

**Testimony**  
**Of**  
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**Fishing Vessel Owners Association**  
**Before**  
**The**  
**Senate Subcommittee on Oceans and Fisheries**  
**July 29, 1999**

Mr. Chairman:

On behalf of the Fishing Vessel Owners Association (“FVOA”), I would like to thank you for the opportunity to provide this statement. The FVOA is a trade association representing the owners of 84 hook-and-line fishing vessels that operate in fisheries from California to Alaska, and in the mid-Pacific Ocean. Our fisheries include halibut, sablefish, and Pacific cod in the Bering Sea and Gulf of Alaska, and sablefish off the coasts of Washington, Oregon, and California, as well as albacore within and beyond the United States Exclusive Economic Zone in the Pacific Ocean. Although I am, at present, a member of the Pacific Fishery Management Council, and I am a former member of the North Pacific Fishery Management Council, I provide this statement solely in my capacity as Manager of the FVOA. I note that the Deep Sea Fishermen’s Union, which represents the crewmen on vessels owned by FVOA members, has endorsed this statement.

**SUMMARY**

The FVOA and DSFU believe that the 1996 amendments to the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1801, *et seq.*) have

provided, in several respects, the basis for improved management of our nation's fisheries. The Act's National Standards on safety (National Standard 10, 16 U.S.C. 1851(a)(10)) and bycatch (National Standard 9, 16 U.S.C. 1851(a)(9)), are notable for the focus that they have provided on critically important aspects of fisheries management. The FVOA and DSFU were joined by the Alaska Crab Coalition ("ACC") in first proposing the enactment of these new National Standards, and in securing wide support among Washington State and Alaskan fishing industry organizations. The FVOA, DSFU, and ACC also contributed to the development of conservation-related amendments to the Magnuson-Stevens Act in 1990.

The habitat provisions of the 1996 amendments have contributed to the progressive management of our fisheries. In particular, these provisions have helped to draw attention to the need for actions to reduce the impacts of trawling on the benthic environment, which serves as nursery grounds for valuable species of fish. The FVOA, DSFU, and ACC took the initiative among fishing industry groups to propose habitat-related amendments during the process leading to the 1996 amendments.

Most importantly for the FVOA and DSFU, the 1996 amendments preserved the Individual Fishing Quota ("IFQ") program that had been established for the halibut and sablefish fisheries off the coast of Alaska. This program, which ended the deadly and damaging open access fishing derbies, after seven long years of preparation by the North Pacific Fishery Management Council and the Department of Commerce, has been the great success that its proponents predicted.

Based on the very favorable experience in the halibut and sablefish fisheries, the FVOA and DSFU believe that individual transferable quotas should be available for application to any fishery in the United States Exclusive Economic Zone. **Therefore, the FVOA and DSFU urge Congress to allow the statutory moratorium on individual quotas to expire in accordance with its terms.** 16 U.S.C. 1853(d)(1). This position is strongly supported by the ACC, as well as by all the regional fishery management council

chairmen. Equally notable is the fact that the report to Congress by the National Research Council of the National Academy of Sciences, as directed by the Congress in the 1996 amendments (section 108(f), P.L. 104-297) definitively describes the benefits of individual fishing quotas. Executive Summary, Prepublication Copy, December 18, 1998.

The FVOA and DSFU also ask Congress to extend to the Pacific Region the research plan provisions of the Magnuson-Stevens Act . 16 U.S.C. 1862. As discussed further, below, there is an urgent need for a comprehensive observer program in the depressed groundfish fisheries off the Pacific Coast. There is simply no other way to obtain reliable data on bycatch of depressed, and even threatened, species. While there is a reasonable expectation of some federal funding for such a program, fees on industry may become necessary. The fishing industry stands to benefit from improved conservation of our public resources. Consequently, the industry should be prepared to pay for the needed observer program, if federal funding is inadequate or unavailable. Playing Russian Roulette with our fisheries has proved disastrous to important groundfish species and to the industry that has depended on them. We must have observer data in order to manage our fisheries with confidence that we are doing the right things.

### **Conservation**

Replacement of the open access race for fish by the halibut/sablefish IFQ program has resulted in improved conservation and management. The incidental catch of halibut in the directed sablefish fishery has declined 38%. The incidental catch of groundfish in the sablefish fishery has dropped by 39%. Halibut mortality due to lost fishing gear has decreased by 59.65% (translating to an average \$3.5 million dollar saving, annually).

Incidentally caught sablefish is no longer discarded in the directed halibut fishery. Sablefish in the western and central Gulf of Alaska is now fully harvested generating an economic gain for the industry (an average \$3.93 million gain, annually).

These improvements accord with the principal purpose of the Magnuson-Stevens Act, which is conservation, and with a major objective of that statute, minimizing bycatch and related mortality. 16 U.S.C. 1851(a)(1), (9).

### **Safety**

Replacement of the open access race for fish by the IFQ Program has greatly improved the safety of life in the halibut and sablefish fisheries off the Alaskan coast. The former halibut fishing derby was the second most dangerous occupation in the United States (preceded only by the Bering Sea crab fisheries).

As noted above, the Magnuson-Stevens Act requires that fisheries management promote the safety of human life at sea. 16 U.S.C. 1851(a)(10).

### **Communities**

Community development quotas, which are integral to the halibut/sablefish IFQ program, have assured isolated, low-income, Alaskan native coastal communities a major source of employment and revenue. At the same time, economic and social disruption of other communities has been avoided; the top five halibut ports and the top four sablefish ports remain the same as under the open access system. Small vessels serving minor ports have been guaranteed their place in the fisheries, and an industry fee-based loan program has been established for the owners of those vessels and for new entrants to the fisheries. insert In short, this IFQ program has increased the overall value of the fisheries, making it possible to dedicate a portion to the poorest communities, without adversely affecting the others.

The Magnuson-Stevens Act requires that fisheries management take into account the interests of fishing communities. 16 U.S.C. 1851(a)(8).

### **Overcapitalization**

Excess capacity in fisheries has been identified as one of the fundamental causes of resource declines, unsafe conditions, lost economic efficiency, and lower quality product. The halibut/sablefish IFQ program has resulted in a reduction of the halibut fleet from 3,450 (1994) to 1,601 (1998). 1999 NMFS RAM Report. Conservation risk associated with fishing pressure on the resources has declined radically. Unsafe conditions due to 24-hour halibut derbies and 2-week sablefish seasons have disappeared, as fishermen have gained the opportunity to conduct their operations in periods of good weather during eight months of the year. Longer seasons have led to full-time employment on vessels and in processing plants, and higher fish values have resulted in better lives for vessel owners and crews. Slower paced fisheries have allowed much improved handling of the catches, and thus, better quality product for the consumer, as discussed below.

The Magnuson-Stevens Act provides for consideration of economic efficiency, and for reduction of excess fishing capacity. 16 U.S.C. 1851(a)(5), 1861a (a)-(e). It is reliably estimated that a government-funded buyback achieving what was accomplished by the halibut/sablefish IFQ program would have cost the taxpayers \$318.8 million.

### **Greatest Overall Benefit to the Nation--Conservation, Safety, Efficiency, Quality, Value**

In addition to achieving improved conservation, safety, and efficiency, the halibut/sablefish IFQ program has resulted in improved product quality and higher product value. The slower paced fisheries have translated to greater availability of higher quality product, in particular, fresh halibut for eight months, instead of a few days of the year, and greater bargaining power for U.S. producers in the sablefish export market. Landings of halibut provide a continuous supply of product for eight months, averaging about 12% of the harvest per month. The same is true for sablefish. 1999 NMFS RAM

Report, page 12.

The Magnuson-Stevens Act requires that fisheries management achieve the greatest overall benefit to the Nation. 16 U.S.C. 1851(a)(1); *see* 16 U.S.C. 1802 (28)(A).

## **REVIEW OF THE HALIBUT/SABLEFISH INDIVIDUAL FISHING QUOTA PROGRAM**

As noted above, section 108(f) of the Sustainable Fisheries Act mandated a formal review, by the National Academy of Sciences, of IFQ programs. 16 USC 1853 Note. It was the intent of Congress that the review should provide a basis for future legislative or administrative decisions concerning such programs. Section 108(d)(1)(A) of that statute also imposed a moratorium on new IFQ programs, until October 1, 2000. 16 USC 1853 Note. In that context, this paper provides information on the record of the halibut/sablefish IFQ program, since its inception in 1995.

When the North Pacific Fishery Management Council recommended approval by the Secretary of Commerce of an IFQ system for the halibut and sablefish fisheries, it was on the basis of an administrative process involving extensive debate and intensive analysis. The Council had considered an array of possible management responses to conservation, social, and economic factors at work in the then open access fisheries. These factors were identified, as follows:

- Allocation conflicts;
- Gear conflicts;
- Fishing mortality and other costs due to lost gear;
- Bycatch loss of halibut and sablefish in other fisheries;
- Discard mortality for halibut and other retainable species in the halibut and sablefish fisheries;
- Excess harvesting capacity;
- Product quality, as reflected in halibut and sablefish prices;

- Safety of fishermen;
- Economic stability in the fixed gear halibut and sablefish fisheries and affected communities; and
- Rural coastal community development of a small boat fishery.

The Council ultimately determined that the IFQ system would be the best management response to these factors. This paper addresses the performance of that IFQ system in relation to those factors.

### **ALLOCATION CONFLICTS**

Allocation conflicts between the operators in the halibut/sablefish fisheries generally were found in skirmishes involving halibut. Prior to implementation of the IFQ program, the allocation issues centered around manipulations of when specific area openings would take place in order to advantage or disadvantage various groups.

In the Bering Sea/Aleutian Islands area, there evolved a series of complex clearing procedures designed to make it more inefficient for non-Alaskan-resident-operated vessels. This included such regulations, in the Pribilof Islands area, as constraining trip limits and a requirement that non-resident vessels deliver to Dutch Harbor. This, of course, gave the local fishermen additional fishing time. Similar clearing requirements were established for the Eastern Bering Sea, Area 4E, and the area known as Area 4B in the Aleutian Islands.

The annual meetings of the International Pacific Halibut Commission (“IPHC”), were prolonged for hours on the question of when to have the spring and fall 24-hour openings. Some of the issues that drove this debate were as follows: Were the Canadian or the United States fishermen going to open first to get an advantage on price; would the spring opening conflict with the spring herring opening in southeast Alaska; would the openings conflict with western peninsula salmon seasons; would openings occur during big tides; would openings put product at the docks in Alaska at the right

time for the Sea Land ships; would the fall opening conflict with the State of Alaska sablefish openings; and would that opening conflict with the Russian Orthodox holidays?

None of those issues, which were debated with emotion and zeal, has arisen since the implementation of the IFQ program. When the IFQ program was adopted, the onerous clearing requirements and trip limit regimes in the Bering Sea district were removed (though there are still clearing requirements they are not of an allocative nature). Former Governor of Alaska, Walter J. Hickel, correctly observed of the IFQ program, "Ultimately the free market decides...." Letter from Walter J. Hickel to Bob Alverson, August 27, 1997. All of the concerns of when to fish or not to fish that the industry and fisheries managers debated at length prior to implementation of the IFQ program, are now the business decisions of each and every vessel owner, subject to conservation management regulations. There were 1,601 vessels that participated in the 1998 season and the operator of each boat made his or her own decision when to fish.

## **GEAR CONFLICTS**

The supplemental environmental impact statement ("SEIS") for the halibut/sablefish IFQ program stated:

Although an IFQ program will tend to decrease gear conflicts within the halibut and sablefish fishery, it may increase gear conflicts between halibut or sablefish fishermen and other fishermen by increasing the areas and length of periods in which such conflicts can occur. For example, it is less costly for trawlers to avoid the halibut grounds during brief halibut openings than to avoid these areas most of the year. Similarly, the areas and times with a high risk of gear conflicts are easier to identify and avoid with the current intensive halibut fishing periods than with an IFQ program. No attempt has been made to estimate the magnitude of this effect. SEIS, page 2-7.

Halibut fishermen no longer have gear conflicts with sablefish fishermen. The best sablefish grounds are usually located on the outer continental shelf, or at about 350 to 600 fathoms. The halibut fishery is conducted generally between 100 and 250 fathoms.

The IFQ fishery better allows the participants to target where the fish are located. The time available for the fishermen to decide where and when to set gear allows avoidance of other fishing operations, particularly now that the grounds for halibut and sablefish are no longer saturated with gear.

The statement, “it is less costly for trawlers to avoid the halibut grounds during the brief halibut openings, than to avoid these areas most of the year”, is ironic because the reverse has turned out to be the case. It is very costly for trawlers to avoid halibut grounds, because the trawl groundfish seasons have become very short. This is particularly true in the Gulf of Alaska. Should trawlers inadvertently get into a school of halibut or area where halibut gear is set, the trawl fishermen do not have the time to make optimum adjustments. If the trawlers had the time to make those adjustments, the bycatch and potential gear conflicts could be further reduced.

As it stands, now, the longline IFQ fishermen have adequate time to harvest their quota shares and can avoid most of the intense trawl activity. In fact, the pacific cod fishery in the Gulf of Alaska has been shortened, so that it ends about the time the March 15th IFQ fisheries start, with the result that few, if any, gear conflicts have been occurring with that directed fishery.

The openings set forth below were provided the trawl fleet in the Gulf of Alaska during 1995, 1996 and 1999. The reader can easily see that fishing time is now at a premium to the trawl fleet, as it was to the halibut and sablefish fishermen prior to the IFQ program. The loss of fishing gear, particularly someone else’s, becomes a low priority, when fishing time becomes a high priority.

1995

Pacific Cod	Western Gulf	January 20 to March 17
(inshore)	Central Gulf	January 20 to March 22
Pollock	Western Gulf	January 20 to February 2 June 1 to June 2

July 1 to July 2

October 1 to October 1 (12 hours)

Central Gulf January 20 to January 24

June 1 to June 5

July 1 to July 5

October 1 to October 4

S.E. Alaska Pacific Ocean Perch July 1 to July 9

Plus two days in October

1996

Pacific Cod Western Gulf January 20 to March 3

Central Gulf January 20 to March 18

Pollock Western Gulf January 20 to January 28

June 1 to June 1 ( 12 hours)

September 1 to September 18

Central Gulf January 20 to January 23

June 1 to June 1 ( 12 hours)

September 1 to September 3

S.E. Alaska Pacific Ocean Perch July 1 to July 11 and July 31 to August 7

1999 Sector Area in the Gulf of Alaska

Pacific Cod (Trawl) Inshore 610 Opened 1/20/99 Closed 3/8/99

Inshore 620&630 Opened 1/20/99 Closed 3/14/99

Offshore 610 Opened 4/18/99 closed 6/7/99

Pollock (Trawl) Inshore 630 Opened 1/20/99 closed 1/27/99

Inshore 610 Opened 1/20/99 closed 1/31/99

Inshore 620 Opened 1/20/99 closed 2/17/99

Inshore 640&650 Opened 1/20/99 closed 3/6/99

Inshore	610	Opened 6/1/99 Closed 6/7/99
Inshore	630	Opened 6/1/99 Closed 6/10/99
Inshore	620	Opened 6/1/99 Closed 6/11/99

With the short trawl openings, it has become increasingly easy for the IFQ operators to avoid trawl operations. Additionally, due to the IFQ fleet operations being spread out over time, there is less gear on the grounds at any single time to be encountered by trawlers.

In summary, the SEIS predicted less gear conflicts, and this has occurred. The SEIS' contemplation of IFQ harvesters having conflict between one another has not occurred, largely because sablefish and halibut operations occur at different depth strata, and because of the eight months of fishing time, halibut harvesters can afford to communicate with their fellow fishermen and avoid each others' gear. The same applies for sablefish harvesters. The conclusion of the SEIS about trawlers has turned out to be just the reverse of actual experience. The trawl derbies have increased the trawlers' cost of avoiding gear conflicts.

## **FISHING MORTALITY AND OTHER COSTS DUE TO LOST GEAR**

The SEIS correctly predicted the following with regard to gear loss and related fishing mortality:

There are several reasons why an IFQ program is expected to decrease gear losses and the associated costs. First, it would reduce the amount of gear that is on the grounds at any one time, and therefore, reduce the amount of gear that becomes tangled. Second, it would increase the willingness of fishermen to take more time to avoid tangling gear and to retrieve lost or tangled gear. It would do so by decreasing the opportunity cost of the time required either to set gear so that it is less likely to become tangled or to retrieve it. Third, it would eliminate the current gear losses that occur because fishermen set more gear than they can retrieve before the end of the brief halibut openings. Finally, it would allow fishermen to fish at a pace and in areas, time periods, and weather conditions that decrease gear losses." SEIS, pages 2-6.

The SEIS stated, "There are principally two types of costs associated with gear losses in the halibut and sablefish fishery. There are (1) cost of replacing lost gear, and (2) harvest forgone due to the fishing mortality caused by the lost gear." *Id.* The SEIS estimated that, in 1990, 1,860 skates of gear and two million pounds of halibut were lost. *Id.*

In its annual reports, under the category of waste, the IPHC includes the mortality of halibut due to lost gear. In the 1994 Annual Report, waste was recorded at 2.85 million pounds. The 1995 and 1998 Annual Reports recorded waste as 1.0 and 1.9 million pounds, respectively. This represents a 48% average reduction in waste, or an annual savings of approximately 1.4 million pounds of halibut. This compares impressively with the 50 percent saving predicted by the SEIS. Based on the 1999 Seward, Alaska price for halibut (approximate average, \$2.10/lb), the saving due to reduced waste is approximately \$2.94 million.

The lost fishing gear in the halibut derbies was primarily the result of 4,000 to 6,000 vessels setting their gear all at the same time, and the gear becoming entangled. Gear lost in this manner is a thing of the past. The SEIS estimated the value of lost gear at

\$2.0-\$2.4 million per year in the halibut derbies. SEIS, pages 2-6. Under the IFQ program, the vessels share the grounds over an 8-month season. Gear can be lost due to the normal hang-up on the bottom, but the large amounts of gear lost during the halibut derbies from gear conflicts has come to an end.

There has also been a saving in the amount of gear purchases for each vessel each season. It was not uncommon for vessels to pre-bait and set 80 to 130 skates of gear during a derby opening. Vessels are now fishing with 50 to 70 skates of gear. Additionally, the vessel operators, prior to IFQs, used two different types of gear--one for halibut and one for sablefish. Many harvesters are now using their sablefish gear to harvest the halibut quotas, further reducing gear-related costs to the fleet.

The SEIS predicted a 50% reduction in gear needed to harvest the same amount of fish. SEIS, pages 2-7. That document properly predicted that significantly less gear would be set out.

The open access sablefish fishery had similar problems with lost gear, however, the SEIS did not quantify the loss. It is reasonable to conclude, based on the halibut experience, that the lengthened sablefish seasons under the IFQ program have also resulted in lower gear losses and associated resource mortality than prevailed in the open access fishery.

In summary, fishing mortality of halibut due to lost gear has resulted in at least a 48% reduction in waste recorded by the IPHC, with a net benefit of \$2.94 million annually to the fleet. The IFQ program has resulted in much less gear being set to harvest the quota.

## **BYCATCH LOSS OF HALIBUT AND SABLEFISH IN OTHER FISHERIES**

Prior to the implementation of the IFQ program for sablefish and halibut, the length of the seasons had shortened to a point of causing chaos. The sablefish fishery had collapsed from a 9-month season to a less than a 10-day fishery in the western Gulf of Alaska, and to a five-day season in southeast Alaska.

By 1994, the halibut fishery had become two 24-hour openings, one in the spring and one in the fall. In the mid-1970's, the halibut season had been nine months. By the 1990's, when fishermen harvested sablefish, they were required by regulation to throw away their incidentally caught halibut, and during the halibut derbies, the fishermen were required to throw away the incidentally caught sablefish. The mortality associated with this regulatory bycatch was deducted from the available commercial harvests.

The IPHC recorded the halibut mortality in the directed sablefish fishery by the use of the observer program. The average halibut mortality in the longline sablefish fishery for each of the five seasons preceding the IFQ program was 1,816,000 pounds. The bycatch mortality, after the IFQ program was implemented in 1995 was recorded at 297,000 pounds. This represented an 84 percent reduction in halibut mortality, or a reduction of 1,519,000 pounds annually. There have been no updates in the NMFS database since 1995

The reduction resulted from a variety of several factors. Two of the more important ones were: 1) the fishery slowed down, and juvenile halibut were able to be released with better care, and thus with lower mortality; and 2) the adult halibut were now allowed to be taken and counted against the quota. (Juvenile halibut are not allowed to be landed; they are defined as being less than 32 inches long.)

Similar information is not available to quantify what has taken place with incidentally caught sablefish. The directed halibut fishery is generally conducted in a shallower habitat than that in which the sablefish are usually found, so the numbers of sablefish saved in the halibut fishery would probably not be as great as the numbers of

halibut saved in the directed sablefish fishery. (The deep-water sablefish habitat does, however, have substantial numbers of halibut in the late winter and spring.) The important point is that the fleet is now landing incidentally caught sablefish; less discarded sablefish translates to less waste. That was not the case prior to the IFQ program.

The reduction in halibut mortality in the directed sablefish fishery of 1,519,000 pounds represents approximately a \$3.2 million gain to the longline fishermen, assuming an average 1997 price of \$2.10 per pound. As noted above, prior to the IFQ program, this now-retained bycatch was discarded and deducted from what might be available for commercial harvest.

There was an additional saving to the longline fleet with the implementation of the IFQ program. Prior to 1995, the longline sablefish fishery operated in the Gulf of Alaska with a halibut cap of 700 metric tons. Once this bycatch mortality cap had been accounted for, with the help of the observer program, the directed sablefish fishery was closed. This was having the result in the western Gulf of Alaska, and at times the central Gulf, of stopping the harvest of sablefish, in order to protect halibut. The ability under the IFQ program to keep the sablefish fishery open in the Gulf of Alaska in 1995, 1996, 1997, 1998, and 1999 has allowed for the western Gulf of Alaska harvest level to be fully achieved, and the central Gulf quota to also be harvested. For 1997, in the western Gulf of Alaska, the harvestable amount of sablefish quota shares amounted to 1,690,222 round pounds, representing an additional \$3.93 million to the fleet. (Price \$3.70/dressed, 63% recovery.)

In summary, the IFQ program has allowed the fleet to recapture the lost harvest of halibut that was occurring due to sablefish operations. This gain amounts to an average of \$3.2 million annually since the inception of the IFQs. The program additionally allows for the full harvest of sablefish in the western and central Gulf of Alaska, providing an average annual gain of \$3.93 million. The program has resulted in an 84%

reduction in lost halibut income opportunities that was occurring in the longline sablefish fishery.

### **DISCARD MORTALITY FOR HALIBUT AND OTHER RETAINABLE SPECIES IN THE HALIBUT AND SABLEFISH FISHERIES**

“Conservation and management measures shall, to the extent practicable, (A) minimize bycatch and (B) to the extent bycatch cannot be avoided, minimize the mortality of such bycatch.” 16 USC 1851(a)(9).

Congressional interest and intent with respect to bycatch reduction was clearly reflected in the Senate and House Floor debates in the 104th Congress. Senator Stevens declared that, “Under S.39, the councils will...be required to reduce the amount of bycatch in every fishery around our country.” *Congressional Record*, September 18, 1996 at S10810. He also stated, “We thought Americanization would go a long way toward conserving the fishery resources of this Nation. Foreign vessels have now given way to U.S. vessels that are capitalized now far beyond what we ever envisioned in the seventies, and the fisheries waste continues to get worse in many areas.” *Id.* Senator Murkowski stated, “This will put us on the road to stopping the shameful waste that is currently occurring in many fisheries.” *Id.* at S10820. Senator Gorton remarked, “...I join my colleagues in lauding those provisions that aim to reduce waste and bycatch in the fisheries....” *Id.* at S10814.

On the House Floor, Congressman Young, principal author of H.R. 39, and chairman of the committee of jurisdiction, stated, “The reduction of bycatch in our fisheries is one of the most crucial challenges facing fisheries managers today.” *Congressional Record*, September 18, 1995 at H9116. On passage of S. 39, he stated, “...the bill recognizes that bycatch is one of the most pressing problems facing the continuation of sustainable fisheries....” *Congressional Record*, September 27, 1996 at H11438.

Janet Smoker of Fisheries Information Services ("FIS") completed a review of the IFQ directed sablefish fishery in the Gulf of Alaska relative to the retention of various species caught incidentally. The FIS report examines the 1994 season against the IFQ seasons of 1995, 1996, and part of 1997. The following conclusions were based on the North Pacific Fishery Management Council's observer program.

While conducting a directed fishery on sablefish, some of the target catch is discarded. The retained sablefish has always been high, according to the report. The retained sablefish in the directed longline fishery for sablefish during 1994 was 96.8% (a number that is hard to improve upon), and during the 1995, 1996, and 1997 seasons averaged 97.03%.

One observation concerning the small difference in retained bycatch between the open access period and the IFQ fishery is that there has been very little "high grading" in the IFQ fisheries, indeed, less than in the pre-IFQ fisheries. High grading had been a concern with respect to the IFQ program, when it was under development.

The SEIS noted several very important points relative to this subject. Vessel profit would increase 6 percent, if sablefish under 4 pounds (eastern dressed weight) were discarded, but in so doing the number of fishing days would increase 70 percent. Page 2-14, Supplemental EIS, Dr. Jim Norris. The fishermen would have made more money, but would have worked many more days.

The observer statistics compiled by FIS, which indicate a 97.03% retention of sablefish, suggests that the SEIS was accurate. High grading, which means catching the fish at least twice, is not economical.

The FIS report also indicates that the directed sablefish fishery during the 1994 season was retaining 75.5% of all groundfish, inclusive of sablefish that was being caught. The next three seasons under the IFQ program increased the total groundfish retention to 84.9% of all groundfish species. Discards of groundfish declined from 24.5% of the catch to an average of 15.03% of the catch, representing a 39% reduction in

discarded groundfish.

The retention of groundfish, not including sablefish, increased from the 1994 season level of 25.7% to an average of 34.6 percent during the 1995, 1996, and 1997, seasons. This represented a 35% increase in groundfish retention, not including sablefish.

The halibut discards that occur during the directed sablefish fishery have gone from 21.1% in 1994 to an average of 13.03% during the 1995, 1996, and 1997, seasons. This represented a 38% decline in halibut discards. Discards of halibut under the IFQ program in the directed sablefish fishery are largely halibut that are less than the legal size for retention.

The discards of rockfish and pacific cod in the IFQ fisheries are significantly the result of the rockfish and cod quotas being achieved during the race for fish in those fisheries, which then result in regulatory discards for the remainder of the year for IFQ fisheries. The majority of groundfish discards in the IFQ fisheries are flounders and skates, for which markets have not yet been adequately developed.

In summary, according to the cited evidence and analysis through 1997, the retention of sablefish has remained in the 97% range suggesting very little, if any, high grading. The discards of groundfish in the directed sablefish fishery reduced 39%, for a 84.9% retention of everything caught. The fish currently discarded are primarily skates and flounders for which markets are not available. The halibut discards in the sablefish fishery declined 38%. The IFQ program has, therefore, helped reduce bycatch significantly. Data for 1998 is not available.

#### **EXCESS HARVESTING CAPACITY**

The SEIS made a number of comments with regard to excess harvesting capacity. "The fact that there are too many vessels has been identified as a problem." SEIS, page 2-52. "The Council has considered the introduction of a quota system as a means to enable vessels to leave the industry to receive some recompense through the

sale of quota shares for so doing.” *Id.* “It is hoped that following introduction, transfer of quotas will lead to less efficient vessels leaving the industry.” *Id.*

In 1994, the number of vessels participating in the sablefish fishery opening numbered 1,139, and in the halibut fishery, 3,450. The number of vessels participating in the sablefish fishery in 1995, 1996, 1997, and 1998, were 517, 503, 504, and 449 respectively. The numbers of halibut vessels as being 2,057, 1,962, 1,925, and 1,601. RAM report, 1999 NMFS, page 27.

The reduction of vessels as envisioned by the SEIS is working and is being accomplished without any federal buy-back assistance. The fleet is using the equity value of quota shares to buy itself out. The FVOA estimates that, in order for the Federal Government to have achieved a fleet reduction in the halibut fishery from 3,450 vessels in 1994, to 1,601 in 1998, a reduction of 1,849 vessels, it would have cost at least \$172,432 for each vessel and its potential harvest of fish. This means that the halibut fleet has self-rationalized itself in the amount of \$318,822,000 ( $\$172,432 \times 1,849$  vessels) in four years, without any federal assistance.

There are no mechanisms comparable to IFQ’s in terms of cost effectiveness in reduction of a fleet. The taxpayer cost of one New England buy-out was \$23 million. The impact was minimal. insert update ??

One of the options the North Pacific Fishery Council seriously looked at, when it was considering whether to adopt IFQs for the halibut fishery, was a license limited entry program that would have reduced the halibut fleet from 5000 vessels to less than 1000 vessels. This option would have provided no compensation to the 4000 vessel operators eliminated from the fishery, and accounts, in large part, for the adoption of the IFQ alternative.

## **PRODUCT QUALITY, AS REFLECTED IN HALIBUT AND SABLEFISH PRICES**

The SEIS made numerous predictions regarding the expected effects on product quality, the availability of fresh halibut, and ex-vessel prices. One of the primary goals of the IFQ program was to provide high quality fresh halibut on a continual basis. The 24-hour openings in the derby fisheries limited the ability of fishermen and processors to provide fresh halibut to brief periods of the year, and to very few customers. For example, the Hotel Captain Cook, in Anchorage, Alaska, had to import fresh halibut from Canada to supply his customers, even though Alaska produced more halibut than did any other place in the world. “...I mention the Crow’s Nest Restaurant in the Hotel Captain Cook, which has a reputation of serving nothing but fresh halibut. Prior to IFQs, most of the year we flew fresh halibut in from Vancouver.” Letter from the Honorable Walter J. Hickel to Mr. Bob Alverson, August 27, 1997.

The SEIS had the following specific expectations with regard to the IFQ program. First, the program would provide the flexibility in scheduling landings that is necessary for fishermen and processors to take advantage both of the latent year round market for fresh halibut and the seasonal consumption patterns for sablefish, and to decrease storage time and costs for the halibut and sablefish that are frozen. Second, the program would increase the quality of landed halibut and sablefish, by decreasing the opportunity cost of the time required to assure that the catch is quickly dressed and cared for. Third, the program would eliminate the brief, intensive openings that result in such large concentrations of landings that unloading and processing delays can decrease product quality and prices. SEIS, page 2-4.

Flexibility in scheduling landings to take advantage of a year-round market for fresh halibut and seasonal consumption patterns is evident from the IPHC monthly landing reports for the 1995 through 1998 seasons. NMFS 1999 Report, RAM, Page 12. The fleet has spread its landings over the entire time provided, all eight months. This has allowed the fresh fish market to absorb approximately 75 percent of the harvest. The initial forecast by the SEIS was 50 percent. Supplement 1990 EIS, Page 2-5

A significant purchaser of halibut in the Seward and Seattle area has stated, "With the exception of this year, a majority of the halibut landed since the start of the I.F.Q. system has gone fresh." Letter from Dory Seafoods to Robert D. Alverson, August 28, 1997.

With regard to storage costs and savings, the SEIS stated, "If 75 percent of landings currently are frozen and if an IFQ program would result in only 50% being frozen, the cost savings in 1990 would have been \$4.2 million (\$0.32 per lb. X 25% of 52.6 million lbs.)." SEIS, page 2-5. With 75 percent of the harvest now going to the fresh markets, cold storage saving in terms of 1990 dollars is \$9.8 million. (\$0.32 per lb. X 50% of 61,200,000 lbs (1999 quota)). This saving thus is over twice that forecasted by the SEIS. Additionally, in terms of product quality, the SEIS assumed, on average, that halibut was frozen 6 months a year. This is no longer the case, and the quality is, therefore, higher than anticipated.

The SEIS stated, "The price increase for sablefish is expected to be less than for halibut, because the potential benefits from the fresh fish market are probably less for sablefish". SEIS, page 2-5.

The SEIS greatly underestimated the Japanese frozen market for sablefish, and the marketing advantages that IFQs gave U.S. fishermen, in terms of negotiating leverage in this foreign market. Japan consumes over 97 percent of the U.S.- and Canadian-harvested sablefish. (Harvest guidelines have decreased as well, which has put an upward pressure on prices.) Since the establishment of the IFQ program, the sablefish price has steadily increased. The 1997 average price to fishermen would conservatively be estimated at \$3.70 per dressed pound. The NMFS assumes a 63 percent recovery rate between dressed and round sablefish, therefore in terms of round weight, the price would be \$2.33 per pound.

The SEIS estimated that the round pound price for sablefish would increase \$0.05. That document stated, "In 1991, this would have been a \$0.05 per pound round weight increase in the ex-vessel price or about a \$2.8 million dollar increase in ex-

vessel value.” SEIS, page 2-5.

The price for dressed sablefish in 1991, based on the SEIS, was \$1.59 per dressed pound or \$1.00 per round pound. The 1997 round price of \$2.33 converts to a 1991 price of \$1.98, using a consumer price index regression of .849. In terms of 1991 dollars, the IFQ program added \$0.98 per round pound to the price of sablefish. In terms of the allocated 1997 quota shares, the added value to the resource is \$29,629,207, in 1991 dollars. ( $\$0.98 \times 30,233,885$  1997 round pounds) The prediction of a \$2.8 million gain, therefore, was very greatly underestimated. In terms of taxes to the State of Alaska, under the 3.3% raw fish tax, the gain has been \$957,000 per year on the average, through 1997.

With respect to halibut the SEIS predicted the following: “In summary, it is estimated that an IFQ program would increase halibut ex-vessel prices by \$0.04 to \$0.68 per pound. Given the 1990 landings of 52.6 million pounds, the resulting increase in the ex-vessel value of the fishery would have been from \$2.1 million to \$35.8 million.” SEIS, page 2-5.

The SEIS used a 1990 value for halibut at \$1.78 per pound. The prices for halibut since the IFQ program was initiated in 1995 has been in the \$1.90 to \$2.40 range in the Seward Alaska area. Prices in the Seattle area are generally 35 to 60 cents above Seward prices, largely reflecting transportation costs. Assuming an average price for 1997 of \$2.25 per pound, and using a consumer price regression of .814, the 1990 value would have been \$1.83 per pound. Hence the added ex-vessel value to the industry in terms of 1990 dollars is approximately 5 cents. This would mean an added ex-vessel value to the fishermen of \$2.5 million. Consequently, although there has been, in fact, an increase in price paid to the fisherman, the amount has been at the lower end of the prediction.

It should be noted, however, that this value may be somewhat misleading, in that the halibut industry has completely changed since the implementation of the IFQ

program. There are no more long lines of fishing vessels waiting to deliver halibut. Processors no longer have product stacked on their processing floors for days at a time because freezers are too full. Halibut is now being flown to markets all over the United States and Europe. Prior to the IFQ program, containers of frozen halibut were transshipped to the Seattle area for redistribution. Now, significant amounts of halibut are air freighted out of Anchorage, Alaska. There has been an added cost in air transportation to get good quality fresh fish to distant markets, which does not readily appear as an additional value when only looking at the price the fishermen receives. There are new businesses in air-freighting as well as long-haul trucking out of Anchorage that were not envisioned prior to the IFQ program.

The industry has been revolutionized, and the most important quality aspect for halibut of the new system is shelf life. The better the quality at the boat, the longer the fresh fish can be available to consumers. The need for good quality to ensure shelf life for halibut now is the driving force on prices paid to the harvesters. A letter from Dory Seafoods states:

The majority of the high quality buyers want to know when was the fish caught and how old will the oldest fish be when it is received in the market place. Many buyers will not buy old fish, or if given a choice, they will pay more for fresher fish with a longer shelf life.

I believe the overall quality has improved on air shipments out of Alaska. The fishermen have more time to dress, ice and take care of the product on board the fishing vessels. In addition, the processing plants are receiving smaller quantities per day and, in most cases, are able to ship the product out the same day as received. As a result, the halibut is handled much quicker and received in the market place in better shape than in pre-IFQ years. Letter from Dory Seafoods to Robert D. Alverson, August 28, 1997.

There have been complaints from several shore-side processors that they are not doing well under the IFQ program. It is clear that the raw product cost has not changed very much for halibut from the 1990 prices. It is also evident that the frozen market nature of sablefish makes all ports competitive for sablefish. More importantly, as shown

below, the landings per port have not changed materially. What the fishermen do notice is that those processors that have available to them good and reliable transportation, either air or long-haul trucking routes out of such locations as Anchorage seem to be very competitive for halibut. Those who have chosen as a business decision not to be active in fresh fish marketing probably have lost market share. Processors in western Alaska and the Dutch Harbor area have some access to the fresh markets, but with more difficulty. In these areas, the landed halibut generally reflects a frozen product price. In the case of sablefish, the product must be frozen for export to Japan, and therefore, all Alaskan ports with freezer capacity should be able to participate in that fishery.

Sablefish is unique, in that the final destination is Japan or other Asian markets. Sablefish has very few fresh fish sales. The nature of the flesh quality and high oil content make it necessary to freeze the product. The distribution of sablefish before and after IFQs were implemented can be seen in the RAM reports. There has not been any significant change in landings to particular ports of call. NMFS 1999 IFQ Report.

In summary, it is evident that quality has improved and halibut is now available fresh throughout an 8-month period. Some of the additional values to the fishermen, considering some of the predictions of the SEIS, are \$8.2 million in annual average savings in cold storage costs for halibut; \$2.5 million of additional annual average ex-vessel value of halibut; and \$29 million in added annual average export value of sablefish.

The SEIS discussed savings in gear, food, bait, and fuel costs to the fleet. That analysis estimated annual savings of \$1.8 to \$2.5 million for food; \$3.1 to \$4.0 million for fuel; \$20.0 to \$28.0 million for opportunity cost of labor, and \$9.2 to \$11.7 million for fixed costs. This statement report will not attempt to quantify these actual savings, although they have materialized in all of these categories. These savings and additional values to the fleet have resulted in at least a \$75 million net average annual benefit to the industry.

## **SAFETY OF FISHERMEN**

The SEIS stated:

An IFQ program is expected to increase vessel safety by reducing substantially the incentive fishermen have to disregard factors that increase the risk of accidents. However, due to a lack of reliable data and methodological problems, it is hard to provide quantitative estimates on the linkages between vessel safety and other factors, such as management practices. SEIS, page 2-3.

In the recently released book, Fishing Vessel Safety, Blueprint for a National Program, the National Research Council noted that commercial fishing has one of the highest mortality rates of any occupation and that safety has largely gone unregulated. Page 142. While attributing a large portion of the safety issues to the vessel (e.g., its structure, equipment, and crew), the authors did consider fishery management practices to be one of three major external influences on vessel safety. Page 131. Allocation conflicts have “resulted in a highly competitive operating environment in which fishermen may take unnecessary risks to maintain their livelihood”. Page 132.

During the open access halibut "derbies" which predated the IFQ program, many people lost their lives. In 1992, during the two one-day openings in the Gulf of Alaska, six people died.

In a report from the U.S. Coast Guard, by Captain B. I. Merchant, September 6, 1996, there was comment on the safety record for the first year of the IFQ program. The report focused on the derby years, 1992-1994, and the first IFQ year, 1995. The conclusions were that search and rescue attempts over the 8-month 1995 IFQ season were approximately half the number recorded during the two or three twenty-four hour seasons for each of the years, 1992, 1993, and 1994. Specifically, there were 15 search and rescue attempts in 1995, compared to 33 in 1994, and 26 in 1993.

The report states:

Of note, is the fact that no lives were lost in the four vessel sinkings that occurred

during the 1995 IFQ season...fishermen have been choosing periods of fair weather to fish. This seems to confirm the premise that the I.F.Q. system provides a framework where each master has the greatest possible control over safety issues. Page 1 - Appendix 13

In reports completed by Pacific Associates, a highly qualified fisheries consulting organization, search and rescue cases for the derbies from 1991-1993 were logged at 216, or an average of 30 per derby opening. To date, after two and one-half seasons, there has been one death during IFQ operations. Of the 22 vessel losses in 1996, due to fire and sinking in Alaskan waters, only one vessel is identified by the U.S. Coast Guard as an IFQ participant. The NMFS RAM 1999 Report states relative to reflecting the following. In addition to its enforcement responsibilities, the Coast Guard also monitors safety-at-sea, and reports that, during the 1998 IFQ season, there were 11 Search and Rescue (SAR) missions undertaken (compared with fifteen in 1995, seven in 1996, and nine in 1997). There were no sinkings in 1998 (compared with four in 1997, two in 1996, and two in 1997), and two lives lost (compared with none in 1995, two in 1996, and one in 1997). In the three years prior to the IFQ fishery, there were an average of 28 SAR missions, two vessel sinkings, and two lives lost during the short "derby" seasons. Those deaths that have occurred since the IFQ program began have not been due to heavy weather accidents. Three of the deaths have occurred while the vessels were moored in harbor.

As noted above, due to the high loss of life in commercial fishing activities, the 104th Congress enacted, in section 106(b)(10) of the Sustainable Fisheries Act, National Standard 10, which provides, "Fishery conservation and management measures shall promote the safety of human life at sea." 16 USC 1851(a)(10). Senator Patty Murray stated during the Senate Floor debate on S. 39, the Sustainable Fisheries Act:

...This race for fish creates serious safety considerations in many fisheries. Under this race, fishers feel compelled to keep fishing even when the weather or conditions of the vessel or health of the captain or crew would suggest otherwise. Unless fishery management plans provide opportunities and incentives for fishers

to sit out storms and return to port for repairs or medical attention, lives will continue to be lost...

For this very reason we included promotion of safety of life at sea in the National Standards of the Magnuson Act. Congressional Record, September 18, 1996 at S10818.

## **ECONOMIC STABILITY IN THE FIXED GEAR HALIBUT AND SABLEFISH FISHERIES AND AFFECTED COMMUNITIES**

The Commerce Department, in approving the IFQ program, recognized that the open entry fishery for halibut and sablefish had created an extreme excess of capital investment. The Department observed that the excess capital was causing instability and uncertainty in the fishery. The SEIS states, "However, once the adjustments are made, IFQs would decrease uncertainty and increase the ability of fishermen and processors to plan their participation in the halibut fishery." SEIS, page 2-13.

Of the 7,992 different vessel owners who participated in the halibut fishery between 1984 and 1994, 38% did so for only one year while only 9% participated all seven years. It is estimated that 1,443 vessel owners participated in the fixed gear sablefish fishery between 1985 and 1990. Of these, 45% participated in only one year and only 6% participated all six years. SEIS, page 2-13.

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. SEIS, page 2-12.

A further benefit of quota systems is deemed to be the degree of certainty given to participants upon which to base their investment and fishing decisions. It is argued that if people are aware of the quantity of fish available to them that they will be able to make soundly based decisions about the future. SEIS, page 2-54.

The vessel owners are now able to fish and time their operations, not only around bad weather, but also with a view to market opportunity, so they can efficiently operate in other fisheries that may otherwise have been unavailable to them because of brief, fixed season openings. Prior to the IFQ program, thousands of vessels had two, one-day

earning opportunities. Today, earning opportunities, through consolidation, are creating stability within the harvesting sector. Stability has been enhanced by the constraints on quota share concentration, through the use of ownership caps, vessel caps, and vessel classes. These were designed to prevent too great an accumulation of quota share ownership by individuals in the fleet and to ensure processors an adequate number of harvesting vessels. Ownership caps and vessel cap limits are cited in the RAM report. Pages 15 and 16.

The SEIS stated that, under the IFQ system, people would be able to make sound business decisions about their future. The system was designed to encourage transfers of quota within certain limits. It was designed to encourage an owner-operated fleet. This was provided by requiring new purchasers of IFQs to be on the vessels when the quota shares were being fished. Transfers of eligibility certificates for fishermen through August 20, 1997 are 1,522. Those who received an actual transfer through August 20 are 694. RAM report, page 53. It is apparent that the program is functioning as designed. The owner-operator provision is providing stability for crews and vessel owners who work on deck.

Some members of FVOA have chosen to sell, and others have chosen to purchase, quota shares. The results are that for those who have chosen to purchase, the owners and the crews are earning more. Those who have sold out have received some compensation for their past investment and efforts. The crews that have been displaced to date are those who were participating in two, one-day jobs. The SEIS states on this issue, the following, "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." SEIS, page 2-10.

In terms of stability for the local communities, there have been some claims that the IFQ program has adversely affected the ports of Kodiak and Dutch Harbor. The 1997

IPHC Annual Report list by port the halibut landings as follows:

1.	Kodiak	20%	9,103,000
2.	Homer	12%	5,242,000
3.	Seward	9%	3,876,000
4.	Dutch Harbor	6%	2,855,000
5.	Sitka	6%	2,800,000

The RAM September 1997 report, page 50, shows that, in 1995 and 1997, the top five halibut ports remained the same as in 1994, and the percentage of landings was similar.

With regard to sablefish, the SEIS did not provide analysis similar to that for halibut, however, in looking at the 1990 data provided in that document, four of the top five districts are still in the top five for landings, when compared to the 1997 September RAM report, page 50.

1.	Wrangel, Petersburg	7,121,000 Lbs.	26%
2.	Sitka borough	6,131,000 Lbs.	22%
3.	Seward Borough	4,302,000 Lbs.	15%
4.	Juneau Borough	2,481,000 Lbs.	9%
5.	Kodiak Island Borough	2,134,000 Lbs.	8%
6.	Aleutian West Borough	not available	

The IFQ program was designed to have a minimal impact on communities, by preventing a massive redistribution of landings. This was accomplished significantly with the three-year qualification period of 1988, 1989, 1990, where there had to be a landing to qualify for any poundage in one of these years. This helped ensure that quota holders were still active and operating in the same location as was historically the case. Clearly, this has been accomplished as shown by the hard evidence of landing reports. An argument of economic disadvantage to Kodiak or Dutch Harbor based on IFQ

poundage being delivered elsewhere, cannot be substantiated.

The instability of these communities is most likely the result of the remaining pulse-type groundfish fisheries. The fishermen in the Kodiak area have three, three-day pollock openings; Pacific cod has barely a two-month operation. The landings in Kodiak are down between 1995 and 1996 by 160 million pounds; none of this reduction can be attributed to the IFQ program. NMFS Annual Report.

Similar landings in Dutch Harbor have been reduced by 105 million pounds between 1995-1996. The argument that this is due to the IFQ program is similarly unsupportable. The 1999 RAM Report, pages 13 & 14, show the same ports in the top 10 as in previous years for halibut and sablefish.

## **RURAL COASTAL COMMUNITY DEVELOPMENT OF A SMALL BOAT FISHERY**

The SEIS made the following statements and conclusions regarding rural coastal community development of a small boat fleet:

The Council wished to enhance the opportunities for rural coastal communities to participate in the sablefish and halibut fisheries. It was in pursuit of this objective that the western Alaska community development program was inserted into the preferred alternative. SEIS, page 55.

Opportunities for small communities will be enhanced by having portions of total allowable catches set aside. SEIS, page 55.

Many of the constraints imposed on transferability have been introduced to preserve a small boat fishery for sablefish and halibut. SEIS, page 55.

The community development quota (CDQ) program was specifically set up for western Alaska rural communities. The CDQ halibut quotas for 1997 amounted to 1,884,000 dressed pounds and 639,334 rounds pounds of sablefish. In the halibut regulatory area of 4C, all of the CDQ quota was harvested and landed by the local community and similarly for the participants in area 4E.

The ex-vessel value of CDQ-landed halibut and sablefish for 1997 will be approximately \$4,980,000 (Dutch Harbor price for halibut \$1.90; sablefish \$3.60/dressed). The CDQ halibut and sablefish quotas thus are a significant benefit to the coastal community of western Alaska and the small vessels, which operate out of those communities.

The Gulf of Alaska's small boat fleet vessels, less than 35 feet in length, have a secure position in the fisheries. The Secretary agreed to certain transferability considerations, which placed the poundage earned by initial recipients permanently in the vessel length category operated by the initial recipients. This effectively prevents vessel owners who operate vessels larger than this from purchasing and absorbing quota traditionally landed by the small boat fleet.

The small boat fleet has been additionally enhanced with recent amendments that allow QS holders operating small vessels to buy quota from larger vessel classes and fish that quota on the smaller vessels. IFQ holders operating larger vessels cannot use smaller vessel class quota on their larger vessels. This new provision gives smaller vessels, which tend to operate close to shore, more purchasing opportunity.

As noted above, the 1996 amendments to the Magnuson-Stevens Act, provided for a government loan program funded, in part, from landing fees of the IFQ participants. 16 U.S.C. 1853(d)(4). Those who can apply for the loan are fishermen with little or no holdings of IFQs. The amount per loan is limited to about 8,000 lbs. of resource, and anyone holding or controlling 50,000 lbs. or more of quota is not eligible for the loans. Congress chose to help out the crews and those fishermen looking for upward mobility in the industry. This program should help rural citizens who have few cash-generating industries.

In summary, owners of small vessels have a guaranteed pool of quota and have the opportunity to gain more than their traditionally allocated share. Rural communities, dependent on smaller vessels, have been given compensating advantages over the

communities dependent on larger vessel classes. In addition, the loan program should improve their ability to become an increasingly significant part of the industry. The western rural communities have been given a perpetual allocation to ensure their participation in the adjacent coastal waters.

## **CONCLUSION**

The halibut/sablefish IFQ program has been a great success, by any rational measure. With this example firmly established, individual transferable quotas should be available to fisheries managers nationwide.