

SUMMARY OF MANAGEMENT AND HARVEST  
DURING SPRING SALMON TROLL CHINOOK FISHERIES  
IN SOUTHEAST ALASKA, 1986-1998



By

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## INTRODUCTION

### *Regulatory Framework*

In 1980, the Alaska Board of Fisheries (BOF) adopted a chinook management plan recommended by the Alaska Department of Fish and Game (ADF&G or department) to rebuild chinook salmon stocks in Southeast Alaska. A primary feature of the plan was curtailing spring troll fisheries that harvested returning mature adults. Annual guideline harvest levels were adopted, and the starting date of the general summer fishery was delayed (Table 1). At about the same time, Alaskan hatcheries began producing chinook salmon, and releasing hatchery fish from 15 different hatcheries and 17 different sites throughout Southeast Alaska (Figure 1). These fish, produced from broodstock from local systems, return during the same period as the wild stocks.

In successive years, the overall chinook harvest level continued to be restricted, and the starting date of the general summer season further delayed. In 1985, a more restrictive chinook quota was imposed by the Pacific Salmon Commission (PSC) under the Pacific Salmon Treaty (PST) of 1985 (Table 1). All stocks caught at the time, including about 5,000 fish produced by Alaska hatcheries, were counted towards the quota. However, new Alaska hatchery production<sup>2</sup> was not counted towards the quota, and therefore, Alaska could increase their harvest of chinook salmon through increased hatchery production.

Chinook and coho salmon are the species targeted by the troll fleet. Although chinook salmon are available to the troll fleet year round, coho salmon are only available by regulation to the troll fleet from June 15 through September 30. Therefore, if a large portion of the treaty chinook quota is harvested prior to the coho season, few will remain when trollers are targeting coho salmon. Once the chinook quota is taken, the fleet must to go to non-retention of chinook salmon. The PSC wanted to minimize the mortality associated with hook and release of chinook salmon during non-retention periods. Therefore, the PSC discouraged spring fishing for treaty chinook salmon (treaty fish) to reduce the number of chinook non-retention days during the coho fishery.

As a result, the general summer troll fishery did not begin until June 20 in 1986, and by 1988, the starting date was July 1. Substantial numbers of Alaskan hatchery-produced chinook were beginning to return in the mid-1980s. However, due to the delayed start of the general summer troll fishery, many of the fish returned to the hatchery facilities and were not harvested. In response to this, the department and the Board of Fisheries (BOF) began to experiment with designing specific fisheries to harvest these fish. This report documents the development of these fisheries for the 1986-1998 period.

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<sup>2</sup> This treaty quota did not count chinook salmon produced by Alaskan hatcheries, except for the pre-treaty production level of 5,000 fish, and a risk factor associated with the uncertainty of hatchery contribution estimates (typically 2,000 to 6,000 fish).

## *Chronology of Spring Fisheries*

Beginning in 1986, experimental fisheries were conducted during June in areas along suspected migration routes of chinook salmon returning to hatchery release sites. The BOF limited openings to 2 days per week, with a 1,000 non-Alaskan hatchery chinook salmon cap<sup>3</sup> for each area. Areas were based on tag recoveries from the previous general summer season. Portions of District 101 and 102 were opened, expecting the harvest of chinook salmon produced by the Southern Southeast Regional Aquaculture Association (releases at the Carroll Inlet, Neets Bay, and Whitman Lake sites), the Metlakatla Indian Community (Tamgass Creek), and ADF&G (Deer Mountain hatchery, (Appendix 1). Fisheries in Districts 106 and 110 were expected to harvest chinook salmon produced at the ADF&G facility at Crystal Lake. The fishery in District 109 was expected to harvest chinook salmon produced by the National Marine Fisheries Service facility at Little Port Walter. Test fisheries in specific areas were also conducted to gather further information on stock migration and run timing.

From 1987 - 1990, more experimental areas were open. The BOF modified regulations to permit a higher cap of treaty fish as the contribution of Alaska hatchery fish increased in the catch (Appendix 2). An additional fishery for the harvest of pink and chum salmon was established by the BOF in District 114. In 1988, two areas (Carroll Inlet and Wrangell Narrows) were established as terminal fisheries based on previous tag recoveries, and all fish harvested were counted as Alaska hatchery fish. These terminal areas were open continuously beginning in early June.

In 1989, a third spring fishery, called the hatchery access fishery, was opened in most inside waters of Southeast Alaska and in Yakutat Bay for two, 3-day periods in June (Appendix 1). The purpose of these fisheries was to compare the Alaska hatchery contribution in the experimental fishery areas to the contribution in the expanded areas of the hatchery access fisheries (Davis and Gaudet, 1990). The hatchery access fishery was not held in 1993, as part of the ADF&G plan to comply with the Endangered Species Act (ESA). In 1994, the BOF discontinued the hatchery access fisheries due to the low number of hatchery fish harvested.

Catch statistics from the 1988-1990 spring fisheries showed the average weight of chinook salmon (Alaska hatchery and non-Alaska hatchery fish combined) from inside areas was smaller than from outside areas (department BOF Briefing document, 1991). The department determined that a minimum hatchery contribution of 24% in the inside experimental fisheries was required such that the increased number of fish added to the annual chinook catch would compensate for the reduced weight. As a result, the BOF constructed regulations which allowed for a larger harvest of non-Alaska fish as the contribution of Alaska hatchery fish increased, and set a minimum annual hatchery contribution of 20% for an area to continue without modification. The BOF also granted the department latitude to open new areas where hatchery fish were expected to occur, and allow extended fishing time in areas showing high Alaska hatchery contributions (Appendix 2).

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<sup>3</sup> Once the cap harvest level is reached, the fishery will close.

## METHODS

### *Management of Experimental Fisheries*

Beginning in 1991, troll management biologists annually made recommendations for fishing areas and starting dates. These recommendations were based on historical catch timing of Alaskan hatchery stocks, chinook return projections from hatchery managers, abundance and migration routes of local wild stocks, and location of Alaskan hatchery catches from tag recoveries in the winter troll fisheries. The biologists held public meetings during April in several Southeast Alaskan towns to discuss these recommended fishing areas with trollers, and to take public comment on other potential areas. Department area management biologists were consulted for wild stock or gear conflict concerns. The troll management biologists then finalized fishing area boundaries, and published a news release (and management plan beginning in 1998) with area descriptions and starting dates for each area.

Initial openings were usually for two days (Monday and Tuesday). Department personnel examined landings, and shipped the heads of adipose fin-clipped fish to the state tag reading facility (tag lab) in Juneau. Samples were not taken for some experimental areas every week because fish were sold to buyers where no sampling personnel were available. At the tag lab, heads were examined for coded-wire-tag (CWT) presence with a metal detector and the tags were removed. Tags were read twice by different examiners. Stock origins and associated tag/untagged ratios were then forwarded to the troll biologists.

The estimated catch, landings, permits fished, percentage of adipose fin-clipped fish in the sampled landings, and estimates of Alaskan hatchery fish were compiled by fisheries managers from fish ticket and CWT sampling data sources. If hatchery contribution estimates were not available by Friday, a projection of the Alaska hatchery contribution by area was estimated by multiplying the average Alaska hatchery contribution per tag from the previous week's data by the number of adipose-clipped fish in the current week's sample data, and dividing this product by the total sampled catch for the current week.

The open periods for each area were determined for the following week based on the inseason estimates of total catch, Alaska hatchery contribution, and effort. Historical timing of the total catch and the Alaska hatchery contribution to the catch were also considered. The public was notified of the following week's openings on Fridays by department news release and emergency order. Fishing time was modified by emergency order during the week if incoming tag information indicated that a premature closure or extension of a fishery was warranted to achieve the BOF guidelines.

### *Management of Terminal Fisheries*

Terminal troll fisheries were managed through the BOF in cooperation with aquaculture associations to assure adequate returns for broodstock and cost-recovery requirements, under Title 5, section 33.364 of the Alaska Administrative Code. Time and area openings were regulated for allocation among gear groups by harvest plans developed by private non-profit hatchery boards and approved by the department.

## *Catch and Effort Estimation Methods*

Catch and effort data was obtained from the state fish ticket computer database. The tag lab provided hatchery contribution estimates by week and fishing area. Means were calculated by statistical week for which landings occurred, across years. The final week of the experimental fishery prior to the July 29 closure represented only partial weeks of fishing for most years.

## **RESULTS**

### *Regional Harvest Summary*

The number of experimental and terminal fishery areas steadily increased from 3 in 1986 to 24 in 1998 as a result of larger returns, experience with management, and increased management authority granted to the department by the BOF (Table 2). The dramatic increase in area in 1996 was due to large projected returns to the northern Southeast Alaska hatcheries (primarily Hidden Falls, Medvejie, and Crystal Lake) and lower expected abundance of non-Alaskan hatchery fish. Over time, boundaries of historical fishing areas were modified, new areas were opened, and new, larger areas were created from consolidation of two or more previously fished areas (See Appendix 1 for a detailed historical description of each area).

The chinook catch in the experimental and terminal fisheries ranged from 776 fish in 1986 to 66,500 fish in 1991 (Table 3). The Alaska hatchery contribution during these fisheries ranged from 218 fish in 1986 to 31,500 fish in 1996. Apparent large fluctuations between successive weeks of the Alaska hatchery contribution for some of the experimental fisheries was more likely due to low sample size than to extreme variations in timing of Alaska hatchery stocks through an area (Figures 2-7, Appendix 3).

Chinook catches during the hatchery access fisheries ranged from 23,800 to 46,500 fish, with Alaska-hatchery contributions ranging from 15 to 28 percent. Regionwide effort increased from 70 permits in 1986 to 519 permits in 1993 (Table 3).

### *Area Harvest Summary*

The catch and Alaska hatchery contribution in the Ketchikan area fisheries generally peak in mid-June (Figure 2). Catches in recent years have been lower due to reduced marine survival in area hatcheries (McGee et. al, 1998). The Gravina Island fishery has been the most productive in the Ketchikan area, with a peak catch of 4,200 fish in 1991, of which 23% were Alaska hatchery fish (Table 5). The peak catch of Alaska hatchery chinook occurred in 1990, with a harvest of 1,800 fish.

Catches and Alaska hatchery contribution in the Wrangell area fisheries generally peaked in June (Figure 3). The Steamer Point fishery has accounted for most of the fish caught in the area. Catches ranged from 22 fish in 1998 to 1,200 fish in 1991, and the Alaska hatchery percentage ranged from 9% in 1996 to 49% in 1991 (Table 4). Other areas have shown lower catches, and low sample sizes resulted in highly variable hatchery contribution estimates.

The Frederick Sound area catches peaked in early June (Figure 4). Alaska hatchery contributions for the Frederick Sound fishery remained fairly steady from early May through late June. Total chinook catches in the Frederick Sound area ranged from 4,000 fish in 1996 to 435 fish in 1998.

Catches and Alaska hatchery contribution in Chatham Strait tended to build in mid May, and peaked the first two weeks in June (Figure 5). Most permit holders fished in the Little Port Walter, Kingsmill Point, Hidden Falls, and Chatham Strait fisheries (Table 5). Catches in the Little Port Walter fishery ranged from 100 fish in 1994 to 7,200 fish in 1998. The Hidden Falls fishery caught very few fish in 1991 and 1992, but catches increased to 5,200 fish in 1995 and to 14,000 fish in 1996. The Chatham Strait catches ranged from 1,000 fish in 1996 to 6,800 fish in 1996. The Kingsmill Point fishery catches ranged from 1,300 fish in 1998 to 4,900 fish in 1997.

In the Icy Strait fisheries, catch and effort were low in the Point Adolphus, Point Augusta, and Peril Strait fisheries (Figure 6).

The Middle Island and Silver Bay areas of the Sitka Sound fisheries have been consistent fisheries with substantial contributions of Alaska hatchery fish (Table 5). The Middle Island fishery catches and Alaska hatchery contribution tended to peak a week or two before those in the Silver Bay fishery (Figure 7). Total harvests in the Middle Island fishery ranged from 2,700 fish in 1997 to 400 fish in 1998, while the Silver Bay fishery ranged from 18 fish in 1987 to 9,900 fish in 1997.

The Salisbury Sound fishery catches declined from 5,200 fish in 1996 to 1,000 fish in 1998 due primarily to reduction of the fishing area over the three-year period in response to high availability of non-Alaska hatchery fish. (Figure 7). Likewise, the Western Channel fishery in 1998 showed a high availability of non-Alaska hatchery fish and low contribution of Alaska hatchery fish.

### *Achievement of BOF Guidelines*

Beginning in 1991, the BOF authorized the department to establish experimental fishery openings by time and area, and provided guidelines for the harvest of non-Alaskan hatchery fish. In most fisheries, the harvests of non-Alaskan hatchery chinook salmon were below the guideline harvest level.

Since 1986, a total of 168 experimental fisheries occurred. Overall, experimental fisheries were an average of 960 fish under the non-Alaska hatchery limits. Twenty fisheries exceeded the BOF guidelines: one in 1987, two in 1988, two in 1991, four in 1993, one each in 1994 and 1995, three in 1996, four in 1997, and two in 1998. The average overage of these fisheries was 900 fish. Four fisheries exceeded the BOF guidelines by at least 2,000 fish (Gravina Island, 1991, 2,300 fish overage; Silver Bay, 1994, 2,500 fish

overage; Salisbury Sound, 1996, 3,400 fish overage, and Little Port Walter, 1998, 5,900 fish overage). Excluding these four fisheries, the average overage was 570 fish.

## DISCUSSION

Ideally, a spring fishery that would meet the BOF's intent of targeting Alaska hatchery fish while limiting the catch of non-Alaska hatchery fish would show large catches when Alaska hatchery contributions are high, and low catches when Alaska hatchery contributions are small. These characteristics give managers the confidence to open areas for extended weekly periods. Location of hatchery production in areas where availability of non-Alaska hatchery fish has been low, such as in Chatham Strait, has provided extended fishing periods over a large geographic area.

Fishing areas where substantial quantities of non-Alaska hatchery fish are available, however, are poorer candidates for spring fishing areas under the current regulations. Sitka Sound, in particular, creates a dilemma for both fishery managers and hatchery operators. Sitka Sound is home to the Medveje Hatchery, the largest producer of chinook salmon in the state. Sitka Sound also provides some of the best near-shore access to non-Alaska hatchery fish in the region. The majority of the winter troll harvest and the regional spring and summer marine sport chinook harvest occurs there. Most of the fish harvested in both of these fisheries are non-Alaska hatchery fish.

From 1995-1997, the average chinook exploitation rates by the commercial and sport gears combined returning to the Hidden Falls facility were about double that of the Medveje return (McGee et al. 1998). Therefore, shifting production to the Hidden Falls facility may seem like a logical answer. However, because marine survival at Hidden Falls is half that at Medveje, smolt production at Hidden Falls would need to double for the same return of adult fish. Thus, it has been more cost effective to accept a lower harvest rate at a higher smolt-to-adult survival rate at Medveje than to increase smolt production at Hidden Falls.

Under the current BOF regulations and generally good abundance of non-Alaska hatchery fish in the Sitka Sound area, only the Silver Bay and Middle Island areas can be expected to provide good contributions of Alaska hatchery fish and acceptable catches of non-Alaska hatchery fish based on past performance. Other areas in Sitka Sound and Salisbury Sound nearer the open ocean have shown high catches of non-Alaska hatchery fish relative to the number of Alaska hatchery fish. Increased chinook production is slated for Sitka Sound by NSRAA in the near future following completion of a new lake fry-rearing project. These projects may provide increased catches of Alaska hatchery in the Silver Bay and Middle Island areas. However, it remains to be seen if the increased production can provide increased opportunity in the more offshore areas near Sitka under the current regulatory guidelines if the high availability of non-Alaska hatchery fish continue in these areas.

Icy Strait shows potential for increased targeting of Alaska hatchery fish. On the south side of Icy Strait, the Port Frederick and Point Sophia areas showed good hatchery contributions in their first years of fishing. On the north side, Homeshore and Glacier Bay also show potential as areas to harvest Alaska hatchery fish, based on CWT recoveries from the winter and summer troll fisheries, and the sport fishery. However, due to concerns for weak returns of wild stocks to the Taku and Chilkat Rivers, opening of the Homeshore area was postponed until these stocks increase. For Glacier Bay, this area has not been opened pending settlement of commercial fishing issues with the federal government.

## LITERATURE CITED

- Davis, A. and David Gaudet. 1991. Southeast Alaska-Yakutat salmon troll fisheries, including chinook and coho salmon stocks and escapement assessments, 1990. *In*: Southeast Alaska-Yakutat Region 1990 Report to the Board of Fisheries, Section 3. Regional Information Report No. 1J91-01. Alaska Department of Fish and Game, Commercial Fisheries, Management and Development Division, Juneau.
- McGee, S., C. Denton, B. Bachen, G. Freitag, M. Stopha, D. Gaudet, and F. Thrower. 1998. 1998 annex, chinook salmon plan for southeast Alaska. Alaska Department of Fish and Game, Commercial Fisheries, Management and Development Division, Juneau. Regional Information Report 1J98-24.

Table 1. The opening date for the general summer Southeast Alaska commercial salmon troll fishery, and the Southeast Alaska all-gear quota for chinook salmon under the Alaska Board of Fisheries (1980-1984) and the Pacific Salmon Treaty (PST), 1985-1998. The quota under the PST did not include Alaska hatchery fish, except for a pre-treaty level of 5,000 fish.

Year	Opening Date	Annual Chinook Quota
1980	April 15	286,000- 320,000
1981	May 15	243,000- 286,000
1982	May 15	243,000- 286,000
1983	May 15	243,000- 272,000
1984	June 5	243,000- 272,000
1985	June 3	263,000
1986	June 20	263,000
1987	June 20	263,000
1988	July 1	263,000
1989	July 1	263,000
1990	July 1	302,000
1991	July 1	273,000
1992	July 1	263,000
1993	July 1	263,000
1994	July 1	240,000
1995	July 1	175,000
1996	July 1	140,000- 155,000
1997	July 1	277,000- 302,000
1998	July 1	260,000

Table 2. The number of experimental and terminal fishery areas established each year since 1986.

Year	Experimental	Terminal	Number of Fisheries
1986	3	0	3
1987	7	0	7
1988	9	5	14
1989	11	2	13
1990	9	2	11
1991	10	4	14
1992	11	6	17
1993	13	5	18
1994	12	4	16
1995	15	5	20
1996	16	5	21
1997	17	5	22
1998	21	4	25

Table 3. The number of chinook salmon and Alaska hatchery contribution to the experimental, hatchery access, and terminal troll fisheries, 1986-1998. Total returns reflect estimated hatchery contributions to the commercial and sport fisheries from coded-wire-tag recoveries, and hatchery operator reports of rack returns and broodstock usage.

Year	Experimental	Experimental Permits Fished	% AK Hatchery Contribution	Hatchery Access	Hatchery Access Permits Fished	% AK Hatchery Contribution	Terminal Catch	Terminal Permits Fished	Total Spring Fishery	Total AK Hatchery Contribution	Total Returns to Alaska Hatcheries
1980											8,571
1981											3,985
1982											2,105
1983											4,293
1984											12,122
1985											25,702
1986	776	70	28%						776	218	29,573
1987	4,488	103	34%						4,488	1,526	41,900
1988	8,505	343	34%				100	11	8,605	2,992	52,817
1989	2,431	144	29%	31,200	927	15%	848	20	34,479	6,233	64,805
1990	7,052	256	58%	34,900	793	19%	16	2	42,968	10,737	94,513
1991	14,049	496	33%	46,500	950	20%	5,920	141	66,469	19,856	111,921
1992	11,767	376	48%	23,800	602	28%	4,118	118	39,685	16,430	78,629
1993	15,837	375	41%				2,842	77	18,679	9,335	78,724
1994	11,269	258	43%				100	14	11,369	4,945	64,708
1995	21,748	354	64%				1,333	38	23,081	15,252	112,360
1996	31,005	427	49%				16,374	58	47,379	31,566	113,769
1997	32,795	423	44%				9,964	166	42,759	24,400	91,864
1998	19,195	346	26%				1,313	52	20,508	6,317	68,000*
1986-1990 Avg.	4,650	183	37%	33,050	860	17%	321	11	18,263	4,341	56,722
1991-1998 Avg.	19,708	382	44%	35,150	776	24%	5,246	83	33,741	16,013	89,997

\*Projection

Table 4. Chinook catch, Alaska hatchery contribution (%), non-Alaska hatchery catch, the regulatory guideline limit of non-Alaska hatchery harvest, and the number of fish over or under the non-Alaska hatchery limit (Non-Alaska Hatchery Limit - Non-Alaska Hatchery Catch) for the spring experimental troll fisheries near Ketchikan, 1986-1998. For each fishery, weighted averages were weighted by the total catch, exclusive of years of terminal fishery designation. Asterisks (\*) indicate the year a fishery went to a terminal fishery, when all fish caught became accounted as Alaska hatchery fish.

Stat Area	Fishing Area	Year	Permits	Total Catch	Alaska Hatchery %	Non-Alaska Hatchery Catch	Non-Alaska Hatchery Limit	Over/under Non-Alaska Hatchery Limit
(101-29)	Gravina Island	1987	23	378	30%	265	1,000	-735
		1988	59	1,121	41%	658	2,000	-1,342
		1989	19	290	19%	234	1,000	-766
		1990	59	2,286	79%	482	2,000	-1,518
		1991	119	4,237	23%	3,262	1,000	2,262
		1992	88	2,975	48%	1,557	2,000	-443
		1993	61	1,635	31%	1,125	1,000	125
		1994	37	315	42%	183	2,000	-1,817
		1995	21	311	26%	230	1,000	-770
		1996	22	418	32%	286	1,000	-714
		1997	12	211	23%	162	1,000	-838
		1998	15	352	19%	285	1,000	-715
(101-45)	Mountain Point	1992	40	749	58%	313	3,000	-2,687
		1993	35	439	62%	165	3,000	-2,835
		1994	20	182	47%	97	2,000	-1,903
		1995	11	125	63%	46	3,000	-2,954
		1996	13	150	54%	70	3,000	-2,930
		1997	16	530	50%	265	3,000	-2,735
		1998	15	608	81%	116	3,000	-2,884
(101-46)	Carroll Inlet	1988	3	49	0%	49	1,000	-951
		1989	22	611	64%	219	2,000	-1,781
		1990	22	1,048	62%	394	2,000	-1,606
		1991*	78	3,563	Terminal Fishery-all fish counted as Alaska hatchery.			
		1992	66	1,057				
		1993	28	377				
		1994	12	60				
		1995	5	112				
		1996	9	130				
		1997	13	283				
1998	11	181						
(101-90)	West Behm	1987	2	4	50%	2	2,000	-1,998
		1989	2	59	80%	12	2,000	-1,988

-continued-

Table 4. (Page 2 of 5)

Stat Area	Fishing Area	Year	Permits	Total Catch	Alaska Hatchery %	Non-Alaska Hatchery Catch	Non-Alaska Hatchery Limit	Over/under Non-Alaska Hatchery Limit	
(101-95)	Neets Bay	1986	11	79	62%	30	1,000	-970	
		1987	2						
		1988*	2			Terminal Fishery-all fish counted as Alaska hatchery.			
		1989	11	848					
(102-80)	Ship Island	1987	19	506	21%	399	1,000	-601	
		1988	38	853	38%	529	1,000	-471	
		1989	4	61	0%	61	1,000	-939	
		1990	12	485	25%	365	1,000	-635	
		1991	37	1,476	55%	657	2,000	-1,343	
		1992	32	995	24%	752	1,000	-248	
		1993	31	680	53%	322	2,000	-1,678	
		1994	2						
		1995	13	338	30%	238	1,000	-762	
		1996	5	23	0%	23	1,000	-977	
		1997	2						
		1998	2						
(106-30)	Steamer Point	1991	57	1,243	49%	634	2,000	-1,366	
		1992	46	1,142	43%	650	2,000	-1,350	
		1993	50	1,014	42%	589	2,000	-1,411	
		1994	21	326	38%	201	2,000	-1,799	
		1995	19	290	33%	194	2,000	-1,806	
		1996	26	552	9%	503	1,000	-497	
		1997	17	184	10%	166	1,000	-834	
		1998	5	22	32%	15	1,000	-985	
(106-41)	Snow Passage	1993	23	455	26%	336	1,000	-664	
		1994	5	28	7%	26	1,000	-974	
		1995	5	62	23%	48	1,000	-952	
		1996	1						
		1997	2						
		1998		No harvest.					
(106-44)	Wrangell Narrows	1986	25	101	65%	35	1,000	-965	
		1987	21	177	54%	82	2,000	-1,918	
		1988	49	726	100%	0	2,000	-2,000	
		1989	10	59	100%	0	2,000	-2,000	
		1990	46	1,050	70%	318	2,000	-1,682	
		1991*	63	2,357	Terminal Fishery-all fish counted as Alaska hatchery.				
		1992	53	2,998					
		1993	51	2,463					
		1995	28	1,165					
		1996	43	1,933					
1997	33	801							

-continued-

Table 4. (Page 3 of 5)

Stat Area	Fishing Area	Year	Permits	Total Catch	Alaska Hatchery %	Non-Alaska Hatchery Catch	Non-Alaska Hatchery Limit	Over/under Non-Alaska Hatchery Limit
(106-44)	Wrangell Narrows	1997	33	801				
(107-10)	Ernest Sound	1998	2					
(107-20)	Deer Island	1998	5	52	0%			1,000
(107-45)	Earl West Cove	1988*	9	84	Terminal Fishery-all fish counted as Alaska hatchery.			
		1989	9	65				
		1990	2					
		1992	1					
		1993	1					
		1994	3	40				
		1995	5	56				
		1996	6	227				
		1997	8	49				
		1998	3	22				
(107-47)	Babbler Point	1998	1					
(108-30)	Baht Harbor	1993	7	43	40%	26	2,000	-1,974
		1994	8	107	25%	80	1,000	-920
		1995	6	18	0%	18	1,000	-982
		1996	6	58	100%		No limit	
		1997	10	135	0%	135	1,000	-865
		1998	4	14	0%	14	1,000	-986
(109-10)	Little Port Walter	1986	35	596	17%	493	1,000	-507
		1987	35	3,398	36%	2,168	2,000	168
		1988	132	3,277	25%	2,443	1,000	1,443
		1989	54	905	13%	787	1,000	-213
		1990	55	703	12%	620	1,000	-380
		1991	79	1,964	20%	1,578	1,000	578
		1992	39	759	40%	453	2,000	-1,547
		1993	31	699	44%	389	2,000	-1,611
		1994	11	97	10%	87	1,000	-913
		1995	18	125	100%	0	0	-3,000
		1996	27	1,177	70%	348	0	-3,000
		1997	20	1,487	38%	922	2,000	-1,078
		1998	36	7,246	5%	6,884	1,000	5,884
(109-11)	Port Armstrong	1997	13	399	100%			
(109-30)	Point Gardner	1996	7	267	30%	187	1,000	-813
		1997	5	83	47%	44	1,000	-956
(109-51)	Kingsmill Point	1996	27	1,952	28%	1,396	1,000	396
		1997	76	4,948	49%	2,523	2,000	523
		1998	43	1,340	30%	938	1,000	-62
(109-62)	Tebenkof Bay	1998	12	283	20%	226	2,000	-1,774

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Table 4. (Page 4 of 5)

Stat Area	Fishing Area	Year	Permits	Total Catch	Alaska Hatchery %	Non-Alaska Hatchery Catch	Non-Alaska Hatchery Limit	Over/under Non-Alaska Hatchery Limit
(110-13)	Beacon Point	1992	18	164	28%	118	1,000	-882
		1993	42	1,495	25%	1,126	1,000	126
		1994	22	491	53%	231	3,000	-2,769
		1995	25	440	50%	218	3,000	-2,782
(110-16)	Big Creek	1988	124	2,152	22%	1,684	1,000	684
		1989	17	103	10%	93	1,000	-907
		1990	49	1,164	49%	598	2,000	-1,402
		1991	95	2,443	34%	1,605	2,000	-395
		1992	51	1,046	32%	709	1,000	-291
		1993	60	1,901	28%	1,361	1,000	361
		1994	25	656	24%	500	1,000	-500
		1995	40	842	41%	500	2,000	-1,500
(110-31)	Cape Fanshaw	1991	33	1,055	37%	667	2,000	-1,333
		1992	9	196	37%	123	2,000	-1,877
		1993	30	1,475	24%	1,119	1,000	119
		1994	22	599	52%	287	3,000	-2,713
		1995	29	1,245	59%	509	3,000	-2,491
(110-31)	Frederick Sound	1996	66	4,000	54%	1,846	3,000	-1,154
		1997	53	1,595	34%	1,053	2,000	-947
		1998	32	435	42%	252	2,000	-1,748
(110-34)	Port Houghton	1995	7	175	71%	50	No limit	
(112-12)	Chatham Strait	1996	77	6,840	61%	2,646	3,000	-354
		1997	104	6,559	46%	3,542	2,000	1,542
		1998	50	1,010	50%	505	3,000	-2,495
(112-14)	Point Augusta	1997	5	40	0%	40	1,000	-940
(112-22)	Hidden Falls	1991	15	124	9%	113	1,000	-887
		1992	1					
		1995	48	5,194	79%	1,106	No limit	
		1996*	127	14,066			0	-3,000
		1997	106	8,366				
		1998	39	1,110				
(113-01)	Western Channel	1998	56	1,157	8%	1,064	1,000	64
(113-15)	Peril Strait	1996	142	23	0%	23	1,000	-977
(113-35)	Silver Bay	1987	7	18	0%	18	1,000	-982
		1988	29	116	6%	109	1,000	-891
		1989	11	136	0%	136	1,000	-864
		1990	16	183	57%	78	2,000	-1,922
		1991	106	1,261	47%	671	2,000	-1,329
		1992	108	3,478	66%	1,187	2,000	-813
		1993	119	5,766	56%	2,564	3,000	-436

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Table 4. (Page 5 of 5)

Stat Area	Fishing Area	Year	Permits	Total Catch	Alaska Hatchery %	Non-Alaska Hatchery Catch	Non-Alaska Hatchery Limit	Over/under Non-Alaska Hatchery Limit
(113-35)	Silver Bay	1994	125	8,241	46%	4,488	2,000	2,488
		1995	155	9,651	64%	3,476	3,000	476
		1996	49	9,168	62%	3,484	3,000	484
		1997	134	4,471	56%	4,329	3,000	1,329
		1998	146	9,839	54%	2,057	3,000	-943
(113-37)	Inner Silver Bay	1998	17	151	0%			0
(113-41)	Middle Island	1995	87	2,522	66%	867	0	-3,000
		1996	5	833	64%	301	3,000	-2,699
		1997	74	2,701	49%	1,378	2,000	-622
		1998	54	417	18%	342	1,000	-658
(113-51)	Peril Strait	1997	1					
(113-62)	Salisbury Sound	1996	107	5,180	15%	4,391	1,000	3,391
		1997	62	3,389	18%	2,779	1,000	1,779
		1998	43	1,054	20%	843	1,000	-157
(114-23)	Point Adolphus	1998	2					
(114-27)	Point Sophia	1997	31	462	47%	245	2,000	-1,755
		1998	23	157	30%	110	1,000	-890
(114-30)	Port Frederick	1998	20	226	30%	158	2,000	-1,842



Figure 1. Hatcheries in Southeast Alaska that produced chinook salmon during the 1986-1998 period.

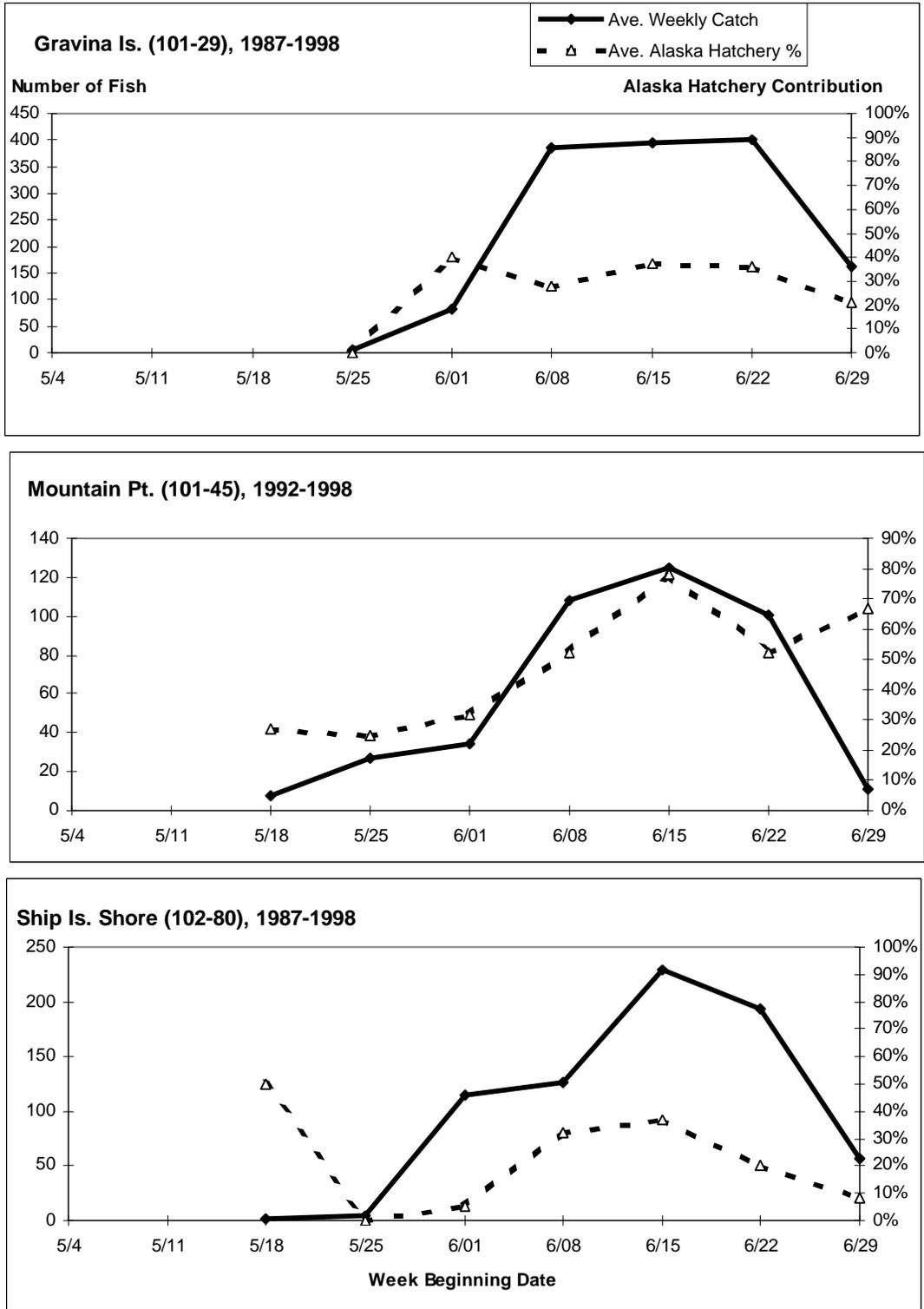


Figure 2. Average timing of Alaska hatchery contribution and weekly catch for Ketchikan area experimental fisheries. Areas with only one year of data reflect the timing of that year.

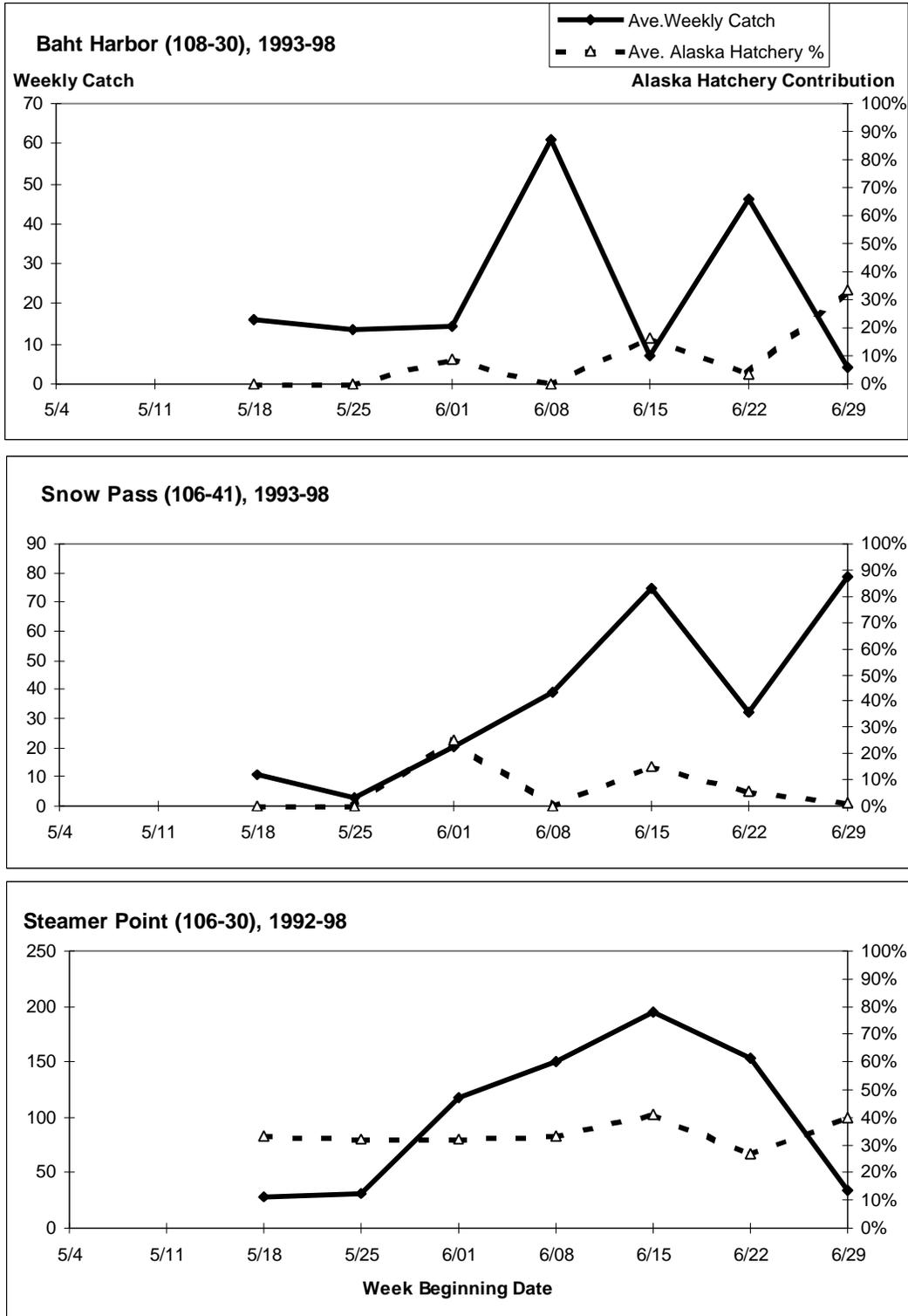
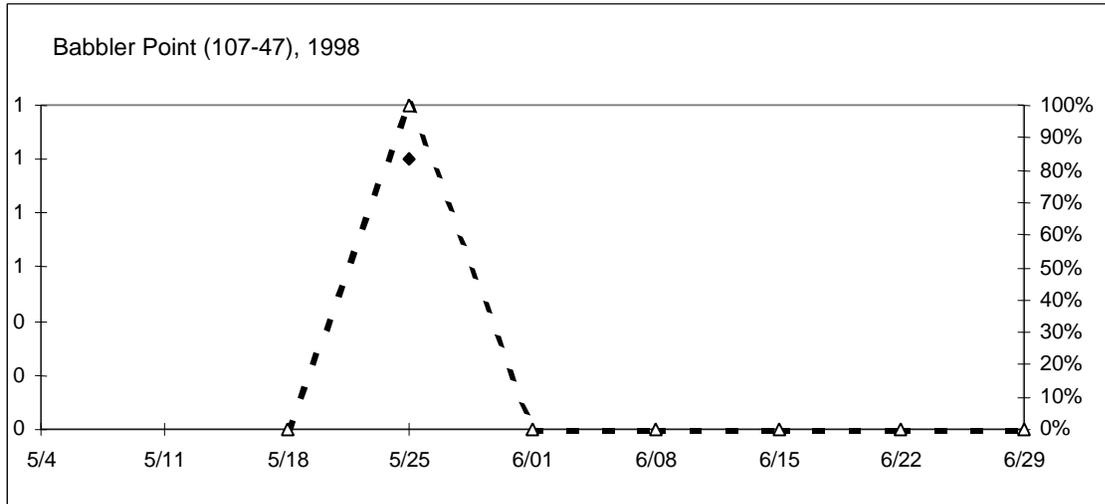
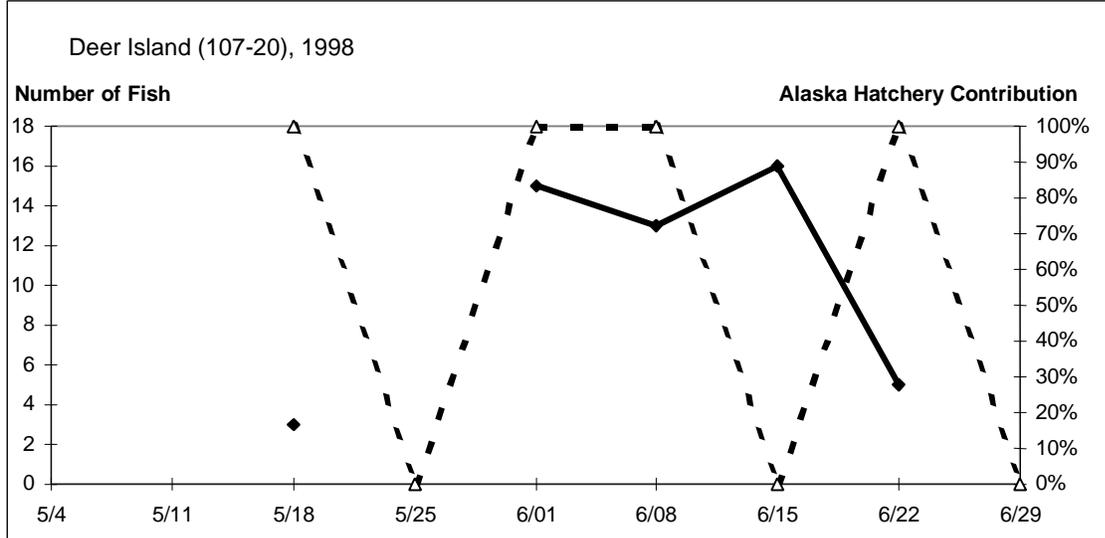
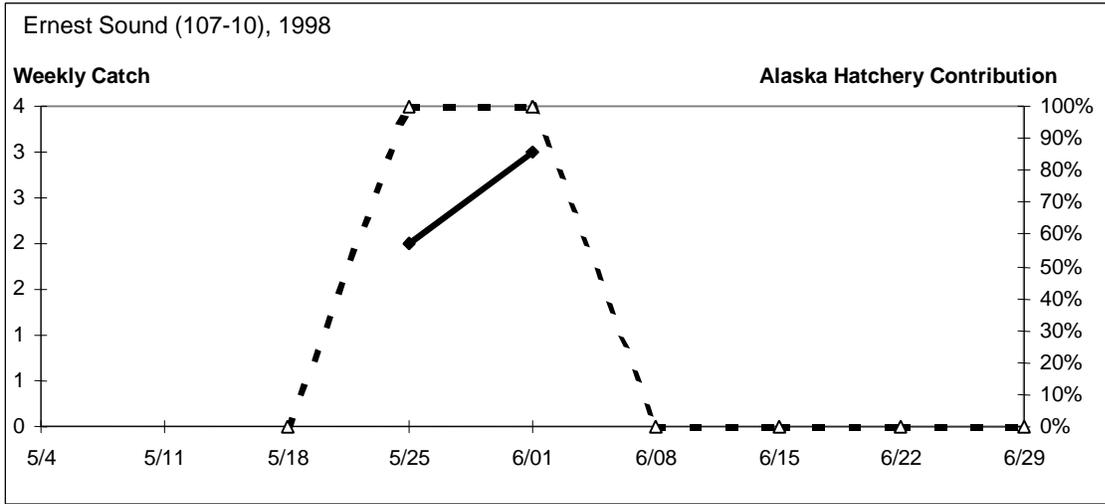


Figure 3. Average timing of Alaska hatchery contribution and weekly catch for Wrangell area experimental fisheries. Areas with only one year of data reflect the timing of that year.

Figure 3. (Page 2 of 2)



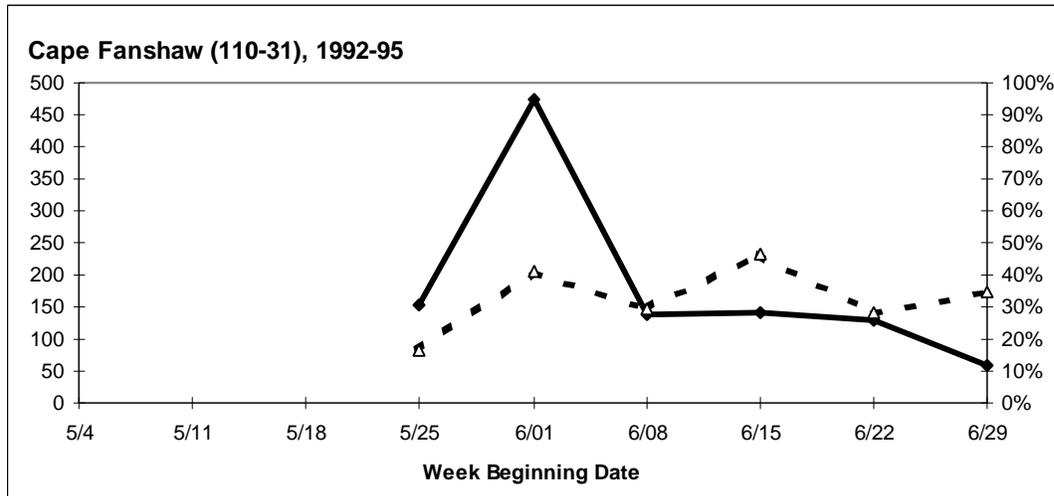
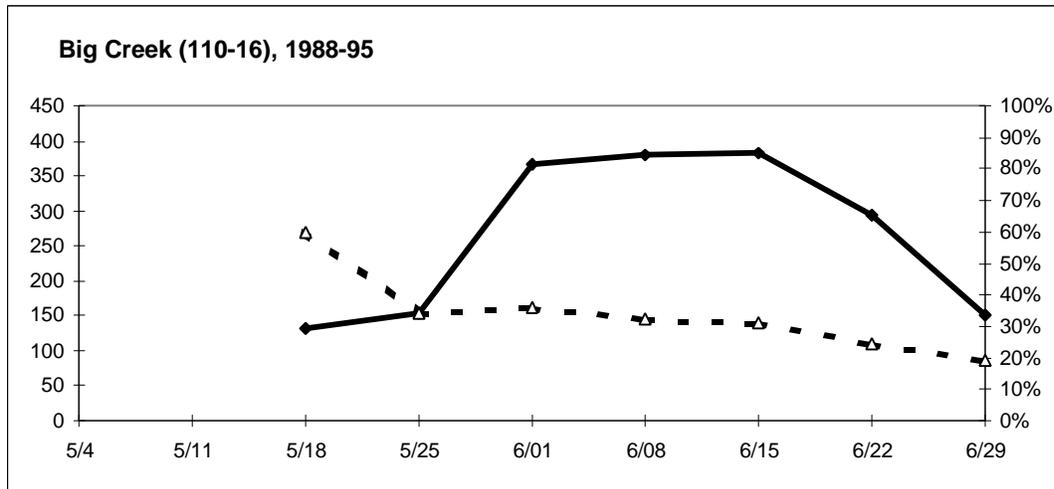
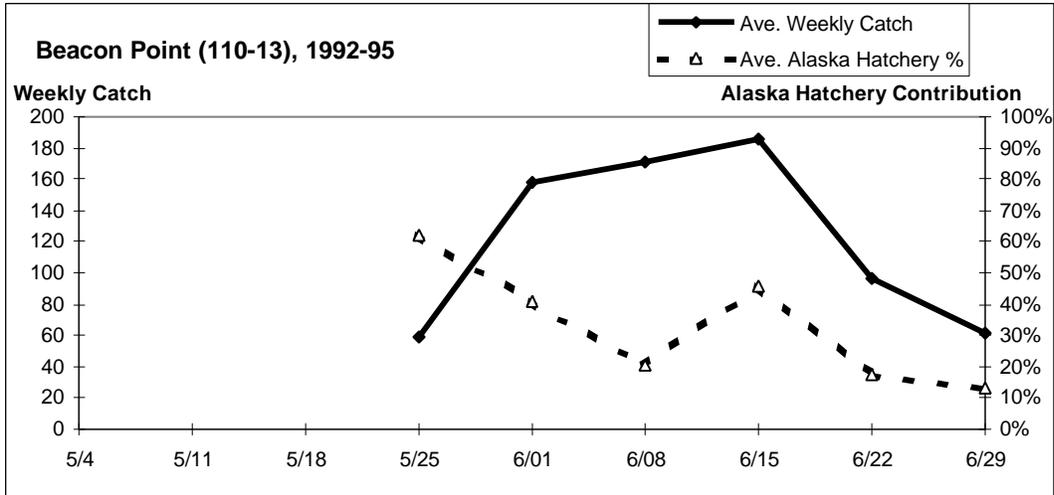
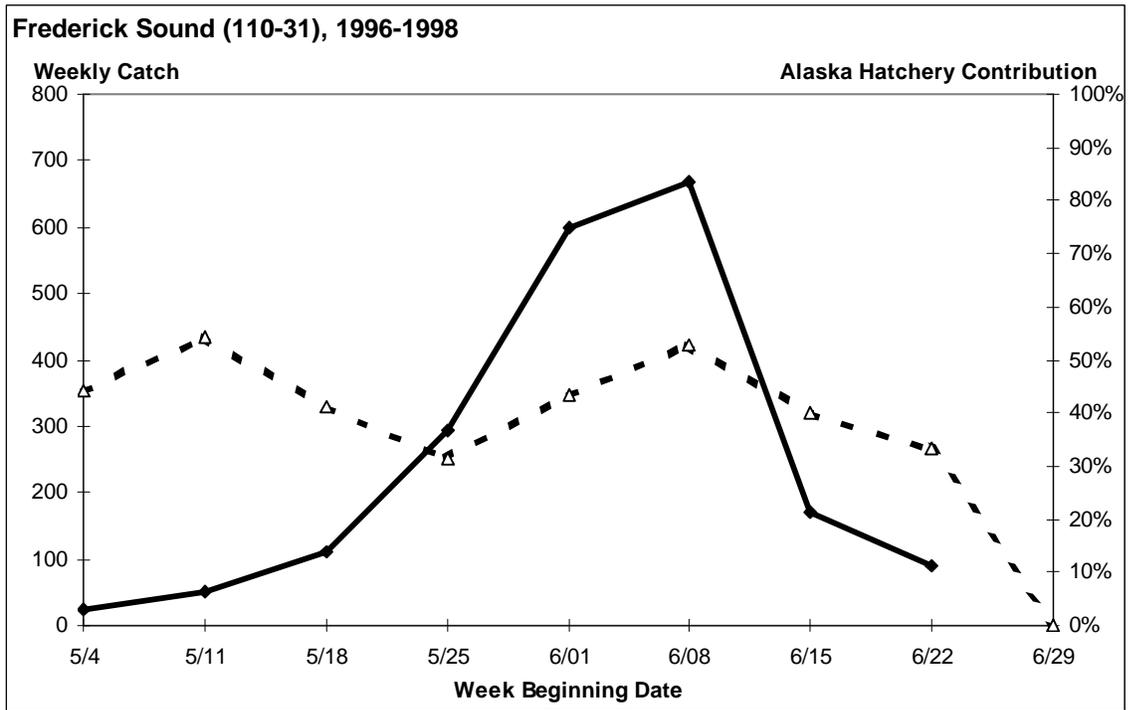


Figure 4. Average timing of Alaska hatchery contribution and weekly catch for Petersburg area experimental fisheries. Areas with only one year of data reflect the timing of that year.

Figure 4. (Page 2 of 2)



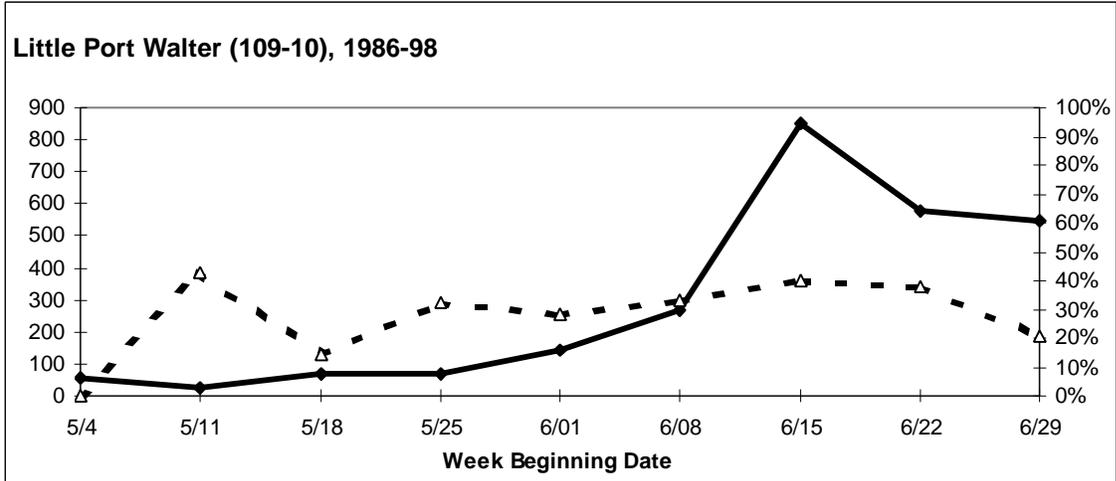
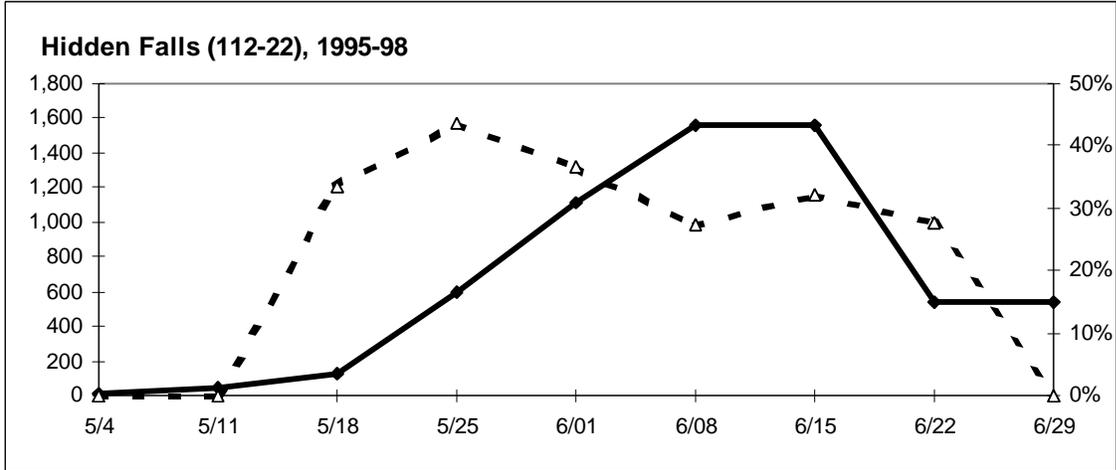
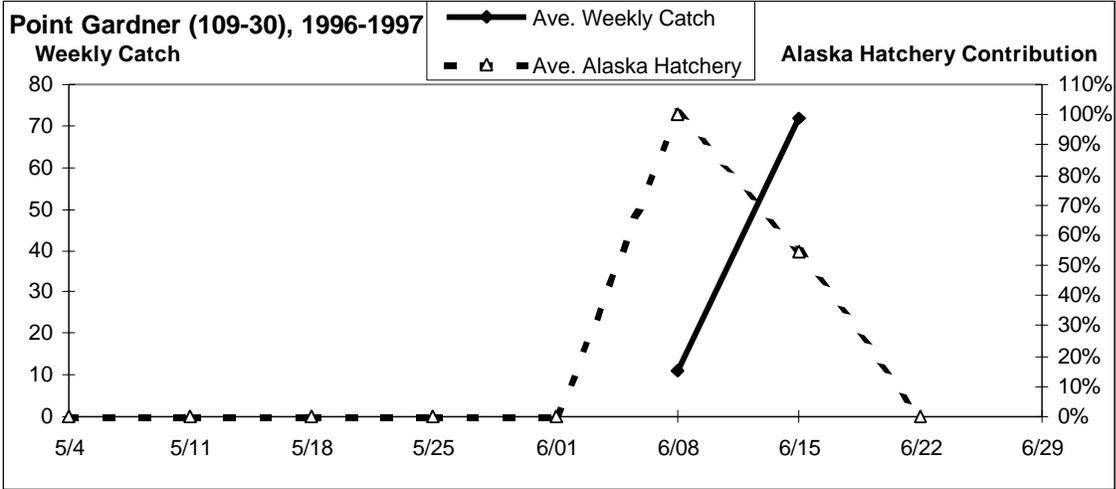
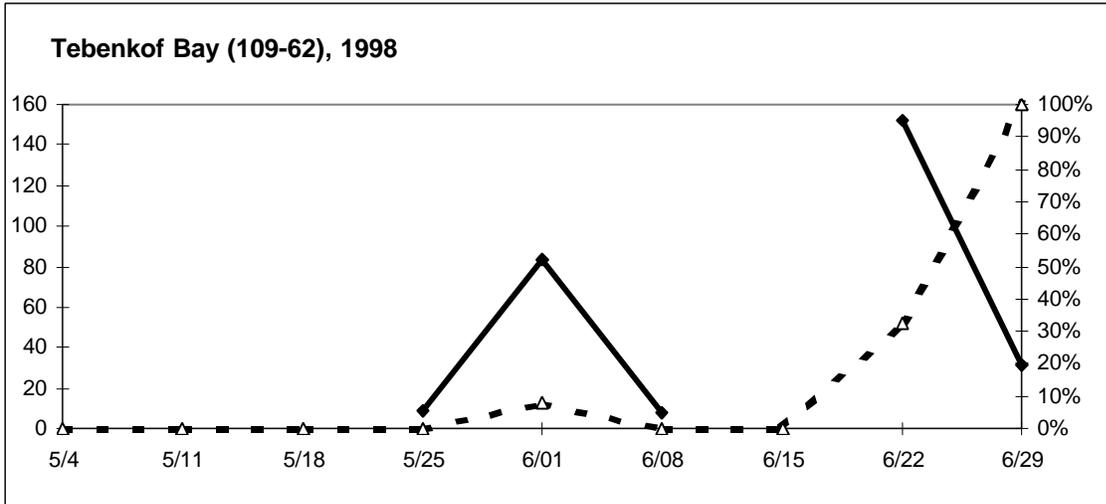
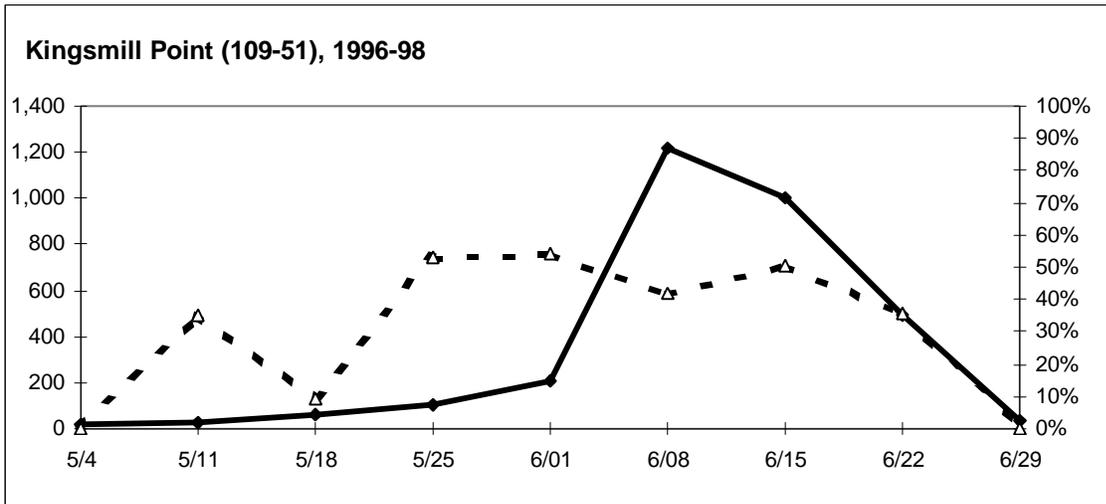
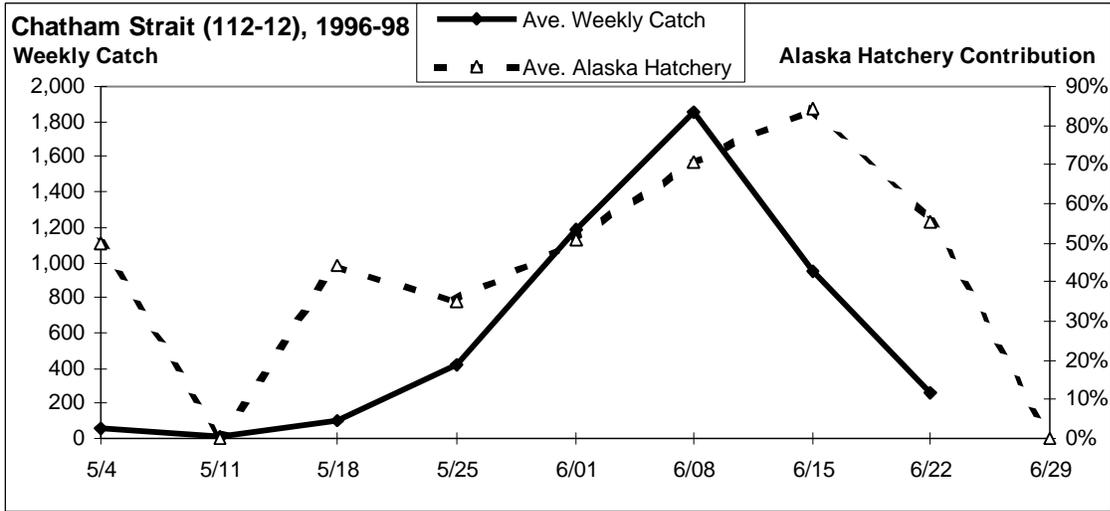


Figure 5. Average timing of Alaska hatchery contribution and weekly catch for Chatham Strait area experimental fisheries. Areas with only one year of data reflect the timing of that year.

Figure 5. (Page 2 of 2)



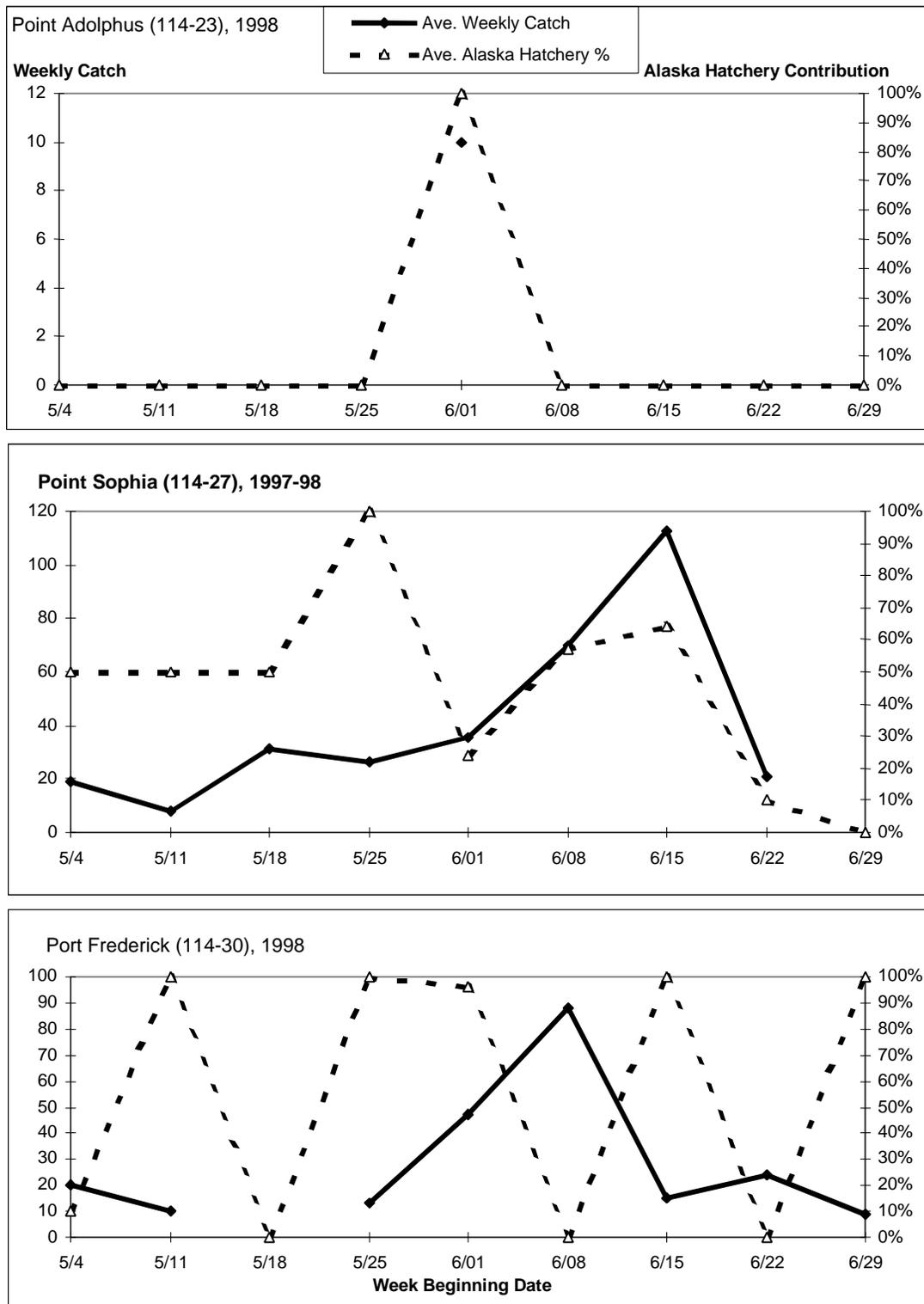


Figure 6. Average timing of Alaska hatchery contribution and weekly catch for Icy Strait area experimental fisheries. Areas with only one year of data reflect the timing of that year.

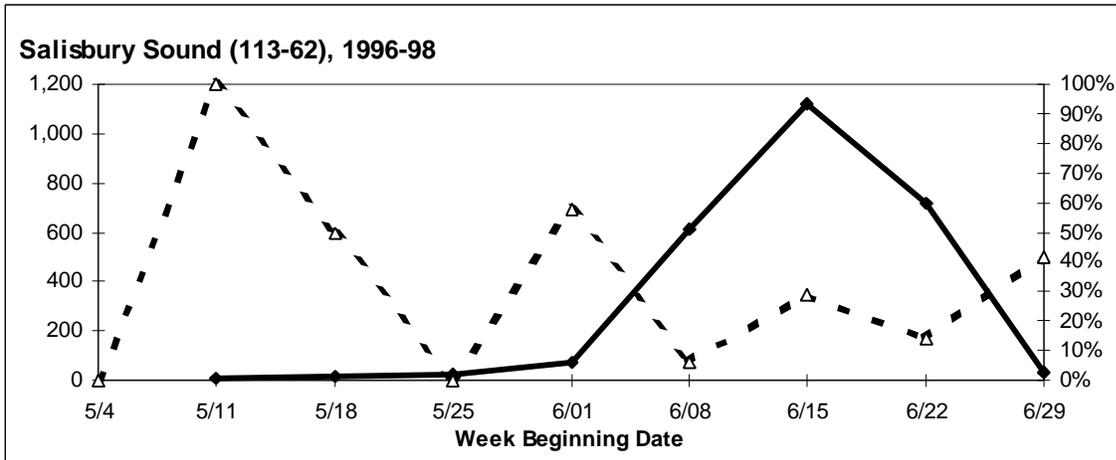
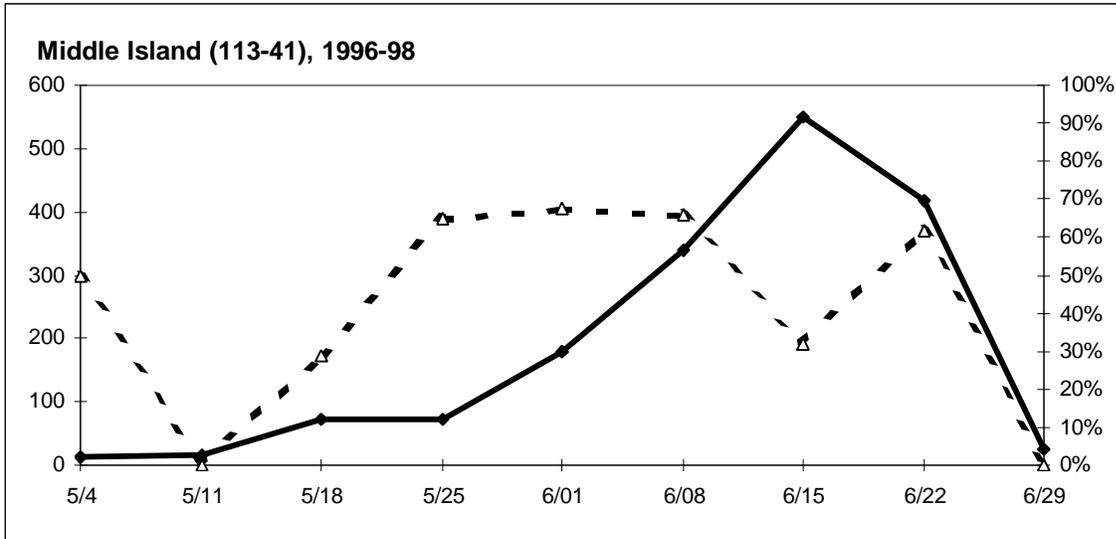
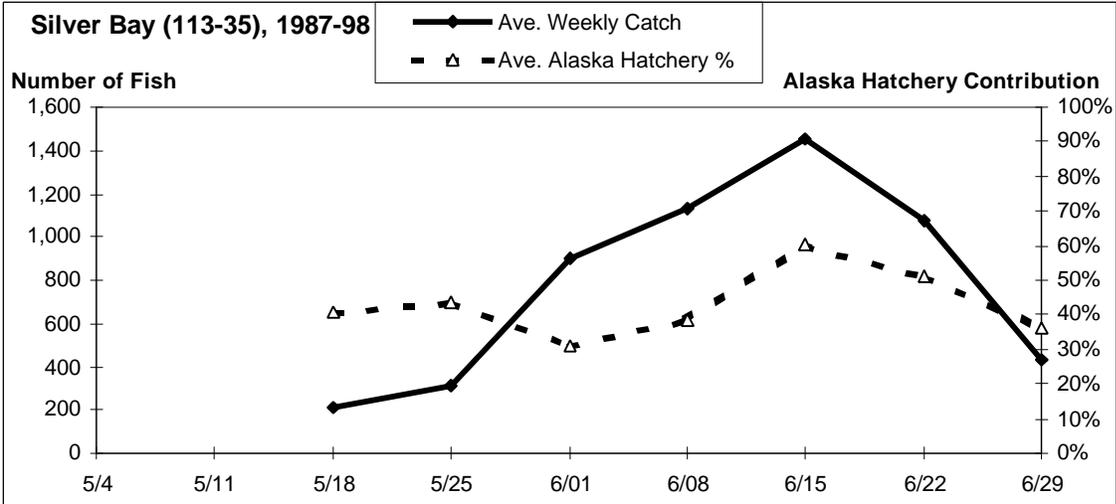
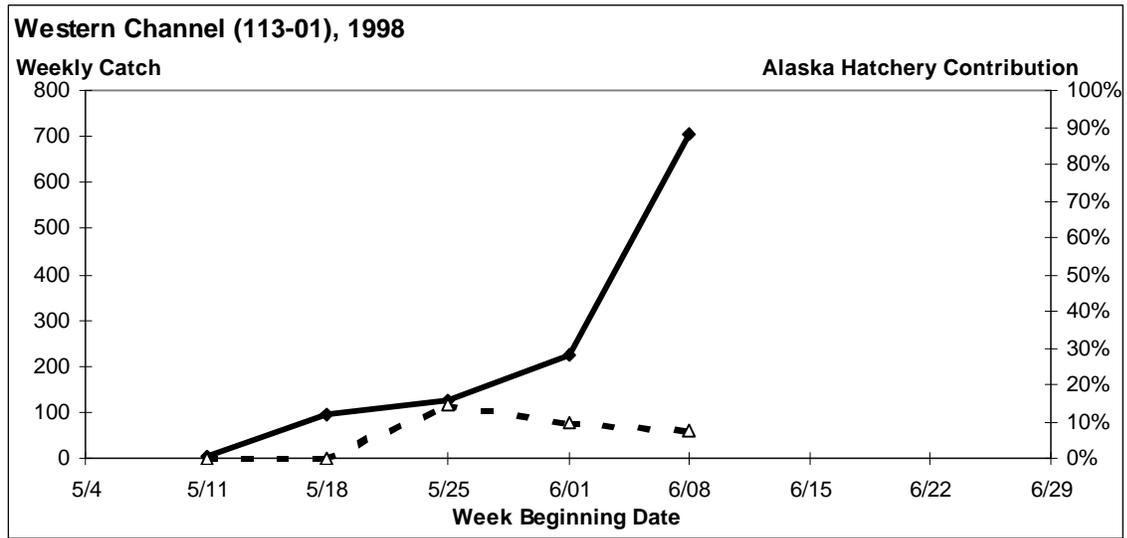


Figure 7. Average timing of Alaska hatchery contribution and weekly catch for Sitka area experimental fisheries. Areas with only one year of data reflect the timing of that year.

Figure 7. (Page 2 of 2)



Appendix 1. Description and history of experimental, terminal and hatchery access troll fisheries in Southeast Alaska, 1986-1998.

## **KETCHIKAN AREA FISHERIES**

### **Neets Bay Experimental Fishery (101-95)**

YEARS: 1986-1989

AREA: In Behm Canal, waters of Neets Bay east of Bug Island. This area became a terminal area in 1988.

Figure A1, A2.

### **West Behm Canal Experimental Fishery (101-90)**

YEARS: 1987, 1989

AREA: 1987: Waters of W. Behm Canal within 1 nautical mile of the western shore of Revillagigedo Island south of the latitude of Nose Point and north of the latitude of Escape Point.

1989: The fishery expanded to include waters south of the latitude of Brow Point and north of the latitude of Indian Point.

Figures A1, A2.

### **Gravina Island Experimental Fishery (101-29)**

YEARS: 1987-1998

AREA: Boundaries and names for this fishery have changed over the years.

1987: Waters within 2 nautical miles of the western shore of Gravina Island south of the latitude of the northernmost entrance to Grant Cove and north of the latitude of the northernmost entrance to Nehenta Bay.

1988-1990: In section 1-F, waters south of the latitude of S. Vallenar Point and north of the latitude of Hid Reef Light to a line from Gravina Point to Mountain Point; south of the latitude of California Head to a line from Harbor Point to Cone Point.

1991: Referred to as 'Gravina Island', the fishery expanded southward to the latitude of Point White (Duke Island) and west of a line from Point White to Survey Point.

1992-1993: In 1992, this fishery was divided into 2 distinct areas, one still referred to as Gravina Island and the other known as Mountain Point. The Gravina Island fishery extends south from the latitude of S. Vallenar Point to the latitude of Point White and north to the latitude of Driest Point. The Mountain Point fishery includes waters of Nichols Passage north of the latitude of Driest Point to a line from Gravina Point to Mountain Point and south of California Head to a line from Cone Point to Harbor Point.

Appendix 1. (Page 2 of 13)

1994-1996: The boundaries were expanded northward to Caamano Point, opening waters south of a line from Point Higgins to Caamano Point and north of the latitude of Rosa Reef light, in addition to waters open in 1993.

Figures A1 - A5.

### **Ship Island Shore Experimental Fishery (also known as Clarence Strait and District 2) (102-80)**

YEARS: 1987-1998

AREA: 1987: waters of Clarence Strait north of a line from Streets Island to Niblack Point and south of the latitude of Tolstoi Point.

1988-1993: the fishery was limited waters within 1 mile of the Cleveland Peninsula north of the latitude of Niblack Point and south of Lemesurier Point.

1994: the fishery expanded southeastward to the district 101/102 boundary, where it intersects Caamano Point.

Figures A1 - A5.

### **Carroll Inlet Experimental/Terminal Fishery (101-46)**

YEARS: 1988-1998

AREA: 1988-1991: in Carroll Inlet, waters north of the latitude of California Head and south of the latitude of Nigelius Point (101-46). This fishery became a terminal fishery in 1991.

1992-1996: the lower boundary became a line from California Head to a marker point on the Revillagigedo Island shore at 55°18'22" N. latitude, 131°28'07" W. longitude. An area north of Nigelius Point, called the Carroll Inlet Special Harvest Area (101-48), opened periodically from 1988.

Figures A2 - A5.

### **Mountain Point Experimental Fishery (101-45)**

YEARS: 1992-1998

AREA: In Revillagigedo Channel and Nichols Passage, only those waters south of the latitude of California Head in Georges Inlet and south of a line from California Head to a point on Revillagigedo Island at 55°18'22" N. latitude and 131°28'07" W. longitude, south of a line from Gravina Point to a point on Revillagigedo Island at 55°18'45" N. latitude and 131°35'15" W. longitude, north of a line from Cone Point to Harbor Point and in Nichols Passage, north of the latitude of Driest Point.

Appendix 1. (Page 3 of 13)

This fishery includes Subdistricts 101-27, 41, 43 and 45. Prior to 1992, these were included as part of the Gravina Island (section 1-F) fishery when described in reports and news releases.

1993-1996: the line from Cone Point to Harbor Point was modified to go from a point approximately 1 mile south of Cone Point at 55°13'36" N. latitude, 131°17'18" W. longitude to Harbor Point.

Figures A4 - A5.

## **PETERSBURG AND WRANGELL AREA FISHERIES**

### **Big Creek Experimental Fishery (110-16)**

YEARS: 1988-1995

AREA: In Frederick Sound, only those waters of District 10 within 2 miles of Kupreanof Island and west of the longitude of Boulder Point. The area was smaller in 1989, including waters east of 133°40' W. longitude only (near Big Creek).

Figures A6- A12.

### **Ohmer Creek (Blind Slough) Terminal Fishery (106-44)**

YEAR: 1992

AREA: (106-44) On Mitkof Island, waters of Blind Slough north of a line from 56°30'45" N. latitude, 132°43'18" W. longitude to 56°31'55" N. latitude, 132° 40'32" W. longitude. A portion of this area was closed: north of 56°33'30" N. latitude, 132°44'54" W. longitude to 56°32'45" N. latitude, 132°45'00" W. longitude. No landings were reported from this area.

### **Baht Harbor Experimental Fishery (108-30)**

YEARS: 1993-1998

AREA: In Sumner Strait, waters east of a line from Point Alexander to Low Point and west of a line from the eastern entrance of Blind Slough to the light at Craig Point.

Figures A10 - A14.

### **Beacon Point Experimental Fishery (110-13)**

YEARS: 1992-1995

Appendix 1. (Page 4 of 13)

AREA: In Frederick Sound, waters within 2 miles of Kupreanof Island, east of the longitude of Boulder Point and north of a line from Beacon Point to Wood Point. In 1995, the area was expanded southward to 56°55'15" N. latitude (about 1.5 miles south of Beacon Point).

Figures A9 - A12.

### **Cape Fanshaw Experimental Fishery (110-31)**

YEARS: 1991-1995

AREA: 1991-1992: In Stephens Passage, waters within 2 nautical miles of the mainland shore north of the latitude of Cape Fanshaw and south of the latitude of Fort Point.

1993-1995: The fishery expanded south to 57°10' N. latitude, approximately 1/2 mile south of Cape Fanshaw.

Figures A8 - A12.

### **Port Houghton Experimental Fishery (110-34)**

YEARS: 1995

AREA: In Stephens Passage, waters of Port Houghton, Hobart Bay and contiguous waters within 3 nautical miles of the mainland shore south of a line from McDonald Rock buoy through the northern tip of Entrance Island to the mainland shoreline and north of the latitude of Fort Point.

Figure A12.

### **Frederick Sound Experimental Troll Fishery (110-31)**

YEARS: 1996-1998

AREA: This fishery encompasses the experimental areas formerly known as Big Creek, Cape Fanshaw, Port Houghton, and Beacon Point and includes waters of Frederick Sound east of a line extending from the District 10 boundary at 57°06'00" N. latitude (4 1/4 miles north of Point McCartney) to McDonald Rock buoy through the northern tip of Entrance Island to the mainland shoreline, and north and west of a line from Boulder Point to Bay Point. Beginning May 28, this area was extended to those waters of districts 8 and 10 north and west of a line from Wood Point to Beacon Point, and excluding waters of Farragut Bay north and east of a line from Bay Point to Grand Point, and excluding waters of Thomas Bay north and east of a line from Point Vandeput to Wood Point.

Figure A13.

Appendix 1. (Page 5 of 13)

**Snow Passage Experimental Fishery (106-41)**

YEARS: 1993-1998

AREA: In Clarence Strait, only those waters of Section 6B south of a line from Point Colpoys to Macnamara Point and north of a line from Point Nesbitt to the southeastern tip of Shrubby Island, (55°12'28" N. latitude, 132°54'50" W. longitude) to the northernmost tip of Exchange Island. The waters of Exchange Cove and Salmon Bay are closed.

Figures A10 - A14.

**Steamer Point Experimental Fishery (106-30)**

YEARS: 1991-1998

AREA: 1991: In Stikine Strait, waters of district 6 within 1 nautical mile of Eto lin Island north of the latitude of Point Harrington.

1992-93: The fishery expanded to the northwest to 56°20'06" N. latitude.

1994-95: The fishery expanded westward to Zarembo Island, including waters of districts 6 and 8 south of 56°20'06" N. latitude and east of a line from Point Harrington to a point on Zarembo Island at 56°15'04" N. latitude, 132°45'48" W. longitude (midway between Point Nesbitt and Round Point).

1996: In Stikine Strait, waters of districts 6 and 8 south of 56°20'06" N. latitude and north and east of a line from Point Harrington to Point Nesbitt.

Figures A9 - A14.

**Wrangell Narrows Experimental/Terminal Fishery (106-44)**

YEARS: 1986-1998

AREA: 1986: in Wrangell Narrows, waters south of a regulatory marker located on Martinsen's Dock at 56°46' N. latitude and north of a line from North Point to Spruce Point. (The area was expanded northward for the second opening to a line from Prowley Point to a marker on the northern tip of Mitkof Island. Waters within 500 yards of Petersburg Creek and Blind Slough west of 132°51'31" W. longitude will be open.)

1987-1990: The open area was the same as it originally was in 1986, with the southern boundary line from North Point to Spruce Point.

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1991-96: The fishery became a terminal fishery, and expanded southward to include waters south of 56°46' N. latitude and north of the latitude and east of the longitude of the northern tip of Woewodski Island. The fishery was closed in 1994 due to low projected chinook returns to Crystal Lake hatchery.

Figures A6 - A13.

#### **Earl West Cove Terminal Fishery (107-45)**

YEARS: 1988-1998

AREA: On the eastern shore of Wrangell Island, waters of Eastern Passage south of 56°24'50" N. latitude and west of 132°06'21" W. longitude, except that all waters of Madan Bay are closed (east of a line from the latitude of the channel marker in the narrows to the eastern tip of Channel Island, to the navigational light on the northern tip of Channel Island to the southernmost tip of Point Madan). Note: this area differs slightly from that in 1988, when open waters were south of 56°24'54" N. latitude.

Figure A15.

### **CHATHAM STRAIT/ICY STRAIT FISHERIES**

#### **Little Port Walter Experimental Fishery (109-10)**

YEARS: 1986-1998

AREA: 1986: in Chatham Strait, waters between the latitudes of Patterson Point and Armstrong Point, including all waters of Patterson Bay, Deep Cove, Port Herbert, Port Walter, and Port Lucy. The waters of Little Port Walter will be closed south of 56°23'04" N. latitude (the inner bay).

1987: The area was expanded south to Point Armstrong light.

1988-1996: The area was again expanded southward, to 56°15'50" N. latitude, located immediately south of Graveyard Cove.

Figures A16-A18.

#### **Hidden Falls Experimental Fishery (112-22)**

YEARS: 1991-1993, 1995-1998

AREA: 1991-1993: in Chatham Strait, only those waters within 2 nautical miles of the Baranof Island shoreline south of a range marker at South Point (southern entrance to Kelp Bay) and north of a range marker at 57°07'22" N. latitude (at the southern entrance to Takatz Bay) except that all waters of Kelp Bay will be closed. This fishery was not open in 1994.

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1995: this fishery was expanded to include waters within 2 nautical miles of the Baranof and Catherine Island shorelines south of 57°20' N. latitude and north of 57°06'50" N. latitude (south of Takatz Bay), including all waters of Kelp Bay.

Figures A19-A20.

### **Chatham Strait Experimental Fishery (112-12)**

YEARS: 1996-1998

AREA: 1996: In Chatham Strait, waters of District 12 south of the latitude of Point Hepburn and east of 135° W. longitude in Freshwater Bay and Tenakee Inlet, and east of a line from Point Hayes to Point Thatcher, and north of the latitude of Point Gardner (57°01' N. latitude), excluding waters in the Hidden Falls experimental troll area.

1997: Expanded slightly in Peril Strait to only in those waters of District 12 south of the latitude of Point Hepburn, in waters east of 135° W. longitude in Freshwater Bay and Tenakee Inlet, in waters of Peril Strait east of the longitude of the easternmost point of Point Craven, and north of the latitude of Point Gardner (57°01' N. latitude), excluding those waters of District 12 within two nautical miles of the Baranof Island and Catherine Island shorelines south of 57°20' N. latitude and north of 57°06'50" N. latitude (south of Takatz Bay), including all open waters of Kelp Bay (i.e., the Hidden Falls Area).

1998: Further expansion into Peril Strait to waters of District 12 and 13, only in waters of Peril Strait east of the longitude of the Nismeni Point at 135°25'00" W. longitude, and in waters of Chatham Strait south of the latitude of Point Hepburn and north of the latitude of Point Gardner (57°01' N. latitude), including all waters of Freshwater Bay, all waters of Tenakee Inlet east of 135° W. longitude, and excluding those waters of the Hidden Falls Terminal Area, which are described as waters of Section 12A within two nautical miles of the Baranof Island and Catherine Island shorelines south of 57°20' 00" N. latitude and north of 57°06'50" N. latitude (south of Takatz Bay), including all waters of Kelp Bay.

Figure A21-A24.

### **Kingsmill Point Experimental Fishery (109-51)**

YEARS: 1996-1998

AREA: 1996-1997: In district 9, waters within 4 miles of the Kuiu Island shoreline north of the latitude of Point Ellis and west of the longitude of Point Cornwallis, and Keku Strait south of a line from 4 miles off the Kuiu Island shoreline at the longitude of Point Cornwallis to a point on the boundary between districts 9 and 10 at 57°06'00" N. latitude (4 1/4 miles north of Point McCartney) and north and west of a line from the northernmost tip of Point Camden to Salt Point Light (the boundary between districts 9 and 5).

1998: Expanded boundaries, including the former Point Gardner Area, to the waters of Frederick Sound and Chatham Strait in District 9 that are south of the latitude of the southernmost tip of Point Gardner at 57°01' N. latitude, south of the latitude of the southernmost tip of Elliott Island, and west of a line

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running from the southernmost tip of Elliott Island to the westernmost tip of Point Macartney (the boundary between District 9 and 10), and in Keku Strait north and west of a line from the northernmost tip of Point Camden to Salt Point Light (the boundary between District 9 and District 5), and north of the latitude of Point Ellis.

Figure A22-A24.

#### **Point Gardner Experimental Fishery (109-30)**

YEARS: 1996-1997

AREA: In district 9, waters of Frederick Sound within 4 miles of the Admiralty shoreline between Point Gardner and the southern tip of Elliott Island, which is the boundary between districts 9 and 10.

Figure A22-A23.

#### **Point Sophia Experimental Fishery (114-27)**

YEARS: 1997-1998

AREA: 1997: Waters in District 14 in waters of Icy Strait from Cannery Point north to Pinta Rock, and from Pinta Rock east to Spaski Island, and from Spaski Island to a point two miles north of the easternmost tip of the point of land at the entrance to Whitestone Harbor at 58°04'15" N. latitude, 135°04'30" W. longitude.

1998: Expanded, to include the former Point Augusta area, to waters of Icy Strait and Chatham Strait, in Sections 14B, 14C, and 12A, in an area enclosed by a line from Cannery Point to Crist Point to a point on the southwestern portion of Hoonah Island at 58°11'24" N. latitude, 135°29'30" W. longitude, to Pinta Rock to Spasski Island, and from Spasski Island within two nautical miles of the Chichagof Island shore to the latitude of Point Hepburn.

Figure A22-A23.

#### **Point Augusta Experimental Fishery (112-14)**

YEARS: 1997

AREA: Waters in District 12 and 14 in waters of Icy Strait and Chatham Strait, within two miles of the Chichagof Island shore from a point two miles north of the easternmost tip of the point of land at the entrance to Whitestone Harbor at 58°04'15" N. latitude, 135°04'30" W. longitude to the latitude of Point Hepburn.

Figure A22.

Appendix 1. (Page 9 of 13)

**Port Frederick Experimental Fishery (114-30)**

YEARS: 1998

AREA: waters of Port Frederick in Section 14B south and west of a line from Cannery Point to Crist Point.

Figure A23.

**Point Adolphus Experimental Fishery (114-23)**

YEARS: 1998

AREA: in Section 14B in those waters of Icy Strait that are within one nautical mile of the Chichagof Island shoreline east of Point Adolphus at 135°47'00" W. longitude and west of Crist Point at 135° 29' 30" W. longitude

Figure A23

**Tebenkof Bay Experimental Fishery (109-62)**

YEARS: 1998

AREA: in waters of Tebenkof Bay in Section 9B south of the latitude of Point Ellis, north of the latitude of Point Harris, and east of 134°20'00" W. longitude

Figure A23

**SITKA AREA FISHERIES**

**Western Channel Experimental Fishery (113-01)**

YEARS: 1998

AREA: in Sitka Sound, only those waters north of a line from Kulichkof Rock (also known as six mile rock) to the mouth of Fred's Creek at 57°04' 00" N. latitude, 135° 36' 10" W. longitude, and south of a line from Inner Point to Signal Island Light, and west of a line from Signal Island Light to Kulichkof Rock.

Figure: A-32.

**Silver Bay Experimental Fishery (113-35)**

YEARS: 1987-1998

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AREA: 1987-1990: Waters of Silver Bay east of a line from Entry Point to a point at 57°01'43" N. latitude, 135°14'17" W. longitude.

1991: Waters east of a line from Silver Point to Luce Island, to Tsarina Rock, to Rocky Patch, to Marshall Island.

1992: Waters east of a line from Cape Burunof to Liar Rock, to the Kayak Islands, to Whale Island, to Bamdoroshni Island, to Galankin Island, to Rocky Patch, to Harris Island, to the nearest point of land on Baranof Island.

1993-95: In Sitka Sound, waters of Eastern Channel and Silver Bay east of a line from Cape Burunof to the southern tip of Makhnati Island and south of the John O'Connell bridge.

1996-1998: The area was expanded to include waters east of a line from Cape Burunof to Kulichkof Rock (six mile rock) to the southern tip of Makhnati Island and south to the John O'Connell bridge.

Note: The waters of Bear Cove in Silver Bay were usually closed in mid-June to commercial fishing, as directed by Medvejie Hatchery managers (NSRAA).

Figures A25 – A32.

### **Inner Silver Bay Experimental Fishery (113-37)**

YEARS: 1998

AREA: The waters of Silver Bay east of a line from Entry Point Light to 57°01'36" N. latitude, 135°14'35" W. longitude. Opened for consideration as a terminal troll area. When the Silver Bay experimental area was opened, this area was included as part of that experimental fishery as it has in the past, and designated on fish tickets as 113-35. However, when the Silver Bay experimental area was closed, the inner bay area remained opened, and catches in the terminal area were designated 113-37 on fish tickets.

### **Middle Island Experimental Fishery (113-41)**

YEARS: 1995-98

AREA: 1995: In Sitka Sound, waters north and east of a line from Watson Point to Signal Island Light to the northernmost tip of Middle Island to Kresta Point and waters of Olga Strait south of the latitude of a light at 57°11'19" N. latitude, except waters of Nakwasina Sound will be closed north and east of a line from the latitude of the northernmost tip of Beehive Island; all waters of Katlian Bay were open.

1996-1998: This fishery was expanded to include waters north and east of a line from Watson Point to Signal Island light to Inner Point (Kruzof Is.) and south and east of a line from Point Brown to Rob Point, with the 1995 boundaries in Olga Strait and Nakwasina Sound still in effect. Katlian Bay was open.

Figures A29 – A32.

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### **Peril Strait Experimental Fishery (113-51)**

YEARS: 1996-1997

AREA: 1996: In Peril Strait and Hoonah Sound, waters north of the latitude of Pogibshi Point and west of a line from Point Hayes to Point Thatcher in Peril Strait, except waters of Sitkoh Bay were closed north and east of 57°29' N. latitude.

1997: area reduced slightly when part of it was added to the Chatham Strait area to waters in District 13 in Peril Strait and Hoonah Sound north of the latitude of Pogibshi Point and in waters of Peril Strait west of the longitude of the easternmost point of Point Craven .

Figures A21-A22.

### **Salisbury Sound Experimental Fishery (113-62)**

YEARS: 1996-1998

AREA: 1996: In Salisbury Sound and Peril Strait, waters of District 13 south of the latitude of Pogibshi Point and east of a line from Point Kruzof to Point Leo and north of the latitude of Hayward Point (57°19'41" N. latitude).

1997: Waters reduced in Salisbury Sound proper to waters of District 13 in Peril Strait and Salisbury Sound south of the latitude of Pogibshi Point and east of a line at 135°45'50" W. longitude (which runs through the northern most tip of Sinitsin Island), and in waters of Krestof Sound north and west of a line from Point Brown to Rob Point, and in waters of Olga Strait north of the latitude of a light at 57 °11'19" N. and in waters of Nakwasina Passage south and west of a line from 57°14'12" N. latitude, 135°29'55" W. longitude to 57°14'53" N. latitude, 135°30'28" W. longitude

1998: Waters reduced completely in Salisbury Sound proper and expanded in Nakwasina Passage to waters of District 13 in Peril Strait west of the longitude of the Nismeni Point at 135°25'00" W. longitude, and north and east of the longitude of the easternmost tip of Point Kakul at 135°41'00" W. longitude, and in waters of Krestof Sound south of the latitude 57°19'30" N. latitude and north of a line from Point Brown to Rob Point, and in waters of Olga Strait north of the latitude of a light at 57 °11'19" N. latitude and waters of Nakwasina Sound north of the latitude of the northernmost tip of Beehive Island.

Figures A31-A33.

## HATCHERY ACCESS FISHERIES

YEARS: 1989-1992

AREA:

1. In the waters of Yakutat Bay east of a line from the eastern most tip of Ocean Cape to the southern most tip of Point Manby.
2. In the waters of Districts 1 and 2, north of a line from Tree Point Light to Barren Island Light to Cape Chacon; except that the waters at the entrance to and including Behm Canal and at the entrance and including Boca de Quadra will remain closed as per existing (1989 and 1990) regulations (5 AAC 33.311 (e), (f)(1), (f)(3) and (f)(4) and 5 AAC 33.350 (b)(12).
3. In the waters of District 3, north of a line from Cape Chacon to Cape Muzon (1989-1991). In 1992, in District 3, south of the latitude of Tlevak Narrows and north of a line from Cape Chacon to Cape Muzon.
4. In the waters of District 5, north of a line from Cape Lynch to the southernmost tip of Warren Island and from the northernmost tip of Warren Island to Point St. Albans (1989-1990). In 1991 and 1992, the waters of District 5 north of a line from westernmost tip of Cape Pole to Point St. Albans.
5. In 1989, the waters of District 6 as described in 5 AAC33.311 (g) will remain closed during the June 5 through 7 period. In 1990, the waters of District 6; except that waters east of a line from the southernmost tip of Mitchell Point to the northernmost tip of Point Colpoys and north of a line from Etolin Island at the latitude of Lincoln Rock Light to Lincoln Rock Light then to the northernmost rock in the Triplets through Point Barnes to Prince of Wales Island will remain closed during the June 5 - 7 period (1990). In 1991, waters of District 6 open by emergency order only. In 1992, District 6 except those waters listed in 5 AAC 33.350.
6. In 1989 and 1990, the waters of District 7; except that the waters described in 5 AAC 33.350 (h)(5) and (6) will remain closed. Not opened in 1991. In 1992, District 7 except those waters listed in 5 AAC 33.350.
7. In 1989 and 1990, the waters of District 8, only during the period scheduled for June 21-23 and only if drift gillnet fishing is allowed in the district as per existing (1990) regulations (5 AAC 33.311 (h)) (1990). In 1991 and 1992, same area above open, only if a second period announced and only if drift gillnet fishing is allowed.
8. In the waters of District 9, north of a line from Point Conclusion to Point Harris Light.
9. In 1989 and 1990, the waters of District 10; except that the waters south and east of a line from the northernmost tip of Boulder Point to the southernmost tip of Bay Point will be closed during the period of June 5-7 as per existing regulations. In 1991, waters of District 10 open by emergency order only. In 1992, in District 10 except those waters listed in 5 AAC 33.350 (1992 regulations).
10. In the waters of District 12, south of the latitude of Point Couverdon (Section 12-A).

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11. In 1989 and 1990, the waters of District 13, in Lisianski Inlet east of a line from Rock Point to Miner Island, and all waters of Sitka Sound, Salisbury Sound, and Peril Strait east of a line from Point Leo to Point Kruzof and north of a line from Shoals Point to Povoronti Point. In 1991, all waters of Lisianski Inlet and all waters of Sitka Sound, Salisbury Sound, and Peril Strait east of a line from Point Leo to Point Kruzof and north of a line from Shoals Point to Povoronti Point. In 1992, in District 13, in Sitka Sound, only those waters in Silver Bay and Eastern Channel east of a line from Cape Burunof to Liar Rock to the southernmost tip of Kayak Islands to the southernmost tip of Whale Islands to the southernmost tip of Bamdoroshni Island to the southernmost tip of Galankin Island to the red buoy in Rocky Patch to the southernmost tip of Harris Island to the nearest point of land on Baranof Island (57°02'32" N. latitude, 135°16'42" W. longitude) except that all waters of Bear Cove east of 135°09'42" W. longitude was closed).

12. In 1989 and 1990, the waters of District 14, east of a line from Soapstone Point to the southern tip of Taylor Island. In 1991 and 1992, in the waters of District 14, east of a line from Column Point to the southern tip of Taylor Island.

13. All waters listed as closed to trolling in the closed water section of the regulations will remain closed.

Figures A34-A37.

Appendix 2. Chronology of spring fishery regulations.

**1986:** Three areas open (Little Port Walter, Neets Bay, and Wrangell Narrows). Experimental fisheries open for 2 days per week (Monday and Tuesday) from June 2 through June 18, with a 1,000 non-Alaska hatchery (NAH) chinook cap.

**1987-1990:** In addition to the 1986 areas, additional areas open were Ship Island Shore, Behm Canal, Carroll Inlet, Frederick Sound, and Silver Bay in June. Little Port Walter, Silver Bay, and Ship Island Shore were open Mondays and Tuesdays only. Carroll Inlet and Wrangell Narrows open from June 6 through June 29. Frederick Sound was open by emergency order (EO), and Behm Canal was open by EO when the demonstrated availability of chinook salmon returning to Neets Bay was high. There was a 1,000 NAH chinook cap for each fishery except that those fisheries with 50 percent or more of Alaska hatchery fish in the catch had a 2,000 NAH chinook cap.

Hatchery access fisheries were established in 1989. The hatchery access fisheries were in inside waters in portions of Districts 1-14, except Districts 4, 11, and 12. Fisheries were to occur so as to minimize overlap with experimental fisheries. In 1989 and 1990, openings were scheduled to open June 5-7 and June 21-23. The period scheduled for June 21-23 would occur only if the treaty chinook salmon catch was less than 25,000 fish. In 1991 and 1992, additional regulations kept the 25,000 fish threshold, but also allowed the second June hatchery access fishery only if the combined catch of the June hatchery access fishery and experimental troll fishery was not expected to exceed 40,000 NAH chinook salmon. The area open was reduced from the 1989-1990 fisheries. In 1992, this threshold was reduced to 35,000 NAH chinook salmon, and the area further reduced.

**1991-1998:** Board adopts regulations that establish Alaska hatchery fish percent guidelines and give the department authority to open areas. Hatchery access fisheries end in 1994. Regulations for experimental fisheries as follows:

5 AAC 33.311:

(p) The department shall conduct experimental salmon troll fisheries each year before the opening of the general summer troll season. The department shall first consider changes in the previous year's experimental fishery and continue the fisheries if they meet the following requirements, and shall consider new fisheries based on the best scientific data and on input from trollers;

(1) a directed fishery may occur only if a hatchery return is expected to exceed brood stock requirements;

(2) at least one experimental fishery shall be conducted annually, targeting the chinook salmon returning to the area of each Alaskan hatchery that meets its brood stock requirements;

(3) in order to continue each year without modification, the contribution rate of hatchery stocks to the directed fishery harvest must exceed 20 percent;

(4) the department shall manage each experimental fishery on a weekly basis by emergency order as follows:

(A) no more than 1,000 non-Alaskan hatchery fish may be taken in a fishery if the percentage of Alaskan hatchery fish taken in that fishery is less than 33 percent of the chinook salmon taken in that fishery;

(B) no more than 2,000 non-Alaskan hatchery fish may be taken in a fishery if the percentage of Alaskan hatchery fish taken in that fishery is between 33 percent and 49 percent of the chinook salmon taken in that fishery;

(C) no more than 3,000 non-Alaskan hatchery fish may be taken in a fishery if the percentage of Alaskan hatchery fish taken in that fishery is between 50 percent and 65 percent of the chinook salmon taken in that fishery;

(D) there is no limit on the number of non-Alaskan hatchery fish that can be taken if a fishery if the percentage of Alaskan hatchery fish taken in that fishery is greater than 66 percent of the chinook salmon taken in that fishery;

(5) dates for the experimental fishery openings shall be selected to minimize overlap with halibut and troll hatchery access openings;

(6) the department shall require that fish from different areas be kept separate for catch accounting purposes and, if this rule is frequently violated, the department may require that fish from only one area be on board a vessel at any time;

(7) salmon may be taken only during the summer season established in (a) of the section, but before June 29;

(8) if the requirements of (1), (3), and (4)(A), (B), or (C) of this subsection are met, the fisheries shall occur each week on Monday and Tuesday only during the summer season established in (a) of this section, but before June 29, except that

(A) the department may adjust the opening day of a weekly fishing period to Sunday or Tuesday to meet the requirements of (5) of this subsection;

(B) the department may, based on the best available inseason data or on past performance of the fishery, extend the length of a weekly fishery in order to maximize the catch of chinook salmon produced by Alaskan hatcheries;

(9) to control the incidental harvest of chum salmon, the department shall manage the Hidden Falls chinook salmon fishery so that the harvest of chum salmon is 20 percent of the harvest of chinook salmon.

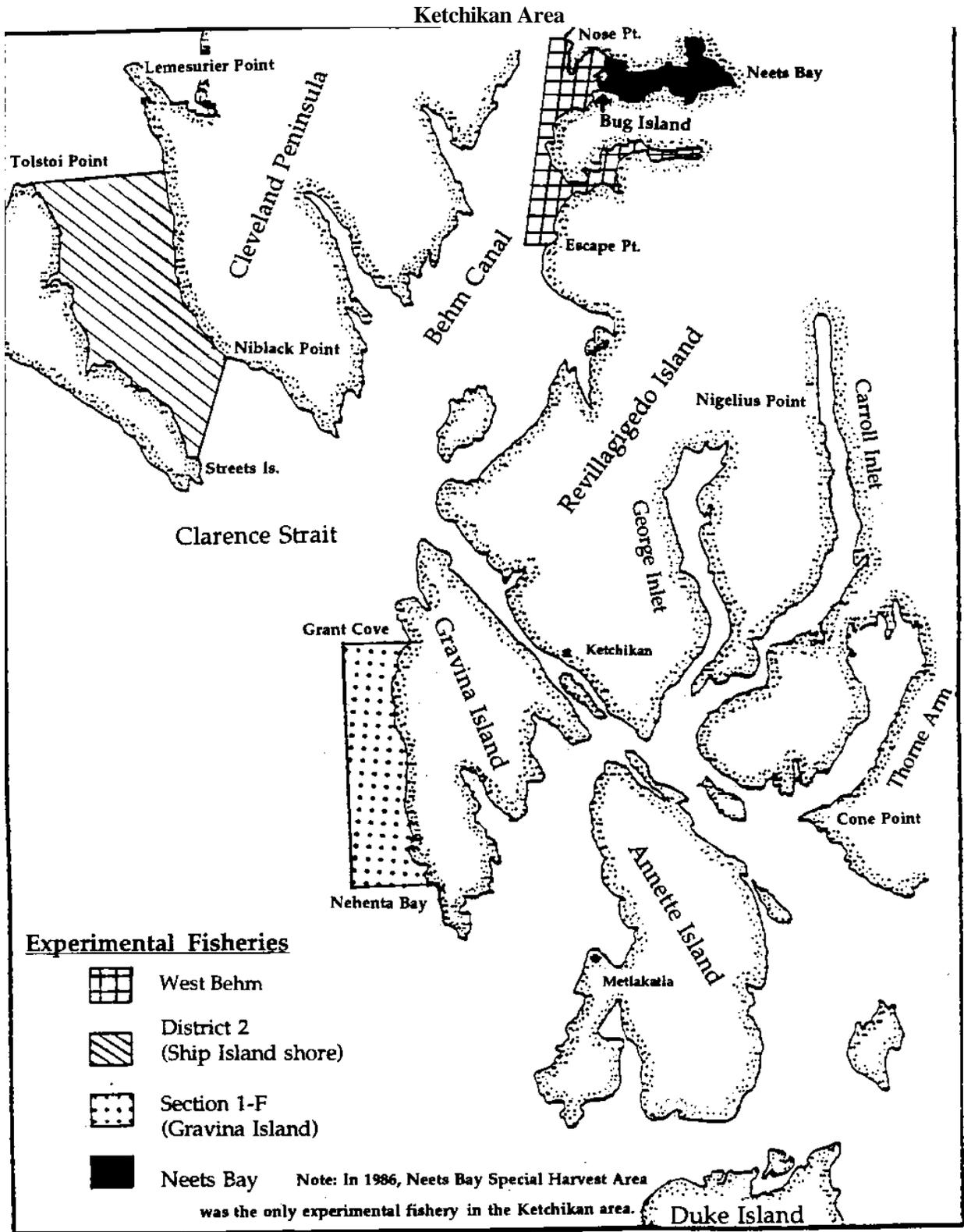


Figure A1. Ketchikan area experimental troll fisheries, 1987.

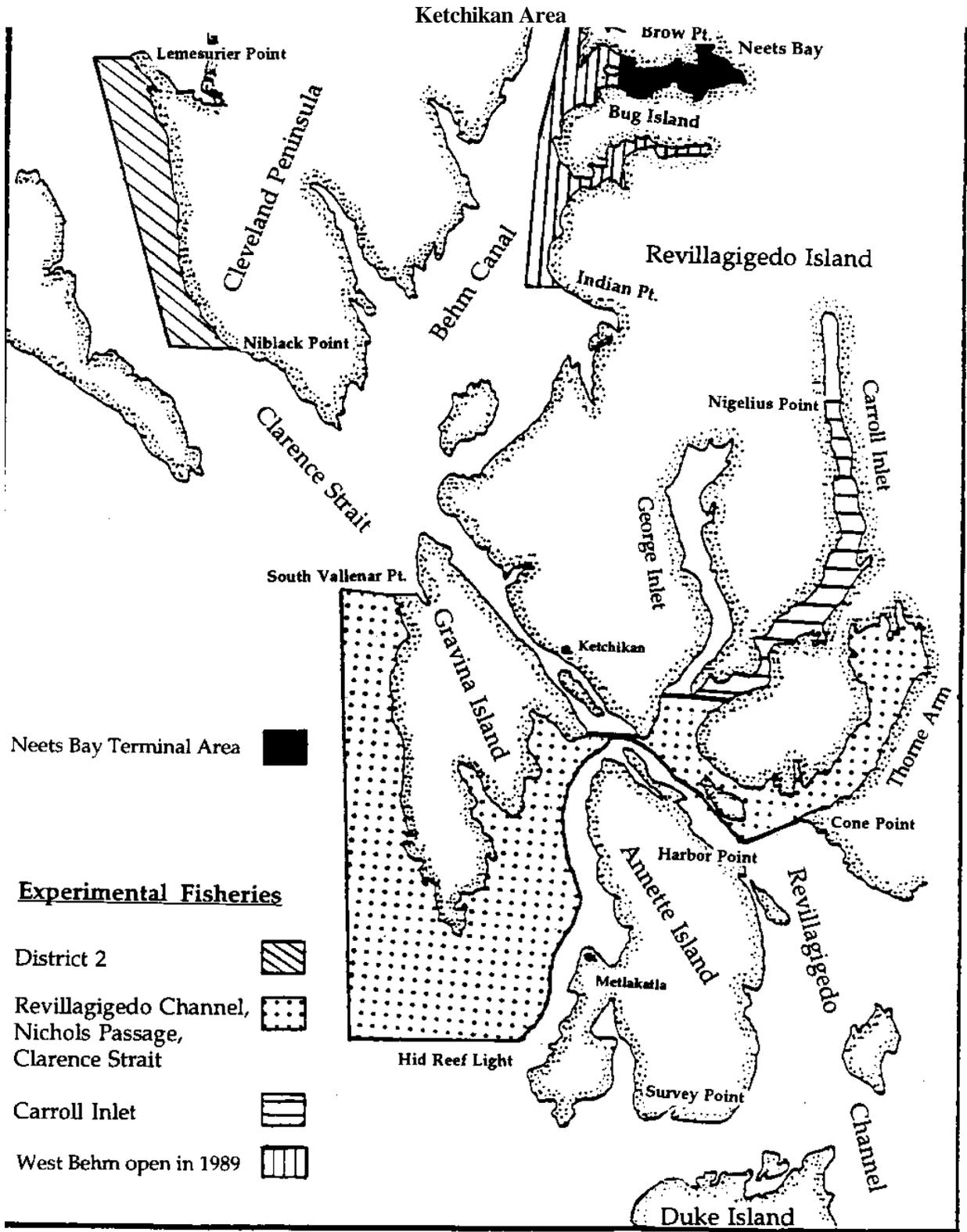


Figure A2. Ketchikan area experimental troll fisheries, 1988-1990.

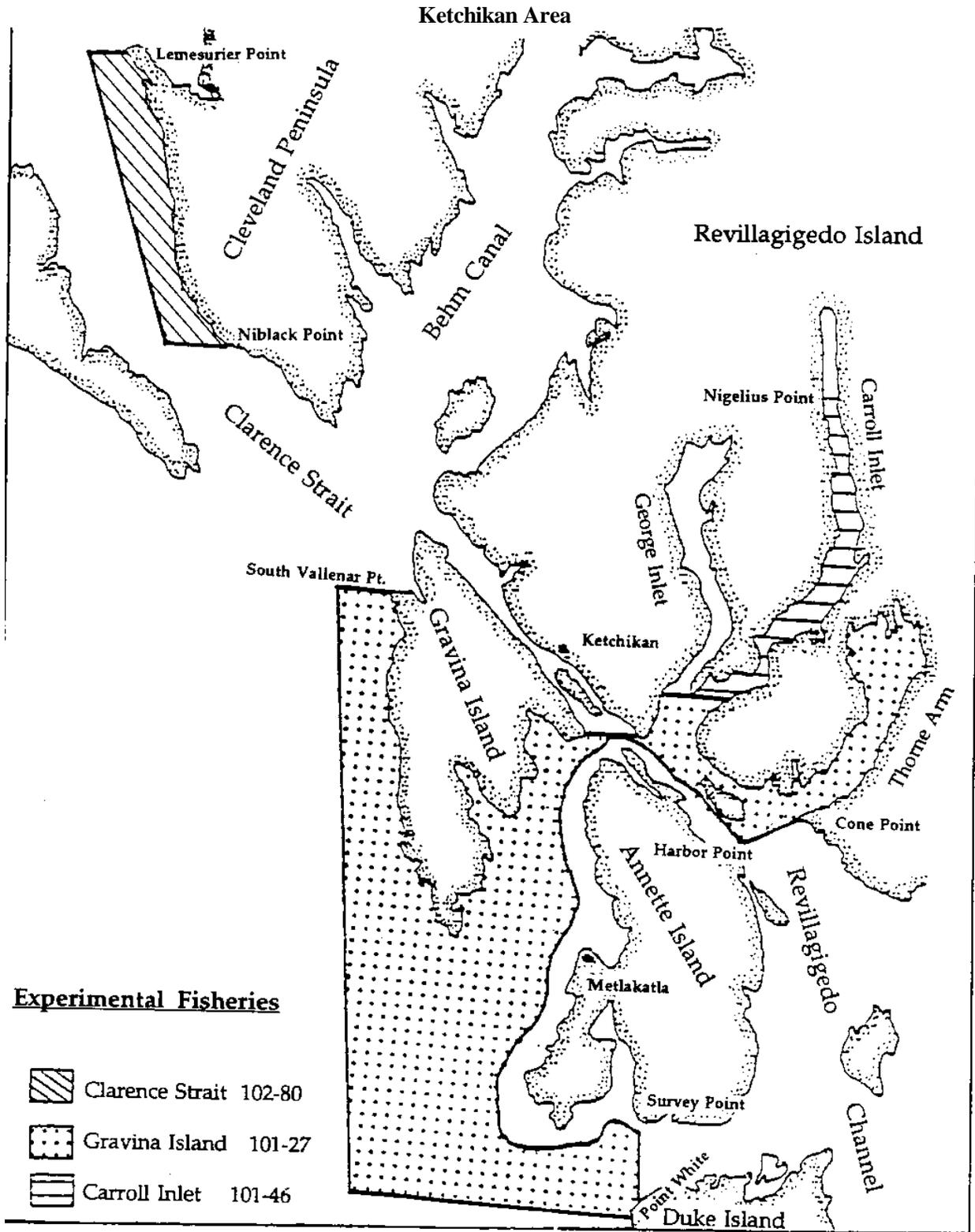


Figure A3. Ketchikan area experimental troll fisheries, 1991.

Ketchikan Area

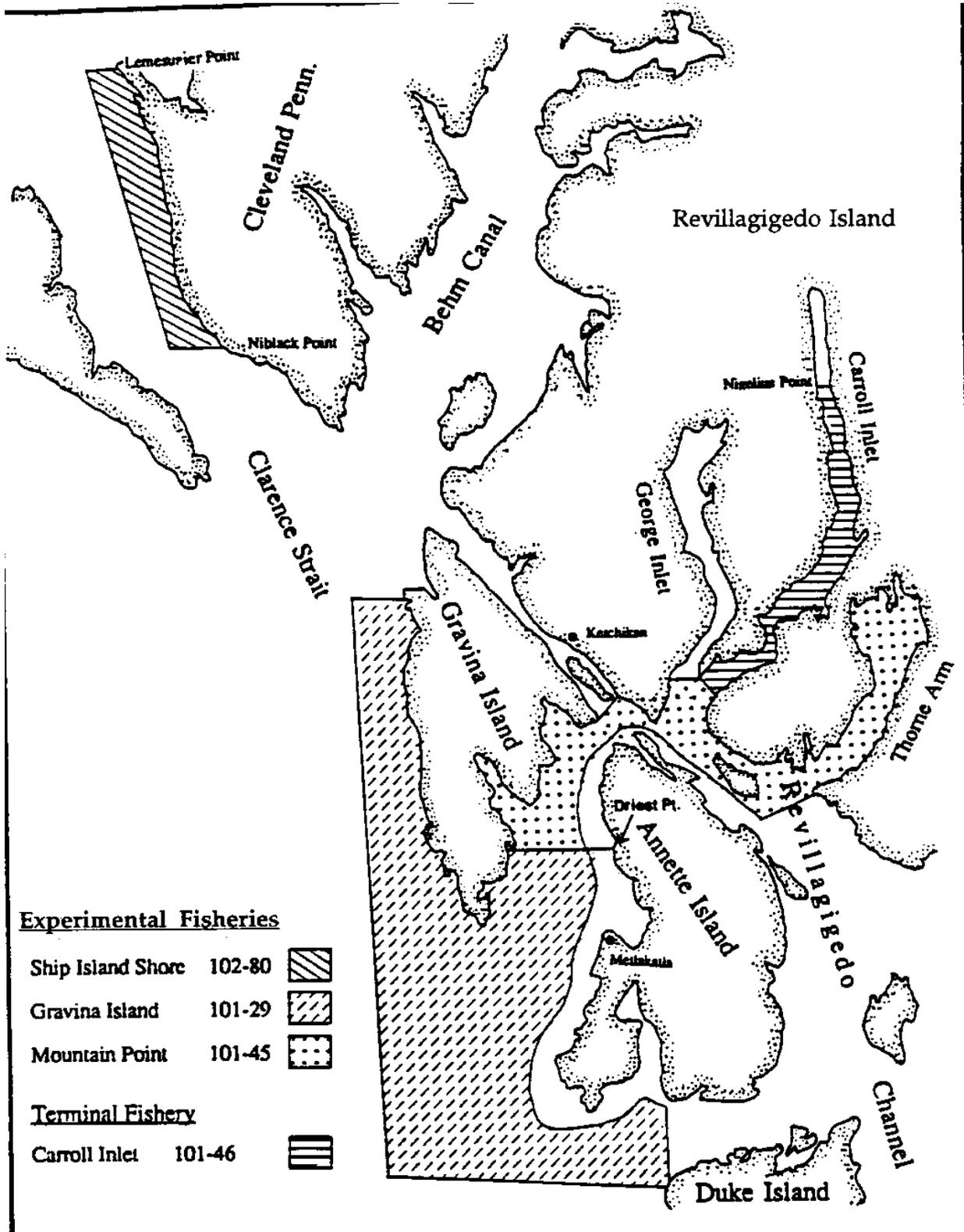


Figure A4. Ketchikan area experimental troll fisheries, 1992-1993.

### Ketchikan Area

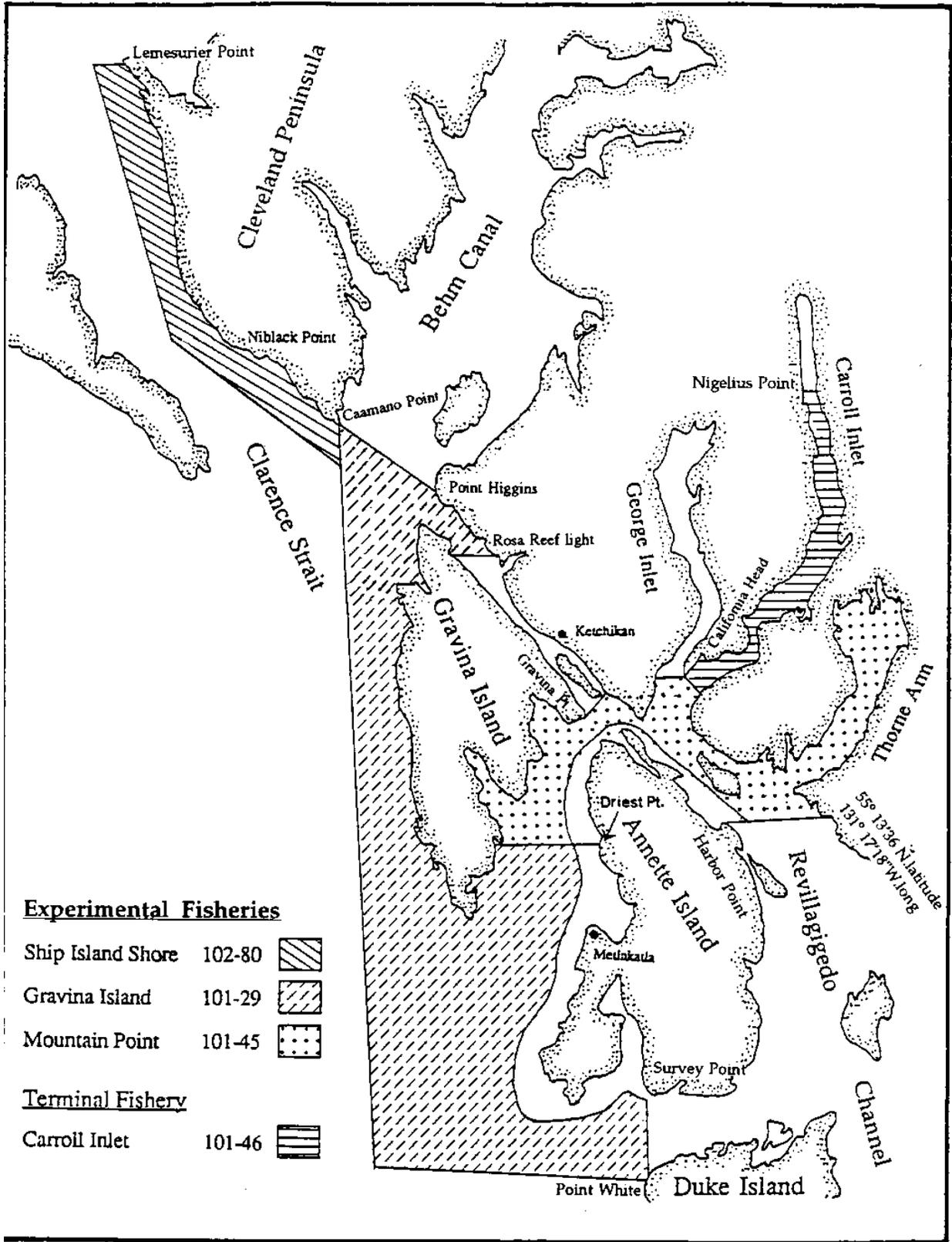


Figure A5. Ketchikan area experimental troll fisheries, 1994-1996.

Petersburg Area

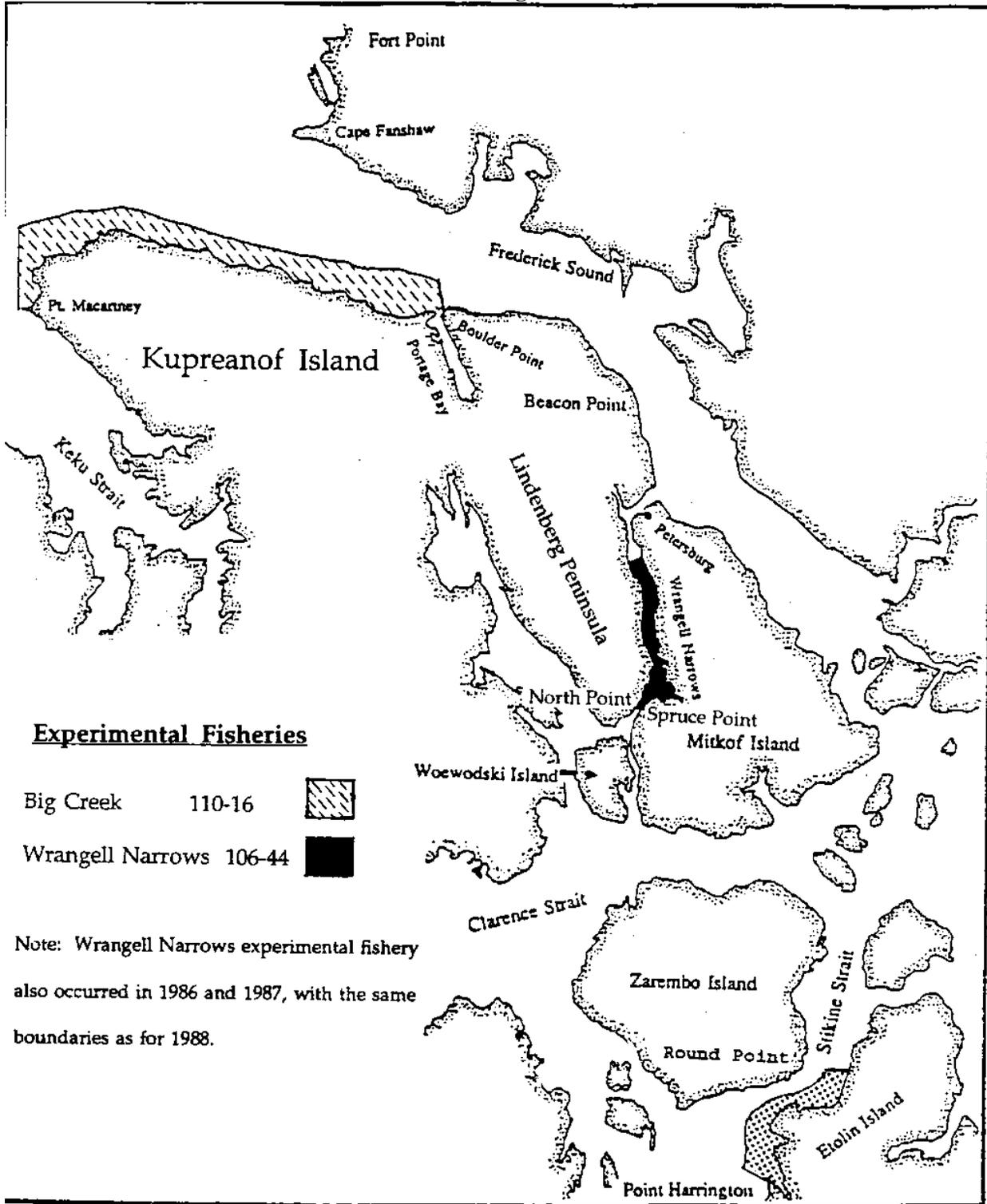


Figure A6. Petersburg/Wrangell area experimental troll fisheries, 1988 and 1990.

Petersburg Area

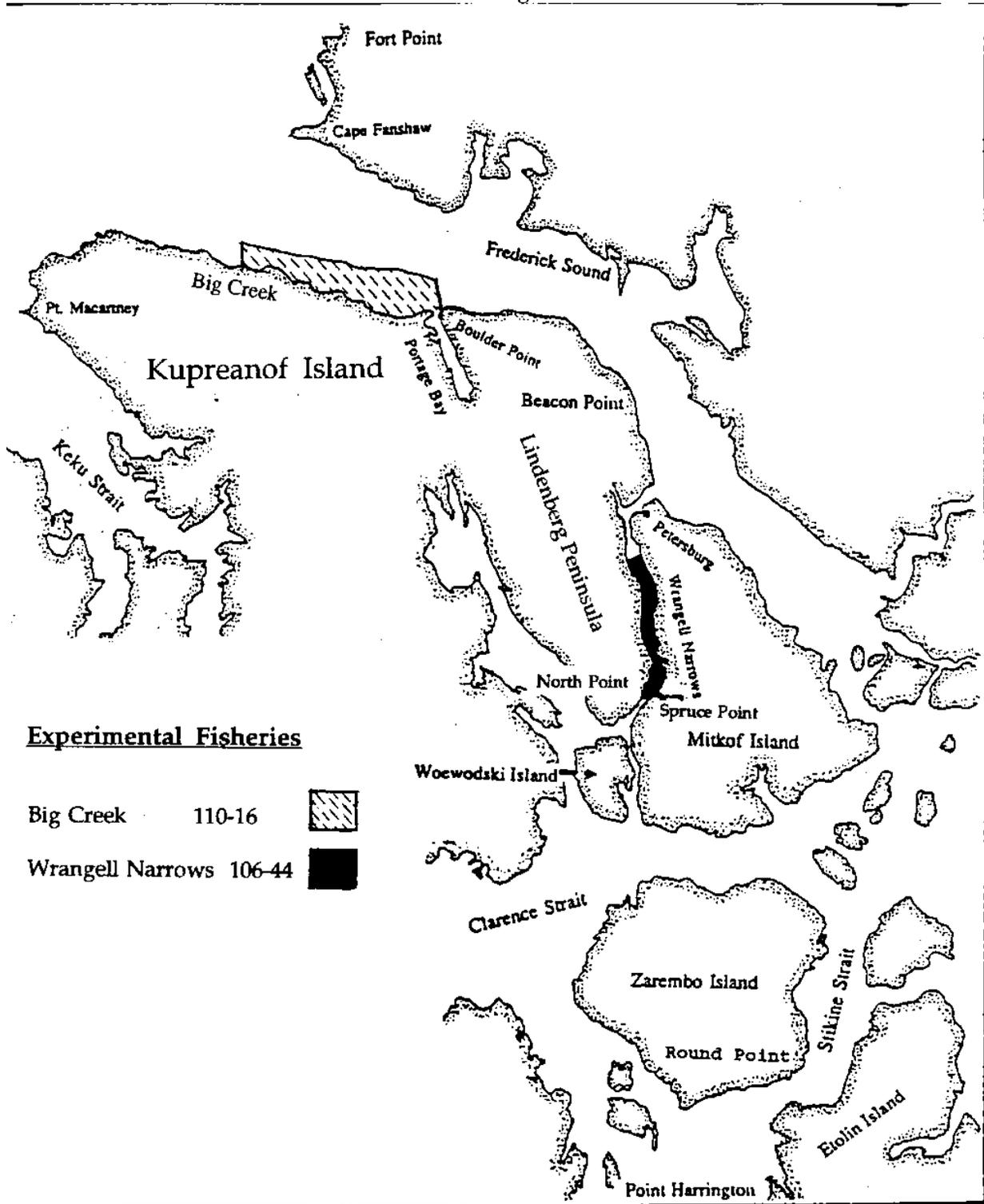


Figure A7. Petersburg/Wrangell area experimental troll fisheries, 1989.

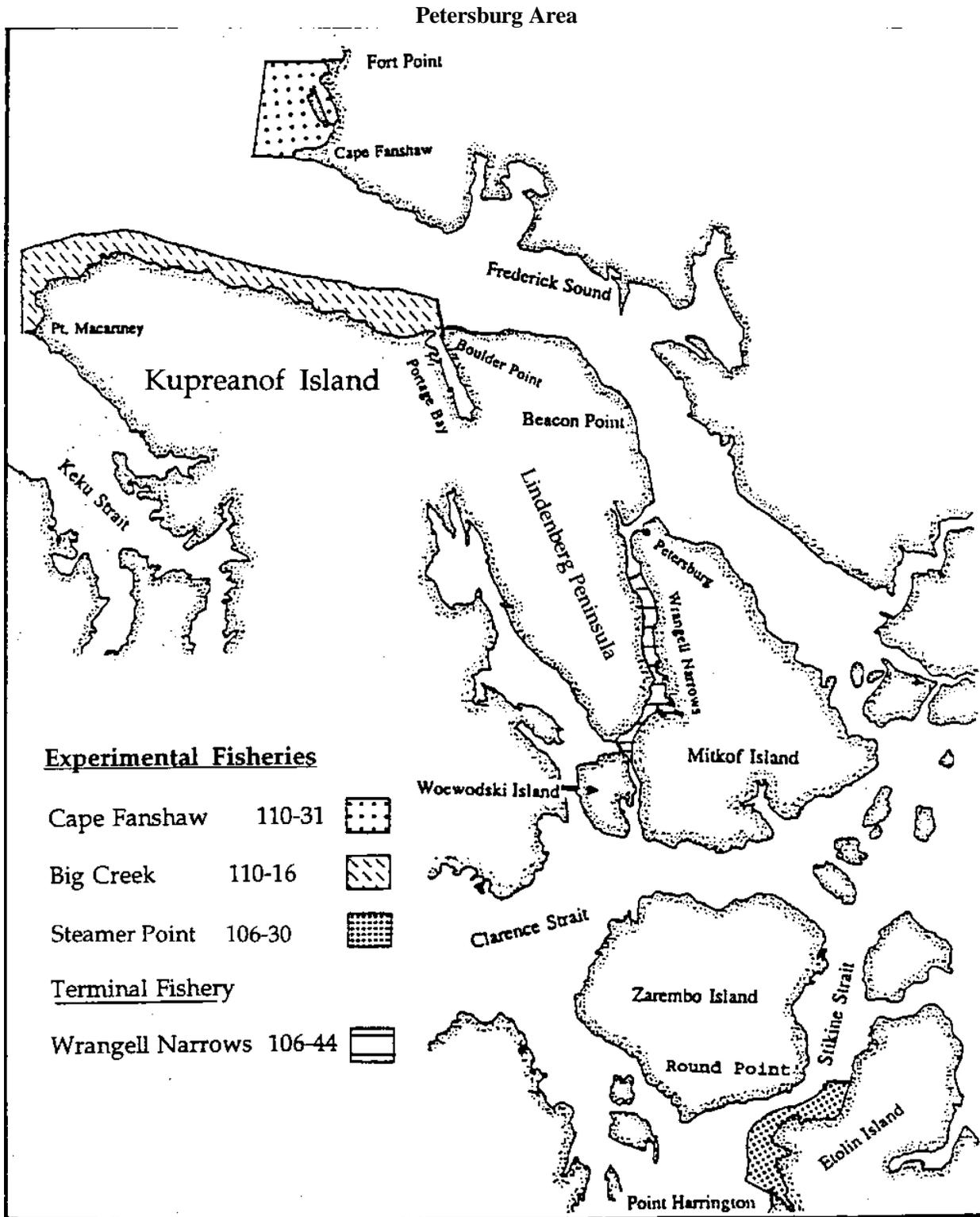


Figure A8. Petersburg/Wrangell area experimental troll fisheries, 1991.

Petersburg Area

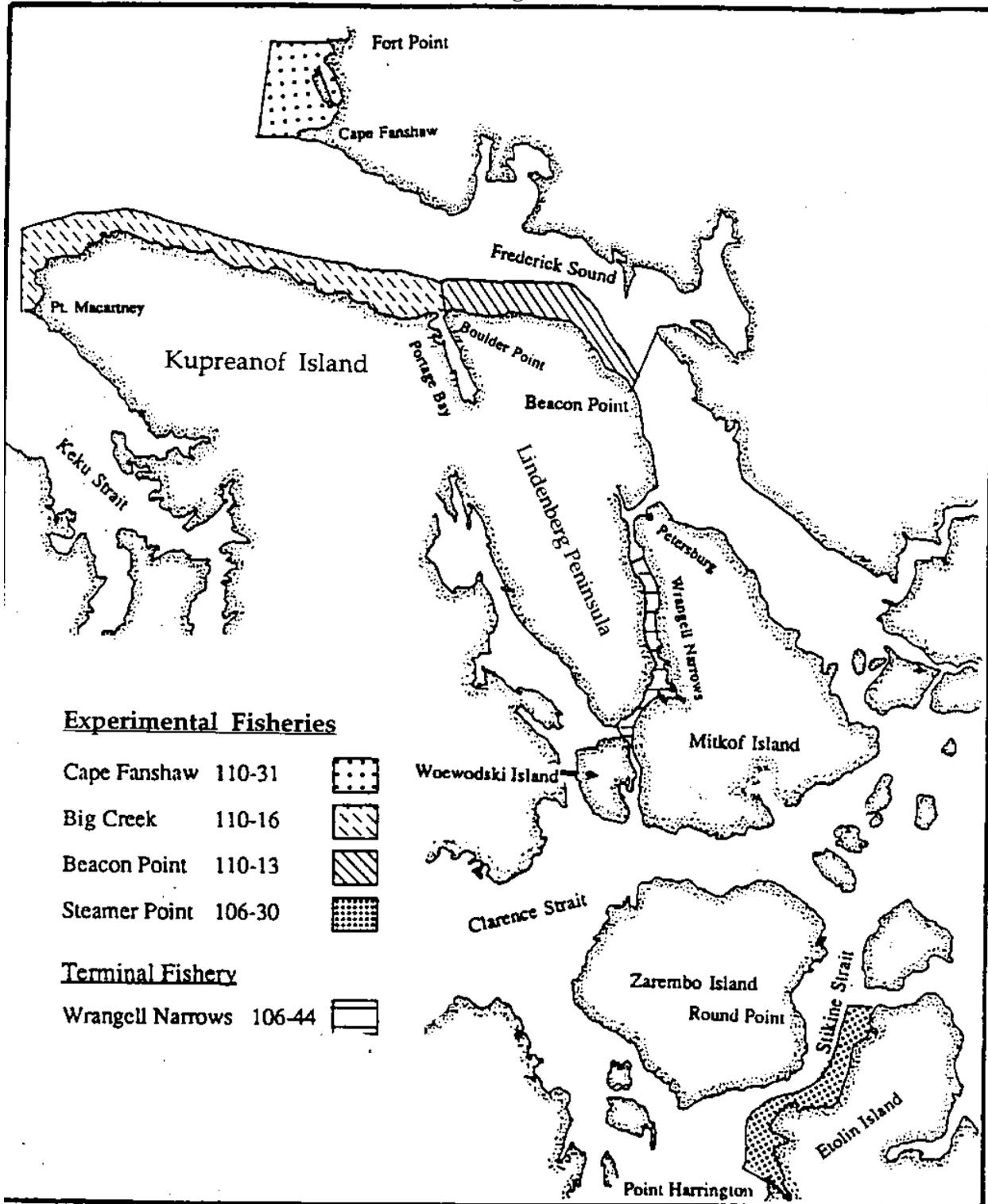


Figure A9. Petersburg/Wrangell area experimental troll fisheries, 1992.

Petersburg Area

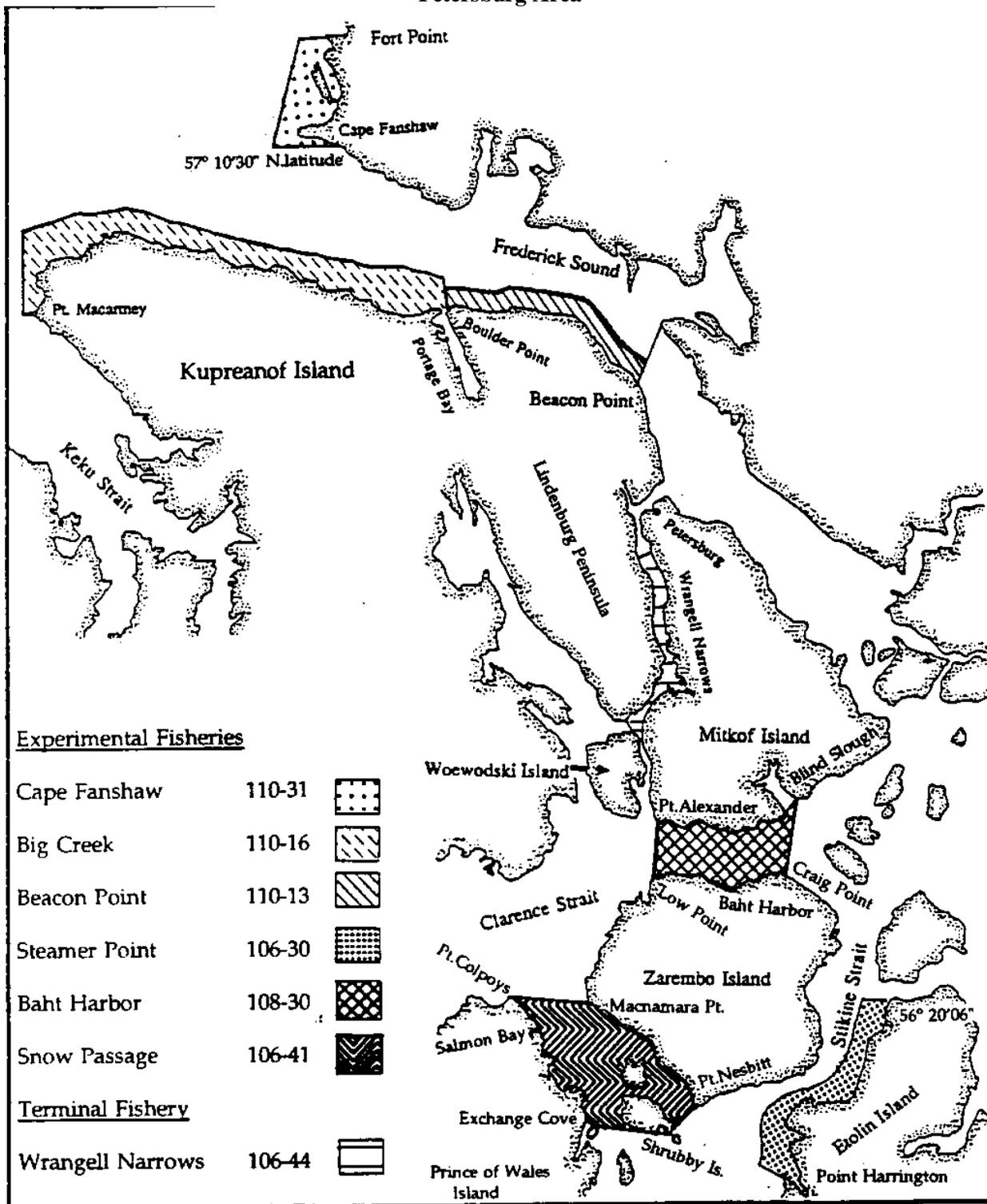


Figure A10. Petersburg/Wrangell area experimental troll fisheries, 199 3.



Petersburg Area

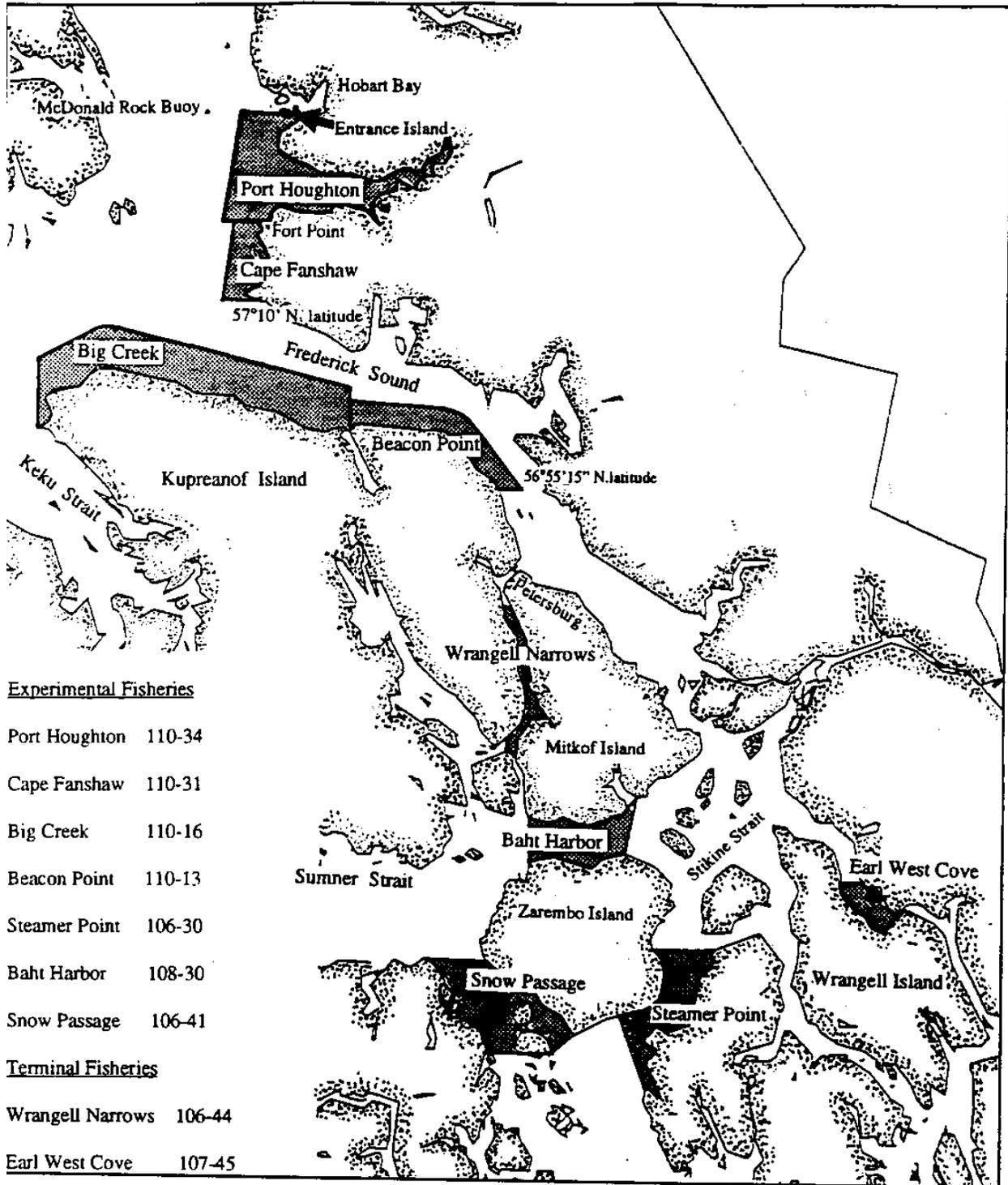


Figure A12. Petersburg/Wrangell area experimental troll fisheries, 1995.

Petersburg Area

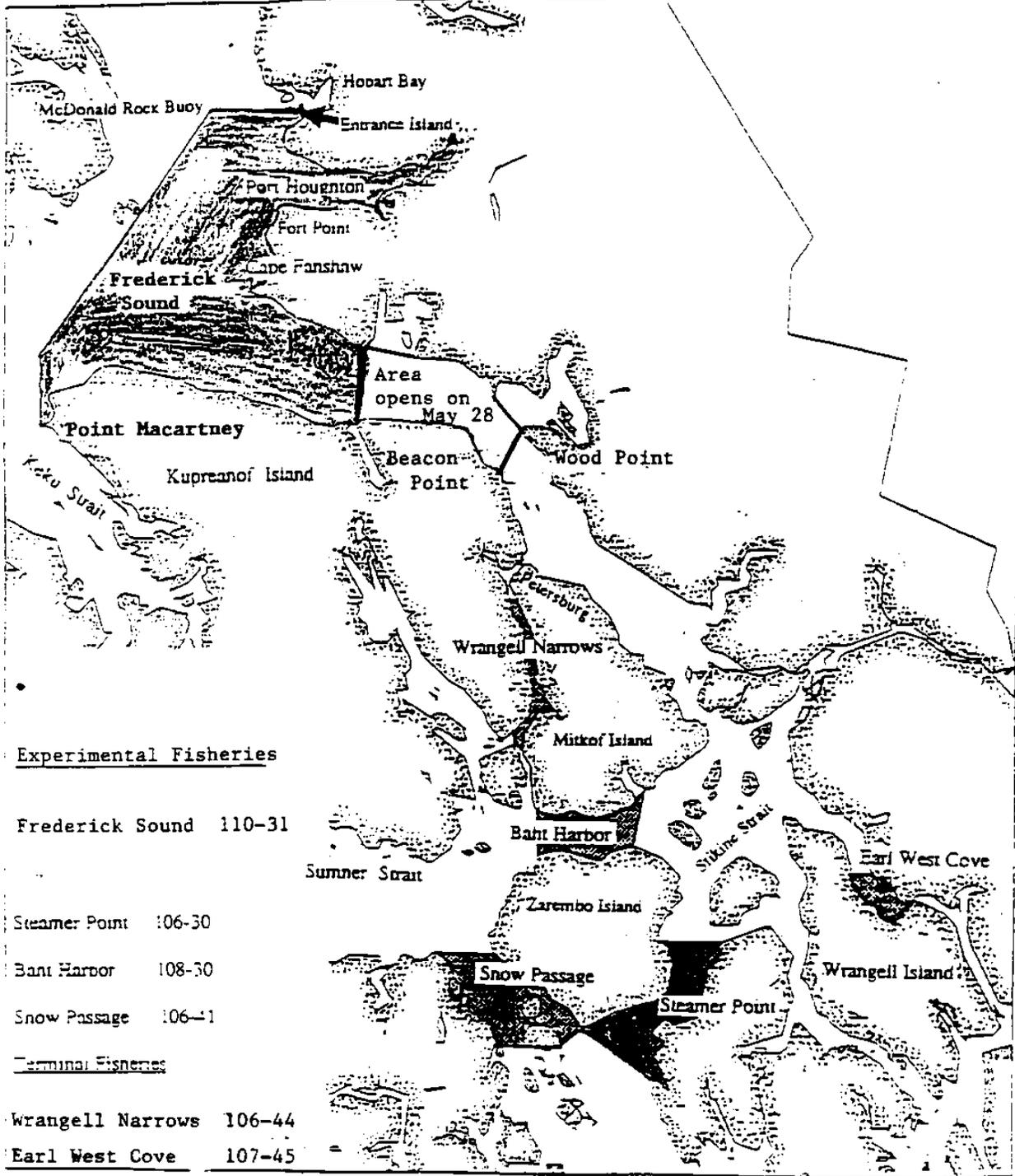


Figure A13. Petersburg/Wrangell are a experimental troll fisheries, 1996.

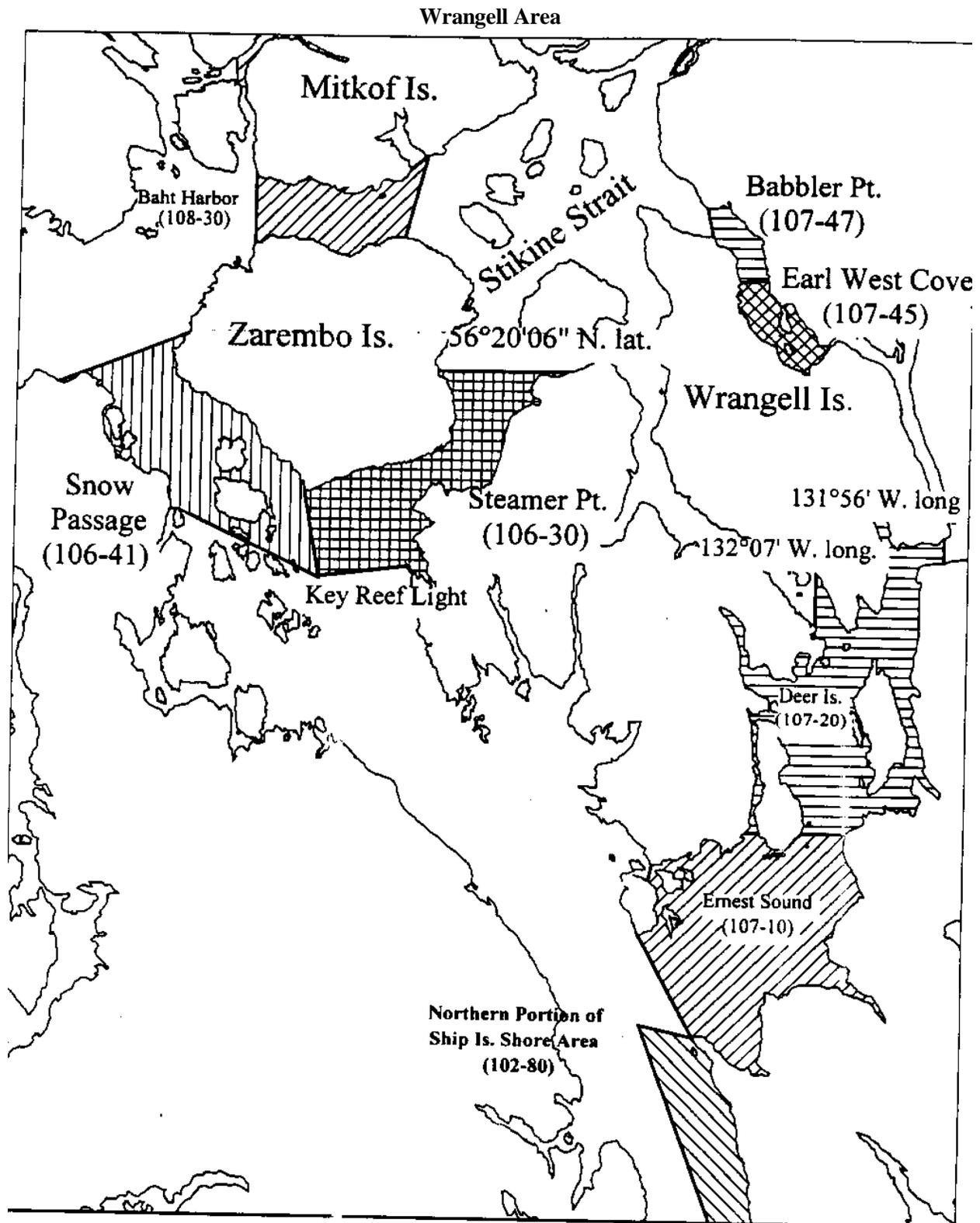


Figure A14. Wrangell area experimental troll fisheries, 1998.

Wrangell Area

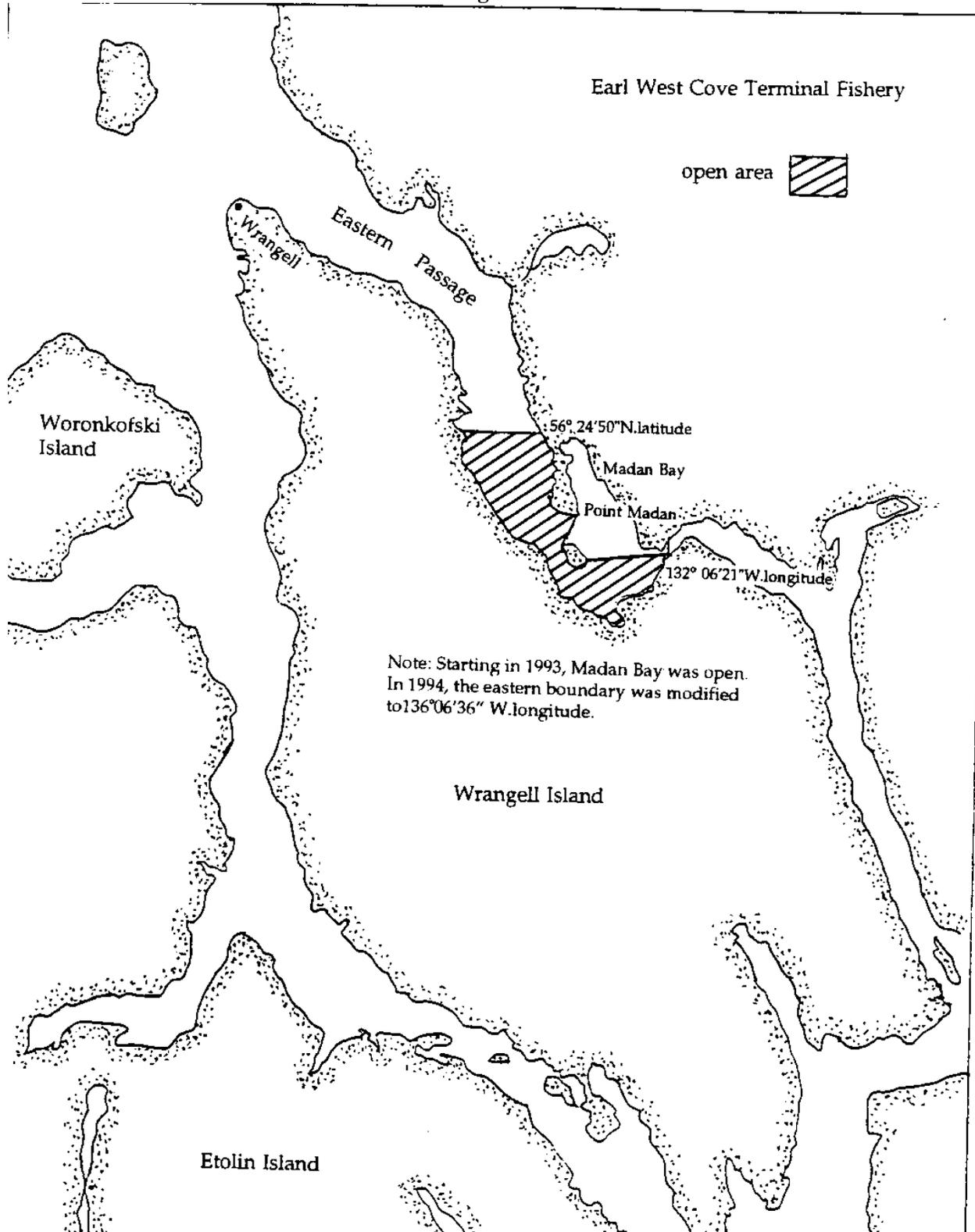


Figure A15. Earl West Cove terminal troll fishery, 1988-1998.

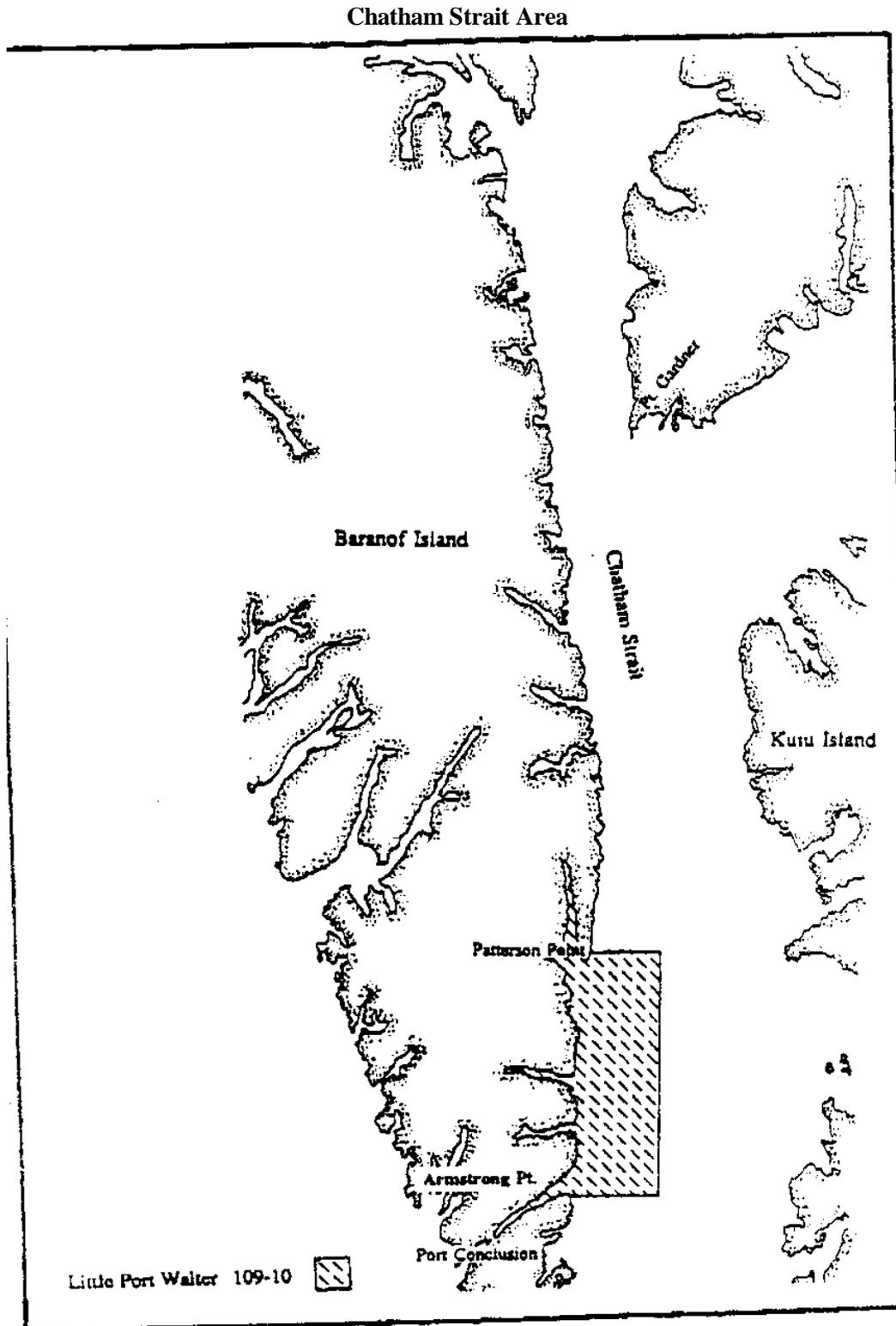


Figure A16. Little Port Walter experimental troll fishery, 1986.

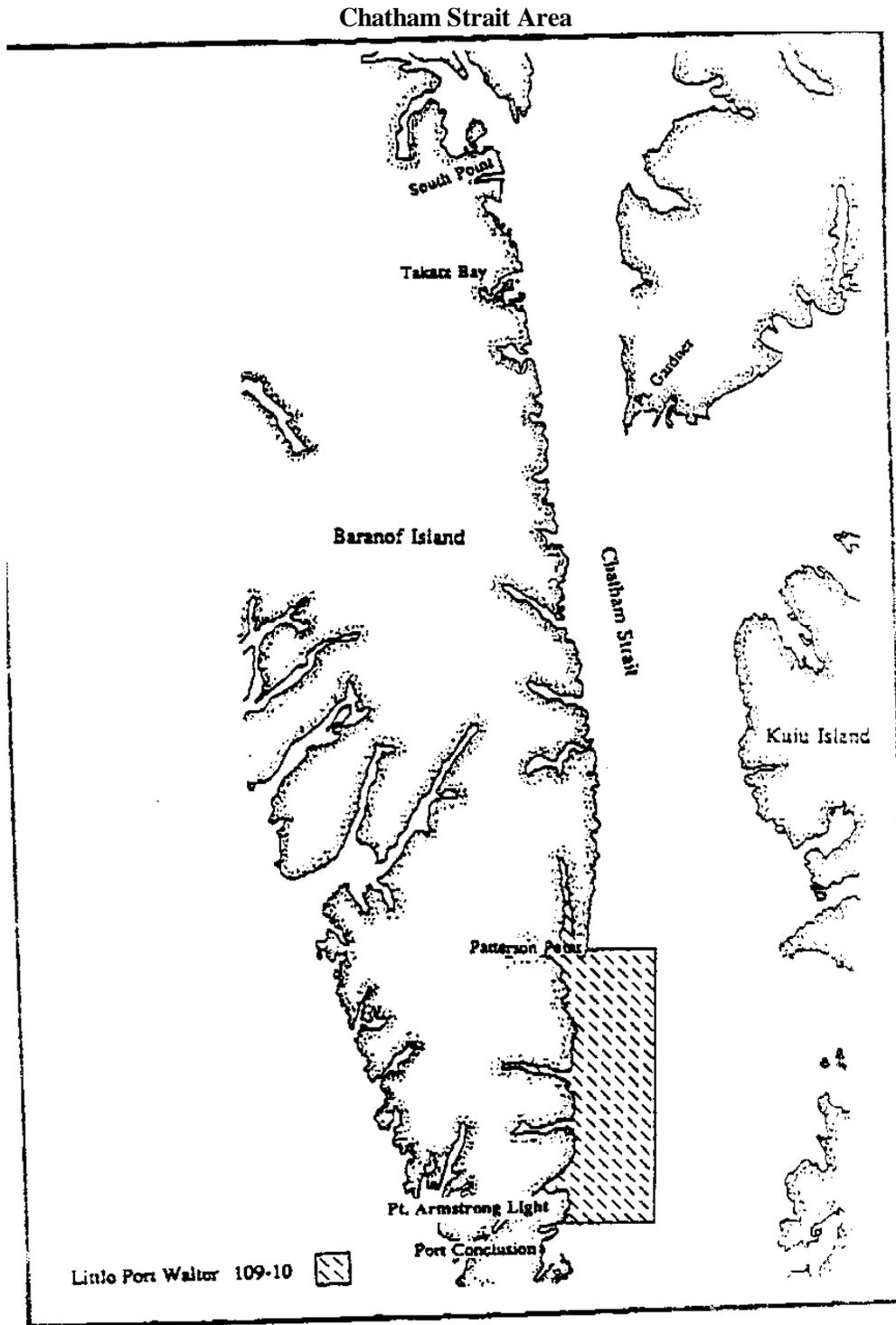


Figure A17. Little Port Walter experimental troll fishery, 1987.

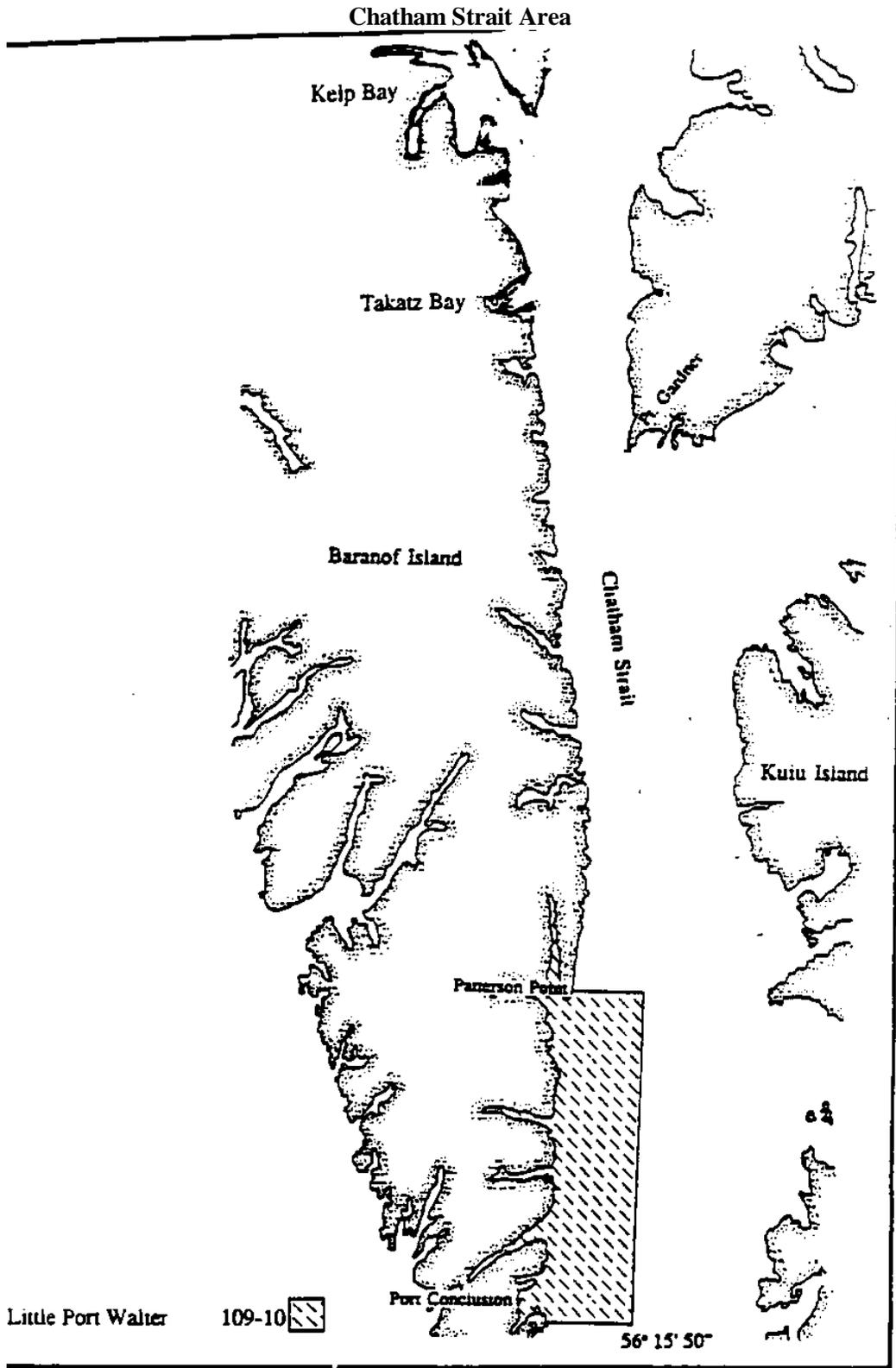


Figure A18. Little Port Walter experimental troll fishery, 1988-1998.

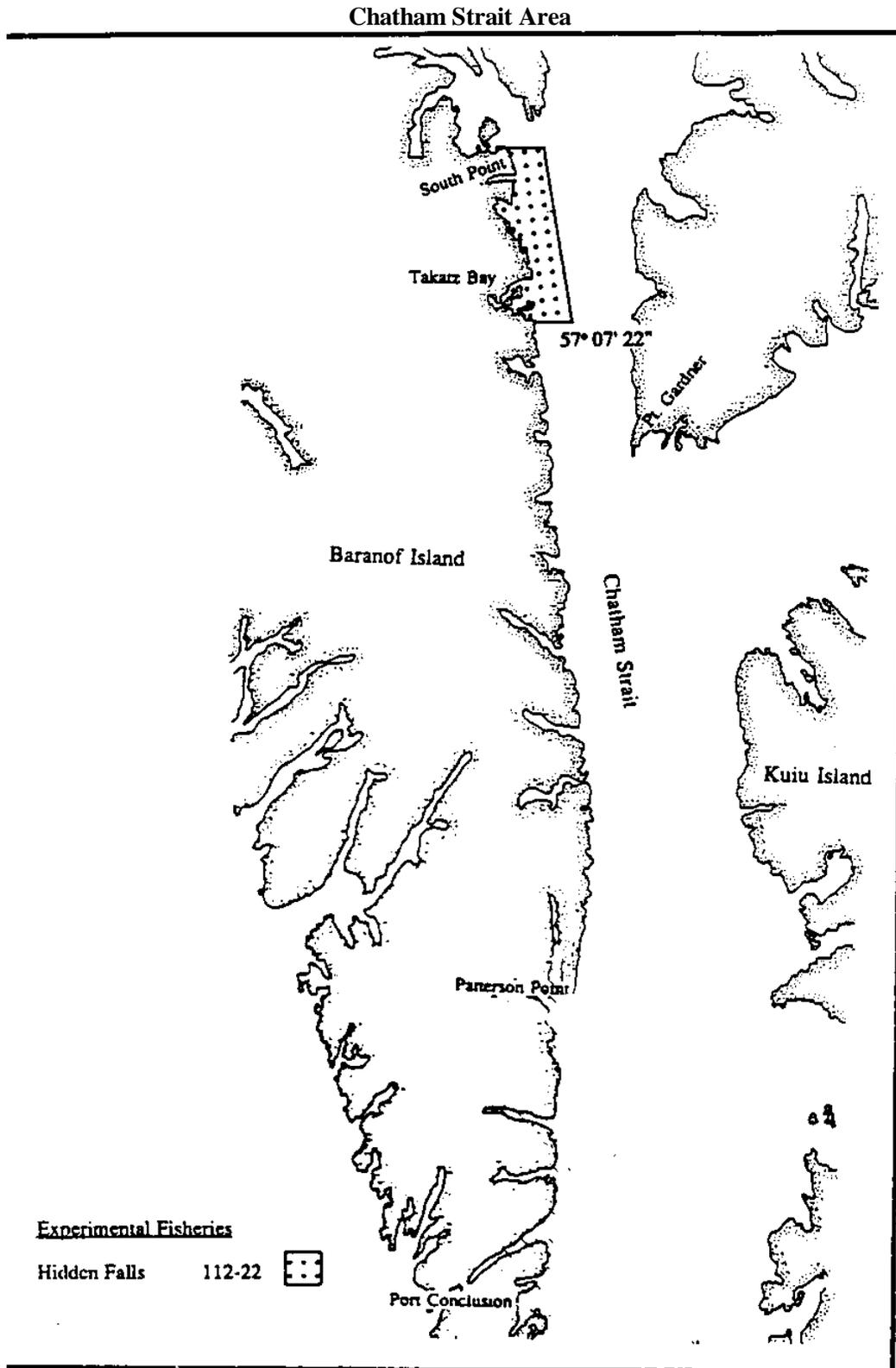


Figure A19. Hidden Falls experimental troll fishery, 1992-1993.

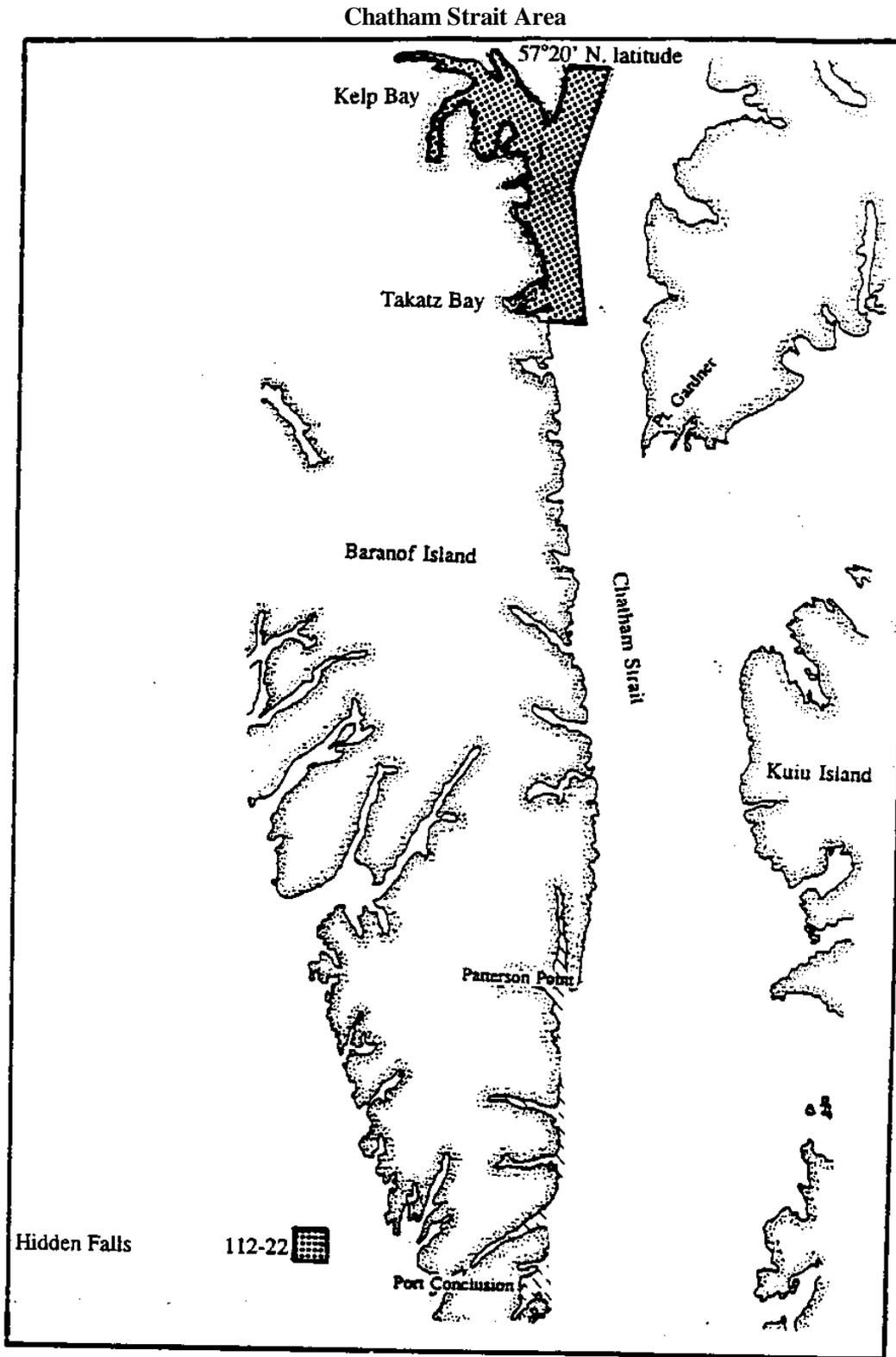


Figure A20. Hidden Falls experimental fishery, 1995.

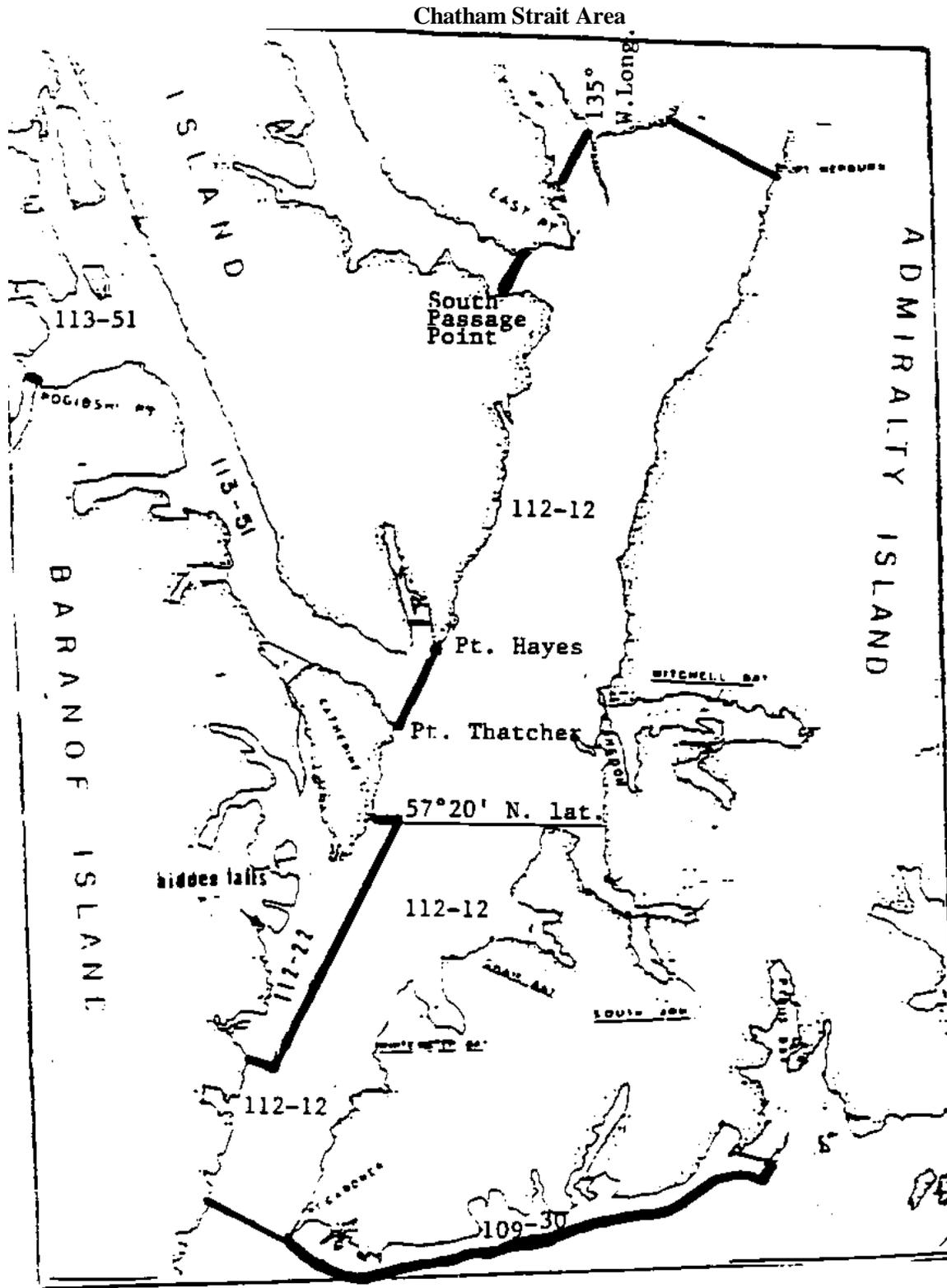


Figure A21. Chatham Strait area experimental troll fisheries, 1996.

### Chatham Strait Area

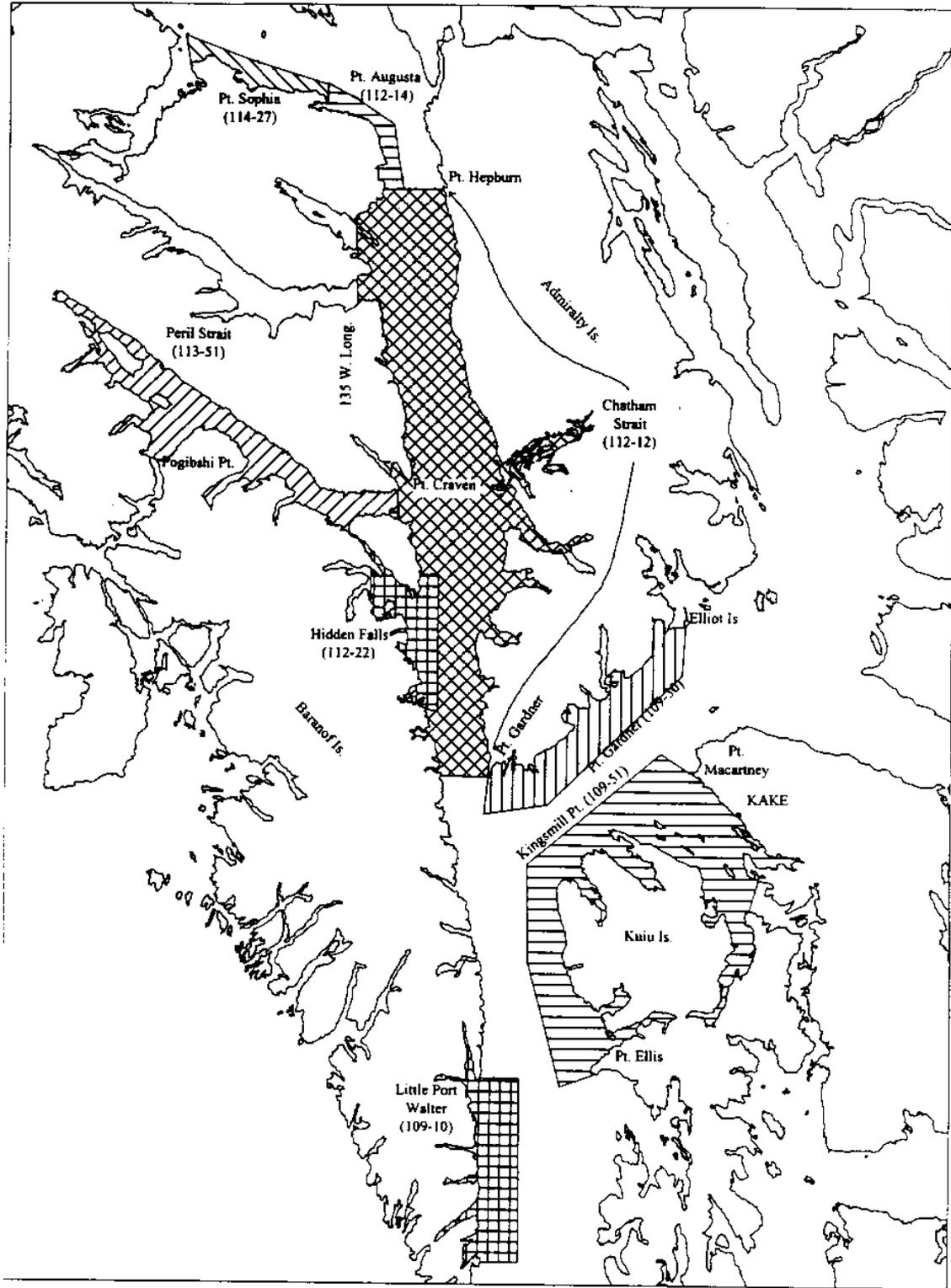


Figure A22. Chatham Strait area experimental troll fisheries, 1997.

Chatham Strait Area

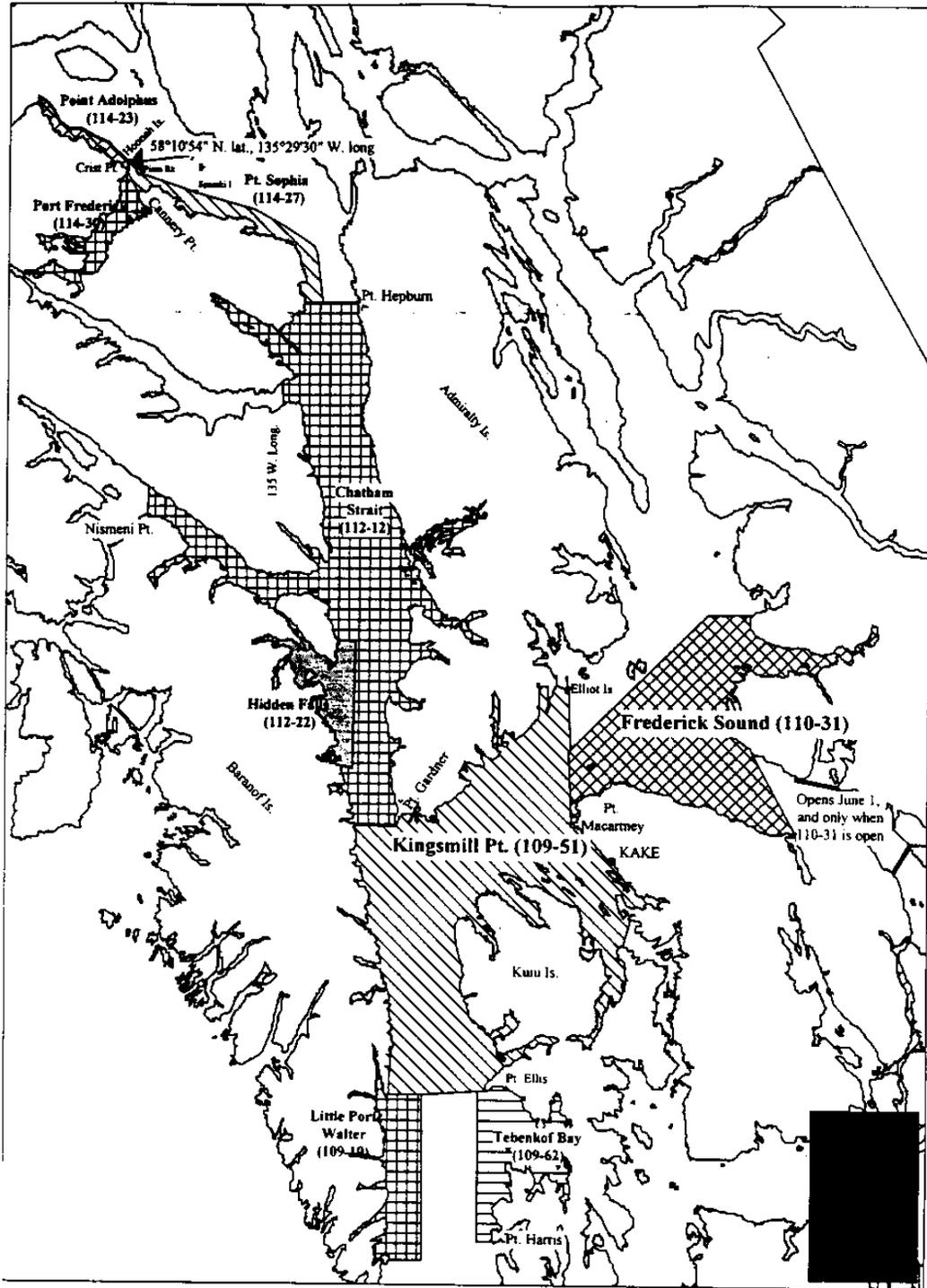


Figure A23. Chatham Strait and Frederick Sound experimental/terminal troll fisheries, 1998.

Kingsmill-Kuiu Island Area

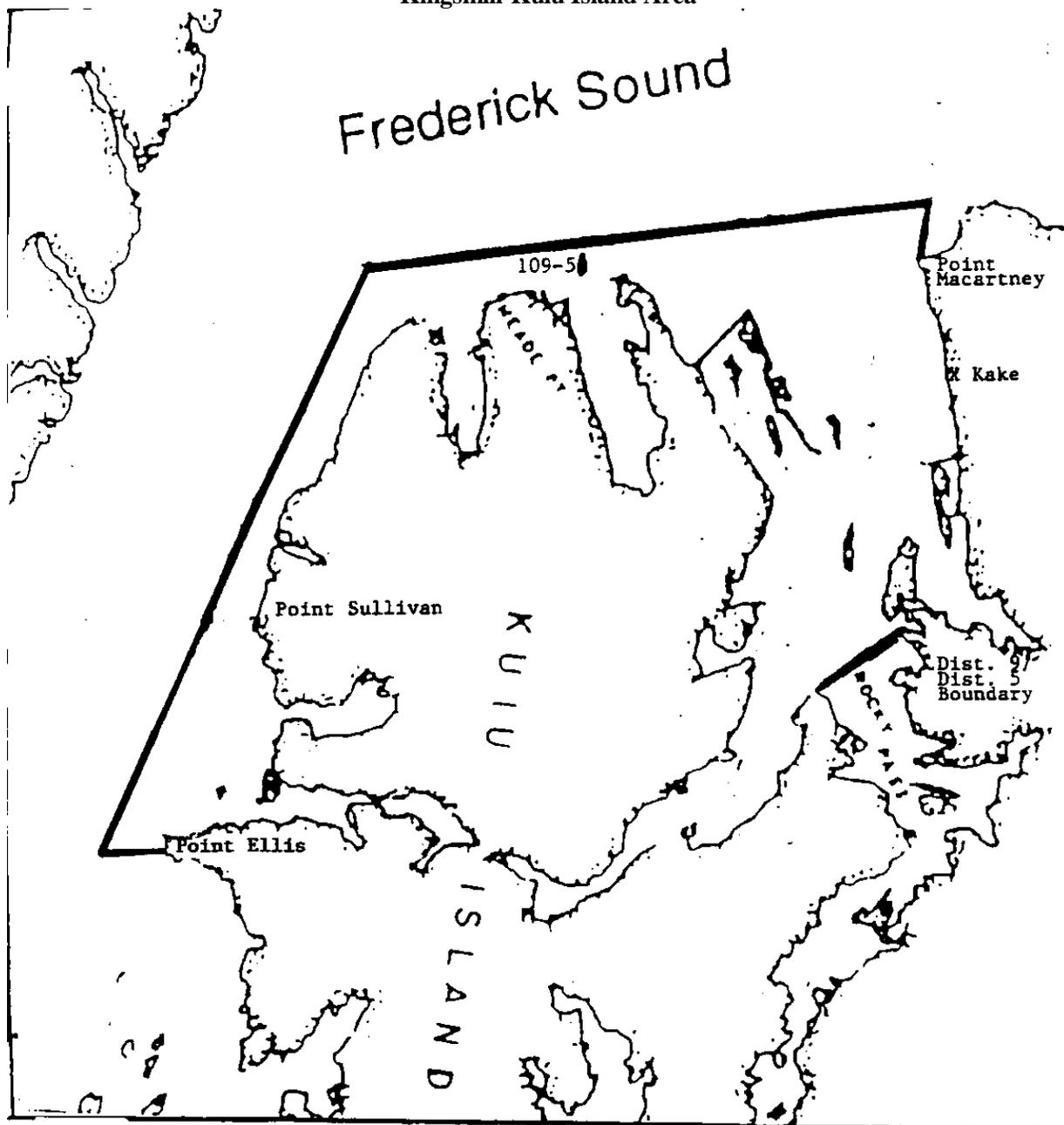


Figure A24. Kingsmill Point experimental troll fishery, 1996.

Sitka Area

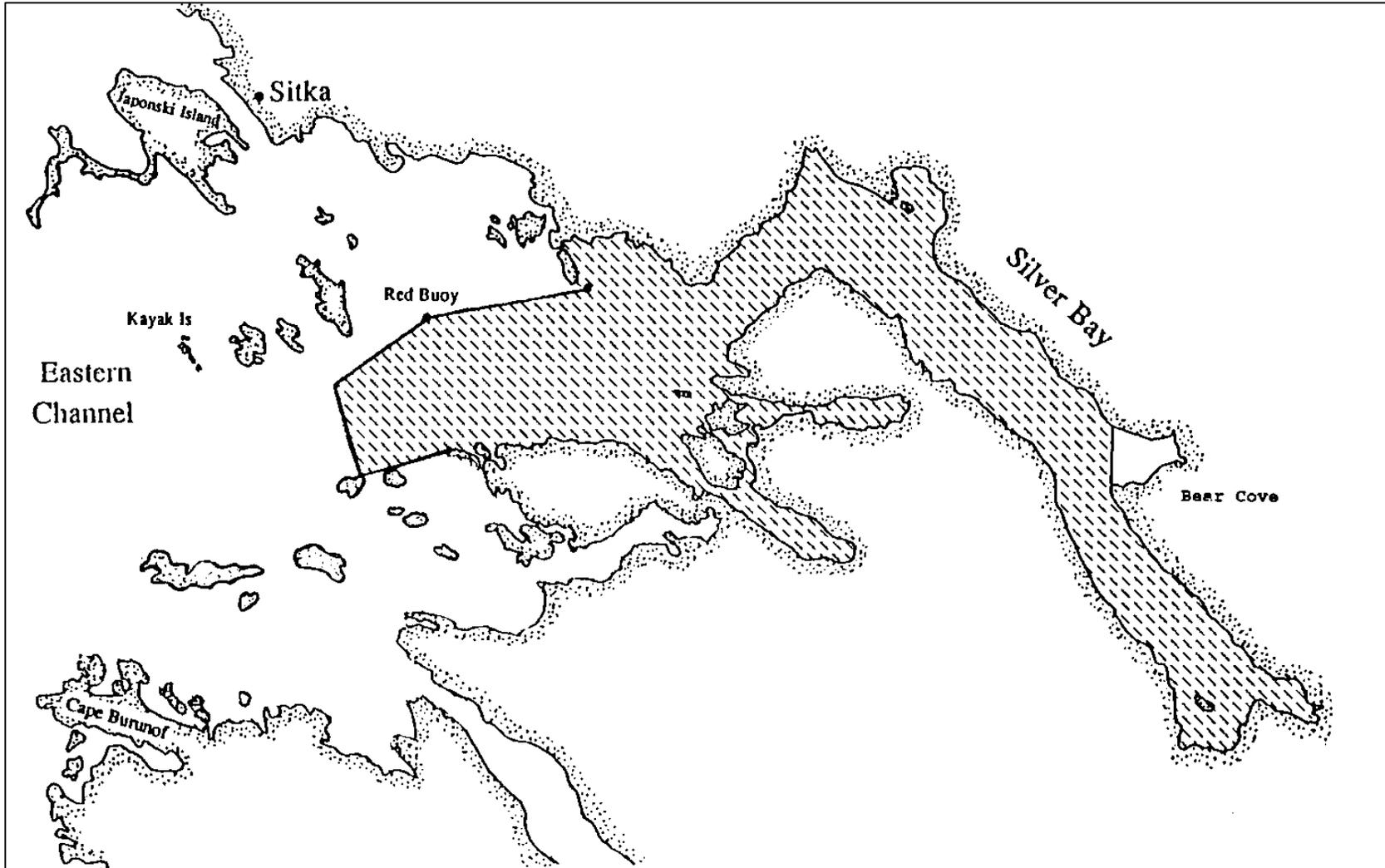


Figure A26. Sitka area experimental troll fisheries, 1991.

Sitka Area

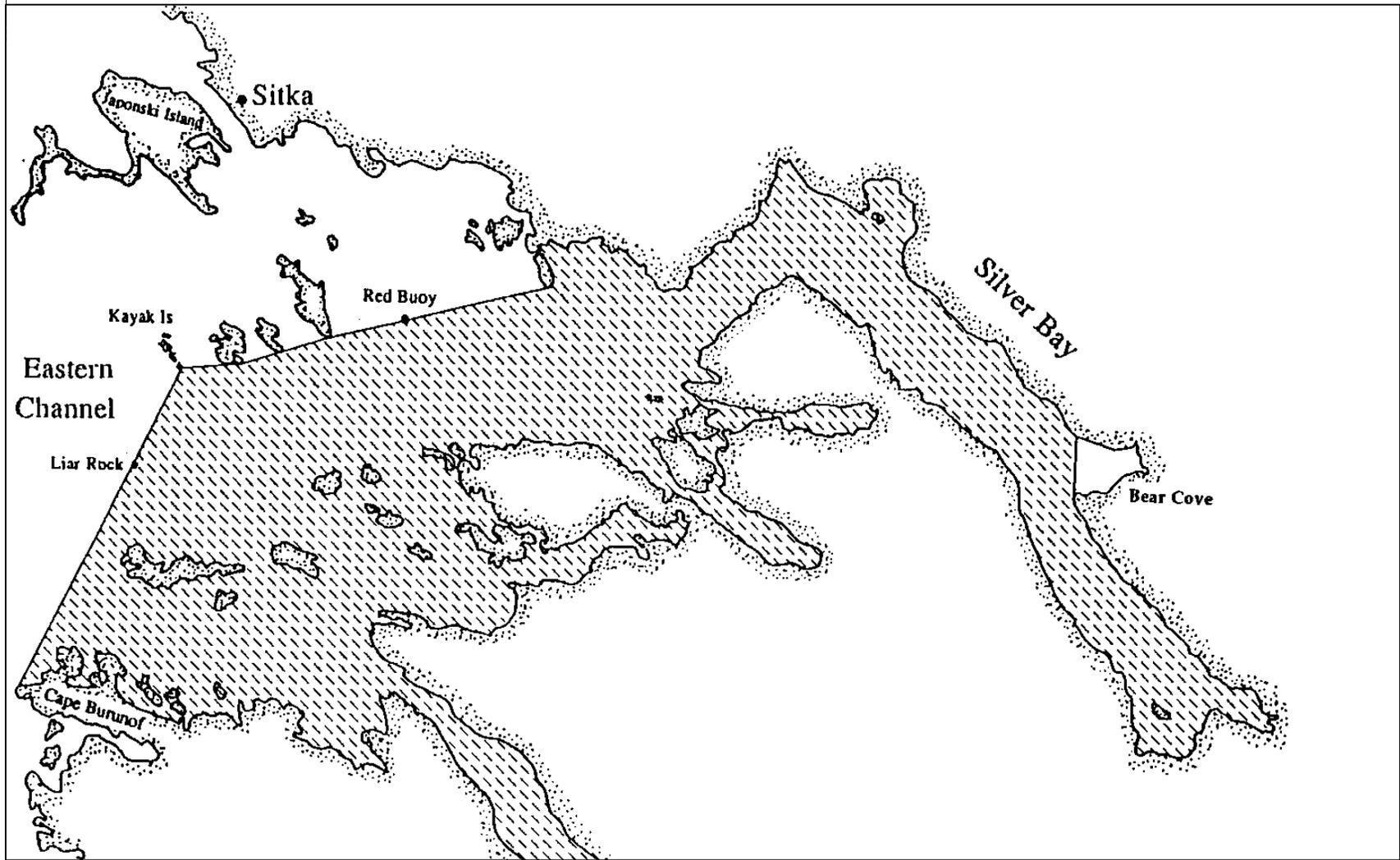


Figure A27. Sitka area experimental troll fisheries, 1992.

Sitka Area

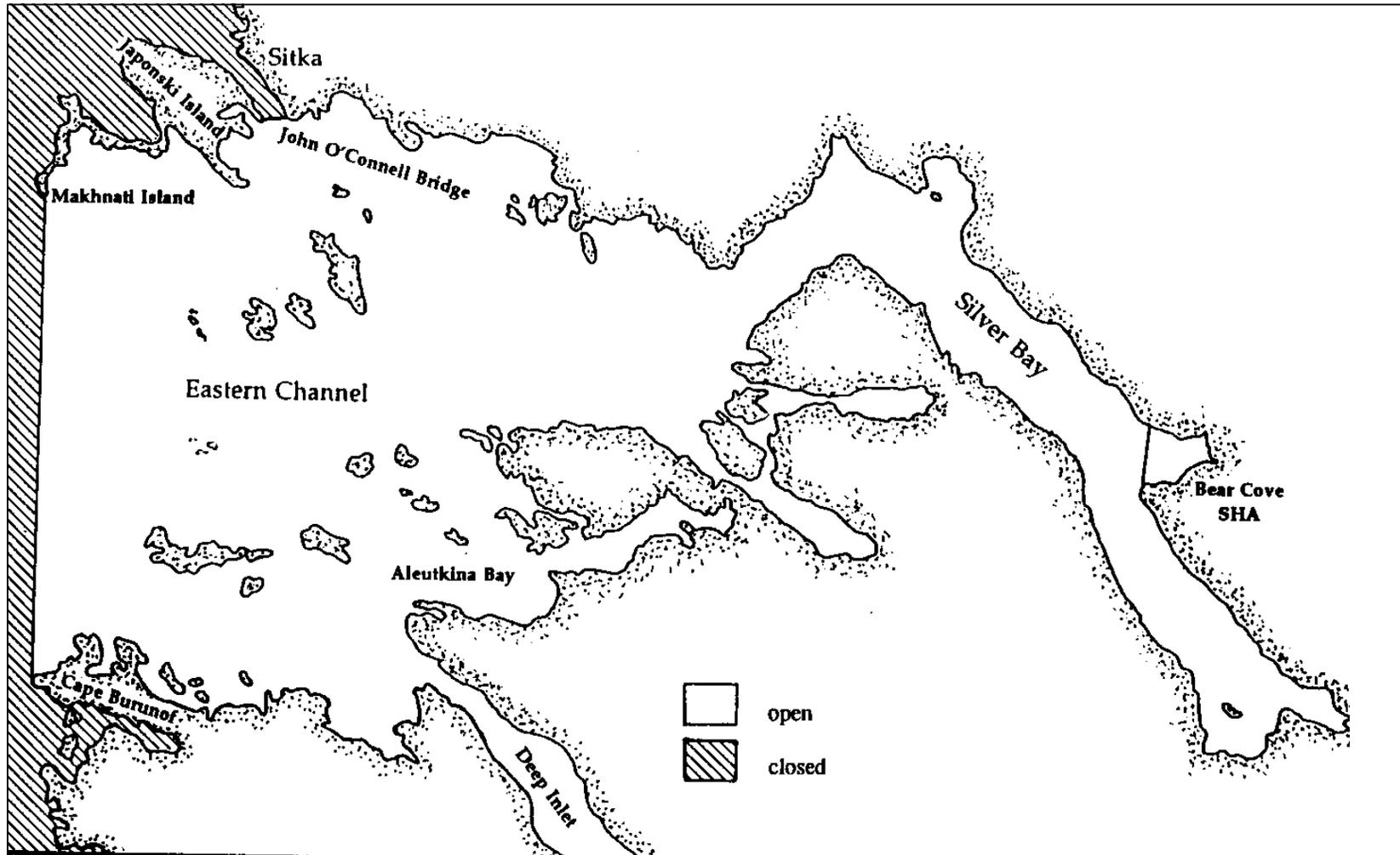
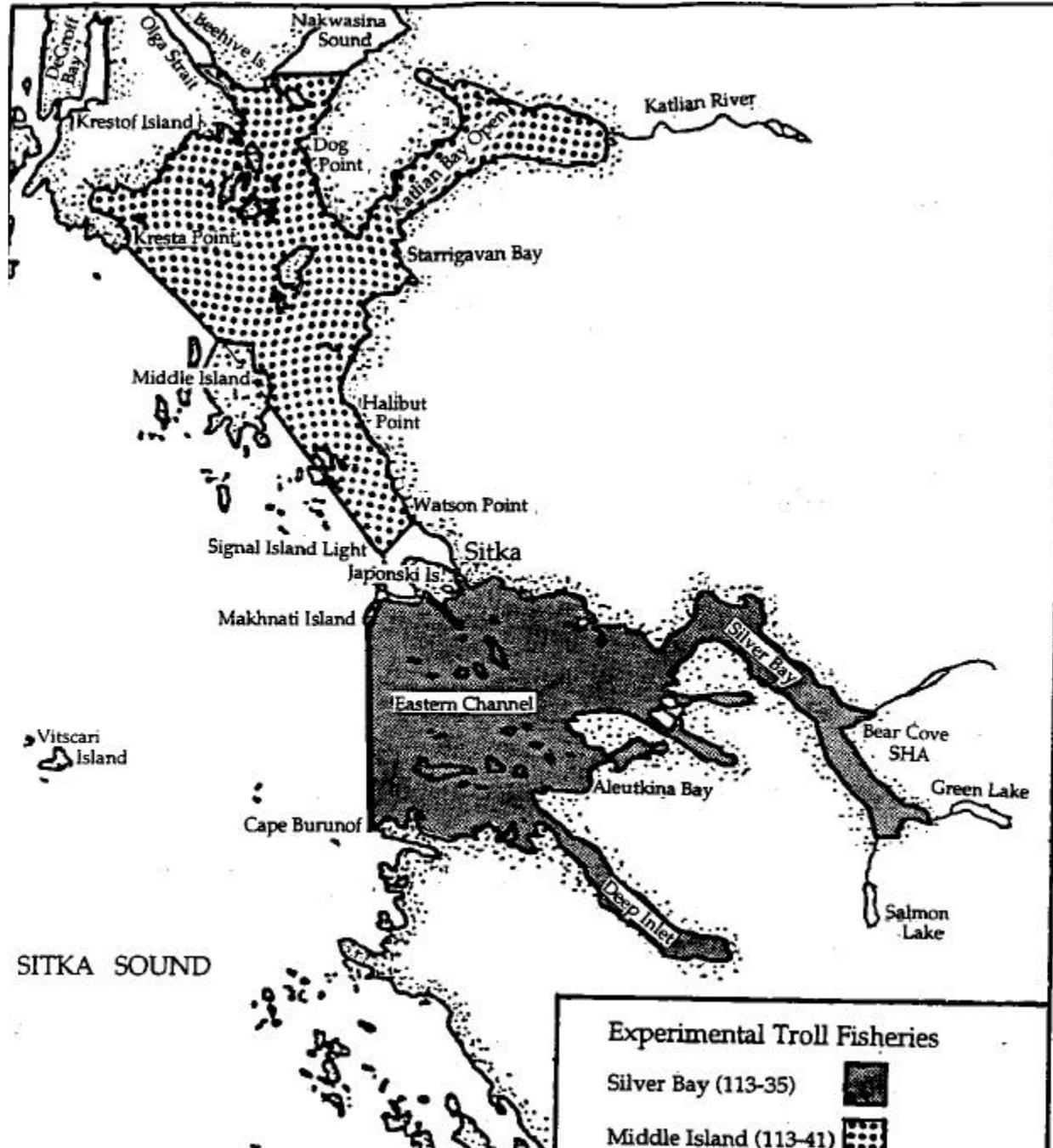


Figure A28. Sitka area experimental troll fisheries, 1993-1994.

# Sitka Area



# Sitka Area

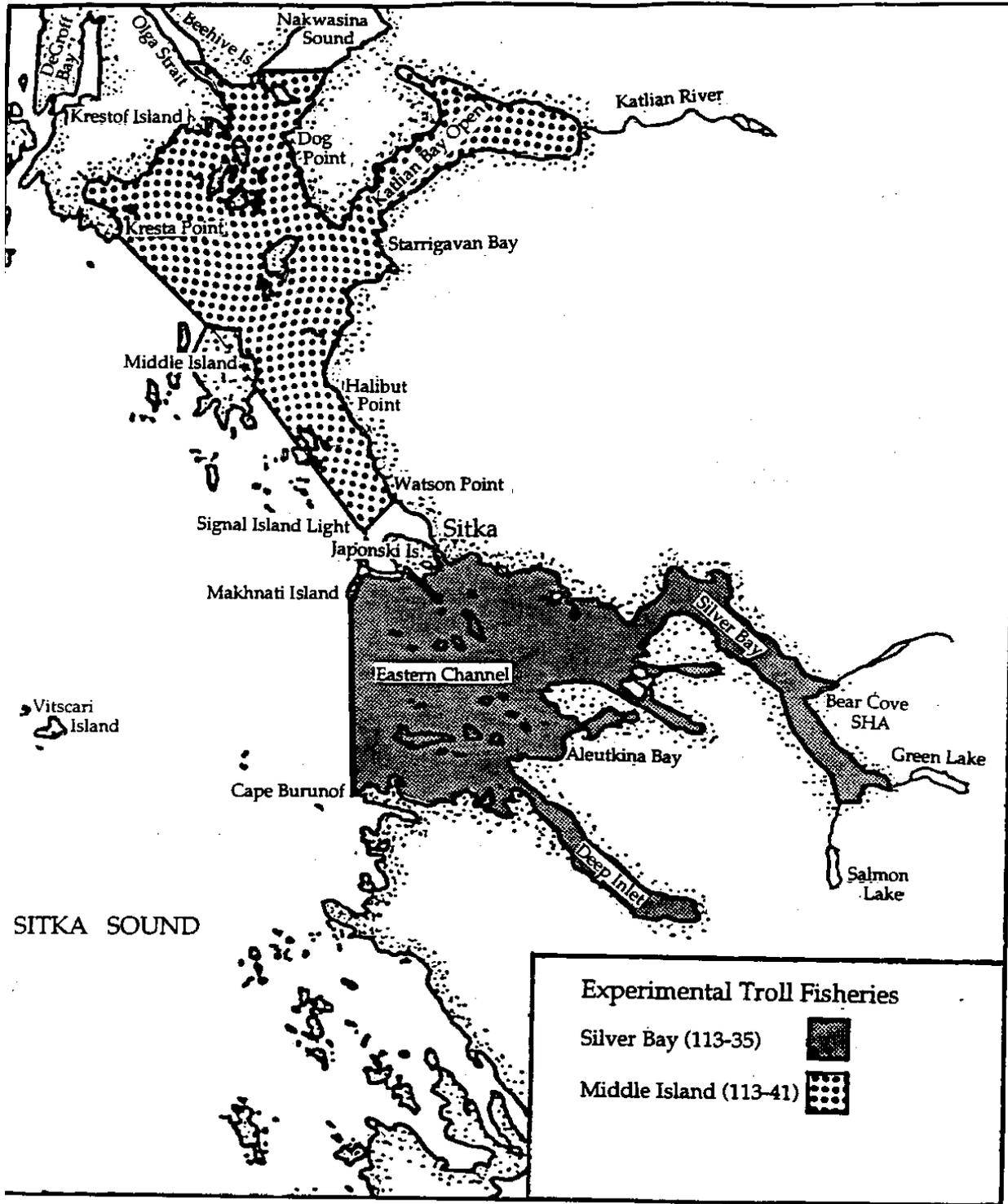


Figure A29. Sitka area experimental troll fisheries, 1995.

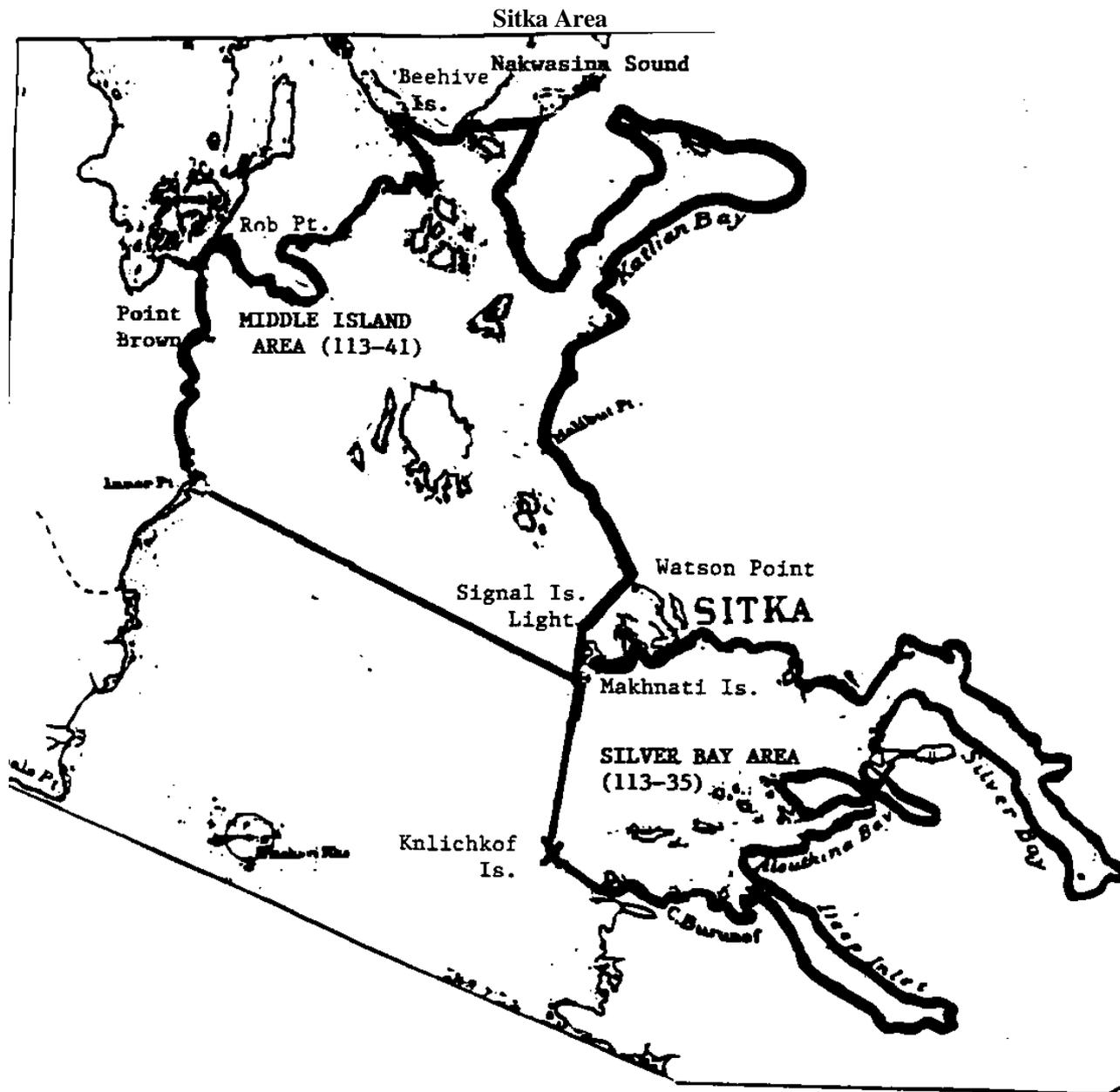


Figure A30. Sitka area experimental troll fisheries, 1996.

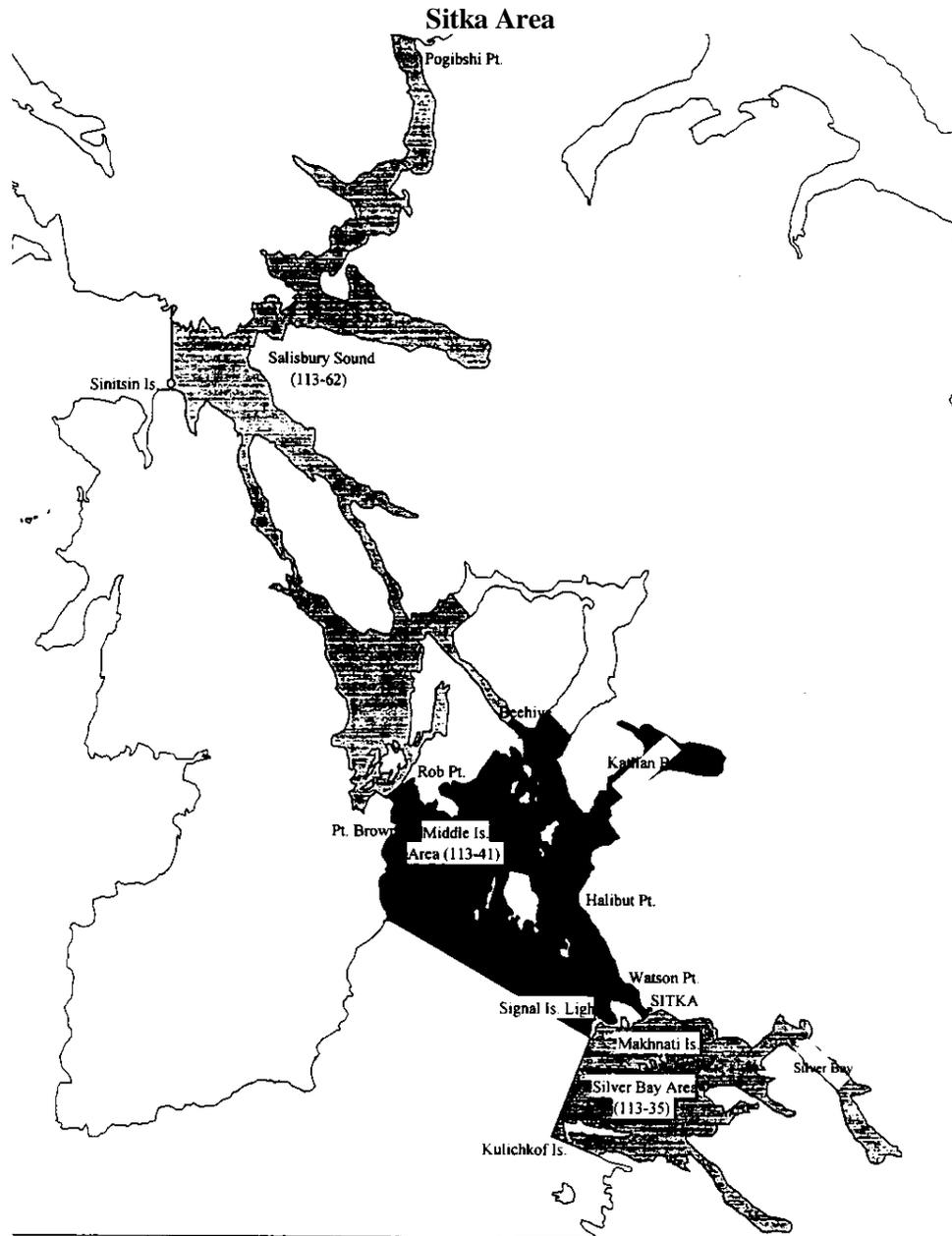


Figure A31. Sitka area experimental troll fisheries, 1997.



Salisbury Sound Area

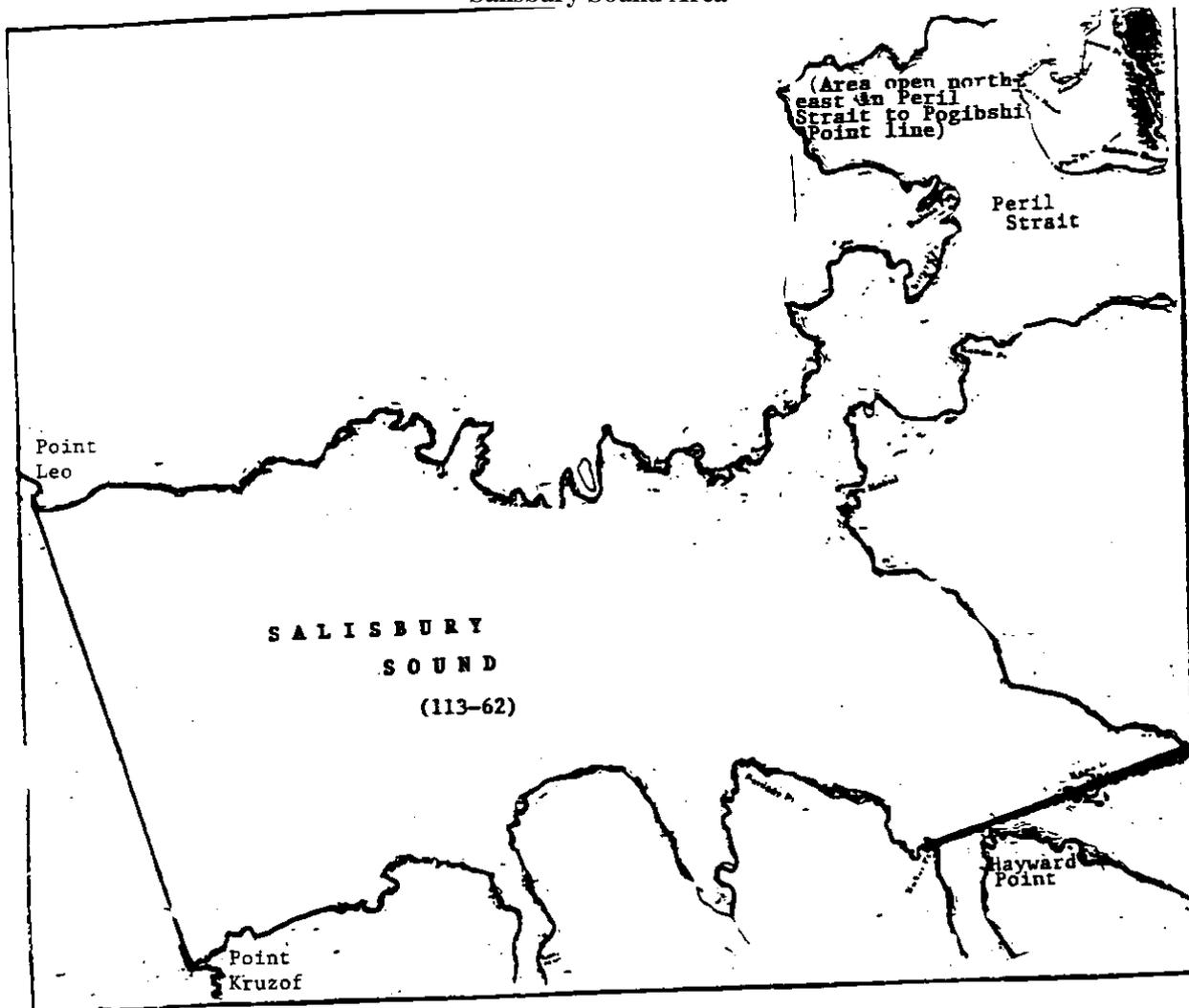


Figure A33. Salisbury Sound experimental troll fishery, 1996.

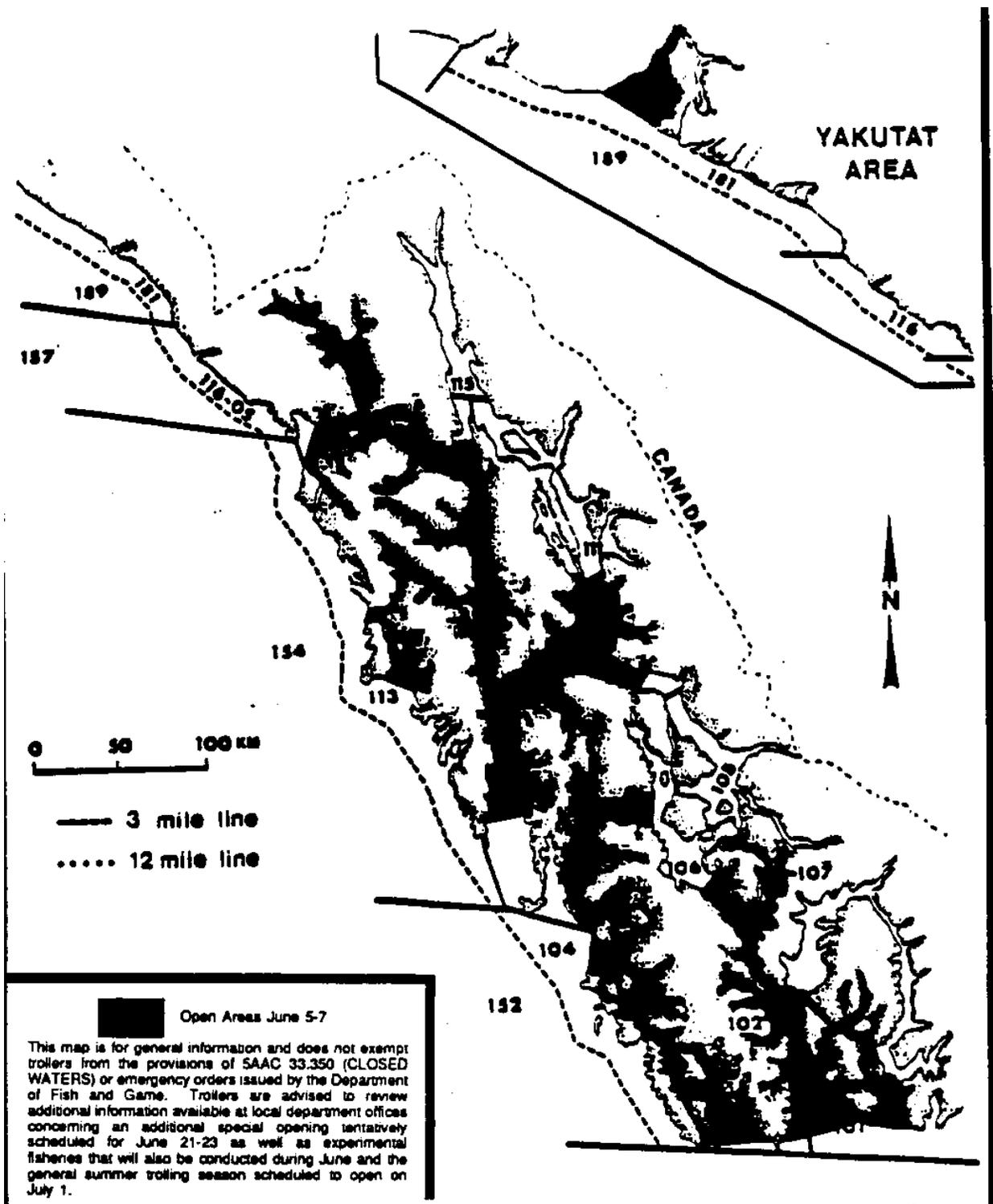


Figure A34. Hatchery Access fishery open areas, June 5-7, 1989.

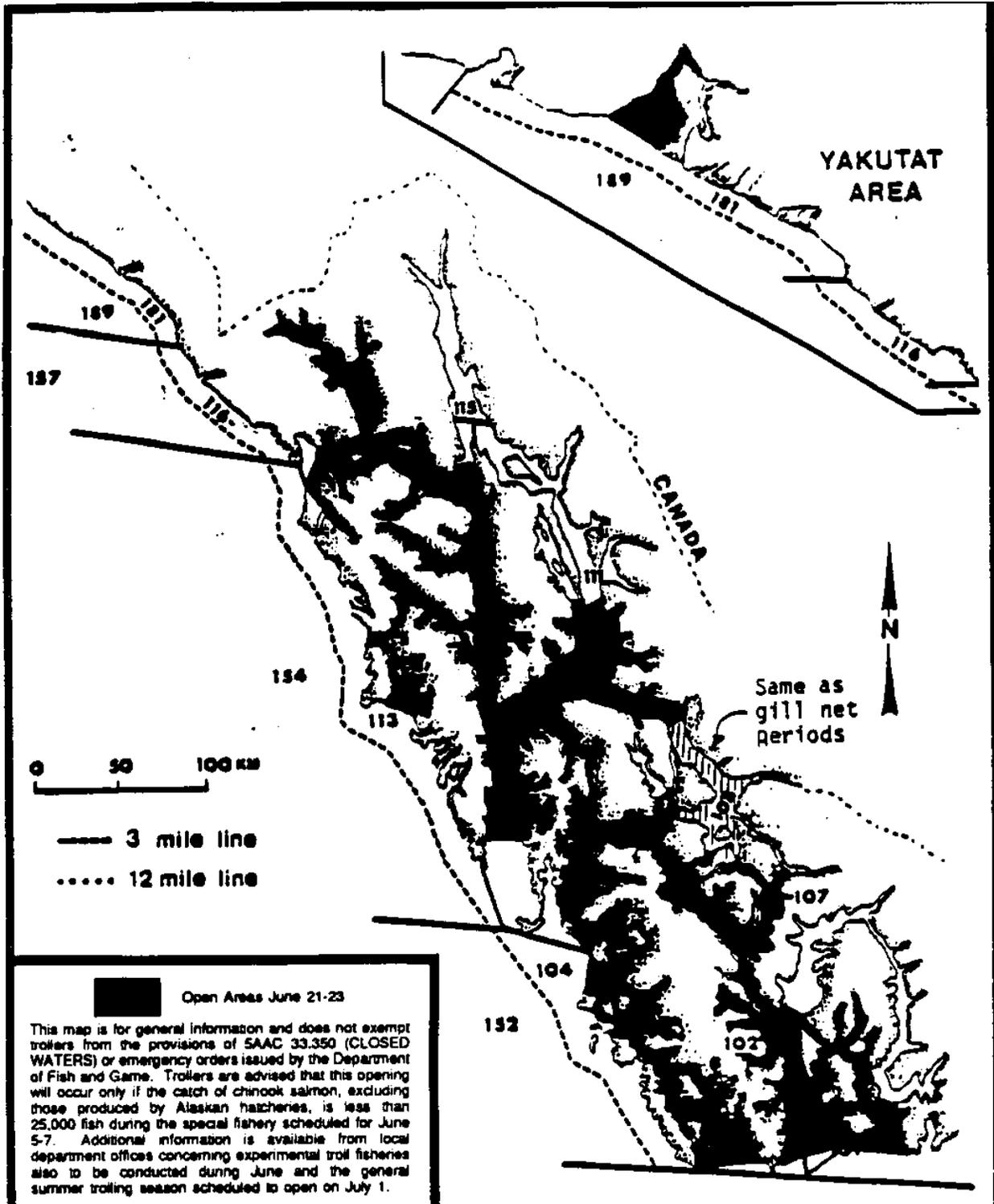


Figure A35. Hatchery Access fishery open areas, June 21-23, 1989.

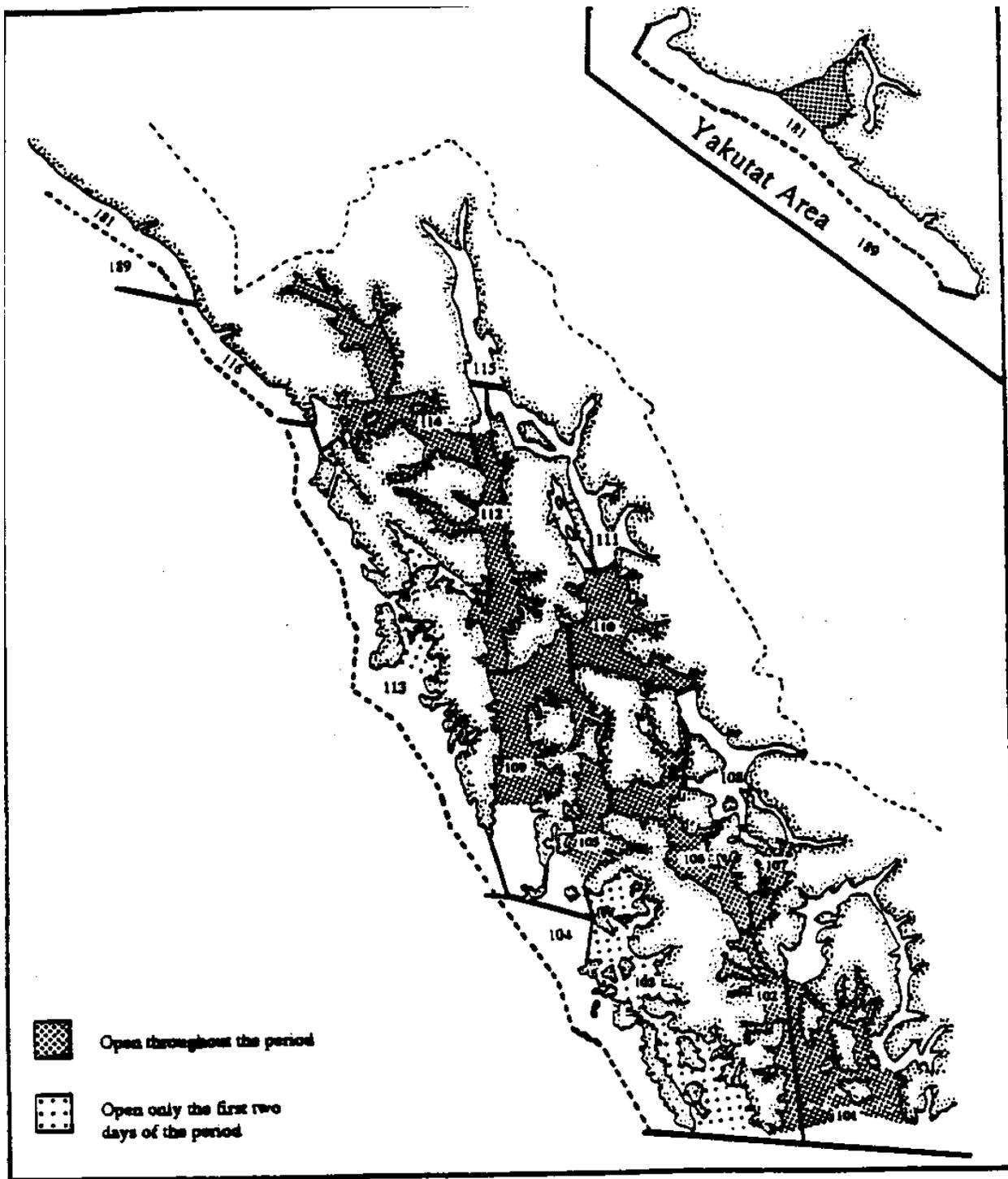


Figure A36. Hatchery Access fishery open areas, 1991.

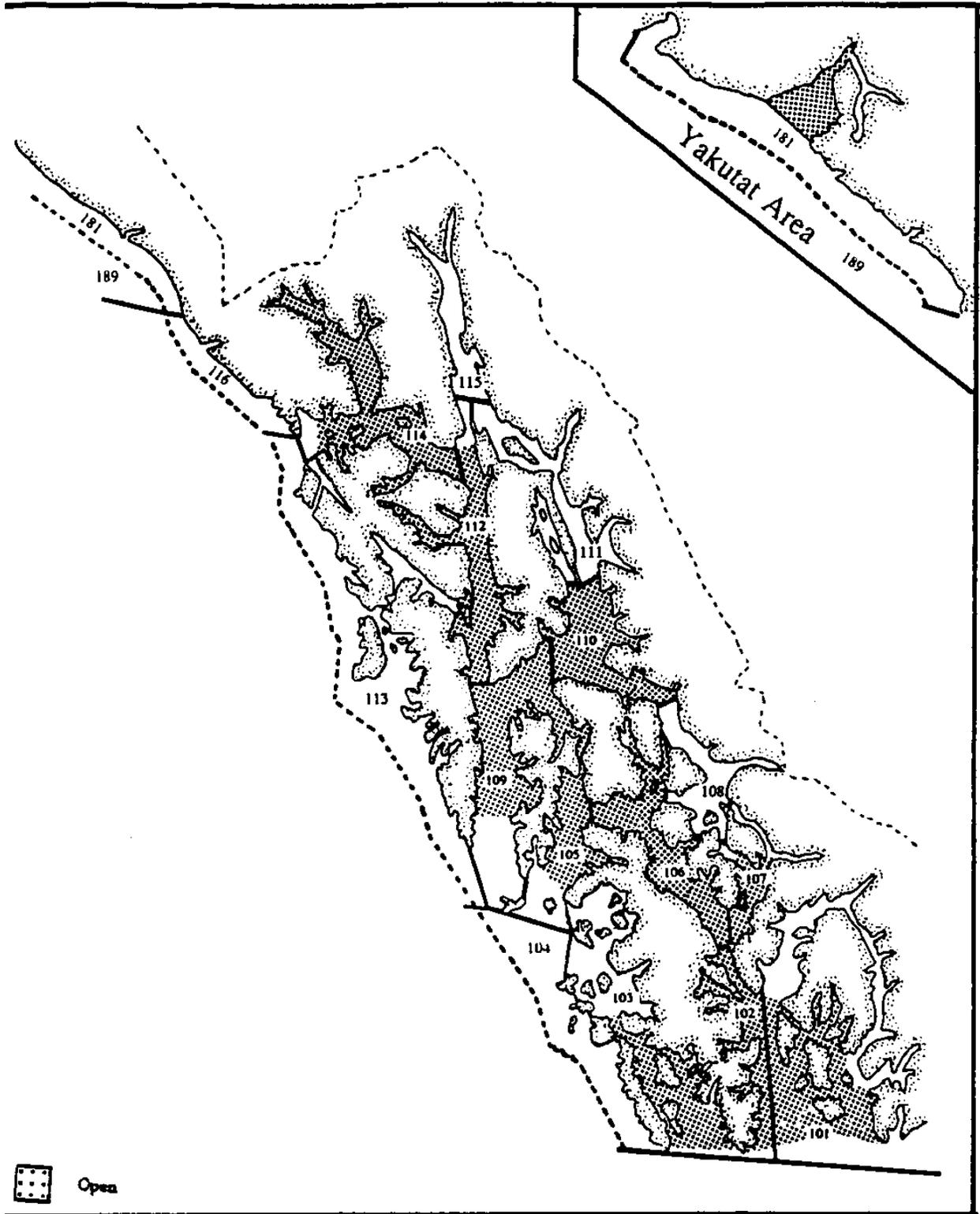


Figure A37. Hatchery Access fishery open areas, 1992.

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