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State of Alaska Data Collection Programs and Needs: A Report to the Salmon Industry Restructuring Panel

by

Susan M. Shirley

March 2005

Alaska Department of Fish and Game

Divisions of Sport Fish and Commercial Fisheries



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Weights and measures (metric)		General		Measures (fisheries)	
centimeter	cm	Alaska Administrative		fork length	FL
deciliter	dL	Code	AAC	mideye-to-fork	MEF
gram	g	all commonly accepted		mideye-to-tail-fork	METF
hectare	ha	abbreviations	e.g., Mr., Mrs., AM, PM, etc.	standard length	SL
kilogram	kg			total length	TL
kilometer	km	all commonly accepted			
liter	L	professional titles	e.g., Dr., Ph.D., R.N., etc.	Mathematics, statistics	
meter	m	at	@	<i>all standard mathematical</i>	
milliliter	mL	compass directions:		<i>signs, symbols and</i>	
millimeter	mm	east	E	<i>abbreviations</i>	
		north	N	alternate hypothesis	H _A
Weights and measures (English)		south	S	base of natural logarithm	<i>e</i>
cubic feet per second	ft ³ /s	west	W	catch per unit effort	CPUE
foot	ft	copyright	©	coefficient of variation	CV
gallon	gal	corporate suffixes:		common test statistics	(F, t, χ^2 , etc.)
inch	in	Company	Co.	confidence interval	CI
mile	mi	Corporation	Corp.	correlation coefficient	
nautical mile	nmi	Incorporated	Inc.	(multiple)	R
ounce	oz	Limited	Ltd.	correlation coefficient	
pound	lb	District of Columbia	D.C.	(simple)	r
quart	qt	et alii (and others)	et al.	covariance	cov
yard	yd	et cetera (and so forth)	etc.	degree (angular)	°
		exempli gratia	e.g.	degrees of freedom	df
Time and temperature		(for example)		expected value	<i>E</i>
day	d	Federal Information	FIC	greater than	>
degrees Celsius	°C	Code		greater than or equal to	≥
degrees Fahrenheit	°F	id est (that is)	i.e.	harvest per unit effort	HPUE
degrees kelvin	K	latitude or longitude	lat. or long.	less than	<
hour	h	monetary symbols		less than or equal to	≤
minute	min	(U.S.)	\$, ¢	logarithm (natural)	ln
second	s	months (tables and		logarithm (base 10)	log
		figures): first three		logarithm (specify base)	log ₂ , etc.
Physics and chemistry		letters	Jan,...,Dec	minute (angular)	'
all atomic symbols		registered trademark	®	not significant	NS
alternating current	AC	trademark	™	null hypothesis	H ₀
ampere	A	United States		percent	%
calorie	cal	(adjective)	U.S.	probability	P
direct current	DC	United States of		probability of a type I error	
hertz	Hz	America (noun)	USA	(rejection of the null	
horsepower	hp	U.S.C.	United States	hypothesis when true)	α
hydrogen ion activity	pH		Code	probability of a type II error	
(negative log of)		U.S. state	use two-letter	(acceptance of the null	
parts per million	ppm		abbreviations	hypothesis when false)	β
parts per thousand	ppt, ‰		(e.g., AK, WA)	second (angular)	"
volts	V			standard deviation	SD
watts	W			standard error	SE
				variance	
				population	Var
				sample	var

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A REPORT TO THE SALMON INDUSTRY RESTRUCTURING PANEL**

by

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ABSTRACT

The Salmon Industry Restructuring Panel requested a report on the current data collected by the State of Alaska that could be used for economic analyses of proposals to restructure the salmon industry. This report provides a synopsis of the data now collected by the Alaska Department of Fish and Game, the Alaska Seafood Marketing Institute, the Commercial Fisheries Entry Commission, the Alaska Department of Revenue, and the Alaska Department of Labor and Workforce Development. Cost estimates are provided for each data collection project. Data gaps and problems with access to state salmon data are identified, and recommendations for new data collection efforts are provided.

Key words: salmon, data inventory, data collection, economic analysis, restructuring, Salmon Industry Restructuring Panel, fishery data, crewmember, fish tickets, gross earnings, COAR, salmon prices, salmon production report, fish harvesting employment, vessel license, permits

INTRODUCTION

This report was prepared at the request of the Salmon Industry Restructuring Panel to identify data that would be useful for analyzing the economic effects of restructuring proposals for the salmon industry. A good understanding of the kinds of data that are available, how the data sources are inter-connected, and where important data are lacking is essential for anyone conducting analyses of commercial fisheries and for predicting the economic changes that might result from a restructuring plan. Several State of Alaska agencies currently collect fisheries data, including the Department of Fish and Game, the Commercial Fisheries Entry Commission, the Department of Labor and Workforce Development, the Department of Revenue, and the Alaska Seafood Marketing Institute. The purpose of this report is to document the salmon-related fisheries data collected by each of these agencies, to estimate the amount that the State of Alaska spends collecting these data, to identify missing data or problems with access to data. Provided are recommendations for new data collection efforts, and other recommendations that would improve the Panel's ability to evaluate the economic benefits of restructuring proposals for the salmon industry in Alaska.

AGENCY REPRESENTATIVES

A committee of representatives from four state agencies met on February 4, 2005, to address the Panel's request. The agency representatives were:

- Tim Cottongim, Fish Unit Manager, Department of Revenue, Tax Division
- Dan Robinson, Economist, Department of Labor & Workforce Development
- Kurt Schelle, Research & Planning Project Leader, Commercial Fisheries Entry Commission
- Susan Shirley, Chief of Information Services, Alaska Department of Fish & Game, Division of Commercial Fisheries

In addition to the agencies represented above, the Department of Commerce, Community, & Economic Development (DCED) and the Alaska Seafood Marketing Institute were contacted about data their agencies collect that might be useful for economic analyses of the salmon industry. Economists not affiliated with state agencies assisted in identifying data gaps and problems in state fisheries data.

GOALS

The agency representatives agreed to research and provide information for their respective agencies in fulfillment of the following goals:

- Inventory fishery-related data collected by state agencies
- Estimate costs of data collection

- Identify important data collection programs that have been discontinued
- Identify data “gaps” or problems with access to data
- Recommend new data collection efforts and estimate the costs of new programs

DATA INVENTORY

Data sources identified as important sources of information that could be used to analyze proposals for restructuring Alaska’s salmon industry are listed below, by the agency responsible for collecting the data. A description of each data source is provided.

The listed sources represent current and ongoing data collection efforts by state agencies. The list does not include data collected infrequently, such as data collected for one-time or periodic surveys, or other special research projects. Subsistence and recreational harvest data are also collected but are not included in this report. Other sources of data that state agencies collect that might be less relevant for economic analyses of salmon industry were not included in this report. For example, the Alaska Department of Fish and Game collects data on salmon escapement and hatchery production.

ALASKA DEPARTMENT OF FISH AND GAME

Fish ticket data

Each buyer of raw fish or other fisheries resources, each fishermen selling to a buyer not licensed to process fisheries resources, and each person or company who catches and processes his or her own catch or has that catch processed by another person or company is required by law to record each landing on an ADF&G fish ticket. Fish and Game collected data from about 174,000 salmon fish tickets in 2004.

Fish ticket records include information on the buyer of the fish, including the buyer’s name and processor code number; the CFEC permit number of the fisherman who caught the fish and other information about the CFEC permit; information on the vessel used to catch the fish, such as the vessel license plate number and the name or Coast Guard number of the vessel; information on the area the fish was caught including the nearest bay or headland or the ADF&G statistical area; the type of gear used to catch the fish; information about the species caught, including the number of fish, weight of the catch in pounds, and delivery condition; dates of fishing and landing; fishing effort; and other information the department requires, which may vary by area and fishery. The amount paid for the fish is generally not required on fish tickets, but exvessel value information may be provided on some fish tickets. Ten different fish ticket forms are currently in use by the department. Although information on the buyer, CFEC permit, and vessel is standard on all fish ticket forms, other information is tailored to fit the type of fishery or species harvested.

Fish tickets are required for all state-managed fisheries including some fisheries that occur in the federal waters of the Exclusive Economic Zone. The International Pacific Halibut Commission (IPHC) also requires fish tickets to be filed for halibut landings in Alaska.

The CFEC permit number, vessel ADF&G number, and processor code on fish tickets can be used to match fish ticket data to other state data sources, including CFEC permit license and vessel license data, processor data in the Commercial Operators Annual Reports and Intent to Operate files, and Fisheries Business License and tax data collected by the Revenue.

**Commercial
Operators
Annual
Reports
(COAR)**

The first buyer of raw fish, persons who catch and process fish, and persons who catch and have fish processed by another business are required to file an annual statistical report of their purchasing and processing activities. This report is called the Commercial Operators Annual Report (COAR) and is due by April 1 of the following year. The National Marine Fisheries Service also requires COAR reports from processing vessels operating in federal waters of the Exclusive Economic Zone. In 2004, Fish and Game collected COAR reports from 676 facilities or vessels on their activities in 2003.

The COAR reports contain data on seafood purchasing, production, and both exvessel and wholesale values of seafood products. The buying information from COAR is reported by species, area of purchase, condition of fisheries resources at the time of purchase, type of gear used in the harvest, pounds purchased, and exvessel value. The exvessel value in COAR includes any post-season adjustments or bonuses paid after the fish was purchased. The production information from COAR is reported by species, area of processing, process type (frozen, canned, smoked, etc.), product type (fillets, surimi, sections, etc.), net weight of the processed product, and the first wholesale value. COAR reports collect not only salmon data, but also data on groundfish, halibut, shellfish, and other miscellaneous species.

COAR data can be matched with information about buyers, processors, and exporters in the Intent to Operate file. This is useful for analyzing buying and processing activities for companies in a particular community or borough, for example. Exvessel value data is used by CFEC for generating gross earnings estimates. Production volume and value are often used for market analyses, such as those in the Salmon Market Bulletin.

**Intent to
Operate**

The Department of Revenue collects information from seafood buyers, exporters, and processors when they apply for their annual Fisheries Business License or Direct Marketing License. These applications contain forms used to collect information required by the departments of Revenue, Fish and Game, and Environmental Conservation. Data collected through these applications includes information on the business type; business and corporate ownership; the location and other data about the licensed facility or vessel; the resources, and processing and packaging methods the business intends to use; and other information required for surety bonds, estimated taxes, and seafood processor permits.

The Department of Fish and Game combines the information from the Fisheries Business Licenses and Direct Marketing Licenses with similar information for other types of fisheries businesses that are exempt from those two license requirements. These include businesses such as catcher/sellers, fish transporters, and independent buyers. The combined list of all of these types of fisheries businesses is called the Intent to Operate list. In 2004, 1,441 businesses were listed on the Intent to Operate. This list is updated monthly and is available in several formats from the Fish and Game Web site:

<http://www.cf.adfg.state.ak.us/geninfo/pubs/pubshome.php#operlist>

**Crewmember
Licenses**

Crewmembers in commercial fisheries are required to have a crewmember license issued by Fish and Game or a CFEC entry permit or interim-use permit. A valid crewmember license or CFEC permit entitles the license/permit holder to participate as a crewmember in any commercial fishery.

Crewmember Licenses (continued from Page 5) The Department of Fish and Game issued 18,648 crewmember licenses in 2004. Crewmember license applications collect data about the applicant, and their residency, address, and contact information. Crewmember license data does not contain information about the fishery the crewmember intends to operate in or the vessel on which they intend to work. For this reason, crewmember participation cannot be linked with fish ticket data to determine the number of crewmembers on a vessel or in a fishery, and cannot be linked with CFEC's gross earnings files to estimate crewmember's earnings.

Inseason Salmon Harvest Data The Department of Fish and Game collects daily (in some areas) and weekly harvest reports for commercial salmon fisheries during the fishing season. These reports may include, by species and area, numbers of fish harvested daily, cumulative number of fish harvested, estimated participation levels (if available), and preliminary exvessel value. The "Blue Sheet" is a weekly report of cumulative fish harvested by area.

Salmon Processing Capacity Survey The Salmon Processing Capacity Survey is a preseason survey that collects data on the estimated processing capacity for the coming season by area and species. Only processors who purchased over 100,000 pounds of salmon or purchased salmon from more than 10 fishermen in the previous year are included in the survey. In 2005, 85 processors were mailed survey forms.

Survey participants are provided with the annual salmon forecast and are asked to estimate their capacity based on the forecasted harvest levels. The survey also collects information about anticipated changes in the number of tenders or the number of fishermen from whom the processors will purchase salmon. The survey is conducted in February, and results are compiled by the end of March. Results of the Salmon Processing Capacity Survey are used by the Governor in evaluating applications for foreign fish processing permits under 5 AAC 39.198. A summary of the survey results are posted on the Fish and Game Web site:

<http://www.cf.adfg.state.ak.us/geninfo/pubs/capacity/04capacity.pdf>

ALASKA DEPARTMENT OF REVENUE

Annual Salmon Price Report The Tax Division publishes price reports compiled from information provided by Alaska processors that sell at wholesale more than 1 million pounds of salmon products during the year. The Annual Price Report can be downloaded from:

<http://www.tax.state.ak.us/programs/fisheries/reports/2004/2003ASPRAnnualAdjustmentReport.pdf>

Annual Production Report The Tax Division publishes production reports compiled from information provided by Alaska processors that sell at wholesale more than 1 million pounds of salmon products during the year. The Annual Production Report can be downloaded from:

<http://www.tax.state.ak.us/programs/fisheries/reports/2003/2003ASPRAnnualReport030304.pdf>

**Annual
Report of
Division
Operations**

The Tax Division publishes an Annual Report of Division Operations, which includes tax data compiled from fisheries business and salmon enhancement tax returns. The report does not break out data collected from the fisheries business tax return on a separate species basis. The fisheries business tax return requires processors to indicate by species the number of pounds and value of resources processed, as well as the location of processing. In instances where there are two or less processors reporting a particular species, confidentiality rules prohibit publishing pounds and value information for that species because it could potentially divulge the identity of the taxpayers. The Annual Report can be downloaded from:

http://www.tax.state.ak.us/programs/division/2004_Tax_Annual_Report.pdf

**Shared
Taxes and
Fees Annual
Report**

The Tax Division publishes a Shared Taxes and Fees Annual Report that provides information on taxes shared with municipalities in Alaska. The Shared Taxes and Fees Annual Report can be downloaded from:

http://www.tax.state.ak.us/programs/shared/reports/2004_shared_tax_ar.pdf

See Appendix A-1 for more information from the Department of Revenue.

ALASKA DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT

**Fish
Harvesting
Employment
Estimates**

The Department of Labor and Workforce Development is conducting a special project to estimate the number of fish harvesting jobs in Alaska. This project is necessary because fish harvesting is defined as an agricultural activity and has thus been excluded historically from the US Bureau of Labor Statistics data produced through a long-running, joint federal-state program called Current Employment Statistics.

Seafood processing workers are included in the Current Employment Statistics program because they are defined as manufacturing workers, but fish harvesters are not. As a result, existing employment data captures only part of the jobs created by Alaska's fisheries, and economic analyses of the state's labor market have often undervalued or ignored fisheries-related employment.

The methodology for estimating fish harvesting employment in this project was designed to adhere, as much as possible, to the concepts used in the Current Employment Statistics program to allow meaningful comparisons between the fish harvesting industry and Alaska's wage and salary industries. One of these concepts is that employment is assigned by place of work rather than by the residence of employees. Another is that there is no attempt to create full-time equivalency job counts; a person who works during the relevant time period of measurement generates a count of one job, regardless of the number of hours worked.

The calculation of fish harvesting employment estimates relies on the landings made by individual permit holders in Alaska's fisheries. Permit holders are considered to be the employers and the records of their landings (fish tickets) indicate employment activity. To determine the number of jobs created by a permit holder, crew factors were developed to estimate the number of crew members required to fish in Alaska's different fisheries. For example, a fish ticket recording the landing of salmon in Ketchikan with a purse seine permit would generate 5.2 jobs for the month because that is the average number of crew members estimated to be necessary for that gear type in that fishery. Only one "set" of jobs was counted in a calendar month for each

**Fish
Harvesting
Employment
Estimates**

(continued
from page 7)

permit holder. For permit holders who made landings under two different permits in the same month, the crew factor associated with the permit that had the highest value catch was assigned.

Preliminary employment estimates have been generated by month for 2000-2002. The estimates divide employment into the following species: salmon, herring, crab, halibut, groundfish, and miscellaneous shellfish. The estimates divide employment into the following regions: Gulf of Alaska, Northern, Southeast, and Southwest. The project is discussed in more detail and the preliminary estimates are published in the December 2004 issue of *Alaska Economic Trends*, p. 15: <http://labor.state.ak.us/trends/dec04.pdf>

See Appendix A-2 for more information from the Department of Labor and Workforce Development.

ALASKA SEAFOOD MARKETING INSTITUTE

**Salmon
Market
Bulletin**

The Salmon Market Information Service, under contract to ASMI, publishes the Salmon Market Bulletin. This publication includes information on market trends, production volume, prices, imports and exports, and domestic and international markets. Five to six issues are published each year. The Salmon Market Bulletin can be downloaded from:

<http://www.alaskaseafood.org/fishingprocessing/bulletin.htm>

**Salmon
Price
Tracking
Sheet**

The Salmon Market Information Service, under contract to ASMI, publishes a weekly exvessel price-tracking program during the summer months. The Salmon Price Tracking Sheet can be downloaded from:

<http://www.alaskaseafood.org/fishingprocessing/bulletin.htm>

**Alaska
Seafood
Export Data**

The Alaska Seafood Marketing Institute collects international seafood export data, which is derived from the National Marine Fisheries Service/US Customs and Border Protection data.

COMMERCIAL FISHERIES ENTRY COMMISSION

**Entry
Permit,
Interim
Entry
Permit, and
Interim Use
Permit Data**

Under Alaska law, a CFEC permit is required to operate gear and make landings. The permit card is recorded on fish tickets. In the last decade, the number of CFEC permits issued has ranged from about 21,000 to 28,000 permits per licensing year. Entry permits are issued to qualified applicants in limited entry fisheries. The bulk of these permits are permanently transferable. Entry permits can also be emergency transferred under certain conditions. Interim entry permits are issued to persons in limited entry fisheries when it is not clear whether or not they will ultimately qualify for a permanent entry permit. These permits can also be emergency transferred. Interim-use permits are issued to persons in fisheries that are not under a limited entry program. Interim-use permits can also be emergency transferred under certain conditions. Permanent and emergency transfers must occur through the commission. In the past decade, the number of permanent transfers has ranged from about 800 to 1,000 per calendar year. The number of emergency transfers has ranged from about 700 to 950 per calendar year. Permit data include fields such as the CFEC permit number, the

Entry Permit, Interim Entry Permit, and Interim Use Permit Data (continued from page 8)	<p>name of the holder, the address of the holder, unique identifiers for the holder, a licensed vessel number, and the date of birth of the holder. The social security number of the holder and the date of birth are confidential fields but most of the other data are public information and are available on CFEC's Web site: www.cfec.state.ak.us</p> <p>Permit information, when combined with fish ticket data, can be an important source of data for summary reports on participants in a fishery and their earnings.</p>
Vessel License Data	<p>Since 1978, CFEC has also handled licensing of commercial fishing vessels for the State of Alaska. Vessel licenses must be obtained each year. Over the last decade, the number of licensed vessels has ranged from about 14,000 to 17,000 vessels per year.</p> <p>Vessel data includes information on vessel ownership and vessel attributes. Important fields include the vessel name, the ADF&G number, the Coast Guard number, the owner's name and address, and the homeport. The data also include attributes of the vessel, such as length, hull-type, engine-type, horsepower, gross tons, and further details about the vessel and its capabilities. Non-confidential data on vessel licenses are available via the internet at the commission's Web site: www.cfec.state.ak.us</p> <p>Vessel license information, when combined with fish ticket data, can be an important source of data for summary reports on vessels in a fishery and their earnings.</p>
Transfer Survey Information	<p>CFEC requires a mandatory transfer survey with each permanent transfer of an entry permit. The survey collects information on the buyer and the seller, the nature of the contract, the sales price if it is a sales transaction, the relationship between the buyer and the seller, and etc. The individual surveys are confidential, but CFEC provides some summary reports from the surveys in an annual report on permit transfers. The information on the sales prices is the main source of data for CFEC's monthly permit value reports.</p>
CFEC Gross Earnings Files	<p>The main source of data for CFEC's gross earnings files are the ADF&G fish ticket databases and IPHC's fish ticket data base for halibut. CFEC combines all of these databases into a single database with a common format, adds an estimate of gross earnings for each fish ticket item that represents a commercial harvest, adds information on the CFEC permit holder including a unique identifier, and adds a corrected ADF&G vessel number field, which will sometimes differ from the fish ticket vessel number field on the same record. The resulting file makes it easy for researchers to follow persons and vessels across fisheries and across time. The CFEC exvessel price estimates which are used to generate gross earnings estimates also rely heavily on ADF&G's COAR database. CFEC's gross earnings files are used by CFEC to produce standardized report and to analyze fisheries, limitation issues, and regulatory proposals. CFEC gross earnings files have also been used by AKFIN, NPFMC research staff, and NMFS research staff to help analyze regulatory proposals and proposals for FMP amendments being considered by the NPFMC. CFEC's gross earnings files are considered confidential under AS 16.05.815 since the file contains individual fish ticket data. CFEC follows ADF&G reporting standards to produce summary reports on issues of interest in non-confidential formats.</p>

Other CFEC Data For example, CFEC has occasionally done operating cost and net return surveys for different fisheries for CFEC purposes. The most recent example occurred in 2002, when CFEC surveyed Bristol Bay salmon drift gill net fishermen and obtained data on operating costs and net returns. These data were then used by CFEC in the optimum number study for the fishery. Summary reports (in nonconfidential formats) from these survey data were also used by Northern Economics in the BBEDC studies of restructuring options for the same fishery. These types of survey data gathering efforts are done on an “as-needed” basis.

CFEC has other databases, most of which would not apply to analyzing salmon restructuring issues. For example, databases are maintained on entry permit applications, adjudications, and limited entry court decisions. Some research data relate to different fisheries, but the individual data are confidential under AS 16.43.975.

See Appendix A-3 for more information from the Commercial Fisheries Entry Commission.

Other state agencies collect no original fisheries data, but they do assimilate and analyze data collected by other agencies to produce reports on a variety of fisheries issues. These reports provide important information that can be useful for economic analyses of the salmon industry. For example, the Department of Commerce, Community & Economic Development incorporates fishing industry information in their Alaska Community Database Community Information Summaries and their Alaska Economic Information System. Both of these sources are available through the DCED Web site: <http://www.commerce.state.ak.us/dca/>. The DCED also reports distribution of fisheries business taxes to communities as part of their Shared Fisheries Business Tax Program (available from: <http://www.commerce.state.ak.us/dca/LOGON/srs/srs-main.cfm>).

DISCONTINUED DATA COLLECTION

None of the participating state agencies identified any core data collection efforts that have been discontinued because of decreased funding. All of the essential data that these agencies need to fulfill their missions is being collected and maintained.

Although essential data collection efforts are ongoing, some reporting and analysis work has been discontinued. For example, the Alaska Department of Fish and Game published the Catch and Production Report series from the early 1960s until about 1985. This annual publication reported summarized catch and value statistics by species and area, and summarized processed product weights and wholesale values by species and region (i.e., Southeastern, Central, Western, Arctic-Yukon-Kuskokwim, and Statewide). Catch statistics were derived from fish ticket data; production and value statistics were derived from Commercial Operators Annual Report data. The Catch and Production reports have not been published for some time, but much of the catch statistics and exvessel value data are now summarized on the ADF&G Web site (www.cf.adfg.state.ak.us). Only a limited production volume and value statistics are available on the Web.

COSTS OF FISHERIES DATA COLLECTION

Each of the agency representatives was asked to estimate the amount their agency spends on collection of fisheries-related data. Those cost estimates are presented below by agency and data source. Many of the data sources listed in the previous section of this report are not limited to salmon data, but include all species. Where possible, cost estimates were generated only for the salmon portion of the data.

ALASKA DEPARTMENT OF FISH AND GAME

Fish Tickets (salmon only)

Staff time for fish ticket collection, editing, and data entry	\$93,800
This estimate includes the minimum estimated personnel costs for fish ticket collection, editing, batching, and data entry. Exact estimates of personnel costs are difficult to derive because many staff positions are involved to varying degrees. In 2004, 47 different people entered salmon fish tickets. Some were seasonal employees whose primary duty was fish ticket data entry; other staff entered tickets occasionally along with their other responsibilities. Salary costs were estimated based on an average minimum salary (step A) for a Fish and Wildlife Technician II (range 9) and the average time estimated for processing Bristol Bay and Cook Inlet salmon fish tickets in 2004. The costs were extrapolated to all salmon tickets.	
Staff time for maintenance of the salmon fish ticket database	\$230,000
Printing costs for salmon fish ticket forms	\$24,000
Staff time for mailing salmon fish ticket forms to seafood processors and fishermen	\$4,500
Sub-total for fish ticket data	\$352,300

Commercial Operators Annual Reports and Intent to Operate (salmon and other species)

Staff costs for mailing, verifying, and entering COAR data	\$26,800
Staff costs for maintaining database system	\$126,000
Printing costs for report forms, postage	\$4,000
Sub-total for Commercial Operators Annual Reports and Intent to Operate	\$156,800

Inseason Salmon Data

Staff time for weekly Blue Sheet	\$11,000
Staff time for daily inseason salmon harvest data	\$24,000
Sub-total for inseason salmon data	\$35,000

Salmon Processing Capacity Survey

Staff time	\$11,400
Postage	\$500
Sub-total for salmon processing capacity survey	\$11,900

ADF&G total \$556,000

ALASKA DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT

Fish Harvesting Employment Estimates (includes salmon and other species)

FY2004	\$90,000
FY2005	\$50,000
Department of Labor total	\$140,000

ALASKA DEPARTMENT OF REVENUE**Fisheries Business Tax Program Administration**

FY2004 (includes salmon and other species)	\$431,995
Salmon Enhancement Tax Program:	
FY2004	\$36,324

Department of Revenue total	\$468,319
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ALASKA SEAFOOD MARKETING INSTITUTE**Salmon Marketing Information Service**

Contract to McDowell Group for <i>Salmon Market Bulletin</i> and <i>Salmon Price Tracking Report</i>	\$150,000
International Export Data Collection	
Staff time (0.25 months)	\$3,300
ASMI total	\$153,300

COMMERCIAL FISHERIES ENTRY COMMISSION**Permit, Vessel, and Transfer Survey Database (all fisheries, including salmon)**

The permit, vessel data, and transfer survey data are continuously updated throughout the years as permits or vessel licenses are renewed and transfers occur. This work is largely done by CFEC's licensing staff. CFEC's information technology section maintains, monitors, and continuously works on these databases. Please note that estimates only include personnel costs, as the licensing process generates costs in all other budget line items. CFEC hopes to rewrite the licensing system and convert to an Oracle database as time and resources allow.

Licensing staff (7 positions, 4 full-time and 3 seasonal)	\$389,743
Information technology staff (1.5 positions)	\$151,053
Sub-total for permit, vessel and transfer survey database	\$540,796

Gross Earnings System (all fisheries, including salmon)

The gross earnings system is also being upgraded and requires staff to update and maintain the database as new data are constantly being generated and old data are being updated. The following is a rough estimate of the personnel costs required to generate, update, edit, and maintain the gross earnings databases for a fiscal year. Again, these estimates only include personnel costs, as some costs in all other budget line items should be attributed to these activities.

Research staff (0.5 positions)	\$38,859
Information technology staff (0.5 positions)	\$34,881
Sub-total for gross earnings system	\$73,740
CFEC total	\$614,536
GRAND TOTAL	\$1,932,155

DATA GAPS OR PROBLEMS

Although State of Alaska agencies collect the data they need to fulfill their missions, other data is not collected or is not collected at a fine enough resolution to be useful for economic analyses. In addition, access to state data can be limited by state law if the analysts do not work for the agency that collected the data and are not working as a contractor for the agency. Some of the key data gaps and access problems identified by the agency representatives, with help from outside economists, are presented below.

CREWMEMBERS

A valid crewmember license entitles a person to participate as crew in any commercial fishery in any area. Licensees are not required to indicate at the time the license is issued which fisheries they will work in. In contrast, commercial fishing permits issued by CFEC to vessel captains or skippers are valid only for the specific fishery, gear type, and area for which the permit was issued. A valid commercial fishing permit issued by CFEC may substitute in any fishery and area for a crewmember license.

When a commercial fisherman reports a landing on a fish ticket, his or her commercial fishing permit number is stamped on each fish ticket and entered into the fish ticket database. Thus, information about commercial skippers is easily linked to an area or fishery using their permit identification information. However, crewmembers cannot be linked to a particular fishery or area because their licenses are general to all commercial fisheries. Using the existing data, it is not possible to know if the crewmember fished at all, where they fished, how much they fished, how many crew fished from a vessel, or how much they earned. Because crewmember identification is not recorded on fish tickets, it is not possible to associate crew sizes or crew earnings with a particular fishery or area using fish ticket data.

In the past, some economists have assumed that crewmembers are hired from the permit holder's home town, and they therefore attribute the crew's earnings or tax information to the permit holder's home town. This assumption may not be correct for all fisheries.

FISHERY-SPECIFIC PRODUCTS

Data in Commercial Operators Annual Reports (COAR) is reported by the area of purchase (not the area of harvest) and the area of processing. COAR data do not indicate the specific fishery that produced the resources. For example, using COAR data, it is possible to identify how much pink salmon was purchased from drift gillnet fishermen in the Ketchikan/Craig area of southeastern Alaska, but it is not possible to identify how much of that fish was caught in the Tree Point gillnet fishery.

Processors also report the amount and value of processed products that result from the fish they purchase. This production information is reported by area of processing. That means that the specific amounts and types of products cannot be attributed to a particular fishery. For example, it is possible, using COAR data, to identify how much canned pink salmon was produced in the Ketchikan/Craig area, but it is not possible to identify how much canned pink salmon was produced from fish caught by gillnet fishermen as opposed to purse seine fishermen, or how much canned pink salmon was caught in the Southern District purse seine fishery as opposed to the Tree Point gillnet fishery. Processed products cannot be linked back to a particular fishery. This can be problematic when evaluating changes in wholesale value or product types that result from a restructuring change in a fishery.

FLOATING PROCESSORS

Processors operating from shorebased facilities are assigned a port code in the Intent to Operate and COAR data that identifies where the facility is located. Most port codes are simply abbreviations of the community name (for example, EGE for Egegik, VAL for Valdez, etc.). The port code is useful when attributing seafood processing activities and the economic effects of those activities to a particular community or region.

In addition to shorebased facilities, processors or buyers may operate vessels that serve as floating processors or floating buying stations. These “floating” operations are mobile and can change locations during the season or during the year. The port code for floating operations is indicative not of a community but of the type of operation (for example, FCP for floating catcher/processor, FBY for floating buyer, etc.). Unlike the shorebased operations, the activities and economic value of the floating segment of the industry cannot be attributed to a community or region using COAR data. The Intent to Operate database provides some general information on the intended fisheries and areas of each processor or buyer, but fishermen, vessels, and processors can and do alter their intent before and/or during the fishing season.

AREAS FISHED

Information on areas fished from fish tickets may not be as precise as necessary for some economic analyses. For example, if fishing start and end dates were recorded and entered into the fish ticket database that information might be linked to vessel monitoring systems (VMS; similar to GPS satellite positioning data), for precise fishing locations at a precise time. Although VMS is required on some groundfish vessels, it is not required on salmon vessels.

Another example where more precise area information might be needed is for salmon set net fisheries. Salmon set net harvest data is not recorded for a specific location. Although information is available on the set net site and the statistical area where the harvest occurred, that data may not convey information on a smaller scale, such as whether the set net harvest occurred on the north or south side of the river.

INFORMATION TO ASSESS IMPROVEMENTS IN FISH QUALITY

Some communities have considered purchasing ice machines and requiring all fishermen to ice their fish to improve the quality and value of their fisheries. Assessing the economic effects of such efforts to enhance quality and value is not possible unless the iced fish can be distinguished from un-iced fish using landings or purchasing records. This type of data is not being collected on fish ticket harvest records.

TENDERS

The role of tenders in a salmon fishery is difficult to quantify using fish ticket data. Salmon tenders in some, but not all, parts of the state record their purchases on a special fish ticket form (type “T”) designed for tenders. This form includes space for recording the name of the tender and its ADF&G vessel identification number. However, the data entry of these two fields on fish tickets is optional. If the tender identification fields are blank on the fish ticket database, it is not possible to tell if the salmon were purchased by a tender and the data were just not entered into the database, or if the salmon were purchased by a processor or buyer that was not a tender. The type of fish ticket form could be used to identify landings to tenders, but not all management areas (Bristol Bay, for example) require tenders to use type “T” fish tickets. A tender may report

landings in those areas using another type of salmon fish ticket form that would not provide any information on the identity of the tender.

CONFIDENTIALITY

Certain types of data related to the salmon industry are protected by state laws as confidential information. Each agency has its own laws and policies regarding confidential data. For example, ADF&G and CFEC adhere to the confidentiality requirements in Alaska Statute 16.05.815, which identifies the types of data considered to be confidential and how that data is to be used. Both ADF&G and CFEC follow similar standards and policies in handling confidential data. Included as confidential information under the statute are records required by regulations of the department concerning the landings of fish, shellfish, or fishery products (i.e., fish ticket data), and annual statistical reports of fishermen, buyers, and processors (i.e., COAR data). Individual catch data, specific harvest locations, and proprietary information of processing companies, are confidential. Additional personal information collected by state agencies is protected by federal privacy laws, the Alaska Constitution, and the Alaska Public Records Act.

Only agency staff and their contractors have full access to their agency's confidential data. Researchers in some other agencies (e.g., National Marine Fisheries Service, North Pacific Fishery Management Council, International Pacific Halibut Commission) and their contractors also have access to data under conditions specified in the Alaska Statute 16.05.815. This restricted access to confidential data can be a barrier to economists and other analysts outside of state government who are working on fisheries projects.

Although relaxing the confidentiality standards might improve access to data for researchers working outside of state government, it could degrade the accuracy of the data collected. Fishermen and processors are very protective of their private information. If they thought the state would reveal their private business information to their competitors, which could reduce their competitive edge, their incentive to misreport is greater. The amount of information available for analysis might increase if confidentiality restrictions were lessened, but the quality of that data would likely decrease.

LACK OF FUNDING FOR ANALYZING DATA

University of Alaska Professor of Economics, Gunnar Knapp, identified a lack of funding for analyzing data as an obstacle to learning more from the data that state agencies now collect.¹ He explained that the databases are large and complex, and those employees with the necessary authorization and expertise to work with confidential data are limited in the time and funding available for more in-depth analyses.

RECOMMENDATIONS

The agency representatives working on this project suggest the following recommendations to enhance the ability to analyze the economic effects of restructuring proposals for the salmon industry. Not all of the data gaps or access problems above are addressed in this recommendations section. It is difficult to recommend new data collection efforts without knowing how the new data are to be used. Data must be collected in a manner specific enough to provide the most reliable and accurate information for answering a particular question. Data

¹ Knapp, G. 2004. Restructuring data collection and research, Part I. A memorandum to the Board of Fisheries Salmon Restructuring Panel, November 30, 2004. University of Alaska Anchorage. 7 p.

collected for one purpose may not be suitable for an analysis other than that for which it was originally collected. That is why the state's data, which is collected for the state's purposes, may not be suitable for another purpose, such as an economic analysis. Given the high cost of data collection and the limited resources available, it is not prudent to recommend wholesale new data collection efforts without first knowing something about the intended uses of the data. Surveys that are designed for a specific purpose may be the best means of obtaining the most appropriate data for an analysis project.

The following are a few recommendations regarding data collection and analysis that would enhance the ability to analyze restructuring proposals in the salmon industry.

MAINTENANCE OF CURRENT DATA COLLECTION

Before recommending additional expenditures of time and money on new data collection programs, it is important to ensure that support for existing data collection by the state is maintained. The current data programs have provided continuous, long-term sources of data that are essential for analyzing fishery trends and economic aspects of fisheries over a range of different conditions in the fishery. The economic effects of proposed changes to the salmon industry should be evaluated in both good times and bad: years of strong and weak fishery returns, years of high and low participation levels, years of strong and weak markets, etc.

In the past, responsibility for the Commercial Operators Annual Reports has shifted between the Department of Fish and Game and the Commercial Fisheries Entry Commission because of funding shortages and changing priorities within the department. The COAR data, fish ticket data, and fish harvesting and employment estimates currently are funded either fully or partially with federal grants. In recent years, the amount of federal funding for these projects has been decreasing. To maintain a reliable, continuous source of fisheries data for economic analysis, the state must maintain its current data collection programs.

COLLECTION OF CREWMEMBER DATA

To be able to associate crewmembers' participation and earnings with a particular fishery, analysts need more information to identify crewmembers who participate in a particular fishery. Collecting and matching crew data to other catch and earnings information potentially could require changes to the Fish and Game licensing system for crewmembers; changes to fish ticket forms, data entry applications, and databases; and changes to the Commercial Fisheries Entry Commission's data collection methods, databases, and possibly the gross earnings system.

The Department of Labor and Workforce Development currently is collecting crewmember information through an annual survey of fish harvesters (see pages 8-9 of this report). They evaluated alternate methods of collecting employment and economic data on crewmembers in a feasibility study for the fish harvesting and employment estimates project. In that report, they considered changes to licensing and permitting systems, and to reporting systems, before choosing a survey method for their data collection. Their decision to use a survey was based on a balance of the effectiveness, administrative complexity, cost, and the burden on the industry.

Additional crew data collection efforts are not recommended at this time. An in-depth study of the kind of additional data that might be needed to connect crewmember information to existing fisheries data, its value for industry analyses, and the industry's willingness to provide the additional information should be conducted before embarking on a new crew data collection project.

Without more detailed information, it is not possible to estimate the cost of collecting more data on crewmembers. Depending on the type and extent of data needed, it might be feasible to collect additional information as part of the Department of Labor's fish harvesting employment survey. The electronic fish ticket reporting system currently in development for crab and groundfish fisheries will require buyers and processors to report the number of crewmembers, but not the names of each crewmember, on every electronic fish ticket filed. The following section discusses in more detail an electronic reporting system for salmon.

ELECTRONIC FISH TICKET REPORTING SYSTEM FOR SALMON

An electronic fish ticket reporting system would replace the fish ticket reporting system currently in use. The first buyer or processor of fisheries resources is now required to fill out a four-part paper fish ticket form for each purchase of fish and is then required to file those tickets with the Department of Fish and Game. The data are then validated and entered into a database.

In an electronic reporting system, buyers and processors would enter their fish ticket data through a Web-based application, which will result in faster transmission of the data to the department, immediate feedback to the buyer or processor, potentially faster verification of the data, and ultimately, faster inseason access to more accurate harvest data. The electronic system could be more adaptable and allow for easier addition of new data items, such as information about crewmembers and tenders.

An electronic fish ticket reporting system is currently under development for the crab and groundfish fisheries. The electronic system for crab should be online later this year. However, there presently is no funding to extend the electronic reporting system to salmon fisheries. Although many of the logistical features of an electronic reporting system will be identified and resolved through development of the crab and groundfish electronic reporting systems, salmon fisheries have different characteristics that might require a different approach to electronic reporting. A primary difference is that salmon deliveries are often made to tenders. Development of a pilot project for a salmon electronic data system might cost on the order of \$200,000, although the department has not evaluated the requirements for such a system, nor has it prepared a formal cost estimate. A pilot project might be specific to a particular fishery or area, such as the Bristol Bay salmon fishery. The cost estimated in this report includes development of an electronic fish ticket reporting application for salmon, plus an initial investment in development of additional equipment that would allow tenders to report electronically.

ANALYTICAL STAFF

None of the agencies that participated in the production of this report had sufficient staff or resources at hand to take on the additional analysis necessary to evaluate salmon industry restructuring proposals. Some proposals could require quite lengthy and complex analyses that might require use of currently available data as well as designing and conducting special surveys. We recommend that additional staff be hired to conduct the analysis the Panel determines is necessary.

Knowledge of fisheries, economics, and research techniques is desirable for the proposed staff. They must have sufficient knowledge of existing fisheries datasets and sufficient research experience to be able to determine the most appropriate data sources and analytical methods necessary to obtain accurate results. At a minimum, the analytical team should consist of two positions: an Economist II and a Research Analyst III. An Economist II is the journey level

professional of the Economist series with the State of Alaska. Persons at the Economist II level are assigned projects that involve the application of recognized economic and research principles. A position at this level would be able to successfully handle projects that require creativity in the research, data collection, analysis, and interpretation of economic and social forces impacting the state's economy. A Research Analyst III is the third level of professional responsibility in the state's Research Analyst series. Positions at this level would be able to deal with the most complex and difficult research projects, studies that are frequently of broad scope and/or of significant social, economic, or political importance and impact.

The estimated costs for the proposed analytical staff for the first year are given in the table below. Costs are estimated for state fiscal year 2005.

Personnel Costs:

Economist II – salary & benefits	\$67,800
Research Analyst III – salary & benefits	\$67,800

Other Costs:

Computer equipment and software	\$6,000
Basic office supplies	\$500
Travel	\$2,000

Total	\$144,100
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These new staff positions could be housed in any of the state agencies that collect fisheries data. Because the Department of Fish and Game and the Commercial Fisheries Entry Commission collect the large amounts of fishery-related data, it would be logical that these new analysts work for one of those agencies. An alternative to hiring permanent new staff in a state agency would be to hire private contractors to perform the necessary analysis. Regardless of whether the analysts are state employees or private contractors, consideration should be given to how access to confidential data could be provided to these analysts.

ACKNOWLEDGMENTS

Naresh Shrethsa and K. C. Dochtermann, of the Alaska Seafood Marketing Institute, provided cost estimates for their data collection responsibilities. Marcus Hartley, of Northern Economics, Inc., provided information on data gaps and problems based on his experience analyzing Alaska's fisheries. Carmine DiCostanzo, Rick Berning, Pat Shields, and Kris Wright, all of the Alaska Department of Fish and Game, provided valuable assistance in estimating costs of collecting the department's fish ticket, COAR, inseason harvest, and crewmember licensing data. Rachel Baker of the Alaska Department of Fish and Game reviewed the report and provided useful comments and background information.

APPENDIX A

MEMORANDUM

State of Alaska
Department of Revenue

TO: Susan Shirley

DATE: April 12, 2005

TELEPHONE NO: 465-3695

THRU: Chuck Harlamert
Chief of Operations

SUBJECT: Economic Data for
Salmon

FROM: Tim Cottongim
Fish Group Manager
Tax Division

Susan,

The following came out of our meeting on February 4, 2005. The Salmon Industry Restructuring Panel (SIRP) seeks: 1) an inventory of salmon-related data collected by DOR, 2) a description of any data collection programs that have been discontinued due to lack of funding, and 3) ideas for new programs that would enhance DOR's ability to monitor trends and identify problems in the salmon industry. The following represents salmon-related economic data currently compiled by the Tax Division and made available to the public.

I. Current programs

A. Data collection and reporting

The Tax Division publishes production and price reports compiled from information provided by Alaska processors that sell at wholesale more than 1 million pounds of salmon products during the year. The Annual Price Report can be downloaded from the following link:

<http://www.tax.state.ak.us/programs/fisheries/reports/2004/2003ASPRAnnualAdjustmentReport.pdf>

The Annual Production Report can be downloaded from the following link:

<http://www.tax.state.ak.us/programs/fisheries/reports/2003/2003ASPRAnnualReport030304.pdf>

The Tax Division also publishes an Annual Report of Division Operations, which includes tax data compiled from fisheries business and salmon enhancement tax returns. The report does not break out data collected from the fisheries business tax return on a separate species basis. The fisheries business tax return requires processors to indicate by species the number of pounds and value of resources processed, as well as the location of processing. In instances where there are two or less processors reporting a particular species, confidentiality rules prohibit publishing pounds and value information for that species because it could potentially divulge the identity of the taxpayers. The Annual Report can be downloaded from the following link:

http://www.tax.state.ak.us/programs/division/2004_Tax_Annual_Report.pdf

Lastly, the Tax Division publishes a Shared Taxes and Fees Annual Report that provides information on taxes shared with municipalities in Alaska. The Shared Taxes and Fees Annual Report can be downloaded from the following link:

http://www.tax.state.ak.us/programs/shared/reports/2004_shared_tax_ar.pdf

B. Program costs

1. The cost of administering the fisheries business tax program in FY 2004 was \$431,995.²
2. The cost of administering the salmon enhancement tax program in FY 2004 was \$36,324.

II. Discontinued programs

The Tax Division has not discontinued any salmon-related data collection programs for lack of funding or otherwise.

III. New programs

DOR endorses the implementation of electronic fish tickets for salmon (as well as all other species), which would assist us in verifying 100% reporting of salmon by processors and exporters.

² This is the overall cost of the program and includes all species of fishery resources. At present we have no way of precisely determining costs solely associated to salmon.

Appendix A2.—Department of Labor and Workforce Development fishery data collection and costs. Summary submitted by Dan Robinson.

Summary of Alaska Department of Labor and Workforce Development's Fish Harvesting Employment Estimates Project

Overview

This project was designed to estimate the number of fish harvesting jobs in Alaska. A special project was necessary because fish harvesting is defined as an agricultural activity and has thus been excluded historically from the U.S. Bureau of Labor Statistics data produced through a long-running, joint federal-state program called Current Employment Statistics (CES).

Seafood processing workers, on the other hand, are included in the CES program because they are defined as manufacturing workers. As a result, existing employment data captured only part of the jobs created by Alaska's fisheries and economic analyses of the state's labor market often undervalued or ignored fisheries-related employment.

The methodology for estimating fish harvesting employment was designed to adhere, as much as possible, to the concepts used in the CES program. The purpose in doing so was to allow meaningful comparisons between the fish harvesting industry and Alaska's wage and salary industries. One of these concepts is that employment is assigned by place of work rather than by the residence of employees. Another is that there is no attempt to create full-time equivalency job counts; a person who works during the relevant time period of measurement generates a count of one job, regardless of the number of hours worked.

The calculation of fish harvesting employment estimates relies on the landings made by individual permit holders in Alaska's fisheries. Permit holders are considered to be the employers and the records of their landings (fish tickets) indicate employment activity. To determine the number of jobs created by a permit holder, crew factors were developed to estimate the number of crew members required to fish in Alaska's different fisheries. For example, a fish ticket recording the landing of salmon in Ketchikan with a purse seine permit would generate 5.2 jobs for the month because that is the average number of crew members estimated to be necessary for that gear type in that fishery. Only one "set" of jobs was counted in a calendar month for each permit holder. For permit holders who made landings under two different permits in the same month, the crew factor associated with the permit that had the highest value catch was assigned.

Preliminary employment estimates have been generated by month for 2000-2002. The estimates divide employment into the following species: salmon, herring, crab, halibut, groundfish, and miscellaneous shellfish. The estimates divide employment into the following regions: Gulf of Alaska, Northern, Southeast, and Southwest. The project is discussed in more detail and the preliminary estimates are published in the December 2004 issue of *Alaska Economic Trends*, p. 15. [<http://labor.state.ak.us/trends/dec04.pdf>]

Funding

This project is funded by the Alaska Fisheries Information Network (AKFIN) through an RSA with the Alaska Department of Fish and Game. For state fiscal year 2004, funding was \$90,000 and for state fiscal year 2005, funding is \$50,000. The amount was higher in 2004 because in addition to the employment estimates project described above, AKFIN contracted with the Alaska Department of Labor and Workforce Development for a feasibility study of different methodologies for producing fish harvesting employment estimates. The feasibility study resulted in a recommendation that the methodology summarized above be used to create an ongoing series of harvesting employment.

The project is still being developed and may become more or less expensive, but using the above methodology, the \$50,000 a year funding is adequate.

New programs that would assist with this project

The quality of the fish harvesting employment estimates would be improved by electronic fish tickets or other administrative changes that resulted in fish tickets including information on the actual number of crew involved in the landing being recorded. Doing so would eliminate the need for survey-generated crew factors and allow for a near census of fish harvesting employment.

State of Alaska

Frank H. Murkowski, Governor

Commercial Fisheries Entry Commission
8800 Glacier Hwy, #109 , Juneau, AK 99801

MEMORANDUM

To: Susan Shirley, Chief of Information Services, Div. of Commercial Fisheries ADF&G M/S 1100	Date: February 10, 2005
From: Kurt Schelle Research & Planning Project Leader Commercial Fisheries Entry Commission	Phone: (907) 789-6160 VOICE (907) 789-6170 FAX
	Subject: CFEC data relevant to ABOF analyses.

Per your request at the meeting last week, this memorandum briefly summarizes CFEC fishery data and provides rough estimates of personnel costs associated with collecting and maintaining the data. A second part of this memorandum also provides suggestions for additional resources to provide analyses on salmon restructuring proposals as needed by the Alaska Board of Fisheries.

I. CFEC Data

The following are the major CFEC data sources that can be used to address questions about fisheries:

A. Entry Permit, Interim Entry Permit, and Interim Use Permit Data

Under Alaska law, a CFEC permit is required to operate gear and make landings. The permit card is recorded on fish tickets. In the last decade, the number of CFEC permits issued has ranged from about 21,000 to 28,000 permits per licensing year.

Entry permits are issued to qualified applicants in limited entry fisheries. The bulk of these permits are permanently transferable. Entry permits can also be emergency transferred under certain conditions.

Interim entry permits are issued to persons in limited entry fisheries when it is not clear whether or not they will ultimately qualify for a permanent entry permit. These permits can also be emergency transferred.

Interim-use permits are issued to persons in unlimited fisheries. Interim-use permits can also be emergency transferred under certain conditions.

Permanent and emergency transfers must occur through the commission. In the past decade, the number of permanent transfers has ranged from about 800 to 1,000 per calendar year. The number of emergency transfers has ranged from about 700 to 950 per calendar year.

Permit data include fields such as the CFEC permit number, the name of the holder, the address of the holder, unique identifiers for the holder, a licensed vessel number, and the date of birth of the holder. The social security number of the holder and the date of birth are confidential fields but most of the other data are public information and are available on CFEC's website. (www.cfec.state.ak.us)

Permit information, when combined with fish ticket data, can be an important source of data for summary reports on participants in a fishery and their earnings.

B. Vessel license data

Since 1978, CFEC has also handled licensing of commercial fishing vessels for the State of Alaska. Vessel licenses must be obtained each year. Over the last decade, the number of licensed vessels has ranged from about 14,000 to 17,000 vessels per year.

Vessel data includes information on vessel ownership and vessel attributes. Important fields include the vessel name, the ADF&G number, the Coast Guard number, the owner's name and address, and the homeport. The data also include attributes of the vessel, such as length, hull-type, engine-type, horsepower, gross tons, and etc. Non-confidential data on vessel licenses are available via the internet at the commission's website.

Vessel license information, when combined with fish ticket data, can be an important source of data for summary reports on vessels in a fishery and their earnings.

C. Transfer Survey Information

CFEC requires a mandatory transfer survey with each permanent transfer of an entry permit. The survey collects information on the buyer and the seller, the nature of the contract, the sales price if it is a sales transaction, the relationship between the buyer and the seller, and etc. The individual surveys are confidential, but CFEC provides some summary reports from the surveys in an annual report on permit transfers. The information on the sales prices is the main source of data for CFEC's monthly permit value reports.

D. CFEC Gross Earnings Files

The main source of data for CFEC's gross earnings files are the ADF&G fish ticket databases and IPHC's fish ticket data base for halibut. CFEC combines all of these databases into a single database with a common format, adds an estimate of gross earnings for each fish ticket item that represents a commercial harvest, adds information on the CFEC permit holder including a unique identifier, and adds a corrected ADF&G vessel number field, which will sometimes differ from the fish ticket vessel number field on the same record. The resulting file makes it easy for researchers to follow persons and vessels across fisheries and across time. The CFEC ex-vessel price estimates which are used to generate gross earnings estimates also rely heavily on ADF&G's COAR database.

CFEC's gross earnings files are used by CFEC to produce standardized report and to analyze fisheries, limitation issues, and regulatory proposals. CFEC gross earnings files have also been used by AKFIN, NPFMC research staff, and NMFS research staff to help analyze regulatory proposals and proposals for FMP amendments being considered by the NPFMC. CFEC's gross earnings files are considered confidential under AS 16.05.815 since the file contains individual fish ticket data. CFEC follows ADF&G reporting standards to produce summary reports on issues of interest in non-confidential formats.

Several standardized reports on fisheries generated from the CFEC gross earnings files are available on the CFEC website. CFEC also produces many other reports and analyses from these data. Most of these are for CFEC's needs and purposes. However, CFEC also services outside user requests and provides reports in non-confidential formats that help address the issues and questions of the customer.

E. Database Costs

The permit, vessel data, and transfer survey data are continuously updated throughout the year as permits or vessel licenses are renewed and transfers occur. This work is largely done by CFEC's licensing staff. CFEC's information technology section maintains, monitors, and continuously works on these data bases.

The following is a rough estimate of the personnel costs required to generate, update, edit, and maintain these databases for a fiscal year:

Licensing staff:

7 positions, 4 full-time and 3 seasonal	\$389,743
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Information Technology staff:

1.5 positions	\$151,053
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Please note that estimates only include personnel costs, as the licensing process generates costs in all other budget line items. CFEC hopes to rewrite the licensing system and convert to an Oracle database as time and resources allow.

The gross earnings system is also being upgraded and requires staff to update and maintain the database as new data are constantly being generated and old data are being updated. The following is a rough estimate of the personnel costs required to generate, update, edit, and maintain the gross earnings databases for a fiscal year:

Information Technology staff:

.5 positions	\$34,881
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Research Staff:

.5 positions	\$38,859
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Again, these estimates only include personnel costs, as some costs in all other budget line items should be attributed to these activities.

F. Other CFEC data

CFEC has other databases, most of which would not apply to analyzing salmon restructuring issues. For example, databases are maintained on entry permit applications, adjudications, and limited entry court decisions.

Some research data relate to different fisheries but the individual data are confidential under AS 16.43.975. For example, CFEC has occasionally done operating cost and net return surveys for different fisheries for CFEC purposes. The most recent example occurred in 2002, when CFEC surveyed Bristol Bay salmon drift gill net fishermen and obtained data on operating costs and net returns. These data were then used by CFEC in the optimum number study for the fishery. Summary reports (in non-confidential formats) from these survey data were also used by Northern Economics in the BBEDC studies of restructuring options for the same fishery. These types of survey data gathering efforts are done on an “as-needed” basis.

II. Possible Additional Resources for Salmon Restructuring.

At the meeting last week, we briefly discussed the Board’s possible needs for analyses of salmon restructuring proposals.¹ Dr. Gunnar Knapp, of UAA Institute of Social and Economic Research wrote a memorandum (11/30/04) to the Board of Fisheries Salmon Restructuring Panel on the topic of Restructuring Data Collection and Research. I have enclosed a copy of the memo in case you have not already seen it.

In the memo, Dr. Knapp suggests that much could be learned from greater analysis of existing data (namely fish ticket data-with other information added from permit files, etc. and COAR data). He suggests more funding for working with these data to analyze issues, either by using additional staff or by using contractors. The confidentiality law (AS 16.05.815) only allows ADF&G/CFEC employees or contractors to work with the raw data. Thus more funding might be needed for additional staff or contractors.

Dr. Knapp also suggests the possibility of survey work to help address specific questions and the possibility of new mandatory data collection programs by the state. These would also require additional resources.

At this time, we do not know how many salmon restructuring proposals the Board of Fisheries will receive and we don’t know what types of socioeconomic analyses they will need. However, it is likely that they will want some analytical capability. Without knowing the analytical demands that will emanate from ABOF, it is unclear whether ABOF’s needs will be better served by additional staff, contractors, or a combination.

As we discussed, an Economist II and a Research Analyst III, might be reasonable choices for additional positions to analyze salmon restructuring requests. These persons could be part of the ABOF staff. Alternatively, they could be staff elsewhere (such as your shop, extended jurisdiction, or CFEC) with the understanding that their primary responsibility would be servicing the ABOF’s needs for socioeconomic analyses.

¹ We includes Dan Robinson from ADOL and Tim Cottongim from ADOR.