

PACIFIC GROUND FISH BUY-BACK PROPOSAL
AND THE
FINAL SUMMARY AND ANALYSIS



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ABOUT THIS REPORT

This report provides information related to a proposed buy-back plan for the Pacific Coast Groundfish fishery. The report is divided into three sections. Section one includes background information about the fishery, the need for capacity reduction, and the past attempt to establish a buy-back program. Section two describes the proposed program, and section three summarizes the results of a questionnaire sent to all holders of Pacific Groundfish permits. This last section also includes an analysis of the landings of groundfish and other species by permit holders and estimates the cost and benefit to fishermen that remain in each of the fisheries.

This report makes no attempt to provide potential sellers in a buy-back program any information that would allow them to maximize their sale price. It does however, explain how bids would be scored and ranked. Not all those that are interested in sell their permits and vessels will be accommodated.

Special thanks need to be given to Dr. Jim Hastie of the NMFS Northwest Science Center for the many data runs and calculations that are used here in the analysis of the cost and benefits of the program.

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SECTION 1: BACKGROUND

Description of the fishery

The Pacific Coast groundfish fishery is a multi-species multi-gear fishery for various species of rockfish and flatfish, Pacific whiting, sablefish, lingcod, Pacific cod, and several species of skates and sharks. The fishery has operated under a limited entry system since January 1994. The limited entry permits are endorsed for the use of trawl, longline, and/or pot gear. These permits are also endorsed for the length of the vessel. The permits are transferable and may be used on any vessel within plus or minus five feet of the endorsed length. Multiple permits may also be combined and used on a vessel of greater length. The formula for combining permits is an exponential relationship based upon the length endorsement of the permit.

History of the fishery

Domestic landings from the Pacific Coast groundfish fishery were relatively stable, averaging about 30,000 mt annually, until the early 1970's when they began a fairly steady increase. By 1976, when the Magnuson-Stevens Act was passed, annual groundfish landings had reached 60,000 mt, generating \$36.2 million in real exvessel revenues. By 1982, when the fishery management plan (FMP) for Pacific Coast groundfish was implemented, total landings (excluding foreign and joint venture catch) had peaked at 116,000 mt valued at \$71.5 million.

A major reason for this rapid growth in groundfish landings was a substantial buildup in harvesting capacity that greatly exceeded the sustainable production capacity of the groundfish resource taken in traditional fisheries. Harvesting capacity increased as newly constructed vessels entered the fishery and as vessels were displaced from other fisheries due to changing economic and regulatory conditions. This build-up was fostered by Federal programs and policies that encouraged and provided incentives for people to enter the fishing industry. Programs such as the Fishing Vessel Obligation Loan Guarantee Program (FOG) and Capitol Construction Fund (CCF) combined with Investment Tax Credits in the 1980 resulted in many new vessels entering the groundfish fishery.

Trawling has been the dominant means of harvesting Pacific Coast groundfish for the past 50 years. In 1978, large productive trawl grounds in British Columbia, Canada were closed to U.S. fishermen. This action forced Washington state fishers to fish exclusively in U.S. waters, primarily off Washington. Foreign fishing fleets have also operated in the Washington, Oregon, and California area. The Soviet Union operated a large trawl fleet as early as the mid-1960's for rockfish and Pacific whiting. Poland, the German Democratic Republic, the Federal Republic of Germany, and the Republic of Korea also sent vessels, primarily factory trawlers, to fish in this area prior to the implementation of the Magnuson-Stevens Act.

In the late 1980's, joint venture operations for Pacific whiting expanded, leading to elimination of all foreign harvesting in 1989. Beginning late in 1990, U.S. catcher-processor (factory trawler) vessels conducted exploratory fisheries to determine if whiting might provide a viable fishery for U.S. at-sea processing. This at-sea fishery by American vessels immediately preempted the joint venture fishery. In 1991, for the first time in roughly 30 years, the entire groundfish fishery was conducted by American operations. At the same time, shore-based processing of Pacific whiting expanded as processors of more traditional groundfish species rushed to carve out their portion of the market. Thus, Pacific Coast groundfish landings reached a new peak in 1991, more than doubling the previous high established in 1982.

The overall result was that in just a few years the Pacific Coast groundfish fishery had progressed from harvesting surplus production from generally healthy or under harvested fish stocks, to the point of excessive effort, with stocks at maximum sustainable yield (MSY) levels and limited room for expansion of

traditional fishing operations. These problems characterize a rapidly maturing open access fishery and signal the need for management.

History of management

Prior to implementation of the FMP in September 1982, management of domestic groundfish fisheries was under the jurisdiction of the states of Washington, Oregon, and California. State regulations had been in effect on the domestic fishery for about 80 years and each state acted independently in both management and enforcement. However, many fisheries overlapped state boundaries and were participated in by citizens of two or more states. Management and uniformity of regulation became a difficult problem which stimulated the formation of the Pacific States Marine Fisheries Commission (PSMFC) in 1947. PSMFC had no regulatory power, but acted as a coordinating entity with authority to submit specific recommendations to states for their adoption.

Early regulations took the form of area closures (e.g., San Francisco Bay was closed to trawling in 1906), because of concerns about stock depletion. Minimum trawl mesh sizes were adopted in the early 1930's in California as the production of flatfish decreased. During 1935 to 1940, voluntary mesh size limits were adopted by the trawl industry after markets imposed minimum size limits on certain flatfish and gear-saving studies demonstrated that a larger mesh size (five inches) caught fewer unmarketable fish. Shortly thereafter, mandatory minimum mesh sizes were adopted by California. Since this time, mesh regulations have been in effect in all three coastal states.

Between the implementation of the Magnuson Fishery Conservation and Management Act in 1977 and the implementation of the FMP in 1982, state agencies worked with the Council to address conservation issues. Specifically, in 1981 the Council proposed a rebuilding program for Pacific Ocean perch. To implement this program, the states of Oregon and Washington established landing limits for Pacific Ocean perch in the Vancouver and Columbia areas. These limits were revised in January 1982, prior to enactment of the FMP in September, but the 20-year rebuilding program remained unchanged.

Generally, the groundfish FMP focused on solutions to the problems stemming from open access instead of changing the open access system. Aggregate harvest quotas (or guidelines) for certain species and other restrictive measures (e.g., trip limits) on fishing enterprises have been instituted to achieve economic and social objectives. While it believed that these harvest regulations would prevent fish stock depletion, they did not address the economic problem of excess harvesting capacity.

In response to the conditions of excessive effort that developed during the 1980's, members of the fishing industry asked the Council to develop a limited entry program. After several years of development, a license limitation plan was approved and became effective on January 1, 1994. The license limitation system was effective at stopping new entry into the fishery and capping harvesting capacity.

However in the mid to late 1990's, the scientific community began expressing concern that they have been overestimating the productivity of certain groundfish species in light of new information which suggested that a major change in oceanographic conditions had occurred. These new ocean conditions appeared to be reducing the survival of many species of Rockfish. Since these rockfish were now less productive than they once had been, the quotas established for these fish in the past now needed to be reduced.

Additionally, in 1996 Congress passed the Sustainable Fisheries Act. The passage of this law brought with it a wave of conservative fisheries management and a strict requirement to rebuild fish population to higher levels. The only way to rebuild fish populations that are at low levels to larger populations is to reduce harvesting and leave more fish in the ocean.

The combination of these events lead to greatly reduced quotas which resulted in a reduction of the economic value of the commercial fishery from around \$100 million in 1997 to around \$50 million in 1998. Fishermen, fish managers, and the Governors of California, Oregon, and Washington requested that the

United States Secretary of Commerce declare a Fishery Failure as provided in Section 312 of the Magnuson Act. This declaration was made in January 2000.

Past attempts at fleet reduction

On the Pacific Coast, fishermen participate in a variety of fisheries; the most common are groundfish, shrimp, crab and salmon. Prior to the Fishery Failure the groundfish trawl industry attempted to develop an industry funded buy-back program that would purchase permits and retire them from the fishery. At the time, fishermen that were not involved in the groundfish trawl fishery protested, demanding that the vessels also be removed from the fishery. Their concern was that a buy-back program that only purchased permits would provide capital to some fishermen, which would be reinvested in other fisheries, particularly shrimp and crab.

Fishermen in the trawl fishery argued that buying boats and permits would increase the cost of the program and it would be useless without also acquiring the state permits for crab and shrimp. Additionally, trawlers raised the point that if the program were also to purchase state fishery permits, that this would amount to the groundfish trawl fishery paying the cost of reducing effort in the crab and shrimp fisheries. Trawlers believed that if a buy-back program is to benefit the groundfish fishery as well as the crab and shrimp fishery then participants in all three fisheries should share the industry cost.

This effort to establish a groundfish trawl permit buy-back program was suspended following the Fishery Failure declaration.

The current situation

The Pacific Groundfish fishery is in disarray. Quotas on many species have been reduced progressively over the past several years. New stock assessments suggest that the current harvest levels are still too aggressive and quotas need to be reduced further. Economic returns from the fishery have been declining through this period and will decline further. Additional economic burdens will likely be placed on the fishery in the near future in the form of marine reserves, industry funding of on board observers, and the need for industry contributions in the form of resource or capital to fund new research efforts.

The reduced availability of the resource has occurred while the capacity of the fishing fleet has remained static and change in capacity should have been occurring at the same time. The economic value of the available resource is out of balance with the harvesting capacity of the fleet. For stability and economic viability to return to the groundfish fishery, the capacity of the fishing fleet must be brought into balance with the available resource.

Strategic Plan a Vision of the future

The Pacific Fishery Management Council undertook a lengthy planning exercise to assess the current situation for groundfish management and develop recommendation for the future. The Strategic Plan provided a vision for the future that captures the sentiment of many within the fishing industry.

We envision a future where Pacific groundfish stocks will be healthy, resilient, and where substantial progress has been made rebuilding overfished stocks. Harvest policies will result in total fishery removals that are consistent with the long-term sustainability of the resource. The fishing industry will be substantially reduced in numbers and harvest capacity will be reduced to a level that is in balance with the economic value of the available resource. Those remaining in the fishery will operate in an environment that is diverse, stable, market-driven, profitable, and adaptive over a range of ocean conditions and stock sizes. (emphasis added)

The Strategic Plan Vision continued touching upon other areas of concerns with the Fishery, the Science, and the Council and concluded with a section stating the consequences of inaction.

There is another vision from that presented above. The Council could continue attempting to manage an overcapitalized fleet in the face of declining resource abundance and the necessity to meet stock rebuilding requirements. This will most certainly result in shorter fishing seasons, smaller trip limits, higher discard rates, and the continuous inability to accurately account for fishery-related mortalities. Many fishers will not be able to meet their basic financial responsibilities and will be forced from the fishery by a feeling of futility or bankruptcy. The Council and participating agencies will be overwhelmed by the need to implement short term fixes to long term problems with little or no chance to focus on the underlying problems of the fishery or to develop a long term management strategy.

To avoid this other vision of the future, the Council will have to act swiftly and soon. The Council has a choice in charting the future of the groundfish fishery. Decisions that the Council makes now will have profound effects for years to come

The Council received much input from their advisory committees through the development of the their Strategic Plan. Their Scientific and Statistical Committee (SSC) had examined the over-capacity situation in the groundfish fishery and prepared a report for the Council. The following are two comments from the SSC report to the Council.

Overcapitalization is the single most serious problem facing the West Coast groundfish fishery. *The effectiveness of traditional management measures (e.g., landings limits, seasons) in ensuring that discards are minimized and that a reasonable economic livelihood can be made from the groundfish fishery has been seriously eroded in recent years. Given that OYs are unlikely to increase any time soon, the only viable option for reducing overcapitalization is to reduce potential harvest capacity.*

The problems associated with overcapacity will not be resolved by waiting for vessels to leave the fishery. *The extremely high amount of latent (i.e., unutilized) capacity present in the fishery means that a significant amount of effort is available for mobilization at any sign of improved fishing opportunities. The current problems associated with low landings limits, short seasons and complex and contentious management will not go away unless the Council takes deliberate action to permanently remove latent capacity from the fishery.*

Based upon this input, the Strategic Plan concludes that the highest priority in managing the groundfish fishery is to reduce capacity in the Groundfish fishery and this is captured in recommendation #1 from the Management Policy Section.

Develop an implementation plan to reduce capacity initially by at least 50% in each sector. However, the capacity reduction goal will not be fully realized until capacity has been reduced to a level that is in balance with the economic value of the resource and those remaining in the fishery are able to operate profitably and flexibly.

The Pacific Council is in a position that it can plan and identify needs for proper fishery management. However, identifying the need for capacity reduction is much simpler than initiating and implementing such a program. Because of the common interest of the fishing industry and the Pacific Fishery Management Council in achieving capacity reduction the Fishermen's Marketing Association developed the following proposal for a buy-back program.

SECTION 2: PACIFIC GROUND FISH BUY-BACK PROPOSAL

Introduction:

The Pacific Fishery Management Council has determined that capacity reduction is required in all sectors of the groundfish fishery. In order to reduce the fishing capacity in the West Coast groundfish fishery there will be a "buy-back" program that will involve a combination of government and industry-funding. This plan will include the purchase of vessels and all fishing permits, including the state fishing permits assigned to a vessel. The goal of the program is to reduce the groundfish fleet by 40%-65%.

Eligibility:

All Pacific groundfish limited entry permit holders would be eligible to participate in this buy-back program, with the exception of those permit holders holding Newport Beach dory permits.

There would be two categories of eligible participants. Those selling the permit only (this is a small group) and those selling their permit, vessel and associated state permits. A person can sell a permit only when they no longer own a vessel (sinking, sale prior to date, etc.). All other permit owners wishing to sell must submit a bid for the sale of the vessel and all permits.

How the Buy-back will work:

The Secretary/NMFS would send a notice to all permit holders about the program. Each qualifying person wishing to sell only their permit will be offered \$X per foot. This is a "take it or leave it" offer. Priority will be given to the purchase of these qualifying permits that are not associated with a vessel.

The balance of the program will utilize a "blind, silent, reverse auction". This program will have limited funding. Therefore, interested sellers will not have a "blank check" to ask for and receive any amount they wish. Each bid must be evaluated for its cost in relation to the benefit of removal. To accomplish this, each bid submitted will be scored by dividing the bid amount by the total fishing revenue for that vessel (Washington, Oregon and California for 1998 to 2000). The resulting score is the ratio of bid to earnings (capacity). These resulting scores will be ranked from low to high. The lower the bid, relative to the gross revenue, the lower the score will be. Permits would be purchased beginning with the lowest score and continue until the amount of money available is used. All permits with scores greater than the cumulative amount of money available will not be purchased. This will result in removing the largest amount of fishing capacity for the least amount of money.

Program funding:

This program will be funded by a combination of Government and Industry money. The Industry share will be provided by the Government as a loan that will be repaid over time by the remaining participants in each of the fisheries.

Industry Cost Sharing:

Since this program will be removing not only groundfish permits, but also Dungeness crab, Pink shrimp, and Salmon permits, capacity reduction will be occurring in each of these fisheries and the remaining participants in these fisheries will derive benefit from the program. Therefore, the cost of the industry portion of this program will be shared by the remaining participants in each of the fisheries in proportion to the benefit that each sector derives. In other words, each fishery will pay for the capacity reduction that occurs in their fishery.

To determine the amount that each sector shall share of the total, the cost of each individual buy-back sale would be distributed to an account for each fishery by state, based upon the percentage of gross revenue that each fishery represented during 1998 – 2000 for that boat. (For example, if a vessel and permits sold for \$200,000. If 70% of the base years revenue came from trawl groundfish, 20% from Oregon shrimp and 10% from California crab, then the trawl groundfish share would be \$140,000, the Oregon shrimp share would be \$40,000 and California crab would be \$20,000)

Fee System:

To repay each sectors share of the industry portion of the program, a fee system will be established and it will be applied to all remaining participants in the Groundfish, Pink Shrimp, Pacific Salmon and Dungeness crab fisheries. The fee would be set as a percentage of gross revenue for each delivery. The rate would be calculated so that the groundfish, shrimp, Pacific Salmon and crab fisheries generate sufficient revenue to repay their respective share of the cost. Therefore the rate set for each sector may be different.

The fee for each sector would be set at a rate sufficient to repay the loan but may not exceed 5 percent of the ex-vessel value. These fees would be deducted from the sale by the fish company and paid to the state similar to landing taxes. The state would then transfer the money to the Secretary.

SECTION 3: SUMMARY OF QUESTIONNAIRE RESPONSES

In mid-January 2001 a questionnaire was mailed to all holders of Pacific Groundfish Limited Entry permits. The purpose of the questionnaire was ascertain the level of interest by permit holders in selling their permit and vessel in a buy-back program and to produce an estimate of the cost of conducting such a program.

There were 499 questionnaires mailed. For the purpose of analyzing the response, the eight Newport Beach, California dory fleet permit holders and 10 factory trawl permit holders have been excluded from the analysis for a total of 481 permits. However, the landings of all permit holders have been used to estimate the cost and benefits to each fishing sector. Additionally, since several permits are endorsed with more than one gear type a single gear was assigned to these permits. There are five permits that show both "trawl and longline" or "trawl and pot". Four of these were assigned to the trawl group, while one that had not trawled in recent years was assigned to longline. Those permits that possessed "longline and pot" were assigned to the pot group.

Each questionnaire was assigned a unique number that identified the holder of the permit. A second mailing of the questionnaire was sent in mid-February to each permit holder that had not yet returned the questionnaire. A copy of the questionnaire is attached (Figure 1).

Table 1 summarizes the returns, which ran from 75% for trawl to 48% pot. Generally, permit holders own the boat that their permit is assigned and also hold permits to participate in other fisheries. Roughly 73% of the trawl permit holder were interested in selling, while 50% of the non-trawl permit holder wanted to sell. Assuming that non-respondents would answer similarly to responding permit holders, an expanded estimate of the total number of interest sellers was 191 for trawl and 109 for non-trawl (Table 2)

The cost of the program is more difficult to estimate. Bid responses were "scored" by dividing the bid amount for each vessel by the 1998-2000 gross fishing revenue for that vessel. (These calculations were performed by NMFS and the revenue information for each vessel was held confidential. Gross revenue includes groundfish, shrimp, crab, and salmon) These were then ranked from low to high score. Generally, the non-trawl bid amount was higher than trawl amounts for similar revenue. Figure 2 shows the cumulative number of boats by gear against the total dollar cost of the program. The relative higher bid of the non-trawl boats is seen as increasing numbers only at very high total dollar amounts. If this program had a total dollar amount of \$50 million available, few non-trawl permits would be purchased unless the submitted bid was much less than the response on the questionnaire.

In figure 3, the longline responses have been broken into the Sablefish endorsement components. It is clear that tier 3 Sablefish permits had relatively lower scores than the non-endorsed longline permits. There were few tiers 1 and tier 2 endorsed permits owners indicating that they would be interested in submitting bids.

Table 3 summarizes the number of state fishery permits that were held by individuals indicating an interest in submitting a bid in a buy-back program.

Table 4 presents, for each fishery by state, the number of boats that landed during the window period and the value of the catch for bidders (trawl and non-trawl) and the balance of the fleet. In some case the amount of product that had been caught by the bidding fleet was quite large. For example, bidders in the shrimp fishery in California caught 29% of all the shrimp landed by value. The percentage that the bidding fleet had caught is an important piece of information and will be used later to describe the benefit that will occur for the remaining fleet.

Table 5 is similar to table 4 and shows the amount of groundfish landed by value in each state by trawl and non-trawl. The table also presents a total for the coast for all shore-based landing as well as for total landing which included all at-sea deliveries. The trawl bidders accounted for 51% of all shore-based trawl

landings (this includes whiting) and 41% of all trawl landing of groundfish (including at-sea). The non-trawl bidders accounted for 21% of all non-trawl groundfish.

Since bids will be scored and then ranked from low to high, the first money available will purchase the permits with the lowest scores. Permits with higher scores will continue to be purchased, but the cost of removing additional permits will increase while the benefit of removing production decrease. Figure 4 shows the percentage that bidders had caught in each fishery, at the associated dollar amounts in the program. The data has arranged from low to high score, and each data point represents the average for 30 bidders. For example, the sum of the bids for the lowest 30 permits total roughly \$6 million, and those bidders accounted for around 11% of all the groundfish (including at-sea), 2 ½ percent of the shrimp, and 1% of the crab. As the cumulative dollars increase, so do the scores, and the percentage of production drop to very low levels.

Table 6 provides an estimate of the percentage of the cost of the program to the remaining groundfish and state fishery participants. The important piece of information from this table is the last column showing the percentage of the total cost. This value will be used later.

Table 7 presents the share of a loan that each sector would obligated to repay based upon a total loan amount of \$25 million and using the percentages from table 6. This table also estimates the average exvessel value of each fishery by sector and calculates the shortest period of time to repay the loan assuming zero interest and using the maximum fee.

In table 8 it is assumed that the loan will be repaid with 8% interest and the annual average payment is presented for a 20 and 30 year amortization period. The table also shows an estimate of the required fee needed to repay each fisheries share of the loan.

Table 9 presents an estimate of the increase in production that could be experienced by the fishermen remaining in each of the fisheries by state or region. The table also restates the required fees from table 8. Lastly, the table shows the average return that each fishery would experience for each dollar paid in fees with the program. In all cases the benefit is positive and significant.

GROUND FISH BUY-BACK QUESTIONNAIRE

1) What gear endorsement(s) does your permit have?

Trawl _____
 Longline _____ → Sablefish endorsed? Yes ____ No ____
 Pot _____ → Sablefish endorsed? Yes ____ No ____

2) Is your groundfish permit currently assigned to a vessel that you own?

Yes _____ No _____

3) If yes, for the vessel that your groundfish permit is assigned, are there also any State fishery permits assigned? Yes _____ No _____

If yes, which State fishery permits do you also have:

	Calif.	Oregon	Wash.
Pink shrimp	_____	_____	_____
Dungeness crab	_____	_____	_____
Pacific Salmon	_____	_____	_____
Other (1) _____	_____	_____	_____
Other (2) _____	_____	_____	_____

4) If a buy-back program were made available to you that provided an **option** of selling either your groundfish permit alone **OR** selling your groundfish permit, and all State permits along with your vessel, what would your likely do?

- a. Submit a bid to sell groundfish permit alone _____
- b. Submit a bid to sell all permits and boat _____
- c. Not submit a bid _____

If above you indicated you would likely submit a bid in either a or b, please state your estimated bid price for sale. _____

5) If in question 4a, you indicated that given the option, you would likely submit a bid to sell the groundfish permit alone, would you also be likely to submit a bid if a buy-back program were made available to you that **required** the selling of your groundfish permit, all State permits and your vessel?

Yes _____ No _____

If above, in #5, you indicated YES, you would likely submit a bid, please state your estimated bid price for sale for all permits and vessel. _____

TABLE 1. SUMMARY OF BUY-BACK QUESTIONNAIRE

<u>QUESTION #1</u>	<u># OF PERMITS</u>	<u>RETURNED QUESTIONNAIRES</u>	<u>PERCENT RETURNED</u>
TRAWL	263	196	74.5%
LONGLINE	187	122	65.2%
POT	31	15	48.4%
TOTAL	481	333	69.2%

<u>SABLEFISH ENDORSED?</u>	<u># OF PERMITS</u>	<u>RETURNED QUESTIONNAIRES</u>	<u>PERCENT RETURNED</u>
LONGLINE	131	89	67.9%
POT	31	15	48.4%
TOTAL	162	104	64.2%

<u>QUESTION #2 - OWN BOAT?</u>	<u>YES</u>		<u>NO</u>	
TRAWL	177	90.8%	18	9.2%
LONGLINE	91	79.8%	23	20.2%
POT	11	78.6%	3	21.4%
TOTAL	279	86.4%	44	13.6%

<u>QUESTION #3 - STATE PERMITS?</u>	<u>YES</u>		<u>NO</u>	
TRAWL	137	77.4%	40	22.6%
LONGLINE	73	79.3%	19	20.7%
POT	11	100.0%	0	0.0%
TOTAL	221	78.9%	59	21.1%

<u>QUESTION #4 - SELL WITH CHOICE</u>	<u>4a</u>		<u>4b</u>		<u>4c</u>		<u>total</u>
TRAWL	52	26.9%	101	52.3%	40	20.7%	193
LONGLINE	23	20.9%	39	35.5%	48	43.6%	110
non-endorsed	12	36.4%	12	36.4%	9	27.3%	33
endorsed	12	14.3%	30	35.7%	42	50.0%	84
POT	2	14.3%	2	14.3%	10	71.4%	14

<u>QUESTION #5 - NO CHOICE</u>	<u>YES</u>		<u>NO</u>	
TRAWL	26	65.0%	14	35.0%
LONGLINE	10	47.6%	11	52.4%
non-endorsed	4	40.0%	6	60.0%
endorsed	6	54.5%	5	45.5%
POT	2	100.0%	0	0.0%

TABLE 2. ESTIMATED NUMBER OF WILLING SELLERS AND REDUCTIN GOALS.

	Permit	Boat & Permit	Total	
TRAWL	20	171	191	72.7%
NON-TRAWL	16	93	109	50.0%
LL-endorsed	9	54	63	48.1%
LL- nonendorsed	7	31	37	66.7%
Longline total	16	85	100	53.7%
Pot	0	9	9	27.6%
TOTAL	36	264	300	62.4%

REDUCTION GOALS

TRAWL	106 - 172
NON-TRAWL	87 - 142
TOTAL	193 - 314

Cumulative number of boats and dollars needed for a buy-back

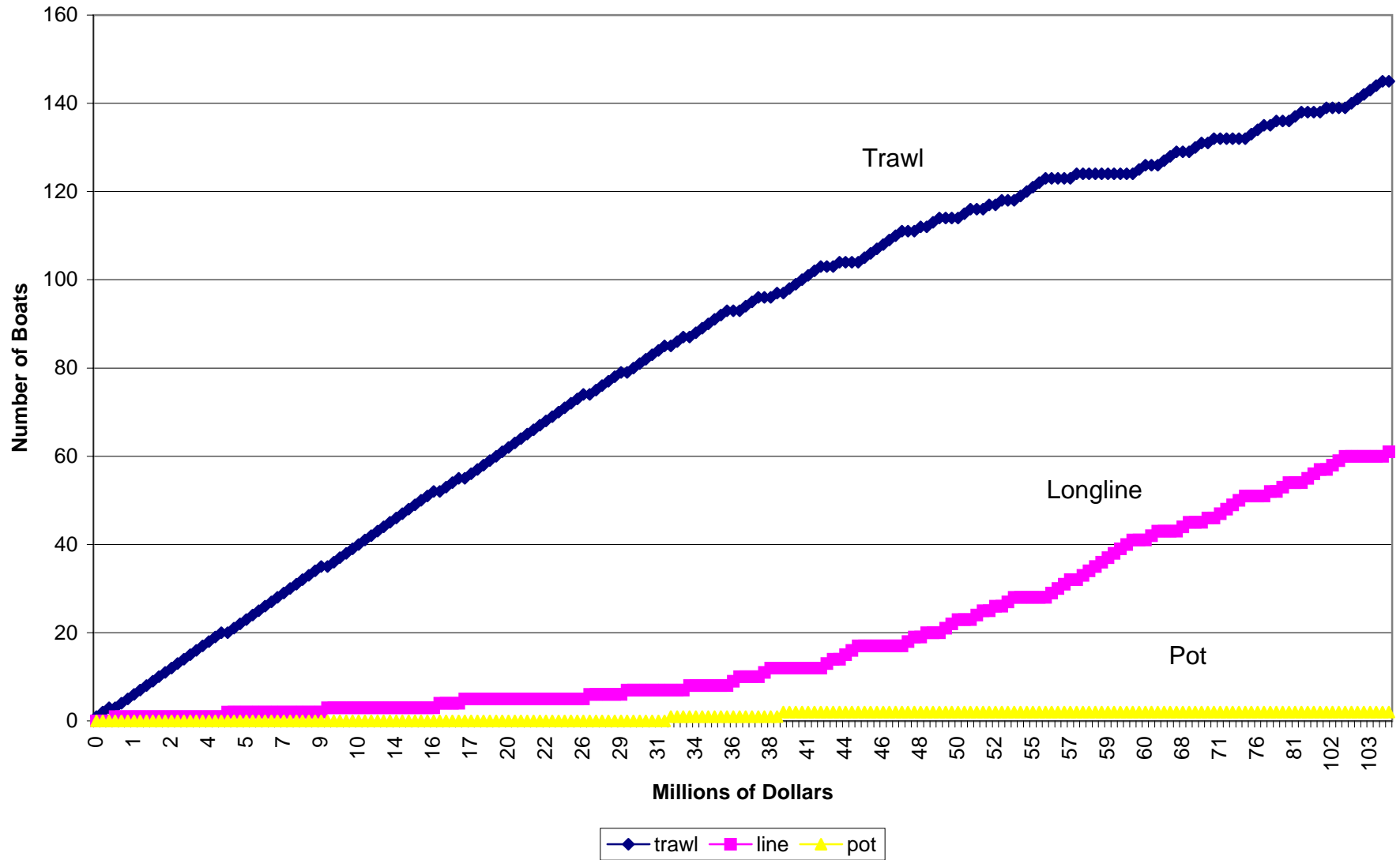


Figure-2

Break-down of Non-trawl Bidders with and without Sablefish endorsements

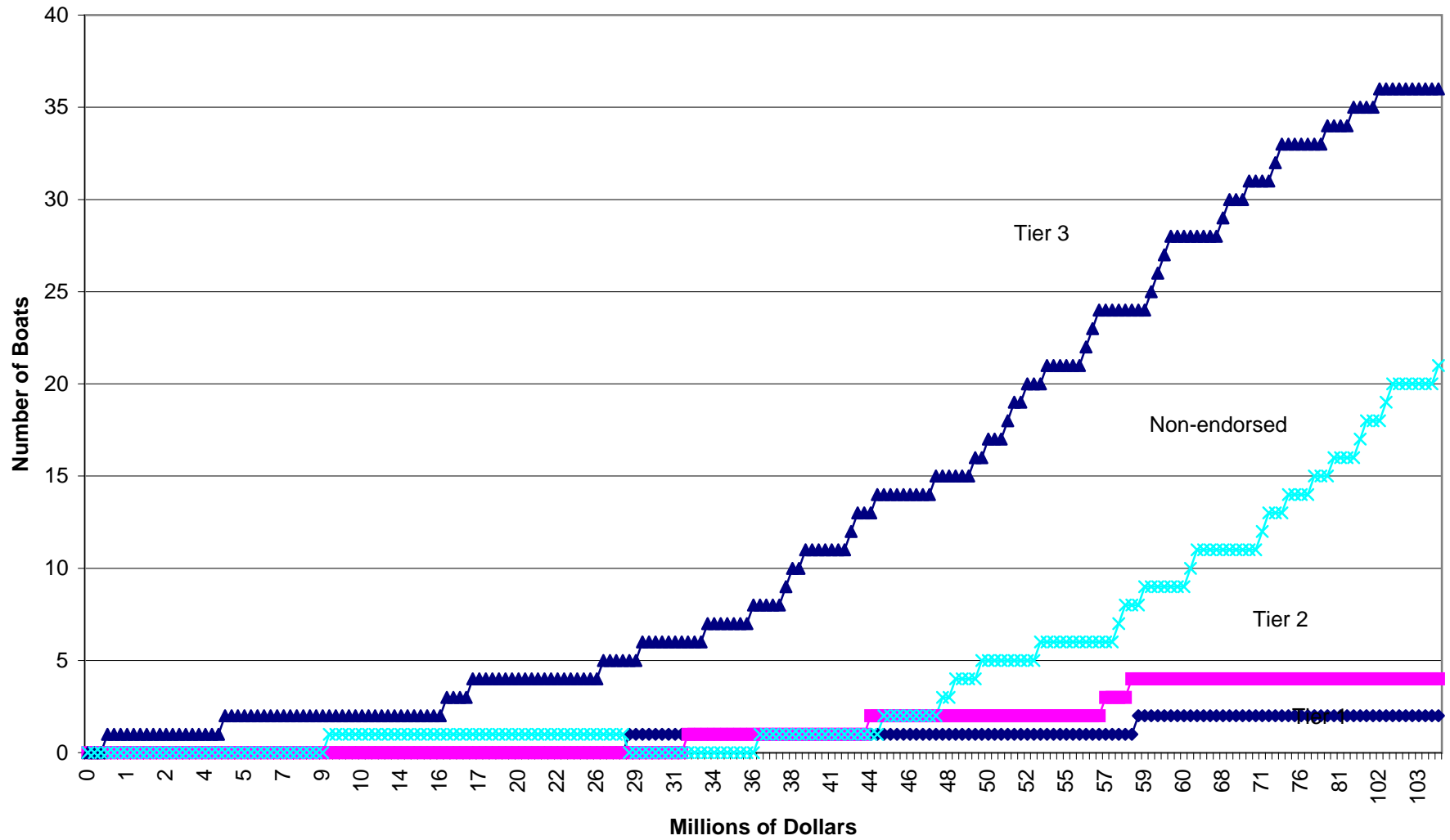


Figure-3

TABLE 3. ESTIMATED NUMBER OF STATE PERMITS BY FISHERY AND STATE THAT WOULD BE SOLD IN A GROUND FISH BUY-BACK PROGRAM

	WASHINGTON	OREGON	CALIFORNIA	TOTAL
SHRIMP				
TRAWL	21	43	47	111
LOGLINE	1	0	0	1
POT	0	0	2	2
TOTAL	22	43	49	114
CRAB				
TRAWL	2	13	36	51
LOGLINE	8	10	11	29
POT	0	0	1	1
TOTAL	10	23	48	81
SALMON				
TRAWL	2	7	14	23
LOGLINE	2	14	17	33
POT	0	1	1	2
TOTAL	4	22	32	58

Table 4. Comparison of number of boats and mean revenue (1998-2000) by state between the Groundfish buy-back fleet and the remaining fleet for the shrimp, crab, and salmon fisheries.

	Participation in shrimp fisheries					Participation in crab fisheries					Participation in Salmon fisheries				
	Vessels		Revenue			Vessels		Revenue			Vessels		Revenue		
	#	%	\$	%	mean \$	#	%	\$	%	mean \$	#	%	\$	%	mean \$
California															
Bidders															
Trawl	40	37%	371,880	27%	9,297	42	4%	1,891,938	11%	45,046	7	1%	28,831	0%	4,119
Fixed-gear	1	1%	28,212	2%	28,212	20	2%	541,813	3%	27,091	13	1%	157,985	2%	12,153
Total	41	38%	400,092	29%	9,758	62	6%	2,433,751	14%	39,254	20	2%	186,816	3%	9,341
Non-bidding	66	62%	957,534	71%	14,508	958	94%	15,399,444	86%	16,075	998	98%	6,688,685	97%	6,702
Oregon															
Bidders															
Trawl	43	28%	1,742,746	23%	40,529	19	4%	1,709,835	9%	89,991	10	2%	3,538	0%	354
Fixed-gear	1	1%	3,451	0%	3,451	9	2%	566,838	3%	62,982	5	1%	46,126	2%	9,225
Total	44	29%	1,746,197	23%	39,686	28	6%	2,276,672	12%	81,310	15	3%	49,664	2%	3,311
Non-bidding	108	71%	5,903,373	77%	54,661	454	94%	17,353,613	88%	38,224	527	97%	2,209,429	98%	4,192
Washington															
Bidders															
Trawl	11	26%	201,732	16%	18,339	4	2%	220,758	1%	55,189	2	2%	144	0%	72
Fixed-gear						6	2%	254,084	1%	42,347	3	4%	4,450	2%	1,483
Total	11	26%	201,732	16%	18,339	10	4%	474,842	2%	47,484	5	6%	4,595	2%	919
Non-bidding	31	74%	1,061,740	84%	34,250	239	96%	19,421,637	98%	81,262	80	94%	253,336	98%	3,167

Note: The shaded areas represent fisheries where the buy-back fleet has greater than average landings.

Table 5. Comparison of groundfish landings (1998-2000) in revenue by state from buy-back bidders.

	Participation in Trawl		Participation in Non-trawl	
	Revenue		Revenue	
	\$	%	\$	%
California				
Bidders	22,973,934	60%	2,505,559	32%
Total	38,361,174	100%	7,846,700	100%
Oregon				
Bidders	29,883,250	45%	1,111,335	11%
Total	66,670,848	100%	10,478,890	100%
Washington				
Bidders	8,321,092	53%	1,637,954	25%
Total	15,800,087	100%	6,670,025	100%
Shoreside only				
Bidders	61,178,276	51%	5,254,848	21%
Total	120,832,109	100%	24,995,616	100%
Total groundfish				
Bidders	63,258,642	41%		
Total	155,759,481	100%		

The relationship of average percent revenue of a fishery by groups of 30 bidders and the increasing cost of the buy-back program

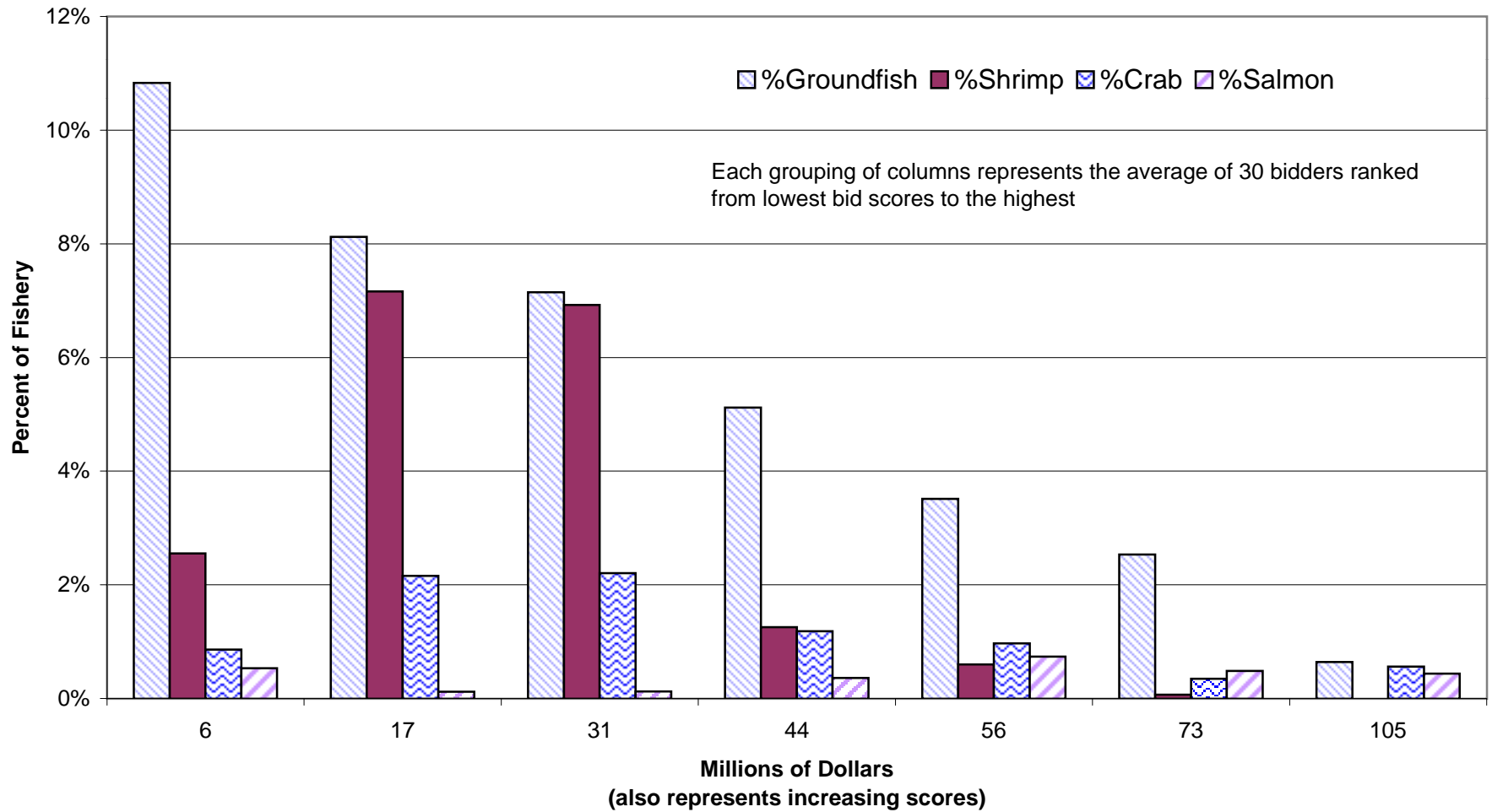


Figure-4

Table 6. ESTIMATED COST OF THE BUY-BACK PROGRAM TO THE VARIOUS FISHERIES

Assume the following following average sale price and distribution of revenue

	groundfish	shrimp	crab	salmon	sale price
trawl- WA	86.8%	6.3%	6.9%	0.0%	\$350,000
trawl- OR	74.2%	13.0%	12.7%	0.0%	\$350,000
trawl- CA	77.0%	3.7%	19.0%	0.3%	\$350,000
non-trawl-W	67.9%	0.0%	31.6%	0.6%	\$150,000
non-trawl-C	37.5%	0.3%	57.4%	4.7%	\$150,000
non-trawl-C	53.4%	1.8%	34.7%	10.1%	\$150,000

		# Permits			
		Trawl	Non-trawl	\$	%
GROUND FISH					
Trawl	WA	22		\$44,051,000	73.2%
	OR	55			
	CA	68			
Non-trawl	WA		18	\$8,268,750	13.7%
	OR		15		
	CA		30		
SHRIMP					
	Washington	19	1	\$418,950	0.7%
	Oregon	41	0	\$1,865,500	3.1%
	California	47	1	\$611,350	1.0%
CRAB					
	Washington	1	7	\$355,950	0.6%
	Oregon	13	8	\$1,266,650	2.1%
	California	36	11	\$2,966,550	4.9%
SALMON					
	Washington	2	2	\$1,800	0.0%
	Oregon	7	12	\$84,600	0.1%
	California	14	17	\$272,250	0.5%
total				\$60,163,350	100%

Table 7. ESTIMATED AVERAGE ANNUAL PAYMENT AND YEARS TO REPAY INDUSTRY SHARE OF THE BUY-BACK PROGRAM BY SECTOR

Exvessel price		Industry share of \$25,000,000	10 yr mean pounds	estimated dollars	Ave. annual payment @ 5%	Yrs to repay
	GROUND FISH					
	Trawl	18,304,749		\$52,000,000	\$2,600,000	7.0
	Non-trawl	3,435,958		\$16,500,000	\$825,000	4.2
\$0.40	SHRIMP					
	Washington	174,089	9,720,000	\$3,888,000	\$194,400	0.9
	Oregon	775,181	24,750,000	\$9,900,000	\$495,000	1.6
	California	254,038	10,000,000	\$4,000,000	\$200,000	1.3
\$1.50	CRAB					
	Washington	147,910	16,500,000	\$24,750,000	\$1,237,500	0.1
	Oregon	526,338	10,420,000	\$15,630,000	\$781,500	0.7
	California	1,232,706	9,600,000	\$14,400,000	\$720,000	1.7
\$1.25	SALMON					
	Washington	748	1,100,000	\$1,375,000	\$68,750	0.0
	Oregon	35,154	2,300,000	\$2,875,000	\$143,750	0.2
	California	113,130	4,400,000	\$5,500,000	\$275,000	0.4

Table 8. ESTIMATED ANNUAL LOAN PAYMENTS AT 8% INTEREST AND FEE REQUIRED TO REPAY LOAN

	Industry share of \$25,000,000	Estimated annual payment (years of loan)		Estimated annual rate (years of loan)	
		20	30	20	30
GROUND FISH					
Trawl	18,304,749	\$1,864,379	\$1,625,964	3.6%	3.1%
Non-trawl	3,435,958	\$349,960	\$305,207	2.1%	1.8%
SHRIMP					
Washington	174,089	\$17,731	\$15,464	0.5%	0.4%
Oregon	775,181	\$78,954	\$68,857	0.8%	0.7%
California	254,038	\$25,874	\$22,566	0.6%	0.6%
CRAB					
Washington	147,910	\$15,065	\$13,138	0.1%	0.1%
Oregon	526,338	\$53,609	\$46,753	0.3%	0.3%
California	1,232,706	\$125,554	\$109,498	0.9%	0.8%
SALMON					
Washington	748	\$76	\$66	0.0%	0.0%
Oregon	35,154	\$3,581	\$3,123	0.1%	0.1%
California	113,130	\$11,522	\$10,049	0.2%	0.2%

Table 9. Estimate of the benefit to each fishery by state as a result of the buy-back program.

Increase in catch that remaining participants could share as a result of capacity reduction in each fishery.

	<u>Shrimp</u>	<u>Crab</u>	<u>Salmon</u>	<u>Trawl</u>		<u>Non-trawl</u>
				<u>Shoreside</u>	<u>Total</u>	
California	40.8%	16.3%	3.1%			
Oregon	29.9%	13.6%	2.0%			
Washington	19.0%	2.0%	2.0%			
Coastwide				104.1%	69.5%	26.6%

Increase = $X/(100-X)$; where X is % of fish that had been caught by buy-back fleet

Estimated fee for each fishery

	<u>Shrimp</u>	<u>Crab</u>	<u>Salmon</u>	<u>Trawl</u>		<u>Non-trawl</u>
				<u>Shoreside</u>	<u>Total</u>	
California	0.6%	0.8%	0.2%			
Oregon	0.7%	0.3%	0.1%			
Washington	0.4%	0.1%	0.005%			
Coastwide				3.1%	3.1%	1.8%

Estimated return for each dollar spent in fees by fishery and area.

	<u>Shrimp</u>	<u>Crab</u>	<u>Salmon</u>	<u>Trawl</u>		<u>Non-trawl</u>
				<u>Shoreside</u>	<u>Total</u>	
California	\$68.08	\$20.35	\$15.46			
Oregon	\$42.67	\$45.45	\$20.41			
Washington	\$47.62	\$20.41	\$408.16			
Coastwide				\$33.57	\$22.42	\$14.77