

Fishery Management Report No. 06-64

**Aleutian Islands and Atka-Amlia Islands Management
Areas Salmon Management Report to the Alaska
Board of Fisheries, 2007**

by

Philip Tschersich

December 2006

Alaska Department of Fish and Game

Divisions of Sport Fish and Commercial Fisheries



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Division of Sport Fish, Research and Technical Services
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ABSTRACT

The Aleutian Islands and Atka-Amlia Islands Management Areas include all of the Aleutian Islands west of Unimak Island.

Salmon escapement information for the Aleutian Islands and Atka-Amlia Islands Management Areas is scarce. Historically, stream surveys were conducted on Unalaska Island streams by foot and aerial surveys, and salmon enumeration weirs. The weirs have been operated at Summer Bay Lake (1998-2001) and McLees Lake (2001-present) on Unalaska Island to monitor sockeye salmon. In 2003, a record 101,793 sockeye salmon were enumerated at McLees Lake weir while in 2006, 12,936 sockeye salmon were counted. Sockeye salmon counts at Summer Bay Lake ranged from 2,641 fish in 1998 to 5,388 fish in 2001. Approximately 490,300 pink salmon were observed in Unalaska Island streams during the one day of aerial surveying conducted in the Aleutian Islands in 2006.

In 2006, the commercial harvest in the Aleutian Islands Area was 2,542 sockeye *Oncorhynchus nerka*, 991,687 pink *O. gorbuscha*, and 1,541 chum *O. keta* salmon. The entire 2006 Aleutian Islands Area harvest occurred around the island of Unalaska and predominantly targeted pink salmon. Only two years (2000 and 2006) had a commercial salmon harvest in the Aleutian Islands since 1995. Although there is a history of commercial harvest prior to 1995, lack of adequate markets in recent years has discouraged the exploitation of this resource. In 2006 however, a weak statewide pink salmon run and increased market demand made an Aleutians Islands fishery possible. There has not been a commercial salmon harvest in the Atka-Amlia Islands Area since 1996.

Salmon are an important subsistence resource for Aleutian Islands residents. Subsistence permit reports have documented an increased annual harvest near Unalaska Island and a decreased harvest near Adak in recent years. Subsistence harvests of salmon in other areas of the Aleutian Islands are poorly documented; subsistence salmon fishing permits are not required in the Pribilof Islands and no harvest information is gathered there.

Keywords: Aleutian Islands, Atka-Amlia Islands, Area M, Area F, Dutch Harbor, Unalaska, Adak, Chinook salmon, *Oncorhynchus tshawytscha*, sockeye salmon, *Oncorhynchus nerka*, coho *Oncorhynchus kisutch*, pink salmon, chum salmon, *Oncorhynchus keta*, commercial, subsistence, personal use, escapement, fishery, harvest, Alaska Board of Fisheries.

INTRODUCTION

The Aleutian Islands Management Area includes the waters of Alaska west of Unimak Island, including the Pribilof Islands, but excluding the Atka-Amlia Islands Management Area (5 AAC 12.100; Figure 1). The Atka-Amlia Islands Management Area encompasses all Aleutian Islands waters between Segum Pass (172° 50.00' W. long.) and Atka Pass (175° 23.00' W. long.; 5 AAC 11.101; Figure 1). The Alaska Department of Fish and Game (ADF&G) has been responsible for managing the salmon resources of the Aleutian Islands and Atka-Amlia Islands Management Areas since 1960. This report presents commercial and subsistence salmon harvest and escapement information for these areas.

The Aleutian Islands Management Area is part of the salmon net registration area (Area M) that also includes the Alaska Peninsula Salmon Management Area. Seining is the only legal method used to commercially harvest salmon in the Aleutian Islands Area (5 AAC 12.330).

The Alaska Board of Fisheries (BOF) created the Atka-Amlia Islands Management Area (Area F) in 1992 and small commercial harvests occurred in this fishery between 1992 and 1996. Legal harvest methods for the Atka-Amlia Islands Management Area include both set gillnetting and purse seining (5 AAC 11.333). Area M seine permits are also valid in Area F.

Historically, salmon markets in these areas have never been robust. Prior to 1979, fishermen salted and sold some fish (usually sockeye salmon *Oncorhynchus nerka*). Processors in Unalaska-Dutch Harbor or Akutan purchased most of the commercially harvested salmon from 1979 through 1988. Because of the decline in demand for pink salmon *O. gorbuscha* during recent years, processing facilities in Dutch Harbor have not purchased salmon and most of the harvest has been transported to the Alaska Peninsula for canning. Recently near Unalaska, markets only developed if pink salmon abundance and prices

warranted tenders traveling long distances (from King Cove), or if a floating processor moved into the area.

SALMON DISTRIBUTION AND RUN TIMING

The Aleutian Islands produce runs of sockeye, coho *O. kisutch*, pink, and chum *O. keta* salmon. There are no known Chinook salmon *O. tshawytscha* producing streams in the Aleutian Islands. Pink salmon are the most abundant and widespread of the species and historically have attracted the most commercial interest.

Unalaska, Umnak, Unimak, Atka, Amlia, Adak, and Attu islands produce large pink salmon runs during some years. Tanaga, Kanaga, and Kiska islands each have at least one substantial pink salmon stream (Figure 1). Aleutian Islands pink salmon runs tend to be much larger during even-numbered years (Shaul and Dinnocenzo 2003). An occasional exception is Unalaska Bay, which may sometimes produce large pink salmon runs during odd years.

The migration timing and entry into natal streams of Aleutian Islands pink salmon varies considerably between years and between streams. At both Atka and Unalaska islands, pink salmon often begin to enter streams in late July and during large runs (usually even-years) may continue through September. Observations reported by the United States Fish and Wildlife Service (USFWS) indicate a similar pattern in streams located on Adak Island (Palmer 1995). Sometimes pink salmon are not observed in streams until mid August. Aleutian Islands pink salmon tend to be of smaller size than those of Alaska Peninsula stocks (Shaul and Berceci 1995); however, Unalaska Island pink salmon were larger than Alaska Peninsula pink salmon in 2000 and 2006 (Shaul and Dinnocenzo 2003; Tschersich *In prep*).

SALMON ESCAPEMENTS

Salmon escapement information is scarce for most of the Aleutian Islands and Atka-Amlia Islands Management Areas. In 1982, ADF&G conducted a short-term salmon escapement and distribution study in the Aleutian Islands from Unalaska Island to, and including part of, Attu Island (Holmes 1997). The United States Energy Research and Development Administration conducted limited studies on Amchitka Island in 1977 (Seimenstad et al. 1977; Valdez et al. 1977). ADF&G did repetitive surveys on some Atka and Amlia Islands streams in 1992, 1993, and 1994 (Holmes 1995); and the USFWS did additional salmon abundance and distribution research at Adak Island in 1993 and 1994 (Palmer 1995).

Foot and aerial surveys have been conducted on some streams on Unalaska Island on a more regular basis. Survey efforts have been limited by poor weather conditions, remoteness, availability of suitable aircraft, limited staffing, and fiscal constraints. The resulting data are incomplete and of limited use in fisheries management.

Unalaska Lake has not reached its minimum sockeye salmon peak count escapement objective of 400 fish in numerous years between 1987 and 2006 (Table 1). Siltation has occurred in this lake and its drainages since World War II and degradation of spawning habitat has resulted (Holmes 1997). In 1997, the waters closed to subsistence fishing at the mouth of the stream were increased to conserve additional fish for escapement (5 AAC 01.375). Between 1998 and 2004, sockeye salmon escapements to this system have been generally adequate, but only 9 fish were documented in 2005 and 12 fish in 2006 under unfavorable survey conditions (Table 1).

In response to an oil spill, a weir was operated by ADF&G at Summer Bay Lake, on Unalaska Island, from 1998 through 2001 (Figure 2; Honnold et al. 1999; McCullough 2000; and McCullough and Bouwens *Unpublished*). The USFWS has also operated a weir at Mclees Lake on Unalaska Island from 2001 through 2006 and plans to continue to operate it in the near future (Palmer 2003; Michael R. Edwards, USFWS Fisheries Biologist personal communication). These projects documented larger escapements of sockeye salmon than had been previously observed in these streams. Sockeye salmon

escapements into McLees Lake increased between 2001 and 2003 when the number peaked at 101,793 fish, but then decreased to fewer than 13,000 fish in 2005 and 2006 (Tables 2 and 3).

COMMERCIAL FISHERY

ALEUTIAN ISLANDS AREA

The annual historical harvest of salmon in the Aleutian Islands Management Area is shown in Table 4. Commercial salmon harvests were first recorded in 1911 in the Aleutian Islands Management Area (Shaul and Dinnocenzo 2003). Pink salmon have been the most economically important species in the Aleutian Islands. There is often no commercial harvest during odd-numbered years.

Nearly all of the commercial harvest in the Aleutian Islands Area has occurred around Unalaska Island except for occasional fishing effort near Umnak Island during the 1950s and early 1960s, and a commercial expedition to Attu Island in 1963 (Shaul and Dinnocenzo 2003; Figure 1). The Aleutian Islands Area average even-year harvest of pink salmon during 1988-2006 is 288,453 fish; the odd-year average pink salmon harvest for 1987-2005 is 670 fish (Table 4). The largest annual Aleutian Islands Area pink salmon harvest of 2,597,461 fish was taken in Unalaska Island waters in 1980 (Table 4). Approximately 2.0 million of the pink salmon harvested in 1980 were caught in the Makushin Bay Section (Figure 3). Since 1994, a commercial harvest has occurred during only two years (2000, 2006) due to the lack of markets. In 2006, a weak statewide pink salmon run and increased market demand created conditions that made an Aleutian Islands fishery feasible again. In 2006, the commercial harvest in the Aleutian Islands Area was 2,542 sockeye, 991,687 pink, and 1,541 chum salmon. All the commercial harvest was around Unalaska Island and most of that harvest occurred in the Makushin Bay Section.

ATKA-AMLIA ISLANDS AREA

Historically, only set gillnet fishermen have commercially harvested salmon from the Atka-Amlia Islands Area (Shaul and Dinnocenzo 2003; Table 5). Interest in this fishery diminished due to lack of markets, high processing costs, and low volumes of fish (Holmes 1997). Small commercial salmon harvests occurred between 1992 and 1994, but no landings have been reported since.

SUBSISTENCE AND PERSONAL USE FISHERIES

Under Alaska state law, subsistence fishing allows the taking of fish by specified means by a resident domiciled in a rural area of the state. Subsistence uses of wild resources are defined as noncommercial, customary and traditional uses for a variety of purposes. These include: direct personal or family consumption as food, shelter, fuel, clothing, tools, or transportation, for the making and selling of handicraft articles out of nonedible by-products of fish and wildlife resources taken for personal or family consumption, and for the customary trade, barter, or sharing for personal or family consumption (AS 16.05.940 (32)). Whenever it is necessary to restrict harvests, subsistence fisheries have a preference over other uses of the stock (AS 16.05.258).

Personal use fisheries are different from subsistence fisheries because they do not meet the criteria established by the Joint Board of Fisheries and Game for identifying customary and traditional fisheries (5 AAC 99.010), or because they occur within nonsubsistence areas where dependence upon subsistence is not a principle characteristic of the economy, culture, and way of life (AS 16.05.258(c)). Personal Use fisheries provide opportunities for harvesting fish with gear other than rod and reel in nonsubsistence areas. However, personal use fisheries do not enjoy the priority over other uses of the resource in times of restricted harvest that subsistence fisheries do.

Subsistence salmon fishing is very important to Aleutian Islands communities (Veltre and Veltre 1981, Veltre and Veltre 1983). Subsistence salmon fishing permits are required only in the Unalaska and Adak Districts of the Aleutian Islands Management Area (5 AAC 01.380; Shaul and Dinnocenzo 2003).

Unalaska and Adak are the only communities from which subsistence information is compiled annually. Historical harvests are shown in Tables 6 and 7.

Because of a large population increase on Unalaska Island in recent years, additional subsistence restrictions have become necessary to protect salmon stocks. ADF&G has increased monitoring efforts for Unalaska Island subsistence salmon fisheries. The number of subsistence permits issued increased from 65 in 1985 to 231 in 2002 and then decreased slightly to 217 in 2005 (Table 6). Sockeye salmon appear to be the preferred species of subsistence harvesters. The 10-year average estimated annual sockeye salmon harvest has increased from 2,851 fish from 1991 through 2000 to a 5-year average of 4,513 fish from 2001 through 2005. Most of the sockeye salmon catch in recent years came from Reese Bay (commonly referred to as Wislow Bay; Figure 3). The total 2005 Unalaska District sockeye salmon harvest was an estimated 4,233 fish of which 3,363 (79%) were taken at Reese Bay (Table 6; Tschersich 2006). This was the fifth highest sockeye salmon subsistence harvest on record for the Unalaska District and the seventh highest for Reese Bay (Tschersich 2006). The 2006 harvest reports are not yet compiled.

Unalaska Lake sockeye salmon are important to local residents who cannot travel to other locations to catch sockeye salmon. Beginning in 1997, waters closed to subsistence fishing were expanded around the outlet of Unalaska Lake to protect this small stock of sockeye salmon and to increase escapements (5 AAC 01.375). In 2005, the Unalaska Lake sockeye salmon harvest was an estimated 202 fish (Tschersich 2006) and the peak escapement was estimated to be 9 fish (Table 1).

In 2005, an estimated 356 coho salmon were harvested for subsistence in the Unalaska District (Table 6), of which 177 (50%) were harvested in Broad Bay (Tschersich 2006; Figure 3). The 2005 estimated pink salmon subsistence harvest in the Unalaska District was 587 fish (Table 6). In 2005, an estimated 7 Chinook and 15 chum salmon were caught in the Unalaska District subsistence harvest (Table 6).

The BOF eliminated subsistence salmon fishing in the Adak District from 1988 through 1997 and created a personal use salmon fishery for the residents of Adak Island in response to a large population of military personnel being stationed there. After 1993, the personal use effort decreased from previous years due to reductions in U.S. Navy personnel stationed at Adak. Fishing effort in this area declined during 1993-1996 when the U.S. Navy phased out operations, but the civilian population of Adak rebounded briefly in 1997 because of military base cleanup work. In 1998, the BOF reinstated the subsistence salmon fishery in the Adak District. From 1998 through 2005, the number of Adak District subsistence permits has ranged from 2 in 2005 to 17 in 2001 for an average of eight permits issued (Table 7). Data from 2006 have not yet been compiled.

In the past, Atka subsistence data were collected by interviews conducted by the ADF&G Subsistence Division. Due to budget reductions, the last survey was conducted in 1994. In 1994, 28 of 29 households were surveyed. The 1994 Atka subsistence harvest was 2,504 salmon, composed of 12 Chinook, 431 sockeye, 567 coho, 1,387 pink, and 107 chum salmon (Shaul and Dinnocenzo 2003). Subsistence salmon fishing permits are not required in the Pribilof Islands and no harvest information is gathered there.

Additional subsistence information will be available in the 2006 Annual summary of the commercial, subsistence and personal use salmon fisheries and salmon escapements in the Alaska Peninsula, Aleutian Islands, and Atka-Amlia Islands Management Areas report (Tschersich, *In prep*).

REFERENCES CITED

- Holmes P. B. 1995. Atka/Amlia Islands management area pink salmon fishery 1992, 1993, 1994. Alaska Department of Fish and Game, Commercial Fisheries Management and Development Division, Regional Information Report No. 4K95-9, Kodiak.
- Holmes P. B. 1997. Aleutian Islands salmon 1982 stock assessment survey and current status. Alaska Department of Fish and Game, Commercial Fisheries Management and Development Division, Regional Information Report No. 4K97-6, Kodiak.
- Honnold S. G., K. A. Bouwens, J. N. McCullough, and S. T. Schrof. 1999. Results of biological assessment and monitoring of anadromous fish at Summer Bay Lake, Unalaska Island, Alaska, 1998: Juvenile and adult fish production following the M/V Kuroshima oil spill. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report No. 4K99-62, Kodiak.
- McCullough, J. N. 2000. Biological assessment and monitoring of anadromous fish at Summer Bay Lake, Unalaska Island, Alaska, 1999: Juvenile and adult fish production two years following the M/V Kuroshima oil spill: final report. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report No. 4K00-63, Kodiak.
- McCullough, J. N., and K. A. Bouwens. *Unpublished*. Biological assessment and monitoring of anadromous fish at Summer Bay Lake, Unalaska Island, Alaska: Juvenile and adult fish production following the M/V Kuroshima oil spill. Alaska Department of Fish and Game, Commercial Fisheries Division, Regional Information Report, Kodiak.
- Palmer, D. E. 1995. Survey of fisheries resources on Adak Island, Alaska Maritime National Wildlife Refuge, 1993 and 1994. U.S. Fish and Wildlife Service, Technical Report No. 29, Kenai.
- Palmer, D. E. 2003. Estimation of the sockeye salmon escapement into McLees Lake, Unalaska Island, Alaska, 2002. U.S. Fish and Wildlife Service, Alaska Fisheries Data Series No. 2003-4, Kenai.
- Seimenstad, C. A., J. S. Isakson, and R. E. Nakatani. 1977. Marine fish communities [*In*] M. L. Merritt and R. G. Fuller editors. The environment of Amchitka Island, Alaska. United States Energy Research and Development Administration, Technical Information Document 26712, Oak Ridge.
- Shaul A. R. and R. S. Berceci. 1995. Aleutians area annual salmon management report. Alaska Department of Fish and Game, Commercial Fisheries Management and Development Division, Regional Information Report No. 4K95-16, Kodiak.
- Shaul, A. R., and J. J. Dinnocenzo. 2003. Annual summary of the commercial and subsistence salmon fisheries for the Alaska Peninsula, Aleutian Islands, and Atka-Amlia Islands areas, 2002. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 4K03-29, Kodiak.
- Tschersich, P. 2006. Annual summary of the commercial, subsistence and personal use salmon fisheries and salmon escapements in the Alaska Peninsula, Aleutian Islands, and Atka-Amlia Islands Management Areas, 2005. Alaska Department of Fish and Game, Fishery Management Report No. 06-05, Anchorage.
- Tschersich, P. *In prep*. Annual summary of the commercial, subsistence and personal use salmon fisheries and salmon escapements in the Alaska Peninsula, Aleutian Islands, and Atka-Amlia Islands Management Areas, 2006. Alaska Department of Fish and Game, Fishery Management Report, Anchorage.
- Valdez, R. T., W. T. Helm, and J. M. Neuhold. 1977. Aquatic ecology [*In*] M. L. Merritt and R. G. Fuller editors. The environment of Amchitka Island, Alaska. United States Energy Research and Development Administration, Technical Information Document 26712, Oak Ridge.
- Veltre, D. W, and M. J. Veltre. 1981. Resource utilization in Unalaska, Aleutian Islands, Alaska. Alaska Department of Fish and Game, Division of Subsistence Technical Paper No. 58. Juneau.
- Veltre, D. W, and M. J. Veltre. 1983. Resource utilization in Atka, Aleutian Islands, Alaska. Alaska Department of Fish and Game, Division of Subsistence Technical Paper No. 88. Juneau.

TABLES AND FIGURES

Table 1.-Unalaska Lake and Creek salmon peak escapement estimates, 1961-2006.

Year	Peak Estimate ^a		
	Sockeye	Coho	Pink
1961			3,400
1962			1,500
1963			1,600
1964			
1965			
1966			
1967			
1968	500		1,000
1969			
1970	250		2,850
1971			150
1972	200		400
1973	400		500
1974			1,400
1975	200		3,500
1976			
1977	400		6,600
1978			4,500
1979	300		1,700
1980	100		3,000
1981	100		1,500
1982	150		16,000
1983	50		900
1984			22,600
1985			3,500
1986			6,500
1987	400		7,100
1988			31,500
1989			2,926
1990			13,000
1991	3 ^b	1 ^b	7,193
1992			9,000
1993			10,200
1994	41		11,000
1995	255		5,199
1996	250		7,500
1997	330		12,300
1998	800	355	5,600
1999	1,250	61	3,936
2000	300		24,200
2001	1,000		6,000
2002	500		11,000
2003	750	68	25,000

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Table 1.-Page 2 of 2.

Year	Peak Estimate ^a		
	Sockeye	Coho	Pink
2004	3,000	80	1,530
2005	9 ^b	35 ^b	4,212
2006	12 ^b	6 ^b	4,250
1997-2006 Average	795	101	9,803

^a Estimates are based on the highest observed escapement during all surveys conducted that year. Blanks in the data indicate times when either no detectable amount of a species was present or no survey was done.

^b Surveys in many years were not done at optimum times for all species.

Table 2.-Summer Bay Lake annual weir counts of salmon, by species and year, 1998-2001.

Year	Dates of Operation	Number of Fish ^a				
		Chinook	Sockeye	Coho	Pink	Chum
1998	6/12 - 10/3	0	2,641	101	7,290	0
1999	5/30 - 9/9	0	3,375	20	2,250	0
2000	6/4 - 10/5	1	2,905	401	7,918	0
2001	6/1 - 9/11	0	5,388	23	4,114	0
Weir discontinued						

^a Does not include estimates of salmon escapement before or after weir operations.

Table 3.-McLees Lake annual weir counts of salmon, by species and year, 2001-2006.

Year	Dates of Operation	Number of Fish ^a				
		Chinook	Sockeye	Coho	Pink	Chum
2001	6/15 - 7/30	1	45,866	1	0	0
2002	6/1 - 7/29	1	97,780	0	0	0
2003	5/30 - 7/28	0	101,793	0	19	0
2004	6/1 - 7/24	0	40,328	0	0	0
2005	5/29 - 7/26	0	12,066	0	0	0
2006	5/30 - 7/28	0	12,936	0	0	0

^a Does not include estimates of salmon escapement before or after weir operations.

Table 4.-Aleutian Islands Management Area (excluding Atka-Amliia Islands Management Area) commercial salmon harvests, in numbers of fish by year, 1911-2006.

Year	Permits	Landings	Chinook	Sockeye	Coho	Pink	Chum	Total
1911			0	9,300	0	0	0	9,300
1912-1915			0	0	0	0	0	0
1916			0	76,500	1,200	180,300	100	258,100
1917			0	70,400	3,800	600	23,100	97,900
1918			0	55,200	4,400	75,600	135,200	270,400
1919			0	3,900	800	4,000	0	8,700
1920			0	10,100	2,800	0	0	12,900
1921			0	0	0	0	0	0
1922			0	14,000	0	0	0	14,000
1923			0	0	0	0	0	0
1924			0	24,900	0	673,800	100	698,800
1925			0	18,600	0	3,800	9,100	31,500
1926			0	1,300	0	521,700	7,800	530,800
1927			0	17,300	0	334,600	0	351,900
1928-1950 ^a								0
1951			0	11,700	400	500	94,500	107,100
1952			200	42,800	0	31,800	25,700	100,500
1953			0	4,200	500	69,200	800	74,700
1954			0	6,300	800	566,500	200	573,800
1955			0	12,600	100	31,100	400	44,200
1956			0	400	0	33,900	0	34,300
1957			2,300	27,300	100	500	13,900	44,100
1958			0	300	0	613,200	3,700	617,200
1959			0	6,100	0	12,000	100	18,200
1960			0	7,600	0	444,900	300	452,800
1961			0	2,700	0	94,000	200	96,900
1962			0	5,500	100	2,001,700	1,200	2,008,500
1963			0	4,500	0	93,900	300	98,700
1964			0	200	0	194,100	2,300	196,600
1965			0	0	0	0	0	0
1966			0	1,000	0	63,500	700	65,200
1967			0	200	0	7,900	0	8,100
1968			0	2,000	100	902,800	800	905,700
1969			0	1,900	0	242,200	1,500	245,600
1970	45	361	6	208	135	644,121	3,029	647,499
1971	11	105	0	333	2	45,114	58	45,507
1972	8	28	0	69	1	2,784	6	2,860
1973	^b	^b	0	0	0	2,042	0	2,042
1974	0	0	0	0	0	0	0	0
1975	5	6	0	19,402	0	659	1,881	21,942
1976-1977	0	0	0	0	0	0	0	0
1978	6	32	0	1,829	0	38,109	6	39,944
1979	10	124	0	12,206	0	539,393	242	551,841
1980	28	263	2	9,226	2	2,597,461	4,874	2,611,565
1981	16	85	16	5,430	188	302,786	6,553	314,973
1982	15	164	0	2,672	28	1,447,818	6,148	1,456,666

-continued-

Table 4.-Page 2 of 2.

Year	Permits	Landings	Chinook	Sockeye	Coho	Pink	Chum	Total
1983	b	b	0	4,405	0	2,005	11,361	17,771
1984	37	281	26	67,163	1,923	2,309,665	32,025	2,410,802
1985	b	b	40	2,750	0	90	14,175	17,055
1986	9	31	11	7,702	60	42,621	38,819	89,213
1987	b	b	0	75	0	0	0	75
1988	b	b	0	4315	7	183,109	450	187,881
1989	b	b	0	8248	0	6,700	0	14,948
1990	15	49	2	12,435	74	282,823	1,038	296,372
1991	b	b	0	796	0	0	0	796
1992	4	20	0	3,082	0	312,072	1,230	316,384
1993	0	0	0	0	0	0	0	0
1994	10	64	0	47	6	858,787	617	859,457
1995-1999	0	0	0	0	0	0	0	0
2000	b	b	1	0	59	256,050	0	256,110
2001-2005	0	0	0	0	0	0	0	0
2006	4	44	0	2,542	0	991,687	1,541	995,770
Odd-Year Average Pink Harvest, 1987-2005						670		
Even-Year Average Pink Harvest, 1988-2006						288,453		

^aThe Aleutian Islands catches cannot be separated from those of the Alaska Peninsula Area during 1928-1950.

^bConfidentiality rules prohibit the release of this information.

Table 5.-Atka-Amlia Islands Management Area commercial salmon harvests, in numbers of fish by year, 1992-2006.

Year	Permits	Landings	Chinook	Sockeye	Coho	Pink	Chum	Total
1992	13	41	0	231	42	7,972	308	8,553
1993	9	10	0	24	4	145	563	736
1994	6	7	0	16	0	896	0	912
1995	0	0	0	0	0	0	0	0
1996	a	a	a	a	a	a	a	a
1997-2006	0	0	0	0	0	0	0	0

^a Confidentiality rules prohibit the release of this information.

Table 6.-Estimated Unalaska District subsistence salmon harvest, in numbers of fish by year, 1985-2006.

Year	Permits Issued	Permits Returned	Percent Returned	Estimated Salmon Harvest ^a					
				Chinook	Sockeye	Coho	Pink	Chum	Total
1985	65	28	43	0	897	208	1,293	20	2,418
1986	121	22	18	0	3,449	847	2,468	375	7,139
1987	81	49	60	0	1,097	378	1,780	151	3,406
1988	77	45	58	3	966	390	2,627	83	4,069
1989	74	42	57	2	1,112	470	1,292	36	2,912
1990	96	37	39	4	2,357	681	1,428	100	4,570
1991	89	48	54	0	1,294	666	1,075	45	3,080
1992	144	102	71	7	2,739	587	1,723	11	5,067
1993	139	102	73	17	2,831	697	587	136	4,268
1994	150	120	80	1	2,759	774	1,053	48	4,635
1995	160	129	81	23	4,484	484	791	23	5,805
1996	189	123	65	5	1,107	1,033	492	49	2,686
1997	221	163	74	8	4,192	864	554	110	5,728
1998	206	161	78	4	3,317	731	729	26	4,807
1999	211	142	67	0	2,707	1,327	1,018	13	5,065
2000	212	148	70	7	3,077	570	325	24	4,003
2001	203	141	69	4	3,850	563	763	100	5,280
2002	231	159	69	2	5,267	643	277	63	6,252
2003	227	156	69	27	4,844	558	408	41	5,878
2004	209	142	68	4	4,373	792	343	26	5,538
2005	217	129	59	7	4,233	356	587	15	5,198
2006	Data not yet available								
1991-2000 Average	172	124	71	7	2,851	773	835	49	4,514
2001-2005 Average	217	145	67	9	4,513	582	476	49	5,629

^a Harvest estimated by extrapolating the catches from returned permits to the total number of permits issued.

Table 7.-Estimated Adak District subsistence/personal use salmon harvest, in numbers of fish by year, 1988-2006.

Year	Permits Issued	Permits Returned	Percent Returned	Estimated Catch					Total
				Chinook	Sockeye	Coho	Pink	Chum	
Personal Use									
1988	43	29	67.0	0	503	23	150	0	676
1989	64	47	73.0	0	382	0	117	0	499
1990	61	29	48.0	0	800	47	41	0	888
1991	37	31	87.0	0	281	6	34	0	321
1992	52	41	79.0	0	572	30	4	0	606
1993	4	3	75.0	0	156	0	0	0	156
1994 ^a	0	0	0.0	0	0	0	0	0	0
1995	4	3	75.0	0	156	0	0	0	156
1996	6	6	100.0	0	91	0	0	0	91
1997 ^b	18	12	67.0	0	229	0	0	4	233
1988-97									
Average	29	20	67.1	0	317	11	35	0	363
Subsistence									
1998	13	10	77.0	0	399	0	25	0	424
1999	5	5	100.0	0	164	4	0	0	168
2000	13	12	92.3	0	265	4	78	0	347
2001	17	14	82.0	0	474	19	17	0	510
2002	3	3	100.0	0	150	0	0	0	150
2003	6	5	83.3	0	363	0	0	0	363
2004	6	4	66.7	0	336	0	0	0	336
2005	2	2	100.0	0	188	0	0	0	188
2006	Data not yet available								
1998-2005									
Average	8	7	87.7	0	292	3	15	0	311

^a U.S. Navy personnel were reduced at Adak, personal use permits were not requested.

^b In 1997, a substantial number of civilians were hired by the Navy to work in a cleanup effort at Adak.

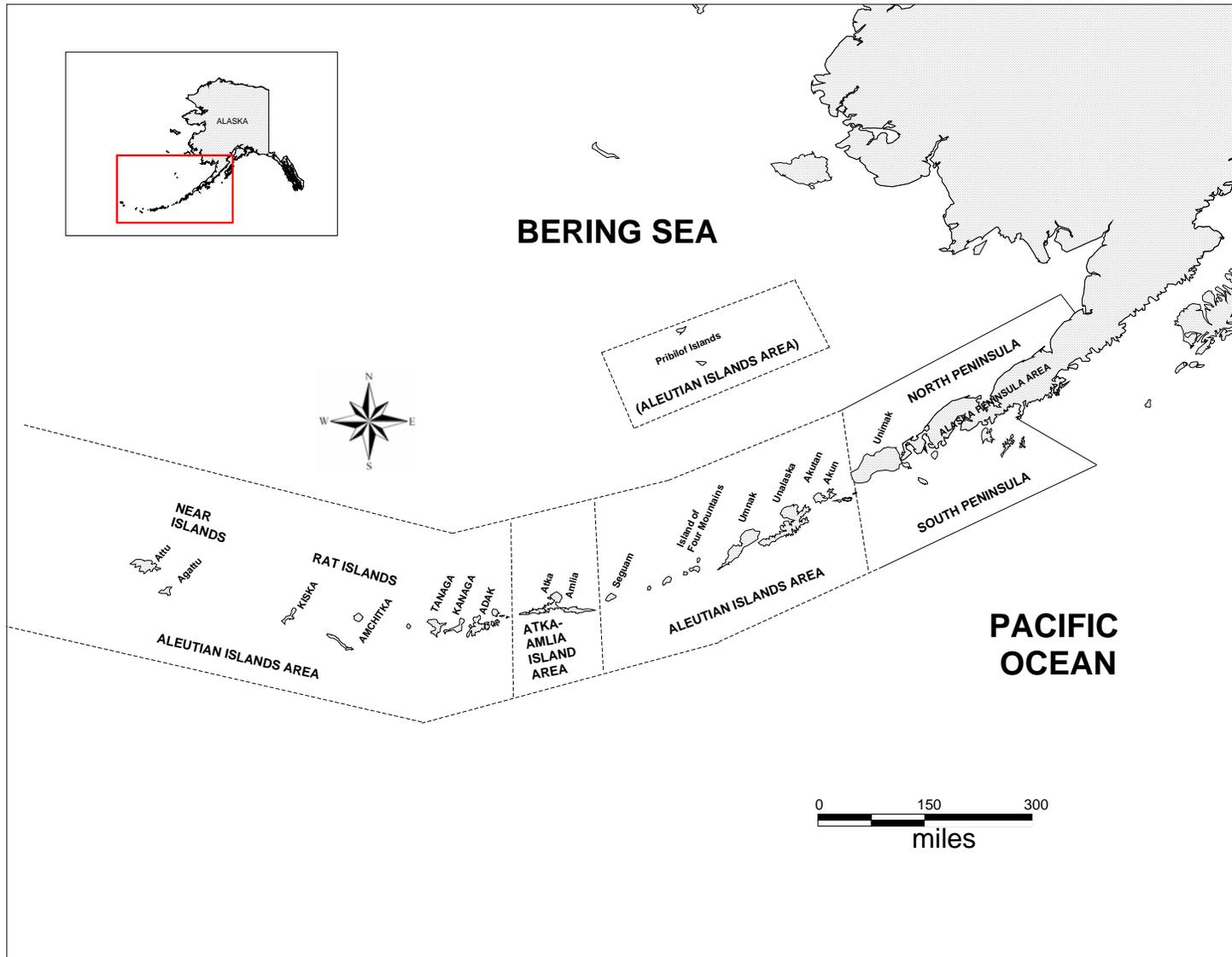


Figure 1.-Map of the Aleutian Islands, Atka-Amlia Islands, and Alaska Peninsula Management Areas.

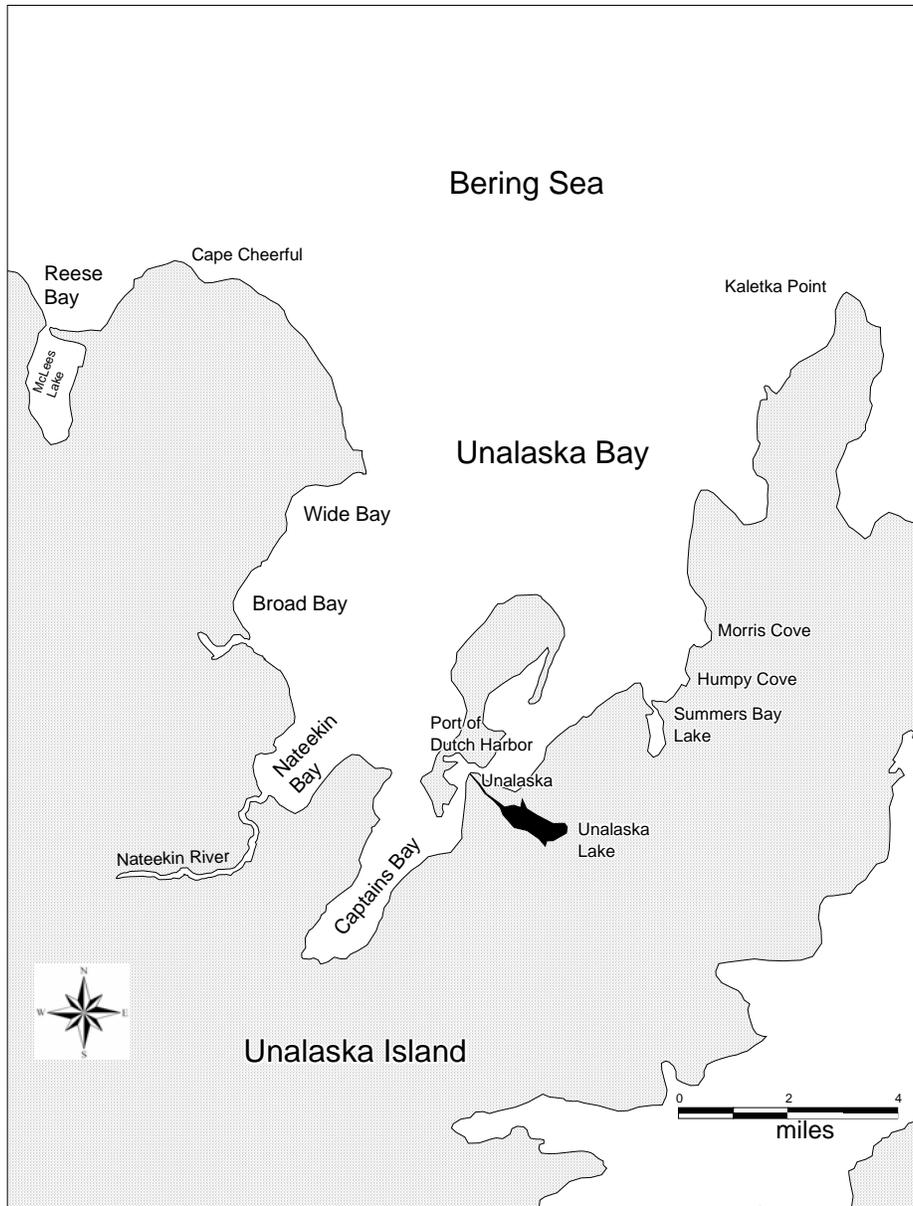


Figure 2.-Map of the Unalaska Bay Vicinity.

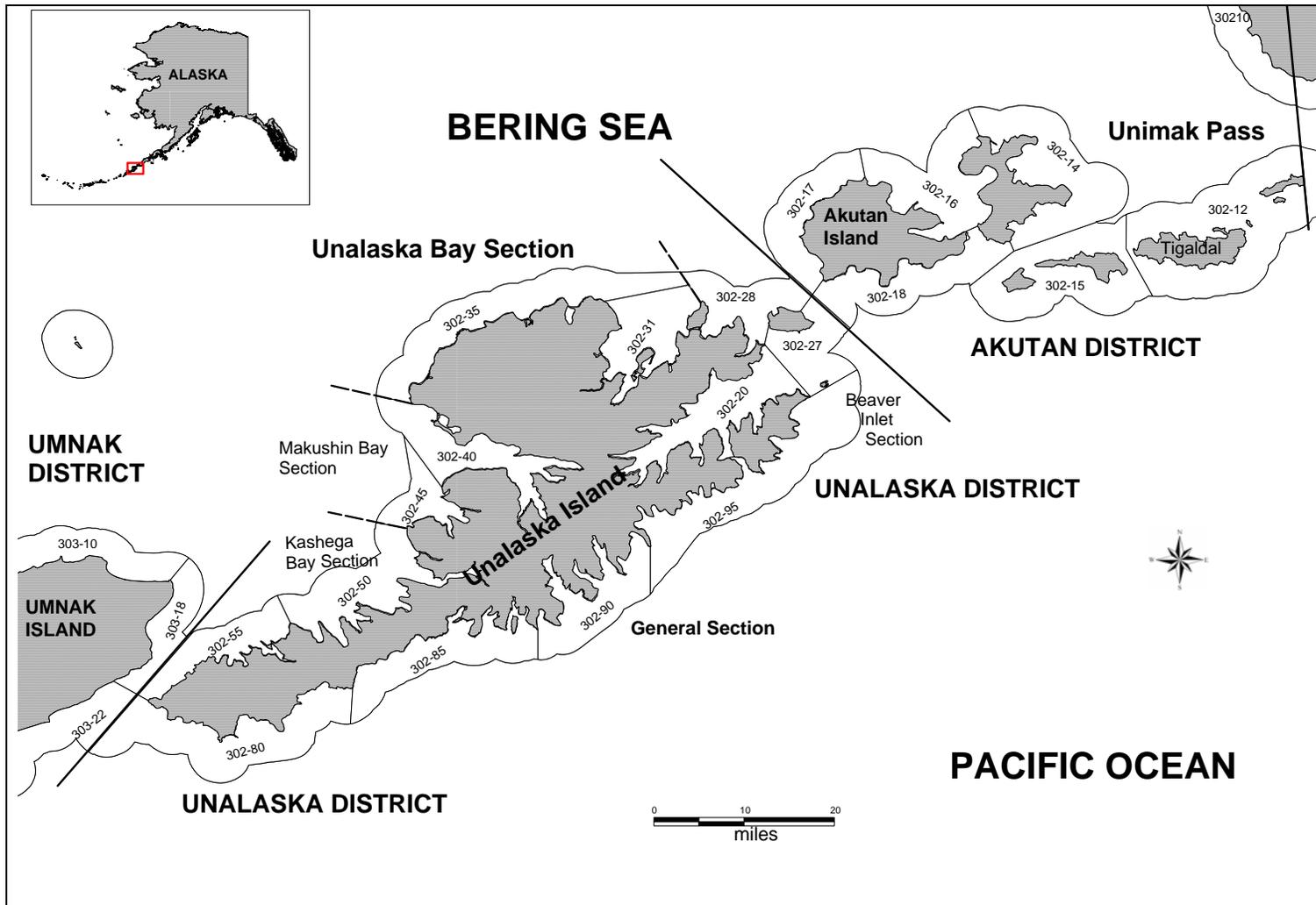


Figure 3.-Map of the Aleutian Islands Management Area from Unimak Island to Umnak Island with the statistical salmon fishing areas shown.