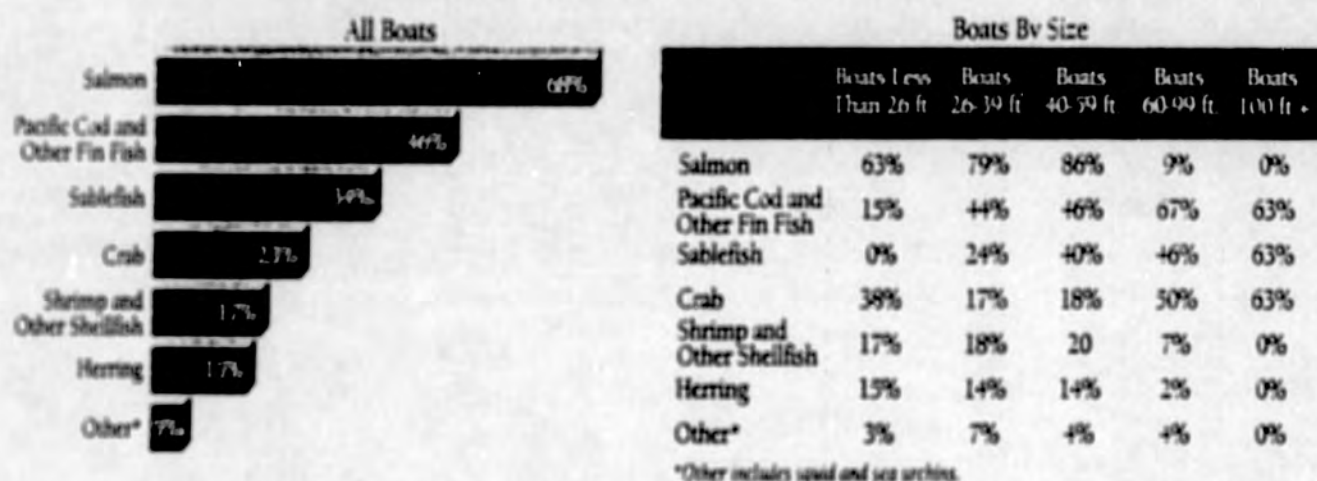
THE ALASKA HALIBUT FLEET TODAY

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)

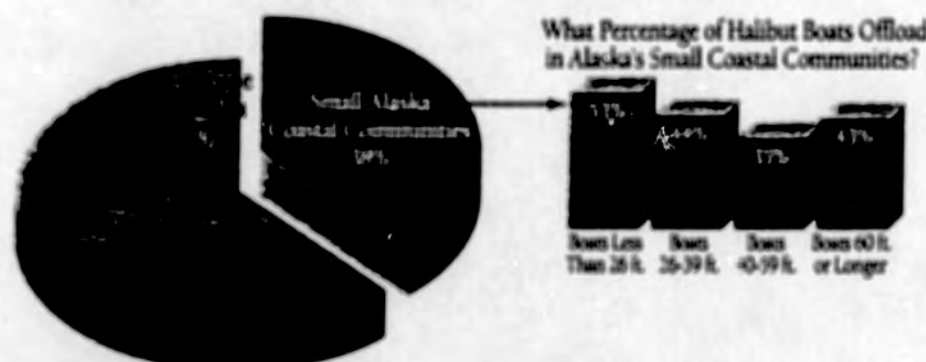


In 1993 more than half of halibut landings were made in Alaska's larger coastal communities, and close to 40 percent were made at ports in small coastal towns. About 5 percent of landings were made outside Alaska, mostly in Seattle or Bellingham. The share of halibut landings made in small coastal places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

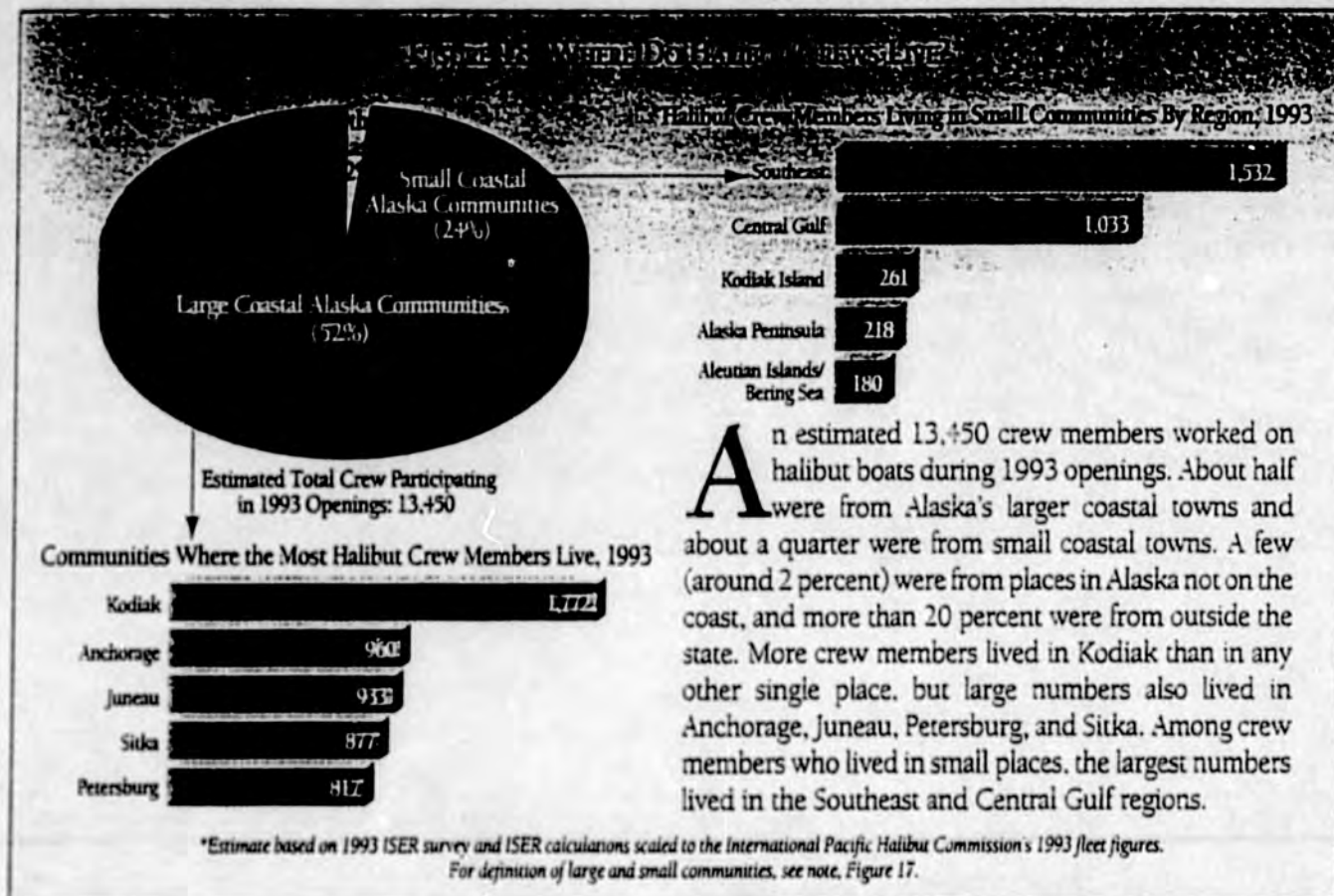
size vessels made about a third of their landings in small places and the smallest boats made more than half. Notice that the share of landings is not the same as the share of the total catch. Most of the catch is delivered to large ports. What we see in Figure 17 is that many landings, but of smaller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



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.

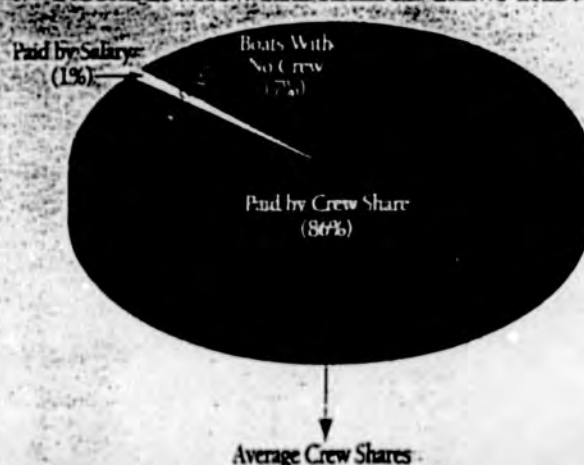
On average 2 to 6 crew members were paid with shares. Shares ranged from 27 percent of the gross on the smallest boats to 9 percent on the largest. Many crew members also paid some operating expenses from their shares.

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
57%	22%	9%			
54%	50%	35%			

FIGURE 19. HOW ARE HALIBUT CREWS PAID?



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.)

FIGURE 20. WHERE DOES ALASKA HALIBUT GO?

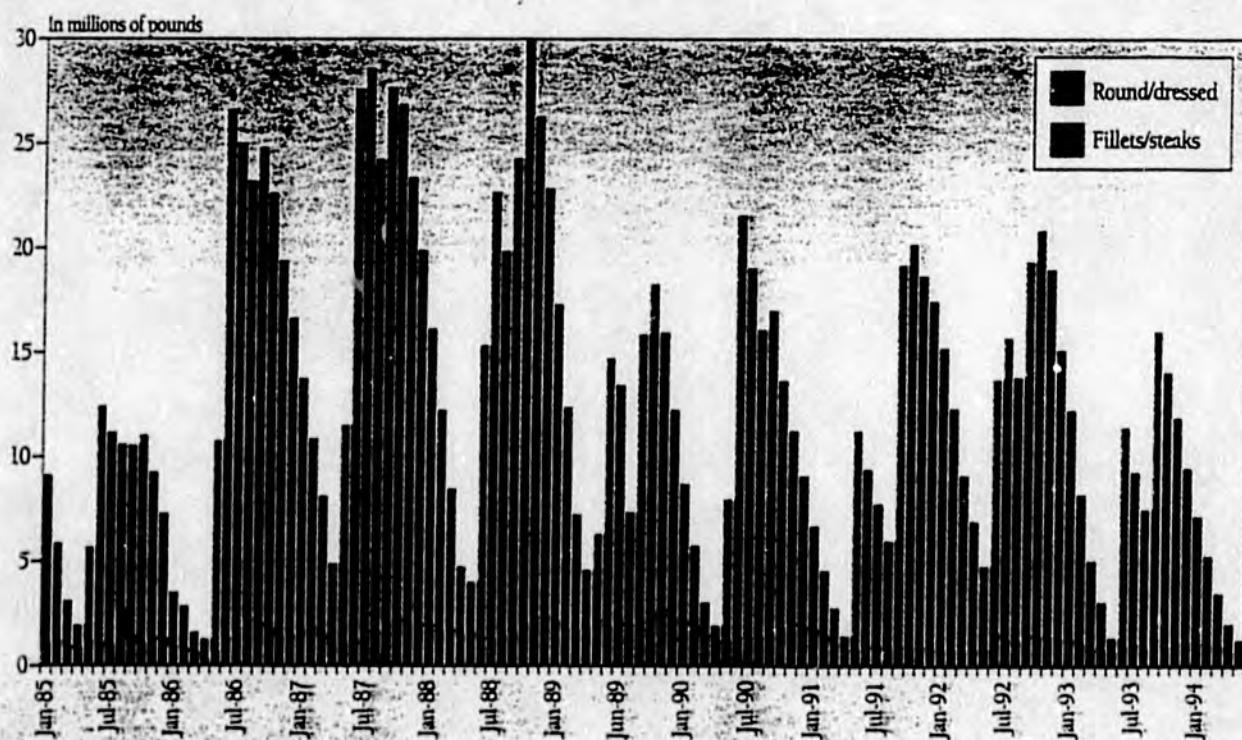


1992 Alaska Harvest: 51 million pounds

*Most recent year for which we have production figures.

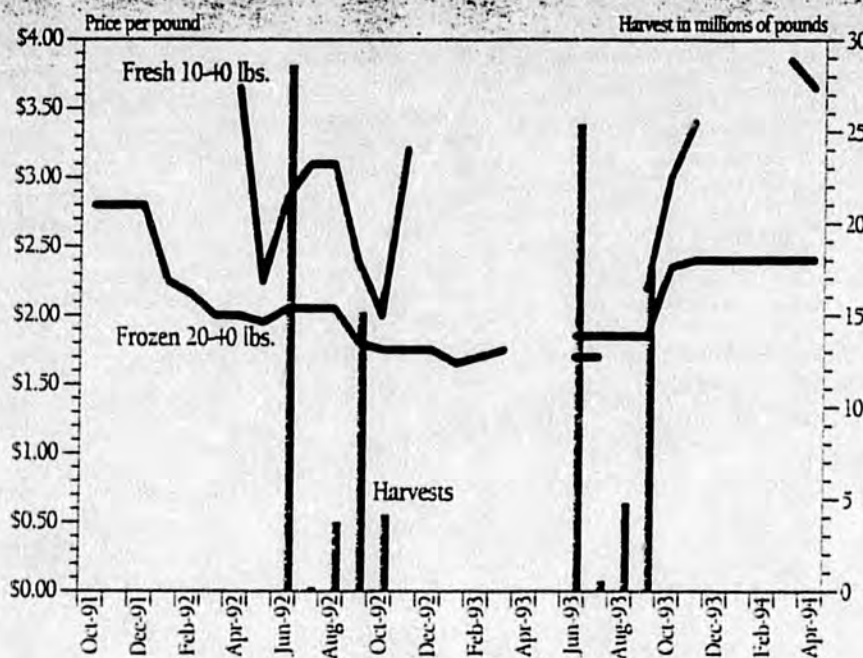
Only a small share—an estimated 10 percent—of Alaska's halibut is eaten fresh; most is frozen because millions of pounds are caught in single-day openings. Figure 21 shows how U.S. holdings of frozen halibut peak right after the brief summer and fall openings and then steadily decline until the next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

FIGURE 21. MONTHLY U.S. HOLDINGS OF FROZEN HALIBUT, 1985-1994



Source: U.S. Department of Commerce Frozen Fishery Products bulletins

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



Sources: Urner Barry Publications Inc., Seafood Price Current; International Pacific Halibut Commission.

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

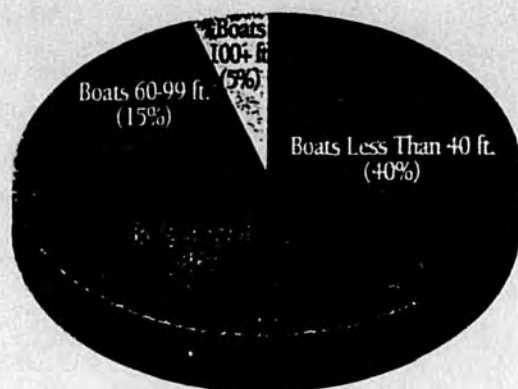


Sources: Alaska Department of Fish and Game; British Columbia; Ministry of Agriculture, Fisheries and Food; 1994 prices estimated.

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.



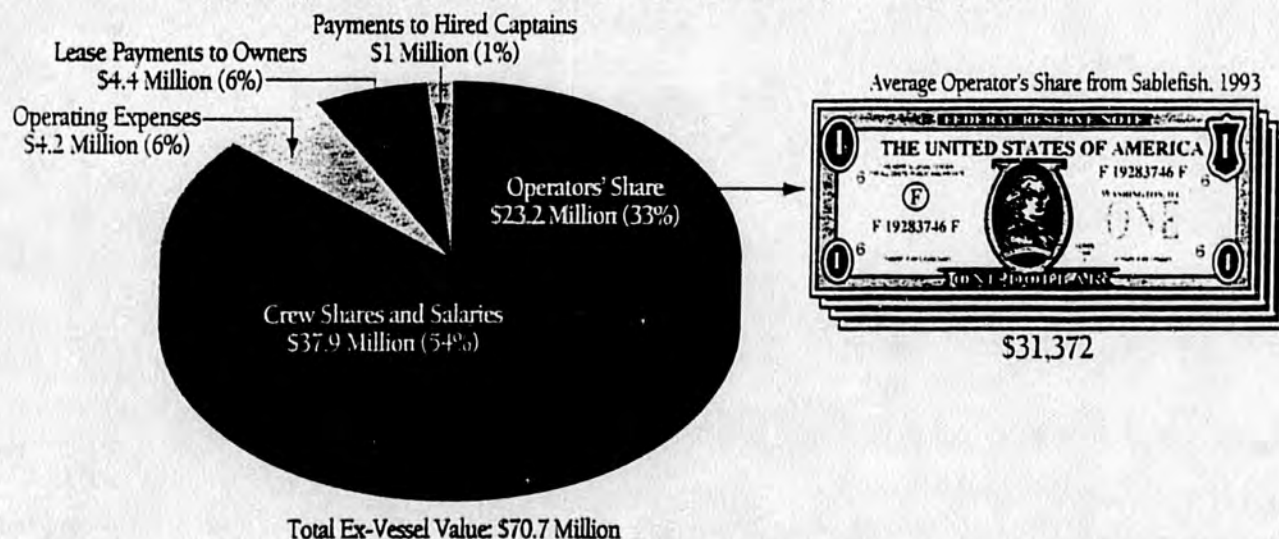
Estimated Number of Boats: 740

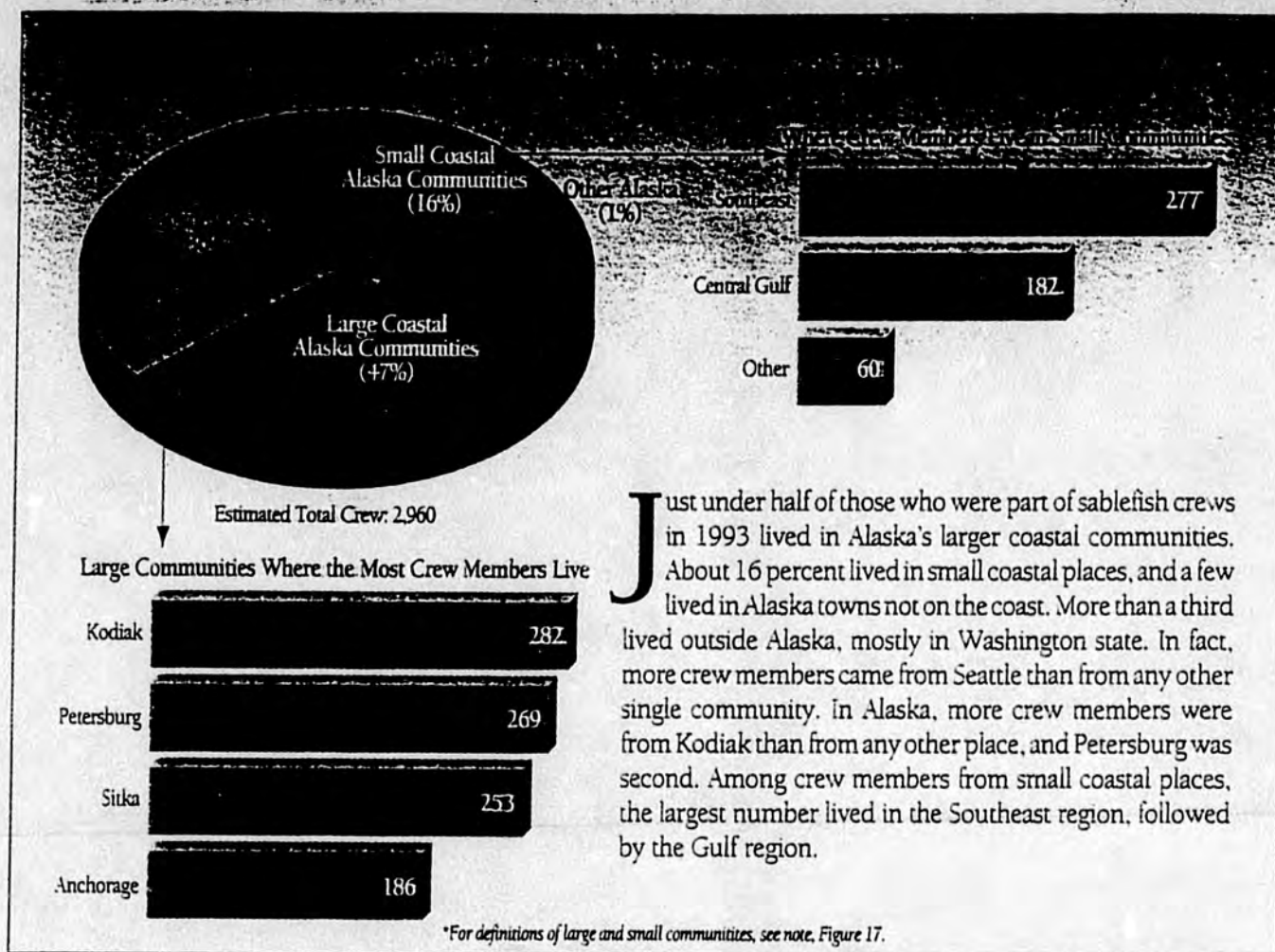
The ex-vessel price of sablefish nearly doubled between 1990 and 1993, and early information shows another sharp increase in 1994. The ex-vessel value of sablefish from Alaska waters was close to \$71 million in 1993. More than half that value went for crew payments. Operating expenses (fuel, bait, gear, and food) took about 6 percent. Payments to hired captains and lease payments captains 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



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



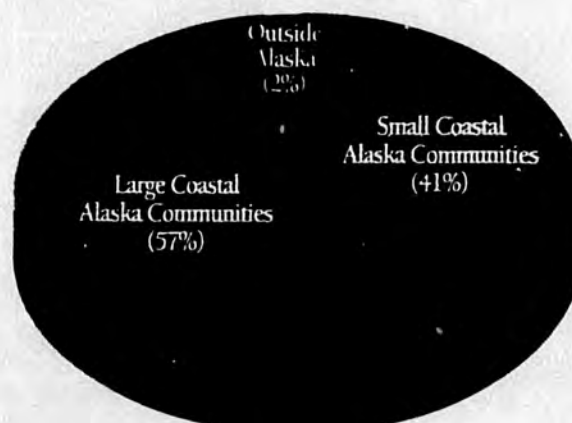


Just under half of those who were part of sablefish crews in 1993 lived in Alaska's larger coastal communities. About 16 percent lived in small coastal places, and a few lived in Alaska towns not on the coast. More than a third lived outside Alaska, mostly in Washington state. In fact, more crew members 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.

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.

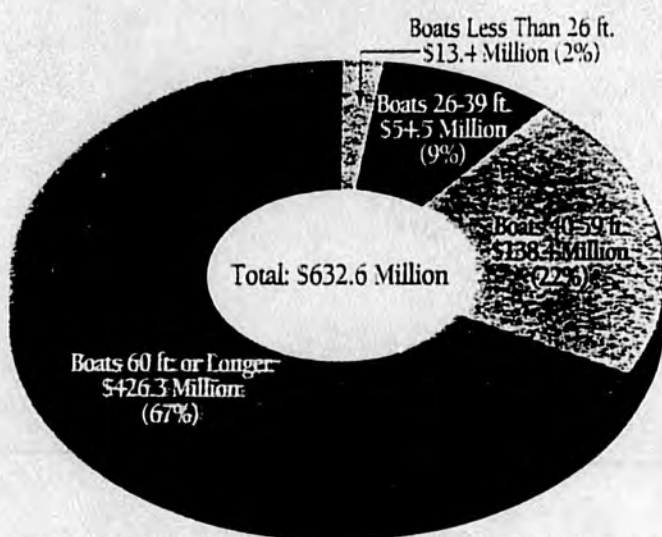
TABLE 2. HOW ARE SABLEFISH CREWS PAID

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

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



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

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

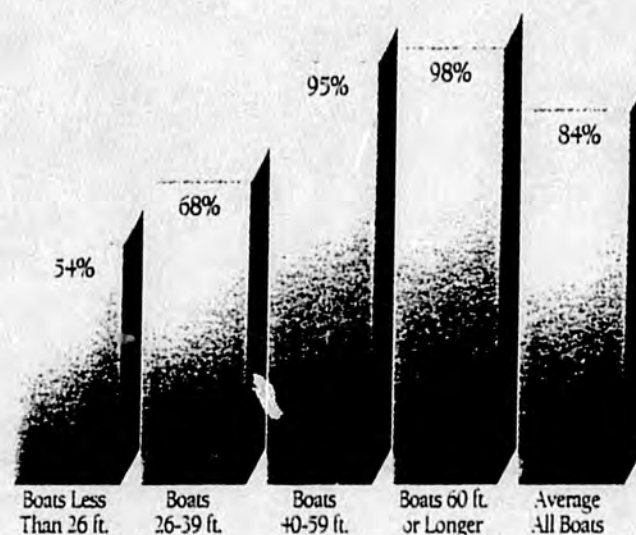
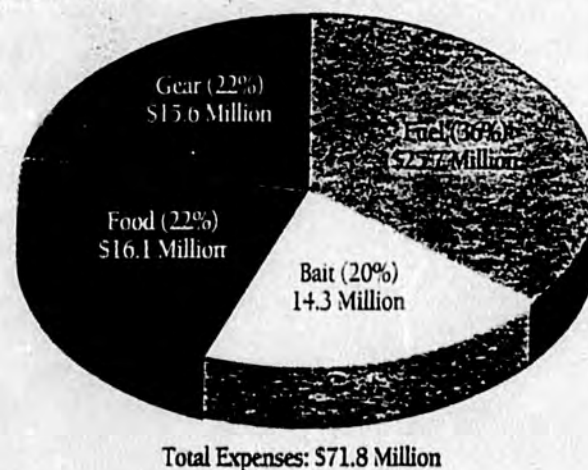


FIGURE 31. OPERATING EXPENSES OF THE HALIBUT AND SABLEFISH FLEETS, 1993*
(IN MILLIONS OF DOLLARS)

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?*

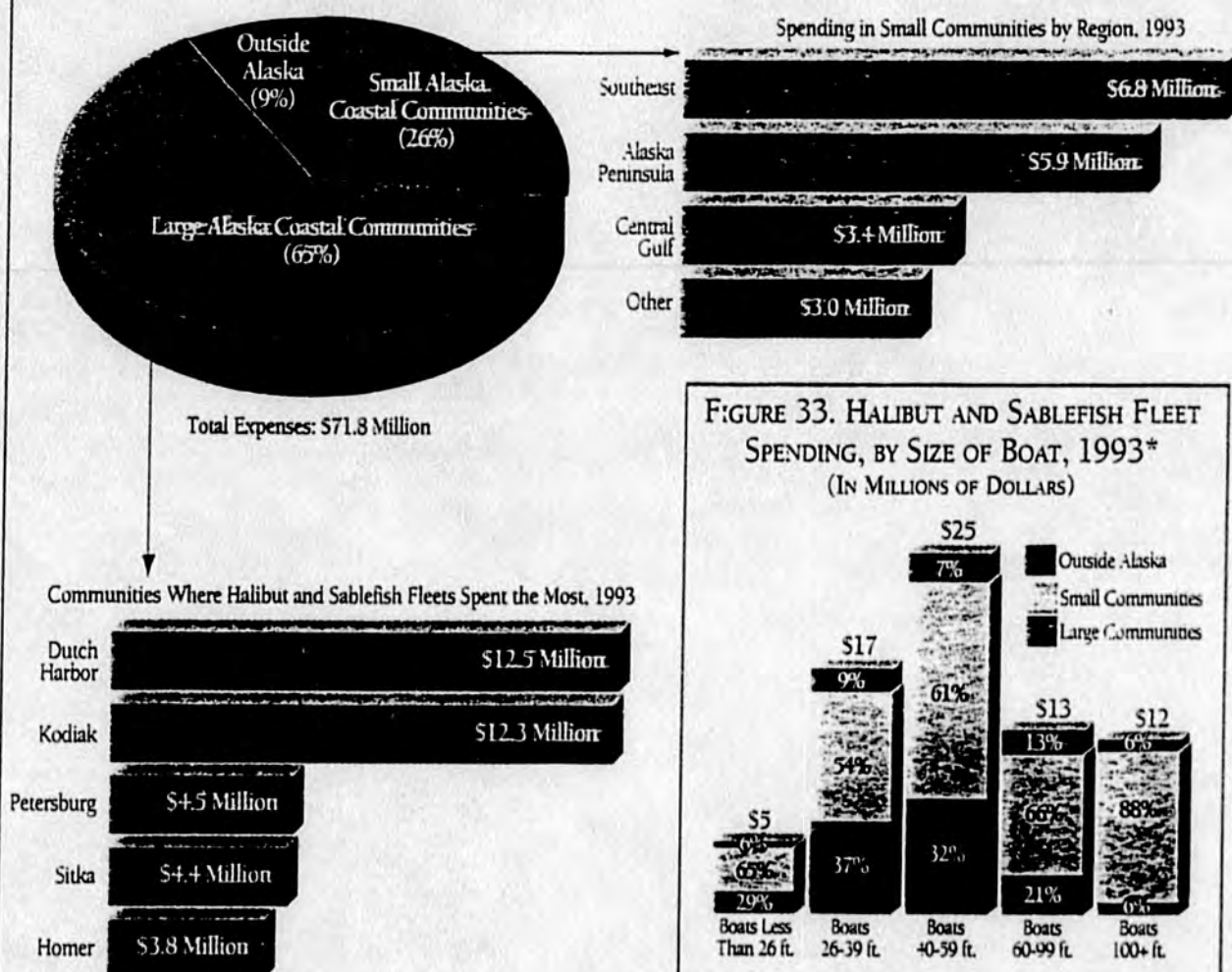
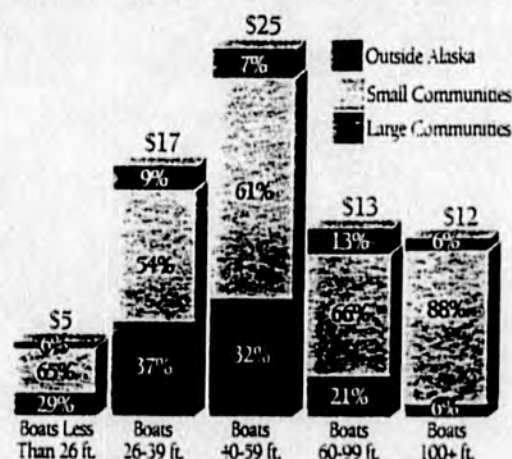


FIGURE 33. HALIBUT AND SABLEFISH FLEET SPENDING, BY SIZE OF BOAT, 1993*
(IN MILLIONS OF DOLLARS)



*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.

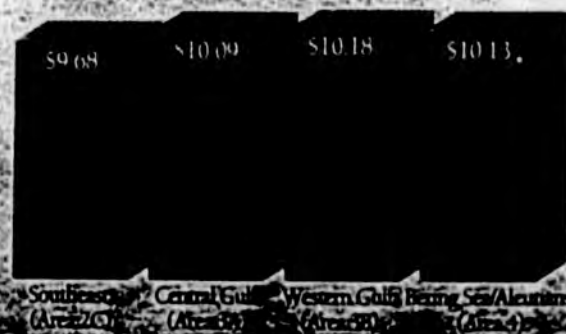
How much fishermen would pay to buy or lease quota, and how much they'd expect when they sold quota, would depend on the current price of halibut. We told our survey respondents to assume halibut was selling for \$2 per pound. That's higher than Alaska prices were in 1993, but it's reasonable to assume 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:

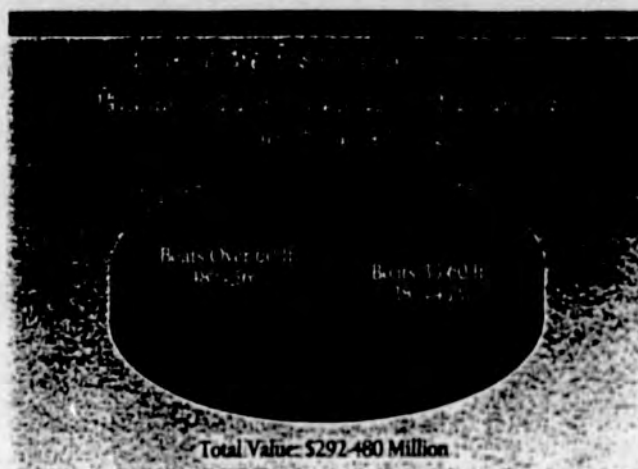
- Fishermen looking for additional quota shares would pay from \$5.59 per pound in Southeast Alaska to \$7.24 per pound in the Western Gulf of Alaska (Figure 34).
- Fishermen selling quota shares would ask similar prices in all regions—from \$9.68 in Southeast Alaska to \$10.18 in the Western Gulf (Figure 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?*



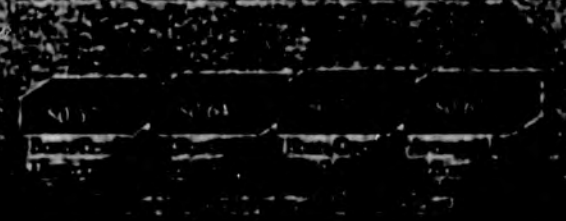


- Boats under 35 feet would get roughly 6 to 8 percent of the total IFQ value, boats 35 to 60 feet would get somewhere around 38 to 45 percent, and boats over 60 feet would get in the range of 48 to 56 percent.
- Few fishermen said they would want to lease any of their quota to others. But many said 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.

FIGURE 37: How Much Would You Pay Per Pound to Lease Additional Quota IFQs?



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 out in the process.

I made \$30,000 in gross and probably \$40,000 in sablefish because of the overcrowded, short openings. Four other boats came right behind me and had your quota of mine.

—Halibut Fisherman

...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?

SALMONSHELL KENNEDY GRANTS PROGRAM

ISER is studying the potential effects of Individual Fishing Quotas (IFQs) under a grant from the Salmonshell 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 Dahlquist designed the publication and prepared the graphics.

The authors thank Gunnar Knapp of ISER for information he provided on halibut markets. We also thank staffs of the Commercial Fisheries Entry Commission, the North Pacific Fisheries Management Council, and the Alaska Fisheries Science Center of the National Marine Fisheries Service. Sandra Barone, Alexandra Hill, Jim Kerr, and Hong Jin Kim of ISER analyzed survey data.

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

Non-Profit Organization
U.S. Postage
PAID
Anchorage, Alaska
Permit No. 107

X V As noted above, a range of numbers of vessels or fishermen could be associated with these estimates of vessel and fisherman days. If each vessel is fully employed in the halibut fishery, there would be 72 to 94 halibut vessels and 376 to 494 halibut fishermen. However, if on average, each vessel spends only 50 days per year in the halibut fishery instead of 200 days, there would be 288 to 376 halibut vessels and 1,504 to 1,976 halibut fishermen. These are in comparison to estimates of 3,796 vessels and 14,721 fishermen without an IFQ program. The redistribution of catch and effort to the most profitable vessel class for each area reduces the required numbers of vessel and fisherman days because landings per vessel day or fisherman day are higher for the most profitable vessel class than for most other vessel classes.

The sablefish model estimated that, at the extreme, an IFQ program in 1989 would have: (1) reduced the number of sablefish vessels from 580 to 47; (2) reduced the number of sablefish fishermen from 2,925 to 256; (3) decreased the number of fishermen days from 83,251 to 58,252; and (4) increased fishermen income per day from \$213 to \$315. As noted above, these estimated reductions in vessels and fishermen are based on the assumption that the vessels and fishermen in the sablefish fishery will be fully employed in that fishery. Therefore, they greatly overstate the actual reductions that will occur with an IFQ program if the sablefish fishery remains one of several fisheries in which most sablefish vessels and fishermen participate. The estimated percentage reduction in fishermen days may provide a better estimate of the expected reduction in fisherman employment.

There are two reasons why the model may under estimate the effect of an IFQ program on employment opportunities in the halibut fishery. First, no adjustment is made in the number of crew members for a vessel class. Currently, there may be additional crewmen, who are only justified by the need to fish more rapidly. Second, a larger percentage of the halibut quota will be taken as bycatch in other hook and line fisheries. The former would result in a decrease in harvesting cost that is not captured by the cost model and, therefore, not included in the cost savings listed above. An estimate of the latter saving is presented in Section 2.2.21.

Each year the halibut fishery provides very brief employment opportunities for a large number of fishing vessels and a larger number of fishermen. It provides longer employment opportunities for a very small number of vessels and fishermen. With an IFQ program, the halibut and sablefish fisheries will tend to provide longer employment opportunities but for fewer vessels and fishermen.

Some have suggested that IFQs would also reduce employment opportunities by increasing the use of automated gear. It is not clear that this would occur. With IFQs there would be a much lower premium on gear handling speed and a higher premium on product quality. These changes would tend to decrease the advantages of automated gear and increase labor intensive activities, such as bleeding, heading and gutting, and icing.

This change will obviously benefit some and impose costs on others. The magnitude of the cost will on average be relatively small due to the large number of fishermen and vessel owners who receive a small part of their annual income from the halibut fishery. It is difficult to determine whether the cost of eliminating a brief employment opportunity for a large number of people is offset by the benefit of providing a smaller number of people a longer employment opportunity. The same holds true for the sablefish fishery, except that, for most vessels and fishermen, the current employment opportunity is much shorter in the halibut fishery.

In considering the employment effects of an IFQ program, it should be remembered, that many fishermen take a break from other fishing or non-fishing activities to participate in the halibut fishery. Therefore, their alternative to participation in the halibut fishery is not unemployment. For others,

The historical dependence of specific communities and regions on the harbor and related fisheries and the potential changes as a result of the proposed IFQ program are discussed more fully in Chapter 3.

By increasing the flexibility fishermen will have in determining fishing and landing strategies, an IFQ program can change the geographic distribution of landings. The concentration of IFQs will tend to move the distribution of landings closer to the harbor grounds but other effects will decrease that concentration. It is not known which will prevail. The point that has been raised heavily on earlier discussions of IFQs is that the distribution of landings will increase the concentration of landings at ports that are comparatively remote from the IFQ program. It is possible that the change in concentration will eliminate some ports as harbors and related landing sites. If harbors and related landings were sufficiently important to a processor as community as such a port, they could secure continued landings by obtaining IFQs or otherwise contracts with those who have IFQs.

2.2.15 Effects of an IFQ Program on the Geographic Distribution of Harbor Landings

The initial distribution of quota shares will have an effect on the ability of individuals to obtain IFQs. Those who are given Qs are made wealthier and more able to control IFQs. Therefore, an IFQ program will increase the wealth and bargaining strength of the initial recipients of the Qs.

As an IFQ program will increase the relative bargaining strength of whoever controls the IFQs. This is because the IFQs will be a required input for landing halibut. If IFQs are easily transferable, a fisherman, vessel owner, or processor could increase his bargaining strength by obtaining an IFQ. The fact that anyone could do this decreases the gain in bargaining strength that an IFQ will provide to any one group.

Processor

2.2.16 Effects of an IFQ Program on the Bargaining Strengths of Fishermen, Vessel Owners, and

Over time, as crewshare agreements are changed to reflect the cost of obtaining IFQs or the opportunity cost of using them, some of the benefits that an IFQ program will provide initially to fishermen will be captured by those who own the IFQs. This adjustment could occur very rapidly.

In addition to providing longer periods of employment for the fishermen who remain in the halibut fishery, an IFQ program will increase their daily earnings. There are two reasons for this. One is the previously mentioned increase in fishing days per total operating days and the resulting increase in landings per operating day. The other is the increase in the vessel price and in the percentages of halibut of landings will increase due to increases both in vessel prices and in the percentages of halibut, and other species removals that are landed.

There will be a transition cost for those whose immediate alternative is unemployment. That cost will be high for an individual who had been heavily dependent on the halibut or related fishery employment opportunity and as a result would have to move or change substantially the way he supports himself and his family.

The alternative is a short period of unemployment. This is also true for the related fishery, but to a lesser extent because typically the related seasons are much longer than the halibut season.

2.2.16 Effects of an IFQ Program on the Stability and Use of a Community's Residential Labor Force

An IFQ program would provide greater flexibility in making use of a community's residential labor force. Landings and processing could be scheduled to make the best use of the residential labor force and decrease the use of transient labor. However, it is not known to what extent an IFQ program would change the use of resident and transient labor forces.

2.2.17 Effects of an IFQ Program on the Ability of Additional Communities to Participate in the Halibut and Sablefish Fisheries

Some rural communities adjacent to the halibut and sablefish resources are not yet participating in these fisheries. The residents of these communities typically lack the expertise and financial backing necessary to invest in large fishing vessels and they also may lack convenient access to processing facilities. The shorter the season the more difficult it is for these communities to attract processors or interest existing processors in the landings. Without local processors, local fishermen are unable to use their smaller fishing vessels for halibut or sablefish fishing. Three possible examples of communities such as this, in regards to the halibut fishery, are Atka, St. George, and St. Paul, all in the BSAI area. These communities have shown interest in longline fisheries and two are expanding harbor facilities. However, they have not participated fully in the halibut or sablefish fishery yet.

Rural coastal community involvement in the halibut fishery, with relatively few exceptions, is not perceived to be a problem at this time. Most of the communities whose residents do not participate are likely to be in areas where the halibut grounds are offshore and out of range of their traditional vessels. These areas are also those with longer seasons so that these residents could have participated in the past if they had been prepared. While they might become interested in the future, the increases in effort from larger vessels is expected to shorten seasons, thereby decreasing the opportunities for new involvement by these communities.

It is important to note that there are many rural Alaska coastal communities that rely heavily on halibut for subsistence purposes. These communities also rely, to some extent, on halibut for income in a commercial sense.

2.2.18 Effects of an IFQ Program on the Economic Stability of the Halibut or Sablefish Fishery and Fishing Communities

On a year to year basis, industry members have no firm idea of whether or not they will be able to secure sufficient product. This is the case in terms of both short and long-term planning. In areas with only a few very short openings, if a vessel breaks down, a fisherman might miss all or a substantial portion of the season. Likewise, increased fishing effort does not allow processors to plan for consistent or orderly processing. The short-term discontinuities make planning difficult. Long-term plans can be made but, unlike some other industries, participants are not guaranteed access to halibut or sablefish. Several towns in southeast Alaska, especially Petersburg, traditionally had longline fleets. These fleets now are partially diversified into other fisheries as a result of short halibut and sablefish seasons. Likewise, with an increase in the number of vessels and stable or decreasing stocks, fishermen who had relied on halibut or sablefish have had to turn to other fisheries in order to maintain their income. In some instances, increased effort or decreased stocks will cause fishermen to leave the fishery or the occupation. As fishermen switch fisheries or occupations their living standards may suffer. This is especially true in communities which offer few alternatives to fishing. In these communities, especially along the Alaskan coast, communities could experience reduced income and population.

FEDERAL FISHERIES CONCERNS

- Resolution of the subsistence issue is the single most important concern for the management of Alaska's fish and wildlife.

IMMEDIATE ACTION: Bring the state into compliance with federal subsistence law.

- Promote community stability by maintaining state resident and community access to Alaska's fisheries. Recognize the importance of the small boat fishery to communities and the state.

IMMEDIATE ACTION:

- Defend state management of fisheries and prepare to make legal responses as necessary to maintain state authority over fisheries, including the Pacific Salmon Treaty issues, Glacier Bay commercial and subsistence fishing, and active involvement in the "Lummi" court case.
- Promote small boat fleet access to fisheries.
- Support the existing Community Development Quota (CDQ) and inshore/offshore allocation programs.
- Establish a state government liaison to the fishing public and federal agencies and panels in order to coordinate efforts to protect Alaskans' access to fisheries.

LONG-TERM ACTION: Make ADF&G information available on a computer bulletin board.

- Maintain an active state presence on the Magnuson Fishery Conservation and Management Act reauthorization and promote provisions which are in Alaska's interest.

IMMEDIATE ACTION:

- Amend current federal law regarding harvest practices in order to make conservation of fish a higher priority than "economic efficiency".
 - Promote environmentally sound fishing practices and discontinue within five years those fisheries resulting in environmentally and economically destructive fishing practices.
 - Reduce bycatch and waste, for example, through a system of escalating fees.
 - Maintain an Alaska majority on the North Pacific Fisheries Management Council.
- Continue and adequately fund the Citizen's Advisory Group process used to develop the state's position on the Endangered Species Act (See public policy paper #35 regarding ESA).

OTHER FISHERIES CONCERNS

- Establish a statewide fisheries resource policy.

IMMEDIATE ACTION: Convene a group to look at statewide fisheries issues, including an Organic Act for the Board of Fisheries, BOF ethics, allocation criteria, waste/bycatch and coastal community stability.

DRAFT January 24, 1993

WHEREAS tens of thousands of Alaskans derive all or part of their income from commercial fishing within Alaskan waters; and

WHEREAS the economic value of commercial fisheries conducted within Alaskan waters is significant to the State of Alaska and is directly related to the health of those fisheries; and

WHEREAS it is the duty of the State of Alaska Department of Fish and Game to plan "all aspects of the state's fisheries for the perpetual use, benefit, and enjoyment of all citizens" of the State of Alaska; and

WHEREAS it is the duty of the Alaska Commercial Fisheries Entry Commission to "promote the conservation and sustained yield management of Alaska's fishery resource and the economic health and stability of commercial fishing in Alaska"; and

WHEREAS if the federal government managed fisheries within State waters, Alaskans could lose an essential right of statehood that will have far reaching consequences for the state's economy and lifestyle; and

WHEREAS recent court decisions have called into question the state's right to manage fisheries within state waters;

BE IT RESOLVED that the Alaska Legislature encourages the Governor to direct the Attorney General to vigorously protect the state's exclusive right to manage fisheries within state waters.



JAN 25 1995

DRAFT -- DRAFT

Am't.....

WHEREAS the local right to manage the fisheries within its territorial waters was a prime motivation for the people to form the State of Alaska;

and WHEREAS local management was specifically incorporated in the Alaska Constitution Art. 8, Sec. 15 - "No exclusive right or special privilege of fishery shall be created or authorized in the natural waters of the State";

and WHEREAS creeping federalism on many fronts is eroding that basic tenet of Statehood;

and WHEREAS the North Pacific Fisheries Management Council and the Secretary of

Commerce have adopted a special harvest privilege management plan known as Individual

Fishing Quotas (IFQ) for the federal Exclusive Economic Zone (3 to 200 mile EEZ) off Alaska;

and WHEREAS the Magnuson Act specifically states that "....nothing in this Act shall be construed as extending or diminishing the jurisdiction or authority of any State within its boundaries."

and WHEREAS extension of federal regulations into State waters is allowed only for statutorily specified conditions established at a public preemption hearing and after issuance of a Secretarial Finding;

and WHEREAS the IFQ regulations allocate 100% of the Total Allowable Catch (TAC) of salmon in the federal EEZ and the State waters to this IFQ special harvest privilege, effectively preempting local state fisheries management;

and WHEREAS this IFQ plan extends the applicability of those federal regulations into State waters;

and WHEREAS the US District Court in The Alliance Against IFQs vs. Sec. of Commerce ruled that this federal extension was allowable without hearing or finding if the State identified no objection;

and WHEREAS this ruling if applied to other fisheries could allow extension of federal management regulations into any saltwater commercial fisheries of the State;

and WHEREAS the US District Court ruled that only the State of Alaska has standing to raise the preemption issue;

and WHEREAS the State has filed an amicus brief on this point, but was not represented in the case;

WHEREFORE BE IT RESOLVED that the House of Representatives of the Alaska Legislature the Governor of Alaska to vigorously protest the State's exclusive right to manage the fisheries within State waters;

BE IT FURTHER RESOLVED that the House of Representatives of the Alaska Legislature requests the Governor to have the State present at the Court of Appeals in the above case 'standing' as the preemption of the State's fishery management authority can be overturned.

SCOMM

95:5

Alaska

SEAFOOD INDUSTRY

If Alaska were an independent country, it would rank among the top ten world seafood producers - ahead of Canada, Norway, Iceland and other famous fishing nations. The more than 5 billion pounds of seafood harvested off Alaska represents more than half of all seafood harvested in the United States. The total value of Alaska seafood production is more than \$3 billion. Direct exports of Alaska seafood total more than \$1.5 billion.

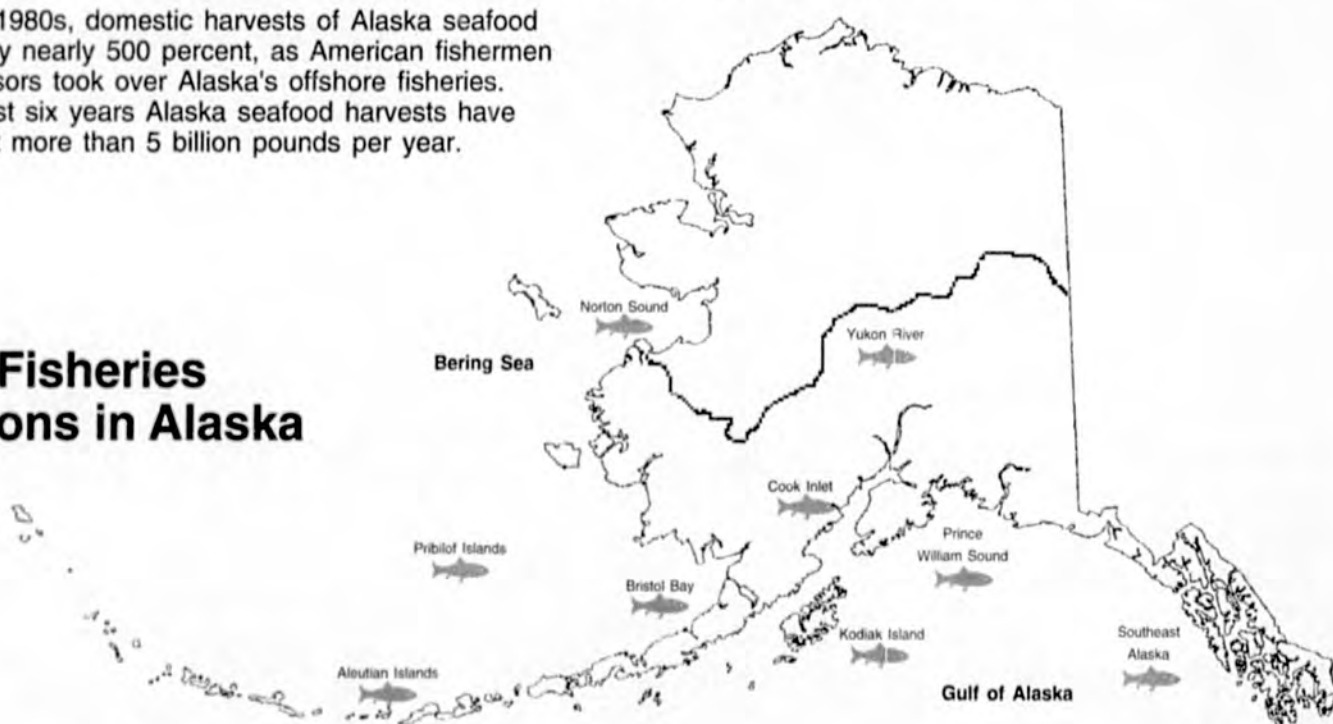
The seafood industry is vitally important to the Alaska economy. It is Alaska's largest private-sector employer. More than 35 thousand Alaskans work in fish harvesting or processing. More than one-fifth of Alaska employment is attributable to the Alaska seafood industry, directly or indirectly. Paying more than \$87 million in taxes and fees in FY 1993, the seafood industry is second only to the oil industry in its contributions to state government.

During the 1980s, domestic harvests of Alaska seafood increased by nearly 500 percent, as American fishermen and processors took over Alaska's offshore fisheries. Over the last six years Alaska seafood harvests have stabilized at more than 5 billion pounds per year.

Unlike many of the world's fisheries, Alaska's fisheries resources are healthy. Neither over-harvesting nor environmental problems are major threats to Alaska's fisheries. Recent international agreements will help to control harvests of Alaskan fish on the high seas.

But despite healthy resources, the Alaska seafood industry faces troubled times in the 1990s, the combined result of changing markets and overcapitalization. Increasing competition coupled with recessions in major markets has led to sharp price drops for many species. In many fisheries, chronic excess capacity -- more vessels than are needed to catch the fish -- has led to plans to limit access to many fisheries. As it adapts to lower prices and new management regimes, profound and lasting changes in the harvesting, processing and marketing sectors will likely transform the Alaska seafood industry in the 1990s.

Major Fisheries Locations in Alaska



Produced by the Division of Economic Development

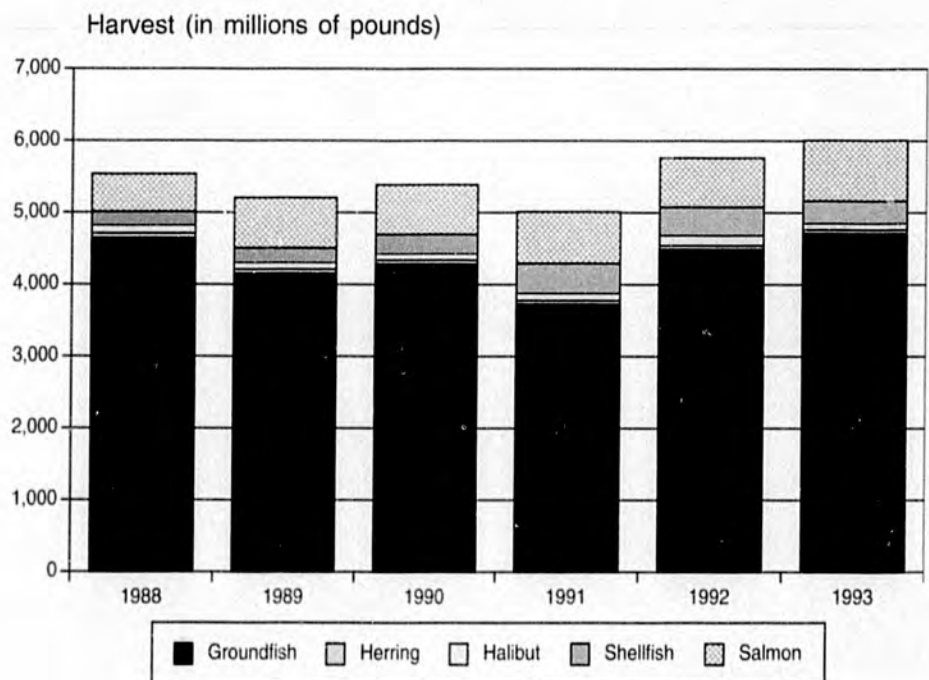
Commercial Harvests

Five types of salmon (chinook, coho, sockeye, pink, and chum) are harvested commercially in Alaska waters. Tanner, king, and dungeness crab make up most of the shellfish harvest, but shrimp and other shellfish also contribute. Herring are harvested for roe (eggs), food, and bait. Pacific halibut from Alaska waters makes up most of the world's halibut supply.

Many kinds of groundfish are harvested in the waters off Alaska, but the most common species groups are Alaska pollock, Pacific cod, flatfish, rockfish, and sablefish. At the beginning of the decade foreign trawlers took 98 percent of the groundfish catch in Alaska's offshore fisheries. But because of the preference to domestic processors written into the federal Magnuson Fishery Conservation and Management Act of 1976, the foreign fishery was phased out.

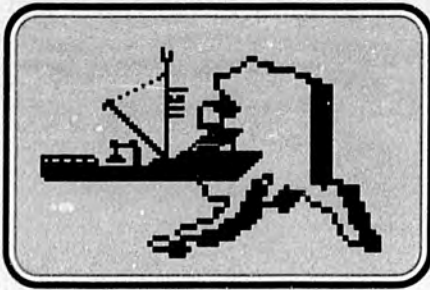
Harvests off Alaska by American vessels soared 500 percent between 1980 and 1988, increasing from 1 billion pounds to more than 5 billion pounds. Tremendous growth in the domestic groundfish catch accounted for most of the increase, as American fishermen and processors took over the offshore fisheries from foreign fleets. Since 1988, total harvests have stabilized, although there are significant fluctuations in the annual harvests of some species, particularly crab. The salmon harvest set records in 1991 and again in 1993.

Seafood Harvests 1988 - 1993



This chart shows total harvests in millions of pounds. Harvests are the total weight of seafood delivered by fishermen. The 1993 data are preliminary.

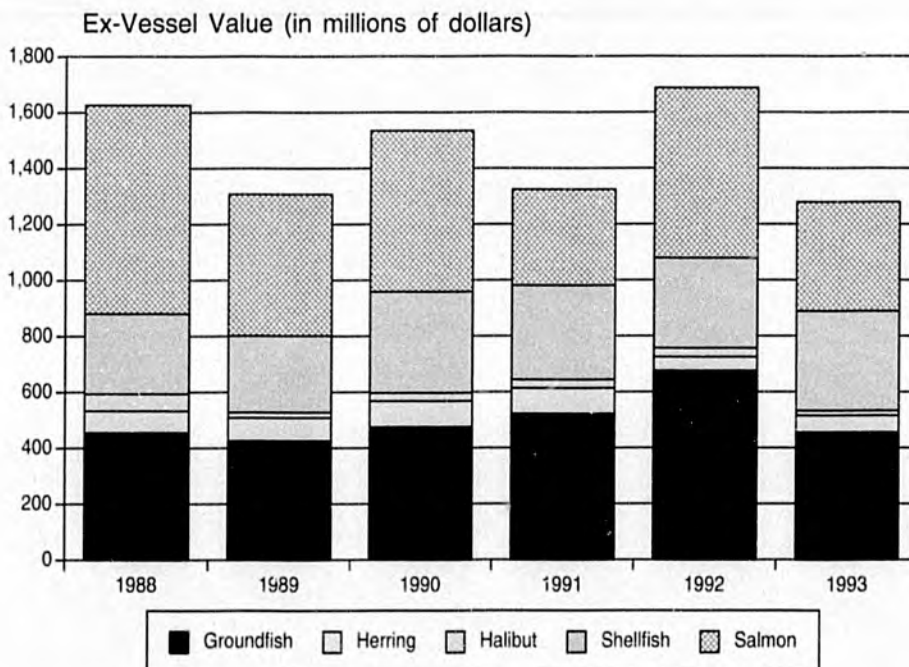
Harvests and Ex-Vessel Value



Commercial fishermen use a variety of vessels and gear types to harvest Alaska seafood and are regulated by several agencies under different management systems. The Alaska Department of Fish and Game manages the salmon, crab, and herring fisheries. The North Pacific Fishery Management Council manages groundfish off Alaska. The International Pacific Halibut

Commission (a joint treaty organization of the U.S. and Canada) determines harvest quotas for halibut, while the North Pacific Fishery Management Council manages how halibut is harvested.

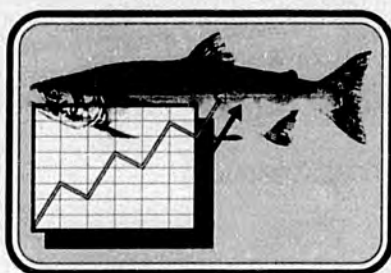
Ex-Vessel Value 1988 - 1993



This chart shows ex-vessel value in millions of dollars. Ex-vessel value is the total money processors pay fishermen for fish they deliver. The 1993 data are preliminary.

Fluctuating harvests and prices cause wide changes in what fishermen are paid for their catches from year to year. The value of Alaska harvests more than doubled between 1981 and 1988, as groundfish harvests grew rapidly and the price of salmon rose sharply. Salmon brought fishermen more money than any other species in the 1980s. But as the size of the groundfish harvests grew ever larger and salmon prices dropped in the late 1980s, the ex-vessel value of groundfish moved closer to that of salmon and surpassed it in 1991. Sharply lower prices for both salmon and groundfish in 1993 caused the total catch value to fall by 25 percent, even though the total catch volume rose by 4 percent.

Production and Wholesale Value



Alaska's seafood harvests are processed into a myriad of wholesale products in a variety of ways — from simple operations such as freezing the fish to high-technology operations that create products like surimi, a paste made from the whitefish flesh. Multiple products, such as pollock fillets and fish meal, may also be produced from a single fish.

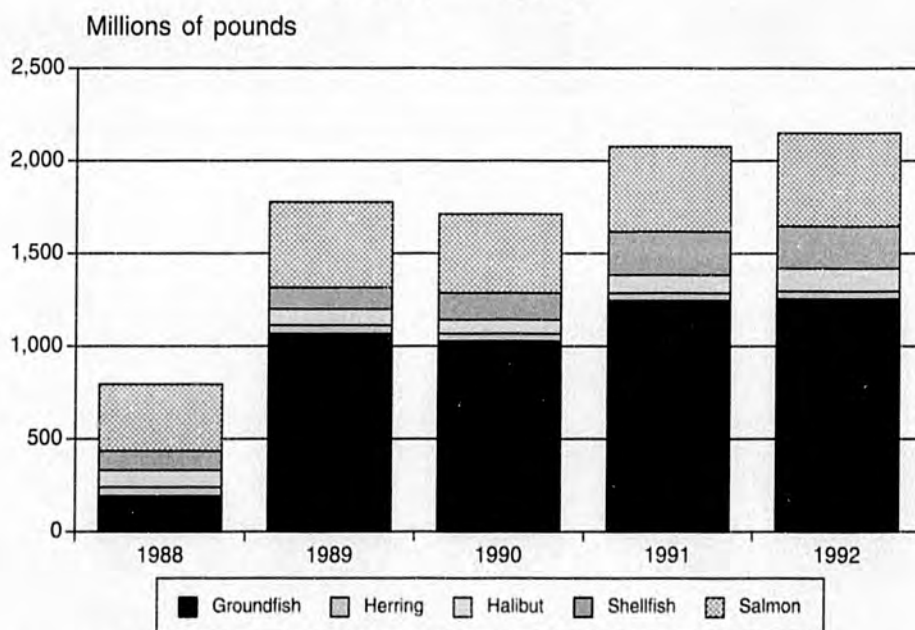
The percentage of total weight remaining after processing is known as the yield. Yields vary in different processing operations. For example, a heading and gutting operation may have a 75 to 80 percent yield, while surimi operations typically have yields in the 15 to 20 percent range.

In the groundfish and crab fisheries some processing is done offshore on vessels which also harvest (catcher/processors) or which take delivery from catcher vessels (mothership/processors). Otherwise, processing occurs at shoreside plants in Alaska, and to a certain extent, in the Pacific Northwest.

The groundfish catch is split between offshore processors (which employ mostly nonresidents) and onshore plants in Alaska (which create more local jobs). Groundfish allocation has become controversial in recent years. The North Pacific Fishery Management Council in 1992 for the first time specifically allocated portions of future groundfish catches to onshore and offshore processors. Part of the groundfish catch was allocated to western Alaska villages as Community Development Quotas to promote rural economic development and participation in the fishing industry.

Groundfish led growth in production. Increasing sixfold in six years, groundfish production jumped from about 22 million pounds in 1984 to 1.2 billion pounds in 1990 where it has remained fairly constant. Groundfish production has become so large that even with much lower processing yields, the resulting production outweighs salmon production.

Total Production of Seafood Industry 1988 - 1992



This chart indicates production in millions of pounds. Production is the weight of the processed seafood product and does not include the unused portions of the fish or crab.

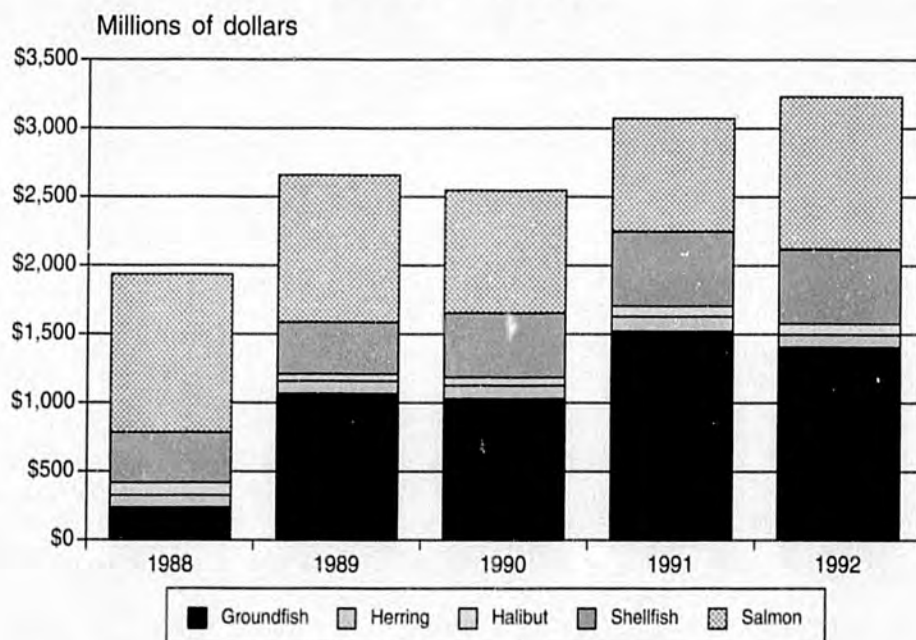
Alaska's Role in U.S. and World Seafood Markets

Alaska's seafood harvests would have ranked ninth among the world's fishing nations in 1992. Alaska's 1992 harvest was more than five times as large and more than four times as valuable as any other state. In most years, Alaska waters provide more than 80 percent of world harvests of Pacific halibut and tanner crab, more than 70 percent of sockeye salmon, and well over one-quarter of world harvests of pink salmon, coho salmon, king crab, Dungeness crab, Pacific cod and sablefish.

Direct exports of Alaska seafood totaled more than \$1.9 billion in 1992, including \$433 million of salmon, \$432 million of surimi and fishsticks, \$383 million of shellfish and \$241 million of roe. Almost 90 percent of direct Alaska seafood exports went to Japan, which imported more than \$1.7 billion of Alaska seafood in 1992. Alaska's second most important direct export market is Korea, which imported \$111 million of Alaska seafood in 1992. Total exports of Alaska seafood are far higher than direct exports because a large portion of the harvest is shipped to other states prior to export. For example, in 1992 U.S. exports of salmon -- almost all of which was harvested in Alaska -- totaled \$840 million, or almost double the value of the salmon exported directly from Alaska.

Japan buys most Alaska exports of fresh and frozen salmon, herring, and crab. The United Kingdom, Canada and Australia provide the biggest export markets for canned salmon. Historically, most groundfish from Alaska waters and other areas of the North Pacific was processed as surimi and exported to Japan. But recently U.S. and European markets for Alaska groundfish blocks and fillets have developed.

Wholesale Value of Seafood Production 1988 - 1992



The wholesale value of Alaska production tripled during the 1980s and continued to grow in the early 1990s. But lower prices will likely lower total wholesale value in 1993 and 1994.

This chart indicates the wholesale value in millions of dollars. Wholesale value is the money paid to the seafood processors.

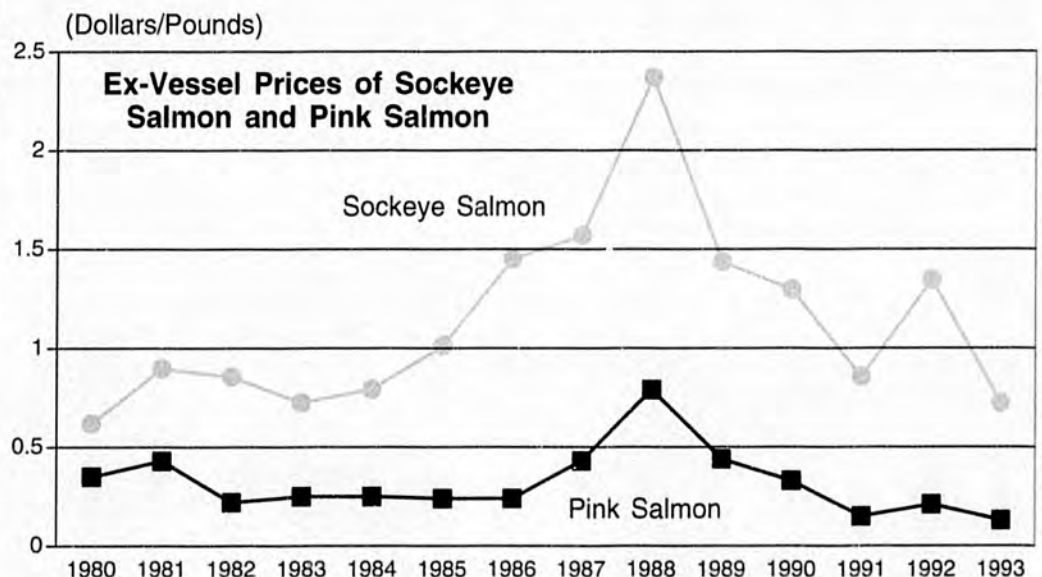
Alaska Seafood Industry in the 1990s

Unlike many of the world's fisheries, Alaska's fish stocks are healthy, but the Alaska seafood industry faces major market and management challenges. Profound and lasting changes in the harvesting, processing and marketing sectors will likely transform the Alaska seafood industry in the 1990s.

Growing supplies of farmed salmon and other factors have depressed prices of Alaska's wild salmon. Foreign-produced, farmed salmon is being substituted for wild salmon in Alaska's domestic and export markets. A recession in Japan has further contributed to a sharp drop in the prices paid by Japanese importers for sockeye salmon. Pink salmon markets have been hit hard by successive years of high harvests and declining per capita consumption of canned salmon. New product forms, increased emphasis on quality, and expanded industry-funded domestic marketing should help to stabilize salmon markets, but low prices will hurt both fishermen and processors, and could change many of the players in the industry.

Alaska's halibut and sablefish fisheries face dramatic changes with the introduction in 1995 of an Individual Fishing Quota (IFQ) management system. Fishermen's harvests of these species will be limited to the amount of quota that they hold. Initially, quota will be distributed to fishermen based on their past harvests, and it may then be bought and sold. The IFQ management system will likely lead to smaller fleets and longer seasons, changing the character of these fisheries and those who benefit from them.

The groundfish and crab industry also face dramatic management changes to address severe problems of overcapitalization which have eroded the profitability of these fisheries. The U.S. Department of Commerce has approved a moratorium on further entry of vessels into these fisheries, and is investigating methods of limiting access through limited entry or individual quotas. Limiting access will change the fleet structure, the timing of harvests, and the type of products which are produced. Debate will likely continue over the allocation of groundfish harvests which began in 1992 when federal fish managers approved a plan that allocated 35% of the groundfish to onshore processors and 65% to at-sea processors. Debate will also continue over the Community Development Quota (CDQ) program, which began in 1992 to allocate a portion of the groundfish harvest to communities in western Alaska to promote economic development and local participation in fisheries. Unless reauthorized, both the onshore/offshore and CDQ allocation programs are scheduled to sunset December 1995.



This shows the average statewide ex-vessel prices received by sockeye salmon and pink salmon fishermen. The 1993 prices are preliminary.

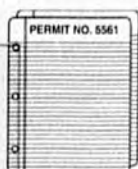
The Seafood Industry in Alaska's Economy

The seafood industry is vitally important to Alaska's economy. It is Alaska's largest private-sector employer. More than 35 thousand Alaskans work in fish harvesting or processing, accounting for one-sixth of Alaska employment and payroll. Including jobs in support sectors such as transportation, more than one-fifth of Alaska employment is attributable to the seafood industry. The seafood industry is particularly important for coastal communities, where fish harvesting and fish processing are often the only significant private-sector activities, and fisheries taxes are the most important source of local government revenues. But thousands of residents of Alaska's largest cities also fish part of the year, or work in industries which provide support services to the seafood industry.

Alaska's seafood industry pays its own way. The seafood industry contributed more than \$87 million to state revenues in FY93, including \$42 million in fisheries business taxes. State operating expenditures to support fisheries management, enforcement, and other seafood-related activities totaled \$85 million. The seafood industry is second only to the oil industry in its contributions to state government.

Number of fishing permit holders and crew, 1989

Alaska residents	35,017
Nonresidents	15,621
Total	50,638



Approximate annual average fishing employment, 1991

Salmon	7,900
Groundfish	3,000
Shellfish	2,300
Halibut	1,100
Herring	800



Seafood processing employment, 1992

Peak monthly employment (July) ..	20,431
Annual average employment	11,245



Limited entry permits held by residents, 1992

Anchorage	780
Juneau	472
Petersburg	448
Kodiak	440
Sitka	421
Homer	365
Ketchikan	358
Kenai	229
Fairbanks	110
Other Communities	3,912
Total	9,535



Landings at selected ports, 1992 (million pounds)

Dutch Harbor/Unalaska	736
Kodiak	274
Peterburg	81
Ketchikan	70
Kenai	70
Sitka	32
Cordova	30
Seward	24
Naknek	19
Homer	18



DEPARTMENT OF COMMERCE AND
ECONOMIC DEVELOPMENT

DIVISION OF ECONOMIC DEVELOPMENT

**ALASKA DEPARTMENT OF
COMMERCE AND ECONOMIC
DEVELOPMENT**

Division of Economic Development

P.O. Box 110804-0804
Juneau, Alaska 99811-0804
Phone: (907) 465-2017
Fax: (907) 465-3767

*For: Resource development
promotion, information and
distribution of publications*

Division of Investments

P.O. Box 34159
Juneau, AK 99803-4159
Phone: (907) 465-2510
Fax: (907) 465-2103
Toll Free within Alaska
1-800-478-5626

*For: Commercial fishing loans to
Alaska residents*

**Alaska Seafood Marketing
Institute**

1111 West 8th Avenue, Suite 100
Juneau, Alaska 99801-1895
Phone: (907) 465-5560
Fax: (907) 465-5572

*For: Alaska seafood promotional
materials*

**OFFICE OF INTERNATIONAL
TRADE**

Headquarters

Yamakatsu Bldg., 5th Floor
1-40, 4 chome
Toranomon
Minato-ku, Tokyo 105
Japan
Phone: 81-33-436-5285
Fax: 81-33-436-5039

Alaska Office

3601 C Street, Suite 798,
Anchorage, Alaska 99503
Phone: (907) 561-5585
Fax: (907) 561-4577

*For: Marketing and export
information on Japan, Canada,
Russia, Korea, Taiwan and
other countries*

**ALASKA DEPARTMENT OF
FISH AND GAME**

Division of Commercial Fisheries

P.O. Box 25526
Juneau, Alaska 99802-5526
Phone: (907) 465-4210
Fax: (907) 465-2604

*For: Fish tickets, intent to operate
forms, and management
regulations, harvest projections
and harvest data for salmon,
herring and shellfish*

**Commercial Fisheries Entry
Commission**

8800 Glacier Avenue, Suite 109
Juneau, AK 99801
Phone: (907) 789-6160
Fax: (907) 789-6170
Licensing Phone: (907) 789-6150

*For: Fisheries limitation and
moratoria information, Alaska
limited entry and interim-use
permits, vessel licenses
(Alaska), permit transfers, and
fish ticket data*

Alaska Board of Fish

P.O. Box 25526
Juneau, Alaska 99802
Phone: (907) 465-4110
Fax: (907) 465-6094

For: State fisheries management

UNIVERSITY OF ALASKA

**Institute of Social and Economic
Research**

3211 Providence Drive
Anchorage, Alaska 99508
Phone: (907) 786-7710
Fax: (907) 786-7739

*For: Seafood industry economic
statistics, salmon market
information*

**Alaska Center for International
Business**

3211 Providence Drive
Anchorage, Alaska 99508
Phone: (907) 786-4300
Fax: (907) 786-4319

For: International market statistics

**Fisheries Industrial Technology
Center**

900 Trident Way
Kodiak, Alaska 99615
Phone: (907) 486-1500
Fax: (907) 486-1540

For: Food technology research

Marine Advisory Program

2221 E. Northern Lights Blvd.
Suite 110
Anchorage, Alaska 99508-4140
Phone: (907) 274-9691
Fax: (907) 277-5242

*For: Safety information, marketing
tips and fish statistics*

U.S. DEPARTMENT OF COMMERCE

International Trade Administration

4201 Tudor Centre Drive, Ste. 319
Anchorage, Alaska 99508-5916
Phone: (907) 271-6237
Fax: (907) 271-6242

For: Worldwide trade leads

**National Oceanic and
Atmospheric Association**

National Marine Fisheries Service

Alaska Regional Office
P.O. Box 21668
Juneau, Alaska 99802
Phone: (907) 586-7229
Fax: (907) 586-7131

*For: Groundfish allocations,
harvest and management
regulations*

**North Pacific Fishery
Management Council**

P.O. Box 103136
Anchorage, Alaska 99510
Phone: (907) 271-2809
Fax: (907) 271-2817

For: Federal fisheries management

**Alaska Fisheries Development
Foundation**

508 West Second Ave., Ste. 212
Anchorage, Alaska 99501
Phone: (907) 276-7315
Fax: (907) 271-3450

*For: Harvesting and processing
technology, product and
market development research*



Executive Summary

Alaska Seafood Industry

Sector Report

**Institute of Social and Economic Research
University of Alaska Anchorage**

Executive Summary

Alaska Seafood Industry

Sector Report

by
Terrence Smith

**Institute of Social and Economic Research
University of Alaska Anchorage**

June 1992

This executive summary of the Alaska seafood industry sector report was funded by the Alaska Department of Commerce and Economic Development and by the Natural Resources Fund of the University of Alaska. The Alaska Department of Fish and Game provided data and financial support for maintenance of the Alaska Fisheries Economics Database (AKFED), on which this report is based. The Division of Commercial Fisheries and the Alaska Seafood Marketing Institute guided for the printing of the document. The seafood industry sector report is one in a series of industry sector reports commissioned by the Alaska Industrial Development and Export Authority and Department of Commerce and Economic Development. Copies of the full report are available from DCED and ISER.

Table of Contents

Introduction	1
Performance of the Sealfood Industry, 1980-1990	3
Harvest and Ex-Vessel Value	3
Production and Wholesale Value	6
Alaska's Role in U.S. and World Sealfood Markets	10
Exports of Alaska Sealfood	10
Public Revenues and Expenditures	13
Taxes and Fees	13
Expenditures	13
The Sealfood Industry in Alaska's Economy	14
The Alaska Sealfood Industry in the 1990s	16
Endnotes	18
References	19

Introduction

The 1980s saw rapid and dramatic change in the Alaska seafood industry. Salmon landings and revenues reached all-time highs. The crab and halibut fisheries rebounded. And in the biggest change of the decade, American fishermen and processors took over Alaska's offshore fisheries and the billions of pounds of groundfish harvests that had previously gone to foreign vessels.

As Figure 1 shows, the domestic catch of groundfish off Alaska increased from virtually nothing in 1980 to more than \$2 billion pounds by the late 1980s. This huge increase in domestic groundfish harvests meant Alaska's overall domestic seafood harvest quadrupled between 1980 and 1990.

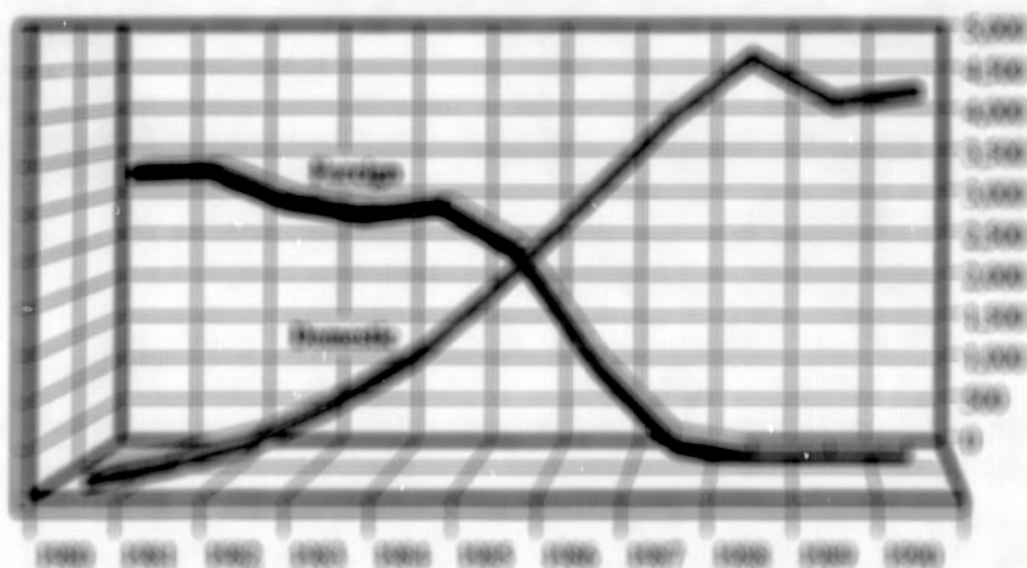
Alaska ranked among the top ten seafood producers in the world in the 1980s. Figure 2 shows Alaska harvests over the decade as compared with those of the entire U.S. and some other major fishing nations. Nearly 2 percent of world harvests, and half of U.S. harvests, came from Alaska waters in recent years.

The seafood industry has always been important to the state's economy, and in the 1980s it provided more jobs and a bigger payroll than any other resource industry. Close to one in ten Alaska adults spent at least some time commercial fishing in 1989, and throughout the 1980s Alaska residents bought about 80 percent of commercial fishing permits and around 60 percent of crew licenses for Alaska fisheries. (For brevity, throughout the publication we use "fishermen" to refer to both men and women who fish.)

Table 1 shows that the seafood industry (including both harvesting and processing) contributed 7 percent of total personal income in Alaska in 1989, and much more than that in coastal regions with the richest fisheries. And if we consider just income from Alaska's private base industries—those that drive the economy by producing goods or services for export—the seafood industry contributed more than one-quarter of Alaska's private base income in 1989, and much bigger shares in the Southwest, Gulf Coast, and Southeast regions.

Alaska's commercial fisheries stretch from the northwest peninsula along the Gulf of Alaska and the Aleutian chain and up the northwest and northern coasts. Figure 3 shows location of major Alaska fisheries.

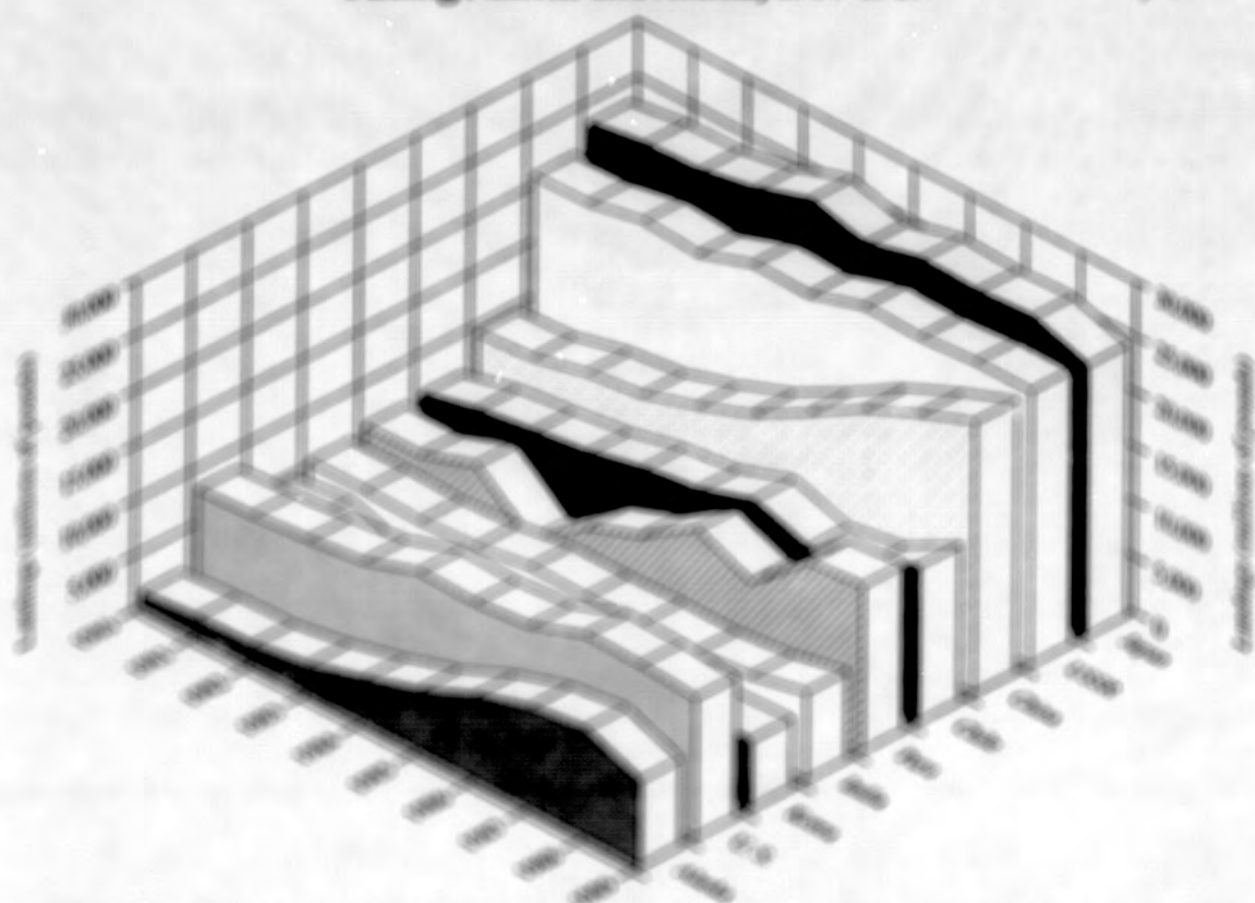
Figure 1. Domestic* and Foreign Groundfish Harvests Off Alaska, 1980-1990
(in billions of pounds)



*Domestic harvest does not include joint venture harvests. Harvests made by American fishermen but processed by foreign vessels. Both joint venture and other U.S. vessels.

Source: Alaska Fisheries Economic Statistics (1990)

Figure 2. Seafood Harvests of Selected Major Fishing Nations and Alaska, 1960-1989



Source: World Fisheries and Aquaculture Organization, *Yearbooks, National Marine Fisheries Service, Fisheries of the United States, 1990-1999*.

What we refer to broadly as the Alaska seafood "industry" is in fact a diverse collection of individuals and businesses that handle seafood products. It includes the fisherman who harvests the catch; processors and shippers who deliver a variety of processed products to the retail market; and other shippers, processors, or exporters who export the products; and ultimately, seafood markets, grocery stores, and restaurants that bring a myriad of seafood products to the consumer.

This publication examines the industry's performance over the past decade. It both updates and summarizes "The Alaska Seafood Industry: Seafood Sector Report," published in May 1991 by the Alaska Industrial Development and Export Authority (AIDEA) and the Alaska Department of Commerce and Economic Development (DECED). Both the full report and this summary are based largely on data from DECED's Alaska Fisheries Economic Database (AFEDB).

Table 1. Importance of Seafood Industry* to Alaska Personal Income, 1988

Seafood Income	Alaska/Region/ U.S.	Seafood/ Total	Cost (Cost)	Interior	Northern	Southwest	Alaska
As Percentage of Regional and National Personal Income	2	47	10	-	2	11	7
As Percentage of State Personal Income	9	10	11	1	2	10	27

*Includes harvesting and processing income. Regions are Alaska Department of Labor regions.

Source: Bureau of Labor Statistics.

Figure 3. Major Alaska Fisheries Locations



Performance of the Seafood Industry, 1980-1990

Figures 4 through 7 show how harvests, ex-vessel values, production, and wholesale values of Alaska seafood changed during the 1980s. *Harvests* are simply the total weight of seafood fishermen haul in. *Ex-vessel value* is the total money processors and others pay fishermen for unprocessed seafood. *Production* is the weight of processed seafood, and *wholesale value* is money paid to seafood processors.

Harvests and Ex-Vessel Value

Commercial fishermen use a variety of vessels and gear types to harvest Alaska seafood, and are regulated by several agencies under different management systems. The Alaska Department of Fish and Game manages the salmon, crab, and herring fisheries. The International Pacific Halibut Commission (a joint treaty organization of the U.S. and Canada) manages halibut, and the North Pacific Fishery Management Council manages groundfish off Alaska.

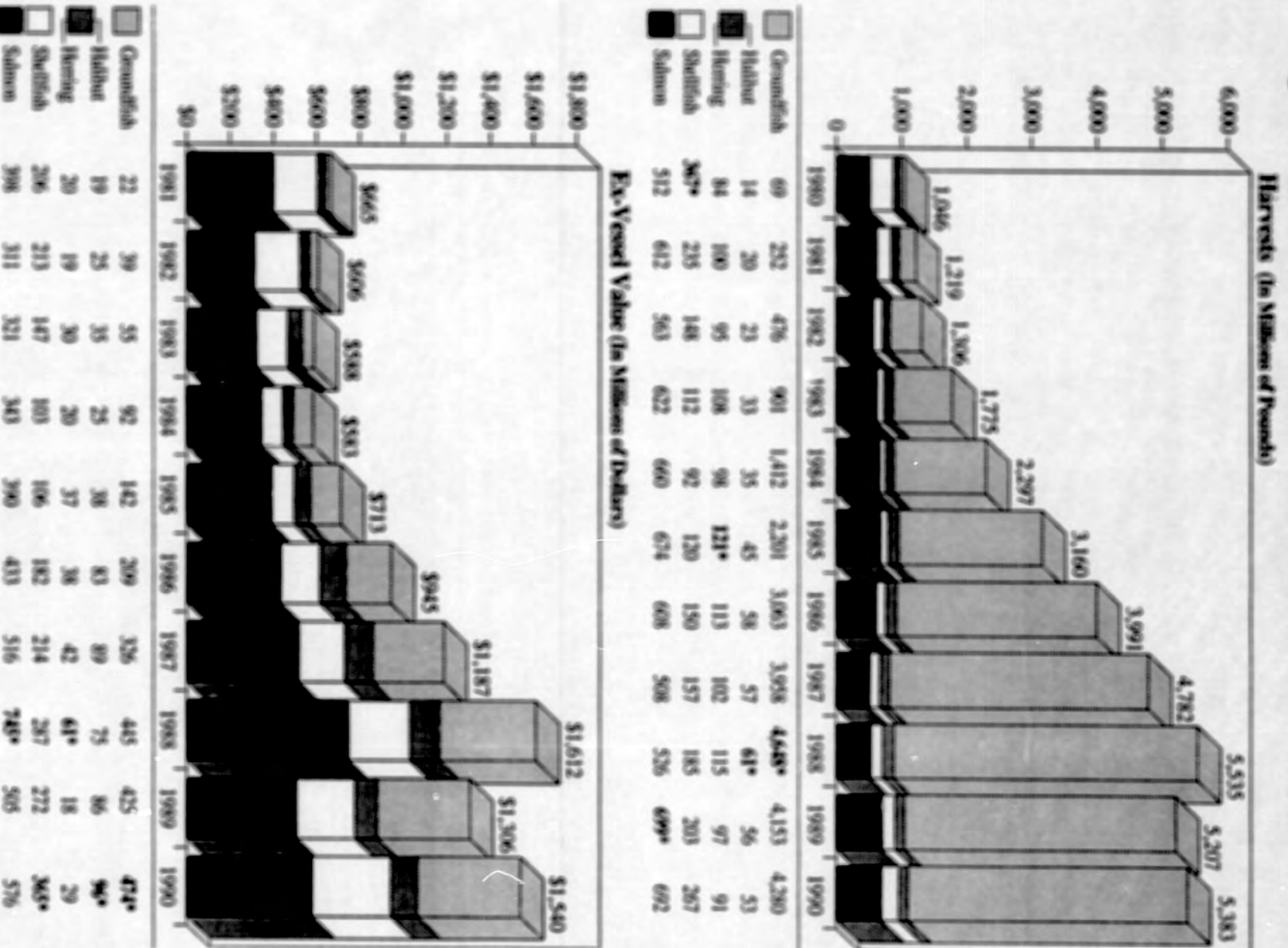
Five types of salmon (chinook, coho, sockeye, pink, and chum) are harvested commercially in Alaska waters. Tanner, king, and dungeness crab make up most of the shellfish harvest, but shrimp and other shellfish also contribute. Herring are harvested for roe (eggs), food, and bait. Pacific halibut from Alaska waters make up most of the world's halibut supply.

Many kinds of groundfish are harvested in the waters off Alaska, but the most common species groups are Alaska pollock, Pacific cod, flatfish, rockfish, and sablefish. At the beginning of the decade foreign trawlers took 98 percent of the groundfish catch in Alaska's offshore fisheries. But because of the preference to domestic processors written into the federal Magnuson Fishery Conservation and Management Act of 1976, the foreign fishery was phased out. At first domestic vessels began replacing foreign trawlers and delivering to foreign processors ("joint ventures"). Finally domestic processing capacity increased to the point where U.S. processors were able to handle the entire catch. Foreign harvests off Alaska ended in 1987 and joint ventures in 1990.

Changes in the offshore fisheries and in other fisheries meant big changes in harvest and ex-vessel values in the 1980s:

- **Domestic harvests soared 500 percent between 1980 and 1990**—increasing from 1.05 billion pounds to 5.4 billion pounds. The 1990 harvest was made up of 4.3 billion pounds of groundfish, 692 million pounds of salmon, 267 million pounds of shellfish, 91 million pounds of herring, and 53 million pounds of halibut. (Figure 4.)
- **Tremendous growth in the domestic groundfish catch** accounted for most of the increase in Alaska seafood harvests. Domestic groundfish harvests increased from 69 million pounds to 4.3 billion pounds as American fishermen and processors took over the offshore fisheries. (Figure 1.)
- **Harvests of other seafood were more volatile but also trended up.** The combined catch of non-groundfish species was about 13 percent larger in 1990 than in 1980. (Figures 4 and 6.)
- **Salmon harvests generally increased**, with record landings of nearly 700 million pounds in 1989.
- **The shellfish catch peaked in 1980 at 367 million pounds**, crashed to 92 million pounds in 1984 (mostly because of a sharp drop in harvests of king crab and shrimp), and steadily recovered to 267 million pounds in 1990, largely because of growth in Tanner crab harvests.
- **Herring catches moved up and down with no apparent trend** over the decade and stood at about 91 million pounds in 1990.
- **Halibut harvests increased through 1988**, peaking at 61 million pounds. Since then halibut harvests have declined due to lower catch quotas established by the International Pacific Halibut Commission.
- **Groundfish made up nearly 80 percent of the weight of seafood harvested in Alaska in the second half of the 1980s**, with salmon making up about 15 percent, shellfish 4 percent, herring 2 percent and halibut 1 percent. (Figure 7.)
- **American fishermen were paid 230 percent more for their catches in 1990 than in 1981**—\$1.5 billion as compared with \$665 million. Ex-vessel values in 1990 were higher than in 1980 for all species groups. Values for shellfish, halibut, and groundfish reached record highs in 1990 while salmon and herring values peaked in 1988. (Figure 4.)
- **Salmon fishermen saw ex-vessel values rise 175 percent between 1980 and 1988**, then fall 32 percent between 1988 and 1989 as salmon prices plummeted. Prices continued to drop through 1991 (Knapp, 1992). The ex-vessel value recovered somewhat in 1990—not because prices went up, but because harvests of sockeye salmon increased. (Figure 4.)
- **Ups and downs marked shellfish, herring, and halibut ex-vessel values.** (Figures 4 and 6.) Halibut values went from about \$13 million in 1980 to nearly \$96 million in 1990. Herring values ranged from \$15 million in 1980 to \$61 million in 1988 with large variations from year to year. Shellfish values fell to a low of \$103 million when stocks crashed in 1984, but by 1990 had rebounded to a peak of \$365 million.
- **Salmon brought fishermen more money than any other seafood sector in the 1980s.** But as the size of the groundfish harvest grew ever larger and salmon prices dropped in the late 1980s, the ex-vessel value of groundfish moved closer to that of salmon. (Figure 4.) On average during the last half of the decade salmon made up 45 percent of value paid domestic fishermen, followed by groundfish at 27 percent, shellfish at 19 percent, halibut at 6 percent, and herring at 3 percent. (Figure 7.)

Figure 4. Alaska Domestic Seafood Harvests and Ex-Vessel Value, 1980-1990



Production and Wholesale Value

Alaska's seafood harvests are processed into a myriad of wholesale products in a variety of ways—from simple operations such as bleeding the fish to high-technology operations that create products like surimi, a paste made from whitefish flesh. Multiple products, such as pollock fillets and fish meal, may also be produced from a single fish.

The percentage of total weight remaining after processing is known as the yield. Yields vary in different processing operations. For example, a heading and gutting operation may have a 75 to 80 percent yield, while surimi operations typically have yields in the 15 percent range.

In the groundfish and crab fisheries some processing is done offshore on vessels which also harvest (catcher/processors) or which take delivery from catcher vessels (mothership/processors). Otherwise, processing occurs at shoreside plants in Alaska, and to a certain extent, in the Pacific Northwest.

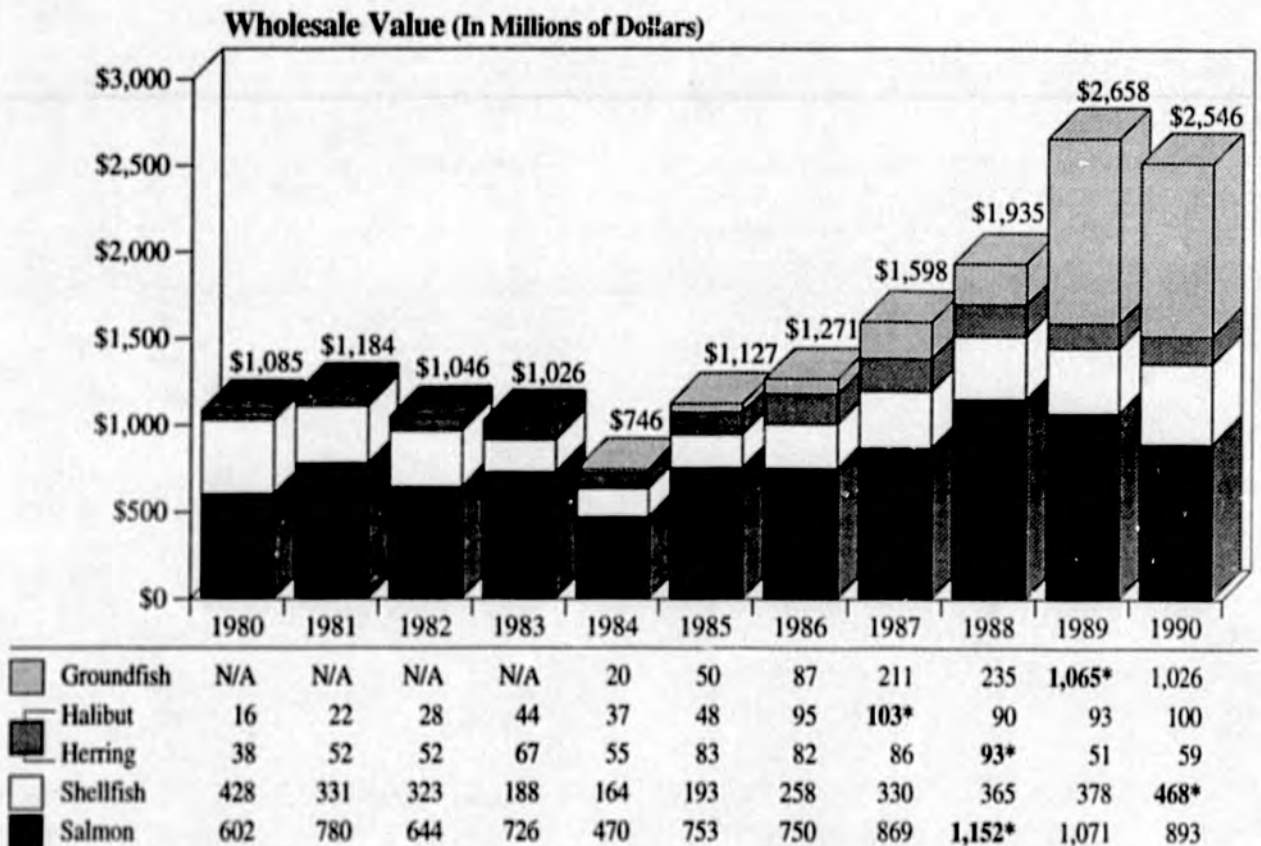
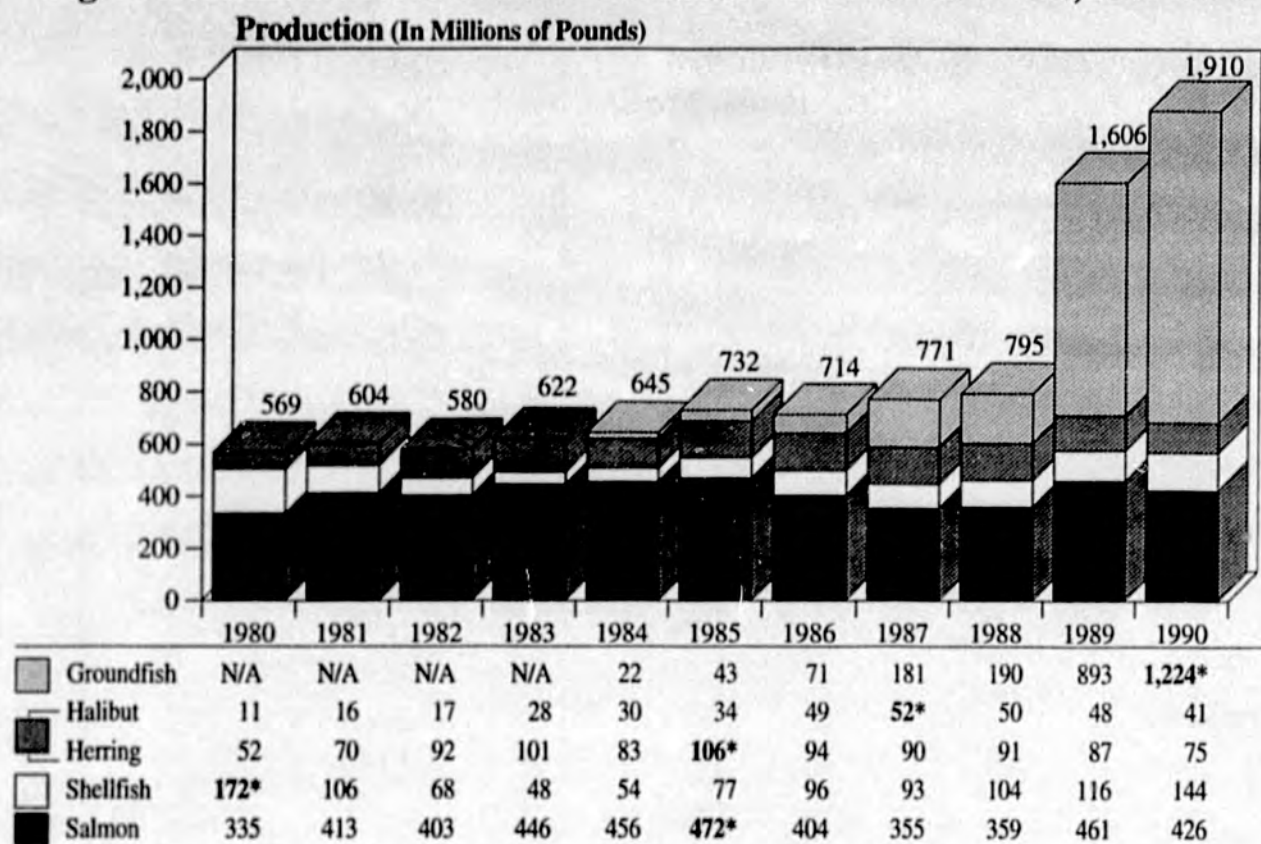
How the groundfish catch is split between offshore processors (which employ mostly non-residents) and onshore plants in Alaska (which create more local jobs) has become controversial in Alaska in recent years. The North Pacific Fishery Management Council in 1992 for the first time specifically allocated portions of future groundfish catches to onshore and offshore processors.

This summary and the full technical report represent the most comprehensive accounting to date of the Alaska seafood industry's wholesale sector. They use previously unpublished production data provided by the Alaska Commercial Fisheries Entry Commission and the National Marine Fisheries Service. Some of the reported production may have occurred at sea or at shoreside processing plants outside Alaska. However, the harvests came from Alaska waters.

Production and wholesale value of Alaska seafood changed dramatically in the 1980s:

- **Domestic production skyrocketed**, growing from about 569 million pounds in 1980 to nearly 2 billion pounds in 1990. (Figure 5.) That 1990 production was made up of 1.2 billion pounds of groundfish, 426 million pounds of salmon, 144 million pounds of shellfish, 75 million pounds of herring, and 41 million pounds of halibut.
- **Groundfish led growth in production**, increasing from about 22 million pounds in 1984 to 1.2 billion pounds in 1990—a nearly six-fold increase in six years.
- **Production from other kinds of seafood was more volatile**. (Figures 5 and 6.) Salmon production peaked in 1985 at 472 million pounds, shellfish in 1980 at 172 million pounds, herring in 1985 at 106 million pounds, and halibut in 1987 at 52 million pounds.
- **Salmon contributed the most to seafood production** in the last half of the 1980s, even though groundfish harvests were much larger. That's because a large portion of the salmon catch is exported with just minor processing, while much of the groundfish catch is used to produce relatively lower yield products (surimi, for instance). Between 1984 and 1990 salmon accounted for 42 percent of total seafood production, groundfish 37 percent, shellfish 10 percent, herring 7 percent and halibut 4 percent. (Figure 7.)
- **By 1990 groundfish overtook salmon** as the largest contributor to production. (Figure 5.) By that time groundfish harvests had grown so large that even with much lower processing yields, the resulting production outweighed salmon production. In 1990 groundfish accounted for 64 percent of total production, salmon 22 percent, shellfish 8 percent herring 4 percent, and halibut 2 percent.
- **The wholesale value of Alaska production doubled** over the decade, growing from just over \$1 billion in 1980 to more than \$2.5 billion in 1990. (Figure 5.) Leading that wholesale value in 1990 were groundfish products worth more than \$1 billion, followed by salmon products at \$893 million, shellfish products at \$468 million, herring products at \$65 million, and halibut products at \$61 million.
- **Wholesale value grew even more dramatically in the last half of the decade**. Because data on the value of groundfish production aren't available for the early 1980s, and shellfish production and value were falling at the same time, the reported total wholesale value of Alaska products bottomed out at about \$745 million in 1984. This means that in the six years from 1984 to 1990, the total wholesale value from production of Alaska seafood increased nearly 350 percent.

Figure 5. Alaska Domestic Seafood Production and Wholesale Value, 1980-1990

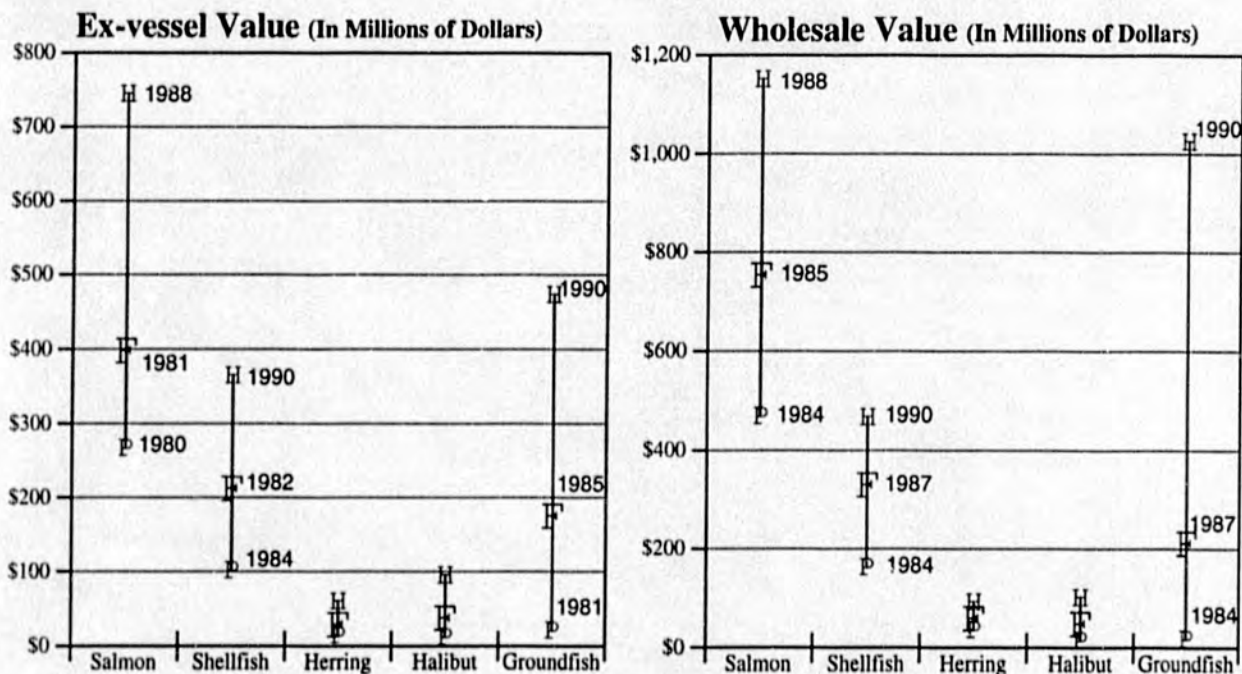
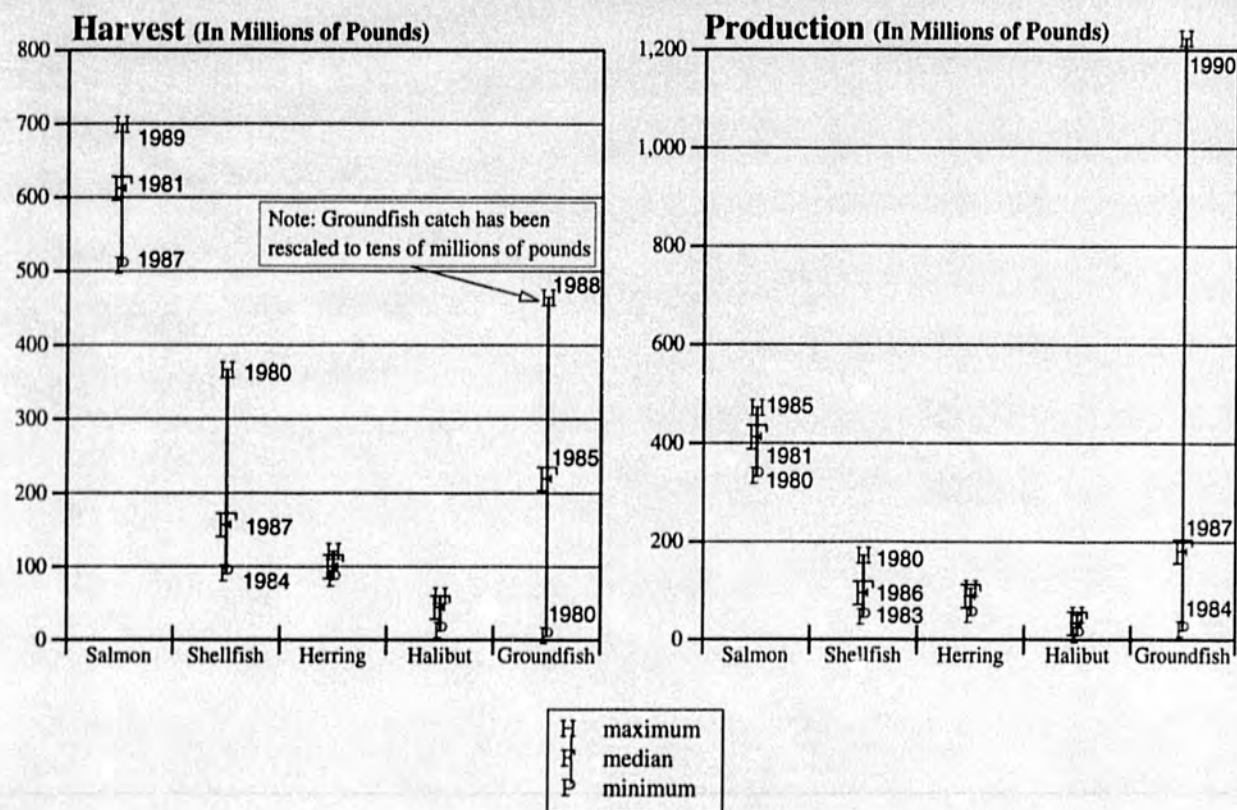


*Peak for decade.

Note: Excludes foreign groundfish production. 1989 groundfish production and wholesale value estimated using 1990 yield and price.

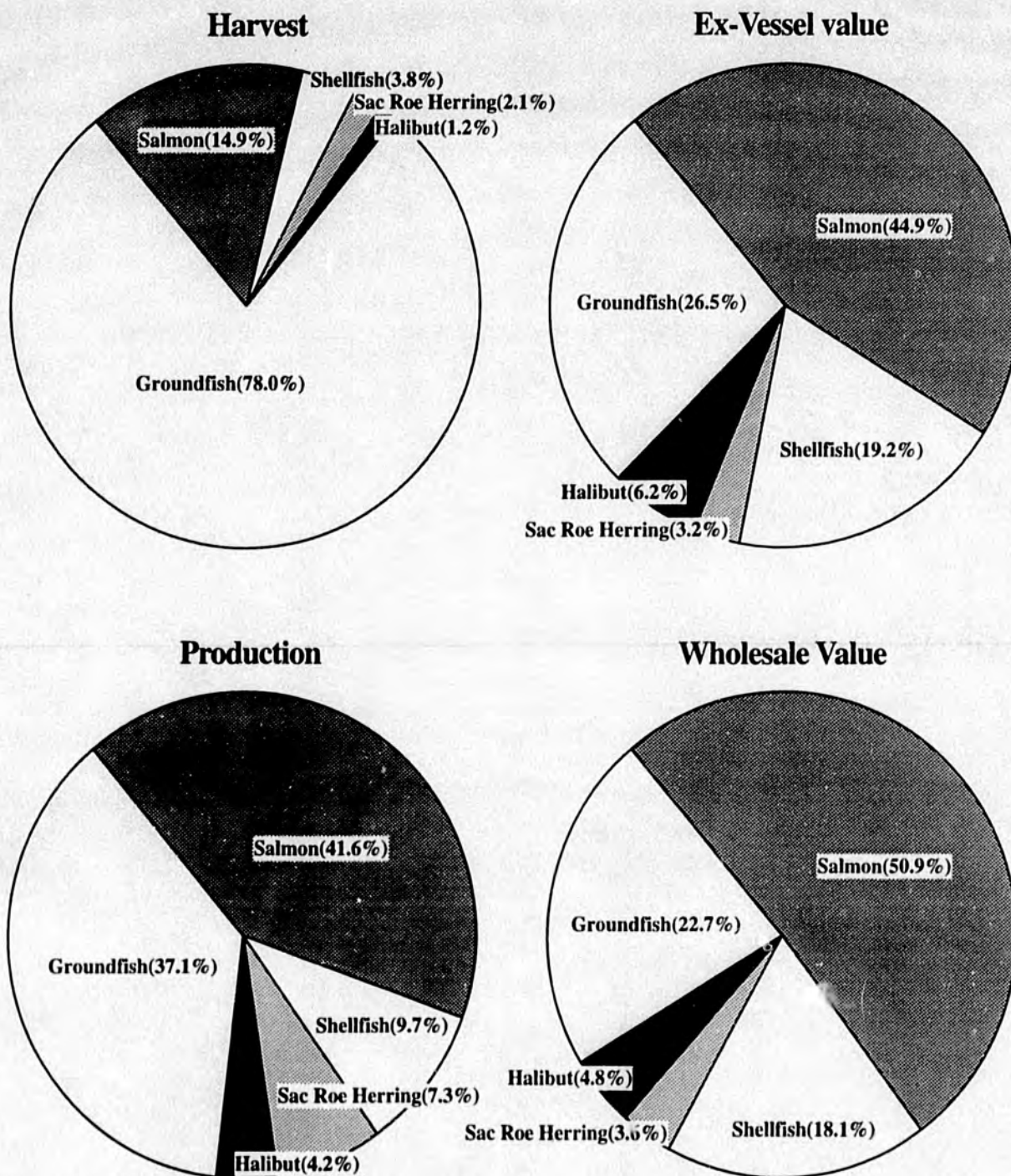
Sources: Alaska Department of Fish and Game, 1980-83, 1989-90; Commercial Fisheries Entry Commission, 1984-88; National Marine Fisheries Service, 1990.

**Figure 6. Range of Performance by Species Groups, 1980-1990
(Maximum, Median, Minimum)**



Sources: See Figures 4 and 5.

**Figure 7. Relative Contributions of Species Groups to Alaska Seafood Industry
(1984-1990 Average)**



Sources: See Figures 4 and 5.

Alaska's Role in U.S. and World Seafood Markets

Alaska's seafood harvests are far and away the largest and most valuable of any state, and they are also significant worldwide. Here are some comparisons for recent years.

- *Alaska contributed about 50 percent of total U.S. harvests* and 40 percent of total ex-vessel value throughout the 1980s.
- *The 1990 Alaska harvest was an all-time record for any state.* The 5.4 billions pounds of seafood harvested off Alaska was more than five times the 1990 harvest off Louisiana, which had the second largest harvest.
- *The 1990 ex-vessel value of Alaska seafood was five times greater* than the ex-vessel value of harvests off Massachusetts, the state ranked second in 1990 ex-vessel value.
- *Alaska's Dutch Harbor was first in U.S. landings* in 1990, and Kodiak was third. Several other Alaska communities also ranked in the top 20 for landings in 1990—Naknek (13), Cordova (14), Petersburg (16), Ketchikan (17), Egegik (19), and Seward (20).
- *Dutch Harbor was second in U.S. ex-vessel value in 1990*, after New Bedford, Massachusetts—home port to many of the George's Bank scallopers. Kodiak ranked third in ex-vessel value, Naknek fourth, Egegik sixth, and Kenai eighth.
- *Alaska pollock alone accounted for 33 percent* of the total domestic catch in 1990. Sockeye salmon and Alaska pollock were the second and third most valuable species harvested in the U.S. in 1990, just behind shrimp from the Gulf of Mexico.
- *Alaska waters provide most of the world's* harvests of sockeye salmon, Tanner crab, Pacific halibut, and sablefish. In 1987, the most recent year for which international harvest data are available, Alaska accounted for 80 percent of the world sockeye harvest, 84 percent of Tanner crab, 87 percent of Pacific halibut, and 67 percent of sablefish. Alaska harvests made up smaller but still substantial shares of the world harvests of Pacific cod (43 percent), pink salmon (34 percent), coho salmon (33 percent), dungeness crab (28 percent), and king crab (26 percent).

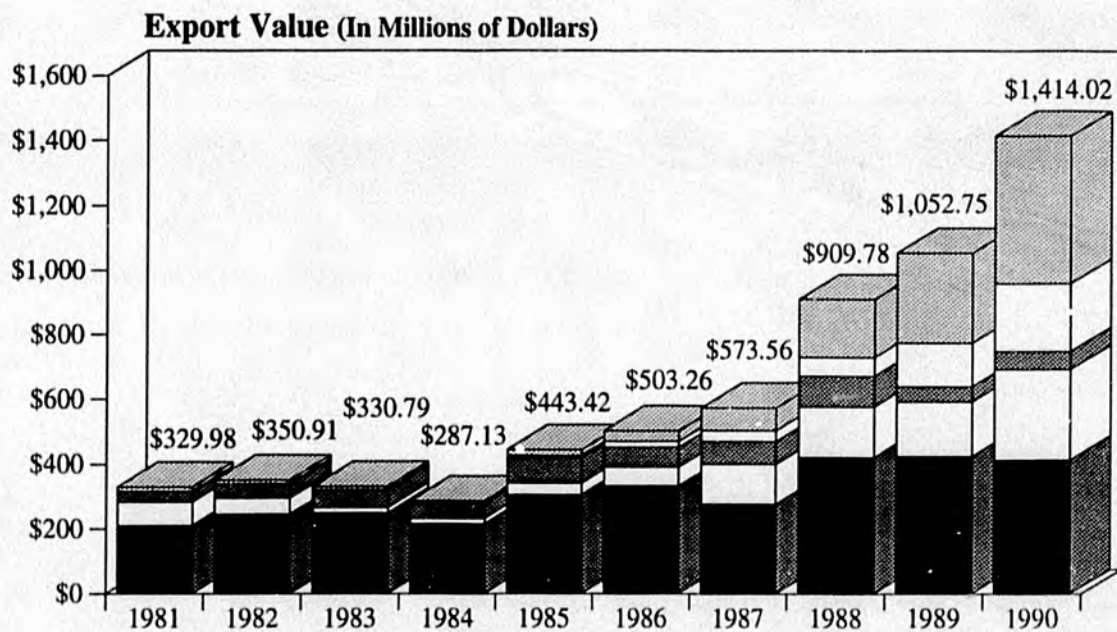
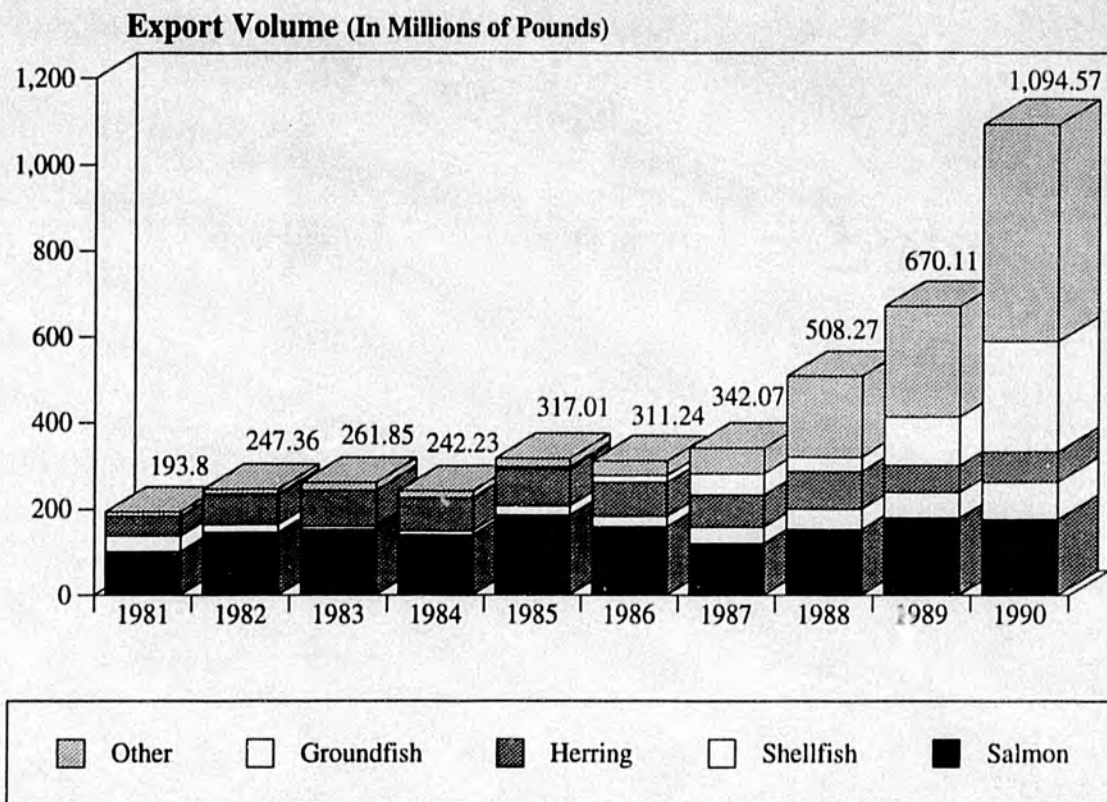
Exports of Alaska Seafood

Some of Alaska's seafood is exported directly from Alaska to other countries, some is exported indirectly (shipped first from Alaska to other states and then exported), and some is eaten in Alaska and other states.

For this study we estimated indirect exports.¹ As far as we know, no other recent studies have estimated indirect exports of Alaska fisheries production. What did Alaska exports look like in the 1980s?

- *Direct exports of Alaska seafood grew five-fold* in volume and four-fold in value over the 1980s. (Figure 8.) In 1980 direct exports totalled just under 2 million pounds worth about \$330 million. By 1990 direct exports from Alaska exceeded 1 billion pounds worth more than \$1.4 billion.
- *Salmon dominated the export statistics* both in weight and value for most of the decade, peaking at about 180 million pounds valued at \$423 million in 1989. Herring have traditionally been the second most important Alaska seafood export, but as of 1989 groundfish exports exceeded herring exports both by weight and value.
- *Salmon remained the most valuable export in 1990, followed by shellfish.* But groundfish led in weight exported. That year about 176 million pounds of salmon products valued at \$412 million were exported directly from Alaska, and 86 million pounds of shellfish valued at \$280 million. By comparison, about 255 million pounds of groundfish valued at \$210 million dollars were exported.²
- *Japan was still the largest market* for Alaska seafood exports at the end of the decade, but other countries were increasing their share. Tables 2 and 3 show that from 1988 through 1990, Japan bought more and more Alaska seafood but its overall share dropped from 95 to 87 percent. During the same period Korea and several European countries sharply increased their purchases of Alaska seafoods.

Figure 8. Direct Alaska Seafood Exports, 1981-1990



Sources: 1981-87: U.S. Department of Commerce, Bureau of the Census, Export Tapes; 1988-90: National Marine Fisheries Service, Alaska Fishery Science Center.

**Table 2. Direct Seafood Exports from Alaska
By Country of Destination, 1988-1990**
(In Thousands of Pounds and Dollars)

	1988		1989		1990	
	Pounds	Value	Pounds	Value	Pounds	Value
Japan	473,873	\$865,372	591,910	\$975,742	870,186	\$1,227,253
Korea	18,464	\$24,014	40,473	\$44,893	103,618	\$80,906
Germany	148	\$231	249	\$274	51,922	\$44,764
Norway	-	-	2,525	\$1,386	40,373	\$28,907
Portugal	6,822	\$8,929	12,522	\$13,224	16,288	\$18,629
Canada	5,472	\$6,273	20,368	\$18,816	4,568	\$7,461
United Kingdom	-	-	-	-	2,063	\$1,709
Taiwan	2,065	\$2,838	1,928	\$1,193	1,835	\$1,146
Spain	-	-	-	-	967	\$854
France	-	\$423	6	\$71	943	\$940
Thailand	1,169	\$1,542	-	-	453	\$672
All Other Countries	69	\$157	125	\$154	551	\$779
Total	508,265	\$909,799	670,105	\$1,055,752	1,093,769	\$1,414,020

Source: National Marine Fisheries Service, Fisheries of the United States.

- **Most Alaska herring was exported directly** from Alaska in the 1980s. (Table 4.)
- **Roughly a third of processed salmon was exported directly** and another third indirectly over the decade.
- **Almost no processed halibut and little king crab was exported directly** from Alaska in the 1980s, but about one-quarter of halibut and one-sixth of king crab were exported indirectly.
- **About 18 percent of processed groundfish was exported directly** and another 55 percent exported indirectly from Alaska in the last half of the 1980s.
- **Total direct and indirect exports in the 1980s** included about 60 percent of salmon products, 80 percent of herring, 25 percent of king crab and halibut, and 73 percent of groundfish.
- **Markets for Alaska seafood include Asia, Europe, and Australia.** Japan buys most exports of fresh and frozen salmon, herring, and crab. The United Kingdom, Canada, and Australia provide the biggest markets for canned salmon. Historically, most groundfish from Alaska waters and other areas of the North Pacific was processed as surimi and exported to Japan. But recently U.S. and European markets for Alaska groundfish blocks and fillets have developed.

Table 3. Top Importers of Alaska Seafood
(In Percentage of Direct Export Value)

	1988	1989	1990
Japan	95%	92%	87%
Korea	3	4	6
Portugal	1	1	1
Germany	-	-	3
Norway	-	-	2
Canada	<1	2	<1

Source: See Table 2.

**Table 4. Estimated Alaska Seafood
Exports in the 1980s***
(In Percentage of Alaska Production)

	Direct	Indirect	Total Exports
Salmon	31%	30%	61%
King Crab	14%	14%	28%
Herring	77%	2%	79%
Halibut	0%	25%	25%
Groundfish	18%	55%	73%

*Salmon and herring, 1980-88 average; king crab and halibut, 1984-87 average; groundfish, 1984-90 average.

Source: ISER calculations, based on fisheries statistics sources.

Public Revenues and Expenditures

Alaska's fish are public resources. Fish within 3 miles offshore are managed by the State of Alaska. Fish within the federal Exclusive Economic Zone, from 3 to 200 miles offshore, are managed by the federal government under the Magnuson Fishery Conservation and Management Act.

In return for their use of the resource, fishermen and processors pay various taxes and fees at the local, state, and federal levels. They also benefit from government expenditures for services such as research, management, and enforcement.

Taxes and Fees

- **The fishing industry paid** about \$52 million in major taxes and fees in fiscal year 1989, the most recent year for which figures are available. In 1980 taxes and fees totalled about \$21.5 million.
- **The biggest source of revenue** is the Fisheries Business Tax (also called the raw fish tax), which brought the state government \$27 million in fiscal 1989.³ The state refunds 50 percent of that tax to the communities and boroughs where it is collected. Other state taxes include the Salmon Enhancement Tax, used to help pay costs of hatchery operations; and the Seafood Marketing Assessment, which funds the Alaska Seafood Marketing Institute. The state government also collected about \$5.1 million from licenses and permits in fiscal 1989.
- **The federal Marine Fuel Tax** netted the government \$7.2 million in 1989, but that figure includes not only taxes paid by commercial fishing vessels but also marine transportation and recreational vessels. The fishing industry also paid \$6.8 million in fiscal 1991 for the observers the federal government requires on vessels in the groundfish fisheries.
- **Cities received \$8.1 million and boroughs \$7.6 million** in shared state fisheries business taxes in fiscal 1989. Shared revenues to cities were up from \$4.7 million in fiscal 1987, and to boroughs up from \$3.9 million.

Expenditures

- **The federal government spent \$4.2 million** in managing fisheries in the Alaska region in fiscal 1989.
- **The Alaska Department of Fish and Game spent about \$49.5 million** managing the commercial fisheries in fiscal 1989. (We reached that estimate by applying the same percentage of commercial management expenses to total ADFG expenses calculated by Kruse [1988] for fiscal 1987.)
- **Together the federal and state governments spent about \$54 million** managing Alaska's fisheries in fiscal 1989 and collected about \$42 million, if we net out revenues that went to salmon aquaculture associations. To give us some perspective on those revenues and expenditures, the total ex-vessel value of the fisheries off Alaska for 1989 was \$1.3 billion and the wholesale value of seafood products was \$2.7 billion.

Table 5. Fisheries Taxes and Fees, FY85-FY89
(In Thousands of Dollars)

	1985	1986	1987	1988	1989
Marine Fuel Tax	\$4,298	\$5,290	\$5,373	\$5,294	\$7,208
Licenses and Permits	4,847	5,073	4,939	5,821	5,162
Seafood Marketing Tax	964	1,122	1,460	2,670	3,349
Salmon Enhancement Tax	2,625	4,263	4,444	5,769	9,544
Fisheries Business Tax	18,663	21,105	26,605	22,523	26,690
TOTAL MAJOR SOURCES	\$31,397	\$36,853	\$42,821	\$42,077	\$51,953

Notes: Marine fuel tax includes taxes paid by vessels other than commercial fishing vessels, such as marine transportation and sport fishing vessels.

Sources: Original data from Kruse, 1987. Updated using data provided by Bob Elliot, Alaska Department of Revenue, May 1990.

The Seafood Industry in Alaska's Economy

The seafood industry has historically been an important part of Alaska's economy. In several regions of the state it provides most of the private economic base. It generates jobs and income in a number of ways—through fishing itself; through seafood processing; through other sectors that supply goods and services to fishermen and processors; and through fishermen, processors, and others spending their money in the local economy. Adding all those sources of jobs and income together shows the overall economic contributions of the seafood industry.

Table 6 gives us an idea of participation in commercial fishing itself in the 1980s, by showing the number of fishing permits and crew licenses purchased annually. (Bear in mind that a single person may hold several fisheries permits.) The number of permits sold fluctuated around 18,000, and the number of crew licenses sold varied from 24,000 to 35,000. Alaska residents bought most of those permits and licenses, but non-residents bought about 20 percent of permits and 35 percent of crew licenses. The largest numbers of fishermen were in the salmon fisheries and in the Southeast, Southcentral, and Bristol Bay regions.

Fisheries jobs are mainly seasonal, and economists commonly assess the economic effects of fishing jobs by calculating how the large number of seasonal jobs would translate into the equivalent of year-round jobs. The most recent available estimates of average annual employment in fishing were done by McDowell (1989) for 1986, and are shown in Figure 9. McDowell's estimates are generally higher than those from previous studies, in part because they include not only time fishermen actually spent fishing but also time they spent before and after the fishing season in preparation, maintenance, and other work related to fishing. The figure shows there were the equivalent of about 10,600 year-round jobs in fishing in 1986, and that most of them were in the salmon fisheries.

Jobs and wages in seafood processing are also important parts of seafood's overall contribution to Alaska's economy. Table 7 shows how average annual employment and annual wages in processing looked in the 1980s. Average annual employment (excluding the groundfish fisheries) varied from about 5,600 to 8,400, and annual wages from \$104 million to \$163 million. Data on employment and wages in the rapidly expanding offshore

Table 6. Estimated Harvesting Participation

PERMIT HOLDERS AND CREW MEMBERS
(RANGE, 1980-1989)

	Numbers	Percentage Alaska Resident
Permits Purchased	17,340-19,598	78% - 82%
Crew Licenses Purchased	24,228-35,207	63% - 67%
TOTAL	43,826-53,508	69% - 72%

NUMBERS OF PERMITS AND CREW LICENSES BY REGION AND BY FISHERY, 1986

	Salmon	Shellfish	Herring	Halibut	Percentage Participation by Region [†]
Southeast	6,069	617	651	2,601	22%
Southcentral	4,730	460	1,261	3,366	21
Kodiak	1,564	306	392	3,468	12
Aleutians	1,916	2,411	258	765	12
Bristol Bay	7,193	-	2,200	-	20
Northwest	3,777	-	2,082	-	13
TOTAL PARTICIPATION	25,249	3,794	6,844	10,200	
Percentage Participation [†] by Fishery	55%	8	15	22	

[†] Totals and percentage participation apply to total permits and licenses, not numbers of fishermen, since one person may hold multiple permits.

Sources: Kruse, 1988; Helgath and Rainery, 1987; McDowell, 1989.

groundfish fisheries are limited. Available estimates of processing and harvesting workers combined put total employment in the groundfish fisheries at anywhere from 3,000 to 5,400 in the late 1980s. (McDowell 1989; Coopers and Lybrand 1990; Northern Economics 1990.)

If we add together the jobs and income from fishing itself, from processing, and from all the other activities generated by fishing and processing, we get a total picture of seafood's contribution to the Alaska economy. Two estimates of the seafood industry's economic contributions were done in the 1980s. Berman and Hull (1987) estimated total income generated by the industry in 1984. McDowell (1989) estimated jobs and payroll the industry contributed in 1987. In the 1980s the seafood industry made valuable contributions to Alaska's economy:

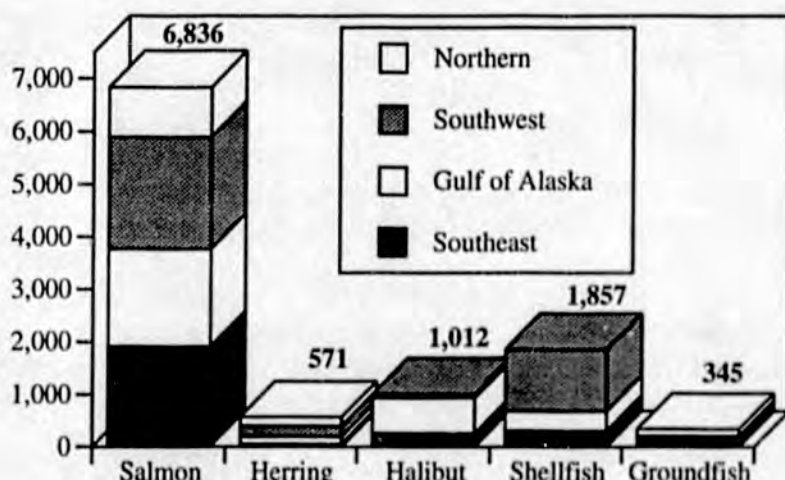
- **Total income attributable to the seafood industry in 1984 was \$583 million.** (Figure 10.) Alaskans earned \$431 million, or nearly 75 percent, of that total. The Southwest region accounted for about 42 percent of all seafood income, followed by the Gulf of Alaska region (25 percent), the Southeast (17 percent) and the Anchorage/Matanuska-Susitna region (13 percent). The Northern and Interior regions accounted for the remaining 3 percent.
- **Roughly 33,000 to 38,000 Alaska jobs were attributable to the seafood industry** in 1987 (McDowell 1989). Looked at another way, harvesting and processing jobs accounted for roughly 50 to 60 percent of total jobs generated by the seafood industry, while the industry generated the other 40 percent or so of jobs in less direct ways.
- **About 7 percent of all personal income in Alaska** in 1984 was contributed by the seafood industry. (Table 1.)
- **About 27 percent of private basic income** in Alaska in 1984 was generated by the seafood industry. Basic industries are those that drive the economy by producing goods or services for export. Alaska's private basic industries include the seafood, petroleum, mining, forest products, and tourism industries. The federal government is also considered a basic industry, but it is not a *private* basic industry.
- **The economies of several regions depend heavily** on the seafood industry. In 1984 the southwest region's seafood industry generated 47 percent of total personal income and 98 percent of private basic income. The industry provided 19 percent of total income and 44 percent of private basic income in the Gulf of Alaska region, and 10 percent of total and 40 percent of private basic income in the southeast region.

**Table 7. Processing Employment and Wages
Range 1980-1988**

Average Annual Employment	5,650-8,388
Annual Wages	\$104 million-\$163 million

Source: Alaska Department of Labor

**Figure 9. Estimated Annual Average Harvesting Jobs,*
By Species Group and Region, 1986**



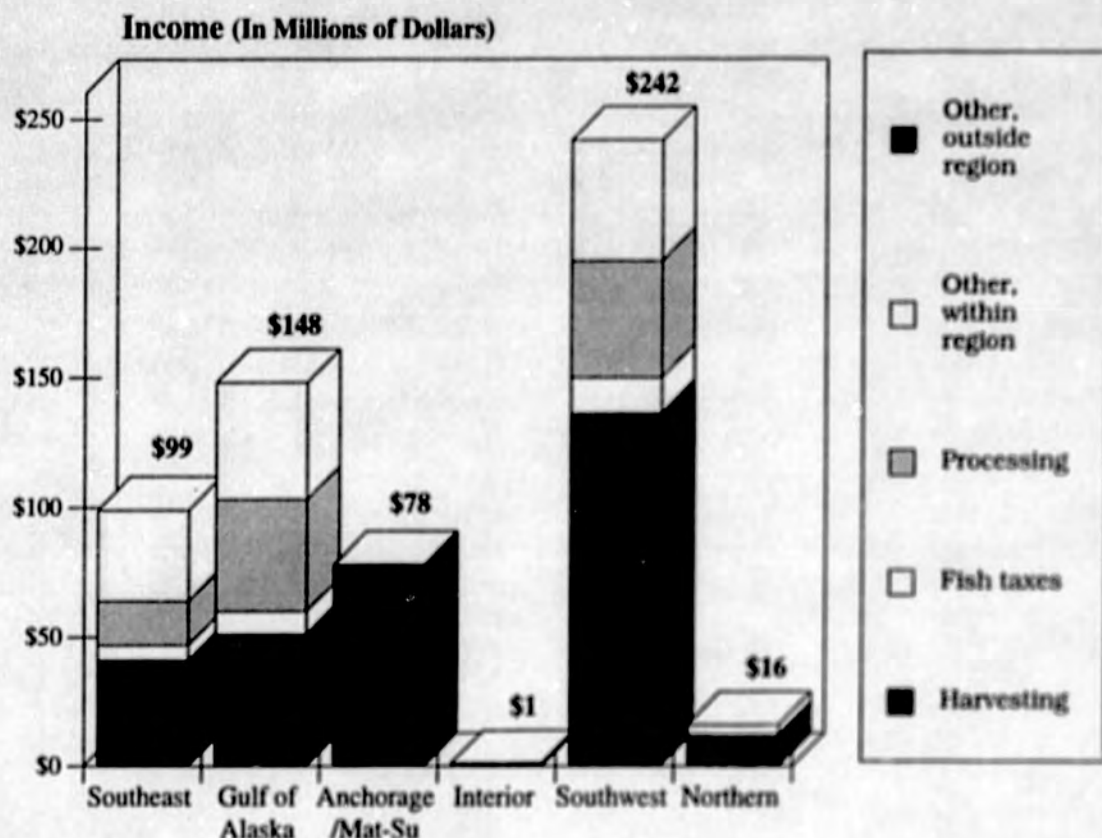
*Based on time spent in fishing-related activities before and after the fishing season as well as actual fishing time.

Source: McDowell et al., 1989.

• **The seafood industry had more workers and a bigger payroll** than any other private basic industry in 1987. Including both the fishing and processing sectors, it accounted for 23 percent of total basic industry employment and 24 percent of basic industry payroll. (Figure 11.) Only the federal government employed more people and had a bigger payroll, and among private basic industries only oil and gas came close to matching seafood's payroll. However, the oil and gas industry didn't employ nearly as many people.

• **Most private employment in Kodiak, the Aleutians, and Bristol Bay** in 1987 was in the seafood industry, and that industry was the largest private employer in the southeast and northwest.

Figure 10. Total Income in the Alaska Seafood Industry By Region, 1984



Source: Berman and Hull, 1987.

The Alaska Seafood Industry in the 1990s

Profound and lasting changes in the harvesting, processing, and marketing sectors will likely transform the Alaska seafood industry in the 1990s.

Already at the end of the 1980s growing supplies of farmed salmon and other factors depressed prices for Alaska's wild salmon. Although 1992 prices may rebound slightly (Knapp 1992), long-term prospects are for increased substitution of foreign produced farmed salmon for wild salmon in Alaska's export markets. Fishermen will therefore be squeezed between higher costs and weakening prices.

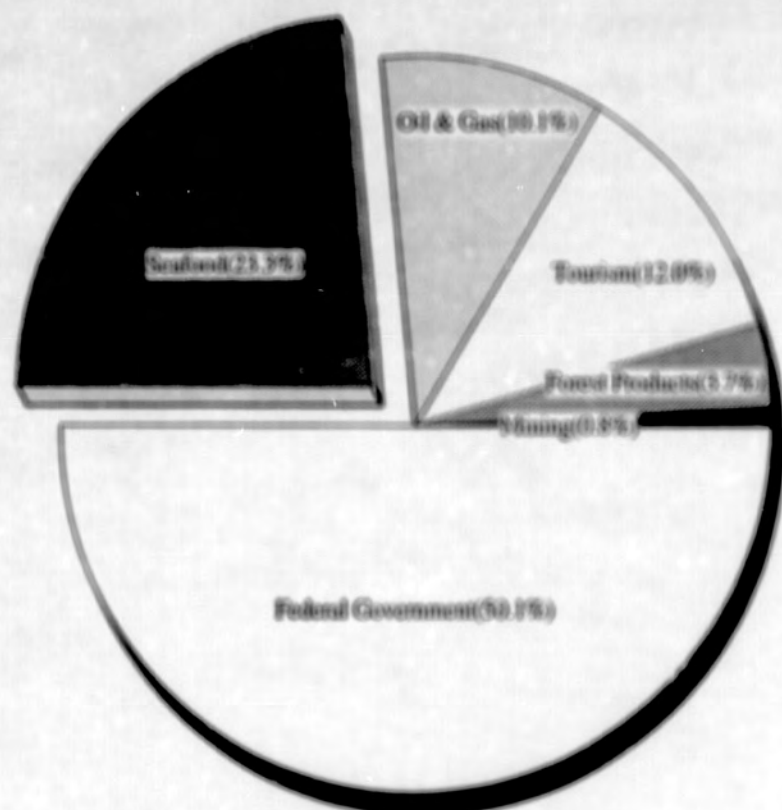
The groundfish fishery is also undergoing significant restructuring. First, the North Pacific Fishery Management Council recently approved, for the first time, a formal allocation of groundfish harvests between inshore and offshore processors. In the short run, this proposed allocation implies displacement of the large offshore fleet and expansion of shoreside processing capacity. In the longer run, overcapitalization of both types of processing and local preemption issues will force further division of the catch quotas by season and area.

Second, the council has approved a share quota limited access system for sablefish and halibut, and is considering a moratorium on further entry into the groundfish and crab fisheries and limited access systems for these fisheries. Privatizing the fisheries will result in a fleet structure considerably different from the current structure, and limited access systems will change the timing and type of production.

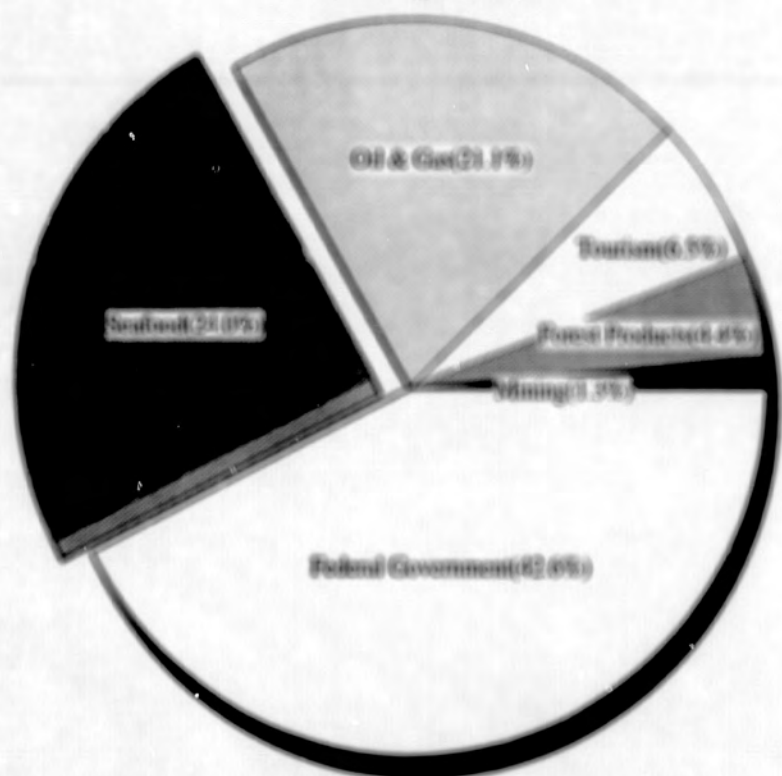
Included under both inshore versus offshore allocation and individual quota systems are programs that will allocate a share of the groundfish resource to Alaska coastal communities. Since these quotas may be fished, leased, or sold, substantial changes in who benefits from groundfish harvesting and processing can be expected.

In sum, Alaska seems likely to retain a prominent role in U.S. and world fisheries, but the complexion of the industry will be very different in the year 2000 from what it is today.

Figure 11. The Role of the Seafood Sector in Alaska's Basic Industries, 1987



Total Employment



Total Payroll

**Includes industries that produce goods or services for export. Excludes state and local government, and portions of support, service, and infrastructure industries.*

Source: McDowell et al., 1989.

Endnotes

1. Information on direct exports is available from the U.S. Department of Commerce, Bureau of the Census. We estimate indirect exports by assuming that for each species the share of the total Alaska exports (direct and indirect) in Alaska production is the same as the share of total U.S. exports in total U.S. production. We then estimate indirect exports as the difference between total Alaska exports and direct exports. Domestic consumption is estimated as the difference between total Alaska production and estimated total exports.
2. The precise distribution of 1990 exports is uncertain, because the data sources allocate 45 percent of exports to the category of "other fish." If the "other fish" category were more accurately allocated, substantial shares would shift to other specific categories.
3. Liability under the Fisheries Business Tax can be reduced by the Fisheries Business Education Credit which allows a fisheries business to credit up to 50 percent of cash contributions for direct instruction, research, and educational support purposes made to two- or four-year colleges and universities in Alaska. Until the end of 1990 liability could also be reduced through the Fisheries Business Tax Credit which allowed processors a credit of up to 50 percent of their annual Fisheries Business Tax liability for approved capital expenditures that (1) increased product diversity, production efficiency or capacity, or product quality at a shore-based fisheries business facility in Alaska, or (2) contributed to the development of a cooperative seafood industrial park in Alaska.

References

- Alaska Department of Fish and Game, 1986. *Alaska 1985 Catch and Production Commercial Fisheries Statistics*. Statistical Series No. 36 (Anchorage, Alaska: Department of Fish and Game, December 1986). Also *Alaska Catch and Production Statistical Series for the years 1982-1985*.
- Berman, Matthew P., and Trevor Hall, 1987. *The Commercial Fishing Industry in Alaska's Economy*. Institute of Social and Economic Research, University of Alaska, Fairbanks, March 1987.
- Casper, E. J. (ed.), 1988. *Economic Impact of the North Pacific Fisheries Trade*. Fish Cooper. E. J. (ed.), March, January 1988.
- Fry, G., G. Schmitz, E. Galtsoff, and E. Shree, 1988. *State of Alaska Revenue from Natural Resources: Minimization to the Alaska Fisheries Trade Policy Subcommittees*. Alaska State Legislative Research Report (8-83), House of Representatives Research Agency, March 8, 1988.
- Hatchett, David, and Richard Schreyer, 1987. *The Alaska Board of Fisheries: Fisheries Management Discussion*. Request for Board Advisory Council Research Report Number 87-001106 (June 1987).
- _____, 1988. *Marine Fisheries Trade*. Alaska State Legislative, Board Advisory Council (88-001225), February 8, 1988.
- Kopp, George, 1992. *Alaska Salmon Markets and Prices*. Request for Commercial Fishing and Aquaculture Study by Institute of Social and Economic Research, University of Alaska, Fairbanks.
- Kopp, George, and Trevor Smith, 1991. *The Alaska Salmon Industry: Salmon Trade Report Request for Alaska Fisheries Development and Export Activities and Alaska Department of Commerce and Economic Development by Institute of Social and Economic Research, University of Alaska, Fairbanks*.
- Kopp, George H., 1988. *An Overview of Alaska's Fisheries: Catch and Economic Importance of the Resources Participating in the Fisheries: Resources Generated and Expenditures in Management Policy Research Bulletin (8-83)*. Anchorage, Alaska: Department of Fish and Game, February 1988.
- McDonnell, Eric, Anne C. Peltin, and Neil Christensen (The McDonnell Group), 1988. *Alaska Salmon Industry Study & Technical Report to Economic Policy of the Salmon Industry: A Study Requested by Alaska Salmon Industry Study Commission*, Fairbanks, Alaska, May 1988.
- National Marine Fisheries Service, 1990. *Fisheries of the United States, 1988-1-2*. Department of Commerce. Also *Fisheries of the United States for the years 1985-1988*.
- Northern Economics, Inc. (Inc. and Associates, Scarborough, and the Resource Ventures, 1990. *Commercial Fishing Industry of the Bering Sea Market Management Service*. Alaska State Commercial Fish Report, Housing and Development (1990). Social and Economic Studies Unit Fish Technical Report (8-2 Study, 8882-0100) (Fairbanks, Alaska (8-2-003), 1990), June 1990.
- Trey, J. M., E. J. Galtsoff, and E. M. E. Smith, 1990. *Economic Status of the Commercial Fisheries of Alaska, 1990*. National Ocean and Atmospheric Administration, National Marine Fisheries Service, Seattle, Washington, November 1990. Also *Economic Status of the Commercial Fisheries of Alaska, 1989*.

8

How "blackbox" is the state's seafood industry?

Of the 12,000 holders of commercial fishing permits, more than three quarters are Alaska residents (77%). More than half (50%) of all commercial fisheries are also held by Alaskans and roughly half (47%) of all processing facilities are Alaskan.

9

How can the economic impacts of the industry be measured?

Fishing permits themselves are to be tracked through subsequent changes with other permit activity and "blackboxing" of fisheries work in turn to permit. Substantial and more specific will also come by increasing the monitoring of fishing, monitoring and fish products, and allowing fish to products more fully.

10

How can I get more information on commercial fisheries management in Alaska?

Contact:
Commercial Fisheries Management
and Development Division
Alaska Department of
Fish and Game
P.O. Box 110000, Anchorage, Alaska 99511
(907) 269-2111

Design and production by
State Communications Service
Alaska Department of Fish and Game
Anchorage, Alaska



Alaska Department of Fish and Game
Commercial Fisheries Management and Development Division
P.O. Box 110000, Anchorage, Alaska 99511
(907) 269-2111

Seafood: Alaska's First Permanent Fund



Alaska Department of Fish and Game
Division of Commercial Fisheries
Management and Development

Fish were Alaska's first permanent fund. This fund has a well-diversified portfolio including salmon, herring, halibut, crab, shrimp, clams, groundfish, and a variety of other fish species yet to be fully tapped.

Alaskans have been living off the annual production or "interest" of this fund for years. The salmon component alone has provided commercial harvesters with annual distributions that during the past 100 years totaled more than 6 billion fish, enough for every man, woman and child on earth to have one.

This brochure provides answers to 10 of the most commonly asked questions about Alaska's most productive renewable resource.

1 How many jobs does the seafood industry provide?

The Alaska seafood industry provides more jobs and a bigger payroll than any other resource industry in the state. Over the course of a year, the industry employs more than 70,000 people. This translates into more than 22,000 full-time jobs. Only the oil and gas industry comes close to matching the payroll of the seafood industry among private basic industries.

2 How much seafood does Alaska produce?

Domestic harvests of seafood in Alaska soared 500% between 1980 and 1990, increasing from 1 to 5.4 billion pounds. The 1990 harvest was made up of 4.3 billion pounds of groundfish, 692 million pounds of salmon, 267 million pounds of shellfish, 91 million pounds of herring, and 53 million pounds of halibut.

3 How much is this seafood worth?

The amount fishers were paid for their harvests increased from \$665 million in 1981 to \$1.6 billion in 1992. The wholesale value of the harvest also doubled over the same period to more than \$2.8 billion in 1992. This is greater than the entire state operating budget.

4 In addition to jobs and food, what other public benefits does the industry provide?

The fishing industry paid about \$64 million in major taxes and fees in fiscal year 1993. The Fisheries Business Tax alone brought state government \$43 million in fiscal year 1993. Of this, cities and boroughs received \$21 million.

5 What does it cost to manage Alaska's commercial fisheries?

The state spent about \$85 million to manage Alaska's commercial fisheries in fiscal year 1993. These expenditures were offset by about \$88 million in revenues for a net revenue gain of about \$3 million. The cost of management is a mere 3% of the wholesale value of Alaska's seafood products. Seafood harvests produce a big bang for every buck spent.

6 In terms of state spending alone, what percentage of the budget goes to commercial fisheries management?

In fiscal year 1993, the state's General Fund budget was \$2.8 billion. During the same year, commercial fisheries management cost \$57 million in general funds, about 2%.

7 How does Alaska rank as a seafood producer?

Alaska is one of the top ten seafood harvesters in the world, along with Japan, Russia, China, Peru, and others. Nationally, Alaska supplies roughly 54% of the total U.S. seafood harvest and more than 90% of the Pacific salmon harvested.

Is it expensive?

Without a doubt projects, such as the statewide survey, that provide information needed for good fisheries management cost money. Nevertheless, considering the great value of Alaska's sport fisheries in providing both recreation and a stable source of jobs and income, cost-effective projects such as the survey are sound investments for the future.

How can anglers help?

The Statewide Harvest Survey won't work without continued angler participation. Survey questionnaires are mailed to a representative sample of Alaska sport fishing license holders. To obtain a true picture of sport fishing in Alaska, information is needed from all types of anglers.

Completed surveys are needed from individuals who bought a license and didn't get a chance to fish, from those who fished just once or twice and weren't very successful, and from those anglers who seem able to catch fish on every cast. Anglers who receive a survey should take a few minutes to complete it. This extra effort by those selected to participate will be appreciated by today's anglers and those yet to experience Alaska sport fishing.



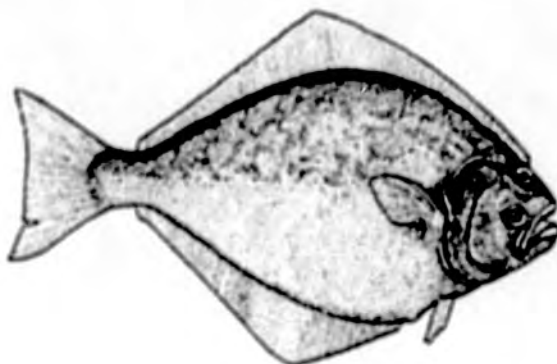
For more information contact:

Alaska Department of Fish and Game
Division of Sport Fish
Research and Technical Services Section
333 Raspberry Road
Anchorage, AK 99518-1599
(907) 267-2369



The Alaska Department of Fish and Game receives federal funding. All of its public programs and activities are operated free from discrimination on the basis of race, religion, sex, color, national origin, age, or handicap. Any person who believes he or she has been discriminated against by this agency should write to:

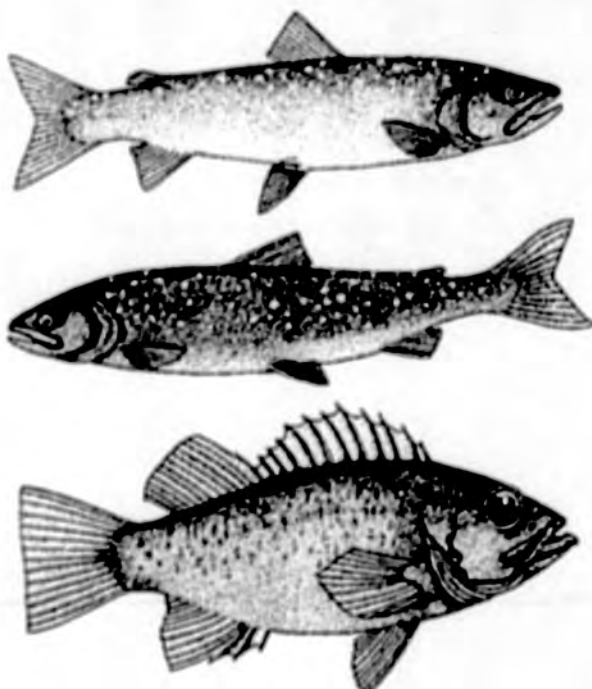
OEO
U.S. Department of the Interior
Washington, D.C. 20240



October 1992

The Statewide Sport Fish Harvest Survey:

*A way for anglers to participate in decisions
concerning Alaska's sport fisheries.*



Alaska Department
of
Fish and Game

*Division of Sport Fish
Research and Technical Services Section
Anchorage, Alaska*

What is the Statewide Sport Fish Harvest Survey?

The Statewide Sport Fish Harvest Survey is a method used by the Sport Fish Division of the Alaska Department of Fish and Game to inexpensively obtain information on sport fishing participation, catch, and harvest (fish kept) in Alaska. Each year questionnaires are mailed to a sample of individuals licensed to sport fish in the state. The information resulting from anglers' responses is used to manage Alaska's diverse and increasingly popular sport fisheries.

Why use this method?

The other means available to obtain this information on sport fishing is the creel survey, which involves contacting anglers at the fishing site. Interviewers ask anglers how long they fished, what they caught, and what they kept. This approach provides information for fisheries in which decisions must be made during the season, but is too expensive to conduct for every important Alaska sport fishery.

How does it work?

Mail questionnaires.

The survey is based on mailing questionnaires to a representative sample of approximately 30,000 Alaska sport fishing license holders.

Although individual license holders are selected to receive a questionnaire, they are requested to provide a record of their entire household's sport fishing. This approach provides data for both licensed anglers and unlicensed anglers, such as those under 16 years of age. Questionnaire recipients are asked the number of anglers, days fished, and number of trips for each location fished, as well as the number of fish caught and kept by species.



Reminders.

Individuals who do not return the initial questionnaire are mailed a reminder letter and a replacement questionnaire. If a response is not received after the first reminder, a second reminder and a questionnaire are mailed. This approach increases the available data and promotes response that is representative of all angler households that fished in Alaska.

Response.

Thanks to the willingness of anglers to spend a few minutes to carefully complete and return the questionnaire, this method has proved successful in meeting information needs for many of Alaska's sport fisheries. Of the surveys delivered to angler households, over 55% are completed and returned. This is a good response rate for surveys of this type.

How good is the information?

The quality of the information resulting from the survey is primarily dependent on the number of anglers who respond and on the completeness and accuracy of their responses.

Error detection procedures.

Most anglers respond fully. Responses for specific fishing sites are properly recorded and reported harvests are reasonable for the sites fished. These responses require no editing.

Unintentional errors or unreasonable responses are detected by a series of computer editing programs, which speed processing, maintain data consistency, and improve accuracy.

Number of responses.

In general, the quality of the survey information improves as the number of responses increases. Information for the entire state, for regions, and for large fisheries is considered good. For some small fisheries for which response is low, information is used with caution.

Comparison with other information.

Specific on-site creel surveys described earlier provide a basis for comparison with the statewide survey. The two methods have provided statistically similar information.

How is the information used?

Evaluation, conservation, regulation, assessment.

Information from the survey is used to identify the need to study fish populations, to improve fisheries, and to establish regulations. Information is also used to evaluate the impacts of projects and regulations. For example, survey information might be used to detect: increased fishing effort following access development or improvement, increased catch at a stocked location, decreased catch for a depressed fish population, or changes in effort and success in response to regulations that alter bag limits, fishing methods, or seasons.

Planning and policy making.

Fishery managers and policy makers examine several years of survey information to spot trends. This helps them understand the history and direction of Alaska's sport fisheries so that they can develop and refine programs to address future needs. They also use the information to assess the benefits and impacts of their decisions. Individuals and the sport fishing industry use the information to assess demand for and economic viability of businesses, such as tackle shops, fishing lodges, and guiding services.



Subsistence In Alaska: 1994 Update

Division of Subsistence, Alaska Department of Fish and Game
Box 25526, Juneau, Alaska, 99802 (907) 465-4147
March 1, 1994

Introduction

Subsistence fishing and hunting are important for the economies and cultures of many families and communities in Alaska. This report provides an update on subsistence in Alaska, including participants, harvest levels, and current legal issues.

What is Subsistence?

State and federal laws define subsistence as the "customary and traditional" uses of wild resources, for food, clothing, fuel, transportation, construction, art, crafts, sharing, and customary trade. Customary and traditional uses of fish and game are important to Alaskans from diverse cultural backgrounds, including Aleut, Athabaskan, Alutiiq, Euroamerican, Haida, Inupiat, Tlingit, Tsimshian, and Yup'ik. Harvesting, sharing, and using fish and wildlife are integral to the customs and traditions of a variety of cultural groups.

Subsistence uses also are important for Alaska's economy. Many Alaskan communities depend upon mixed, subsistence-cash economies, where subsistence production

is a major economic sector. The household economies of many families are dependent upon food and raw materials from subsistence activities.

State and federal subsistence statutes recognize the importance of customary and traditional subsistence uses of wild resources. Subsistence uses are given a preference over commercial fishing and recreational fishing and hunting in state and federal law.

Who Participates in Subsistence Uses?

State and federal laws differ in who qualifies for subsistence uses. Currently, all state residents qualify for subsistence fishing and hunting under state law. In 1990, there were 550,043 people living in Alaska (Fig. 1).

Under federal law, rural residents (about 21% of the population 1990) qualify for subsistence fishing and hunting on federal lands in Alaska. Of the 116,653 rural residents 55,888 were Alaska Natives (48%) and 60,765 were not Alaska Native (52%), while of the 433,390 urban residents, 29,810 were Alaska Natives (16%) and 403,580 were not Alaska Natives (84%).

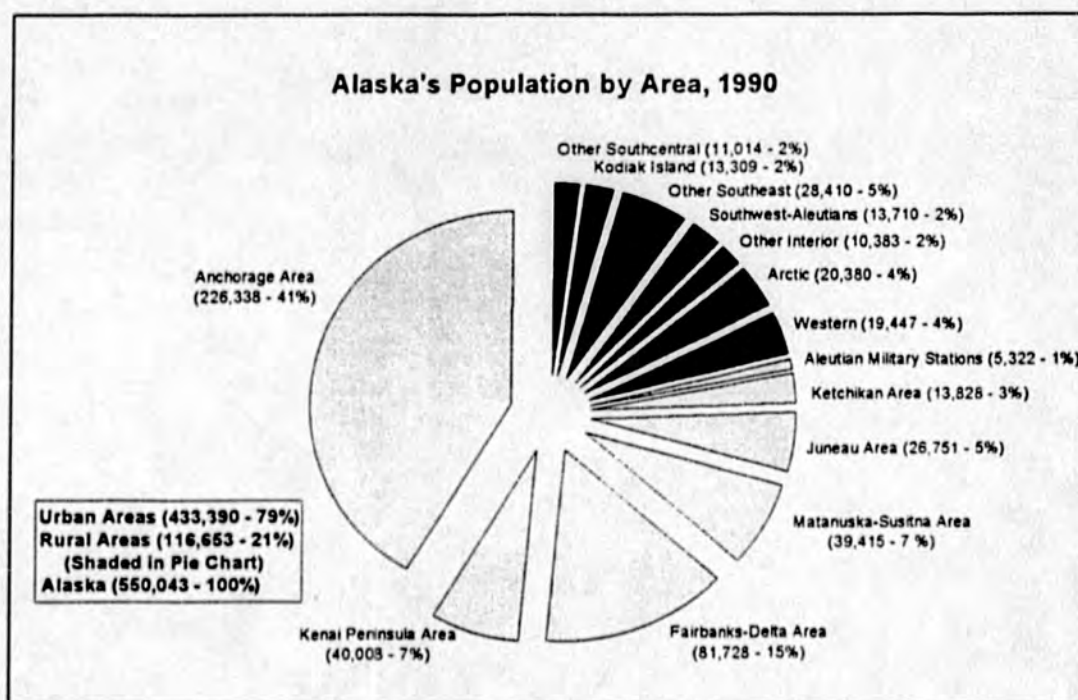


Figure 1

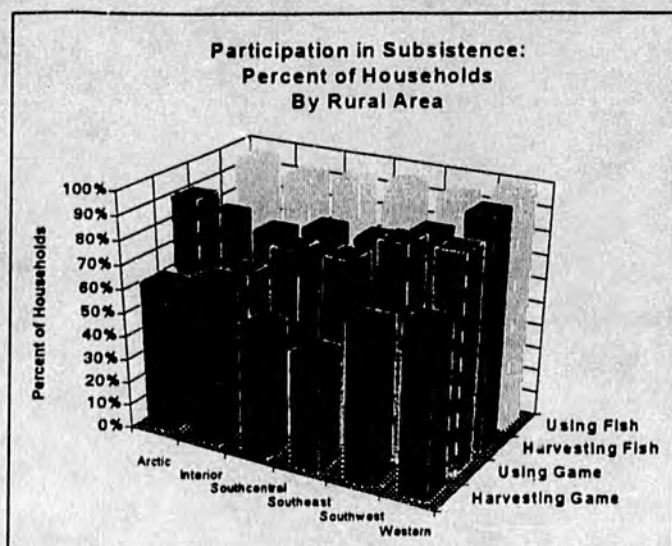


Figure 2

A substantial proportion of rural households harvest and use wild foods (Fig. 2). For surveyed communities in different rural regions, from 92%-100% of sampled households used fish, 75%-98% used wildlife, 75%-98% harvested fish, and 48%-70% harvested wildlife. Because subsistence foods are widely shared, most residents in rural communities make use of subsistence foods during the course of the year to some extent. A substantial number of urban residents engage in hunting and fishing also, as shown by the number of licenses sold in 1991: Anchorage-Matanuska-Susitna Area (32,428; 12 percent of all residents), Fairbanks Area (11,059; 14 percent), Kenai Peninsula Area (8,282; 20 percent), Ketchikan (2,648; 19 percent) and Juneau (3,683; 14 percent).

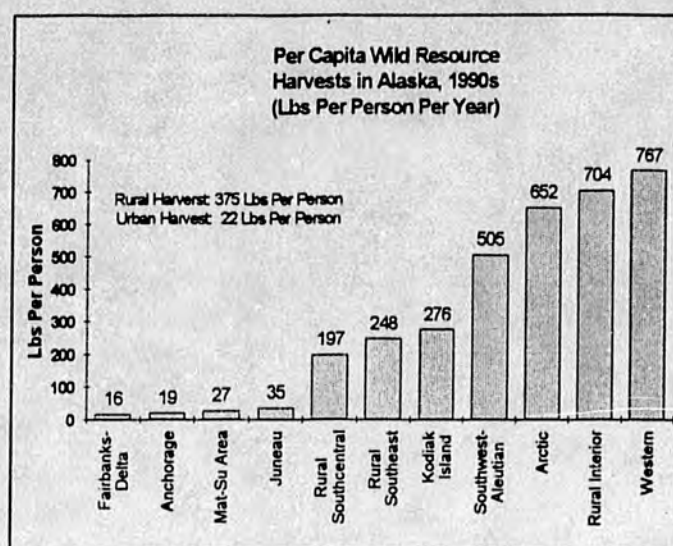


Figure 4

Wild Food Harvests in Alaska

Subsistence fishing and hunting provides a major part of the food supply of rural Alaska (Fig. 3). Our best estimate is that about 43.7 million lbs (usable weight) of wild foods are harvested annually by residents of rural areas of the state, and 9.8 million lbs by urban residents.

On a per person basis, the annual wild food harvest is about 375 lbs per person per year for rural areas (about a pound a day per person), and 22 lbs per person for urban areas (Fig. 4). Harvests vary substantially by area, with the greatest average regional harvests (about 500-800 lbs per person) in communities off the state's road system.

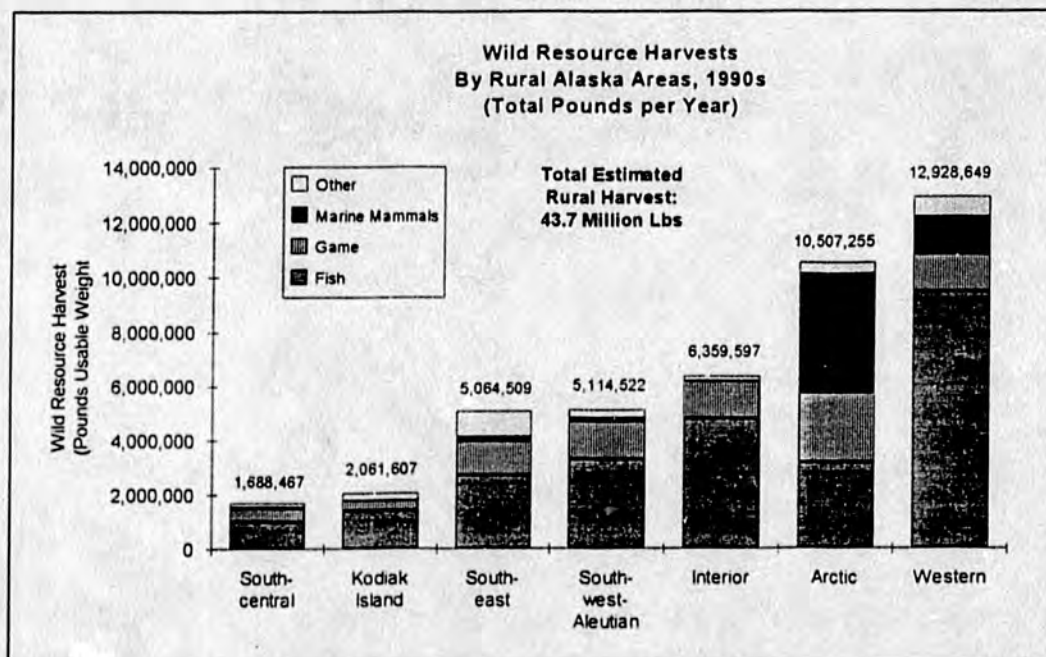


Figure 3

The composition of the wild food harvest by rural residents is about 59% fish, 20% land mammals, 14% marine mammals, 2% shellfish, 2% birds, and 2% plants (Fig. 5). The harvest by urban residents is 68% fish, 30% land mammals, 1% birds, and 1% shellfish and plants.

The Nutritional Value of Subsistence Harvests

The subsistence food harvest provides a major part of the nutritional requirements of Alaska's population.

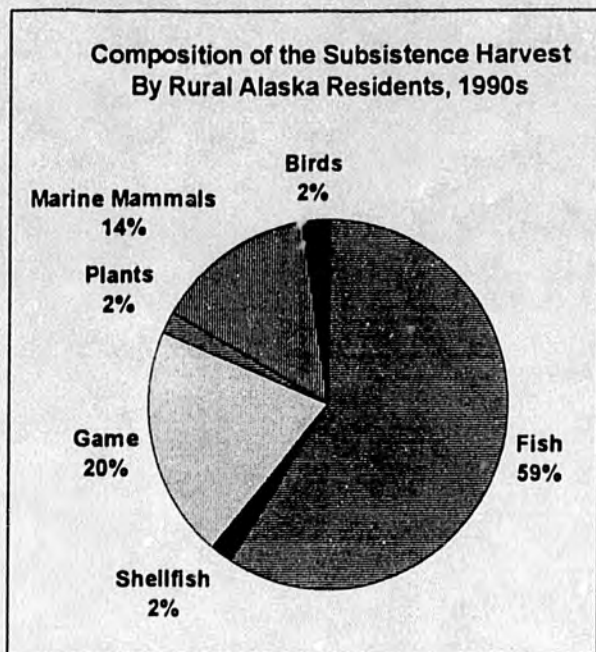


Figure 5

The annual rural harvest of 375 lbs per person contains 243% of the protein requirements of the rural population (that is, it can supply about 107 grams of protein per person per day; about 44 grams is the mean daily requirement). The subsistence harvest contains 35% of the caloric requirements of the rural population (that is, it contains about 840 Kcal daily, assuming a 2,400

Kcal/day mean daily requirement). The urban wild food harvests contain 15% of the protein requirements and 2% of the caloric requirements of the urban population.

The Monetary Value of Subsistence Harvests

Subsistence fishing and hunting are important to the local economies of many areas in Alaska. Attaching a dollar value to subsistence uses is difficult, as subsistence products generally do not circulate in markets. However, if families did not have subsistence foods, substitutes would have to be imported and purchased, which would require larger cash incomes. If one assumes a replacement expense of \$3-\$5 per pound, the simple "replacement costs" of the wild food harvests in rural Alaska may be estimated at \$131.1-\$218.6 million dollars annually (Fig. 6).

The monetary value of subsistence harvests is substantial when compared with cash incomes of families in many rural areas. For instance, the per capita cash value of subsistence foods in the rural interior (\$3,063 per person) compares with a per capita income of only \$6,205 for Native families -- the cost of replacing subsistence foods would be 49% of mean incomes in that case. Similarly, subsistence replacement costs represent 59% of Native family income in the western region, 31% of Native family income in the arctic region, and 22% of Native family income for all rural Alaska. The replacement value of wild

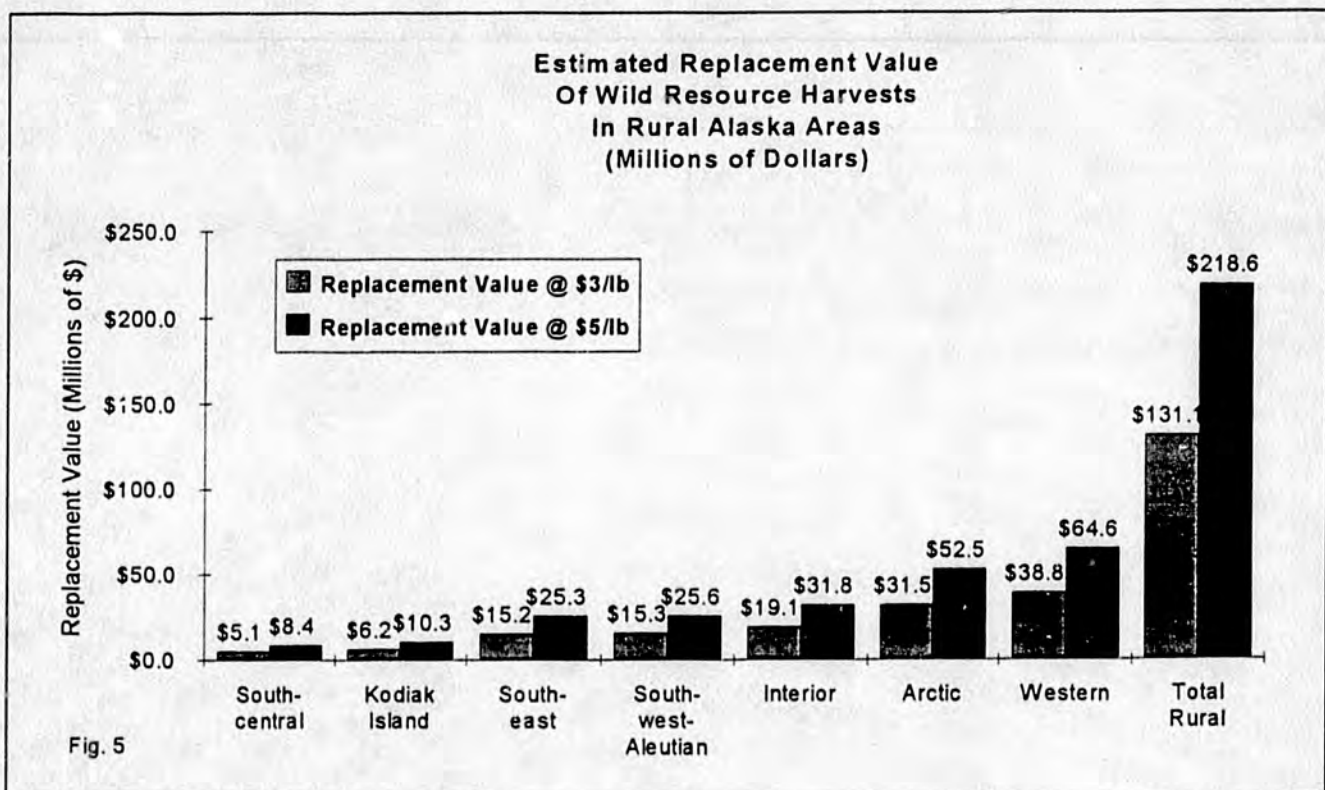


Figure 6

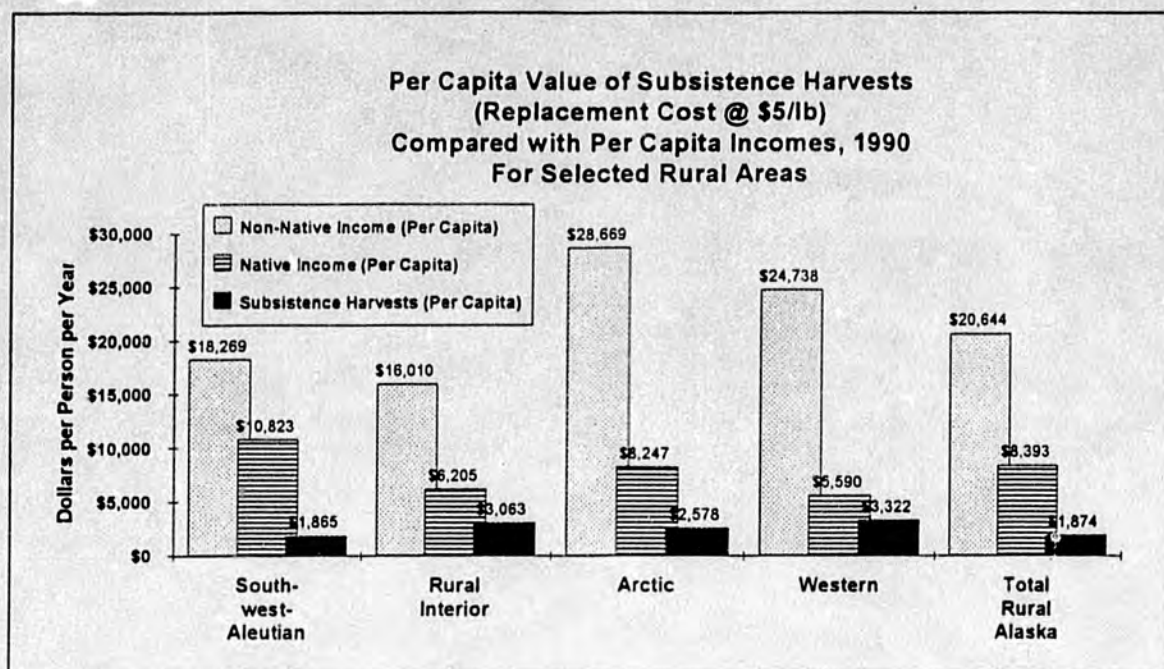


Figure 7

foods represents about 10% of the average rural non-Native income (Fig. 7). Clearly, many families would have difficulty paying cash for foods to replace the subsistence harvest

Real Employment

Subsistence harvesting, processing, and non-market distribution employ large numbers of rural residents annually. While wage paying jobs are commonly few and insecure in rural areas, work in fishing, hunting, and processing wild foods employs people consistently from one year to the next. For instance, in Ft. Yukon along the Yukon River in 1987, 82% of households hunted, and 65% fished. The subsistence take was about 680 lbs per person. These activities employed more people than the single largest wage employer in Ft. Yukon (local government), which employed persons from 40% of the community's households that year.

Subsistence activities are organized locally and draw upon local knowledge and skills. Subsistence is an area of life where extended families can support themselves in meaningful, productive work.

Legal Framework for Subsistence Management

Subsistence management has undergone considerable change since 1989, when state law fell out of compliance with federal requirements. In 1994, subsistence hunting and fishing was being managed under two separate legal frameworks. The Alaska Boards of Fisheries and Game

developed subsistence regulations for state and private lands and navigable waters, for which all state residents qualified. A Federal Subsistence Board developed subsistence regulations for federal public lands and waters, for which rural residents qualified. In addition, the federal National Marine Fisheries Service and Fish and Wildlife Service regulated marine mammal hunting under the Marine Mammal Protection Act, for which Alaska Natives qualified.

State and federal governments agree that split federal-state management of fish and wildlife is undesirable. However, the way to regain unified state subsistence management authority is uncertain at this time. It is expected that the federal subsistence management program may continue to grow over the next few years, and that jurisdictions and authorities will ultimately be clarified through administrative and judicial activity.

Summary

Subsistence continues to be an important part of the diverse cultures and regional economies in Alaska. Subsistence fishing and hunting produce a substantial portion of the state's food supply, particularly in rural areas. Subsistence provides a measure of economic stability in areas with mixed, subsistence-cash economic systems. And subsistence expresses customary and traditional values and ways of living that are important to Alaska's diverse cultural groups.

Prepared by Robert J. Wolfe and Robert G. Bosworth

SALMON FISHERIES

State-Management

Salmon -- Sockeye, Pink, Chum, Coho, Chinook

Joint State/Federal Management

Southeast Alaska Troll Fishery, Chinook and Coho

Federal Management

None

MANAGEMENT STRATEGY

Time/Area Closure

Escapement Enumeration -----> Escapement Goal

Escapement Enumeration

Tower counts, sonar counts, weir counts, aerial survey counts, foot survey

Fishery Monitoring

Processor reports, catch records (fish tickets), catch stock identification

Escapement Goals

Expand fishing opportunities to increase harvests during strong runs and reducing fishing by time/area closures to reduce harvests during weak runs.

MAJOR ISSUES

1. Depressed Stocks and Limited Escapement Enumeration

e.g., AYK chum salmon, Prince William Sound pink salmon, Establish biological escapement goals and escapement enumeration programs to stocks and areas where currently not available.

2. Allocation of catches and burden of conservation in mixed stock fisheries.

e.g., Yukon River, Alaska Peninsula, Cook Inlet, Kodiak

3. Update and Improve Sonar Technology.

Replace outdated equipment, improve and develop AYK sonar projects.

4. Bycatch in Groundfish Fisheries

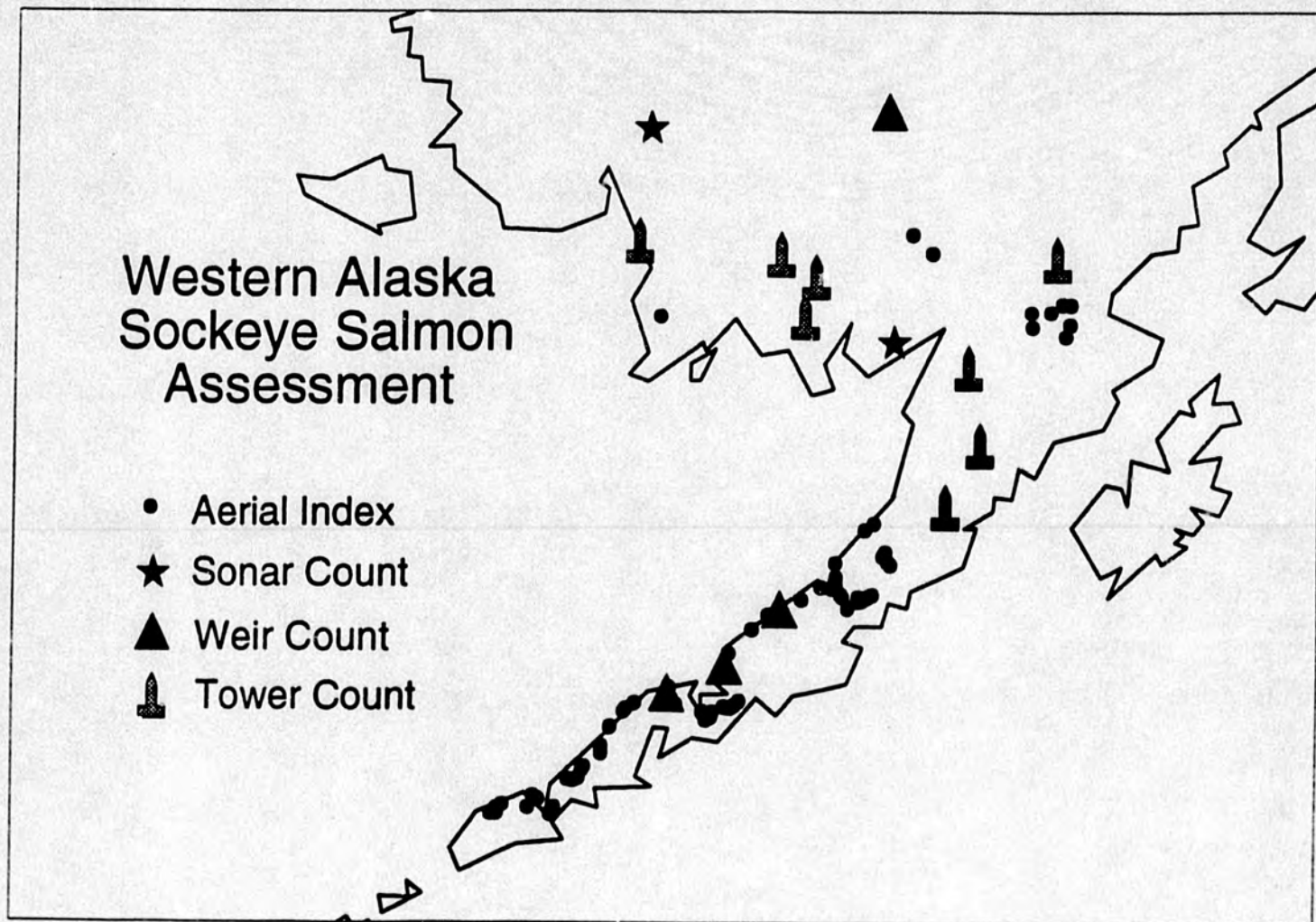
Limits on incidental take of king and chum salmon in groundfish trawl fisheries

5. Threats of Federal Management Incursion

Potential for salmon stocks listing under ESA to preempt traditional Alaskan fisheries.

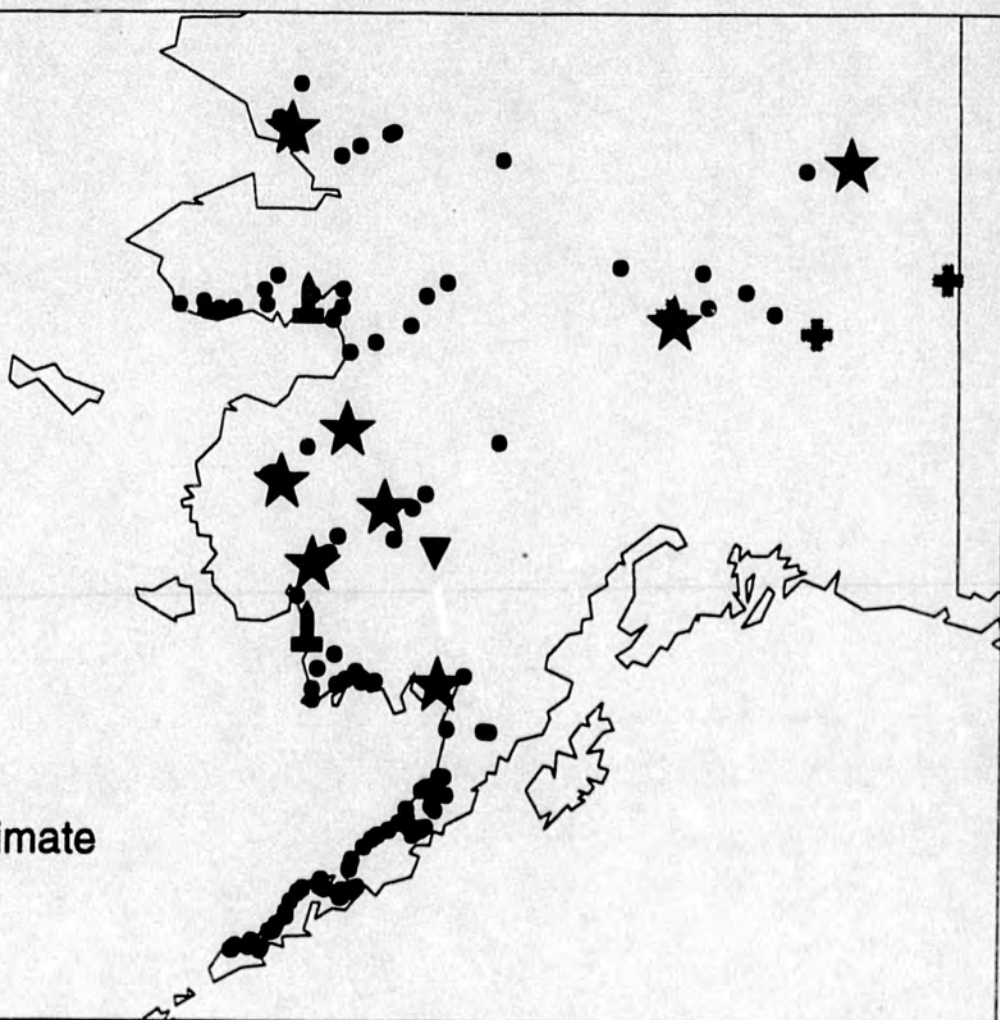
Western Alaska Sockeye Salmon Assessment

- Aerial Index
- ★ Sonar Count
- ▲ Weir Count
- ⚓ Tower Count



Western Alaska Chum Salmon Assessment

- Aerial Index
- ★ Sonar Count
- ▼ Weir Count
- ⚓ Tower Count
- ✚ Escapement Estimate



Western Alaska Escapement Goals In Place

Sockeye

Chum



Tower Count



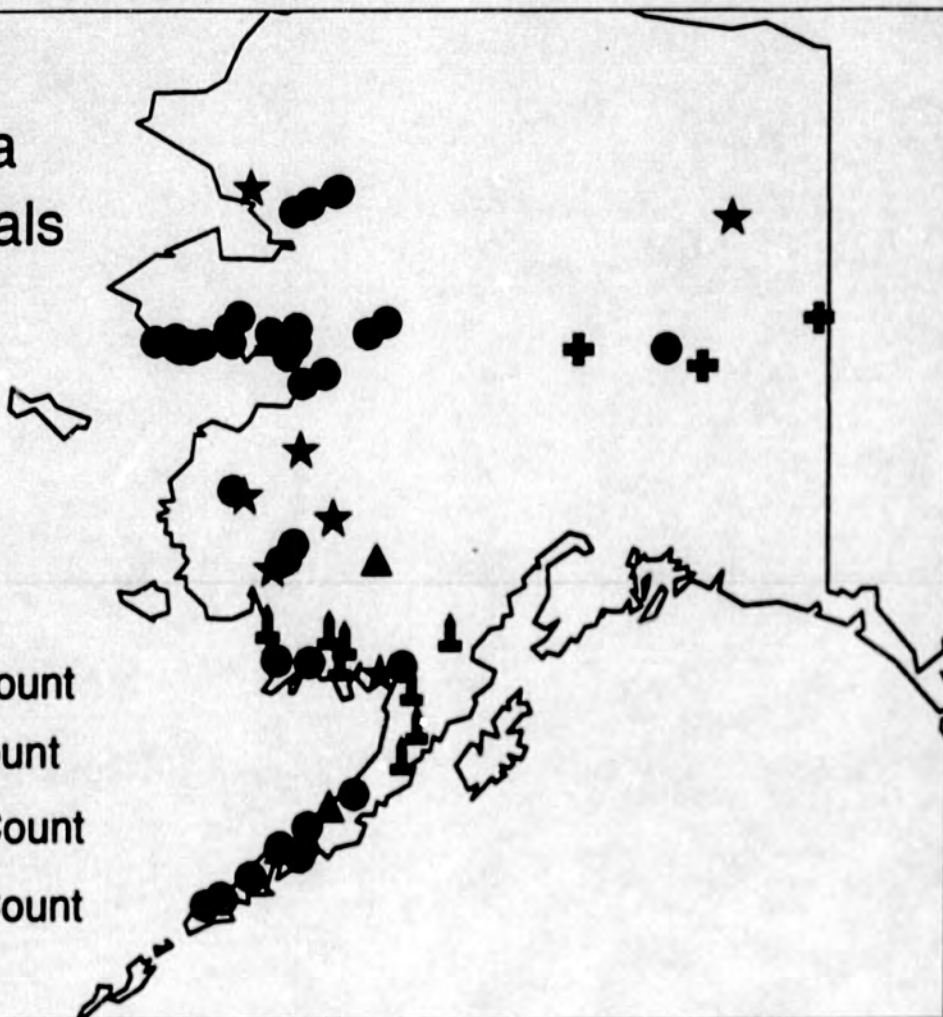
Weir Count



Sonar Count



Aerial Count



1-30-95

House Resource Committee Short Overview of CFMD Division

Introduction(s): Good Morning, my name is Dr. Jeffery Koenings and I am the director of the Commercial Fisheries Management and Development Division.

This morning I would like to briefly introduce you, first to the CF Division, second to a few examples of recent ^{directional} changes ~~of~~ fisheries management and development programs, and third to some present day resource problems.

#1 Overview of the CFMD Division:

The division is responsible for the sustained yield management of the state's commercial, subsistence and personal use fisheries; the development of new fisheries; and the programmatic support for the state's private-sector mariculture and salmon ranching industries. The division also plays a major role in the management of fisheries in the federal 200-mile EEZ, in several international treaty negotiations (SE and Yukon); and, more recently, in addressing concerns over federal legislation affecting Alaska's fisheries e.g., the ESA.

The divisional organization now represents the completed merger between the old FRED and Commercial Fisheries Divisions. The present division is organized into a

headquarters office and 4 regions:
Southeastern (Scott Marshall), Central
(John Hilsinger), Westward (Pete Probanco),
and AYK (Tom Kron).

The division operates with nearly 300 full time and 555 PPT positions; and a proposed FY 96 general fund budget of \$30 million with an overall budget of \$42 million. The FY 96 overall budget is \$8 million less than the budget for the combined divisions in FY 92.

The direct and indirect economic benefit of the commercial fishing industry is of major importance to the entire state. For example, the seafood industry is the state's largest private employer both in terms of income and employment with roughly 33,000 to 36,000 jobs. The seafood harvesters are small businessmen that account for 8,000 to 12,000 full time job equivalents. 77% of these commercial fishing permit holders are Alaskan residents. For more information please see this new brochure on the Alaska Seafood Industry that was developed by all segments of the fishing community.

The cultural and economic value of the subsistence fishery is even harder to quantify, in direct economic terms, than the commercial fishery. To many it is beyond value, and that is understandable. Recently, subsistence fishers have repeatedly told me that their subsistence

lifestyle, a combination of fishing, hunting, berry picking etc, is fueled, to varying degrees, by their incomes from commercial fishing. My point being that there is absolute value and real benefits in having strong, well managed runs of fish so that both the subsistence users and commercial users are provided for.

#2 Recent Examples of Changes to Fisheries Management and Development Programs:

Overall the state's fisheries resources appear to be vibrant and healthy, although problem areas do exist especially in Western and Interior Alaska. Last year the commercial harvest of 196 million salmon was an all time record. Yet, because of competition from high quality foreign farmed salmon, prices are down and the economic value is declining. The department is responding by managing, within biological constraints, so fishermen and processors can achieve the best product quality and thus higher economic value.

Examples for 1994 include the harvest management of enhanced and wild pink salmon in FWS, chin salmon in the Ketchikan River, the herring fishery in the Togiak district, and pink salmon in Norton Sound.

In developing new fisheries, the division has pioneered new cooperative efforts with private industry to assess the health of the sea urchin population in the Ketchikan

area prior to a commercial fishery.

The project provides for close cooperation between local divers and processors and is funded entirely by private dollars and by the sea urchin resource itself, and not by the general fund. If successful, the fishery could be worth \$30 million annually to southeast fishermen and may become the third largest fishery in state waters.

Reasonable and responsible development of our renewable fishery resources will lead to increased numbers of jobs for Alaskans.

2) Resource problems:

Despite the general abundance of salmon, which are now on the high end of their productive cycle, we do have localized resource problems. For example, the chinook salmon in the Kuskokwim valley, the chum salmon in parts of western and Interior Alaska, Walleye/Stellar sturgeon salmon in ID, and perhaps the sockeye salmon of Chukotka Sea. Also, the harvesting populations in FYB are in horrible shape and are not fishable.

However, the biggest challenge throughout the state is the management of our shellfish resources. From Norton Sound in the north to Sitka in the south there are ID, ID, Kodiak, Cook Inlet, and FYB. The crab populations are falling. Some of the most important crab fisheries are in the Norton

The above is a list of the names of the persons who have been appointed to the various positions in the office of the Secretary of the State of New York.

The following is a list of the names of the persons who have been appointed to the various positions in the office of the Secretary of the State of New York.

These are the names of the persons who have been appointed to the various positions in the office of the Secretary of the State of New York.

