HISTORIC COUNTING TOWER PROJECTS

IN THE BRISTOL BAY AREA, 1955-1998

By Cindy J. Anderson

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INTRODUCTION

Counting tower projects have been used to enumerate sockeye salmon *Oncorhynchus nerka* escapements in the Bristol Bay area of Alaska since the early 1950s (Figure 1). The escapement data collected provide biologists with information regarding the abundance of the spawning population of sockeye salmon, and to a lesser extent, other species of salmon. In order to manage the commercial harvest of sockeye salmon on a maximum sustained yield basis, it is essential to have information on the abundance of the spawning population (Seibel 1967). This escapement data when added to the commercial catch data equals a total return. When age class information from escapement and commercial catch is available, research biologists can then evaluate the reproductive success of a particular spawning population.

The purpose of this report is to review and document all Bristol Bay historical tower counting projects and data. This information was collected from file archives as well as data presented in published annual reports of the United States Fish and Wildlife Service (USFWS) and the Alaska Department of Fish and Game (ADF&G).

PROJECT HISTORY

Prior to Alaska achieving statehood, commercial fisheries in Bristol Bay were managed by the U.S.F.W.S. In order to obtain sockeye salmon escapement information, large weirs were installed in the major river drainages that supported sockeye salmon. These

weir projects were very costly; they required large pieces of equipment, crews of up to a dozen seasonal employees and supplies to feed and lodge these crews for the summer season.

W.F. Thompson with the Fisheries Research Institute of the University of Washington (FRI) initially proposed making visual counts of migrating salmon from observation towers (Thompson 1962). The initial experiment to count sockeye salmon was conducted on the Wood River in 1953 and continued again in 1954.

Studies were conducted in 1956-57 by the U.S.F.W.S (Rietze, 1957, Spangler and Rietze, 1958) to compare the counts obtained by counting towers with those obtained from weirs. On the Egegik River in 1956 an estimated 984,908 fish passed the counting tower as compared with 1,063,877 salmon counted through the weir during the sampling period. This represents a –7.4% relative error in the tower estimate with respect to the weir estimate. In 1957 an estimated 712,124 salmon passed the counting towers while 631,001 fish were estimated to have passed the weir during the sampling period. This represents a +12.9% relative error in the tower estimate with respect to the weir estimate. Because the error was small, gradually all weirs were discontinued. In 1957, all major streams in Bristol Bay were monitored by counting towers.(Spangler and Reitze 1958)

Currently there are eight sockeye salmon counting towers in operation in the Bristol Bay area; four on the eastside and four on the westside (Figure 1). Tower projects on the eastside of Bristol Bay are located on the Kvichak, Naknek, Egegik and Ugashik Rivers. The Kvichak River Tower (Figure 2) is located on the mainstem river,

approximately one quarter mile downstream of Lake Iliamna's outlet. The Naknek River Tower (Figure 3) is located near the Naknek River "rapids", three miles downstream of the outlet of Naknek Lake.. The Egegik River Tower (Figure 4) is situated between the outlet of Becharof Lake and Egegik Lagoon. The Ugashik River Tower Project (Figure 5) is located between the Lower Ugashik Lake and Ugashik Lagoon. The four towers on the westside of Bristol Bay are located on Wood, Nuyakuk, Igushik, and Togiak Rivers. Wood River Tower (Figure 6) is located downstream of the outlet of Lake Aleknagik. Nuyakuk River Tower (Figure 7) is located upstream of the confluence of the mainstem Nushagak River. Igushik River Tower (Figure 8) is located near the outlet of Amanka Lake. Togiak River Tower (Figure 9) is situated near the outlet of Togiak Lake.

The Kvichak River Tower is the oldest project on the eastside, running since its inception in 1955. The Wood River Tower is the oldest running tower project on the westside, which began in 1956. There are other tower projects that have been operated for short periods. The Branch River Tower only operated for a short period and a review of the field notes indicates that most days had incomplete counts due to poor visibility. The Snake River tower was changed over to a weir for an enhancement project after 1973. Nuyakuk River Tower was operated from 1959-1988 and was terminated when funding decreased. ADF&G and FRI initiated a joint project to resume counting on the Nuyakuk River system in 1992. This cooperative project has a tentative future at this time.

The following is a listing of all sockeye salmon counting towers and the years of operation.

RIVER SYSTEM	YEARS OF OPERATION	STATUS
EGEGIK	1957-1998	CURRENT
KVICHAK	1955-1998	CURRENT
NAKNEK	1958-1998	CURRENT
UGASHIK	1957-1998	CURRENT
WOOD	1956-1998	CURRENT
IGUSHIK	1958-1998	CURRENT
NUYAKUK	1959-1988 and 1992-1998	Tentative funding
TOGIAK	1960-1998	CURRENT
BRANCH	1957-1979	NONOPERATIONAL
SNAKE	1960-1973	NONOPERATIONAL

Historical tower counts for all projects can be found in Appendix A.1-A.8. Whenever possible, information from archived files is included to document historical data contained in this report. However, for most years, data tables were presented in annual reports without any text to explain seasonal anomalies or sockeye escapement trends.

Commercial fishery managers use escapement goals as guides to obtain annual escapements. Throughout the history of the commercial fishery in Bristol Bay these goals have been examined and evaluated. Tables 1-7 compare sockeye salmon escapement counts with annual escapement ranges and point goals for each river (Fried 1994). The information that describes annual escapement goals has been poorly documented until recently. Recent information was published in the Annual Management Report published by the Alaska Dept of Fish and Game (RIR No 2A98-

(RIR No 2A98-08). Sporadic escapement goal information from file memos is also presented in Tables 1-7. Table 8 provides annual tower counts for the eight major sockeye counting tower projects in Bristol Bay.

PROCEDURES

Site Selection

Counting tower site locations have changed very little since inception. All sockeye salmon tower counting sites are located near the outlet of rearing lakes, except Nuyakuk Tower, which is located several river miles upstream of the confluence of the Nuyakuk River with the mainstem Nushagak River.

Egegik, Naknek and Ugashik tower counting sites were initially adapted from the original weir sites (Rietze 1957). When the projects evolved into counting towers the projects remained at the same site.

Migrating sockeye tend to follow restricted paths close to the shore where water velocities are low. Salmon are easily observed from counting towers next to the banks. Ideally, a counting tower site would be located at a relatively narrow segment of the river where sockeye salmon travel in close proximity to the banks and "crossing over" from one bank to the other is minimal. Another important criteria for a tower counting site is water clarity. Water will be clear if the bank is stable, the bottom substrate is hard, and the site is somewhat sheltered from high winds.

Equipment

In order to operate successfully, there are several key pieces of equipment that each project uses. The most important are the two towers that reach a height of twenty feet. Each tower is made of aluminum scaffolding with a platform at the top where the observer stands while counting. Some towers have tarps for shelter during rainstorms. Each project has site specific equipment to enhance fish visibility. Some type of substrate is placed on the bottom of the river to make fish more visible. The substrate can be canvas that has been painted white; white boards wired together, sandbagged and placed in the path of fish passage; or a metal grating that has been painted white. This grating is rolled out across the migratory corridor and weighted to prevent movement in the current.

During periods of darkness, lights are used to illuminate the counting areas. Initially red and blue colored lights were tried to increase visibility at night. However, colored lights did not work well. Currently, standard white vehicle headlights are utilized at each camp. These lights are placed to enhance night visibility and help guide migrating fish over the substrate. The lights are mounted in boxes at the top of each tower and are powered by 12 volt batteries. The batteries are charged daily with solar panels or gasoline powered generators.

Each tower site has equipment to assist with visibility during windy weather. When observers are not able to count because of wind and waves, a "riffle damper" is placed in the water to smooth out the surface and increase visibility. A "riffle damper" is a triangular shaped apparatus made from wood that floats on the top of the water. It tends to smooth out the surface and increase visibility for counting. At Ugashik counting

tower the wind is often too strong for a "riffle damper" so alternative sites have been set up for counting on stormy days.

Some sites have "fish deflectors" that cause fish to move closer to the bank and stay within the tower observer's range of vision. Fish deflectors can be made of bright buoys, light colored flagging or a white board on the bottom that reroute migrating fish closer to the shore.

Each camp has two aluminum skiffs with an outboard motor. This allows the crew to travel from their living site to the counting site and also to different areas of the river to capture and sample fish.

In order to gather age and sex information from the migrating population of sockeye each camp must have a means of collecting fish. Each project has a seine that is used to collect fish for sampling. If a site is free of large boulders, crews are able to use a small beach seine to collect samples. A few tower camps utilize a trip seine to gather fish for sampling. This seine is held against the current until enough fish are pushing against the mesh and then it is "tripped" to hold the school.

Each camp has a "holding pen." made of either a wood or PCV pipe frame. It is covered with small mesh gillnet. This "holding pen" is then partially submerged in the water and after the fish are captured, fish are moved by dipnets from the seine to the holding pen. This enables the crew to sample the fish live and release them unharmed.

In order to be able to communicate with town, each tower camp is provided with a single sideband radio to communicate with the King Salmon or Dillingham offices. Management biologists are provided with passage rates, sampling information and weather conditions. In recent years, communication at several camps has been improved with the use of cellular phones. This has enabled crews to communicate more freely and added an extra margin of safety in the event of an emergency.

Housing

Each camp has a main cabin for the crew to live during the short five-week season. Most sites have a tent that is located next to the tower site that houses the radio and sampling equipment. Some camps have a separate structure for sleeping quarters only since the crew works on rotating shifts. Each camp has an outhouse and occasionally there is also a sauna. Some sites have a storage building to store supplies over the winter.

Personnel

During the early years, tower crews consisted of two-to-four crewmembers. All tower projects in Bristol Bay now employ three crewmembers . The field crews are assisted by a field camp coordinator and a project biologist. The field camp coordinator travels to each camp several times during the short season. He provides boat safety instruction and trains new crewmembers on fish speciation and counting. When the new crew is proficient in counting, the camp coordinator moves to another camp. The field camp coordinator usually is present during periods of high passage rate so that he can ensure that new crewmembers are counting accurately. He is also able to assist with sampling. This enables the crew to continue counting while collecting samples needed for age and length and sex of the spawning population of sockeye salmon.

Procedures

Each tower counting project has a unique operating date to count the majority of the sockeye salmon migration for a specific drainage. Beginning dates are coordinated to allow the crews to arrive at the beginning of the normal migration. Tower project ending dates are finalized inseason. Managers evaluate data collection versus budget costs when tower counts drop to less than one percent for three consecutive days. This guideline is used to decide if the tower counting project should terminate for the season.

Field crews are sent out from Dillingham and King Salmon by chartered plane or if the towers are close to town, they travel by skiff to the tower site. Crews usually spend one day setting up the towers and are able to begin counting fish from the tower by the second day. Once each tower has been set up, three person crews count on eight-hour shifts that rotate around the clock.

The procedure for counting is as follows: 1) a fish count is made at the top of the hour for ten minutes from one tower; 2) the person records the number, leaves the tower and uses a skiff to move to the opposite side of the river; 3) at twenty minutes after the hour another fish count is made for ten minutes; and 4) the two numbers are totaled and expanded by a factor of six to yield an hourly passage estimate. Audible timers are used to delineate counting intervals. Counts are radioed or telephoned to the area office several times daily.

As the sockeye salmon migration progresses in time, samples to determine age and sex are collected using a beach or trip seine. Sockeye salmon lengths are measured from the mid-eye to the fork in the tail to the nearest millimeter with calipers. Sex is determined by external inspection. A scale is removed from each fish and affixed to a gum card for

future age determination. Samples are collected in a systematic manner in order to have a statistically valid representation of the spawning population.

DATA MANAGEMENT

Annual Data

The 1998 Bristol Bay Tower data are summarized in Tables 9-16. Historical tower data for all years are in Appendix A.1-A.8. These appendix tables list sockeye salmon counts for each of the eight major towers that have been in operation since 1960. Appendix B contains tower data for tower projects that are no longer operated.

Daily Counts

Daily estimates from counting towers have been published in annual reports of the USFWS and ADF&G. These estimates are published in tables but records of annual documentation of counting tower projects do not exist. An annual report was written by each crewleader to provide information for future crews. This crew report covered repair of buildings, nets and outboards but did not provide documentation of counting procedures for the season. The USFWS evaluated tower counts when projects were operated consecutively with weirs (Spangler and Reitze 1957). In the beginning counts were made at five, ten and twenty minute time periods. After evaluation of these different strategies, towers used 15 minute counting periods and then changed to one 10-minute counting period (Seibel 1967). Ten-minute hourly counts have been used consistently, with periodic checks for accuracy (Seibel 1967).

Comparison Counts

At different time periods, counting tower data has been compared with other counting methods. The Bureau of Commercial Fisheries, U.S. Fish and Wildlife Service, compared tower counts with the weir count at the Egegik River weir in 1956 (Reitze 1957). Counts were taken during the period July 12-30. The tower count of 984,908 was only 7.4 percent lower than the weir count of 1,063,877. Most of the difference occurred on July 16 and 17 when the fish switched to the opposite side of the river where there was no counting tower. If these two days were eliminated from the compared counts, the tower count would have been 857,390, only 1.1 percent higher than the weir count of 847,805 fish. These tower counts were made using two 15-minute counting periods each hour and produced 95 percent confidence limits of (+ or –) 3.99 percent. Counts obtained from using one 10-minute period each hour produced 95 percent confidence limits of (+ or –) 6.08 percent. Data gathered by Fisheries Research Institute, University of Washington (F.R.I.) at the Kvichak River in 1959 supported the 1956 Bureau of Commercial Fisheries data, "ten minute counts taken systematically each hour from each tower appeared to be highly efficient and were found to provide estimates usually within (+ or –) 6.0 percent" (ADF&G 1964). The accuracy needed to estimate escapement could be achieved using ten-minute counts.

The Department of Fish and Game continues to utilize ten-minute counts. Work documented in a departmental informational leaflet by Mel Seibel indicates 95 percent confidence limits of –7.1 percent to 8.9 percent for counts obtained by 10-minute hourly counts. Seibel also states, "In general, the degree of accuracy of escapement estimates obtained through the use of counting towers is comparable with the accuracy of other biological data collected and used to describe the population dynamics of salmon stocks."

From 1966 periodically until 1972, the Wood River counting towers were used to test the accuracy of the Bendix Corporation sonar salmon counters (ADF&G 1964). Besides substantiating the accuracy and feasibility of using sonar counters to count salmon, these tests supported the validity of the tower enumeration methods used in the bay. During the 1967 tests, the difference between the two methods was only 1.2 percent.

At different times, variability between counting personnel has been questioned and considered as a possible source of error (ADF&G 1964). In 1971 counts were made by each of the three crewmembers at the Wood River Tower. A total of 18, 10 minute counts were made with each crewmember: 6 during good daylight conditions, 6 at night and 6 during dawn or dusk hours.

The percentage errors between the three counters and the experienced counter were:

Crewmember 1	+1.3
Crewmember 2	+1.2
Crewmember 3	-1.8
Combined total	+0.4

The combined total percent error for all counters was +0.4 or 117 fish for a count of 29,000. In general, the lower the actual counts in a ten-minute interval, the lower the percent errors between counters. The percent error for 33 counts of 0-200 fish was only –0.09 percent, while for ten counts of 800-2,500 fish the variation was only +1.8 percent.

Department biologists periodically check the accuracy of tower employee counts and ensure that accuracy and consistency are maintained.

1998 Bristol Bay Towers

The 1998 season went well for all tower projects. Despite the fact that Wood River Tower experienced extremely high water conditions, the good weather throughout the Bristol Bay area made data collection at the tower sites uneventful. Data collection was not interrupted due to poor water conditions or problems with visibility..

The 1998 Bristol Bay counting tower data is presented in Tables 8-15. Escapement at all tower projects ranged from one to seventy-five percent over the point goal. The 1998 inshore sockeye salmon run of 18.4 million fish was 11.8 million fish less than the forecast of 30.2 million. Sockeye runs were less than anticipated in all drainages except the Nushagak River.

The 1998 inshore sockeye salmon run was particularly difficult to manage. Escapement data from the tower projects was relied on heavily inseason in order to balance escapement with harvestable surplus. Tables 1-7 present escapement goal ranges and escapement for each tower project.

In 1997 a new shared database program called Mariner came online for Bristol Bay staff. This database contains inseason escapement numbers from towers as well as commercial catch information. In 1997 and 1998, the tower data was entered inseason on Mariner and became available to the public on the Bristol Bay "daily" information page. This same information is also published on the Department of Fish and Game Bristol Bay homepage on the Internet.

The address is: www.cf.adfg.state.ak.us./region2/finfish/salmon/bbayhome.htm.

LITERATURE CITED

Alaska Dept of Fish and Game (ADF&G). 1960-98. Division of Commercial Fisheries, Bristol Bay management files, unpublished records.

ADF&G.1960-1997. Annual Management Reports Bristol Bay Area.

ADF&G. 1964. Escapement Enumeration Tower Operational Plan Revised Edition 1984.

ADF&G. 1990 Project Operational Plan of Naknek Tower, 1990.

Becker, C.D. 1962. Estimating Red Salmon Escapements by Sample Counts from Observation Towers. Fish. Bull No. 192, Vol 61. United States Dept. of Interior. USFWS Bureau of Commercial Fisheries. Washington, D.C.

Fried, Stephen M. 1994. Pacific Salmon Spawning Escapement Goals for the Prince William Sound, Cook Inlet, and Bristol Bay Areas of Alaska Special Publication No. 8, ADF&G Commercial Fisheries Management and Development Division, Juneau, Alaska .

Rietze, H.L. 1957. Field Report on the Evaluation of Towers for Counting Migrating Red Salmon in Bristol Bay, 1956. Mimeo Report U.S. Department of the Interior, USFWS Bureau of Commercial Fisheries, Juneau, Alaska.

Seibel, M.C. 1967. The use of expanded ten-minute counts as estimates of hourly salmon migration past the counting towers in Alaskan rivers. ADF&G, Division of Commercial Fisheries, Info. Leaflet 101, Juneau, Alaska.

Spangler, Paul J. and Harry L. Rietze, 1958. Field Report on the Evaluation of Towers for counting migrating red salmon in Bristol Bay, 1957. Mimeo Report. Department of the Interior, USFWS,Bureau of Commercial Fisheries, Juneau, Alaska.

Tables 1-17

Annual sockeye tower counts and

Escapement goals in Bristol Bay

Table 1. Annual sockeye salmon tower counts and escapement goals, Egegik River, 1955-1998.

YEAR	Escapement Goal Range	Midpoint Objective	Tower Escapement
1955			
1956			
1957			391,207
1958			246,354
1959			1,052,819
1960			1,798,759
1961		Unknown	701,538
1962		350,000	1,027,482
1963		850,000	997,602
1964		850,000	849,576
1965		1,000,000	1,444,608
1966		1,000,000	804,246
1967		1,000,000	636,864
1968		1,000,000	338,654
1969		400,000	1,015,554
1970		700,000	919,734
1971		1,000,000	634,014
1972		600,000	546,402
1973	400-600,000	600,000	328,842
1974		500,000	1,275,630
1975		600,000	1,173,840
1976		600,000	509,160
1977		600,000	692,514
1978		600,000	895,698
1979		600,000	1,032,042
1980		600,000	1,060,860
1981		600,000	694,680
1982		600,000	1,034,628
1983		600,000	792,282
1984	800-1,200,000	1,000,000	1,165,320
1985	800-1,200,000	1,000,000	1,095,192
1986	800-1,200,000	1,000,000	1,151,320
1987	800-1,200,000	1,000,000	1,272,978
1988	800-1,200,000	1,000,000	1,612,680
1989	800-1,200,000	1,000,000	1,610,916
1990	800-1,200,000	1,000,000	2,191,362
1991	800-1,200,000	1,000,000	2,786,880
1992	800-1,200,000	1,000,000	1,945,332
1993	800-1,200,000	1,000,000	1,516,980
1994	800-1,200,000	1,000,000	1,897,932
1995	800-1,400,000	1,000,000	1,220,142
1996	800-1,400,000	1,000,000	1,075,596
1997	800-1,400,000	1,000,000	1,103,964
1998	800-1,400,000	1,100,000	1,110,888

Table 2. Annual sockeye salmon tower counts and escapement goals, Igushik River, 1955-1998.

Year	Escapement Goal Range	Midpoint Objective	Tower Escapement
1955			
1956			
1957			
1958			107,478
1959			643,808
1960			495,087
1961		Unknown	294,252
1962		60,000	15,660
1963		400,000	92,184
1964		250,000	128,532
1965		250,000	180,840
1966		200,000	206,360
1967		153,000	281,772
1968		150,000	194,508
1969		200,000	512,328
1970		200,000	370,920
1971		150,000	210,960
1972		150,000	60,018
1973		150,000	59,508
1974		150,000	358,752
1975		150,000	241,086
1976		150,000	186,120
1977		150,000	95,970
1978		150,000	536,154
1979		150,000	859,560
1980		150,000	1,987,530
1981		150,000	591,144
1982		150,000	423,768
1983		200,000	180,438
1984	150,000-250,000	200,000	184,872
1985	150,000-250,000	200,000	212,454
1986	150,000-250,000	200,000	307,728
1987	140,000-250,000	200,000	169,236
1988	140,000-250,000	200,000	170,454
1989	150,000-250,000	200,000	461,610
1990	150,000-250,000	200,000	365,802
1991	150,000-250,000	200,000	756,126
1992	150,000-250,000	200,000	304,920
1993	150,000-250,000	200,000	405,564
1994	150,000-250,000	200,000	445,920
1995	150,000-250,000	200,000	473,382
1996	150,000-250,000	200,000	400,674
1997	150,000-250,000	200,000	127,704
1998	150,000-250,000	200,000	215,904

Table 3. Annual sockeye salmon tower counts and escapement goals, Kvichak River, 1955-1998.

Year	Escapement Goal Range	Midpoint Objective	Tower Escapement
1955			250,546
1956			9,443,318
1957			2,964,755
1958			534,785
1959			673,811
1960			14,602,360
1961	3,000,000-4,500,000	10,000,000	3,705,729
1962	2,500,000-3,500,000	2,500,000	2,580,884
1963	750,000-1,500,000	750,000	338,570
1964	4,500,000-8,000,000	5,000,000	956,616
1965	6,000,000-10,000,000	8,000,000	24,320,580
1966	5,000,000-7,000,000	6,000,000	3,756,184
1967	3,000,000-5,000,000	3,500,000	3,215,950
1968	500,000-3,500,000	874,000	2,556,432
1969	5,000,000-7,000,000	6,000,000	8,394,174
1970	15,000,000-23,000,000	19,000,000	13,916,346
1971		2,500,000	2,381,266
1972		2,000,000	1,009,962
1973		2,000,000	226,554
1974		6,000,000	4,433,844
1975		14,000,000	13,140,354
1976		2,000,000	1,965,282
1977		2,000,000	1,341,102
1978		2,000,000	4,149,126
1979		6,000,000	11,216,628
1980		14,000,000	22,500,822
1981		2,000,000	1,749,636
1982		2,000,000	1,134,810
1983		2,000,000	3,569,592
1984	8,000,000-12,000,000	10,000,000	10,490,454
1985	8,000,000-12,000,000	10,000,000	7,211,046
1986	4,000,000-8,000,000	5,000,000	1,179,322
1987	4,000,000-8,000,000	5,000,000	6,065,880
1988	4,000,000-8,000,000	5,000,000	4,065,216
1989	6,000,000-10,000,000	8,000,000	8,317,500
1990	6,000,000-10,000,000	6,000,000	6,970,020
1991	4,000,000-8,000,000	4,000,000	4,222,746
1992	4,000,000-8,000,000	6,000,000	4,725,864
1993	4,000,000-8,000,000	5,000,000	4,025,166
1994	6,000,000-10,000,000	8,000,000	8,337,840
1995	6,000,000-10,000,000	10,000,000	10,038,720
1996	6,000,000-10,000,000	4,000,000	1,450,578
1997	6,000,000-10,000,000	4,000,000	1,503,732
1998	2,000,000-10,000,000	50% of projection	2,296,074

Table 4. Annual sockeye salmon tower count and escapement goals, Naknek River, 1955-1998.

Year	Escapement Goal Range	Midpoint Objective	Tower Escapement
1955			
1956			
1957			
1958			278,118
1959			2,231,807
1960			828,381
1961		Unknown	351,078
1962		Unknown	723,066
1963		750,000	905,358
1964		850,000	1,349,604
1965		800,000	717,798
1966		800,000	1,016,445
1967		1,000,000	755,640
1968		1,000,000	1,023,222
1969		1,000,000	1,331,202
1970		1,000,000	732,502
1971		900,000	935,754
1972		800,000	586,518
1973		800,000	356,676
1974		800,000	1,241,058
1975		800,000	2,026,686
1976		800,000	1,320,750
1977		800,000	1,085,856
1978		800,000	813,378
1979		800,000	925,362
1980		800,000	2,644,686
1981		800,000	1,796,220
1982		800,000	1,155,552
1983		800,000	888,078
1984	800,000-1,400,000	1,000,000	1,242,474
1985	800,000-1,400,000	1,000,000	1,849,988
1986	800,000-1,400,000	1,000,000	1,977,645
1987	800,000-1,400,000	1,000,000	1,061,806
1988	800,000-1,400,000	1,000,000	1,037,244
1989	800,000-1,400,000	1,000,000	1,161,984
1990	800,000-1,400,000	1,000,000	2,092,578
1991	800,000-1,400,000	1,000,000	3,578,548
1992	800,000-1,400,000	1,000,000	1,606,650
1993	800,000-1,400,000	1,000,000	1,535,658
1994	800,000-1,400,000	1,000,000	990,810
1995	800,000-1,400,000	1,000,000	1,111,140
1996	800,000-1,400,000	1,000,000	1,078,098
1997	800,000-1,400,000	1,000,000	1,025,664
1998	800,000-1,400,000	1,100,000	1,202,172

Table 5. Annual sockeye salmon tower counts and escapement goals, Togiak River, 1955-1998.

Year	Escapement Goal Range	Midpoint Objective	Tower Escapement
1955			
1956			
1957			
1958			
1959			
1960			162,810
1961		Unknown	94,452
1962		80,000	47,070
1963		100,000	102,276
1964		100,000	95,574
1965		150,000	88,462
1966		120,000	90,942
1967		90,000	63,000
1968		110,000	35,256
1969		100,000	106,122
1970		100,000	172,914
1971		115,000	190,830
1972		70,000	74,058
1973	60,000-100,000	80,000	95,526
1974		100,000	68,040
1975		100,000	160,962
1976		100,000	158,160
1977		100,000	125,868
1978		100,000	207,204
1979		100,000	145,626
1980		100,000	410,058
1981		100,000	201,558
1982		100,000	236,322
1983		100,000	165,918
1984	140,00-250,000	150,000	86,340
1985	140,00-250,000	150,000	136,476
1986	140,00-250,000	150,000	167,694
1987	140,00-250,000	150,000	247,756
1988	140,00-250,000	150,000	210,270
1990	140,00-250,000	150,000	137,321
1991	140,00-250,000	150,000	235,027
1992	140,00-250,000	150,000	191,358
1993	140,00-250,000	150,000	143,490
1994	140,00-250,000	150,000	154,560
1995	140,00-250,000	150,000	172,668
1996	140,00-250,000	150,000	149,172
1997	140,00-250,000	150,000	130,638
1998	140,00-250,000	150,000	153,366

Table 6. Annual sockeye salmon tower count and escapement goals, Ugashik River, 1955-1998.

Year	Escapement Goal Range	Midpoint Objective	Tower Escapement
1955			
1956			
1957			214,802
1958			279,540
1959			219,223
1960			2,294,200
1961	500,000-1,000,000[1]	Unknown	348,658
1962		750,000	255,426
1963		650,000	388,254
1964		600,000	472,770
1965		800,000	990,912
1966		850,000	702,834
1967		850,000	238,830
1968		750,000	70,326
1969		400,000	160,380
1970		700,000	726,192
1971		500,000	500,370
1972		450,000	79,428
1973	350,000-500,000	450,000	38,988
1974		500,000	61,854
1975		500,000	429,336
1976		500,000	340,218
1977		500,000	201,486
1978		500,000	70,434
1979		500,000	1,688,220
1980		500,000	3,321,342
1981		500,000	1,299,552
1982		500,000	1,157,490
1983		500,000	998,898
1984	500,000-900,000	700,000	1,231,698
1985	500,000-900,000	700,000	994,104
1986	500,000-900,000	700,000	1,001,492
1987	500,000-900,000	700,000	668,964
1988	500,000-900,000	700,000	642,276
1989	500,000-900,000	700,000	1,681,302
1990	500,000-900,000	700,000	730,038
1991	500,000-900,000	700,000	2,457,306
1992	500,000-900,000	700,000	2,173,692
1993	500,000-900,000	700,000	1,388,772
1994	500,000-900,000	700,000	1,080,858
1995	500,000-1,200,000	700,000	1,304,058
1996	500,000-1,200,000	700,000	667,518
1997	500,000-1,200,000	700,000	618,396
1998	500,000-1,200,000	850,000	890,508

[1]Includes Mother Goose

Table 7. Annual sockeye salmon tower counts and escapement goals, Wood River, 1955-1998.

Year	Escapement Goal Range	Midpoint Objective	Tower Escapement
1955			
1956			773,101
1957			288,727
1958			959,630
1959			2,209,209
1960			1,015,767
1961	600,000-700,000	Unknown	460,737
1962		450,000	873,888
1963		1,200,000	721,350
1964		900,000	1,076,088
1965		500,000	675,156
1966		900,000	1,208,658
1967		1,100,000	515,598
1968		1,000,000	649,344
1969		750,000	604,338
1970		1,000,000	1,161,918
1971		750,000	851,202
1972		750,000	430,602
1973		700,000	330,438
1974		800,000	1,708,704
1975		800,000	1,270,116
1976		800,000	816,996
1977		800,000	561,828
1978		800,000	2,266,020
1979		800,000	1,705,602
1980		800,000	2,968,620
1981		800,000	1,231,920
1982		800,000	976,470
1983		1,000,000	1,360,350
1984	700,000-1,200,000	1,000,000	1,002,792
1985	700,000-1,200,000	1,000,000	939,000
1986	700,000-1,200,000	1,000,000	818,652
1987	700,000-1,200,000	1,000,000	1,337,172
1988	700,000-1,200,000	1,000,000	866,778
1989	700,000-1,200,000	1,000,000	1,186,410
1990	700,000-1,200,000	1,000,000	1,069,368
1991	700,000-1,200,000	1,000,000	1,159,578
1992	700,000-1,200,000	1,000,000	1,284,870
1993	700,000-1,200,000	1,000,000	1,176,054
1994	700,000-1,200,000	1,000,000	1,471,890
1995	700,000-1,200,000	1,000,000	1,482,162
1996	700,000-1,200,000	1,000,000	1,649,598
1997	700,000-1,200,000	1,000,000	1,512,396
1998	700,000-1,200,000	1,000,000	1,755,768

Table 8. Annual Bristol Bay sockeye salmon tower counts, 1955-1998.

YEAR	Egegik Tower Escapement	Igushik Tower Escapement	Kvichak Tower Escapement	Naknek Tower Escapement
1955			250,546	
1956			9,443,318	
1957	391,207		2,964,755	
1958	246,354	107,478	534,785	278,118
1959	1,052,819	643,808	673,811	2,231,807
1960	1,798,759	495,087	14,602,360	828,381
1961	701,538	294,252	3,705,729	351,078
1962	1,027,482	15,660	2,580,884	723,066
1963	997,602	92,184	338,570	905,358
1964	849,576	128,532	956,616	1,349,604
1965	1,444,608	180,840	24,320,580	717,798
1966	804,246	206,360	3,756,184	1,016,445
1967	636,864	281,772	3,215,950	755,640
1968	338,654	194,508	2,556,432	1,023,222
1969	1,015,554	512,328	8,394,174	1,331,202
1970	919,734	370,920	13,916,346	732,502
1971	634,014	210,960	2,381,266	935,754
1972	546,402	60,018	1,009,962	586,518
1973	328,842	59,508	226,554	356,676
1974	1,275,630	358,752	4,433,844	1,241,058
1975	1,173,840	241,086	13,140,354	2,026,686
1976	509,160	186,120	1,965,282	1,320,750
1977	692,514	95,970	1,341,102	1,085,856
1978	895,698	536,154	4,149,126	813,378
1979	1,032,042	859,560	11,216,628	925,362
1980	1,060,860	1,987,530	22,500,822	2,644,686
1981	694,680	591,144	1,749,636	1,796,220
1982	1,034,628	423,768	1,134,810	1,155,552
1983	792,282	180,438	3,569,592	888,078
1984	1,165,320	184,872	10,490,454	1,242,474
1985	1,095,192	212,454	7,211,046	1,849,988
1986	1,151,320	307,728	1,179,322	1,977,645
1987	1,272,978	169,236	6,065,880	1,061,806
1988	1,612,680	170,454	4,065,216	1,037,244
1989	1,610,916	461,610	8,317,500	1,161,984
1990	2,191,362	365,802	6,970,020	2,092,578
1991	2,786,880	756,126	4,222,746	3,578,548
1992	1,945,332	304,920	4,725,864	1,606,650
1993	1,516,980	405,564	4,025,166	1,535,658
1994	1,897,932	445,920	8,337,840	990,810
1995	1,220,142	473,382	10,038,720	1,111,140
1996	1,075,596	400,674	1,450,578	1,078,098
1997	1,103,964	127,704	1,503,732	1,025,664
1998	1,110,888	215,904	2,296,074	1,202,172

Table 8. (page 2 of 2).

Year	Togiak Tower Escapement	Ugashik Tower Escapement	Wood Tower Escapement	Nuyakuk Tower Escapement
1955				
1956			773,101	
1957		214,802	288,727	
1958		279,540	959,630	
1959		219,223	2,209,209	48,861
1960		2,294,200	1,015,767	145,500
1961	94,452	348,658	460,737	79,788
1962	47,070	255,426	873,888	37,890
1963	102,276	388,254	721,350	166,608
1964	95,574	472,770	1,076,088	103,224
1965	88,462	990,912	675,156	203,070
1966	90,942	702,834	1,208,658	161,010
1967	63,000	238,830	515,598	20,250
1968	35,256	70,326	649,344	96,642
1969	106,122	160,380	604,338	69,828
1970	172,914	726,192	1,161,918	364,648
1971	190,830	500,370	851,202	224,352
1972	74,058	79,428	430,602	28,596
1973	95,526	38,988	330,438	110,016
1974	68,040	61,854	1,708,704	154,614
1975	160,962	429,336	1,270,116	669,918
1976	158,160	340,218	816,996	425,220
1977	125,868	201,486	561,828	232,554
1978	207,204	70,434	2,266,020	576,666
1979	145,626	1,688,220	1,705,602	360,120
1980	410,058	3,321,342	2,968,620	3,026,568
1981	201,558	1,299,552	1,231,920	834,204
1982	236,322	1,157,490	976,470	537,864
1983	165,918	998,898	1,360,350	318,606
1984	86,340	1,231,698	1,002,792	472,596
1985	136,476	994,104	939,000	429,162
1986	167,694	1,001,492	818,652	821,898
1987	247,756	668,964	1,337,172	69,762
1988	210,270	642,276	866,778	319,992
1989	81,612	1,681,302	1,186,410	Not operated
1990	137,321	730,038	1,069,368	Not operated
1991	235,027	2,457,306	1,159,578	Not operated
1992	191,358	2,173,692	1,284,870	Not operated
1993	143,490	1,388,772	1,176,054	Not operated
1994	154,560	1,080,858	1,471,890	Not operated
1995	172,668	1,304,058	1,482,162	69,702
1996	149,172	667,518	1,649,598	250,692
1997	130,638	618,396	1,512,396	272,982
1998	153,366	890,508	1,755,768	146,250

Table 9. Daily sockeye salmon tower counts, Egegik River, 1998.

Date	Daily Counts	Cumulative Total	Daily % of Total	Cumulative %
6/18	24	24	0%	0%
6/19	192	216	0%	0%
6/20	2,016	2,232	0%	0%
6/21	1,548	3,780	0%	0%
6/22	1,134	4,914	0%	0%
6/23	15,066	19,980	1%	2%
6/24	21,198	41,178	2%	4%
6/25	27,474	68,652	2%	6%
6/26	21,948	90,600	2%	8%
6/27	32,394	122,994	3%	11%
6/28	25,458	148,452	2%	13%
6/29	50,028	198,480	5%	18%
6/30	46,242	244,722	4%	22%
7/1	95,676	340,398	9%	31%
7/2	85,278	425,676	8%	38%
7/3	13,620	439,296	1%	40%
7/4	50,436	489,732	5%	44%
7/5	14,850	504,582	1%	45%
7/6	71,016	575,598	6%	52%
7/7	101,868	677,466	9%	61%
7/8	36,276	713,742	3%	64%
7/9	17,262	731,004	2%	66%
7/10	45,102	776,106	4%	70%
7/11	59,094	835,200	5%	75%
7/12	24,276	859,476	2%	77%
7/13	29,766	889,242	3%	80%
7/14	63,780	953,022	6%	86%
7/15	65,088	1,018,110	6%	92%
7/16	14,370	1,032,480	1%	93%
7/17	20,058	1,052,538	2%	95%
7/18	37,302	1,089,840	3%	98%
7/19	12,570	1,102,410	1%	99%
7/20	8,478	1,110,888	1%	100%
Total	1,110,888			

Table 10. Daily sockeye salmon tower counts, Igushik River, 1998.

Date	Daily Counts	Cumulative Total	Daily % of Total	Cumulative %
6/24	-	-	0%	0%
6/25	-	-	0%	0%
6/26	-	-	0%	0%
6/27	-	-	0%	0%
6/28	6	6	0%	0%
6/29	378	384	0%	0%
6/30	978	1,362	0%	1%
7/1	924	2,286	0%	1%
7/2	780	3,066	0%	1%
7/3	2,268	5,334	1%	2%
7/4	14,790	20,124	7%	9%
7/5	32,322	52,446	15%	24%
7/6	34,380	86,826	16%	40%
7/7	16,536	103,362	8%	48%
7/8	14,034	117,396	7%	54%
7/9	18,834	136,230	9%	63%
7/10	19,362	155,592	9%	72%
7/11	7,164	162,756	3%	75%
7/12	6,126	168,882	3%	78%
7/13	7,428	176,310	3%	82%
7/14	10,062	186,372	5%	86%
7/15	7,590	193,962	4%	90%
7/16	5,322	199,284	2%	92%
7/17	4,362	203,646	2%	94%
7/18	2,856	206,502	1%	96%
7/19	3,966	210,468	2%	97%
7/20	2,322	212,790	1%	99%
7/21	1,284	214,074	1%	99%
7/22	1,830	215,904	1%	100%
Total	215,904			

Table 11. Daily sockeye salmon tower counts, Kvichak River, 1998.

Date	Daily Counts	Cumulative Total	Daily % of Total	Cumulative %
6/24	60	60	0%	0%
6/25	24	84	0%	0%
6/26	936	1,020	0%	0%
6/27	2,028	3,048	0%	0%
6/28	2,694	5,742	0%	0%
6/29	10,344	16,086	0%	1%
6/30	10,044	26,130	0%	1%
7/1	5,628	31,758	0%	1%
7/2	354	32,112	0%	1%
7/3	52,236	84,348	2%	4%
7/4	148,554	232,902	6%	10%
7/5	184,488	417,390	8%	18%
7/6	179,868	597,258	8%	26%
7/7	155,388	752,646	7%	33%
7/8	80,016	832,662	3%	36%
7/9	147,258	979,920	6%	43%
7/10	385,620	1,365,540	17%	59%
7/11	429,936	1,795,476	19%	78%
7/12	275,148	2,070,624	12%	90%
7/13	110,676	2,181,300	5%	95%
7/14	57,150	2,238,450	2%	97%
7/15	30,894	2,269,344	1%	99%
7/16	10,602	2,279,946	0%	99%
7/17	4,836	2,284,782	0%	100%
7/18	5,802	2,290,584	0%	100%
7/19	3,204	2,293,788	0%	100%
7/20	1,512	2,295,300	0%	100%
7/21	774	2,296,074	0%	100%
TOTAL	2,296,074			

Table 12. Daily sockeye salmon tower counts, Naknek River, 1998.

Date	Daily Counts	Cumulative Total	Daily % of Total	Cumulative %
6/23	96	96	0%	0%
6/24	1,482	1,578	0%	0%
6/25	9,858	11,436	1%	1%
6/26	8,538	19,974	1%	2%
6/27	10,848	30,822	1%	3%
6/28	11,592	42,414	1%	4%
6/29	9,546	51,960	1%	4%
6/30	14,904	66,864	1%	6%
7/1	12,426	79,290	1%	7%
7/2	125,016	204,306	10%	17%
7/3	112,272	316,578	9%	26%
7/4	131,004	447,582	11%	37%
7/5	147,930	595,512	12%	50%
7/6	60,834	656,346	5%	55%
7/7	109,308	765,654	9%	64%
7/8	74,526	840,180	6%	70%
7/9	111,630	951,810	9%	79%
7/10	93,306	1,045,116	8%	87%
7/11	18,150	1,063,266	2%	88%
7/12	28,476	1,091,742	2%	91%
7/13	37,758	1,129,500	3%	94%
7/14	11,682	1,141,182	1%	95%
7/15	5,730	1,146,912	0%	95%
7/16	28,002	1,174,914	2%	98%
7/17	7,320	1,182,234	1%	98%
7/18	6,858	1,189,092	1%	99%
7/19	13,080	1,202,172	1%	100%
Total	1,202,172			

Table 13. Daily sockeye salmon tower counts, Nuyukuk River, 1998.

Date	Daily Counts	Cumulative Total	Daily % of Total	Cumulative %
7/2	90	90	0%	0%
7/3	210	300	0%	0%
7/4	732	1,032	1%	1%
7/5	2,052	3,084	1%	2%
7/6	3,834	6,918	3%	5%
7/7	4,908	11,826	3%	8%
7/8	7,890	19,716	5%	13%
7/9	21,168	40,884	14%	28%
7/10	29,496	70,380	20%	48%
7/11	20,112	90,492	14%	62%
7/12	22,506	112,998	15%	77%
7/13	11,658	124,656	8%	85%
7/14	8,028	132,684	5%	91%
7/15	4,512	137,196	3%	94%
7/16	2,178	139,374	1%	95%
7/17	1,902	141,276	1%	97%
7/18	1,818	143,094	1%	98%
7/19	1,044	144,138	1%	99%
7/20	912	145,050	1%	99%
7/21	1,200	146,250	1%	100%
Total	146,250			

Table 14. Daily sockeye salmon tower counts, Togiak River, 1998.

Date	Daily Counts	Cumulative Total	Daily % of Total	Cumulative %
6/26	-	-	0%	0%
6/27	-	-	0%	0%
6/28	12	12	0%	0%
6/29	-	12	0%	0%
6/30	-	12	0%	0%
7/1	-	12	0%	0%
7/2	-	12	0%	0%
7/3	-	12	0%	0%
7/4	-	12	0%	0%
7/5	-	12	0%	0%
7/6	12	24	0%	0%
7/7	186	210	0%	0%
7/8	12	222	0%	0%
7/9	30	252	0%	0%
7/10	-	252	0%	0%
7/11	306	558	0%	0%
7/12	4,914	5,472	3%	4%
7/13	1,410	6,882	1%	4%
7/14	1,170	8,052	1%	5%
7/15	4,446	12,498	3%	8%
7/16	8,370	20,868	5%	14%
7/17	5,712	26,580	4%	17%
7/18	3,510	30,090	2%	20%
7/19	3,678	33,768	2%	22%
7/20	5,100	38,868	3%	25%
7/21	4,896	43,764	3%	28%
7/22	5,766	49,530	4%	32%
7/23	11,268	60,798	7%	40%
7/24	9,174	69,972	6%	46%
7/25	6,378	76,350	4%	51%
7/26	6,750	83,100	4%	54%
7/27	5,400	88,500	4%	58%
7/28	8,100	96,600	5%	63%
7/29	7,866	104,466	5%	68%
7/30	8,016	112,482	5%	73%
7/31	5,592	118,074	4%	77%
8/1	5,892	123,966	4%	81%
8/2	5,298	129,264	3%	84%
8/3	6,570	135,834	4%	88%
8/4	7,344	143,178	5%	93%
8/5	2,676	145,854	2%	95%
8/6	4,668	150,522	3%	98%
8/7	3,054	153,576	2%	100%
Total	153,576			

Table 15. Daily sockeye salmon tower counts, Ugashik River, 1998.

Date	Daily Counts	Cumulative Total	Daily % of Total	Cumulative %
7/2	72	72	0%	0%
7/3	1,626	1,698	0%	0%
7/4	768	2,466	0%	0%
7/5	1,134	3,600	0%	0%
7/6	1,536	5,136	0%	1%
7/7	6,840	11,976	1%	1%
7/8	10,170	22,146	1%	2%
7/9	15,114	37,260	2%	4%
7/10	15,222	52,482	2%	6%
7/11	34,056	86,538	4%	10%
7/12	54,678	141,216	6%	16%
7/13	97,848	239,064	11%	27%
7/14	163,350	402,414	18%	45%
7/15	92,286	494,700	10%	56%
7/16	27,444	522,144	3%	59%
7/17	16,746	538,890	2%	61%
7/18	18,672	557,562	2%	63%
7/19	17,556	575,118	2%	65%
7/20	14,802	589,920	2%	66%
7/21	12,318	602,238	1%	68%
7/22	15,894	618,132	2%	69%
7/23	11,334	629,466	1%	71%
7/24	16,056	645,522	2%	72%
7/25	35,346	680,868	4%	76%
7/26	81,486	762,354	9%	86%
7/27	50,856	813,210	6%	91%
7/28	39,702	852,912	4%	96%
7/29	21,510	874,422	2%	98%
7/30	16,086	890,508	2%	100%
TOTAL	890,508			

Table 16. Daily sockeye salmon tower counts, Wood River, 1998.

Date	Daily Counts	Cumulative Total	Daily % of Total	Cumulative %
6/23	3,558	3,558	0%	0%
6/24	3,864	7,422	0%	0%
6/25	13,650	21,072	1%	1%
6/26	25,068	46,140	1%	3%
6/27	16,428	62,568	1%	4%
6/28	17,826	80,394	1%	5%
6/29	31,170	111,564	2%	6%
6/30	24,960	136,524	1%	8%
7/1	18,558	155,082	1%	9%
7/2	41,856	196,938	2%	11%
7/3	95,130	292,068	5%	17%
7/4	520,476	812,544	30%	46%
7/5	512,370	1,324,914	29%	75%
7/6	61,038	1,385,952	3%	79%
7/7	99,432	1,485,384	6%	85%
7/8	108,276	1,593,660	6%	91%
7/9	45,804	1,639,464	3%	93%
7/10	27,204	1,666,668	2%	95%
7/11	13,800	1,680,468	1%	96%
7/12	11,430	1,691,898	1%	96%
7/13	11,082	1,702,980	1%	97%
7/14	8,232	1,711,212	0%	97%
7/15	12,588	1,723,800	1%	98%
7/16	10,902	1,734,702	1%	99%
7/17	5,598	1,740,300	0%	99%
7/18	3,492	1,743,792	0%	99%
7/19	3,156	1,746,948	0%	99%
7/20	2,916	1,749,864	0%	100%
7/21	2,100	1,751,964	0%	100%
7/22	2,628	1,754,592	0%	100%
7/23	1,176	1,755,768	0%	100%
Total	1,755,768			

Table 17. Historical tower count of other species.

Tower	Year	Chinook	Chum	Pink	Coho
Egegik	1997	30			
	1996	78		103,110	24,918
	1995	60	144	24	7,470
	1994	36	42	17,994	8,724
	1993	6			
	1992			6	
	1991				
	1990	24	72		
	1989	12			
	1988	18	6		
	1987				
	1986	6			
Tower	**Year**	**Chinook**	**Chum**	**Pink**	**Coho**
Kvichak	1997	342			
	1996				
	1995	84	24	30	
	1994	132	30	66	
	1993	162	84	36	
	1992	96	42	78	
	1991	54	48	96	
	1990	42	6		
Tower	**Year**	**Chinook**	**Chum**	**Pink**	**Coho**
Naknek	1997	180	6	12	
	1996	66		396	
	1995	222		96	
	1994	42		672	
	1993	174		168	
	1992	30	6	342	
	1991	42	24	318	
	1990	66	6	302	
	1989	48	18	234	
	1988	114	36	348	
	1987	12	36	12	
	1986	12		3	
Tower	**Year**	**Chinook**	**Chum**	**Pink**	**Coho**
Ugashik	1997	144	30	61	
	1996	60	138	66	
	1995	24	6	36	
	1994	66	36	300	
	1993	102	6	72	
	1992	90	60	1,728	
	1991	78	90	660	

Table 17. (page 2 of 3).

Tower	Year	Chinook	Chum	Pink	Coho
Igushik	1997	474	48	6	
	1996	18	438	666	
	1995	24	234	6	
	1994	210	126	438	
	1993	18	12		
	1992				
	1991	36	0	0	
	1990	186	24	648	
	1989	48	120	96	
	1988	6	60	18	
	1987	36	156	18	
	1986	48	42	36	
	1985	132	684	0	
	1984	78	144	1,692	
	1983	84	36	6	
	1982	0	354	4,494	
	1981	12	456	2,220	
	1980	174	1,008	600	
	1979	0	6	0	
	1978	18	282	210	
	1977	18	162	102	
	1976	216	456	2,070	
	1975	-24	18	150	
Tower	Year	Chinook	Chum	Pink	Coho
Nuyakuk	1997	3,264	7,842	12	
	1996	1,404	12,648	1,680	
	1995	1,380	7,452	0	
	1994				
	1993				
	1992				
	1991				
	1990				
	1989				
	1988	450	4,609	2,484	
	1987	120	972	0	
	1986	624	5,634	0	
	1985	2,628	3,774	918	
	1984	3,246	8,652	2,602,182	
	1983	2,958	7,224		
	1982	6,198	7,374	1,537,716	
	1981	5,460	4,824	252	
	1980	3,814	6,522	2,536,746	
	1979	504	810	12	
	1978	258	2,856	7,190,184	
	1977	996	6,882	0	
	1976	2,490	4,434	701,478	
	1975	1,686	1,518	0	
	1974	1,590	2,058	456,216	

Table 17.(page 3 of 3)

		Chinook	Chum	Pink	Coho
Tower	1972	594	3,102	58,536	
Nuyakuk	1971	300	1,224	0	
(continued)	1970		2,244	152,580	
	1969		1,254		
	1968			2,161,116	
	1967		1,098		
	1966		3,048	1,442,424	
	1965		2,628		
	1964		1,476	743,484	
	1963		3,414		
	1962		5,436	493,914	
	1961		1,602		

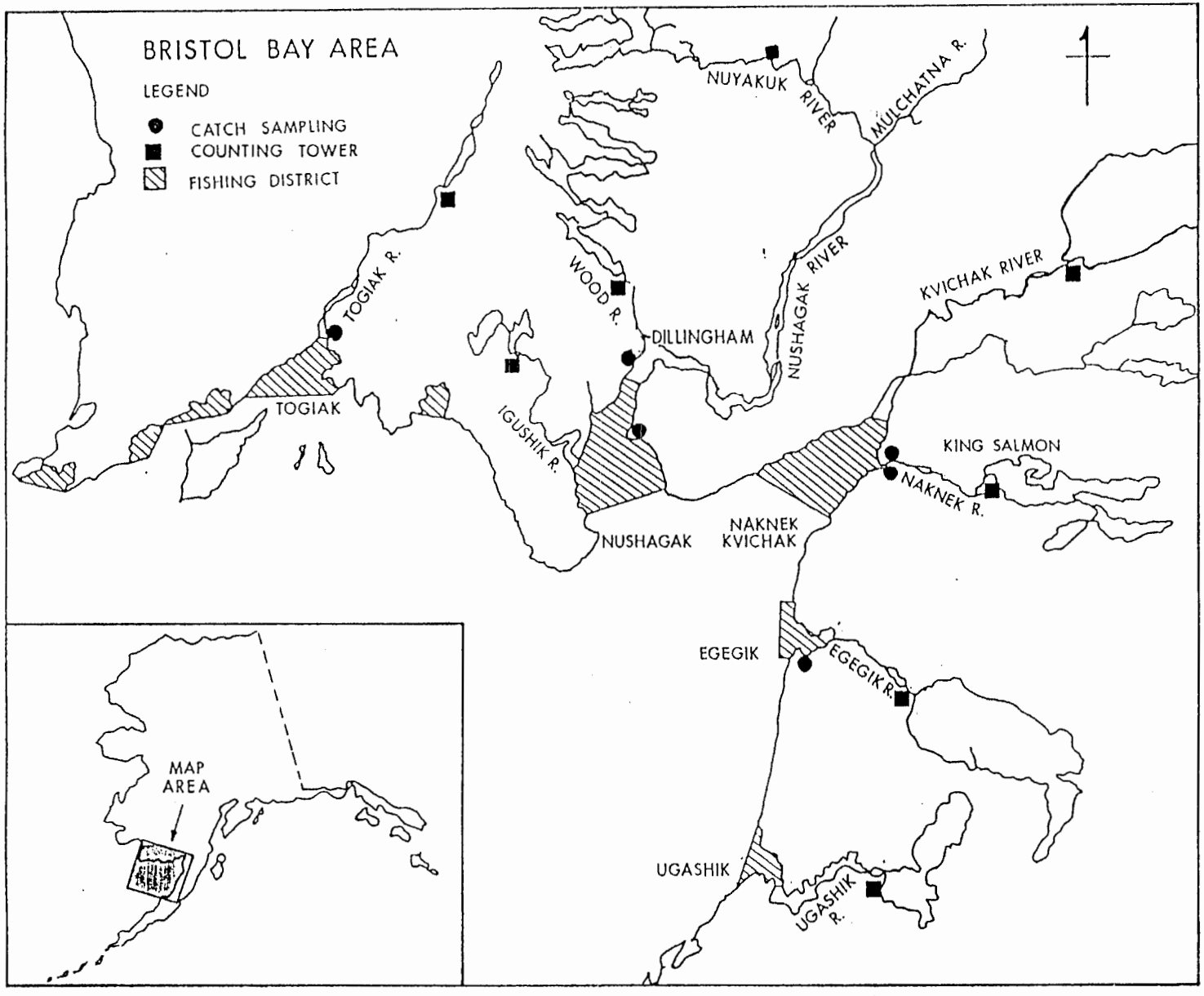

Figure 1. Bristol Bay major river systems and commercial fishing districts.

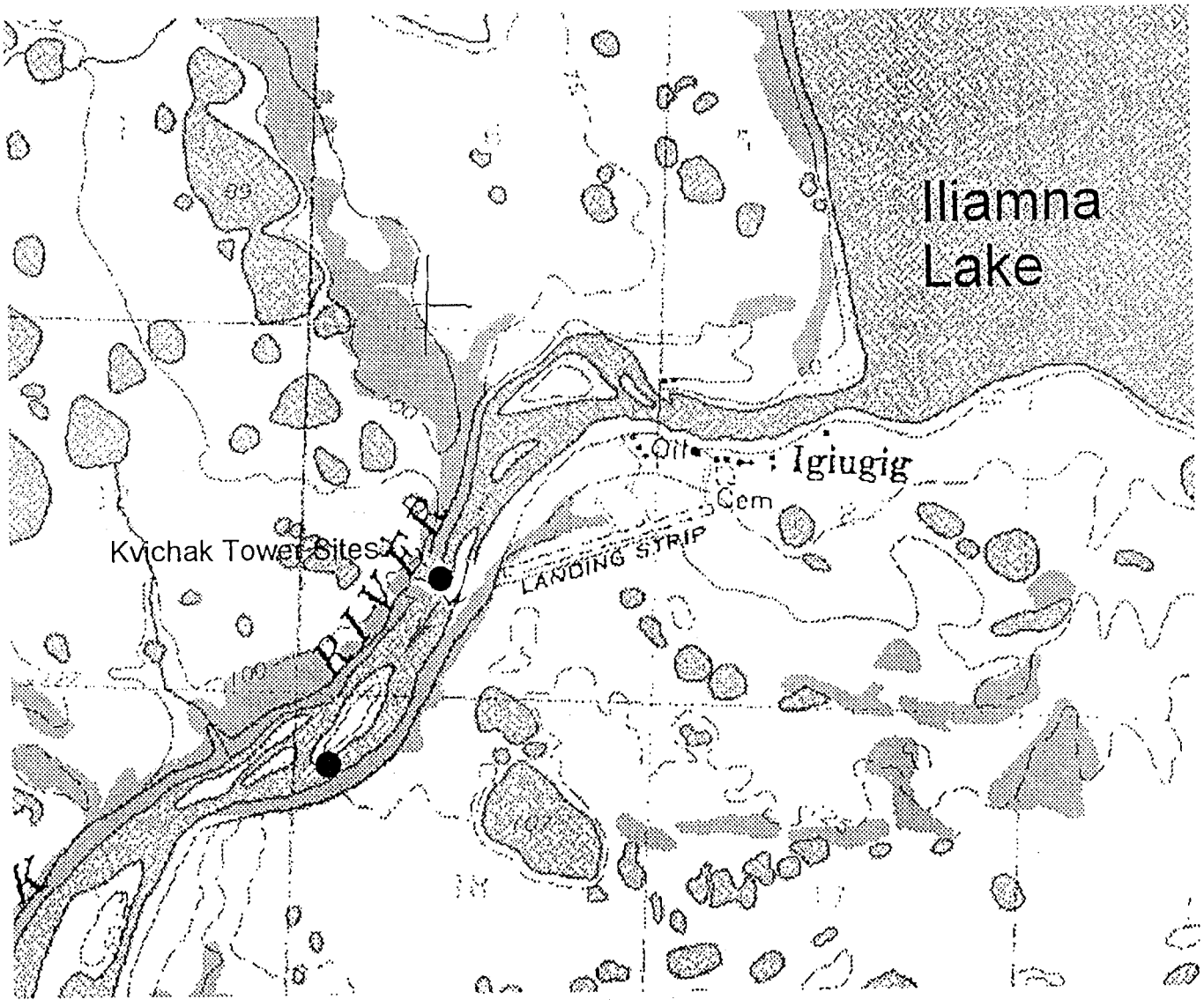

Figure 2. Kvichak River Tower Sites, Bristol Bay, Alaska.

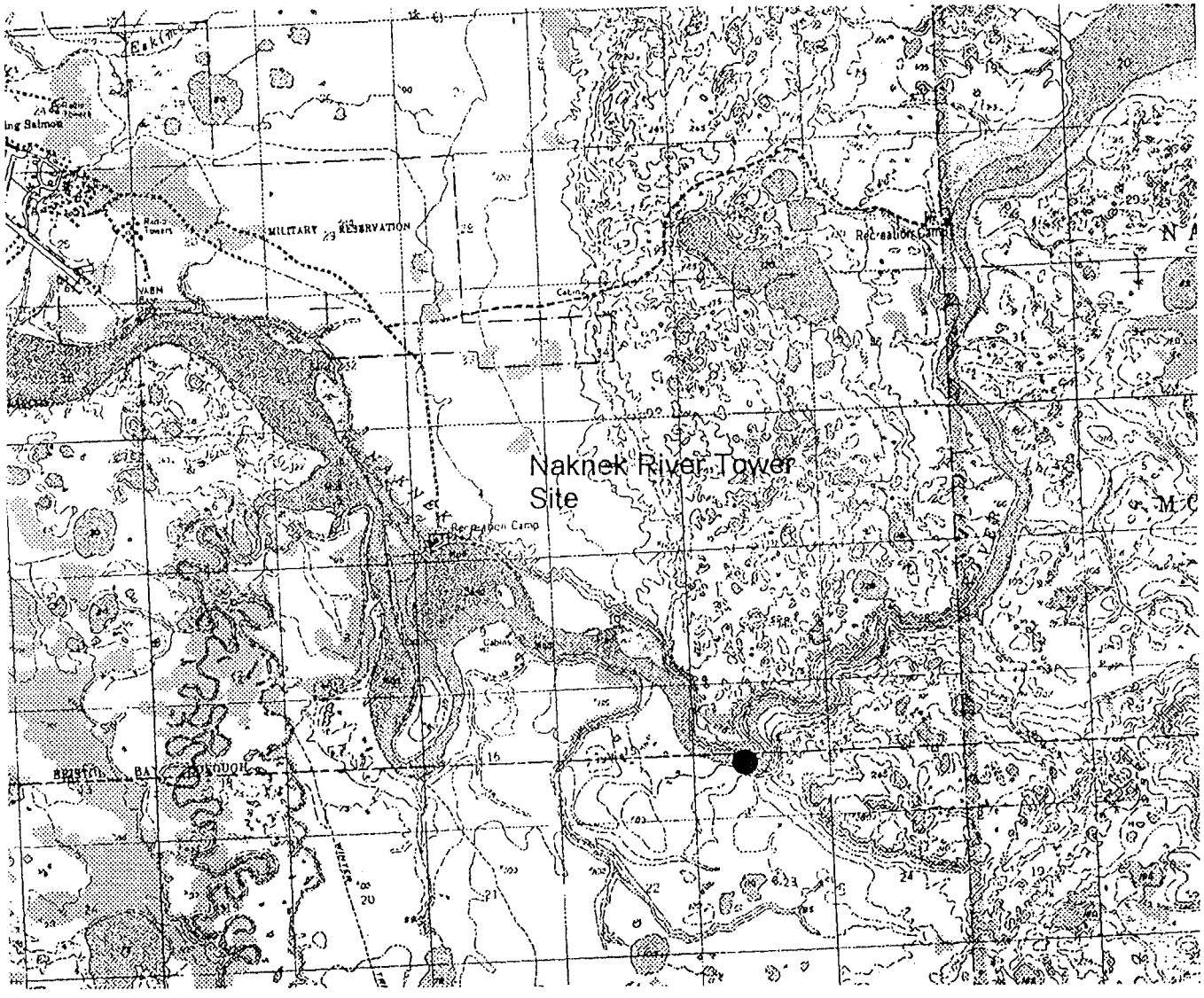

Figure 3. Naknek River Tower Site, Bristol Bay, Alaska.

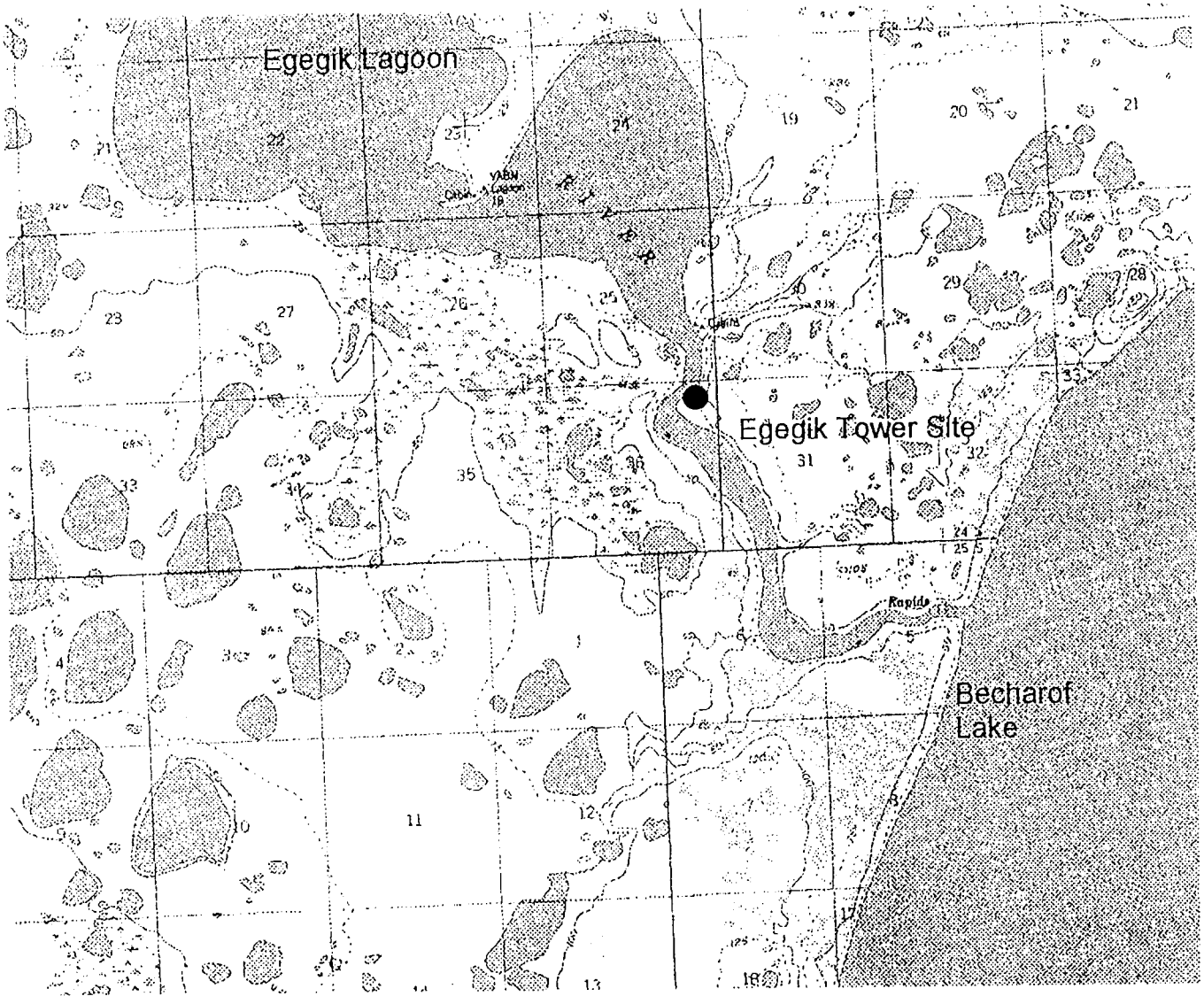

Figure 4. Egegik River Tower Site, Bristol Bay, Alaska.

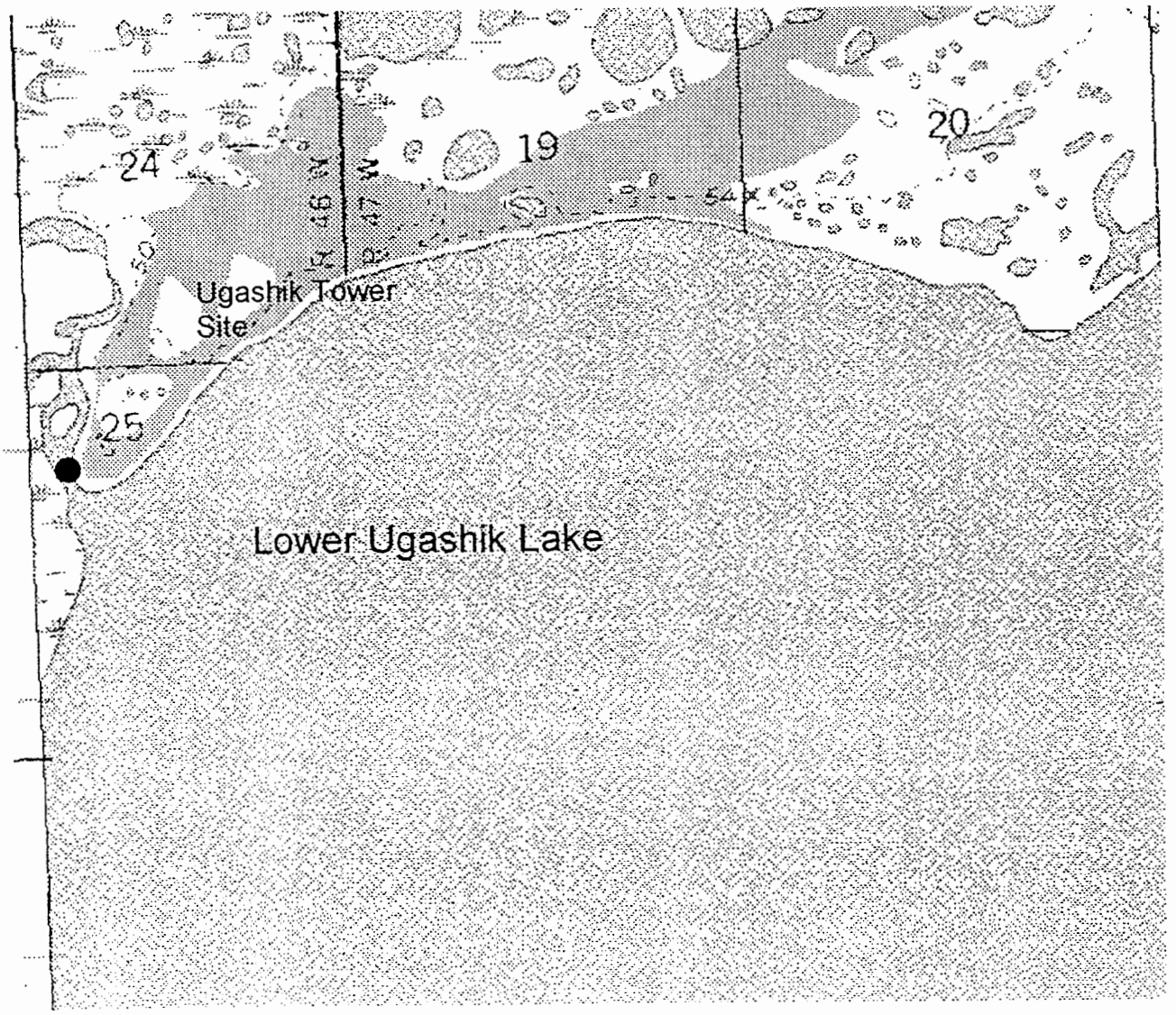

Figure 5. Ugashik River Tower Site, Bristol Bay, Alaska.

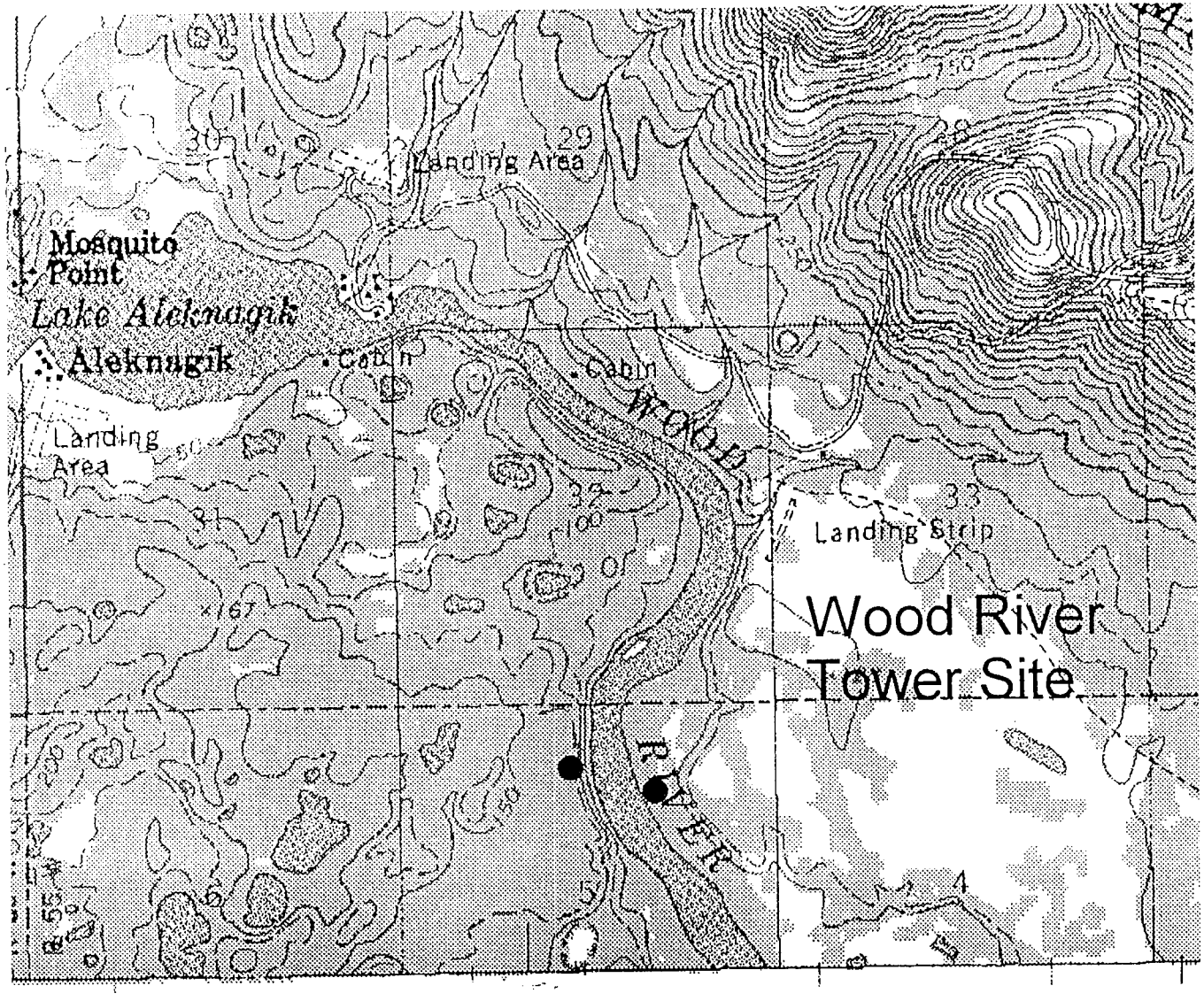

Figure 6. Wood River Tower Site, Bristol Bay, Alaska.

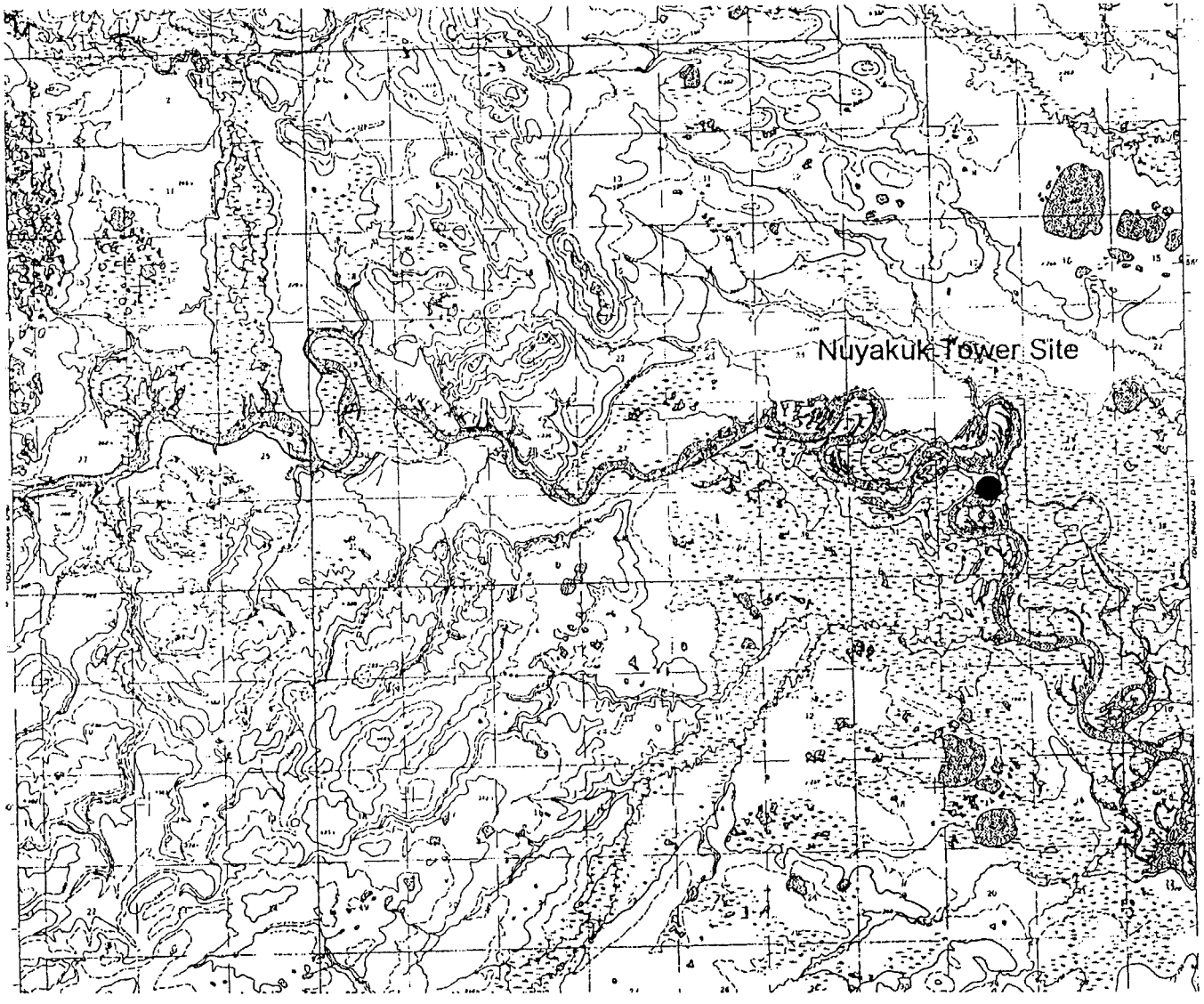

Figure 7. Nuyakuk River Tower Site, Bristol Bay, Alaska.

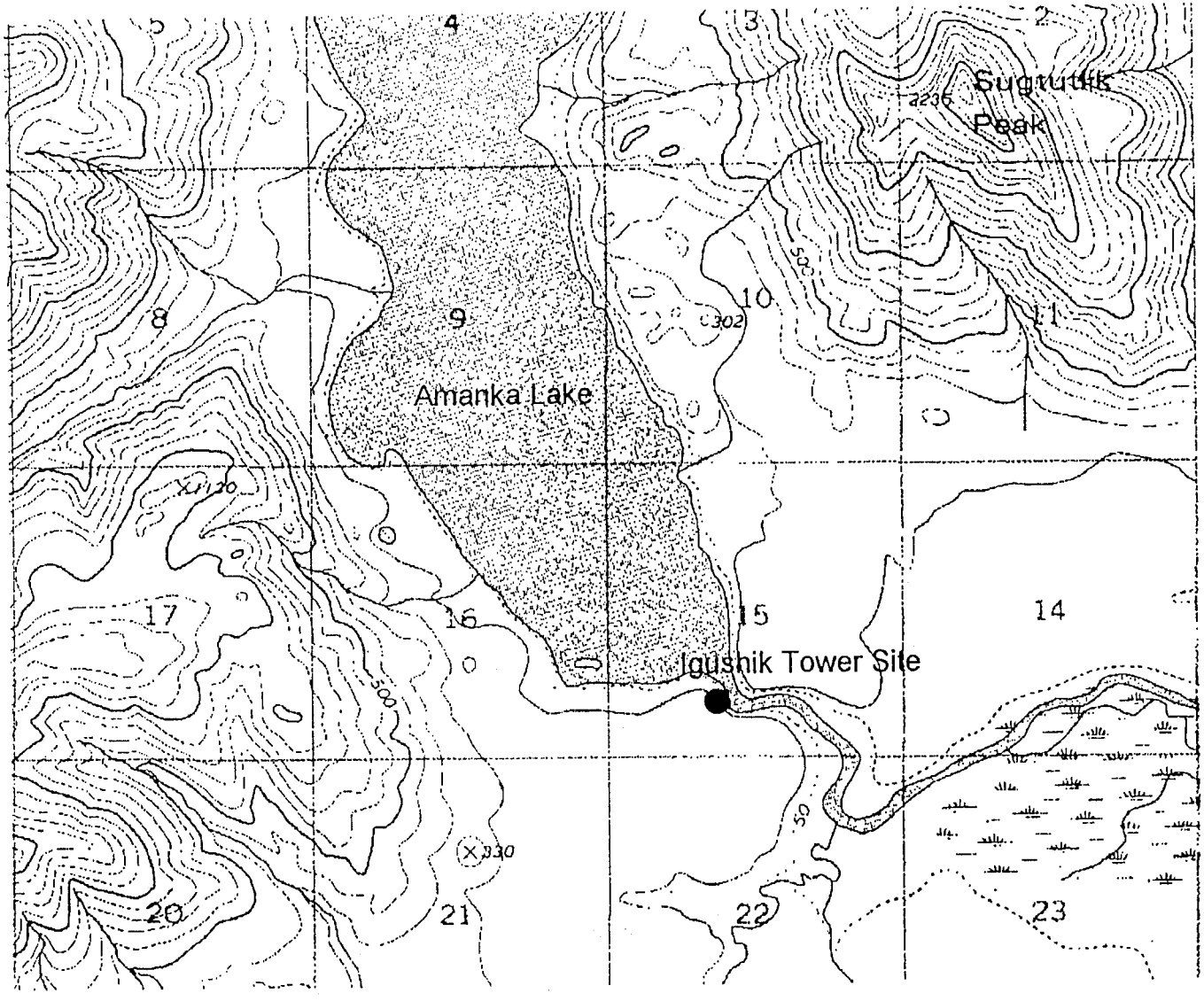

Figure 8. Igushik River Tower Site, Bristol Bay, Alaska.

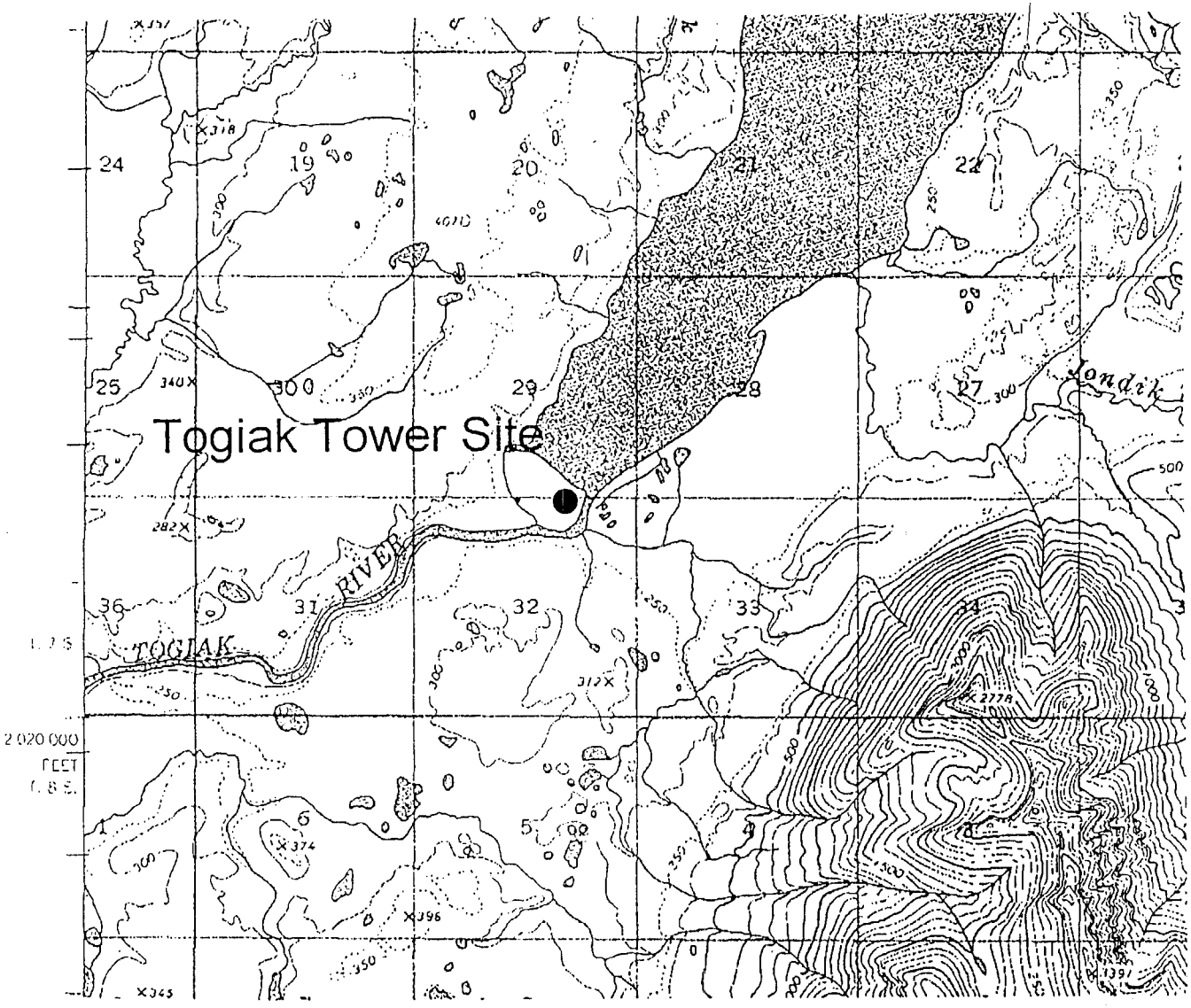

Figure 9. Togiak River Tower Site, Bristol Bay, Alaska.

Appendix A

Historical escapement data for current

Sockeye salmon counting tower in Bristol Bay

Appendix A.1. Egegik River historical daily escapement, 1957-1998

Date	1957	1958	1959	1960	1961	1962	1963	1964
17-Jun								
18-Jun								
19-Jun								
20-Jun								
21-Jun								
22-Jun								
23-Jun								
24-Jun								
25-Jun								
26-Jun								
27-Jun								
28-Jun								
29-Jun								
30-Jun		16,212	4,800					
01-Jul	9,960	3,606	4,506	0		26,394		
02-Jul	20,136	7,632	0	0	11,286	38,604	9,798	204
03-Jul	3,042	7,524	0	0	58,308	76,638	19,266	2,130
04-Jul	7,524	13,644	80	0	17,826	46,206	1,044	24
05-Jul	8,848	30,198	20,348	1,416	17,100	14,124	2,538	10,446
06-Jul	5,632	31,872	15,684	108	49,908	59,994	134,832	12,582
07-Jul	7,552	27,492	98,920	92,346	74,454	182,160	58,122	23,490
08-Jul	13,656	44,490	127,512	62,058	65,562	119,448	55,890	87,180
09-Jul	20,826	18,606	90,436	17,778	119,526	112,512	70,098	89,814
10-Jul	44,664	8,358	96,960	154,728	62,790	79,254	129,444	38,250
11-Jul	85,639	12,042	88,904	193,404	27,414	95,502	18,390	177,408
12-Jul	64,132	5,316	17,152	310,710	22,158	93,972	20,628	134,940
13-Jul	35,985	1,176	2,216	267,738	9,258	15,618	116,922	135,006
14-Jul	8,722	2,094	30,132	68,832	39,228	10,176	200,520	41,766
15-Jul	17,179	408	58,544	216,763	9,390	17,856	56,364	48,318
16-Jul	21,302	294	86,392	165,102	13,446	26,628	34,416	32,994
17-Jul	361	3,534	51,820	137,442	19,626	10,494	13,224	7,764
18-Jul	3,783	3,132	106,704	33,792	18,348	1,482	5,778	5,760
19-Jul	4,596	924	21,840	43,890	23,220	270	510	1,320
20-Jul	3,063	1,308	51,512	20,136	17,658	114	186	66
21-Jul	120	288	25,540	12,108	4,944	36	654	84
22-Jul	1,169	1,362	21,352	402	558		246	24
23-Jul	681	1,302	8,940	6	2,472		1,530	6
24-Jul	1,205	264	5,596	0	9,258		3,228	
25-Jul	801	432	1,156	0	3,564		4,362	
26-Jul	154	570	4,624	0	1,404		3,888	
27-Jul	295	1,266	2,404		450		786	
28-Jul	42	432	6,544		612		26,568	
29-Jul	42	30	1,412		366		4,440	
30-Jul	96	174	741		228		3,078	
31-Jul		198	48		378		480	
01-Aug		114	0		294		240	
02-Aug		60			246		132	
03-Aug					132			
04-Aug					126			
Total	391,207	246,354	1,052,819	1,798,759	701,538	1,027,482	997,602	849,576

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Date	1965	1966	1967	1968	1969	1970	1971	1972	1973
17-Jun									
18-Jun									
19-Jun									
20-Jun							0	0	0
21-Jun							0	0	0
22-Jun							0	0	0
23-Jun				48			0	0	0
24-Jun			18	72			0	0	0
25-Jun		6	3,684	324			0	0	0
26-Jun		0	1,614	60			0	0	0
27-Jun		0	4,044	8			0	0	0
28-Jun		0	7,032	1,416			0	0	3,330
29-Jun		12	3,180	13,038			0	0	6,252
30-Jun		0	60	10,680	1,212		0	0	5,616
01-Jul	66	270	34,890	17,076	276	1,836	0	0	15,990
02-Jul	8,538	9,762	92,106	33,378	11,028	14,004	0	0	8,646
03-Jul	22,548	84,054	27,438	36,846	33,672	15,606	0	36	10,944
04-Jul	37,968	52,248	67,680	34,626	49,650	63,486	0	3,192	9,360
05-Jul	35,514	72	56,898	36,762	29,190	37,482	0	498	15,528
06-Jul	91,134	0	88,206	47,886	78,288	25,878	0	70,212	588
07-Jul	208,248	3,774	32,226	12,942	132,060	52,038	0	124,416	264
08-Jul	232,536	139,656	15,060	24,024	166,698	133,614	0	71,544	36
09-Jul	28,692	239,382	39,870	34,482	154,140	66,300	18	82,380	39,924
10-Jul	94,806	126,102	61,752	7,560	36,648	260,610	336	92,298	28,098
11-Jul	146,598	42,708	35,064	6,558	51,696	195,174	22,968	44,628	26,622
12-Jul	104,880	4,206	24,966	5,436	61,962	10,206	53,952	41,256	48,996
13-Jul	109,086	51,306	16,212	4,344	57,528	6,684	32,562	4,446	28,506
14-Jul	49,566	20,544	7,038	456	73,968	8,310	3,432	6,360	39,750
15-Jul	84,330	12,264	4,158	1,206	30,168	4,176	2,520	3,522	9,552
16-Jul	94,290	8,172	2,448	570	37,698	2,886	46,788	1,386	9,366
17-Jul	38,874	786	462	2,340	8,328	2,622	121,962	120	8,790
18-Jul	18,210	1,896	2,748	582	1,122	3,432	55,482	108	2,082
19-Jul	20,706	1,152	1,248	2,190	186	5,562	4,044		378
20-Jul	7,242	2,436	1,776	1,122	36	5,208	73,842		240
21-Jul	4,518	2,088	3,102	450		1,362	23,856		4,152
22-Jul	5,340	576	1,116	474		1,020	46,326		1,212
23-Jul	732	708	540	690		624	139,362		822
24-Jul	186	66	132	684		282	5,106		1,266
25-Jul			60	270		516	402		2,514
26-Jul			36	54		702	1,014		24
27-Jul						78	42		-6
28-Jul						36			
29-Jul									
30-Jul									
31-Jul									
01-Aug									
02-Aug									
03-Aug									
04-Aug									
Total	1,444,608	804,246	636,864	338,654	1,015,554	919,734	634,014	546,402	328,842

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Date	1974	1975	1976	1977	1978	1979	1980	1981	1982
17-Jun					0	0		2,076	
18-Jun					408	840		3,828	
19-Jun					918	432		1,794	
20-Jun	0				1,824	1,074		-6	0
21-Jun	0			0	966	9,828		18	24
22-Jun	0			822	2,718	5,256		0	180
23-Jun	0		0	9,594	1,476	6,732		912	24
24-Jun	0	0	0	4,668	826	8,784		14,166	54
25-Jun	0	0	0	5,004	3,488	2,100		28,248	6
26-Jun	78	0	0	8,958	5,748	23,310		22,758	6
27-Jun	204	0	0	15,270	5,076	65,802		15,642	0
28-Jun	1,350	0	0	29,070	10,140	65,556		14,700	648
29-Jun	3,396	0	0	37,698	11,952	169,158		1,956	720
30-Jun	8,130	0	54	61,320	47,808	82,296		3,174	234
01-Jul	17,040	876	24	49,248	53,376	70,548		4,806	1,920
02-Jul	67,950	3,750	246	87,726	57,234	100,554		29,520	20,214
03-Jul	151,800	7,482	6,324	77,100	13,896	99,828	1,758	52,536	-12
04-Jul	83,034	44,154	15,126	21,252	3,864	64,254	39,990	70,422	7,206
05-Jul	112,956	78,834	5,442	91,314	12,432	22,392	81,960	99,516	39,198
06-Jul	112,050	115,596	28,284	97,626	54,210	56,178	25,944	99,630	30,042
07-Jul	154,716	21,954	41,946	32,262	124,698	25,860	77,232	102,444	51,516
08-Jul	117,348	90,678	36,678	16,998	177,960	21,498	92,046	50,700	99,258
09-Jul	49,632	179,226	13,824	12,528	183,300	46,914	36,060	21,810	143,424
10-Jul	58,224	225,348	22,782	9,552	96,762	29,886	73,794	24,318	184,158
11-Jul	93,894	47,472	14,790	8,652	6,810	19,062	409,482	5,190	151,122
12-Jul	67,062	59,028	82,602	2,280	2,496	15,114	10,200	9,534	137,766
13-Jul	82,530	119,244	63,084	3,078	4,284	6,270	74,964	6,594	98,736
14-Jul	45,450	72,126	34,038	3,696	4,632	4,590	79,050	2,052	49,746
15-Jul	18,978	27,300	14,334	3,078	3,012	3,270	16,596	2,994	13,458
16-Jul	7,008	34,026	4,842	1,632	1,938	3,474	17,364	432	1,164
17-Jul	11,604	5,004	2,490	2,088	1,446	1,182	13,152	1,614	1,470
18-Jul	3,534	3,450	14,910				5,160	1,302	558
19-Jul	1,164	10,092	24,708				4,788		870
20-Jul	1,014	15,900	61,116				1,320		918
21-Jul	684	6,036	2,334						
22-Jul	564	4,656	8,862						
23-Jul	996	1,512	4,500						
24-Jul	348	96	1,764						
25-Jul	438		1,842						
26-Jul	726		1,434						
27-Jul	1,152		780						
28-Jul	468								
29-Jul	108								
30-Jul									
31-Jul									
01-Aug									
02-Aug									
03-Aug									
04-Aug									
Total	1,275,630	1,173,840	509,160	692,514	895,698	1,032,042	1,060,860	694,680	1,034,628

Appendix A.1. (page 4 of 5).

Date	1983	1984	1985	1986	1987	1988	1989	1990	1991
17-Jun		0							
18-Jun		0							
19-Jun		2,814							
20-Jun		4,260					0		
21-Jun	240	10,482			0		13,914	60	
22-Jun	4,950	2,340	2,388		0	10,032	41,844	24	
23-Jun	786	5,838	2,532	348	174	6,768	34,860	0	2,142
24-Jun	2,352	936	678	1,494	18,786	5,964	5,754	642	7,452
25-Jun	7,656	3,054	726	4,860	5,622	2,256	11,838	1,194	1,728
26-Jun	12,192	4,782	1,524	642	60,750	6,636	17,034	1,218	24,210
27-Jun	25,512	19,530	8,562	9,774	110,226	17,100	7,152	720	10,974
28-Jun	63,360	30,186	43,848	9,426	51,132	96,108	23,352	5,142	16,866
29-Jun	156,672	37,554	52,008	9,708	53,718	111,444	14,040	14,832	23,352
30-Jun	168,462	46,644	75,240	6,252	28,188	66,288	58,980	27,126	47,368
01-Jul	77,466	66,204	68,814	24,186	83,100	39,348	58,740	41,208	115,754
02-Jul	54,150	85,866	21,222	27,378	18,702	58,164	70,632	261,582	156,450
03-Jul	14,250	68,694	109,080	117,360	52,986	109,584	222,378	334,050	300,438
04-Jul	12,888	39,642	132,306	56,982	37,236	126,168	185,328	349,668	305,238
05-Jul	30,396	41,988	96,036	138,948	51,618	158,940	217,002	138,978	326,586
06-Jul	25,818	43,032	154,536	156,888	67,446	135,216	269,502	137,634	345,588
07-Jul	26,184	54,606	48,036	74,052	80,304	81,666	139,800	73,416	343,284
08-Jul	15,162	88,530	31,260	31,812	124,248	115,896	115,404	51,636	142,194
09-Jul	10,332	132,762	22,800	26,586	122,718	64,506	36,774	28,644	68,844
10-Jul	5,220	113,250	45,684	29,496	64,302	78,918	6,972	68,520	37,368
11-Jul	4,320	115,536	39,234	46,860	34,734	104,148	8,304	58,986	45,756
12-Jul	4,986	99,180	63,138	56,814	10,626	42,048	7,062	142,782	85,896
13-Jul	3,234	21,336	32,598	68,490	10,842	53,796	13,158	119,226	54,942
14-Jul	6,042	6,072	29,328	73,428	19,932	79,578	5,316	76,122	151,068
15-Jul	6,582	5,910	5,874	1/10,592	21,930	9,804	5,094	52,758	96,612
16-Jul	2,106	4,098	2,442	10,592	33,144	5,466	9,936	118,032	12,366
17-Jul	2,712	4,548	1,200	10,592	47,244	8,328	1,974	23,718	8,688
18-Jul	6,918	4,315	1,404	10,592	7,134	10,938	2,286	13,254	10,326
19-Jul	13,434	965	1,836	10,592	20,946	4,662	2,874	13,890	11,118
20-Jul	9,312	366	858	10,592	9,642	1,986	2,034	15,612	11,358
21-Jul	9,300			10,592	16,938	924	1,578	5,874	10,488
22-Jul	4,446			10,592	6,672			5,034	12,426
23-Jul	2,466			10,592	2,154			4,056	
24-Jul	2,376			10,592	-216			3,852	
25-Jul				10,592				1,872	
26-Jul				10,592					
27-Jul				10,592					
28-Jul				10,592					
29-Jul				10,592					
30-Jul				10,592					
31-Jul				10,594					
01-Aug									
02-Aug									
03-Aug									
04-Aug									
Total	792,282	1,165,320	1,095,192	1,151,320	1,272,978	1,612,680	1,610,916	2,191,362	2,786,880

1/ Late season escapements were extrapolated using historic cumulative data for this river system.

Appendix A.1. (page 5 of 5).

Date	1992	1993	1994	1995	1996	1997	1998
17-Jun							
18-Jun							24
19-Jun		888		456	11,220	14,610	192
20-Jun	1,656	20,454		4,686	10,650	26,100	2,016
21-Jun	9,864	130,842		15,516	90	13,566	1,548
22-Jun	3,204	144,438	816	2,052	1,260	34,830	1,134
23-Jun	14,304	156,192	264	78	21,174	10,572	15,066
24-Jun	15,060	98,718	4,938	3,600	27,378	6,258	21,198
25-Jun	22,032	69,252	32,052	28,476	24,468	6,324	27,474
26-Jun	41,142	110,514	71,178	81,684	2,298	7,410	21,948
27-Jun	118,674	45,246	17,364	88,326	888	25,164	32,394
28-Jun	96,294	19,668	10,890	188,766	37,176	42,636	25,458
29-Jun	130,620	7,032	5,712	115,818	35,868	44,034	50,028
30-Jun	129,990	8,292	35,088	122,076	34,434	34,566	46,242
01-Jul	144,366	27,048	31,410	79,986	36,222	16,296	95,676
02-Jul	45,798	48,972	4,578	6,894	46,038	6,618	85,278
03-Jul	7,692	19,884	29,520	18,528	60,714	13,614	13,620
04-Jul	11,232	24,576	221,826	78,906	31,116	7,956	50,436
05-Jul	53,580	70,542	184,764	56,136	17,202	9,252	14,850
06-Jul	84,240	103,170	178,818	41,226	8,604	18,252	71,016
07-Jul	114,972	61,692	180,138	2,976	34,686	170,664	101,868
08-Jul	89,574	48,240	151,176	65,376	51,342	127,806	36,276
09-Jul	109,764	37,824	176,892	61,818	62,250	39,228	17,262
10-Jul	155,604	30,738	79,404	5,220	234,648	12,252	45,102
11-Jul	146,322	61,938	106,392	23,634	226,074	176,196	59,094
12-Jul	141,642	42,132	100,008	21,480	20,688	81,300	24,276
13-Jul	83,292	44,220	42,348	14,844	2,370	68,130	29,766
14-Jul	24,624	23,886	43,422	11,166	3,270	37,842	63,780
15-Jul	19,812	10,428	50,148	4,362	9,564	42,498	65,088
16-Jul	23,220	9,060	23,088	8,904	17,790	6,168	14,370
17-Jul	30,378	7,086	21,774	10,872	6,114	3,822	20,058
18-Jul	18,198	10,338	45,642	5,850			37,302
19-Jul	24,936	8,172	21,366	7,374			12,570
20-Jul	24,384	9,936	11,622	6,498			8,478
21-Jul	8,862	3,636	15,294	4,290			
22-Jul		1,926		32,268			
23-Jul							
24-Jul							
25-Jul							
26-Jul							
27-Jul							
28-Jul							
29-Jul							
30-Jul							
31-Jul							
01-Aug							
02-Aug							
03-Aug							
04-Aug							
Total	1,945,332	1,516,980	1,897,932	1,220,142	1,075,596	1,103,964	1,110,888

Appendix A.2. Igushik River historical daily escapement, 1958-1998.

Date	1958	1959	1960	1961	1962	1963	1964
19-Jun							
20-Jun							
21-Jun							
22-Jun		492					0
23-Jun		897		192			0
24-Jun		804		144			0
25-Jun		1,725	0	162		36	0
26-Jun	1,422	1,110	30	108		0	0
27-Jun	1,596	1,416	48	348		0	0
28-Jun	306	1,593	726	1,812		0	12
29-Jun	2,544	4,281	4,008	5,880		48	12
30-Jun	1,770	9,561	9,048	9,234	204	480	36
01-Jul	2,400	10,977	2,892	12,270	306	252	930
02-Jul	3,108	17,280	4,452	14,220	312	798	168
03-Jul	1,668	28,878	6,747	16,548	564	1,362	9,510
04-Jul	1,746	32,538	8,196	14,070	348	2,364	5,706
05-Jul	5,844	38,754	11,370	18,516	546	1,860	3,264
06-Jul	2,364	55,998	14,442	20,556	708	2,286	3,870
07-Jul	3,810	38,034	13,878	21,030	2,286	8,328	7,980
08-Jul	4,896	35,796	14,352	26,946	3,762	11,982	12,972
09-Jul	10,500	45,915	18,702	20,568	2,628	14,850	13,206
10-Jul	16,410	37,461	34,674	17,946	1,752	12,300	9,174
11-Jul	11,310	31,578	34,812	17,886	720	7,230	7,104
12-Jul	1,932	29,889	45,426	13,980	834	4,392	9,102
13-Jul	3,540	15,042	42,780	11,520	372	3,276	5,646
14-Jul	4,242	11,418	31,314	10,038	90	3,036	5,916
15-Jul	6,444	19,893	25,434	10,212	42	2,700	10,212
16-Jul	3,240	20,475	20,064	5,760	42	2,604	7,878
17-Jul	3,324	16,257	11,892	6,138	54	4,080	4,110
18-Jul	3,768	21,822	17,322	3,564	72	2,196	4,242
19-Jul	2,904	23,571	16,686	2,730	6	1,584	2,646
20-Jul	1,770	22,644	13,872	1,884	0	1,728	1,818
21-Jul	1,338	18,861	13,080	2,130	0	978	882
22-Jul	696	15,906	12,642	1,002	12	570	1,236
23-Jul	978	6,129	12,108	1,146	0	300	636
24-Jul	648	5,520	11,958	36		270	210
25-Jul	372	3,719	8,628	684		102	6
26-Jul	270	2,961	6,582	1,110		150	36
27-Jul	78	1,206	6,156	540		36	12
28-Jul	54	4,635	3,930	390		6	
29-Jul	120	2,946	4,152	630			
30-Jul	66	1,706	3,384	444			
31-Jul	0	1,734	2,094	756			
01-Aug	0	1,069	2,340	414			
02-Aug	0	360	1,590	558			
03-Aug		957	1,296	150			
04-Aug			1,260				
05-Aug			720				
Total	107,478	643,808	495,087	294,252	15,660	92,184	128,532

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Date	1965	1966	1967	1968	1969	1970	1971
19-Jun			0				
20-Jun			0				
21-Jun			0	0			
22-Jun			0	192		258	
23-Jun			12	0		474	
24-Jun	4		1,182	912	0	594	
25-Jun	0		2,388	2,010	564	1,482	
26-Jun	6		5,136	8,052	3,102	2,262	
27-Jun	36		6,396	11,904	10,020	540	
28-Jun	12		7,362	22,416	11,946	1,272	
29-Jun	1,272		5,910	19,836	7,596	252	
30-Jun	3,786		7,698	16,362	8,172	294	
01-Jul	3,792		8,064	22,170	8,694	384	
02-Jul	7,182	842	12,660	16,632	8,064	1,470	
03-Jul	4,962	1,122	25,158	16,362	17,292	594	36
04-Jul	2,760	96	26,616	12,258	36,234	3,906	1,950
05-Jul	2,940	48	22,188	6,414	44,988	3,426	2,742
06-Jul	1,440	108	30,792	5,988	45,552	7,860	5,832
07-Jul	1,002	36,138	22,938	6,360	60,342	17,844	5,472
08-Jul	8,474	35,154	25,284	5,928	65,316	40,962	5,820
09-Jul	20,946	43,002	18,744	3,660	64,842	55,146	5,748
10-Jul	27,606	16,236	13,296	4,626	37,008	39,966	3,354
11-Jul	29,712	5,868	12,456	(180)	21,162	34,662	1,056
12-Jul	28,140	4,608	3,906	2,004	15,030	36,948	1,044
13-Jul	14,106	7,506	3,114	2,940	12,246	41,946	684
14-Jul	7,026	18,030	1,134	1,092	9,738	35,844	2,580
15-Jul	2,352	17,856	2,736	(54)	7,668	24,336	7,248
16-Jul	1,542	9,948	2,886	846	5,226	9,672	12,912
17-Jul	1,668	2,940	4,218	348	4,956	4,878	9,210
18-Jul	1,644	1,956	2,094	(1,104)	3,678	996	978
19-Jul	2,340	1,146	1,566	162	2,118	900	19,950
20-Jul	1,722	1,530	1,830	1,698	738	534	20,070
21-Jul	1,656	918	1,512	1,530	36	264	4,530
22-Jul	780	552	438	(396)		954	21,108
23-Jul	258	516	120	1,506			(660)
24-Jul	648	240	762	1,716			48,456
25-Jul	408		738	318			21,498
26-Jul	414		384				7,302
27-Jul	186		54				1,758
28-Jul	18						240
29-Jul							42
30-Jul							
31-Jul							
01-Aug							
02-Aug							
03-Aug							
04-Aug							
05-Aug							
Total	180,840	206,360	281,772	194,508	512,328	370,920	210,960

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Date	1972	1973	1974	1975	1976	1977	1978
19-Jun							
20-Jun							
21-Jun							
22-Jun			108	0	0	0	
23-Jun			0	0	0	0	1,896
24-Jun			480	0	0	384	5,142
25-Jun			354	0	0	516	4,338
26-Jun		18	456	0	36	408	10,290
27-Jun		0	816	0	0	660	9,948
28-Jun		0	1,266	0	156	1,812	9,930
29-Jun		0	1,260	0	0	2,388	9,564
30-Jun		0	1,224	0	600	3,342	18,978
01-Jul		0	2,700	0	828	4,116	24,252
02-Jul		10,572	6,486	0	324	4,428	27,222
03-Jul		5,256	14,802	0	1,632	2,730	24,528
04-Jul	84	5,058	21,702	0	1,812	2,982	29,076
05-Jul	1,164	4,926	36,150	1,032	2,460	3,912	37,068
06-Jul	1,242	4,158	49,548	1,710	5,364	3,510	45,126
07-Jul	276	2,928	45,834	5,478	13,668	2,790	37,788
08-Jul	480	996	39,384	22,308	13,578	9,408	46,914
09-Jul	2,724	1,056	20,028	36,084	11,664	13,242	24,498
10-Jul	3,708	1,212	16,830	25,692	12,564	7,422	32,280
11-Jul	4,500	4,224	12,582	32,616	14,640	9,054	32,484
12-Jul	6,042	6,192	16,956	37,662	20,166	5,838	27,564
13-Jul	5,934	4,890	14,922	20,724	13,824	3,570	28,932
14-Jul	6,912	2,076	10,770	12,054	9,822	2,400	20,118
15-Jul	5,184	2,454	7,068	9,270	8,460	3,402	12,222
16-Jul	5,988	1,230	6,282	6,792	6,510	2,814	5,826
17-Jul	4,020	1,044	6,132	4,524	8,496	1,404	3,426
18-Jul	2,592	450	6,216	6,930	11,202	1,206	2,178
19-Jul	3,078	102	7,074	4,698	7,338	612	2,064
20-Jul	2,928	492	4,446	4,488	4,884	630	1,854
21-Jul	1,398	156	2,376	3,468	6,792	648	648
22-Jul	744	18	1,530	2,886	4,884	342	
23-Jul	300		1,674	1,224	2,298		
24-Jul	294		1,176	1,446	1,194		
25-Jul	246		120	0	678		
26-Jul	126				246		
27-Jul	54						
28-Jul							
29-Jul							
30-Jul							
31-Jul							
01-Aug							
02-Aug							
03-Aug							
04-Aug							
05-Aug							
Total	60,018	59,508	358,752	241,086	186,120	95,970	536,154

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Date	1979	1980	1981	1982	1983	1984	1985
19-Jun							
20-Jun		0					0
21-Jun	324	0	1,416		0		0
22-Jun	1,068	0	1,716		0		0
23-Jun	912	2,352	1,578	0	18	6	0
24-Jun	1,596	1,020	1,908	0	834	258	0
25-Jun	1,752	2,610	3,642	0	3,312	2,490	0
26-Jun	5,352	4,650	2,550	0	6,024	7,356	36
27-Jun	18,816	7,530	702	0	5,682	7,152	30
28-Jun	27,600	3,954	1,302	12,858	7,926	9,516	42
29-Jun	30,456	2,400	600	0	5,160	7,356	1,002
30-Jun	29,706	3,666	1,050	2,718	8,226	7,986	3,912
01-Jul	27,678	3,036	2,562	34,626	6,642	5,118	2,262
02-Jul	64,020	21,276	8,304	5,448	6,120	5,982	3,594
03-Jul	88,686	58,140	3,270	34,518	6,792	6,060	14,034
04-Jul	63,852	104,232	5,406	40,380	8,040	6,438	16,092
05-Jul	72,126	113,652	7,680	56,370	10,632	7,740	14,454
06-Jul	56,952	120,234	15,762	63,426	11,916	9,960	12,336
07-Jul	46,140	156,936	21,720	37,752	11,616	8,130	10,614
08-Jul	60,294	148,842	27,768	27,960	12,510	9,774	24,120
09-Jul	53,148	192,924	39,990	16,014	9,288	9,084	25,488
10-Jul	40,116	143,658	45,678	32,310	10,824	6,750	26,142
11-Jul	25,050	121,380	41,226	13,386	6,252	6,486	17,964
12-Jul	23,442	122,208	36,918	9,420	3,738	6,372	9,390
13-Jul	20,742	138,336	58,116	5,514	2,514	6,600	8,880
14-Jul	12,522	142,884	55,422	4,098	1,452	7,020	3,312
15-Jul	15,192	104,394	47,340	5,520	4,944	8,364	5,682
16-Jul	12,090	101,076	42,912	5,232	7,680	6,438	3,018
17-Jul	7,986	56,778	33,120	3,870	3,612	3,618	3,474
18-Jul	5,598	38,526	23,238	4,830	4,302	4,878	2,946
19-Jul	5,286	29,064	19,140	3,390	2,460	4,788	1,872
20-Jul	3,882	19,380	12,546	2,418	2,346	3,168	1,266
21-Jul	4,116	11,220	11,088	1,386	2,982	2,730	372
22-Jul	4,686	6,192	8,190	324	1,746	2,400	120
23-Jul	7,914	4,308	3,876		1,878	1,542	
24-Jul	5,760	672	3,408		1,314	1,272	
25-Jul	5,472				1,176	1,062	
26-Jul	7,218				480	486	
27-Jul	2,010					492	
28-Jul							
29-Jul							
30-Jul							
31-Jul							
01-Aug							
02-Aug							
03-Aug							
04-Aug							
05-Aug							
Total	859,560	1,987,530	591,144	423,768	180,438	184,872	212,454

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Date	1986	1987	1988	1989	1990	1991	1992
19-Jun							
20-Jun	0						
21-Jun	0						6
22-Jun	0				6	0	540
23-Jun	0		600		714	0	1,110
24-Jun	0		1,452		942	54	5,982
25-Jun	0		2,832		636	0	3,594
26-Jun	0		4,242		2,478	4,602	1,392
27-Jun	0	1,572	6,114	5,982	4,290	26,238	1,422
28-Jun	0	2,070	9,048	17,022	3,684	51,342	3,210
29-Jun	0	6,510	6,072	11,112	2,580	29,220	11,946
30-Jun	78	3,366	4,224	7,140	2,196	22,680	11,232
01-Jul	2,166	6,498	4,758	6,630	3,072	20,724	13,530
02-Jul	1,968	9,048	11,670	12,462	6,726	15,702	18,186
03-Jul	612	7,212	9,072	25,476	10,572	18,594	18,312
04-Jul	1,854	12,768	9,018	31,014	32,418	48,234	7,872
05-Jul	7,134	9,564	8,844	27,066	42,786	105,132	2,448
06-Jul	23,484	3,378	11,208	16,998	37,356	115,884	7,446
07-Jul	24,432	5,112	10,266	40,176	28,176	60,162	9,258
08-Jul	8,856	7,914	9,888	48,384	39,876	51,186	18,294
09-Jul	19,896	4,794	9,930	47,196	31,944	33,810	23,526
10-Jul	44,622	8,190	8,700	31,920	31,536	18,174	13,608
11-Jul	29,634	4,872	7,356	22,320	13,140	16,218	29,916
12-Jul	18,036	3,642	6,084	12,732	16,434	14,220	21,708
13-Jul	13,800	4,746	4,230	17,232	13,764	11,148	26,052
14-Jul	8,802	5,604	7,596	18,618	7,416	10,062	13,860
15-Jul	9,888	4,212	7,242	16,584	6,222	11,568	11,472
16-Jul	18,870	3,768	3,456	15,894	7,620	10,308	7,458
17-Jul	14,382	3,840	2,922	7,854	4,200	13,488	6,264
18-Jul	13,590	9,012	1,872	4,650	4,170	12,564	4,236
19-Jul	11,562	10,494	996	5,376	3,936	13,962	3,204
20-Jul	8,556	8,832	762	4,176	2,910	9,348	5,382
21-Jul	8,088	7,824		2,274	2,244	5,916	1,842
22-Jul	6,618	4,878		2,352	1,284	2,130	612
23-Jul	4,644	5,328		1,818	474	3,708	
24-Jul	6,156	2,982		1,152		(252)	
25-Jul		978					
26-Jul		228					
27-Jul							
28-Jul							
29-Jul							
30-Jul							
31-Jul							
01-Aug							
02-Aug							
03-Aug							
04-Aug							
05-Aug							
Total	307,728	169,236	170,454	461,610	365,802	756,126	304,920

Appendix A.2. (page 6 of 6).

Date	1993	1994	1995	1996	1997	1998
19-Jun						
20-Jun						
21-Jun						
22-Jun	120	54				
23-Jun	3,102	234	306		474	
24-Jun	3,198	126	558	3,546	804	
25-Jun	5,208	456	2,322	5,166	972	
26-Jun	3,990	918	6,060	14,952	738	
27-Jun	8,844	906	27,354	12,390	1,872	
28-Jun	13,848	2,700	29,484	20,934	2,364	6
29-Jun	22,566	2,994	26,922	11,046	2,640	378
30-Jun	24,144	1,734	41,712	4,860	1,626	978
01-Jul	24,360	1,836	38,592	4,038	1,044	924
02-Jul	9,720	4,782	51,600	2,724	1,074	780
03-Jul	22,728	3,042	24,972	3,252	1,062	2,268
04-Jul	20,736	12,912	12,048	4,206	2,094	14,790
05-Jul	32,478	15,552	9,804	4,566	2,694	32,322
06-Jul	49,188	11,310	6,960	7,632	4,638	34,380
07-Jul	36,762	13,686	6,594	7,884	2,622	16,536
08-Jul	19,626	6,198	12,942	11,916	3,132	14,034
09-Jul	11,556	8,484	24,882	13,770	5,220	18,834
10-Jul	6,672	21,198	25,998	17,214	6,954	19,362
11-Jul	4,548	51,924	13,758	23,694	8,706	7,164
12-Jul	6,966	45,864	16,266	32,808	8,346	6,126
13-Jul	14,592	39,528	13,320	40,044	7,158	7,428
14-Jul	14,634	38,232	11,022	32,082	6,786	10,062
15-Jul	13,470	16,776	9,282	21,522	7,428	7,590
16-Jul	8,970	8,688	7,026	21,636	8,622	5,322
17-Jul	6,486	13,788	7,668	11,040	8,532	4,362
18-Jul	5,358	22,794	7,566	9,876	8,526	2,856
19-Jul	4,656	22,650	9,564	8,646	6,114	3,966
20-Jul	3,684	18,198	10,140	8,934	4,356	2,322
21-Jul	2,256	11,394	10,158	7,770	3,732	1,284
22-Jul	1,098	10,260	8,502	7,566	2,598	1,830
23-Jul		7,422		8,418	2,256	
24-Jul		7,194		10,104	2,520	
25-Jul		10,242		6,438		
26-Jul		7,194				
27-Jul		4,650				
28-Jul						
29-Jul						
30-Jul						
31-Jul						
01-Aug						
02-Aug						
03-Aug						
04-Aug						
05-Aug						
Total	405,564	445,920	473,382	400,674	127,704	215,904

Appendix A.3. Kvichak River historical daily escapement, 1955-1998.

Date	1955	1956	1957	1958	1959	1960	1961
19-Jun							
21-Jun					308	402	
22-Jun					623	135	120
23-Jun	120	8		0	307	312	120
24-Jun	256	38		0	99	90	120
25-Jun	509	32		0	212		264
26-Jun	166	30	7,337	24	941	18	3,378
27-Jun	211	88	4,987	29	416	186	51,192
28-Jun	38	263	2,922	58	1,133	2,322	88,884
29-Jun	90	229	9,305	515	440	1,776	134,934
30-Jun	112	343	46,825	582	1,098	1,998	122,316
01-Jul	186	311	51,797	174	588	9,747	78,510
02-Jul	148	311	62,332	1,485	384	155,394	33,804
03-Jul	102	373	82,789	960	1,152	221,586	270,726
04-Jul	151	11,280	60,394	153	7,872	361,572	232,488
05-Jul	3,426	10,256	70,371	129	49,612	384,012	375,048
06-Jul	24,364	63,065	48,245	48	51,288	359,946	470,478
07-Jul	9,125	75,851	45,703	29,328	48,780	586,728	420,846
08-Jul	657	134,163	83,275	161,109	30,758	644,058	261,840
09-Jul	893	221,055	56,435	148,760	12,524	702,966	146,634
10-Jul	918	268,179	147,794	44,945	19,097	727,644	72,684
11-Jul	12,766	268,048	283,029	24,802	32,627	1,075,212	169,254
12-Jul	11,351	375,393	461,443	3,575	21,285	1,332,329	128,100
13-Jul	6,937	498,944	461,961	2,241	52,818	1,046,130	200,028
14-Jul	5,458	583,882	371,154	3,966	88,226	972,978	161,700
15-Jul	21,578	694,874	147,430	43,458	90,994	943,860	125,376
16-Jul	73,304	923,007	88,426	47,559	55,343	1,001,322	48,552
17-Jul	31,822	1,053,583	56,012	5,946	23,398	1,116,582	14,634
18-Jul	13,398	910,574	30,330	1,530	16,093	1,262,790	24,546
19-Jul	5,726	711,050	49,258	879	17,357	928,770	26,826
20-Jul	4,146	650,430	72,705	1,017	13,225	529,158	10,848
21-Jul	4,781	606,643	37,966	2,673	9,140	115,725	5,166
22-Jul	4,537	440,420	26,820	834	5,637	39,345	8,628
23-Jul	3,972	288,795	23,152	2,130	5,631	36,324	6,393
24-Jul	2,245	212,571	25,612	2,274	3,801	22,457	4,038
25-Jul	2,187	154,609	14,537	999	1,514	9,678	2,760
26-Jul	1,073	98,495	34,409	357	2,119	8,808	2,508
27-Jul	962	66,923		543	2,189		960
28-Jul	785	37,516		938	2,592		642
29-Jul	797	25,100		384	1,800		264
30-Jul	545	20,353		381	390		180
31-Jul	409	15,999					60
01-Aug	213	14558					
02-Aug	82	5676					
Total	250,546	9,443,318	2,964,755	534,785	673,811	14,602,360	3,705,729

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Date	1962	1963	1964	1965	1966	1967	1968
19-Jun							
21-Jun							
22-Jun	584						
23-Jun	486	72	0	12	0	1,122	72
24-Jun	708	66	18	300	0	18,054	6
25-Jun	276	66	132	7,518	0	6,246	24
26-Jun	780	54	300	39,942	0	30,858	804
27-Jun	5,922	30	186	66,984	12	115,554	1,440
28-Jun	5,670	30	522	97,006	0	54,798	3,954
29-Jun	3,366	702	348	127,028	12	84,432	115,434
30-Jun	5,724	5,628	468	156,540	12,852	281,640	155,484
01-Jul	29,868	10,368	1,074	247,332	14,298	349,254	164,712
02-Jul	153,798	5,598	1,554	467,154	38,784	293,616	102,420
03-Jul	123,996	7,986	1,848	589,908	17,676	111,864	125,490
04-Jul	43,758	5,100	1,020	373,602	23,748	188,592	133,620
05-Jul	91,842	5,082	624	433,794	158,544	211,240	240,984
06-Jul	242,700	18,606	8,406	723,006	266,568	233,832	289,590
07-Jul	509,478	40,944	31,482	1,180,272	439,866	210,252	286,182
08-Jul	413,238	36,000	64,752	1,588,650	506,844	202,440	254,088
09-Jul	537,216	31,434	78,852	2,194,200	466,758	216,222	141,048
10-Jul	329,652	7,032	44,460	2,265,330	381,504	136,422	76,686
11-Jul	50,370	24,246	56,898	1,737,480	318,840	35,868	141,984
12-Jul	2,424	32,970	51,444	1,736,040	400,038	15,276	149,796
13-Jul	2,526	25,608	176,682	1,551,240	259,692	85,314	92,940
14-Jul	4,014	22,188	126,720	1,185,060	126,936	142,200	26,544
15-Jul	2,538	12,018	71,004	852,420	65,256	34,302	15,516
16-Jul	2,904	7,632	55,392	808,098	42,774	34,326	13,086
17-Jul	5,514	7,776	28,410	747,762	29,184	30,198	7,470
18-Jul	3,978	9,288	12,528	1,266,480	32,298	29,214	5,370
19-Jul	1,392	5,358	17,232	1,180,500	44,292	23,652	4,032
20-Jul	360	5,598	17,160	930,420	37,434	9,120	1,362
21-Jul	684	3,768	19,896	726,354	28,548	9,510	1,494
22-Jul	282	2,202	15,852	464,454	19,890	5,844	1,236
23-Jul	714	960	17,550	190,260	8,658	3,498	960
24-Jul	942	1,442	28,434	117,954	4,344	2,184	918
25-Jul	570	1,146	12,762	101,352	3,450	2,700	564
26-Jul	870	678	6,408	72,078	2,250	2,172	522
27-Jul	1,140	528	1,902	44,274	1,410	2,148	294
28-Jul	396	228	1,272	25,446	1,602	1,344	306
29-Jul	204	84	1,182	14,298	822	354	
30-Jul	0	42	1,086	5,388	600	234	
31-Jul	0	12	756	4,644	400	54	
01-Aug							
02-Aug							
Total	2,580,884	338,570	956,616	24,320,580	3,756,184	3,215,950	2,556,432

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Date	1969	1970	1971	1972	1973	1974	1975
19-Jun							
21-Jun							
22-Jun							
23-Jun	66	492	0	0	0	1,008	126
24-Jun	24	4,248	0	0	144	1,164	192
25-Jun	180	2,970	0	0	108	1,734	1,212
26-Jun	228	2,730	0	0	510	5,694	1,500
27-Jun	78	6,084	0	12	456	5,160	960
28-Jun	96	45,168	0	0	582	17,178	312
29-Jun	174	181,728	0	0	1,014	47,028	216
30-Jun	54,174	487,092	0	96	804	208,056	31,362
01-Jul	185,544	646,140	2,154	42	594	258,618	438,648
02-Jul	228,942	622,800	5,418	336	2,616	288,462	439,140
03-Jul	302,562	797,340	3,828	1,080	3,918	320,760	367,950
04-Jul	416,634	1,104,780	4,338	672	4,794	311,268	566,172
05-Jul	563,040	1,176,900	1,614	198	2,094	366,936	639,804
06-Jul	727,032	1,408,290	1,368	204	2,874	362,790	755,232
07-Jul	847,122	935,490	17,964	79,356	6,258	330,510	849,882
08-Jul	950,016	904,320	103,476	265,284	21,666	387,078	882,666
09-Jul	868,470	990,420	151,626	186,276	63,402	327,510	889,614
10-Jul	797,400	934,500	200,874	115,608	57,552	398,334	961,260
11-Jul	673,680	1,242,642	283,590	170,202	25,962	296,058	850,440
12-Jul	395,304	580,110	265,050	94,626	6,252	208,356	782,352
13-Jul	361,374	541,116	147,906	39,204	3,198	106,200	661,164
14-Jul	295,086	404,100	88,950	22,782	2,184	83,928	610,632
15-Jul	268,878	257,580	199,674	17,796	1,044	39,798	640,572
16-Jul	163,350	137,004	200,712	7,212	1,410	16,650	627,066
17-Jul	116,124	39,972	221,034	2,514	2,562	11,112	527,058
18-Jul	62,412	42,924	157,796	3,312	768	11,364	322,578
19-Jul	31,050	102,120	94,558	1,284	10,116	5,142	304,776
20-Jul	21,984	85,680	31,320	696	2,976	3,312	254,664
21-Jul	21,828	66,606	30,516	276	552	3,516	214,392
22-Jul	15,228	55,668	28,000	252	126	3,600	171,144
23-Jul	10,446	35,112	25,000	288	18	1,428	179,670
24-Jul	6,480	16,698	22,000	354	0	1,764	77,568
25-Jul	3,150	11,178	20,000	0	0	900	46,788
26-Jul	1,926	9,426	18,000	0	0	516	23,196
27-Jul	1,614	5,166	15,000	0	0	600	11,184
28-Jul	906	3,966	12,000	0	0	312	6,450
29-Jul	492	10,866	10,500	0	0	0	2,412
30-Jul	876	10,428	9,000	0	0	0	0
31-Jul	204	6,492	8,000	0	0	0	0
01-Aug							
02-Aug							
Total	8,394,174	13,916,346	2,381,266	1,009,962	226,554	4,433,844	13,140,354

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Date	1976	1977	1978	1979	1980	1981	1982
19-Jun							
21-Jun							
22-Jun							
23-Jun	0	528	312	396	1,644	16,950	12
24-Jun	0	2,484	8,652	222	840	7,632	18
25-Jun	468	2,940	29,118	356,430	480	3,696	0
26-Jun	780	5,292	22,356	686,868	450	1,572	6
27-Jun	318	11,226	6,048	850,170	148,122	582	0
28-Jun	204	5,058	2,166	887,382	825,480	1,050	12
29-Jun	360	7,818	101,766	1,015,074	1,090,650	32,238	18
30-Jun	240	66,672	250,020	975,168	1,006,020	47,814	18
01-Jul	180	131,484	268,620	557,016	1,355,130	140,502	8,460
02-Jul	1,662	86,820	130,782	585,012	1,520,382	181,512	6,306
03-Jul	12,174	103,392	43,548	925,692	1,360,860	38,802	1,398
04-Jul	104,652	129,702	15,420	640,218	1,847,400	58,566	9,066
05-Jul	191,208	145,374	31,872	492,762	1,567,500	299,322	5,658
06-Jul	323,244	150,180	285,312	486,090	1,536,300	191,088	15,102
07-Jul	251,628	87,558	611,586	667,410	1,334,820	36,396	92,112
08-Jul	64,356	33,876	702,672	573,660	1,413,720	30,576	282,342
09-Jul	25,812	27,168	456,054	446,460	1,310,760	120,684	130,500
10-Jul	74,736	15,006	517,146	294,828	1,105,380	286,428	47,262
11-Jul	204,390	9,618	388,590	220,122	1,078,140	175,344	32,286
12-Jul	268,680	50,448	81,756	107,712	906,780	28,914	49,086
13-Jul	214,416	50,952	34,674	90,576	852,780	19,116	17,220
14-Jul	118,704	70,740	74,112	68,160	616,680	7,476	9,378
15-Jul	34,566	76,380	22,788	76,992	436,278	3,192	6,738
16-Jul	18,378	25,704	10,170	57,696	311,628	9,606	96,768
17-Jul	9,432	11,826	3,948	48,888	230,676	5,178	112,752
18-Jul	10,410	9,582	4,332	38,922	183,294	1,410	59,202
19-Jul	12,684	7,740	13,236	25,614	161,976	3,990	93,876
20-Jul	7,464	6,264	15,606	23,220	95,328	0	38,994
21-Jul	8,340	3,798	10,236	10,050	52,782	0	2,394
22-Jul	3,726	2,664	6,228	6,468	98,148	0	1,734
23-Jul	2,070	1,764	0	1,350	36,660	0	1,248
24-Jul	0	1,044	0	0	13,734	0	3,576
25-Jul	0	0	0	0	0	0	5,916
26-Jul	0	0	0	0	0	0	4,392
27-Jul	0	0	0	0	0	0	960
28-Jul	0	0	0	0	0	0	0
29-Jul	0	0	0	0	0	0	0
30-Jul	0	0	0	0	0	0	0
31-Jul	0	0	0	0	0	0	0
01-Aug							
02-Aug							
Total	1,965,282	1,341,102	4,149,126	11,216,628	22,500,822	1,749,636	1,134,810

continued

Appendix A.3. (page 5 of 7)

Date	1983	1984	1985	1986	1987	1988	1989
19-Jun							
21-Jun							
22-Jun							
23-Jun	54	258	30	0	0		
24-Jun	48	426	6	0	0		
25-Jun	6	16,578	54	0	0	1,068	57,516
26-Jun	6	68,946	24	0	0	3,378	240,756
27-Jun	2,628	34,206	78	0	0	71,958	226,830
28-Jun	139,062	12,504	113,040	0	0	188,070	128,028
29-Jun	378,324	671,250	248,586	0	0	48,396	239,034
30-Jun	422,922	1,017,054	268,590	0	36	14,730	616,362
01-Jul	422,352	778,200	348,390	48	30,138	36,204	543,372
02-Jul	316,806	516,378	237,174	480	506,616	414,204	514,170
03-Jul	96,084	514,080	120,714	7,272	581,382	414,504	721,308
04-Jul	86,694	689,580	263,520	66,756	428,826	405,258	1,090,380
05-Jul	99,576	793,596	305,760	137,814	155,970	303,438	1,040,100
06-Jul	46,890	854,580	422,682	56,106	78,786	178,062	529,164
07-Jul	42,204	819,480	408,498	9,210	85,398	109,842	663,636
08-Jul	155,844	794,136	398,586	2,244	769,230	42,528	571,368
09-Jul	349,170	855,420	696,174	30,462	1,022,298	40,224	336,084
10-Jul	95,220	555,960	792,150	131,418	867,432	117,084	151,398
11-Jul	31,884	229,194	702,282	97,446	610,434	385,602	38,898
12-Jul	48,990	136,014	473,142	140,814	267,528	698,280	46,986
13-Jul	54,708	390,366	297,138	174,306	250,356	279,762	50,640
14-Jul	63,336	283,446	298,524	132,540	118,890	87,486	53,886
15-Jul	341,754	79,284	220,332	92,598	105,150	107,856	54,270
16-Jul	222,414	60,756	110,898	22,728	67,524	41,706	146,046
17-Jul	29,346	98,478	41,940	7,428	24,576	30,636	70,032
18-Jul	39,834	89,448	19,020	5,652	14,592	25,224	33,654
19-Jul	52,686	70,332	7,296	4,000	15,072	11,742	40,914
20-Jul	19,266	24,918	2,496	3,000	12,486	4,296	40,608
21-Jul	6,138	11,880	2,118	8,000	19,122	3,078	27,522
22-Jul	4,170	8,508	64,830	24,000	22,950	600	14,370
23-Jul	1,176	8,712	256,434	15,000	8,508	0	7,692
24-Jul	0	5,202	66,270	5,000	2,580	0	7,068
25-Jul	0	1,284	10,608	3,000		0	10,332
26-Jul	0	0	6,888	1,000		0	5,076
27-Jul	0	0	2,742	1,000		0	
28-Jul	0	0	3,090	0		0	
29-Jul	0	0	942	0		0	
30-Jul	0	0	0	0		0	
31-Jul	0	0	0	0		0	
01-Aug							
02-Aug							
Total	3,569,592	10,490,454	7,211,046	1,179,322	6,065,880	4,065,216	8,317,500

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Date	1990	1991	1992	1993	1994	1995	1996
19-Jun							
21-Jun							0
22-Jun				13350			0
23-Jun		30	450	11016	42	0	0
24-Jun	0	0	768	9828	24	0	42
25-Jun	942	60	1,260	17148	78	60	4,062
26-Jun	1,110	594	7,080	69912	738	41,346	21,174
27-Jun	1,350	2,844	6,966	195312	6744	319,944	11,310
28-Jun	2,232	45,960	64,962	242394	16254	362,952	3,366
29-Jun	2,694	75,210	173,922	287724	762	217,164	1,002
30-Jun	31,104	152,598	191,496	84936	306	172,302	774
01-Jul	6,228	310,830	188,556	82140	504	496,818	5,574
02-Jul	173,064	312,918	119,406	67596	3630	727,884	42,894
03-Jul	606,654	354,504	43,926	101010	224208	459,504	133,902
04-Jul	586,980	325,824	294,666	124632	1295892	307,452	93,732
05-Jul	461,508	343,572	569,814	371016	1176840	241,008	43,410
06-Jul	525,504	215,718	581,130	694122	790896	637,032	23,724
07-Jul	502,110	66,822	443,604	360738	754686	954,258	35,016
08-Jul	607,410	69,090	191,712	198834	859236	992,880	48,390
09-Jul	552,180	77,946	79,872	169782	689646	1,090,020	99,852
10-Jul	630,690	278,598	25,212	162930	652626	663,348	100,518
11-Jul	389,130	446,826	190,398	138030	584610	322,104	100,266
12-Jul	307,350	379,860	486,966	171300	209814	163,656	90,954
13-Jul	414,600	179,508	404,100	177228	62394	260,928	175,452
14-Jul	405,150	83,712	263,544	67488	52074	227,700	124,392
15-Jul	210,108	97,656	107,964	45870	113484	220,332	77,856
16-Jul	91,980	86,838	78,714	29250	44664	139,254	72,318
17-Jul	93,360	89,874	61,158	27078	90924	113,472	22,134
18-Jul	70,434	64,428	47,760	37260	220458	116,496	20,640
19-Jul	58,692	53,070	37,566	28152	247620	264,048	43,956
20-Jul	48,510	30,270	23,856	10302	69474	191,010	25,728
21-Jul	46,056	24,432	22,806	11334	24558	85,392	13,344
22-Jul	48,876	26,520	8,556	8082	72264	87,276	9,306
23-Jul	38,748	26,634	5,262	5178	72390	43,074	5,490
24-Jul	26,706		2,412	3084		35,502	
25-Jul	28,560			1110		39882	
26-Jul						44622	
27-Jul							
28-Jul							
29-Jul							
30-Jul							
31-Jul							
01-Aug							
02-Aug							
Total	6,970,020	4,222,746	4,725,864	4,025,166	8,337,840	10,038,720	1,450,578

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Date	1997	1998
19-Jun		
21-Jun		
22-Jun		
23-Jun		
24-Jun	2,676	60
25-Jun	3,624	24
26-Jun	8,718	936
27-Jun	26,742	2,028
28-Jun	18,144	2,694
29-Jun	6,732	10,344
30-Jun	6,084	10,044
01-Jul	3,174	5,628
02-Jul	7,026	354
03-Jul	33,054	52,236
04-Jul	42,012	148,554
05-Jul	48,054	184,488
06-Jul	93,486	179,868
07-Jul	139,878	155,388
08-Jul	197,742	80,016
09-Jul	159,678	147,258
10-Jul	152,742	385,620
11-Jul	103,224	429,936
12-Jul	87,138	275,148
13-Jul	60,432	110,676
14-Jul	90,690	57,150
15-Jul	57,654	30,894
16-Jul	32,586	10,602
17-Jul	29,706	4,836
18-Jul	23,508	5,802
19-Jul	20,298	3,204
20-Jul	12,804	1,512
21-Jul	14,178	774
22-Jul	10,872	
23-Jul	11,076	
24-Jul		
25-Jul		
26-Jul		
27-Jul		
28-Jul		
29-Jul		
30-Jul		
31-Jul		
01-Aug		
02-Aug		
Total	1,503,732	2,296,074

Appendix A.4. Naknek River historical daily escapement, 1958-1998.

Date	1958	1959	1960	1961	1962	1963	1964
17-Jun							
18-Jun							
19-Jun							
20-Jun							
21-Jun		18					
22-Jun		858					42
23-Jun		156					234
24-Jun		2,688				36	1,602
25-Jun		1,182			6	60	1,440
26-Jun		594		11,166	7,122	126	3,036
27-Jun	174	7,437		13,044	1,578	1,512	10,794
28-Jun	18	7,113	0	4,044	1,434	24,786	4,710
29-Jun	474	429	582	2,028	10,974	61,968	55,734
30-Jun	660	7,542	8,376	1,296	74,286	10,734	33,828
01-Jul	258	22,875	89,502	1,218	20,214	93,804	19,788
02-Jul	3,108	68,895	31,890	1,836	10,956	21,306	4,908
03-Jul	4,296	177,099	11,322	99,042	20,112	57,864	2,088
04-Jul	9,456	166,311	20,058	12,258	21,666	43,500	21,222
05-Jul	8,352	177,054	9,642	17,034	293,712	206,178	212,724
06-Jul	59,016	132,645	147,228	4,266	128,514	97,116	543,144
07-Jul	56,676	51,144	95,916	1,674	115,938	52,140	153,768
08-Jul	36,690	80,364	62,976	5,472	6,024	12,780	44,808
09-Jul	20,244	119,436	90,828	5,592	2,412	34,572	22,542
10-Jul	11,550	43,386	36,144	13,668	1,116	50,814	73,128
11-Jul	5,364	103,233	15,828	34,302	1,182	50,922	22,614
12-Jul	3,306	460,839	19,698	52,218	1,194	15,246	18,756
13-Jul	4,032	284,553	20,904	27,228	2,142	11,706	21786
14-Jul	23,718	112,880	11,568	10,260	954	24,192	26274
15-Jul	8,592	32,440	39,972	3,000	66	9,642	9,744
16-Jul	2,448	27,036	36,444	5,556	792	9,762	8,070
17-Jul	2,316	47,244	10,830	8,664	372	2,592	10,980
18-Jul	2,136	26,136	14,088	5,922	216	3,060	4,188
19-Jul	2,430	19,132	9,432	684	18	900	5,538
20-Jul	2,442	6,396	6,810	552	42	654	4,590
21-Jul	2,610	6,016	6,660	984	24	2,334	3,174
22-Jul	1,908	6,256	4,092	552		2,178	1,596
23-Jul	1,488	7,804	3,432	336		1,440	648
24-Jul	1,566	6,684	2,928	2,748		540	792
25-Jul	882	5,824	2,220	1,674		228	1,002
26-Jul	774	3,432	2,622	462		234	312
27-Jul	354	1,860	2,844	324		210	
28-Jul	318	1,988	2,496	438		90	
29-Jul	270	1,112	2,535	324		102	
30-Jul	36	2,104	2,901	204		30	
31-Jul	108	1,612	1,356	429			
01-Aug	48		1194	354			
02-Aug	0		822	84			
03-Aug			1005	141			
04-Aug			756				
			480				
Total	278,118	2,231,807	828,381	351,078	723,066	905,358	1,349,604

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Date	1965	1966	1967	1968	1969	1970	1971
17-Jun							
18-Jun							
19-Jun			0	84			
20-Jun	0	24	84	798			
21-Jun	0	222	1686	312			
22-Jun	12	66	7314	300			
23-Jun	36	60	5,364	72	0		
24-Jun	138	114	4,986	4,872	0		60
25-Jun	402	336	27,534	12,306	0	0	366
26-Jun	78	222	18,486	3,690	744	390	138
27-Jun	360	1,920	17,358	21,294	15,666	858	96
28-Jun	3,120	3,156	60,384	120,282	87,078	30,582	60
29-Jun	1,140	5,190	120,750	21,702	132,804	45,606	156
30-Jun	2,280	16,200	90,252	81,774	182,664	20,532	2,010
01-Jul	10,566	28,492	40,584	135,936	216,054	21,444	1,134
02-Jul	9,276	10,189	32,172	105,864	202,662	58,608	6,300
03-Jul	16,824	66,552	52,884	92,148	185,736	62,352	2,520
04-Jul	32,022	42,672	40,224	139,434	138,696	59,226	1,764
05-Jul	74,256	209,278	55,626	145,884	34,914	56,334	18,108
06-Jul	184,332	218,130	30,234	36,900	9,030	71,406	25,164
07-Jul	44,346	228,660	31,896	12,270	11,058	106,374	82,854
08-Jul	31,188	86,328	26,346	8,502	12,690	50,160	118,284
09-Jul	39,120	30,792	15,240	15,528	20,868	37,588	223,008
10-Jul	41,802	8,760	8,412	16,218	18,594	17,898	201,522
11-Jul	12,732	23,712	9,750	9,168	15,582	19,338	116,988
12-Jul	25,836	11,808	21,198	8,922	13,752	28,404	54,894
13-Jul	33,426	3,894	9,588	5,610	7,068	21,582	21,024
14-Jul	19,638	3,576	5,496	4,332	7,020	5,004	18,054
15-Jul	33,024	4,278	5,730	4,644	2,754	1,506	14,088
16-Jul	45,684	2,688	5,304	2,754	1,734	2,976	4,608
17-Jul	12,186	4,638	6,144	1,278	1,206	4,230	4,908
18-Jul	11,268	3,444	1,938	1,806	1,578	3,696	402
19-Jul	12,390	696	1,020	1,800	954	1,830	1,824
20-Jul	4,464	168	720	1,116	1,212	1,326	792
21-Jul	3,366	180	582	1,224	1,332	516	2,094
22-Jul	2,340		354	912	1,728	180	4,242
23-Jul	3,060			1,026	1,518	246	1,902
24-Jul	1,170			918	678	348	1,218
25-Jul	1,896			648	1,128	318	1,374
26-Jul	1,092			624	840	348	1,014
27-Jul	720			120	492	552	768
28-Jul	396			150	642	390	1,248
29-Jul	660				462	282	558
30-Jul	606				264	72	210
31-Jul	546						
01-Aug							
02-Aug							
03-Aug							
04-Aug							
Total	717,798	1,016,445	755,640	1,023,222	1,331,202	732,502	935,754

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Date	1972	1973	1974	1975	1976	1977	1978
17-Jun							
18-Jun							
19-Jun						0	
20-Jun						126	
21-Jun						120	
22-Jun						1218	
23-Jun		0	786	36		3,114	0
24-Jun		60	996	48	0	324	252
25-Jun		1,452	22,644	12	0	18,780	90
26-Jun		816	10,350	78	396	51,606	102
27-Jun	0	8,694	19,176	36	558	40,116	1,194
28-Jun	882	10,980	44,658	6	4,212	6,216	28,758
29-Jun	6,180	2,874	75,942	3,132	9,660	247,314	28,920
30-Jun	45,240	2,526	143,550	150,402	354	150,078	42,678
01-Jul	6,270	11,466	128,664	133,494	43,074	25,884	13,002
02-Jul	5,370	4,392	144,912	48,462	131,292	34,698	4,800
03-Jul	16,854	10,002	117,972	41,268	208,014	150,516	10,728
04-Jul	70,824	13,656	189,186	119,634	74,538	143,160	55,392
05-Jul	109,158	28,476	175,410	473,598	133,884	8,988	147,426
06-Jul	95,028	31,800	62,796	471,306	60,402	4,506	160,848
07-Jul	80,370	89,928	21,426	168,624	28,386	4,548	85,320
08-Jul	35,064	47,208	26,484	127,542	56,646	8,910	75,930
09-Jul	28,776	34,788	27,426	28,386	181,470	26,226	21,516
10-Jul	27,732	1,200	7,728	15,060	235,926	61,716	30,210
11-Jul	15,606	4,152	4,314	98,124	58,632	63,354	10,938
12-Jul	13,386	4,812	3,534	76,026	10,236	16,554	41,064
13-Jul	9,864	13,578	3,360	18,870	7,740	5,574	20,082
14-Jul	4,248	18,174	2,232	11,244	10,224	4,362	5,970
15-Jul	2,490	4,536	1,842	5,496	7,770	2,676	2,658
16-Jul	4,434	888	1,452	12,936	10,656	3,012	8,154
17-Jul	4,176	3,756	1,020	7,080	9,150	2,160	9,912
18-Jul	1,656	3,798	1,404	6,366	13,728		2,880
19-Jul	738	1,002	900	1,740	10,920		2,880
20-Jul	1,008	630	324	2,736	6,474		966
21-Jul	492	462	402	2,730	2,634		708
22-Jul	378	372	168	1,452	2,412		
23-Jul	294	198		624	1,362		
24-Jul				138			
25-Jul							
26-Jul							
27-Jul							
28-Jul							
29-Jul							
30-Jul							
31-Jul							
01-Aug							
02-Aug							
03-Aug							
04-Aug							
Total	586,518	356,676	1,241,058	2,026,686	1,320,750	1,085,856	813,378

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Date	1979	1980	1981	1982	1983	1984	1985
17-Jun							
18-Jun							
19-Jun	48			36			
20-Jun	1,338		228	6		324	
21-Jun	0		1,266	744		240	
22-Jun	48		10,824	120		9,120	
23-Jun	138		9,048	0	384	132	264
24-Jun	16,338		8,742	6	228	7,962	390
25-Jun	133,716	276	3,624	24	168	8,772	78
26-Jun	98,424	20,940	4,122	18	24,042	18,990	6
27-Jun	106,122	180,084	28,674	798	70,614	22,866	189,054
28-Jun	133,692	243,312	44,184	4,800	76,950	131,664	226,116
29-Jun	45,894	438,456	65,946	43,440	86,148	158,778	60,624
30-Jun	14,550	434,958	290,700	246,114	55,164	46,884	68,364
01-Jul	55,596	259,194	15,840	33,618	40,680	46,248	54,180
02-Jul	89,046	120,228	103,932	7,038	23,568	51,438	65,484
03-Jul	17,088	226,668	275,280	30,840	33,582	105,684	43,230
04-Jul	30,624	228,558	203,700	214,350	27,390	216,666	11,196
05-Jul	33,972	17,064	25,458	117,498	27,612	138,918	64,122
06-Jul	56,202	54,876	15,894	46,746	32,784	21,612	48,180
07-Jul	40,512	110,370	13,800	50,442	66,420	38,658	192,564
08-Jul	12,330	44,784	326,970	83,070	29,202	87,714	351,798
09-Jul	6,870	21,846	291,072	74,010	33,048	14,958	153,492
10-Jul	3,648	26,532	10,620	34578	22,362	9,786	12,084
11-Jul	8,838	34,596	11,730	5,616	83,070	19,800	9,192
12-Jul	7,092	87,978	4,902	9,156	41,982	55,878	32,442
13-Jul	5,244	37,110	3,558	3,348	27,282	10,086	26,190
14-Jul	4,050	13,062	11,676	2,760	30,114	5,010	57,380
15-Jul	2,244	20,058	4,194	10,770	6,972	4,542	38,076
16-Jul	1,698	11,622	3,378	6,594	2,238	4,560	22,194
17-Jul		6,450	3,144	83,004	6,984	3,282	13,974
18-Jul		5,664	3,714	19,452	20,796	1,296	14,670
19-Jul				5,166	11,790	606	18,048
20-Jul				8,016	4,230		20,286
21-Jul				2,592	2,274		43,224
22-Jul				9,096			7,008
23-Jul				1,686			4,746
24-Jul							1,332
25-Jul							
26-Jul							
27-Jul							
28-Jul							
29-Jul							
30-Jul							
31-Jul							
01-Aug							
02-Aug							
03-Aug							
04-Aug							
Total	925,362	2,644,686	1,796,220	1,155,552	888,078	1,242,474	1,849,988

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Date	1986	1987	1988	1989	1990	1991	1992
17-Jun							
18-Jun							
19-Jun							
20-Jun							672
21-Jun		0					1,230
22-Jun		60		840	1,158		1,794
23-Jun	24	24	252	972	6,126	588	2,586
24-Jun	480	0	1,062	7,902	2,190	792	8,904
25-Jun	630	0	15,492	28,800	3,762	96	12,510
26-Jun	30	0	9,564	36,534	69,396	104,316	43,200
27-Jun	6	216	39,540	6,030	17,496	102,576	109,140
28-Jun	906	186	8,718	66,306	27,606	113,226	8,082
29-Jun	14,172	24	9,528	226,428	146,736	326,316	12,612
30-Jun	1,566	30,660	67,272	68,184	146,694	504,216	49,128
01-Jul	414	265,752	140,556	72,564	137,100	669,858	10,476
02-Jul	379,374	59,190	47,586	195,618	285,234	517,218	69,774
03-Jul	382,494	15,024	120,600	121,878	75,528	295,194	365,112
04-Jul	72,048	13,980	56,448	31,716	158,478	244,176	242,454
05-Jul	40,686	33,600	24,906	27,492	108,486	30,366	135,642
06-Jul	16,110	121,608	14,988	47,520	174,054	8,274	41,898
07-Jul	38,184	193,326	31,806	26,808	113,286	8,220	21,624
08-Jul	134,964	104,520	71,262	28,584	45,426	12,172	11,166
09-Jul	299,262	86,442	111,612	18,258	34,362	132,282	12,138
10-Jul	332,088	9,888	134,046	5,172	58,086	73,836	57,594
11-Jul	56,034	45,720	23,280	17,616	91,866	25,224	128,148
12-Jul	47,430	26,682	21,666	14,292	79,524	25,398	91,494
13-Jul	15,348	10,860	28,170	22,020	54,324	16,050	65,136
14-Jul	13,800	7,416	21,720	14,310	34,152	39,258	56,784
15-Jul	8,508	5,010	6,696	48,120	26,304	151,968	10,866
16-Jul	57,415	2,328	20,232	9,804	38,646	18,012	10,50
17-Jul	48,564	1,082	5,202	5,148	36,678	28,032	7,140
18-Jul	4,971	503	2,286	6,558	22,470	27,102	5,892
19-Jul	1,839	6,000	1,764	4,836	17,280	10,920	5,094
20-Jul	2,543	12,882	990	1,674	20,934	26,256	5,172
21-Jul	2,970	5,243			17,010	41,844	2,538
22-Jul	1,650	3,580			14,064	24,762	
23-Jul	825				18,636		
24-Jul	1,188				9,486		
25-Jul	858						
26-Jul	264						
27-Jul							
28-Jul							
29-Jul							
30-Jul							
31-Jul							
01-Aug							
02-Aug							
03-Aug							
04-Aug							
Total	1,977,645	1,061,806	1,037,244	1,161,984	2,092,578	3,578,548	1,606,650

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Date	1993	1994	1995	1996	1997	1998
17-Jun						
18-Jun						
19-Jun						
20-Jun						
21-Jun	22,224	54	0	30		
22-Jun	4,728	1,110	1,158	744	1,062	
23-Jun	3,396	132	1,284	23,256	2,220	96
24-Jun	15,972	600	1,416	31,350	8,202	1,482
25-Jun	93,438	3,246	130,218	56,742	13,044	9,858
26-Jun	86,598	1,698	66,198	19,572	19,812	8,538
27-Jun	65,682	1,596	25,686	23,658	6,996	10,848
28-Jun	46,548	660	11,592	6,990	4,092	11,592
29-Jun	11,478	1,644	42,264	105,000	3,384	9,546
30-Jun	25,104	7,338	37,572	43,110	16,518	14,904
01-Jul	10,518	15,558	12,402	41,418	33,990	12,426
02-Jul	14,274	89,922	26,394	23,784	17,676	125,016
03-Jul	131,280	188,568	9,858	157,782	25,482	112,272
04-Jul	433,860	61,512	32,166	40,638	70,116	131,004
05-Jul	150,006	37,368	142,962	12,720	75,858	147,930
06-Jul	27,960	58,176	93,672	40,842	129,936	60,834
07-Jul	64,488	40,092	25,614	83,100	90,582	109,308
08-Jul	82,314	113,640	156,126	158,874	112,380	74,526
09-Jul	39,594	53,082	23,688	22,644	152,988	111,630
10-Jul	50,436	43,278	10,854	16,350	52,878	93,306
11-Jul	49,842	30,180	46,740	13,314	9,210	18,150
12-Jul	9,000	44,736	68,088	22,398	57,078	28,476
13-Jul	18,558	17,670	23,040	13,194	54,066	37,758
14-Jul	6,132	17,880	4,776	8,238	15,468	11,682
15-Jul	6,918	23,196	23,172	30,642	28,632	5,730
16-Jul	23,454	30,714	9,318	9,942	11,394	28,002
17-Jul	7,212	39,672	50,232	17,544	6,768	7,320
18-Jul	21,294	44,376	5,922	32,868	5,832	6,858
19-Jul	3,336	11,790	8,010	12,084		13,080
20-Jul	5,232	2,868	6,984	9,270		
21-Jul	3,174	8,454	13,734			
22-Jul	1,608					
23-Jul						
24-Jul						
25-Jul						
26-Jul						
27-Jul						
28-Jul						
29-Jul						
30-Jul						
31-Jul						
01-Aug						
02-Aug						
03-Aug						
04-Aug						
Total	1,535,658	990,810	1,111,140	1,078,098	1,025,664	1,202,172

Appendix A.5. Nuyakuk River historical daily escapement, 1959-1998.

Date	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
23-Jun										
24-Jun										
25-Jun										
26-Jun										
27-Jun										
28-Jun										
29-Jun									0	30
30-Jun									0	624
01-Jul									36	456
02-Jul									180	1,326
03-Jul					390				252	3,192
04-Jul					1,140				516	5,196
05-Jul	498				1,788		36		240	4,176
06-Jul	492				2,862		156		390	5,778
07-Jul	2,442	144	1,896	942	2,184		174		1,074	5,004
08-Jul	3,363	594	9,192	2,,148	870	102	156	12	1,302	7,062
09-Jul	3,213	888	10,698	1740	23,490	384	18	120	3,498	12,126
10-Jul	5,637	1,848	7,044	1,752	47,016	2,316	30	210	4,776	15,162
11-Jul	6,321	8,430	6,864	6,582	40,116	3,864	48	318	2,226	11,070
12-Jul	3,597	37,290	3,462	7,098	17,472	8,754	960	402	1,248	6,990
13-Jul	3,849	38,952	2,544	5,844	7,398	7,968	5,286	546	1,452	4,704
14-Jul	2,526	28,830	5,508	3,600	3,786	16,806	29,190	2,280	1,020	2,838
15-Jul	2,208	12,330	6,150	3,372	9,468	27,438	44,688	44,856	582	3,462
16-Jul	1,656	4,896	4,980	1,866	2,940	22,512	30,366	48,702	252	3,180
17-Jul	930	5,328	6,642	834	1,566	6,588	18,210	25,278	300	1,788
18-Jul	384	3,636	5,922	996	1,116	1,440	22,650	10,914	282	816
19-Jul	399	1,488	3,840	414	588	912	15,930	9,060	180	528
20-Jul	1,533	300	2,088	324	738	768	8,700	7,656	114	192
21-Jul	1,485	156	756	120	510	762	6,060	4,458	132	174
22-Jul	1344	78	426	42	222	288	3,486	2,406	126	264
23-Jul	1371	18	372	42	252	108	2,460	1,284	72	168
24-Jul	1326	0	354	18	66	48	2,016	1,026		78
25-Jul	675	0	222	24	126	108	2,484	432		72
26-Jul	639	6	162	24	90	210	1,464	162		60
27-Jul	411	6	114	12	132	318	1,830	48		60
28-Jul	381	12	150	12	114	192	894	78		48
29-Jul	411	36	138	18	102	168	1,080	60		18
30-Jul	249	0	66	6	54	84	708	90		0
31-Jul	291	12	66	12	12	180	1,002	30		
01-Aug	324	18	84	6		78	822	102		
02-Aug	354	36	48	12		12	384	54		
03-Aug	225	0		0		96	300	36		
04-Aug	117	6		6		102	234	72		
05-Aug	96	0		6		60	192	6		
06-Aug	114	0		0		96	288	30		
07-Aug		0		6		72	306	60		
08-Aug		0		0		66	462	42		
09-Aug		12		0		132		60		
10-Aug		36		0		84		54		
11-Aug		30		0		108		66		
12-Aug		0		0						
13-Aug		6		12						
14-Aug		78								
Total	48,861	145,500	79,788	37,890	166,608	103,224	203,070	161,010	20,250	96,642

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Date	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
23-Jun										
24-Jun										
25-Jun										
26-Jun										
27-Jun										
28-Jun										
29-Jun	0				0		0			3,966
30-Jun	0			0	0		0			5,520
01-Jul	0			0	0	108	0	0	0	7806
02-Jul	0			0	0	180	0	0	0	3,768
03-Jul	0			0	0	1350	0	0	0	20,574
04-Jul	0			0	0	12,714	0	0	0	67,746
05-Jul	0			0	0	22,860	0	0	6	59,658
06-Jul	6			0	0	19,338	0	336	0	47,616
07-Jul	12	4		0	102	17,802	0	90	0	51,558
08-Jul	96	102		12	702	19,080	288	276	36	58,512
09-Jul	1,020	1,254	18	0	1,806	21,024	1,608	1,740	540	64,158
10-Jul	5,058	8,808	18	12	930	15,402	2,736	18,186	43,344	43,584
11-Jul	11,304	18,588	168	18	1,350	9,096	2,016	44,490	45,492	48,102
12-Jul	14,982	32,526	426	42	5,802	4,206	73,860	39,780	30,432	21,300
13-Jul	13,926	103,770	642	126	11,292	1,944	153,084	33,684	17,496	16,812
14-Jul	7,488	62,898	1,272	1,308	17,898	984	129,468	25,710	14,088	14,370
15-Jul	3,078	46,044	3,366	1,722	17,148	1,092	36,666	42,468	8,670	12,828
16-Jul	3,438	27,618	13,728	2,532	10,170	1,146	35,310	50,298	7,890	8,154
17-Jul	2,400	15,834	18,744	6,558	8,586	930	64,650	49,296	8,178	5,736
18-Jul	1,554	14,052	7,740	3,528	10,044	846	43,722	44,514	8,442	2,280
19-Jul	1,086	12,054	13,464	2,766	8,820	498	71,694	22,818	6,888	3,660
20-Jul	1,458	5,898	30,546	3,378	6,432	336	25,800	11,004	7,212	1,986
21-Jul	1,050	3,198	22,950	2,004	4,662	360	10,176	6,756	4,704	1,386
22-Jul	612	3,294	27,930	1,014	1,824	384	6,156	6,846	2,196	1,140
23-Jul	720	2,688	20,412	966	546	288	5,634	12,252	696	960
24-Jul	474	1,212	16,146	660	420	330	4,410	4,500	2,352	840
25-Jul	54	912	16,248	420	516	384	1,632	2,208	1,572	606
26-Jul	12	888	8,268	324	288	210	822	1,176	2,256	846
27-Jul		792	6,570	360	210	258	186	924	1,656	282
28-Jul		402	5484	162	168	252		738	2,106	264
29-Jul		294	3168	156	192	108		690	3,156	228
30-Jul		270	2640	90	108	216		756	1,416	282
31-Jul		288	1398	54		102		624	2,412	138
01-Aug		192	786	48		210		690	2,700	
02-Aug		294	774	18		162		594	1,482	
03-Aug		108	846	108		48		756	1,758	
04-Aug		168	474	144		60		846	1,752	
05-Aug		126	126	42		114		174	1,356	
06-Aug		72		24		120			270	
07-Aug						72				
08-Aug										
09-Aug										
10-Aug										
11-Aug										
12-Aug										
13-Aug										
14-Aug										
Total	69,828	364,648	224,352	28,596	110,016	154,614	669,918	425,220	232,554	576,666

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Date	1979	1980	1981	1982	1983	1984	1985	1986	1987
23-Jun									
24-Jun									
25-Jun			0						
26-Jun			0						
27-Jun			702						
28-Jun			900				0		
29-Jun			1,752			600	0		
30-Jun	168		2,214		0	1,896	0		
01-Jul	3,510	0	2,406		0	18,654	0	0	
02-Jul	24,492	0	1,068		22,920	56,100	0	0	
03-Jul	46,746	0	2,346		27,078	17,130	0	96	
04-Jul	26,124	0	5,982	0	17,046	8,568	0	270	
05-Jul	12,006	12,126	36,018	1,812	12,054	28,542	5,322	342	
06-Jul	49,326	69,708	31,146	44,958	7,026	53,040	35,040	198	
07-Jul	55,206	150,840	36,732	66,798	22,212	44,064	51,264	174	
08-Jul	38,208	153,810	79,860	62,280	66,474	31,014	47,310	1,656	
09-Jul	17,340	200,298	118,062	73,410	54,462	33,858	32,262	13,518	11,028
10-Jul	11,448	253,344	126,396	71,610	41,346	45,336	26,604	35,532	16,938
11-Jul	33,198	214,602	96,288	76,056	21,462	31,872	14,004	41,766	11,244
12-Jul	21,660	293,694	91,848	47,190	13,056	30,576	33,354	40,938	7,074
13-Jul	9,486	182,532	56,316	31,830	4,698	24,336	33,156	50,688	14,826
14-Jul	3,084	231,180	43,002	18,234	3,972	15,888	16,446	76,164	5,250
15-Jul	2,334	200,340	32,586	11,568	2,154	11,202	8,766	78,960	1,578
16-Jul	2,316	239,814	25,146	9,564	930	6,408	7,992	67,938	1,620
17-Jul	2,400	210,690	13,500	6,648	522	3,516	5,322	97,860	204
18-Jul	1,068	183,822	7,818	4,476	648	1,968	11,598	101,052	
19-Jul		152,928	6,168	2,706	546	702	26,910	79,194	
20-Jul		126,690	5,244	2,154		540	22,302	46,146	
21-Jul		86,400	5,928	1,008		1,410	23,178	35,922	
22-Jul		34,386	3,600	852		1,098	8,100	20,604	
23-Jul		15,792	1,176	1464		648	3,738	32,880	
24-Jul		8,334		1182		576	4,608		
25-Jul		2,388		522		768	4,560		
26-Jul		1,128		468		738	2,562		
27-Jul		426		366		636	1,866		
28-Jul		366		336		546	1,482		
29-Jul		378		288		180	936		
30-Jul		552		84		102	480		
31-Jul						84			
01-Aug									
02-Aug									
03-Aug									
04-Aug									
05-Aug									
06-Aug									
07-Aug									
08-Aug									
09-Aug									
10-Aug									
11-Aug									
12-Aug									
13-Aug									
14-Aug									
Total	360,120	3,026,568	834,204	537,864	318,606	472,596	429,162	821,898	69,762

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Date	1988	1989-94	1995	1996	1997	1998
23-Jun						
24-Jun						
25-Jun						
26-Jun						
27-Jun		PROJECT				
28-Jun		NOT				
29-Jun		OPERATED				
30-Jun					9,618	
01-Jul	7,362				10,878	
02-Jul	19,926		570	4,752	9,666	90
03-Jul	13,080		1,800	8,682	10,146	210
04-Jul	8,844		4,530	9,576	14,460	732
05-Jul	3,996		8,346	8,004	17,172	2,052
06-Jul	1,854		5,988	8,220	16,080	3,834
07-Jul	5,520		1,986	10,212	25,764	4,908
08-Jul	18,858		1,842	10,674	21,990	7,890
09-Jul	29,736		2,268	18,396	12,648	21,168
10-Jul	26,976		2,358	33,396	10,206	29,496
11-Jul	11,862		3,012	29,994	7,362	20,112
12-Jul	12,114		8,478	12,732	7,392	22,506
13-Jul	28,614		10,200	11,442	8,454	11,658
14-Jul	34,602		6,306	9,414	8,628	8,028
15-Jul	35,154		2,628	15,534	10,074	4,512
16-Jul	40,008		2,574	10,926	15,102	2,178
17-Jul	13,464		1,926	4,236	12,084	1,902
18-Jul	3,234		948	4,566	9,960	1,818
19-Jul	2,052		1,110	3,564	7,656	1,044
20-Jul	1,944		708	6,660	8,016	912
21-Jul	792		330	4,398	5,034	1,200
22-Jul			744	3,624	5,436	
23-Jul			666	3,936	3,306	
24-Jul			384	3,246	1,392	
25-Jul				5,178	1,440	
26-Jul				4,392	3,018	
27-Jul				4,938		
28-Jul						
29-Jul						
30-Jul						
31-Jul						
01-Aug						
02-Aug						
03-Aug						
04-Aug						
05-Aug						
06-Aug						
07-Aug						
08-Aug						
09-Aug						
10-Aug						
11-Aug						
12-Aug						
13-Aug						
14-Aug						
Total	319,992		69,702	250,692	272,982	146,250

Appendix A.6. Togiak River historical daily sockeye salmon escapement, 1960-1998.

Date	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
26-Jun											
27-Jun											
28-Jun											
29-Jun											
30-Jun											
01-Jul											
02-Jul									258		162
03-Jul		0							804		210
04-Jul		42	6					0	1,980		2,586
05-Jul		84	54				6	888	1,344	0	6,930
06-Jul		0	156			24	66	2,580	1,518	2,190	5,166
07-Jul		876	66	120		0	84	2,862	1,758	954	4,128
08-Jul	0	1,050	492	1,164		30	120	1,476	2,028	804	11,400
09-Jul	219	3,348	1,026	2,220	42	264	282	864	1,710	5,352	11,484
10-Jul	3,738	4,818	972	4,914	1,338	1,224	138	1,008	1,158	8,100	7,824
11-Jul	4,875	4,194	2,448	10,206	1,338	3,720	288	684	1,620	8,844	7,332
12-Jul	6,234	3,696	3,486	12,582	3,120	6,378	216	1,470	3,654	5,916	5,772
13-Jul	7,728	3,294	5,334	4,554	1,602	2,382	282	2,280	1,416	4,242	2,316
14-Jul	8,739	4,374	3,720	5,376	3,534	4,188	1,140	3,942	3,006	3,120	4,278
15-Jul	7,281	5,736	3,240	3,702	4,818	2,790	4,476	4,542	1,386	1,830	10,164
16-Jul	7,680	6,162	2,478	1,266	3,822	4,572	9,396	2,262	1,854	2,412	9,696
17-Jul	6,852	4,176	2,568	3,630	1,056	2,442	9,726	2,142	2,028	6,582	10,968
18-Jul	5,190	3,078	2,754	3,972	2,496	1,986	6,060	2,424	1,602	5,718	8,370
19-Jul	7,050	3,942	2,868	3,474	3,078	1,968	5,262	2,958	1,074	4,392	5,964
20-Jul	6,366	6,126	948	6,066	2,136	3,096	9,258	3,048	498	3,876	6,432
21-Jul	5,862	5,874	510	3,180	2,448	6,342	7,092	2,502	774	2,856	5,880
22-Jul	5,112	3,084	804	1,998	4,770	5,004	7,056	5,172	822	1,332	4,554
23-Jul	5,346	2,328	1,290	2,460	9,210	5,730	4,338	4,332	228	3,234	4,506
24-Jul	5,190	1,164	942	2,874	7,998	4,122	3,804	4,488	1,020	2,886	5,322
25-Jul	4,680	1,368	414	3,912	3,702	1,494	2,160	5,034	1,080	1,176	5,670
26-Jul	2,598	1,686	546	3,822	2,922	2,940	3,048	4,512	360	2,340	3,090
27-Jul	3,672	2,208	1,626	1,788	2,394	2,730	2,160	3,594	876	1,536	5,940
28-Jul	4,422	2,970	1,092	1,026	1,980	2,496	2,670	2,136	360	3,246	3,378
29-Jul	6,510	4,098	1,470	1,968	1,704	3,474	1,938	1,242	540	1,518	3,306
30-Jul	5,004	2,484	738	954	4,824	2,388	1,230	450	444	2,778	3,378
31-Jul	3,378	1,662	144	4,386	4,428	1,878	1,044	180	354	2,754	3,024
01-Aug	1,608	1,380	432	4,104	3,252	1,222	942	108	720	2,976	1,758
02-Aug	3,522	966	324	2,328	3,804	1,272	1,098	54	702	2,628	2,274
03-Aug	5,418	2,166	564	1,788	1,866	1,554	570	96	342	3,546	2,706
04-Aug	5,244	1,866	708	1,074	2,292	654	1,026	0	372	2,340	2,610
05-Aug	5,070	1,134	396	630	1,416	882	1,638		522	1,644	1,890
06-Aug	4,926	1,638	72	264	1,626	1,344	942		180	1,248	2,136
07-Aug	4,710	786	384	102	1,374	804	708		312	588	672
08-Aug	3,300	282	336	48	948	888	180		492	1,200	2,304
09-Aug	2,088	504	384	54	1,164	594	204		108	582	1,170
10-Aug	1,878	144	240	264	858	978	102		594	1,320	1,020
11-Aug	1,320	252	510	126	456	840	168		486	636	954
12-Aug		192	216	0	540	492	138		162	432	738
13-Aug		222	378	0	366	486	42		156	102	978
14-Aug			120	0	252	342			120	36	708
15-Aug			84		276	366			72		390
16-Aug			0		228	618			24		210
17-Aug			12		96	432					336
18-Aug						438					12
19-Aug						462					
20-Aug						156					
Total	162,810	94,452	47,070	102,276	95,574	88,462	90,942	63,000	35,256	106,122	172,914

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Date	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
26-Jun											
27-Jun								60			0
28-Jun								510	66	12	0
29-Jun								6,930	708	0	0
30-Jun								8,328	498	0	0
01-Jul			6	606	0		0	3,126	2,484	0	0
02-Jul			0	2,526	0	0	0	3,228	804	0	0
03-Jul			0	1,236	0	0	0	5,640	2,904	546	0
04-Jul			24	342	0	0	54	8,646	2,700	2,952	786
05-Jul			60	1,830	0	0	150	14,646	6,942	9,636	684
06-Jul		6	54	1,068	0	0	804	7,998	5,952	15,294	1,776
07-Jul	12	6	60	7,344	0	30	6,858	7,260	2,454	23,352	3,276
08-Jul	0	36	2,952	5,022	18	42	4,926	5,742	3,522	11,058	8,376
09-Jul	0	24	4,500	3,144	330	570	5,460	9,132	3,576	10,998	12,756
10-Jul	0	24	3,600	4,176	792	4,218	6,678	8,556	5,688	9,420	9,342
11-Jul	42	6	4,968	6,180	5,886	5,484	8,412	12,594	9,312	17,742	6,456
12-Jul	120	60	5,100	4,428	12,420	5,322	11,550	19,602	11,556	26,238	6,060
13-Jul	96	78	5,340	3,726	6,768	6,480	11,082	19,254	6,624	25,662	4,338
14-Jul	18	84	6,588	2,706	9,948	7,554	10,650	15,702	4,242	26,442	5,010
15-Jul	4,986	4,212	4,176	1,914	12,618	8,724	8,142	11,664	3,852	31,806	5,202
16-Jul	4,386	3,726	5,334	2,094	20,670	11,334	2,982	10,488	3,330	30,894	7,824
17-Jul	9,408	1,128	5,256	3,456	11,790	10,620	2,754	8,946	9,000	38,754	13,044
18-Jul	6,558	4,236	5,898	2,310	17,988	8,280	2,760	7,176	11,376	28,872	12,378
19-Jul	7,026	4,554	7,530	2,712	6,684	7,926	5,160	11,574	13,350	39,180	7,920
20-Jul	12,660	3,852	5,700	6,702	10,128	7,050	6,804	9,636	9,294	21,558	6,018
21-Jul	8,556	4,428	5,388	4,578	7,500	9,480	6,744	8,328	4,860	20,574	7,374
22-Jul	8,622	4,770	3,864	3,246	5,376	7,566	4,458	6,072	3,978	25,272	7,038
23-Jul	17,232	6,858	2,976	3,990	6,126	9,972	2,928	3,810	2,796	14,658	8,358
24-Jul	10,140	6,570	1,938	2,388	5,364	9,486	2,178	2,682	2,088	10,548	8,100
25-Jul	9,756	6,414	1,326	2,718	6,030	5,574	1,770	2,724	2,706	11,958	7,872
26-Jul	8,178	6,078	2,508	1,806	2,712	4,290	1,374	3,534	4,566	2,700	10,080
27-Jul	14,928	7,032	2,316	384	3,096	2,754	1,848	4,008	5,658	2,472	7,704
28-Jul	11,946	2,820	1,560	(288)	1,704	3,084	2,280	7,272	5,322	2,100	5,418
29-Jul	7,734	3,066	1,062	492	2,292	4,506	1,020	6,156	3,720	852	7,854
30-Jul	6,516	1,620	1,752	(366)	1,410	7,272	2,436	3,528	3,072	300	6,048
31-Jul	5,430	1,104	1,464	(192)	1,362	2,604	2,616	3,282	3,870		5,928
01-Aug	3,186	876	708	426	462	3,522	2,064	2,250	3,168		6,780
02-Aug	2,304	354	642	198	744	2,340	1,668	2,358	4,416		2,952
03-Aug	2,886	48	1,050	90	396	1,644	2,502	972	684		2,040
04-Aug	2,454		(6)		348	390	2,154	162			2,112
05-Aug	3,414		36			72	468				1,176
06-Aug	2,286										
07-Aug	2,370										
08-Aug	2,316										
09-Aug	2,154										
10-Aug	2,082										
11-Aug	1,794										
12-Aug	1,548										
13-Aug	1,674										
14-Aug	1,890										
15-Aug	1,542										
16-Aug	1,482										
17-Aug	798										
18-Aug	312										
19-Aug											
20-Aug											
Total	190,830	74,058	95,526	68,040	160,962	158,160	125,868	207,204	145,626	410,058	201,558

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Date	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
26-Jun		36		0							
27-Jun		0		0							
28-Jun		0	42	0							
29-Jun		0	444	0							
30-Jun	12	606	396	0							
01-Jul	162	2,394	672	0			2,070				0
02-Jul	18	4,386	630	0	0		3,456				36
03-Jul	108	2,964	246	0	0		4,938	72	84	12	0
04-Jul	246	1,452	792	0	72		4,248	72	1,062	396	1,002
05-Jul	1,056	2,574	1,674	6	348		5,826	78	2,142	4,206	810
06-Jul	2,124	5,136	1,026	42	72	0	16,404	852	852	7,530	1,800
07-Jul	4,686	6,054	3,186	18	198	1,920	29,400	1,794	516	7,512	4,128
08-Jul	7,782	6,486	1,824	54	378	9,060	21,996	2,460	1,206	4,656	10,386
09-Jul	10,602	5,076	3,246	144	714	8,202	13,038	3,828	1,950	11,124	9,060
10-Jul	9,690	5,178	2,886	438	858	7,548	9,072	2,730	2,220	16,914	6,120
11-Jul	7,500	5,364	3,546	3,954	2,028	7,356	7,386	3,210	4,344	18,876	5,040
12-Jul	10,482	8,928	6,450	5,178	678	7,404	8,784	5,646	4,770	9,990	4,182
13-Jul	9,750	14,856	6,426	5,646	1,458	9,546	14,424	4,686	5,424	7,578	3,852
14-Jul	13,320	17,274	5,064	6,198	1,902	12,294	17,046	2,604	3,384	6,180	4,584
15-Jul	17,226	10,662	4,470	4,392	4,488	14,844	7,938	1,452	1,392	7,800	12,450
16-Jul	12,246	5,874	2,658	3,384	5,778	12,492	11,550	1,560	3,414	16,314	21,414
17-Jul	8,556	5,628	3,096	4,254	8,946	7,464	8,964	828	4,164	14,394	12,966
18-Jul	3,492	3,384	4,248	5,988	10,374	5,070	6,606	2,148	5,328	16,434	5,070
19-Jul	5,340	5,646	5,832	4,524	5,130	7,422	10,728	2,406	4,122	12,774	5,298
20-Jul	5,610	7,422	3,822	8,016	4,512	10,758	16,656	2,940	5,118	9,000	3,900
21-Jul	6,270	6,360	3,552	6,042	5,520	17,682	10,764	4,326	4,728	6,786	4,710
22-Jul	9,792	5,256	2,142	7,578	7,074	13,932	5,658	6,234	4,998	6,630	8,724
23-Jul	10,236	3,204	1,620	5,820	6,558	15,594	7,578	5,328	5,244	5,790	14,124
24-Jul	5,418	1,578	1,122	8,232	10,428	9,948	9,474	5,598	4,824	4,014	9,804
25-Jul	3,546	2,022	2,244	8,406	6,036	4,716	2,874	3,360	9,414	6,114	6,432
26-Jul	3,918	4,326	2,088	10,710	8,700	4,362	6,996	3,666	6,660	3,366	3,660
27-Jul	4,938	3,528	4,236	6,288	6,264	4,020	3,816	4,308	2,832	1,884	2,724
28-Jul	5,316	3,492	2,448	6,942	5,226	4,692	3,468	1,992	4,284	480	3,000
29-Jul	5,370	3,600	2,592	6,414	5,280	7,788	2,568	2,148	6,282	3,606	4,302
30-Jul	7,242	5,220	1,002	4,614	7,836	12,780	1,458	1,650	3,642	5,454	6,678
31-Jul	8,580	3,492	984	3,798	8,406	8,142	792	948	3,708	10,062	4,890
01-Aug	10,242	4,374	1,164	3,660	9,456	4,164	636	1,098	3,702	6,204	4,776
02-Aug	6,828	4,422	1,032	2,466	8,394	3,828		1,020	5,370	4,446	4,068
03-Aug	5,844	4,902	738	1,356	7,050	2,346		1,284	5,136	2,010	3,822
04-Aug	4,308	4,224	1,236	822	5,376	1,584		990	4,056	3,204	2,082
05-Aug	3,360	2,592	1,236	450	5,430	2,754		438	2,118	2,634	3,240
06-Aug	3,426	1,206	600	612	4,206	5,040		456	3,084	3,828	
07-Aug	2,730	342	1,380	96	1,524	1,272		270	2,046	6,481	
08-Aug	2,376		690		1,686	1,056			1,620		
09-Aug	2,328		552			1,002			2,904		
10-Aug	1,746		114			884			3,833		
11-Aug	912					710					
12-Aug											
13-Aug											
14-Aug											
15-Aug											
16-Aug											
17-Aug											
18-Aug											
19-Aug											
20-Aug											
Total	236,322	165,918	86,340	136,476	167,694	247,756	210,270	81,612	137,321	235,027	191,358

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Date	1993	1994	1995	1996	1997	1998
26-Jun						
27-Jun						
28-Jun						12
29-Jun	36					0
30-Jun	4,443					0
01-Jul	5,432					0
02-Jul	5,334		0			0
03-Jul	5,472		780	1,344	54	0
04-Jul	3,714		1,290	2,208	342	0
05-Jul	3,840		3,966	2,310	264	0
06-Jul	1,890		3,384	1,218	354	12
07-Jul	3,534	192	3,630	702	30	186
08-Jul	3,204	558	1,890	858	54	12
09-Jul	5,604	648	3,660	804	186	30
10-Jul	5,232	144	5,106	1,938	366	0
11-Jul	6,420	672	6,606	4,626	906	306
12-Jul	5,106	1,650	12,282	6,246	750	4,914
13-Jul	14,514	3,306	11,088	3,468	1,386	1,410
14-Jul	15,372	6,420	7,344	6,138	6,906	1,170
15-Jul	14,190	7,656	4,434	6,258	4,866	4,446
16-Jul	7,596	4,884	4,674	7,128	4,542	8,370
17-Jul	5,106	5,016	3,642	5,814	4,482	5,712
18-Jul	4,158	3,702	5,574	7,098	3,480	3,510
19-Jul	2,364	2,544	16,848	7,860	4,008	3,678
20-Jul	2,226	5,736	18,936	5,844	4,674	5,100
21-Jul	4,986	10,698	19,716	6,330	2,712	4,896
22-Jul	5,766	8,538	12,756	7,236	5,364	5,766
23-Jul	4,470	5,826	5,832	12,720	6,300	11,268
24-Jul	2,976	3,024	4,476	11,046	9,228	9,174
25-Jul	3,054	4,464	3,024	13,842	8,742	6,378
26-Jul	3,072	5,310	2,826	9,204	4,902	6,750
27-Jul	3,264	8,754	2,226	7,224	5,568	5,400
28-Jul	5,196	15,702	2,736	6,858	5,982	8,100
29-Jul	3,408	8,826	1,176	3,126	5,874	7,866
30-Jul	2,832	5,880	2,250	3,768	6,396	8,016
31-Jul	1,968	4,722	1,518	1,668	8,016	5,592
01-Aug	3,192	3,942	2,754	2,070	4,230	5,892
02-Aug	4,218	3,786	4,644		4,368	5,298
03-Aug	1,980	2,334	2,028		2,970	6,570
04-Aug	1,008	2,742	960		4,428	7,344
05-Aug	1,008	4,902	828		2,790	2,676
06-Aug		5,556	510		3,126	4,668
07-Aug		3,066	324		1,338	3,054
08-Aug		2,436			972	
09-Aug		1,116			726	
10-Aug						
11-Aug						
12-Aug						
13-Aug						
14-Aug						
15-Aug						
16-Aug						
17-Aug						
18-Aug						
19-Aug						
20-Aug						
Total	143,490	154,560	172,668	149,172	130,638	153,366

Appendix A.7. Ugashik River historical daily escapement, 1957-1998.

Date	1957	1958	1959	1960	1961	1962	1963	1964
20-Jun								
21-Jun								
22-Jun								
23-Jun								
24-Jun								
25-Jun								
26-Jun								
27-Jun								
28-Jun								
29-Jun								
30-Jun								
01-Jul				0				
02-Jul				0				
03-Jul	0			0		2,268		0
04-Jul	0	4,992		0		606		0
05-Jul	361	15,012		0		90		0
06-Jul	0	26,514		0	1,110	18	0	0
07-Jul	296	39,594		0	1,392	18	78	0
08-Jul	10	7,938	0	0	2,328	4,986	66	0
09-Jul	126	15,726	2,535	0	9,174	20,460	18	114
10-Jul	8,514	18,540	29,589	0	5,106	9,498	18	0
11-Jul	5,754	20,226	25,845	30	1,560	6,966	12	0
12-Jul	2,994	15,726	20,646	45,672	3,744	5,280	30	77,130
13-Jul	12,528	11,202	12,336	200,282	1,980	1,464	90	71,100
14-Jul	13,056	25,170	5,715	299,628	38,385	144	27,726	47,418
15-Jul	19,434	8,712	2,712	220,122	97,302	18	181,038	33,252
16-Jul	19,771	10,740	19,869	59,250	39,786	133,980	30,804	41,448
17-Jul	33,420	11,994	5,743	38,310	28,962	49,890	23,400	66,192
18-Jul	28,908	6,774	11,277	261,470	24,042	4,662	43,338	24,138
19-Jul	10,530	7,110	16,806	508,176	39,972	2,136	19,482	8,856
20-Jul	4,208	8,898	4,608	216,636	4,050	5,112	13,152	45,876
21-Jul	7,215	2,010	6,477	179,238	10,584	834	11,652	20,334
22-Jul	2,560	3,600	7,701	146,988	9,708	888	4,638	4,476
23-Jul	3,292	2,586	6,192	53,256	10410	294	1,980	3,084
24-Jul	2,880	1,620	7,707	8,628	5,655	480	4,380	2,142
25-Jul	8,394	1,572	4,460	17,970	3,795	42	6,522	3,720
26-Jul	5,988	798	4,984	5,592	930	1,740	1,194	5,784
27-Jul	1,096	1,608	5,508	5,214	726	546	3,048	2,946
28-Jul	1,730	1,476	1,863	7,146	924	228	7,254	2,598
29-Jul	4,482	1,164	1,719	1,842	630	678	6,486	1,290
30-Jul	448	1,674	2,213	6,702	1314	300	1,092	1,656
31-Jul	6,509	1,416	1,335	3,324	1380	762	636	2,832
01-Aug	2184	2364	2002	3012	940	198	78	1,518
02-Aug	1156	570	2269	2448	858	360	12	1,818
03-Aug	1396	408	1655	1266	468	192	30	642
04-Aug	1132	144	1393	444	543	84	0	1,572
05-Aug	513	516	1521	1554	153	174		834
06-Aug	832	522	801		300	30		
07-Aug	1864	516	1320		285			
08-Aug	526	108	422		162			
09-Aug	695							
Total	214,802	279,540	219,223	2,294,200	348,658	255,426	388,254	472,770

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Date	1965	1966	1967	1968	1969	1970	1971	1972	1973
20-Jun									
21-Jun									
22-Jun									
23-Jun									
24-Jun									
25-Jun									
26-Jun									
27-Jun			0						
28-Jun			0	54					
29-Jun	0	0	0	48	0	0	0	0	
30-Jun	0	0	0	36	0	0	0	0	
01-Jul	42	0	0	42	0	0	0	0	
02-Jul	102	0	0	36	0	0	0	0	
03-Jul	0	0	0	1,110	0	0	0	0	
04-Jul	0	0	0	8,166	0	24	0	0	
05-Jul	0	0	4,962	918	0	24	0	0	36
06-Jul	78	0	44,652	2,496	0	30	0	0	6
07-Jul	12	0	41,148	5,478	0	54	0	108	48
08-Jul	5,010	0	17,016	6,036	1,638	0	0	354	24
09-Jul	6,990	0	13,998	8,886	288	30	0	390	1,866
10-Jul	2,622	0	23,670	5,880	96	4,242	0	4,704	3,810
11-Jul	3,090	75,060	12,108	4,074	42	149,436	0	11,742	5,772
12-Jul	8,754	77,976	9,180	3,396	30	41,382	0	4,458	2,346
13-Jul	3,006	25,590	5,148	1,812	24	24,468	12	2,664	156
14-Jul	7,854	66,048	456	1,932	35,250	49,398	0	16,134	228
15-Jul	36,354	53,412	168	1,602	97,392	90,114	0	12,744	7,140
16-Jul	145,932	28,950	372	1,266	7,074	94,038	12	9,204	8,586
17-Jul	70,404	76,938	168	6,576	2,820	22,788	42,996	10,158	3,738
18-Jul	69,060	6,816	30,504	2,766	3,288	69,450	195,816	1,590	1,704
19-Jul	34,314	246	22,242	1,572	1,602	81,666	24,264	2,832	540
20-Jul	60,444	85,116	3,372	1,272	2,298	69,306	18,780	840	126
21-Jul	63,750	148,296	2,166	978	1,344	12,240	41,928	126	18
22-Jul	60,150	42,150	2,544	624	1,836	-2,736	24,036	234	762
23-Jul	109,446	3,450	978	480	2,964	2,748	29,382	468	984
24-Jul	67,440	2,310	1,182	276	534	2,688	10,830	534	684
25-Jul	32,232	1,896	1,002	366	456	4,338	22,386	48	330
26-Jul	29,946	1,404	558	264	144	2,214	31,920	96	60
27-Jul	46,326	1,650	300	312	252	2,262	11,616		24
28-Jul	59,634	1,464	294	342	264	1,518	3,540		
29-Jul	44,262	1,656	228	474	402	870	25,596		
30-Jul	14,844	390	150	558	192	1,494	12,288		
31-Jul	5,592	462	174	282	66	972	2,940		
01-Aug	3,366	1,554	90	132	84	1,134	2,028		
02-Aug									
03-Aug									
04-Aug									
05-Aug									
06-Aug									
07-Aug									
08-Aug									
09-Aug									
Total	990,912	702,834	238,830	70,326	160,380	726,192	500,370	79,428	38,988

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Date	1974	1975	1976	1977	1978	1979	1980	1981
20-Jun								0
21-Jun								0
22-Jun								210
23-Jun								18
24-Jun								852
25-Jun								3,228
26-Jun								5,730
27-Jun								1,368
28-Jun								1,284
29-Jun								3,984
30-Jun								2,508
01-Jul						1,800		2,694
02-Jul			0	0		10,884	42	5,334
03-Jul			0	0		30,702	288	16,350
04-Jul			0	0		1,716	804	25,488
05-Jul	66	0	0	0		8,832	960	33,774
06-Jul	552	0	534	17,898	168	69,810	600	44,634
07-Jul	2,796	0	930	42,630	1,362	66,792	126	77,208
08-Jul	486	0	288	12,474	54	53,382	1,062	84,510
09-Jul	78	12	216	8,076	1,782	127,776	1,878	153,582
10-Jul	102	66	12	9,060	3,252	172,950	19,290	196,398
11-Jul	96	72	18	13,104	1,758	167,856	43,056	122,802
12-Jul	36	30	26,796	12,546	8,904	116,874	36,426	183,150
13-Jul	9,186	21,354	124,344	1,866	7,596	247,602	49,902	131,328
14-Jul	33,456	57,522	33,588	12,300	4,566	202,416	128,490	117,780
15-Jul	9,564	40,704	28,620	702	10,584	90,672	274,296	24,906
16-Jul	1,368	26,370	576	144	13,854	43,176	331,920	20,040
17-Jul	360	12,678	768	114	7,110	34,524	621,054	13,230
18-Jul	2,502	3,012	90	12	1,548	20,592	529,914	14,838
19-Jul	342	11,814	47,790	252	240	59,046	407,658	16,794
20-Jul	942	46,902	48,270	5,562	180	74,862	102,408	11,418
21-Jul	-144	99,246	4,284	38,868	204	37,578	332,808	5,742
22-Jul	66	64,518	3,168	11,136	696	22,506	337,554	2,868
23-Jul		18,390	1,560	9,246	714	11,514	49,140	2,034
24-Jul		13,596	2,148	1,326	426	13,536	24,894	678
25-Jul		9,474	4,290	1,578	1,506	6,372	10,536	
26-Jul		3,144	2,490	972	876	7,134	9,984	
27-Jul		-354	2,400	330	336		6,294	
28-Jul		528	2,430	552	270			
29-Jul		258	1,356	738	1,218			
30-Jul			618		912			
31-Jul			1,164		318			
01-Aug			1,470					
02-Aug								
03-Aug								
04-Aug								
05-Aug								
06-Aug								
07-Aug								
08-Aug								
09-Aug								
Total	61,854	429,336	340,218	201,486	70,434	1,688,220	3,321,342	1,299,552

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Date	1982	1983	1984	1985	1986	1987	1988
20-Jun		0	0				
21-Jun		0	0				
22-Jun		0	6				
23-Jun		6	30				
24-Jun		54	0				
25-Jun		90	18				
26-Jun		84	210				
27-Jun		66	114				
28-Jun		12	102	78			
29-Jun		102	426	96			
30-Jun	0	276	1,758	78			
01-Jul	36	18	4,350	132			
02-Jul	0	942	2,706	42	0	0	
03-Jul	6	2,178	72	60	0	0	0
04-Jul	492	138	0	42	0	4,218	3,792
05-Jul	162	0	24	12	0	1,332	1,968
06-Jul	282	49,404	0	17,580	0	918	1,296
07-Jul	6,240	9,252	18	107,766	36	6	312
08-Jul	222	21,630	0	26,382	264	2,514	360
09-Jul	600	12,342	24	24,060	192	29,172	3,240
10-Jul	114	31,104	150	564	84	27,996	750
11-Jul	10,098	200,904	145,170	546	174	2,424	642
12-Jul	83,364	72,840	80,616	90	144	468	504
13-Jul	362,574	71,016	63,840	156,342	60	198	11,694
14-Jul	193,482	173,064	161,292	249,198	358,878	3,030	66,366
15-Jul	222,864	132,630	135,360	145,356	287,286	120,300	96,690
16-Jul	111,204	38,958	45,534	27,666	40,518	310,194	130,008
17-Jul	47,286	14,634	231,408	11,388	46,542	45,252	35,340
18-Jul	68,688	10,236	122,700	16,890	58,950	5,874	53,004
19-Jul	12,966	12,318	91,356	4,584	43,158	4,308	54,756
20-Jul	12,444	14,862	65,748	14,970	14,796	4,596	36,426
21-Jul	5,454	19,416	23,652	5,580	9,396	5,736	29,826
22-Jul	7,782	12,846	12,582	7,854	29,520	7,626	25,806
23-Jul	3,090	11,448	15,390	14,328	34,680	11,802	21,198
24-Jul	3,108	6,150	9,414	20,382	9,602	6,858	11,016
25-Jul	3,330	3,168	9,216	13,272	9,602	4,590	14,778
26-Jul	1,422	4,884	5,988	40,356	9602	11,172	25,980
27-Jul	216	14,550	6,306	37,422	9,602	18,756	6,126
28-Jul		13,836	3,540	16,086	9,602	6,120	2,334
29-Jul		14,250	2,298	9,984	9,602	11,142	2,220
30-Jul		12,732		11,952	9,602	8,604	2,718
31-Jul		9,684		8,574	9,600	7,242	2,070
01-Aug		8,424		4,818		6,516	1,056
02-Aug							
03-Aug							
04-Aug							
05-Aug							
06-Aug							
07-Aug							
08-Aug							
09-Aug							
Total	1,157,490	998,898	1,231,698	994,104	1,001,492	668,964	642,276

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Date	1989	1990	1991	1992	1993	1994	1995
20-Jun							
21-Jun							
22-Jun							
23-Jun							
24-Jun							
25-Jun							
26-Jun							
27-Jun							
28-Jun					12		
29-Jun					252		
30-Jun					108		
01-Jul					30		
02-Jul				0	360		
03-Jul		474	186	762	576	228	3,078
04-Jul	210	774	114	948	990	480	4,644
05-Jul	66,222	1,404	246	678	1236	252	3,810
06-Jul	80,304	2,484	204	426	1776	480	22,038
07-Jul	101,388	816	1,344	924	5838	258	55,806
08-Jul	67,650	11,316	206,874	894	137,754	120	41,676
09-Jul	66,516	21,192	203,916	942	406,152	4,830	12,288
10-Jul	58,008	28,512	63,720	834	411,066	101,970	11,664
11-Jul	101,514	52,932	20,352	798	235,200	204,678	11,358
12-Jul	413,310	88,320	264,186	3,066	66,972	207,204	17,988
13-Jul	220,854	119,148	570,204	9,426	10,998	50,076	9,768
14-Jul	63,300	98,910	224,910	65,730	7,950	24,162	7,812
15-Jul	66,618	55,200	484,884	401,778	4,776	31,284	5,850
16-Jul	54,420	51,414	139,578	529,362	8,352	63,144	23,940
17-Jul	58,482	32,592	31,296	548,964	8,256	38,490	45,906
18-Jul	68,544	57,162	22,488	348,852	8,076	38,982	278,538
19-Jul	47,448	29,988	20,754	44,154	6,588	56,484	357,996
20-Jul	30,702	15,666	33,942	38,520	21,060	88,884	222,102
21-Jul	20,934	13,992	24,816	17,322	13,872	100,134	90,858
22-Jul	15,210	7,428	46,530	8,082	5,004	19,836	22,278
23-Jul	13,212	2,604	51,000	6,156	3,966	12,942	12,546
24-Jul	15,138	4,470	16,236	16,158	3,228	8,454	6,822
25-Jul	20,838	3,018	9,996	21,426	7,374	6,330	10,374
26-Jul	18,528	3,438	7,446	58,248	5,766	3,216	13,602
27-Jul	7,578	7,104	5,910	25,002	5,946	4,668	11,316
28-Jul	2,004	9,870	6,174	18,324		13,272	
29-Jul	2,370	9,810		5,916			
30-Jul							
31-Jul							
01-Aug							
02-Aug							
03-Aug							
04-Aug							
05-Aug							
06-Aug							
07-Aug							
08-Aug							
09-Aug							
Total	1,681,302	730,038	2,457,306	2,173,692	1,388,772	1,080,858	1,304,058

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Date	1996	1997	1998
20-Jun			
21-Jun			
22-Jun			
23-Jun			
24-Jun			
25-Jun			
26-Jun			
27-Jun			
28-Jun			
29-Jun			
30-Jun			
01-Jul			
02-Jul		276	72
03-Jul	5,604	1,290	1,626
04-Jul	28,866	1,476	768
05-Jul	63,156	1,704	1,134
06-Jul	97,320	2,370	1,536
07-Jul	51,000	9,288	6,840
08-Jul	36,660	13,500	10,170
09-Jul	13,512	31,380	15,114
10-Jul	6,834	34,230	15,222
11-Jul	8,370	48,090	34,056
12-Jul	6,672	49,056	54,678
13-Jul	5,292	37,080	97,848
14-Jul	5,676	43,572	163,350
15-Jul	9,606	60,876	92,286
16-Jul	57,654	21,024	27,444
17-Jul	88,614	36,096	16,746
18-Jul	66,930	24,918	18,672
19-Jul	33,444	13,254	17,556
20-Jul	25,716	23,808	14,802
21-Jul	11,262	28,134	12,318
22-Jul	13,344	25,380	15,894
23-Jul	13,158	20,874	11,334
24-Jul	10,326	24,930	16,056
25-Jul	4,530	12,918	35,346
26-Jul	3,972	13,032	81,486
27-Jul		22,662	50,856
28-Jul		13,650	39,702
29-Jul		3,528	21,510
30-Jul			16,086
31-Jul			
01-Aug			
02-Aug			
03-Aug			
04-Aug			
05-Aug			
06-Aug			
07-Aug			
08-Aug			
09-Aug			
Total	667,518	618,396	890,508

Appendix A8. Wood River historical daily escapement, 1956-98.

Date	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965
16-Jun										
17-Jun										
18-Jun					0					
19-Jun					114					
20-Jun			825	57	192			54	24	
21-Jun	126		1,365	480	96		6	0	390	
22-Jun	10	656	2,376	348	132		162	30	426	60
23-Jun	2,218	734	6,747	996	211		84	684	390	42
24-Jun	2,838	1,168	5,541	1,452	512		96	2,382	324	72
25-Jun	1,523	748	1,512	1,176	1,296	30	228	2,166	594	30
26-Jun	872	906	2,247	3,048	10,013	1,104	1,866	984	1,710	96
27-Jun	943	1,246	2,121	16,986	8,208	4,224	1,014	1,386	5,328	96
28-Jun	5,964	2,216	902	105,984	4,116	2,874	786	5,868	8,220	270
29-Jun	5,816	4,326	1,134	82,752	4,770	2,805	1,662	6,414	8,076	174
30-Jun	4,602	8,977	17,087	62,148	1,488	3,006	1,056	5,628	8,004	426
01-Jul	730	15,566	81,246	84,978	1,443	96	1,956	4,410	1,908	510
02-Jul	2,020	6,047	41,658	115,782	1,830	9,030	2,094	4,512	426	486
03-Jul	1,243	3,155	12,749	340,752	5,844	15,438	90,558	3,114	480	450
04-Jul	16,845	4,617	8,586	201,930	2,826	24,594	112,296	1,248	5,538	2,922
05-Jul	43,257	3,217	12,300	184,734	6,474	23,433	248,742	220,698	94,560	33,762
06-Jul	47,776	3,528	104,862	163,254	98,460	30,588	230,274	263,328	100,830	118,356
07-Jul	26,870	4,147	190,619	85,086	232,140	30,474	54,960	15,924	31,842	173,364
08-Jul	16,689	4,019	129,522	29,730	199,596	21,510	23,022	13,464	22,386	133,224
09-Jul	8,124	7,398	80,454	23,802	167,094	16,728	23,922	17,070	166,188	91,746
10-Jul	4,825	9,575	30,149	23,292	103,746	30,924	24,036	20,634	210,990	58,878
11-Jul	87,299	77,502	21,314	13,698	41,190	26,022	8,562	63,768	275,520	18,240
12-Jul	80,213	64,265	14,555	116,058	15,600	75,009	7,512	17,724	67,656	6,960
13-Jul	71,748	24,588	76,137	250,602	13,188	77,736	3,420	13,050	23,658	4,788
14-Jul	47,216	10,303	33,249	129,270	15,708	43,734	1,944	12,822	10,878	2,364
15-Jul	79,427	4,109	24,648	52,248	16,728	8,250	4,554	5,340	9,864	7,692
16-Jul	68,389	4,274	7,763	13,788	17,418	5,682	12,288	4,134	4,008	5,646
17-Jul	47,168	2,785	4,325	11,334	16,872	3,492	3,552	4,320	4,974	4,056
18-Jul	18,168	1,685	3,023	24,612	9,120	1,209	714	2,250	2,508	5,724
19-Jul	21,670	2,785	4,214	27,738	6,444	1,176	462	1,830	1,890	2,796
20-Jul	18,057	2,080	7,926	13,242	4,392	507	666	876	1,710	726
21-Jul	13,921	2,806	8,208	5,976	1,524	186	480	1,536	1,152	654
22-Jul	6,690	2,834	6,747	4,698	1,376	0	324	1,200	966	396
23-Jul	3,852	789	2,652	3,912	368	24	978	1,044	480	84
24-Jul	2,416	522	2,028	4,266	760	54	1,116	492	498	66
25-Jul	4,662	147	1,610	1,515	2,312	486	726	306	396	
26-Jul	3,554	852	1,548	2,631	1,920	186	696	246	222	
27-Jul	1,792	2,625	1,026	912	552	54	534	126	108	
28-Jul	486	1,530	1,287	1,575		54	1,920	102	990	
29-Jul	1,520		1,677	552		18	3,726	54		
30-Jul	892		1,023	36			708	180		
31-Jul	180		737	1,836			114	6		
01-Aug	490		450				72			
02-Aug			306							
Total	773,101	288,727	959,630	2,209,209	1,015,767	460,737	873,888	721,350	1,076,088	675,156

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Date	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
16-Jun										
17-Jun										
18-Jun		0			4					
19-Jun		114			24					0
20-Jun	24	60			18			36	132	0
21-Jun	60	18	0		12		18	594	858	0
22-Jun	18	144	402		0		0	480	354	0
23-Jun	60	108	48		54		0	66	1,188	192
24-Jun	72	300	6,144		222		0	42	774	192
25-Jun	60	1,410	14,064		222	18	78	30	2,112	354
26-Jun	120	1,416	2,640	0	132	66	774	78	1,470	246
27-Jun	96	2,070	2,508	24	270	162	942	510	1,110	198
28-Jun	1,290	4,614	42,126	30	390	96	306	3,468	1,422	450
29-Jun	2,154	4,212	21,138	42	648	186	72	3,012	5,172	3,402
30-Jun	1,542	10,704	8,856	282	618	1,332	18	8,862	109,668	6,684
01-Jul	2,106	34,470	26,934	900	1,398	576	96	32,442	162,744	2,850
02-Jul	11,172	57,192	22,596	38,652	1,182	654	36	8,046	271,206	14,442
03-Jul	30,690	29,532	49,164	92,148	2,268	204	72	8,514	275,082	11,976
04-Jul	110,082	148,020	47,058	88,482	122,418	588	48	6,210	340,332	2,556
05-Jul	251,394	76,812	75,294	68,082	116,364	450	66	2,970	187,026	2,004
06-Jul	168,966	21,174	87,960	41,826	147,930	834	162	7,080	123,630	516
07-Jul	233,538	29,352	41,496	53,004	200,526	8,076	168	5,034	53,106	34,470
08-Jul	124,044	32,304	51,648	50,838	287,340	20,340	3,366	35,586	36,378	213,438
09-Jul	62,592	22,086	62,796	67,386	75,450	58,836	83,784	86,208	27,354	307,632
10-Jul	11,886	9,786	29,442	36,348	37,218	42,030	205,878	47,844	19,494	228,132
11-Jul	20,634	6,900	11,406	15,324	35,310	74,394	75,258	34,158	17,736	150,246
12-Jul	77,496	4,728	9,942	9,984	47,364	133,584	18,222	15,954	12,072	126,348
13-Jul	47,502	5,040	9,000	10,674	42,570	57,684	16,800	9,876	5,562	65,136
14-Jul	16,284	5,538	8,034	9,912	19,020	93,948	10,104	4,680	6,084	20,802
15-Jul	9,078	1,740	5,700	3,378	10,278	129,264	5,982	2,370	7,698	19,002
16-Jul	6,132	1,656	7,476	2,898	3,744	104,688	2,862	1,908	5,748	19,500
17-Jul	6,492	1,476	3,036	3,666	2,790	46,428	3,222	1,884	6,150	13,440
18-Jul	5,358	684	978	2,682	1,488	18,522	750	732	5,442	9,960
19-Jul	2,382	120	690	2,400	1,338	12,180	606	612	2,784	4,320
20-Jul	2,208	126	288	1,596	1,026	6,516	672	498	1,368	3,264
21-Jul	1,044	288	324	1,074	978	6,132	168	228	3,936	3,168
22-Jul	972	132	126	1,266	672	7,746	72	84	594	2,178
23-Jul	528	456	30	570	426	12,750		246	1,656	1,806
24-Jul	0	474		486	186	5,472		132	2,064	894
25-Jul	558	384		252	66	3,306			2,904	318
26-Jul	48	108		102		1,206			1,134	
27-Jul		24		30		1,116			3,012	
28-Jul						702			1,260	
29-Jul						900			918	
30-Jul						216			102	
31-Jul										
01-Aug										
02-Aug										
Total	1,208,658	515,598	649,344	604,338	1,161,918	851,202	430,602	330,438	1,708,704	1,270,116

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Date	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
16-Jun										
17-Jun								0		
18-Jun					108	30	0	0		0
19-Jun			300	180	0	258	0	0		0
20-Jun	12	0	918	570	312	1,110	0	618		0
21-Jun	0	42	30	330	450	1,062	750	1,602		0
22-Jun	0	354	144	228	132	4,530	2,718	870	372	0
23-Jun	0	774	6,630	78	426	7,002	2,304	1,302	1,896	0
24-Jun	144	204	8,490	276	54	1,752	696	2,256	3,084	0
25-Jun	822	2,778	11,334	55,026	174	222	864	756	55,242	0
26-Jun	432	4,230	5,616	245,730	48	180	1,968	16,272	55,710	0
27-Jun	120	3,474	4,536	159,702	522	690	16,062	65,952	20,376	0
28-Jun	642	8,400	13,626	18,462	906	1,716	33,492	42,618	5,016	0
29-Jun	570	39,066	167,796	12,480	24,810	10,032	43,494	36,174	4,506	0
30-Jun	276	61,734	107,154	9,348	120,912	15,210	94,734	13,788	33,822	2,754
01-Jul	90	49,530	108,018	263,688	175,638	59,316	100,752	23,190	64,194	78,294
02-Jul	102	20,886	145,440	529,596	341,214	24,720	68,298	10,026	72,690	85,764
03-Jul	276	33,882	202,716	39,468	415,668	20,022	65,544	299,970	55,440	86,634
04-Jul	22,038	73,062	433,260	8,502	460,722	137,712	126,222	599,454	60,486	98,082
05-Jul	119,832	64,782	389,172	18,960	198,684	308,028	129,912	94,944	40,554	29,448
06-Jul	88,680	27,912	85,020	166,998	141,096	214,920	44,322	14,838	136,950	19,584
07-Jul	86,064	38,280	100,974	115,812	162,906	70,818	41,154	13,266	91,974	20,922
08-Jul	26,670	24,732	142,284	18,036	230,490	69,246	33,882	13,614	83,994	67,242
09-Jul	23,250	24,822	101,328	5,952	246,156	55,080	16,470	20,250	83,922	84,354
10-Jul	93,792	23,538	67,710	5,046	95,850	67,056	12,306	5,508	51,378	48,594
11-Jul	132,282	7,170	33,072	3,900	46,992	43,752	18,948	3,222	29,784	24,276
12-Jul	99,432	4,920	28,044	7,704	119,424	23,550	17,034	1,956	10,494	30,774
13-Jul	40,512	22,494	25,452	5,406	76,950	19,710	15,288	2,352	8,172	20,472
14-Jul	16,962	13,110	11,838	4,320	31,950	14,058	22,200	34,278	3,954	88,914
15-Jul	12,012	2,838	7,950	5,190	29,628	15,630	14,352	14,730	1,800	92,334
16-Jul	9,336	1,404	4,260	4,992	25,416	14,394	10,536	11,106	3,834	34,920
17-Jul	12,228	1,590	9,462	372	12,462	8,664	13,206	6,666	3,936	11,706
18-Jul	9,774	2,052	19,698		7,386	5,334	12,600	2,838	1,872	4,284
19-Jul	7,002	1,434	6,042		1,554	8,382	7,782	3,720	792	3,846
20-Jul	4,584	1,056	5,838			7,974	5,064	1,890	1,680	2,322
21-Jul	5,010	1,068	5,766			1,158	3,420	804	2,052	2,040
22-Jul	3,084	210	3,504				96	138	2,928	1,074
23-Jul	474		3,336						3,618	366
24-Jul	504		480						4,302	
25-Jul									1,170	
26-Jul									732	
27-Jul									66	
28-Jul										
29-Jul										
30-Jul										
31-Jul										
01-Aug										
02-Aug										
Total	816,996	561,828	2,266,020	1,705,602	2,968,620	1,231,920	976,470	1,360,350	1,002,792	939,000

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Date	1986	1987	1988	1989	1990	1991	1992	1993
16-Jun								
17-Jun								
18-Jun	0					168	6	
19-Jun	0					84	186	
20-Jun	0				72	90	1,182	72
21-Jun	0			378	6	246	1,458	72
22-Jun	0			690	1,770	90	432	132
23-Jun	0		18	5,400	1,554	918	894	40,446
24-Jun	174	1,620	1,098	14,502	1,032	5,262	1,938	37,110
25-Jun	1,014	6,546	9,744	23,484	198	14,136	2,082	46,548
26-Jun	444	3,702	28,320	23,190	366	4,164	16,908	34,482
27-Jun	648	5,382	19,566	24,852	186	2,580	73,056	81,168
28-Jun	414	20,304	21,522	9,504	702	14,778	34,164	84,648
29-Jun	330	86,172	14,142	4,230	1,590	18,594	22,500	65,706
30-Jun	756	217,668	2,610	89,466	5,976	9,360	11,016	66,270
01-Jul	4,860	196,200	1,362	102,918	24,336	53,478	20,148	40,320
02-Jul	11,664	117,156	2,472	190,314	81,840	46,158	16,794	83,922
03-Jul	6,984	68,058	36,372	233,634	102,726	410,964	16,152	183,540
04-Jul	28,062	19,626	107,922	95,556	50,046	252,624	28,440	97,344
05-Jul	36,246	17,790	45,564	28,230	11,544	58,338	114,642	68,406
06-Jul	37,104	16,008	14,772	65,592	131,622	18,072	122,232	51,414
07-Jul	46,620	54,066	15,678	64,608	361,104	16,398	67,416	34,998
08-Jul	34,050	198,516	20,832	46,338	126,630	10,914	52,692	24,096
09-Jul	51,084	101,814	64,206	21,636	23,898	15,858	41,832	12,582
10-Jul	112,446	30,798	82,812	17,730	25,830	17,004	96,048	8,514
11-Jul	135,834	19,878	164,610	16,320	21,732	21,258	192,552	11,880
12-Jul	126,936	16,218	161,562	17,418	29,628	20,550	153,618	18,714
13-Jul	70,194	16,266	23,622	21,960	26,508	20,070	72,540	10,722
14-Jul	29,622	27,798	3,732	25,644	13,326	18,972	38,586	19,440
15-Jul	19,524	24,540	2,268	14,514	7,650	12,264	24,342	9,390
16-Jul	19,650	14,808	4,260	6,276	9,042	11,976	14,406	9,204
17-Jul	9,030	16,506	10,308	8,484	3,486	28,200	12,462	15,972
18-Jul	7,134	13,524	4,890	8,280	2,298	21,630	5,496	11,202
19-Jul	3,240	7,524	1,326	3,948	1,740	10,548	7,008	4,206
20-Jul	3,930	7,386	1,188	1,314	1,002	8,844	6,930	1,338
21-Jul	3,138	6,768				6,834	6,054	2,268
22-Jul	4,602	3,798				4,272	6,780	
23-Jul	4,734	732				4,224	3,252	
24-Jul	8,184							
25-Jul								
26-Jul								
27-Jul								
28-Jul								
29-Jul								
30-Jul								
31-Jul								
01-Aug								
02-Aug								
Total	818,652	1,337,172	866,778	1,186,410	1,069,368	1,159,578	1,284,870	1,176,054

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Date	1994	1995	1996	1997	1998
16-Jun					
17-Jun					
18-Jun					
19-Jun	0				
20-Jun	0				
21-Jun	0	126	9,090		
22-Jun	1,326	450	4,716	7,686	
23-Jun	672	600	7,698	8,904	3,558
24-Jun	228	2,136	32,364	13,854	3,864
25-Jun	1,470	16,602	41,010	27,798	13,650
26-Jun	3,150	94,710	26,616	28,392	25,068
27-Jun	3,444	104,196	38,232	30,618	16,428
28-Jun	1,902	23,502	32,778	57,126	17,826
29-Jun	1,332	104,904	13,392	52,632	31,170
30-Jun	1,008	99,630	47,472	51,660	24,960
01-Jul	6,078	36,390	63,186	50,526	18,558
02-Jul	37,530	27,990	111,036	91,056	41,856
03-Jul	65,616	20,454	134,370	127,134	95,130
04-Jul	62,094	12,690	164,094	127,086	520,476
05-Jul	41,190	40,284	107,130	68,826	512,370
06-Jul	64,890	56,040	122,814	101,616	61,038
07-Jul	34,182	238,458	138,006	71,502	99,432
08-Jul	21,102	240,792	108,468	73,014	108,276
09-Jul	301,710	145,896	50,706	156,120	45,804
10-Jul	346,830	47,496	52,104	35,268	27,204
11-Jul	113,472	29,226	75,606	66,618	13,800
12-Jul	35,484	22,488	60,342	66,366	11,430
13-Jul	13,812	22,512	36,138	60,072	11,082
14-Jul	15,018	13,722	23,160	30,630	8,232
15-Jul	13,020	14,346	15,912	29,136	12,588
16-Jul	64,572	29,352	11,544	15,948	10,902
17-Jul	73,746	14,310	10,074	12,228	5,598
18-Jul	39,300	7,332	37,692	15,276	3,492
19-Jul	18,426	5,682	19,092	11,310	3,156
20-Jul	16,170	4,284	22,488	8,466	2,916
21-Jul	17,436	3,798	15,372	5,772	2,100
22-Jul	28,884	1,764	16,896	9,756	2,628
23-Jul	14,796				1,176
24-Jul	12,000				
25-Jul					
26-Jul					
27-Jul					
28-Jul					
29-Jul					
30-Jul					
31-Jul					
01-Aug					
02-Aug					
Total	1,471,890	1,482,162	1,649,598	1,512,396	1,755,768

Appendix B

Historical escapement data for previous sockeye salmon counting towers in Bristol Bay

Appendix B.1. Branch River historical daily sockeye salmon escapement, 1957-1976.

Date	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
18-Jun											
19-Jun											
20-Jun											
21-Jun											
22-Jun											0
23-Jun											222
24-Jun											114
25-Jun				0							144
26-Jun				6					0		1,410
27-Jun				0	735				0		2,244
28-Jun			375	6	2,214				0	0	2,640
29-Jun	66		1,128	0	8,295		144		0	0	18,480
30-Jun	694		1,143	54	4,968	150	4,038		120	0	24,252
01-Jul	1,521	234	258	2,652	276	444	3,576		888	0	49,506
02-Jul	1,586	234	870	72,018	150	5,340	8,970	156	3,912	0	66,474
03-Jul	430	426	1,350	120,792	3,102	3,252	5,814	48	5,088	0	8,220
04-Jul	1,266	48	27,198	37,926	21,402	3,648	5,304	18	8,568	852	16,566
05-Jul	203	0	68,544	13,170	11,364	4,788	20,556	1,032	16,056	4,578	9,108
06-Jul	997	1,044	68,650	50,700	5,292	27,870	37,086	30,504	31,206	11,802	14,484
07-Jul	2,640	4,320	82,179	162,516	588	24,060	29,658	45,162	29,358	22,692	10,332
08-Jul	1,422	17,646	25,017	199,386	324	11,994	12,390	100,758	15,294	43,104	9,030
09-Jul	3,378	23,682	19,455	185,598	216	2,718	3,426	7,548	27,582	38,580	6,978
10-Jul	10,842	9,444	28,791	134,592	372	1,752	17,964	5,322	15,882	12,246	3,588
11-Jul	18,174	1,830	3,174	81,912	462	672	17,376	23,286	11,292	2,292	1,164
12-Jul	28,470	1,236	53,655	32,910	1,770	786	11,328	13,836	4,260	3,210	5,616
13-Jul	14,205	390	96,355	22,860	7,998	252	7,578	9,660	762	8,742	17,292
14-Jul	4,912	5,484	124,545	15,582	10,512	72	4,866	2,400	864	4,614	4,722
15-Jul	4,668	19,146	112,694	23,706	2,880	168	2,130	2,232	300	2,982	1,746
16-Jul	7,090	4,518	24,462	45,150	804	900	636	846	1,350	3,372	1,434
17-Jul	3,114	1,854	6,724	20,610	144	864	1,560	1,710	1,230	1,788	1,452
18-Jul	1,356	678	26,973	8,598	906	606	2,358	744	876	4,698	2,160
19-Jul	5,562	636	20,553	3,204	1,344	222	2,256	894	96	2,058	1,434
20-Jul	3,384	168	10,443	1,668	408	24	1,944	1,068	36	1,134	618
21-Jul	1,050	918	5,040	2,682	474	6	414	882		2,268	2,634
22-Jul	1,228	444	4,365	1,182	522	36	282	234		1,098	1,716
23-Jul	1,424	66	1,623	570	840	6	540	210		1,536	2,070
24-Jul	3,846	36	759	276	438		588	60		690	6,204
25-Jul	1,140	114	2,331	180	714		258	78			1,236
26-Jul	1,104	12	4,404	12	144		222	12			114
27-Jul	372	0	1,884	12	48		66				30
28-Jul	204	18	141		60		6				12
29-Jul	247	24	216		144						
30-Jul			132		126						
31-Jul											
01-Aug											
02-Aug											
03-Aug											
04-Aug											
Total	126,595	94,650	825,431	1,240,530	90,036	90,630	203,334	248,700	175,020	174,336	295,224

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Date	1968	1969	1970	1971	1972	1973	1974	1975	1976
18-Jun	0								
19-Jun	12								
20-Jun	0					0			
21-Jun	0	0				6			
22-Jun	0	0				0			
23-Jun	0	0				0			
24-Jun	0	0				0		0	
25-Jun	0	0		0		0		0	
26-Jun	6	0		6	0	0		6	
27-Jun	0	0	0	0	0	0	6	12	
28-Jun	2,724	0	36	0	0	0	132	12	
29-Jun	22,764	0	282	0	0	6	2,514	12	
30-Jun	6,654	2,748	3,024	0	0	0	11,502	0	0
01-Jul	3,738	19,998	8,346	0	0	6	24,474	0	0
02-Jul	15,396	16,422	11,598	0	0	0	30,336	18	12
03-Jul	13,008	21,594	23,196	0	0	24	27,672	540	6
04-Jul	17,496	31,056	26,052	0	0	0	28,080	1,912	6
05-Jul	25,194	26,502	16,872	18	0	24	21,852	3,282	18
06-Jul	17,052	25,932	19,122	282	1,758	744	23,112	11,904	20,148
07-Jul	17,160	24,582	13,524	4,758	44,874	3,978	19,800	15,042	5,790
08-Jul	8,742	9,096	14,856	5,136	43,188	11,826	9,996	17,016	1,026
09-Jul	2,844	1,884	12,966	21,228	5,856	11,100	4,584	22,980	1,308
10-Jul	4,524	756	7,332	28,146	23,544	5,880	4,998	12,882	14,208
11-Jul	21,084	282	4,104	29,010	14,340	468	3,186	4,902	23,994
12-Jul	5,790	546	3,414	9,594	7,410	474	870	5,352	10,590
13-Jul	1,530	420	4,644	12,252	5,778	270	852	2,202	3,222
14-Jul	1,620	330	3,336	13,290	2,022		792	1,476	1,020
15-Jul	2,154	336	1,158	24,516	960		90	684	414
16-Jul	2,148	6	444	21,216	408			156	60
17-Jul	1,368		738	6,744	228			90	
18-Jul	648		846	1,398	576				
19-Jul	114		1,068	1,326	180				
20-Jul	36		66	1,038	66				
21-Jul	66		36	1,032					
22-Jul				726					
23-Jul				1,218					
24-Jul				1,752					
25-Jul				1,476					
26-Jul				468					
27-Jul				408					
28-Jul				264					
29-Jul									
30-Jul									
31-Jul									
01-Aug									
02-Aug									
03-Aug									
04-Aug									
Total	193,872	182,490	177,060	187,302	151,188	34,806	214,848	100,480	81,822

Appendix B.2. Branch River historical daily chinook salmon escapement, 1966-1976.

Date	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976
18-Jun											
19-Jun											
20-Jun											
21-Jun				0							
22-Jun				0							
23-Jun				0							
24-Jun				0							
25-Jun				0		0					
26-Jun				0		0	0		0		
27-Jun				0	0	0	0		0		
28-Jun				0	0	0	0		0		
29-Jun				0	0	0	0		0		
30-Jun				0	0	0	0	NO	0	NO	0
01-Jul		36		0	0	0	0	DATA	0	DATA	6
02-Jul		6		0	0	0	0	AVAILABLE	0	AVAILABLE	0
03-Jul		0	6	0	12	0	0		0		0
04-Jul	6	0	18	0	18	0	0		6		0
05-Jul	48	0	12	0	0	0	0		0		0
06-Jul	6	0	18	0	6	6	0		12		0
07-Jul	12	0	0	0	0	0	6		12		0
08-Jul	90	0	0	0	0	6	0		6		6
09-Jul	6	0	0	0	6	0	0		30		0
10-Jul	6	78	0	0	0	0	0		0		0
11-Jul	6	78	0	0	0	18	0		6		0
12-Jul	30	342	0	0	0	6	0		0		0
13-Jul	18	792	0	0	0	0	0		12		0
14-Jul	18	126	12	6	6	0	0		6		12
15-Jul	12	24	0	0	6	0	0		6		6
16-Jul	12	6	0	0	6	0	0				234
17-Jul	54	12	6		0	12	0				
18-Jul	42	24	294		18	18	18				
19-Jul	120	18	72		66	24	6				
20-Jul	252	12	66		54	6	6				
21-Jul	390	36	78		102	12					
22-Jul	282	246				36					
23-Jul	396	198				18					
24-Jul		510				12					
25-Jul		192				30					
26-Jul		66				24					
27-Jul		186				48					
28-Jul		534				6					
29-Jul											
30-Jul											
31-Jul											
01-Aug											
02-Aug											
03-Aug											
04-Aug											
Total	1,806	3,522	582	6	300	282	36		96		264

Appendix B.3. Snake River historical daily escapement, 1960-1973[a].

Date	1960	1961	1962	1963	1964	1973[a]
20-Jun						
21-Jun						
22-Jun						
23-Jun						
24-Jun						
25-Jun			0			
26-Jun	0		0		0	
27-Jun	81	0	0		0	
28-Jun	75	0	0		0	
29-Jun	0	30	0		0	
30-Jun	54	0	8	136	0	
01-Jul	0	0	4	40	0	
02-Jul	24	6	0	28	0	
03-Jul	0	0	0	2548	0	
04-Jul	52	0	0	2044	0	
05-Jul	0	0	36	728	0	
06-Jul	144	0	80	1732	0	
07-Jul	336	0	40	6796	1492	14
08-Jul	1124	0	40	11980	1224	17
09-Jul	2824	312	424	3328	144	1
10-Jul	3140	32	580	1580	460	5
11-Jul	2368	8	24	1000	672	13
12-Jul	1408	44	60	484	1936	5
13-Jul	1024	760	84	1504	2060	0
14-Jul	840	1792	60	1720	524	52
15-Jul	472	584	8	408	1948	18
16-Jul	564	464	48	68	892	248
17-Jul	236	192	72	84	24	69
18-Jul	32	308	52	1044	468	63
19-Jul	924	112	36	56	364	123
20-Jul	500	108	32	228	120	50
21-Jul	264	0	12	216	20	32
22-Jul	84	0	20	100	56	8
23-Jul	20	28	32	40	20	11
24-Jul	8	12	8	20	12	42
25-Jul		8	0	12		0
26-Jul		4	0			0
27-Jul		52				49
28-Jul						32
29-Jul						37
30-Jul						0
31-Jul						0
01-Aug						6
02-Aug						22
03-Aug						4
04-Aug						9
05-Aug						1
Total	16,598	4,856	1,760	37,924	12,436	931

[a] Project became a weir for rehabilitation project.