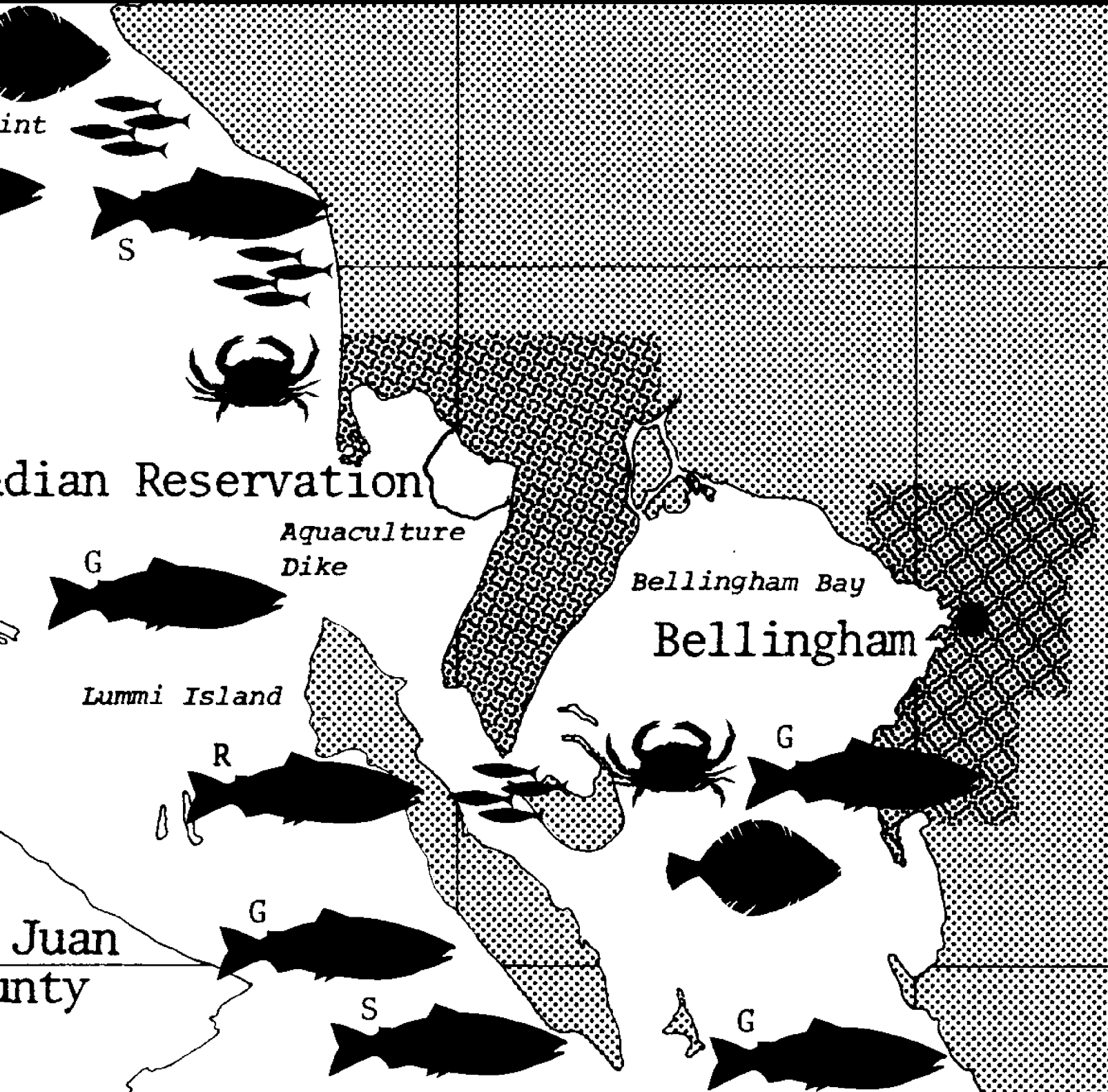


THE COMMERCIAL FISHING INDUSTRY OF WHATCOM COUNTY

SOME ECONOMIC ASPECTS - 1977

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3. Employment 4. Assets

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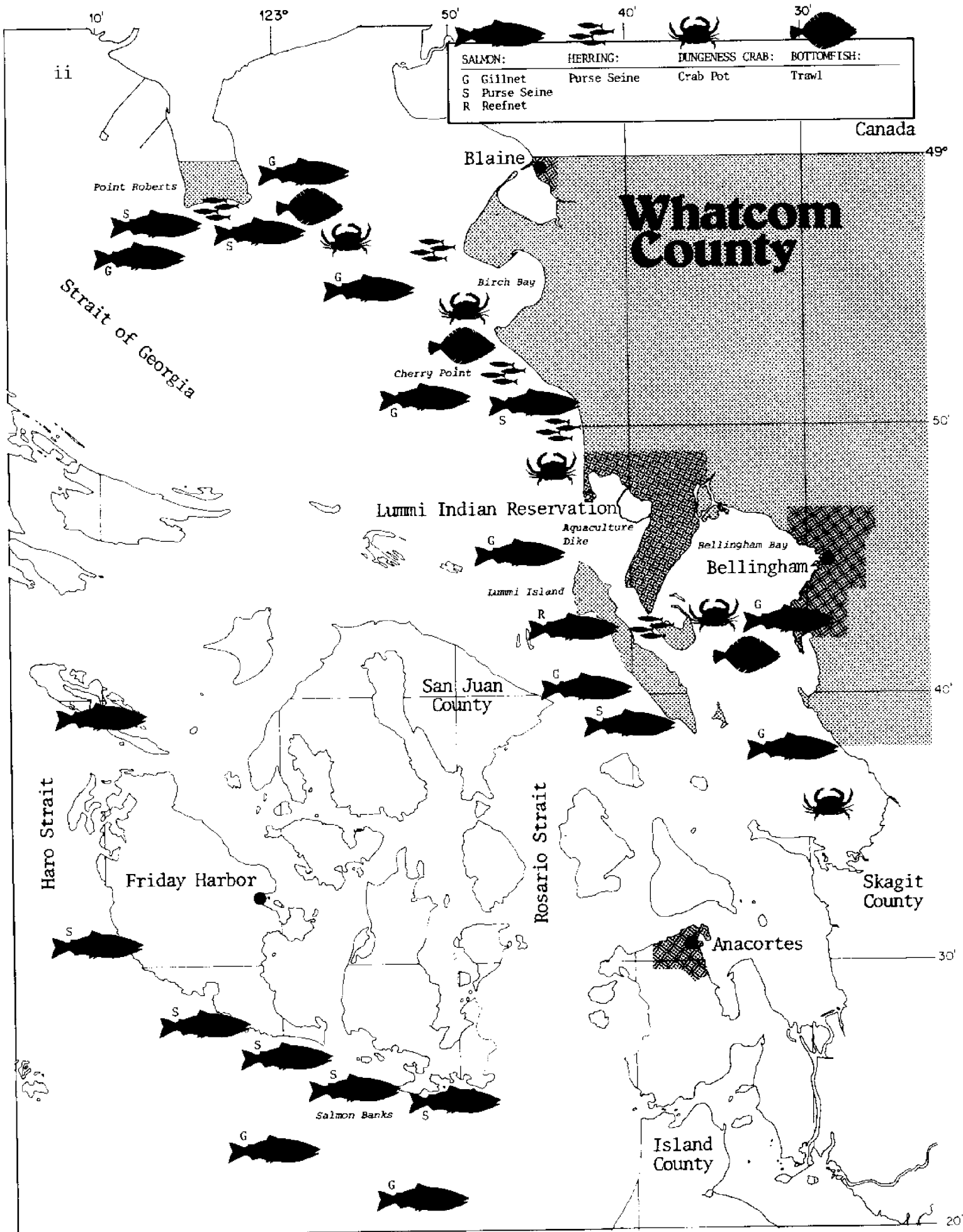
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Principal fishing areas of Whatcom County fishermen by gear and species.

BACKGROUND

Harvesting

The commercial fishing industry of Whatcom County is remarkably diversified. From the harbors of Bellingham, Blaine, and Lummi Island, four types of commercial salmon fishermen--purse seiners, gillnetters, reefnetters, and trollers--operate; they catch all five species of salmon. Additionally, there is a fifth type of salmon-harvesting operation in the County: the ocean-ranching capture site of the Lummi Indian Tribal Enterprise (LITE).

Besides salmon, groundfish--true cod, ling cod, rockfish, sole, flounder, ocean perch--are landed daily in Bellingham and Blaine by small vessels that are used as gillnetters and seiners during summer and every 7 to 10 days by larger draggers operating year-round.

Dungeness crab potfishing is a winter fishery that occupies the off-season time of gillnetters and seiners.

Interspersed with these major local fisheries are the short, but valuable, roe-herring fishery (gillnet and purse seine); a growing longline fishery for dogfish; the oyster aquaculture venture of the Lummis; and such valuable fisheries as the halibut, albacore tuna, king crab, and tanner crab that are caught elsewhere but are processed in Whatcom County. Combined, the foregoing provide a significant variety of commercial fishing endeavors within a relatively small area.

Much of the fish landed in Blaine and Bellingham is brought in by transient fishermen: purse seiners from Anacortes, Everett, Seattle, and Gig Harbor; gillnetters from Friday Harbor, Anacortes, and La Conner; draggers from Seattle; crabbers from Grays Harbor. However, resident fishermen bring income into the county from several "outside" fisheries: from salmon caught off the Washington coast and in all

Approximate fishing seasons by commercial gear type, Puget Sound and coastal Washington

Fishery	Commercial gear	Approximate Season
Salmon	Gillnet Purse seine Reefnet	July to November
Salmon	Troll	May to October
Groundfish	Otter trawl (Draggers)	All year, weather permitting
Roe herring	Gillnet/purse seine	Mid-April to mid-May
Dungeness crab	Crab pot	October 1 to April 15
Dogfish	Longline, set net	All year, weather permitting

areas of Alaska and from herring caught in San Francisco Bay, Southeast Alaska, and Bristol Bay.

Seafood Processing/Marketing

Very few salmon are canned on Puget Sound anymore. Most salmon landed here are sold fresh or frozen. Not surprisingly, the frozen seafood market in Japan dominates the distribution of salmon processed in Whatcom County.

Most of the groundfish processed in Whatcom County go to fresh markets on the Pacific Coast and in the Midwest, as do locally caught Dungeness crab. The herring landed here go exclusively to Japan where the roe are processed into a caviar-like product.

A large quantity of salmon, king crab, and tanner crab caught in Alaska is processed in Whatcom County; however, the value of these products has not been included in this study. Nevertheless, local processing of this Alaskan fish and shellfish contributes greatly to the County's economy in the form of jobs and services.

There are at least six Whatcom County companies involved in processing and storing these "imported" fish--indeed, one of the largest cold storages on the West Coast is located in Bellingham. Most of this "outside" salmon comes to Bellingham frozen or canned to be stored awaiting market distribution. King and tanner crab arrive by processing vessel to be packaged and stored awaiting further distribution.

Supporting Sales and Services

The sector of businesses in Whatcom County that support and service the commercial fishing industry is quite extensive. There are a number of boatbuilding firms, primarily constructing fiberglass and aluminum gillnet boats. There are net manufacturers and twine and rope fabricators. A large volume of gear supplying in Washington and Alaska is done by Whatcom County businesses. There are marine electronics suppliers, engine and equipment repair shops, marinas, fuel docks, and a shipyard. At least four retail fish establishments are operating, and along the waterfronts of Blaine and Bellingham there are a number of eateries catering mainly to commercial fishermen.

The Port of Bellingham provides a unique set of services and facilities including moorage and gear storage in Blaine and Bellingham, a canned salmon storage terminal on Bellingham's south side, and buildings that house other marine businesses.

The governmental sector is represented by the Washington Department of Fisheries' marine fish assessment office and Nooksack salmon hatchery, a Washington Sea Grant field office, the U.S. Department of Commerce fish inspection service, and local Indian tribal fisheries offices.

RATIONALE FOR DATA COLLECTION

This study of the commercial fishing industry of Whatcom County was undertaken to provide the public and its elected decision makers with economic data about the impact of this industry on the general economy of the County. It was initiated at the behest of a diversified group of people from the local industry and community (see list) who met in my office in April 1978 to discuss industry needs. The members of this group identified a number of important economic issues which have confronted the local fishing industry over the past four years:

- The location of an oil transshipment port and other shoreline industries at Cherry Point which could diminish the herring, crab, and salmon fisheries of that area
- A need to expand Bellingham and Blaine harbors--Whatcom County's two ports of commercial fish landings
- The impact of the Boldt decision on non-Indian and Indian fishermen alike (This decision--recently upheld by the U.S. Supreme Court--limits salmon catches on a 50-50 basis between fishermen of treaty Indian tribes and non-Indian commercial fishermen.)

Advisory committee, Whatcom County fishing industry study

Roger Almskaar	Whatcom County Shoreline Planner
Jerry Anderson	Reefnetter
Jay Bornstein	Bornstein Seafoods, Inc.
George Costello	Sea-K Fish Company
Bob Gay	Troller
Wayne Gormley	Washington Department of Fisheries
Delight Green	Purse seiner's wife
Carl Koskela	Alaska Fishermen's Union
Bill Lausch	Port of Bellingham
John Lord	Economic Consultant
Bill Moyer	Washington Department of Employment Security
Gary Nelson	Lummi Fisheries Supply Inc.
Bob Stephens	Bellingham Chamber of Commerce
Bob Suggs	Gillnetter

- Passage of the Fisheries Conservation and Management Act which extends the U.S. fisheries zone 200 miles offshore

With these issues in mind and with the recommendations of the advisory group about what information would be useful for dealing with these similar issues, I began a year-long data collection effort.

SOURCES OF DATA

Most statistics on 1977 landed value (value to fishermen) come from the Washington Department of Fisheries computerized data based on fish tickets prepared when fishermen sell their catch. The WDF computer print-out most useful was that on port-by-port landings. Final data on 1978 landings are not yet available from the Department and therefore are not included. In some cases, especially with salmon, prices are not registered on fish tickets and, in the final analysis, value to fishermen is understated by the Department. Therefore the landed value has been adjusted by using average prices paid to fishermen for a particular year.

Statistics on the seafood processing sector were obtained by mail survey in Fall 1978. Questionnaires were sent to 29 seafood processing and/or buying firms having outlets but not necessarily headquartered in Whatcom County (Appendix A). A total of 18 responses were received, but of this number only seven firms provided data on the approximate value of fish processed. However, all other data requested were provided by all 18 respondents.

Data on support sector businesses--those with more than 50% of sales attributable to commercial fishermen--come from a second Fall 1978 mail survey of 29 Whatcom County firms known to serve the commercial fishing community (Appendix B). A total of 21 firms responded to the questionnaire, and 16 reported that the commercial fishing industry accounted for more than 50% of their sales in 1977.

Other data come from a variety of individual sources. The various tables list sources of reference, assumptions made, extrapolation of data, and, in some instances, the use of estimates to bring data into better perspective.

From the preceding general description of the commercial fishing industry as it exists in Whatcom County and a summary of data sources, let us proceed to results of data collection. The data collected covered three aspects--income generated, employment generated, and assets invested--of each sector of the industry (i.e., commercial fishing, seafood processing, and supporting sales services and agencies).

Income Generated

Value of Fish Landed

Salmon: Although the amount of salmon landed in Whatcom County fluctuates, the value of that salmon to the fishermen is rising (Table 1). Preliminary computer runs at WDF show that 1978 landed values were in excess of \$17 million, even though total pounds landed were down to approximately 11 million. By comparison, landed value in 1977 was over \$15.8 million for 16.3 million pounds landed.

Groundfish: According to WDF statistics, Bellingham is a leader among U.S. Pacific Coast ports in groundfish landings. In 1977, 20.5 million pounds were landed here at a total value of over \$2.8 million.

Roe Herring: A lucrative, if still small, roe herring fishery has developed in the Strait of Georgia. Like salmon, pounds landed have decreased; however, because of a strong Japanese market, value landed has increased (Table 1). The 1978 landed value was approximately \$2.5 million, and, according to preliminary data provided by WDF, 1979 values are expected to exceed \$3 million.

Dungeness Crab: This is a steadily growing local fishery (Table 1) that provides off-season income for many salmon fishermen in Whatcom County. The resource itself seems to run in seven-year cycles, with pounds caught peaking in 1976 on the current cycle but with 1977 landed value being high because of a strong market.

Halibut and Tuna: These offshore fisheries account for a small percentage of landings in Whatcom County (Table 1). Halibut once was landed in great quantities in Bellingham, but higher dockside prices in Alaskan ports have diverted these landings from Whatcom County.

Dogfish: These fish are being landed in greater and greater quantities (Table 1) and are providing a winter supplement for salmon fishermen. Currently, the processed fillets are being exported to Britain and West Germany. Total pounds landed in 1977 exceeded 1.4 million (Table 1), but prices dockside are still quite low at 10 cents per pound.

We did not survey the fishermen themselves for information about personal income, however, it can be assumed that the value of fish landed (Table 1) in Whatcom County is not the gross income of the resident

Table 1. Commercial fish landings, Whatcom County, 1974-77.

Species landed	1974			1975			1976			1977		
	Pounds, round weight*	Dollar value*	Percent total dollar value	Pounds, round weight*	Dollar value*	Percent total dollar value	Pounds, round weight*	Dollar value*	Percent total dollar value	Pounds, round weight*	Dollar value*	Percent total dollar value
Salmon												
Chinook	1.53	\$ 1.41	10	2.07	\$ 2.13	14	1.55	\$ 2.66	18	1.93	\$ 3.25	16
Chum	1.52	.79	6	.73	.7	4	2.14	2.14	15	.46	.53	2
Pink	--	--	--	3.66	2.09	14	--	--	--	6.4	2.88	13
Coho	2.18	1.4	10	2.08	2.20	15	1.29	1.43	10	1.94	2.23	10
Sockeye	7.29	6.92	50	4.58	3.89	26	3.02	3.36	23	5.6	7.00	33
Total salmon	12.52	\$10.52	76	13.12	\$11.01	73	8.00	\$ 9.59	66	16.33	\$15.89	74
Groundfish	16.76	1.67	12	19.61	2.15	14	25.71	3.09	21	20.59	2.86	13
Roe herring	8.9	.98	7	7.72	.97	6	4.38	.66	4	4.59	1.15	5
Dungeness crab	.55	.31	2	.81	.45	3	1.56	.62	5	1.12	1.00	5
Halibut	.26	.20	1	.48	.47	3	.36	.48	3	.20	.28	1
Tuna	.75	.24	2	.11	.07	1	.90	.04	--	.24	.14	1
Dogfish	--	--	--	.06	.003	--	.65	.03	--	1.44	.10	1
Total landings	39.74	\$13.92	100	41.91	\$15.12	100	40.56	\$14.51	100	44.51	\$21.42	100

*Pounds and dollar value in millions

Source: Washington Department of Fisheries statistical division Program F63ST entitled: *Port Totals by Gear, Month, and Species in Pounds and Dollar value.*

Table 2. Commercial salmon landings by gear, Whatcom County, 1974-77.

Gear	1974			1975			1976			1977		
	Pounds, round weight*	Dollar value*	Percent total dollar value	Pounds, round weight*	Dollar value*	Percent total dollar value	Pounds, round weight*	Dollar value*	Percent total dollar value	Pounds, round weight*	Dollar value*	Percent total dollar value
Purse seine												
Non-Indian	6.26	\$ 5.57	53	7.22	\$ 5.84	50	3.36	\$ 3.77	38	9.14	\$ 6.03	38
Indian	--	--	--	.13	.12	1	.32	.40	4	1.14	1.11	7
Total purse seine	6.26	\$ 5.57	53	7.35	\$ 5.96	51	3.68	\$ 4.17	42	10.28	\$ 7.14	45
Gillnet												
Non-Indian	4.38	\$ 3.36	32	3.67	\$ 3.62	31	2.64	3.47	35	3.43	\$ 4.76	30
Indian	1.25	.95	9	1.31	1.40	12	1.36	1.79	18	1.80	2.70	17
Total gillnet	5.63	\$ 4.31	41	4.98	\$ 5.02	43	4.00	\$ 5.26	53	4.23	\$ 7.46	47
Reefnet	.50	\$.42	4	.52	.35	3	.16	.20	2	.49	.79	5
Troll	.13	.21	2	.27	.35	3	.16	.29	3	.33	.49	3
Total gear	12.52	\$10.51	100	13.12	\$11.68	100	8.00	\$ 9.92	100	16.33	\$15.88	100

*Pounds and dollar value in millions

Source: Washington Department of Fisheries statistical division Program F63ST entitled: *Port Totals by Gear, Month, and Species in Pounds and Dollar Value.*

fishermen, who derive income from a variety of other sources.

Table 2 reveals a growing percentage of salmon caught by Indian fishermen. This trend follows directly from the Boldt decision of February 1974. Preliminary data from 1978 indicate an increase in percentage of catch by Indian gillnetters and purse seiners over 1977.

Table 3. Estimated processed value of fish landed, Whatcom County, 1977.

Species landed	Estimated processed value
Salmon	\$24,950,000
Groundfish	5,700,000
Roe Herring	2,200,000
Dungeness crab	1,230,000
Halibut	300,000
Total	\$34,380,000

Source: To determine an estimated processed value of fish landed in Whatcom County, the following calculations and assumptions were made:

(1) It was assumed that all fish landed in Whatcom County were processed here.

(2) Processed weights were derived from the round weights (landed pounds, Table 1) according to known average yields for each species:

Salmon (except pink). Recovery is 88% of round weight. It is assumed that all coho, chum, sockeye, and chinook landed were processed either fresh or frozen.

Pink salmon. There are 85 pounds of fish per standard case of 48 one-pound tall cans. It was assumed that all pink salmon landed in 1977 were canned.

Groundfish. Average recovery for all species is 28% of round weight. It was assumed all groundfish landed in 1977 were processed for fresh market.

Roe herring. Recovery is 10% of round weight. It was assumed that the average weight of eggs is 10% of whole fish.

Dungeness crab. Recovery is 95% of round weight. It was assumed that all crab landed went to whole-cooked market.

Halibut. Recovery is 80% of round weight. It was assumed all fish landed went to fresh/frozen market.

(3) The above estimates of processed weights were multiplied by wholesale prices obtained from the following sources:

Salmon. Selected issues of *Gruber-Erkens Seafood Letter*, Fall 1977; *National Marine Fisheries Service Statistics and Market News*, Fall 1977 and Winter 1977.

Groundfish. Average 1977 prices from telephone interviews with a Bellingham seafood processor.

Roe herring. Wholesale prices after 1977 San Francisco Bay season from telephone interviews with Tom Jow, California Department of Fish & Game, and with Dick Trumble, Washington Department of Fisheries.

Dungeness crab. Wholesale prices from personal interview with Whatcom County crab processor.

Halibut. Selected issues of *National Marine Fisheries Service Statistics and Market News*, February 1977.

In assessing these data one should bear in mind that every odd year there is a large catch of pink salmon (Table 1) which will alter certain patterns in the figures. The purse seiners tend to catch more pinks than gillnetters during these odd-year seasons, but, in turn, pink salmon are worth much less to the fishermen than the other species.

Value of Seafood Processed

Table 3 shows the estimated processed value of most species of fish landed in Whatcom County in 1977. The total processed value of salmon, groundfish, roe herring, Dungeness crab, and halibut landed in the County that year is estimated to be over \$34.3 million. This estimate does not include the value of tuna and dogfish because these statistics are not available.

Supporting Sales and Services

A 1978 mail survey of 29 Whatcom County firms known to serve the commercial fishing community solicited 21 responses. The firms surveyed included net manufacturers, boat builders, gear suppliers, retail fish markets, electronics firms, moorages and lockers, marinas, oil docks, shipyards, and waterfront restaurants. Of the 21 firms responding, 16 support sector businesses estimated 1977 sales of \$9.78 million as a result of direct sales to the commercial fishing industry.

Employment Generated

In Commercial Fishing

The percentages of resident Whatcom County fishermen relative to the total number of fishermen statewide by gear group (Table 4) demonstrate several interesting features of the local fishing industry:

- Of the state's 408 non-Indian salmon purse seiners, 23% reside in Whatcom County, and 7 of 10 Indian purse seiners in Washington are operated by the Lummi Tribe.
- The Lummi Tribe also operates 27% of the 558 Indian gillnetters licensed statewide.
- Because of the large concentration of reefnetters at Lummi Island, half of the state's fishermen in that gear group reside in the County.
- Trolling is an offshore fishery and this fact accounts for the few trollers making Bellingham and Blaine their home port.
- The roe herring fishery in Georgia Strait is the only one in the state and historically has been fished by Whatcom County fishermen. Thus, almost all permits are held by County residents.

In Seafood Processing

In 1977, at least 29 firms were engaged in fish buying and processing in Whatcom County. The 1,030 employees identified through a survey were employed by only 18 of those firms; thus, the number of jobs in this sector is understated.

In Supporting Firms and Agencies

The 1978 survey of local support firms such as boat builders, net manufacturers, gear suppliers, etc., produced 21 responses. The 214 persons employed (Table 5) by this sector is a minimum number since only 16 such firms attributed greater than 50% of

Table 4. Number of active commercial fishing licenses, Whatcom County, 1977.

Fishery	Gear group	Total licenses statewide	Total licenses Whatcom County	Percent licenses Whatcom County
Salmon	Purse seiners			
	Non-Indian	408	94	23
	Indian	10	7	70
	Gillnetters			
	Non-Indian	2,513	358	14
	Indian	558	150	27
	Reefnetters	77	38	50
	Trollers	3,232	42	1
Total salmon licenses ¹		6,798 ¹	689 ¹	185 ¹
Groundfish	Otter trawl (Draggers) ²	161	28	17
Herring	Purse seiners			
	Non-Indian	31	31	100
	Indian	10	7	70
	Gillnetters			
	Non-Indian	6	6	100
Indian	Unkn.	200 ³	Unkn.	
Dungeness Crab	Crab pot	320	95	30

Sources: Washington Department of Fisheries computer lists of license holders, organized by zip code. Holders of multiple licenses in one gear were counted only once. Since not all license holders landed fish in 1977, these numbers were compared with Port of Bellingham commercial moorage records and an actual physical count on February 15, 1979 of purse seiners, trollers, gillnetters, and draggers in Blaine and Bellingham. Numbers correlated very well for all vessel types except gillnetters. Since many gillnet vessels sit in Whatcom County backyards in winter, the number of WDF licensees was used. The numbers of Indian fishermen come from a published report of the Northwest Indian Fisheries Commission (see references).

¹Very few fishermen use more than one commercial salmon gear type during the year so the numbers of fishermen in these categories can be added. The numbers of fishermen in other fisheries and gear groups should not be added since they frequently are salmon fishermen who are using their vessels in alternative fisheries during winter months.

²Of the 28 Whatcom County draggers, fewer than 10 fish exclusively for groundfish.

³Washington Department of Fisheries estimate.

gross revenue to commercial fishing. Moreover, this sector has experienced significant growth recently as reflected by an increasing number of boatbuilding firms supplying gillnet vessels for Alaska fisheries.

The Port of Bellingham employed an average of 72 people in jobs directly related to the industry. These individuals were employed either at Blaine and Bellingham boat harbors or, on a seasonal basis, at the Port's salmon terminal facility.

Table 6 offers a comparative look at other sectors of the County and the data tabulated in this report. Fishing and processing in the aggregate ranks appear to be more important components than have been reported previously by the Washington Department of Commerce and Economic Development, the Department of Employment Security, or local councils and business organizations.

Sector	Number of positions ¹	Table 5. Employment in commercial fishing, seafood processing, and supporting sales/services/agencies, Whatcom County, 1977.
Commercial fishing		
Vessel owners/operators	650 ²	
Crew members--purse seine, reefnet	538 ³	
Commercial fishing sector total	1,188	
Seafood processing	1,030 ⁴	
Supporting sales/services/agencies		
Firms serving commercial fishing	214 ⁵	
Port of Bellingham fishery facilities	72 ⁶	
Agencies serving commercial fishing	10 ⁷	
Support sector total	296	
Total positions	2,514 ^{1,8}	

¹Because of the seasonal nature of fishing, these data should not be equated with fulltime equivalent jobs.

²Of the 689 active resident license holders (Table 4), a few fish more than one gear type. This figure takes that into account.

³The number of crewmembers was estimated from the number of purse seine (salmon) and reefnet license holders (Table 4): 101 seiners x 4.2 crewmembers; 38 reefnetters x 3 crewmembers.

⁴Source: Survey of seafood processing firms (Appendix A).

⁵Source: Survey of support sector firms (Appendix B).

⁶In 1977, the Port employed a total of 117 persons. Of this number, there was an average of 72 fulltime and parttime employees in the Port's commercial fishing facilities. Source: Personal interview with Port Comptroller.

⁷Source: Personal interviews with officials at each agency.

⁸The Washington Department of Commerce and Economic Development has calculated a statewide employment multiplier for fishing to be 2.55. In other words, for every primary fisherman and crewman landing fish, there are an additional 1.55 others processing his fish, repairing his boat and gear, seeing to his personal goods and services.

If the 1,188 fishermen and crewmembers are multiplied by 2.55, there are theoretically 3,010 persons in Whatcom County either directly or indirectly employed as a result of commercial fishing. This study has identified 2,514 persons directly employed as a result of this industry (see references).

Table 6. Agricultural producers and major employers, Whatcom County, 1977¹.

Producers/Employers	Number of producers/employees	Income/payroll (mil/\$)
Agricultural producers--Farm gate income	1,650	\$70.0
Forest products--Georgia Pacific/ Mt. Baker Plywood	1,432	22.8
Higher education--Western Washington University/ Whatcom Community College	1,280	21.5
Intalco Aluminum	1,249	25.0
School districts--Bellingham/Blaine/Ferndale	1,218	15.0
Commercial fishermen/crewmembers	1,188 ²	
Seafood processing--18 of 29 firms	1,030	11.6 ³
Federal government	850	12.0
Whatcom County	757	6.6
Utilities--Puget Power/Pacific Northwest Bell/ Continental Telephone	692	10.3
Petroleum refining--ARCO/Mobil Oil	669	13.4
Heavy construction--Wilder/Haskell/Snelson	569	7.8
Uniflite	503	6.0
Hospitals--St. Luke's/St. Joseph's	545	5.1
City of Bellingham	532	6.7

¹Source: Whatcom County Council of Governments (except for data on commercial fishing and seafood processing). Some businesses were grouped into general categories to facilitate comparison with commercial fishing data.

²Source: See Tables 4 and 5.

³Source: Survey of seafood processing firms (Appendix A).

ASSETS INVESTED

Whatcom County tax assessor records show almost \$11.2 million invested in commercial fishing vessels and gear in 1977; however this figure is probably undervalued. In recent years, this market has been getting stronger. There are several reasons for this phenomenon:

- A salmon license moratorium was adopted by the legislature in 1974, thus limiting entry into the fishery.
- The price of new boats and gear has increased much beyond the rate of inflation other sectors have been experiencing--especially for nets from Japanese manufacturers.
- Alaska salmon fisheries are rebounding from low level catches to much higher catch levels. Since many fishermen from Whatcom County fish in Alaska, the market value of the vessels and gear used in these more lucrative fisheries has risen.

- People other than fishermen are buying boats and gear for investment purposes and this is contributing in some cases to a stronger market.

The value of capitalization in seafood processing reflects only \$21.8 million reported by the 18 firms answering the mailed questionnaire and does not include assets of 11 other processors operating in the county in 1977.

On the other hand, the value (\$16.7 million) of moorage and port facilities necessarily reflects recreational and transportation uses that are to a certain extent impossible to separate from commercial fishing activities.

Sector	Dollars invested	Table 7. Estimated value of assets in commercial fishing, Whatcom County, 1977.
Commercial fishing--vessels/gear	\$11,199,000 ¹	
Seafood processing--plants/equipment	21,750,000 ²	
Port of Bellingham--fishery facilities	16,696,000 ³	
Total assets	\$49,645,000	

¹Source: Whatcom County tax assessor records.

²Source: Survey of seafood processing firms (Appendix A).

³Source: Personal interview with Port of Bellingham comptroller.

CONCLUSION

In summary, the fishing industry of Whatcom County is viable and thriving. Yet it is also in a state of change--its salmon fishery is in a state of management flux and the 200-mile economic zone offers new potential for domestic exploitation and implicates Bellingham as a processing center for Alaska-caught groundfish especially.

There is no doubt commercial fishing will continue to provide a considerable economic impact on the County. Fishing is one of those few primary industries in Whatcom County that command income from outside its borders: a product is generated within the county, is exported, and money comes back into the County as a result of the transaction. The activity of everyone who engages in commercial fishing, either fulltime or parttime, and the activity in the processing sector contribute to the economic base of a coastal fishing community. These activities are an integral part of the critical mass that makes a coastal community the unique entity that it is.

APPENDIX A

In the fall of 1978, this questionnaire was mailed to 29 seafood processing and/or buying firms having outlets, but not necessarily headquartered in Whatcom County. A total of 18 responses were received, and the figures indicate cumulative totals.

Number of:

	Plant & Tender workers....
<i>3,030 in 18 firms</i>	Management personnel.....
<i>\$11,631,000 in 18 firms</i>	Total payroll.....

Approximate wholesale value of fish processed:

	Salmon.....
<i>Of the 18 firms responding to this questionnaire, only 7 responded to this section on approximate wholesale value of fish processed.</i>	Groundfish.....
	Herring & roe.....
	Dungeness crab.....
	Other _____...
	Alaska caught.....
	Total gross sales.....

<i>\$21,750,000 (18 responses)</i>	Approximate replacement value (1977) of all bldgs., equipment, vessels gear: \$ _____
------------------------------------	---------------------------------------------------------------------------------------

APPENDIX B

This questionnaire was mailed to 29 support sector businesses:

- | | |
|---------------------|------------------------|
| Net manufacturers | Moorages and lockers |
| Boatbuilders | Marinas |
| Gear suppliers | Oil docks |
| Retail fish markets | Shipyards |
| Electronics firms | Waterfront restaurants |

Of the 21 responses, 16 firms reported the commercial fishing industry accounts for greater than 50% of sales. Sales revenue and number of employees reported by those 16 firms are reflected elsewhere in this report. Revenue and number employed reported by the other 5 firms are not reflected elsewhere even though the commercial fishing industry probably does account for a portion of their sales.

For 1977 Sales Year

1. Approximate Sales Revenue generated by business with Commercial Fishing Industry. \$ _____ \$9,779,974 reported by 16 firms
2. Does the Commercial Fishing Industry account for:
_____ greater than 50% of your total sales? 16 firms
_____ less than 50% of your total sales? 5 firms
3. Number of persons you employed on a regular basis? _____
on a seasonal basis? _____ Combined total of 214 reported by 16 firms



REFERENCES

Barsh, R. *The Washington Fishing Rights Controversy: An Economic Critique*. University of Washington, Graduate School of Business Administration. Monograph Series. Seattle, 1977.

Callaghan, D. and R. Comerford. *The Economic Impact of Commercial Fishing on the State of Rhode Island*. University of Rhode Island. Technical Report 65, Kingston, 1975.

Carroll, T. and H. Stoevener. *A 1977 Input-Output Model for Clatsop County, Oregon*. Oregon State University, Agricultural Experiment Station. Special Report 525. Corvallis, December 1978.

Crutchfield, J. and D. McFarlane. *Economic Valuation of the 1965-66 Saltwater Fisheries of Washington*. Washington Department of Fisheries. Research Bulletin 8. Olympia, December 1968.

Erkins, R., ed. *The Gruber-Erkin's Seafood Letter*. Bliss, Idaho. December 20, 1977.

Fisheries and Marine Service. *Economic Impact of Salmon Enhancement Program*. Canada Department of Environment, Pacific Region. Vancouver, B.C., 1977.

Fisheries and Marine Service. *Fisheries Statistics of British Columbia*. Canada Department of Environment, Ottawa, 1975.

International Pacific Salmon Fisheries Commission. *Annual Reports*. New Westminster, B.C., 1974-78.

National Marine Fisheries Service. *Statistical and Market News*. Selected issues. Seattle, 1977-78.

Northwest Indian Fisheries Commission. *Description of Fishery Management by Puget Sound and Coastal Treaty Indian Tribes*. Olympia, December 1977.

Smith, F. *What are Salmon Worth?* Oregon State University, Sea Grant Program. Report 48. Corvallis, July 1978.

Smith, F. *Oregon's Seafood Industry--Its Importance to Oregon's Economy*. Oregon State University. Sea Grant Circular 965. Corvallis, January 1979.

Smith F. et al. *Socio-Economics of the Idaho, Washington, Oregon, and California Coho and Chinook Salmon Industry*. Oregon State University, Department of Agriculture and Resource Economics. Report to Pacific Fishery Management Council. Corvallis, 1979.

State of Alaska. *Alaska Statistical Review*. Department of Economic Development. Juneau, 1972.

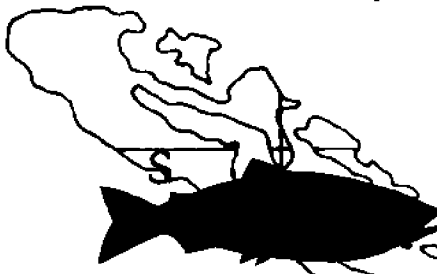
University of Washington, Graduate School of Business. *1972 Washington Input-Output Study - A Report to Washington State Department of Commerce and Economic Development*. Seattle, March 1976.

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