
A History of Enhanced Salmon Allocation in the Prince William Sound Management Area.

Prepared under contract to the Cordova District Fishermen United Gillnet Division for the Alaska Board of Fisheries.

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Table of Contents

Table of Contents	2
Introduction	1
Historical Perspective pre-statehood.....	1
Statehood brings change.....	1
1977 – 1988 – Hatchery Programs Develop in PWS	1
The Armin F. Koernig Hatchery	2
The Cannery Creek Hatchery	2
The Wally Noerenberg Hatchery	2
The Main Bay Hatchery	2
The Gulkana Hatchery	3
The Solomon Gulch Hatchery.....	3
Dec 1988 - Board of Fish expresses need for Allocation Plan.....	3
The Fishery Situation in 1987	3
Discontent is expressed to Board of Fish.....	4
1989-1990 ATF writes PWSAC Allocation Policy.	4
Nov. 1990 – PWSAC Issues Policy Clarification Statements	5
1990-1991 RPT Develops Allocation Plan	6
Feb 1991 - Board of Fish Adopts Allocation Plan	6
Jan 1997 – BOF adds 25% Piggy Bank section to Plan.....	9
The Fishery Situation in 1996	9
BOF Analysis	11
The “piggy bank” concept.....	11
Feb 2003 – Piggy Bank trigger revised to 40%	12
The Fishery Situation in 2002	12
Board increases trigger point to 40%	13
October 2003 – Board Allocation Committee Formed	13
Coffey ACR	13
Allocation Workgroup Formed	14
December 2003 – Allocation Workgroup meets.....	14
February 2004 – BOF schedules special PWS meeting.....	14
March 2004 – Allocation Work Group Meeting	15
April 2004 – Board of Fish Mtg.....	15
Committee Progress leading to Dec. 2005 Board Meeting.....	16
References:	17
ACRONYMS USED IN THIS REPORT	18
APPENDIX A – PWSAC Allocation Policy	19
APPENDIX B. - PWS Salmon Management Plan Proposal Report.....	20
APPENDIX C. Board Finding 97-167-FB.....	21

Introduction

Prince William Sound's commercial salmon fisheries have a rich history dating back well over 100 years. In this report I describe the history of salmon allocation among the commercial gear types. Specific focus is directed to the allocation environment that led to the adoption in 1990, of the Prince William Sound enhanced salmon allocation plan (5 AAC 24.370.) and how fishery trends have evolved since that time.

Historical Perspective pre-statehood

It is generally believed that commercial salmon fishing in Prince William Sound and the Copper River waters (now known as the Prince William Sound management area or Area E) began in the late 1800's. Gillnets were used from the earliest days where shallow waters enabled them to operate, such as in the Copper River delta. Various types of gill net gear have been used over time (Allocation Task Force, February 1990). Stake-nets were widely used during early days of the Copper River fishery. Set and drift gill nets were used more in the waters of Prince William Sound. For a brief time fish wheels were employed in the Copper River fishery. Floating fish traps were introduced in the 1880's and quickly became the most effective gear type for deep waters. From the time of their introduction until they were eliminated by Alaska's statehood act, company owned fish traps were controversial and the focus of the first allocation battles in the Sound. Purse seines became extensively used in the Sound around World War I with the advent of powered fishing boats. For a period of time prior to statehood drum seines were widely in use. In the territorial (pre-statehood) days the Sound was divided into four regions, Prince William Sound, Eshamy, Copper River and Bering River. None of the gear groups were restricted by management or regulation as to where they could fish. Seiners tended to focus on the pinks and chums of Prince William Sound, gill nets were more focused in the Eshamy, Copper and Bering areas targeting sockeye and Chinook salmon.

Statehood brings change

With Alaska's statehood in 1959, came a number of significant changes to the salmon fisheries. Fish traps and drum seines were eliminated. In 1960, Alaska received control of its salmon fisheries from the federal agencies and a modernized approach to fisheries management was adopted. To facilitate active escapement based management, the Sound was divided into the 9 districts that exist today. Regulations specified what gear types could fish in which districts based upon historical use patterns. This became the de facto allocation plan for salmon stocks. In the early 1970's salmon stocks throughout the state were in decline. Seine fisheries in PWS were closed entirely or severely restricted. The Copper River sockeye fishery experienced this decline in the late 1970's. The poor economic state of Alaska's salmon fisheries

1977 – 1988 – Hatchery Programs Develop in PWS

With new oil revenues coming into the state's general fund, Alaska's legislature recognized the economic impacts created from the decline of salmon fisheries. Statutes and loan programs were legislated that enabled state and private non profit hatcheries to be developed throughout the state. Prince William Sound was the center of much of the

states hatchery activity. A strong regional aquaculture association, Prince William Sound Aquaculture Corporation (PWSAC) was formed by an active group of commercial fishermen. This group was very effective in getting the private hatchery program operating in the Sound. By the late 1970's, private and state hatcheries had been constructed and were beginning to see modest returns. At present six hatchery programs contribute to the PWS fisheries.

The Armin F. Koernig Hatchery (AFK) started operations in 1974 and was the first successful and the first PWSAC owned hatchery in Prince William Sound. AFK is located at Port San Juan on Evans Island, in the Southwestern District, a purse seine only district of PWS. The original hatchery building was converted from a salmon cannery. Production grew steadily and by 1980 AFK was incubating nearly 100 million pink eggs annually. AFK is currently permitted for 190 million pink eggs and has been operating near that capacity since 1998. An attempt to produce late run chum salmon at AFK met limited success and was eventually dropped. Early chums from WHN have been released at AFK in recent years.

The Cannery Creek Hatchery (CCH) was built in 1978 by the ADF&G Fisheries Rehabilitation, Enhancement and Development (FRED) Division as a pink and chum salmon hatchery. Cannery Creek is located in Unakwik Inlet, in the Northern District, a purse seine only district of Prince William Sound. The chum component of the hatchery program had poor success due to cold lake water temperatures during winter months, and was dropped in 1990. PWSAC assumed operational control of the hatchery in 1988. CCH is permitted to incubate 152 million pink salmon eggs and has been operating at that capacity since 1989.

The Wally Noerenberg Hatchery (WNH) was built in 1985 and is the second PWSAC owned hatchery. WHN is located on Esther Island in the Coghill District, a gill net and purse seine district of Prince William Sound. WNH currently permitted to produces three species of Pacific salmon; 120 million pink eggs, 148 million chum eggs, and 4 million coho eggs. Sockeye and chinook salmon were also cultured at WNH in the past. The sockeye program was transferred to the Main Bay Hatchery in 1990 and the chinook program was discontinued in 1997 to increase coho production. Since 1996 WHN had been operating at a capacity of 130 million pink eggs, 110 million chum eggs, and 1.6 million coho eggs. The chum salmon brood stock at WHN is from Wells Bay, and exhibits early run timing. Since 1993, a portion of the WHN chum fry have been released in Port Chalmers, located in the Montague District, a purse seine only district of Prince William Sound.

The Main Bay Hatchery (MBH) was built in 1981 by the ADF&G Fisheries Rehabilitation, Enhancement and Development (FRED) Division originally designed as a chum salmon facility. MBH is located in the Eshamy District, a small district in western PWS open only to set gill net and drift gill net gear. ADF&G discontinued the chum program in 1986 and switched to a sockeye enhancement program with the goal of producing 20 million sockeye smolts annually. PWSAC assumed operational control of the hatchery in 1990. Up to six different sockeye salmon stocks have incubated and

reared in the same hatchery building requiring innovative and extraordinary disease control measures. In 1998, PWSAC discontinued the early (Eyak Lake) and late (Eshamy Lake) stocks to concentrate solely on the mid timing Coghill Lake stock. MBH currently permitted for 10 million sockeye eggs, and has released 4 to 8 million smolt annually since 1997.

The Gulkana Hatchery is a streamside incubation facility started by ADF&G in 1973. Then Gulkana Hatchery is located on springs, adjacent to the East Fork of the Gulkana River, in the Copper River watershed. Production from this facility benefits drift gill net fishermen in the Copper River District as well as personal use, subsistence and recreational fishers in the Copper River basin.

From 1973 to 1980 the hatchery capacity expanded yearly, while continuing to focus on research in sockeye culture and incubator design. In 1980, with 20 incubators in operation, the emphasis moved from research to production. By 1984, Gulkana became the largest sockeye fry production facility worldwide, with egg takes of 26 million. PWSAC assumed operational control of the hatchery in 1993. By attempting to keep things simple, and pilot new procedures before implementation, Gulkana has achieved goals of taking 35 million eggs in all but one year since 1988. .

The Solomon Gulch Hatchery (SGH) operated by Valdez Fisheries Development Association (VFDA) was constructed in 1983. The Solomon Gulch Hatchery is the only hatchery in PWS not currently operated by PWSAC. The Solomon Gulch hatchery is located in Port Valdez, in the Eastern District, a purse seine only district of PWS. The SGH is permitted to incubate 230 million eggs, is the largest pink salmon facility in PWS. The SGH pink salmon brood stock is from early PWS systems and as a result the SGH contribute significantly to the early seine fishery in PWS.

Dec 1988 - BOF expresses need for Allocation Plan

The Fishery Situation in 1987

As the hatchery program developed in the Sound, discontent about enhanced salmon allocation was developing within the gear groups. In 1987, an estimated 18 million enhanced pink salmon returned to Prince William Sound. PWSAC's AFK hatchery was operating at capacity and the new WHN hatchery had its first production return. All user groups were paying a 2% enhancement tax to the regional aquaculture association (PWSAC), yet the Sound's enhancement programs, dominated by pink salmon production, were largely benefiting only the seiners. Figure 1.

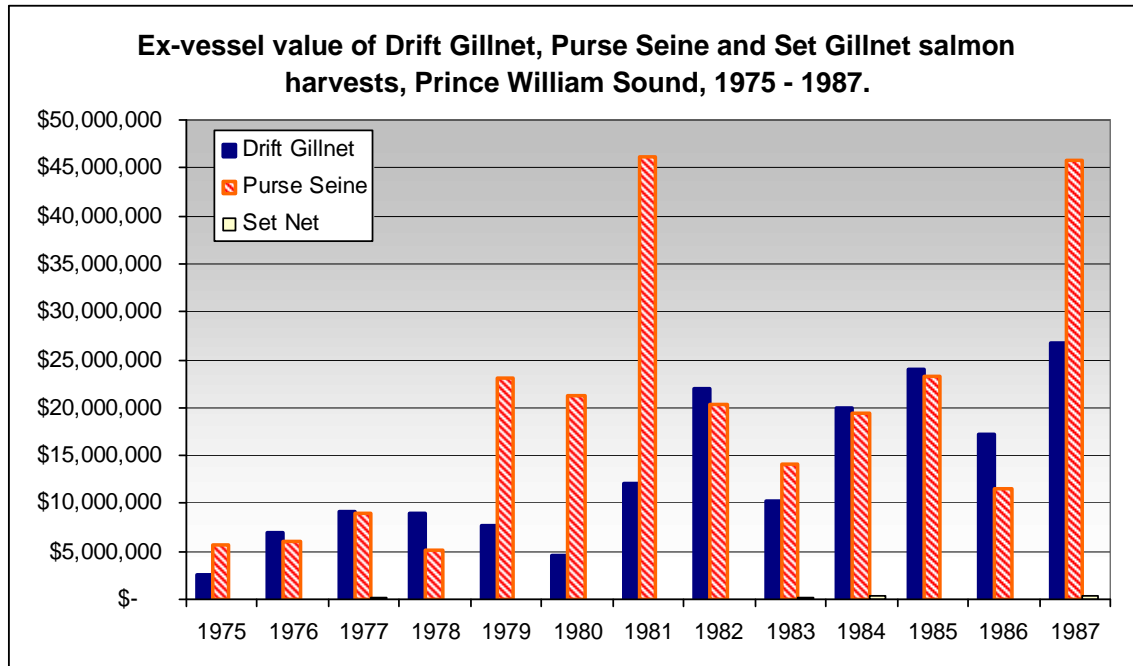


Figure 1. Ex-vessel value of Drift Gillnet, Purse Seine and Set Gillnet commercial salmon harvests in Prince William Sound, 1975 – 1987. Data from PWSAC ATF reports and ADF&G Zephyr database.

Discontent is expressed to Board of Fish

A large number of proposals were submitted to the Board of Fisheries expressing discontent with the unbalanced allocation of enhanced salmon in PWS. After considerable debate on this issue, the Board choose not to take action on any of these proposals. Board Chair, Gary Slaven, stated that it was the responsibility of PWSAC and the PWS permit holders to develop an allocation policy that would alleviate the conflict between the gear groups. He challenged the groups to bring an allocation plan back to the Board in 1991 at the next regulatory cycle (Alaska Board of Fisheries, 1997.).

1989-1990 ATF writes PWSAC Allocation Policy.

In response to the charge from Board chair Salven, PWSAC invested considerable time and expense into a two year public process to develop a corporate policy for allocating salmon produced by the association’s hatcheries. The Allocation Task Force (ATF), a committee of gear type representatives, was created by PWSAC to accomplish this task. Under contract to PWSAC, CMA Research conducted a broad survey of all PWS permit holders investigating the topics of salmon allocation, management and fishery values. Results of this survey were incorporated into the crafting of an allocation policy. A three volume publication documented the ATF’s efforts; (Report No. 1 - Briefing Papers, Report No. 2 – Trends and Conditions and Report No. 3 – Unknown Title).

The ATF hotly debated the issue of basing allocation only on enhanced production verses combining wild production with enhanced. In the end they choose to combine wild and enhanced because ADF&G and PWSAC lacked the ability to accurately differentiate

these stocks. The ATF completed the Allocation Policy and presented it to the PWSAC General Board which adopted it in its entirety in May of 1990. (APPENDIX A.)

Key elements of the Allocation Policy follow below:

PWSAC Allocation Policy

- ***It is the policy of PWSAC to equitably allocate enhanced salmon resources in Area E among all users through long term planning, production and dedication of financial and human resources.***
- ***Subsistence, sport and personal use needs will continue to be addressed within planning and production strategies.***
- ***Pertaining to commercial fisheries, enhanced salmon allocations will be based upon the long term historic economic balance that existed since statehood and prior to significant hatchery returns, as determined by ADF&G ex-vessel value records.***
- ***This balance will be utilized in planning and production as a long term approximate projection goal anticipated to achieve equitable value in returning salmon to drift gill netters, seiners and set gill netters; excluding brood stock and cost recovery salmon.***

Nov. 1990 – PWSAC Issues Policy Clarification Statements

A list of seven interpretive statements were prepared in November 1990 by the PWSAC staff assigned to plan and facilitate the ATF project. These statements were prepared at the request of the PWSAC Production Planning Committee to provide guidance in production planning and to assure decisions were supportive of policy intent. These clarification statements are paraphrased below:

1. “.... that enhanced salmon allocations be conducted at the planning and production phase of fishery development. the balance will be approximately 49/50/1 percents for seiners, drift gillnetters and set netters respectively.”
2. “... that this balance be achieved only over a period of time reasonable to provide for production development and to allow averaging harvest values to dampen the effects of annual fluctuation in harvest....”
3. “In-season management of the fishery to achieve any gear group allocation is not to be encouraged.”
4. “... PWSAC will if necessary propose to the Board of Fisheries regulatory changes.... to provide the long term frame-work management strategy to assure the planned production does indeed deliver fishing opportunity to the intended recipient of enhanced production.”
5. “...that such management changes as described in the above paragraph do not result in a re-allocation of existing production.”

6. *“It is the intent of the authors of the policy that production will attempt to achieve a balance of enhanced salmon harvest value. However, should it become apparent that economic balance trends away from the historic balance due to persistent failures of wild stocks, changing fish values, evolving environmental conditions, enacted laws, regulations or any other factor(s) which may change the described balance, then production will be planned to rebalance the ration such that the over-all economic balance in the fishery is maintained. ...”*
7. *“... It is the intent of the authors of the policy authors that the developing fishery, guided by the policy will minimize changes in historic fisheries in existence since statehood. To minimize does not preclude change, but attempts to hold change to levels least disruptive, ... “*

1990-1991 RPT Develops Allocation Plan

To implement the PWSAC allocation policy, a stable regulatory framework was needed to ensure that the PWSAC production plan would deliver fish to intended gear groups. A new regulatory management plan designed for this purpose might potentially impact all salmon user groups in the Sound. An organization with broad jurisdiction but independent of PWSAC, was more appropriate to facilitate the development of the management plan. Recognizing this, ADF&G commissioner Don Collingsworth charged the Prince William Sound Regional Salmon Planning Team (RPT), with the task of developing an enhanced salmon allocation plan for PWS. The charge directed the RPT to develop a draft regulatory plan and bring it before the Board of Fisheries at the February 1991 meeting.

Between September 1990 and January 1991, the RPT conducts five well attended public meetings, heard 81 oral testimonies and received 73 written testimonies. Meetings were held inside and outside of Alaska, to obtain the broadest involvement from all gear groups. At the conclusion of its proceedings the RPT succeeded in reaching a consensus (or informed consent) between the three commercial gear types and other users for a regulatory management and allocation plan to present to the Board of Fisheries.

Feb 1991 - Board of Fish Adopts Allocation Plan

The Board of Fisheries met in Cordova in February of 1991 and received oral and written reports on the allocation plan developed by the RPT. The plan and much of the supporting material were presented in a 16 page Proposal Report, authored by the RPT and jointly published by ADF&G and PWSAC. (APPENDIX B.) After it's deliberation, the Board adopted the allocation plan in its entirety as [5 AAC 24.370. Prince William Sound Salmon Management and Salmon Enhancement Allocation Plan.](#)

The plan contained three sections; 1.) A preamble explaining the foundation of the allocation plan, 2.) An intent section expressing the intent of the Board upon adopting the plan and 3.) A distinct management section which created a new subdistrict and imposed time and area restrictions on gear groups. In its entirety, the allocation plan represented the culmination of a great deal of effort, heated negotiations and mutual compromise that arrived at a balanced agreement between the commercial gear groups.

The Preamble contained important value statements that included:

- *Minimize Impacts on Wild Stocks*
- *Minimize impacts to historic and traditional fisheries while maintaining historic harvest value percentages*
- *Promote highest possible quality of fish*
- *Reduce congestion in the fisheries*
- *Maintain diversity of uses of the salmon resources ...*

The Intent section contained a narrative expressing the design and purpose of the plan, and the district management changes it entailed. Key elements of the intent language include the following:

“... to allocate the natural and enhanced salmon stocks in Prince William Sound in such a manner as to maintain the long term historic balance between competing commercial users that existed since statehood and prior to any significant production from enhancement programs.”

“... to maintain to the maximum extent possible the historic fishing areas and gear types and not allow development of new gear types in non-traditional areas.”

“... to endorse the Allocation Policy adopted by PWSAC in May of 1990 and directs Department and PNP operators to plan their enhancement production using the policy as a guideline.”

“... preserve pink salmon as the primary species of importance to the purse seine gear type in PWS...”

“... provide opportunity for development of enhanced returns of early timing chum, sockeye and chinook salmon to the gill net districts of PWS for the explicit benefit of the gill net users.”

“... development of coho salmon returns after August 25th for the gill net fleet. ...”

“... recognizes that enhanced species returning to gill net districts during the primary seine fishery in western PWS (July 18 – Sept. 1st) will be subject to considerable seine interception and cannot be explicitly targeted to the gill net fleet.”

“... wild stock management has the highest priority in determination of fishery openings in PWS.”

The District Management section of the allocation plan established a corridor in the western Sound for early stocks of salmon (principally chum and sockeye) to reach gill net fisheries in the Eshamy and Coghill Districts. This was accomplished by preventing purse seine gear from operating; in the Southwestern District prior to July 18, in the Perry

Island Subdistrict prior to July 21 and in the Coghill District prior to July 21. The Perry Island Subdistrict of the Northern district, was created to facilitate this as well as aid in management of hatchery returns to the WNH hatchery.

Although the regulation adopted by the Board did not provide specific allocation percentages by gear type, within its intent language it directed that the enhancement programs in PWS maintain the long term historic balance between the gear types that existed after statehood and prior to significant contributions from hatchery programs.

The “long term historic balance” was generally agreed to be represented by table of ex-vessel value ratios by gear group presented in the ATF “Trends and Conditions” report. (Table 1) The average ratios presented in this table were 50.7% for purse seine, 48.6% for drift gill net and 0.6% for set gill net.

Table 1. Annual ex-vessel value by gear type for the Prince Willian Sound commercial salmon fishery, 1960-1984. Data from the PWSAC Allocation Task Force report number two, *Trends and Conditions*, Tables 11 and 12.

Year	Seine	Drift GN	Set GN	Total Val	Seine	Drift GN	Set GN
1960	\$ 1,227.6	\$ 875.5	\$ -	\$ 2,103.1	58.4%	41.6%	0.0%
1961	\$ 1,192.3	\$ 1,411.5		\$ 2,603.8	45.8%	54.2%	0.0%
1962	\$ 4,175.4	\$ 1,575.8		\$ 5,751.2	72.6%	27.4%	0.0%
1963	\$ 3,032.9	\$ 1,098.4	\$ -	\$ 4,131.3	73.4%	26.6%	0.0%
1964	\$ 2,245.6	\$ 1,825.4	\$ -	\$ 4,071.0	55.2%	44.8%	0.0%
1965	\$ 1,212.3	\$ 1,829.1		\$ 3,041.4	39.9%	60.1%	0.0%
1966	\$,425.0	\$,308.7		\$ 3,733.7	38.2%	61.8%	0.0%
1967	\$,358.0	\$,501.1	\$ -	\$ 2,859.1	47.5%	52.5%	0.0%
1968	\$,290.1	\$,928.6	\$ -	\$ 3,218.7	40.1%	59.9%	0.0%
1969	\$,228.3	\$ 2,017.2	\$ 38.1	\$ 4,383.6	50.8%	46.0%	3.2%
1970	\$,546.5	\$,081.4	\$ 56.2	\$ 4,684.1	33.0%	65.8%	1.2%
1971	\$,993.6	\$,339.2	\$ -	\$ 6,332.8	63.1%	36.9%	0.0%
1972	\$ -	\$ 2,657.7	\$ 27.0	\$ 2,784.7	0.0%	95.4%	4.6%
1973	\$ 5,176.3	\$ 4,131.2	\$ 98.8	\$ 9,406.3	55.0%	43.9%	1.1%
1974	\$ 143.4	\$ 4,458.2	\$ 167.2	\$ 4,768.8	3.0%	93.5%	3.5%
1975	\$ 5,626.4	\$ 2,634.0	\$ -	\$ 8,260.4	68.1%	31.9%	0.0%
1976	\$ 6,069.0	\$ 6,975.2	\$ -	\$13,044.2	46.5%	53.5%	0.0%
1977	\$ 8,932.8	\$ 9,223.0	\$ 130.0	\$18,285.8	48.9%	50.4%	0.7%
1978	\$,192.6	\$,949.0	\$ -	\$14,141.6	36.7%	63.3%	0.0%
1979	\$ 3,163.0	\$,661.9	\$ -	30,824.9	75.1%	24.9%	0.0%
1980	\$ 1,238.8	\$,658.8	\$ 5.7	25,913.3	82.0%	18.0%	0.1%
1981	\$ 6,170.5	\$ 2,092.7	\$ -	58,263.2	79.2%	20.8%	0.0%
1982	\$ 0,286.8	\$ 2,019.4	\$ -	42,306.2	48.0%	52.0%	0.0%
1983	\$ 4,122.5	\$ 0,232.7	\$ 94.5	24,549.7	57.5%	41.7%	0.8%
1984	\$ 9,415.9	\$ 0,031.7	\$ 89.4	39,837.0	48.7%	50.3%	1.0%

1960-1984 Avg.	50.7%	48.7%	0.6%
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The three sections outlined above were adopted by the board, and were incorporated into 5 AAC 24.370. Regulation booklets published in subsequent years contained these sections as part of 24.370. Some years later, however, a Department of Law regulation specialist removed the “preamble” and “intent” sections from 5 AAC 24.370 because these sections were “non regulatory”. They felt that such “intent” language should be contained in a Board Finding. Although a finding was to have been written by the Board, one was never completed. A place holder finding exists (Finding: #91-125-FB). The consequence of this was that significant sections of the management plan were “lost” including the Board’s intent and their endorsement of the PWSAC Allocation Policy.

Jan 1997 – BOF adds 25% Piggy Bank section to Plan

At the next two regulatory cycles the Board of Fisheries were again faced with numerous proposals from the gear groups requesting modifications to the allocation structure. In the 93-93 regulatory cycle the Board elected not to modify the plan, recognizing the significance of the balance that had been reached for the ATF and the RPT’s efforts. However in the 97-97 regulatory cycle, a new Board make-up choose to look into modifying the plan.

The Fishery Situation in 1996

Following the adoption of the allocation plan in February 1991, the situation in PWS changed significantly. The seine fishery which derives 80% of its income from pink salmon (Figure 2.), had fallen on hard times. The pink salmon returns to the Sound in 1992 and 1993 yielded the lowest commercial harvests since 1978. Pink salmon prices had crashed from the 1988 peak of \$0.84/lb to \$0.07/lb in 1996. (Figure 3). The lower prices demanded that the hatcheries harvest more cost recovery fish, leaving fewer fish for the common property fishery. In response to the economic pressure participation in the seine fishery dropped from 259 active permits in 1991 to 94 permits in 1996. (Figure 3.)

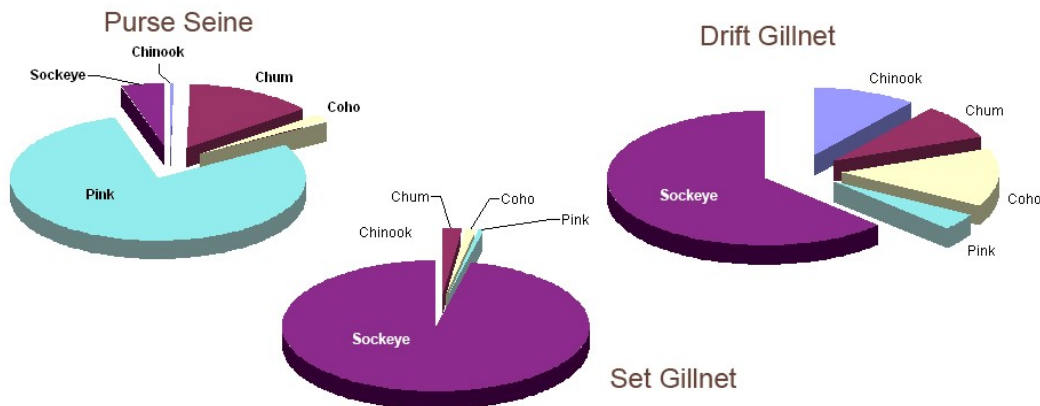


Figure 2. Proportion of average ex-value that salmon species contribute to the commercial Purse Seine, Drift Gillnet and Set Gillnet fisheries in Prince William Sound, 1984 -2004. Source: COAR.

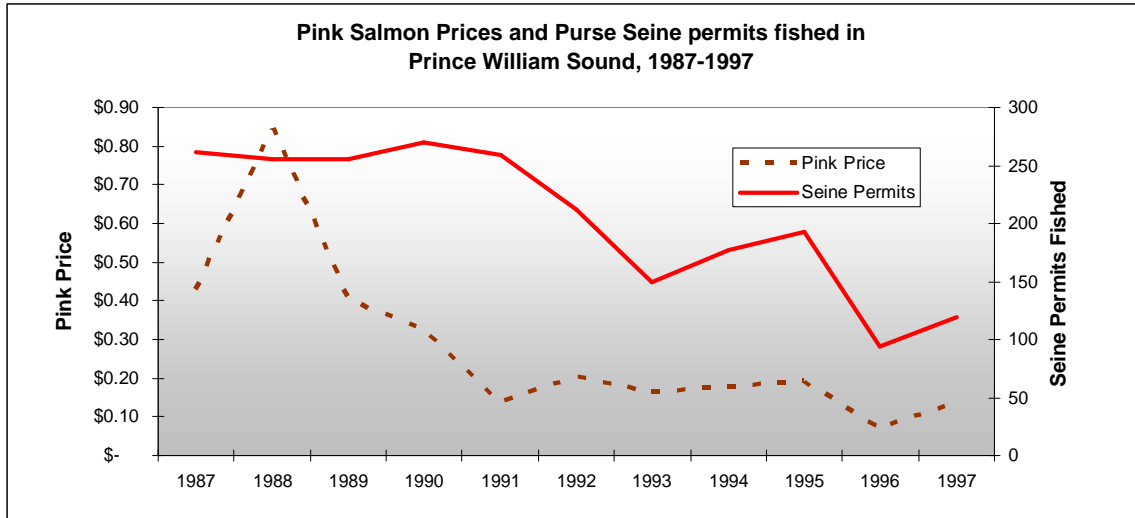


Figure 3. Pink salmon price trends and number of purse seine permits fished annually in Prince William Sound, 1987-1997. Source; COAR and Zephyr.

On the gill net side the picture was different. The gill net fleet derives over 60% of its income from sockeye salmon (Figure 2). Although sockeye prices had also declined, the magnitude of the decline was less than for pink salmon. (Figure 4.) This was largely due to the successful marketing strategies for Copper River salmon. While the gill net fleet had seen little benefit from the hatchery program in 1991, they now were experiencing successful returns of chum salmon to the WNH hatchery in the Coghill District. The Copper River sockeye stocks were experiencing record returns. Annual participation in the gill net fishery was relatively steady at over 500 active permits each year. (Figure 4.)

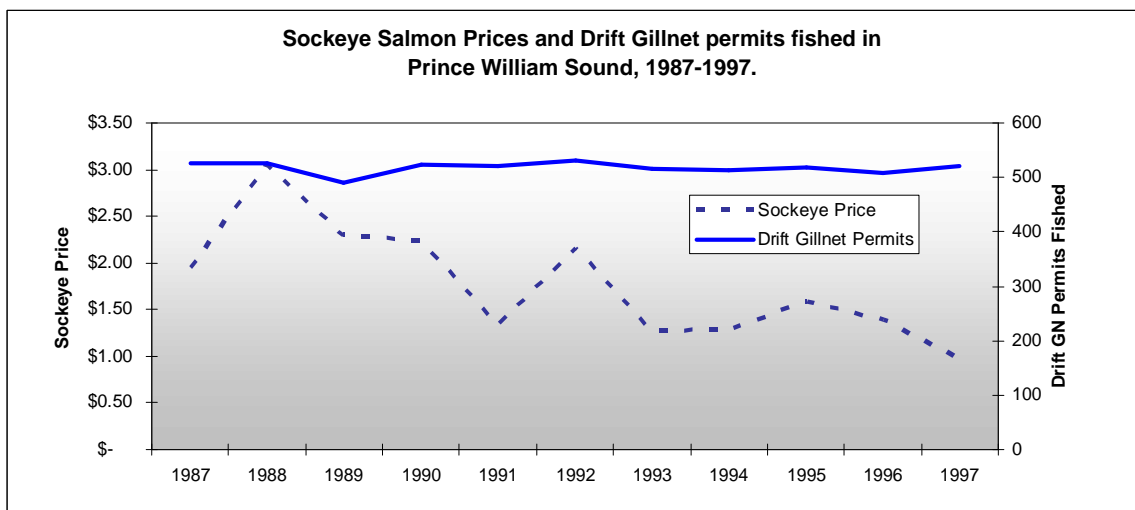


Figure 4. Sockeye salmon price trends and number of drift gillnet permits fished annually in Prince William Sound, 1987-1997. Source; COAR and Zephyr.

BOF Analysis

Based on [BOF Finding 97-167-FB](#) (APPENDIX C), the Board identified two factors contributing to the “problem” in the PWS fishery; 1.) the drop in pink salmon prices and 2.) the inability of PWSAC to fulfill that portion of the allocation plan which required additional production of fish. The problem as stated in the BOF finding was:

“... the fact that, over the last six years, the average ex-vessel value for the drift gill net fleet has been approximately 75% of the total ex-vessel value of all salmon (wild and enhanced) and the average ex-vessel value for the seine fleet has been approximately 25% of the total ex-vessel value.”

The Board questioned the use of both wild and enhanced fish for calculating these values, but concluded from review of the plans original intent language and the PWSAC Clarification Statements that this was indeed the intent of the original policy. The finding points out that:

“If only enhanced fish are used in the calculation of ex-vessel value, the disparity is minimal and no adjustment would be necessary.”

The Board reviewed the percentages (drift gillnet 50%, seine 49% and set gillnet 1%), and determined that they represented an allocation for each gear group approximating long term historic averages. Although the Board would have preferred the percentages be expressed as ranges, they recognized their significance, and consequently included them into 5 AAC 24.370 unchanged.

The “piggy bank” concept

While recognizing that “parity” was a long term goal measured over many years, the Board felt that there should be a short term correction to bring gear groups into compliance with allocation percentages. Based on this logic, the Board decided to create a “piggy bank” to adjust allocation disparities over short time frames. One “piggy bank”, would benefit seiners while the other would benefit drift gill netters. The seiner’s piggy bank consisted of shared access to the enhanced chum salmon return to the Esther Subdistrict between June 1 and July 20. The drift gillnet “piggy bank” consisted of the enhanced chum return to the Port Chalmers Subdistrict. The Board established a threshold or trigger, whereby if one of the gear groups fell below 25% of the total ex-vessel value for the common property harvest in Prince William Sound, then that gear type would go into the “piggy bank” on the following year. Recognizing the purse seine gear was more efficient than drift gillnet gear, the drift fleet would have exclusive access to Port Chalmers “piggy bank” while the seiners would share the Esther Subdistrict “piggy bank” with the drift fleet, having equal time but not necessarily equal area. The Board established that the “piggy bank” concept would not go into effect until after the 1997 season which would be a base year.

Feb 2003 – Piggy Bank trigger revised to 40%

The Fishery Situation in 2002

The 1997 “base year” for the allocation plan, yielded an ex-vessel value percentage for the seine fleet of 26.1% (Gray et. al. 2003), falling short of activating the 25% “piggy bank” trigger. However the 2002 season had placed the purse seine value ratio clearly below the 25% trigger. (Figures, 5 & 6.)

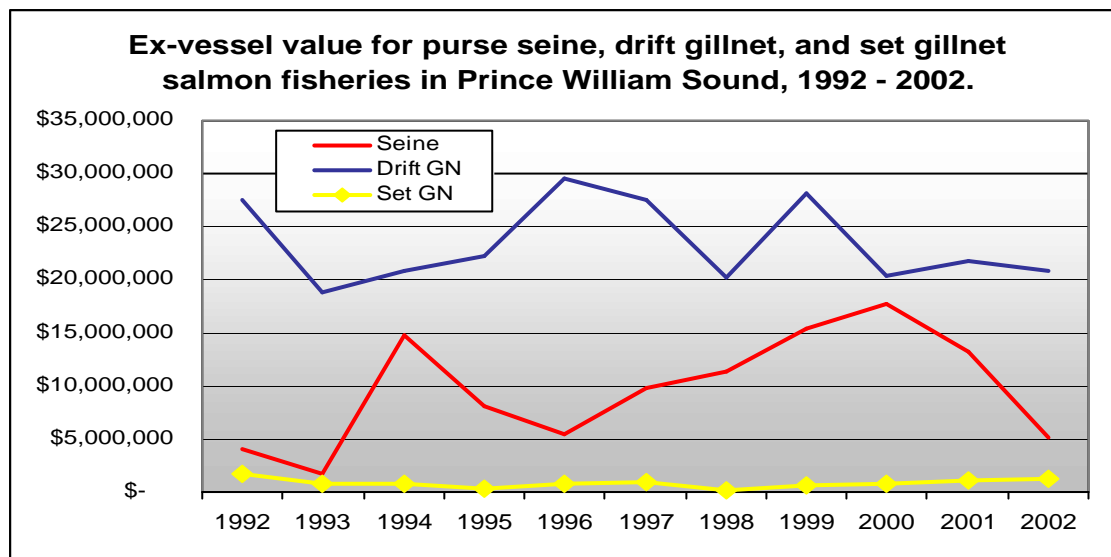


Figure 5. Ex-vessel values of purse seine, drift gillnet and set gillnet salmon fisheries in Prince William Sound, 1992 -2002. Source; COAR & Zephyr.

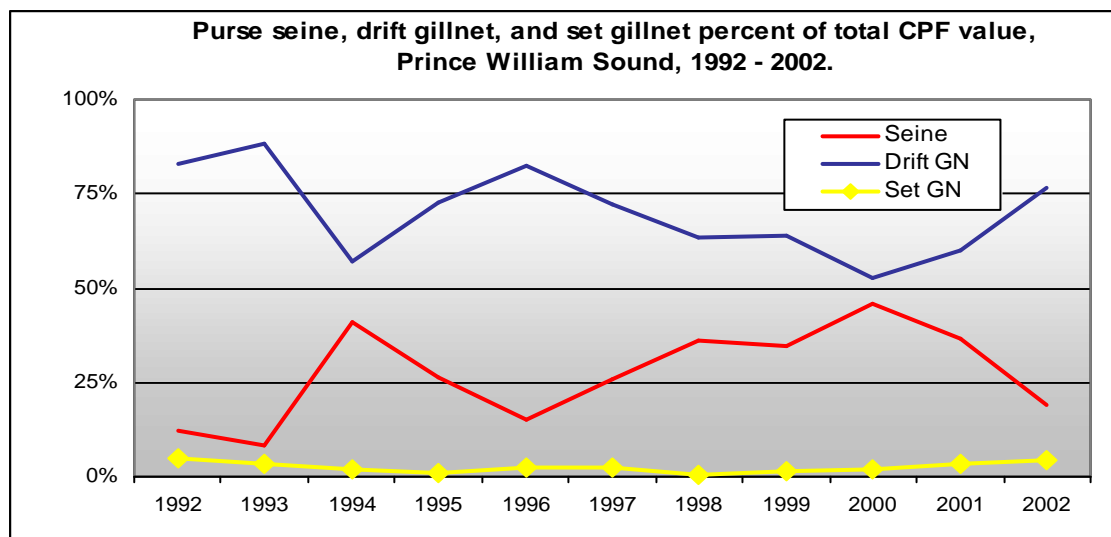


Figure 6. Purse seine, drift gillnet and set gillnet percent of total common property fishery value, Prince William Sound, 1992-2002. Source; COAR & Zephyr.

Table 2. Purse seine, drift gillnet and set gillnet percent of the total Area E common property fishery ex-vessel value, 1992 – 2002. Source COAR & Zephyr.

Year	Seine	Drift		
		GN	Set GN	
1992	12%	83%	5%	
1993	8%	88%	3%	
1994	41%	57%	2%	
1995	26%	73%	1%	
1996	15%	83%	2%	
1997	26%	72%	2%	25% Piggy Bank base year
1998	36%	63%	1%	
1999	35%	64%	1%	
2000	46%	52%	2%	
2001	37%	60%	3%	
2002	19%	76%	5%	

Board increases trigger point to 40%

The Board of Fisheries met in Cordova Jan 31- Feb 6, 2003. They adopted an amended version of a proposal which increased the “piggy bank” trigger from 25% to 40%. This action made it “easier” for a gear group’s ex-vessel value ration shortfall to trigger the “piggy Bank” clause in the following year. For example, had the Board set the trigger at 40% rather than 25% in 1996, the purse seine group would have been given access to the “piggy Bank” in every year since 1997 rather than just 2002 (Table 2). The Board also revised the manner that the ex-vessel value was calculated, using Commercial Operators Annual Report (COAR) rather than ADF&G estimates of value. This action had only a minor impact on the calculated percentages. All percentages and ex-vessel values presented in the report for dates later than 1984, use COAR data.

October 2003 – Board Allocation Committee Formed

Coffey ACR

At its October 2003 fall work session, the Board received an Agenda Change Request (ACR#4) from the Law offices of former Board member Dan Coffey, representing the seine fishermen of PWS. The ACR contended that the Board’s efforts to allocate salmon to the commercial gear groups in 5 AAC 24.370 had been “voided by the cost recovery actions of PWSAC”, and “as a result the commercial harvest for the 2003 season was not in conformity with the board’s regulation”. The ACR did not propose any specific solution.

Comments on ACR #4, provided to the Board by ADF&G explained the complex PWSAC cost recovery policy. PWSAC has an integrated cost recovery program that involves all of its facilities. They have two independent cost recovery goals annually, a

gillnet goal and a purse seine goal. The gillnet goal is based on the operational costs for producing fish that benefit gillnet fisheries. The revenue to meet this goal is generated from cost recovery harvesting fish that would otherwise be caught in gillnet fisheries. Similarly the seine cost recovery goal is based on the production costs of seine fish and is taken from the returns that would otherwise benefit seiners. Because the seiners had shared access to the early chums at Esther due to the “piggy bank” (5 AAC 24.370. (e)), in 2003, PWSAC’s cost recovery plan treated the early chums as shared fish for both gill net and seine. The Board’s deliberation of ACR #4 found it to be allocative and consequently they failed to accept it.

Allocation Workgroup Formed

In response to ACR #4, the Board established a committee composed of board members, Nelson (chair), Bouse and Morris, to examine the PWS Allocation Plan (5 AAC 24.370.), and the cost recovery plan for PWSAC. The goal of the committee was to: “ reach a better understanding of past and present allocation and cost recovery issues and to explore options to find an equitable allocation balance between the user groups.”

The committee established a panel of public advisors composed of two seine only, two drift gill net only, one combined gear representative, one set net representative, two PWSAC managers and one VFDA representative.

December 2003 – Allocation Workgroup meets

The Board’s PWS allocation workgroup had its first meeting in December 2003. The Department reviewed the “piggy bank” fishery for seiners in 2003. They presented harvest statistics for the drift gill net and purse seine fishery through July 21, 2003 as outlined below:

Species	Seine	Drift Gillnet
Sockeye	125,641	161,872
Pink	11,439,915	44,419
Chum	750,835	726,431
Coho	724	9,900

The group discussed the concept of a buffer around the Esther Subdistrict to prevent gill net interception of chums when the seiners were fishing, and the concept of reducing the outer area of the Esther Subdistrict to reduce Main Bay sockeye interception by seiners. The Department expressed concern about the buffer concept during large return years and requested a “relief valve” if the Board were to go this route.

No consensus was reached on any of these issues.

February 2004 – BOF schedules special PWS meeting

Near the conclusion of the February 2004 meeting on Alaska Peninsula and Aleutian Islands Finfish, the Board received a report from the PWS Allocation Committee and

progress made at the December meeting. A motion was made and passed to address trigger points for seiners, and the buffer zone at a special April meeting before the 2004 fishing season.

March 2004 – Allocation Work Group Meeting

The workgroup had its second meeting. The focus of the meeting was to address the two proposals the Board had generated for the April special meeting. Lively discussion and debate continued through the meeting, providing Board committee members with more information, but still no consensus from the gear groups on the issues.

April 2004 – Board of Fish Mtg

The Board met to address out of cycle proposals 258 and 259 dealing with PWS allocation. Proposal 258 to amend the 40% “piggy bank” trigger failed. The BOF directed the PWS Allocation Workgroup to continue to meet and see if consensus could be reached. Proposal 259 passed, modifying the buffer zone outside Esther to address quality concerns. The Board’s summary is Below:

PROPOSAL NO. 258 ACTION: Failed

DESCRIPTION: Amend the purse seine fleet catch trigger percentage in the Prince William Sound Management and Salmon Enhancement Allocation Plan

DISCUSSION: The board met as a committee of the whole with the working group and other members of the public selected from those who provided testimony at this meeting. There was no consensus reached by participants of the public panel. Some of the points brought up during the committee meeting include: the 40 percent put in place last year was considered a band-aid; the board created their own “buffer zone” by the percentage that was put in place. Board discussed an amendment of 49 percent with an intent of eliminating as much of the variables as possible for participants in the fishery. Discussion included that without it, the fishery will continue to be unstable. The amendment failed, but further discussion showed that although allocation issues should be dealt with in cycle, the board is concerned and intends to continue allowing the workgroup to meet to see if consensus can be found.

PROPOSAL NO. 259 ACTION: Carried as amended

DESCRIPTION: Amend the buffer zone outside the Esther Subdistrict surrounding Esther Island

AMENDMENT: Modified the buffer zone area and addressed quality concerns.

DISCUSSION: The board met as a committee of the whole to discuss this issue. There was no consensus reached by participants of the public panel. Department reported an increased likelihood that the sockeye BEG for Coghill River will be exceeded due to less commercial fishing time/area in the general Coghill District as a result of the buffer area. In the event of a buildup of chum salmon in the buffer area, there will be some lag time between recognition of the problem and prosecution of a fishery resulting in reduced product quality. Board does not believe radical changes are appropriate at this time and that adopting this will address some of the concerns brought regarding this fishery. The amendment addresses the issue of the alternating access.

Committee Progress leading to Dec. 2005 Board Meeting

The Board's allocation committee has continued to meet and slow progress has been made in some areas. In October 2005, a new concept was introduced by committee chair Morrison, that would base the allocation plan on enhanced fish only. ADF&G staff prepared an analysis of salmon returns back to 1997, with allocation of the enhanced salmon contributions to each gear type.

References:

- Alaska Board of Fisheries, 1997. Findings regarding the Prince William Sound management and salmon enhancement allocation plan (5 AAC 24.370.). Finding #97-167-FB. (Previously #97-02-FB). Alaska Board of Fisheries, Juneau, Alaska.
- Alaska Board of Fisheries, 2003. Charge to the Prince William Sound Management and Allocation Plan Workgroup. 2003-225-FB. Alaska Board of Fisheries, Juneau, Alaska.
- Allocation Task Force, February 1990. Allocation of Enhanced Salmon, Report Number Two; Trends and Conditions. Prince William Sound Aquaculture Corporation, Cordova, Alaska.
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- Farrington, C. 2003. Alaska Salmon Enhancement Program, 2002 Annual Report. Alaska Department of Fish and Game. RIR 5J03-05. Alaska Department of Fish and Game, Juneau, AK.
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- McNair, M. 2002. Alaska Salmon Enhancement Program, 2001 Annual Report. Alaska Department of Fish and Game. RIR 5J02-04. Alaska Department of Fish and Game, Juneau, AK.
- PWS/CR RPT, February 1991. Prince William Sound Salmon Management Plan Proposal Report. Alaska Department of Fish and Game & Prince William Sound Aquaculture Corporation, Cordova, Alaka.
- White, B. 2005. Alaska Salmon Enhancement Program, 2004 Annual Report. Alaska Department of Fish and Game. RIR 5J05-09. Alaska Department of Fish and Game, Juneau.

ACRONYMS USED IN THIS REPORT

AAC	Alaska Administrative Code
ACR	Agenda Change Request – An out of cycle proposal to the BOF.
ADF&G	Alaska Department of Fish and Game
AFK	Armin F Koernig Hatchery operated by PWSAC
ATF	Allocation Task Force – a committee created by PWSAC
BEG	Biological Escapement Goal
BOF	The Alaska Board of Fisheries
CCH	Cannery Creek Hatchery- owned by state & operated by PWSAC
COAR	Commercial Operators Annual Report
CPF	Common property fishery
GN	Gillnet
MBH	Main Bay hatchery owned by state & operated by PWSAC
PWS	Prince William Sound
PWSAC	Prince William Sound Aquaculture Corporation
RPT	The PWS Regional Salmon Planning Team
SGH	Solomon Gulch Hatchery – operated by VFDA
VFDA	Valdez Fisheries Development Association
WNH	Wally Noerenberg Hatchery on Esther Is. Operated by PWSAC
ZEPHYR	ADF&G's fish ticket computer database

APPENDIX A – PWSAC Allocation Policy.

**Prince William Sound Aquaculture Corporation Allocation Policy adopted by
PWSAC in May 1997.**

Note: to conserve web space the graphic files in this appendix were omitted. A complete copy of this report can be obtained by email request to jbrady@ak.net.

APPENDIX B. - PWS Salmon Management Plan Proposal Report.

Note: to conserve web space the graphic files in this appendix were omitted. A complete copy of this report can be obtained by email request to jbrady@ak.net.

APPENDIX C. Board Finding 97-167-FB

97-167-FB
(Previously Finding #97-02-FB)

ALASKA BOARD OF FISHERIES FINDINGS REGARDING THE PRINCE WILLIAM SOUND MANAGEMENT AND SALMON ENHANCEMENT ALLOCATION PLAN (5 AAC 24 .370)

At its meeting in Cordova, the Board of Fisheries (board) took staff reports, both oral and written, oral and written testimony from the public and advisory committee reports concerning the allocation of Prince William Sound salmon stocks between three different gear types ; seine, drift gillnet and set gillnet. The current allocation plan is found in 5 AAC 24 .370, the Prince William Sound Management and Salmon Enhancement Allocation Plan . The board had numerous proposals before it to change this particular regulation.

The history of attempts to establish allocations between the gear types goes back more than seven years and involves this board, the Prince William Sound Aquaculture Corporation (PWSAC), the Regional Planning Team (RPT) and numerous members of the public . Despite the best efforts of all of these people, and because of changes in conditions and PWSAC practices, the allocation plan is currently not working in the manner intended .

For a historical perspective, the board reviewed and discussed how the current situation was created . The existing regulation arose out of an agreement between gear types facilitated by PWSAC, the RPT and the board . In a prior form of the regulation (5 AAC 24 .370), the board expressly recognized the allocation policy adopted by PWSAC in May, 1990 . This regulation has been in effect since 1991 .

After hearing from the public, the board has determined that the allocation plan is generally acceptable to all of the parties involved in terms of its allocation percentages . Admittedly, the set gillnetters would prefer to have their allocation percentage increased from one percent (1%) to two point three percent (2.3%) of ex-vessel value, but since they have a small and singular fishery (Main Bay and Crafton Island subdistricts), their fishery will produce what it produces regardless of the percentage assigned . The two largest fisheries (seine and drift gillnet) still agree that their respective allocations should remain at forty-nine percent (49%) and fifty percent (50%) respectively, although there is evidence that the actual percentages should be forty seven point five percent (47.5%) for seiners, fifty one point five percent (51 .5%) for drift gillnetters and one percent (1%) for set gillnetters (See letter from Board Chair Kay Andrew to Commissioner Carl Rosier, page 2, numbered paragraph three, dated February 13, 1994) . There has been some public testimony concerning these percentages which vary by one and one-half percent (1 .5%) from the percentages set forth in the regulations .

In this regard, it should first be understood that these allocations are not intended to be a specific allocation number for each gear type for each season, but rather a long-term goal or objective of the board which, if not realized over a long term (more than 2 board cycles), could result in a change in the allocation provisions of the regulation . Further, it is impossible for this board or the staff to manage the resource within one or two percentage points . Finally, in this board's opinion, it would be more appropriate for the gear types to agree on a range of percentages and agree upon a method for adjustment as has been done in other fisheries (See 5 AAC 33 .364-Southeastern Alaska Area Enhanced Salmon Allocation Management Plan).

The problem which was presented to the board is based upon two factors . The first factor is the dramatic reduction in pink salmon prices . The second factor is the current inability of

PWSAC to fulfill that portion of its allocation plan which required additional production of fish . Simply stated, the problem arises from the fact that, over the last six (6) years, the average ex-vessel value for the drift gillnet fleet has been approximately seventy-five percent (75%) of the total ex-vessel value of all salmon (wild and enhanced) and the average ex-vessel value for the seine fleet has been approximately twenty-five percent (25%) of the total ex-vessel value . This disparity is based upon an ex-vessel value based upon a combination of both wild and enhanced stocks. There is no debate as to the accuracy of these numbers . The only question here is to the use of both wild and enhanced stocks in calculating ex-vessel value . There is a significant debate going on between the seiners and the drifters over the inclusion/exclusion of wild stocks in the calculation of the ex-vessel value.

Ex-vessel value of both stocks were used in determining the historic percentages. However, the PWSAC policy statements which were presented to the board, all refer to enhanced stocks until the very end of the PWSAC Allocation Policy on Enhanced Salmon : An Explanation to Clarify Intent of Key Statements : Policy Clarification Statements, page 48, paragraph 6 where wild stocks were referred to as follows :

"6. It is the intent of the authors of the policy that production planning will attempt to achieve a balance of enhanced salmon harvest value . This intent is based on the assumption that established the historic basis for the allocation ratio . That is, wild stocks, averaged over time, were and will be harvested according to the balanced value ratio. Should this premise hold true, then a balance of enhanced salmon harvest value will maintain an economic balance between the gear groups . Only over time can this condition be achieved due to annual harvest value fluctuations . However, should it become apparent that economic balance trends away from the historic balance due to persistent failures of wild stocks, changing fish values, evolving environmental conditions, enacted laws regulations or any other factor(s) which may change the described balance, then production will be planned to rebalance the ratio such that the over-all economic balance in the fishery is maintained . This statement clearly supports the intent of the policy statement that "[t]his balance will be utilized in planning and production as a long term approximate projection goal anticipated to achieve equitable value in **returning salmon** . . ." (emphasis in the original) .

Based on the foregoing language, it appears as if PWSAC was using both enhanced and wild stocks in its allocation determinations even though PWSAC could only allocate as to enhanced stocks. Further, members of the public who also served on the PWSAC board, on the allocation committee, who are commercial fishermen, and who are apparently very knowledgeable concerning the PWSAC allocation policy, state that all fish, both wild and enhanced, were to be included in the calculation of ex-vessel value.

However, this is strongly disputed by others, primarily drifters, who contend to the contrary . Some of these individuals are also knowledgeable, having been active in the development of the PWSAC allocation policy . This disagreement as to one of the fundamental precepts of the PWSAC allocation policy needs to be resolved by the board.

Further, of considerable importance to this board, is the fact that a prior board, when it adopted this regulation in 1991, stated its intent as follows:

". . .to allocate the natural and enhanced salmon stocks in Prince William Sound in such a manner as to maintain the long-term historic balance between competing commercial users that existed since statehood and prior to any significant production from enhancement programs."

Thus, the prior board decided that allocation decisions would be based on both wild and enhanced stocks.

If both wild and enhanced stocks are used in the calculation of the ex-vessel value, the disparity over the last six years is as noted above . If only enhanced stocks are used in the calculation of the ex-vessel value, the disparity is minimal and no adjustments would be necessary .

Thus, this board first needs to decide which ex-vessel value to use in its allocation determinations . After discussion, the board determined that both wild and enhanced stocks would be used in its allocation decisions. The reasons for this decision include the prior board's determination, the testimony of the public, the written record presented to the board and, most importantly, the fact that the historic catch of all salmon stocks reflects a division between gear types substantially in line with decisions based on both wild and enhanced stocks .

Next, the board discussed the percentages themselves and, for the reasons stated above, determined that the percentages stated in the proposal (drift gillnet 50%, seine 49% and set gillnet 1%) represented an approximate allocation percentage for each gear group . It was stressed by the board in its discussions that it would much rather see a range for the allocation percentages, but that these specific percentages are of sufficient merit to be "recognized" by the board.

The board then discussed the department's determination of the ex-vessel value . Staff was solicited to comment . The staff s comments were to the effect that this provision was appropriate and feasible . Since some ex-vessel measuring tool is required, this is an acceptable method . This method was adopted by the board.

Subsection (d) was then discussed by the board . It was noted that this subsection is substantially identical to the existing regulation with only one change . The only change is found in subparagraph (5)(B) which allows the seine fleet to fish in previously closed waters because of a change in the coho fishery . Previously, the Noerenberg Hatchery was producing coho which was harvested by the drift gillnet fleet . Because of a disease situation, the hatchery has ceased production of these coho . The seine fleet was confined to an area to avoid harvesting these coho . With the pending absence of these coho, there is no reason to confine the seine fleet to any particular area . There, the regulation was amended so as to allow the seine fleet to fish in previously closed waters so long as the predominant species is pink salmon.

The board then discussed the "piggy bank" concept . This concept was originally developed by the fishermen who fish in this fishery as a method by which disparities in the allocation between gear types could be corrected in the short run. Corrections in the long run were intended to be handled by increased production by PWSAC . This may or may not occur. However, in the short run, there is no corrective action which can be taken based upon increased production . Such corrective action is both biologically and financially impossible . Thus, the only short term corrective actions which can be taken involve re-allocations between the two user groups ; seiners and drift gillnetters.

From discussions with staff and the public, as well as the board's review of the written materials provided by staff and by the public, there appears to be two potential "piggy banks" areas within Prince William Sound ; the enhanced chum salmon run at Port Chalmers in the new Port Chalmers Subdistrict and the enhanced chum salmon run in the Esther Subdistrict beginning June 1 through July 20 . The Port Chalmers area is a traditional seine fishery. The Esther Subdistrict is traditionally (by agreement since 1990) a drift gillnet fishery during this period . Also with regard to these two "piggy banks", the potential harvest in the Port Chalmers Subdistrict is less than the potential harvest in the Esther Subdistrict . There is also a risk of interception of Coghill Lake bound sockeye salmon in the Esther Subdistrict . The board also noted that the seine fleet is more efficient than the drift gillnet fleet in harvesting salmon . Finally,

the board took note of the problems at the Main Bay hatchery which will affect the sockeye return which, in turn, will effect the drift gillnet fleet which participates in the Main Bay fishery.

The board also discussed the fact that there is no way in which parity can be precisely maintained over the short run. Parity is a long-term goal . Originally, the allocation divisions were determined on a twenty year plus period . Thus, parity is something which should be achieved over a similar lengthy period . This conclusion, however, does not mean that shorter term parity is not an appropriate goal and that the board should not adopt regulations which tend, in the short run, to bring the gear types into compliance with the allocation percentages.

Based on the foregoing, the board decided to proceed with the "piggy bank" concept to adjust allocation disparities over the shorter term . The regulation adopted took into consideration the interception of Coghill Lake sockeye salmon by allowing the department to confine the more efficient seine fleet to a smaller area than the drift gillnet fleet in the Esther Subdistrict . By granting the drift gillnet fleet both the potential of a larger area, by permitting a dual gear fishery and by permitting the drift gillnet fleet to fish exclusively in the Port Chalmers Subdistrict, the board recognized both the difference in gear efficiency and the "richness" of the two "piggy bank" fisheries.

Finally, the board established 1997 as the "base" year . There will be no changes in the 1997 fishery in Prince William Sound . The seine fleet will fish in the new Port Chalmers Subdistrict . The drift gillnet fleet will have the exclusive right to fish in the Esther Subdistrict from June 1 to July 20 . Only in 1998 and beyond, will any of the "piggy banks" be used for either gear group. The board expects this matter to be considered again in the next cycle . In conclusion, the board completely and thoroughly reviewed the fishery and the competing gear types . By reaching its decision it put to rest over seven (7) years of dispute between the various gear groups . Finally, by adopting the new regulation, the board cleared up the previously existing regulatory problems.

At Sitka, Alaska

Date : January 29, 1997

Approved : 6/0/0/1 (Yes/No/Absent/Abstain)

Larry Engel, Chairman
Alaska Board of Fisheries