Experimental Set Beach Seine Fishery Report

A Summary for Permits UCI-2024-01 and UCI-2024-03

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Robert Begich

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INTRODUCTION

This report summarizes the set beach seine fishing activities authorized by the Alaska Department of Fish and Game Commissioner permit numbers UCI-2024-01 and UCI-2024-03. (Appendix 1). Specifically, the permit's provided for use of a set beach seine in the area of the set gillnet fishery in the Upper Subdistrict of the Central District otherwise known as the Eastside set gillnet fishery (ESSN) (Figure 1). The permits differed in allowable gear and time period. Permit number UCI-2024-01 Gabriel was for June 20, 2024 to August 31, 2024 and 7-days a week. While permit UCI-2024-03 Hollier Was July 20, 2024 – August 31, 2024 and 7-days a week..

Since Cook Inlet's commercial salmon fishery began in 1878, sockeye salmon have been the predominate salmon species harvested and the commercial salmon fisheries remain economically important to the Cook Inlet region. Historically, several gear types have been used to harvest the sockeye salmon in Cook Inlet. However, currently just drift gillnet and set gillnet fishing is allowed in the Central district of Upper Cook Inlet. These fisheries are promulgated through the Upper Cook Inlet Salmon Management Plan adopted by the Alaska Board of Fisheries. Commercial salmon fishing is further controlled through an extensive regulatory structure via several management plans. These management plans provide Department managers regulations to operate the various fisheries with regard to; gear type, fishing seasons, fishing area, and allowable fishing time.

In response to the decline of Kenai River king salmon over the past decade, efforts have been made through the Alaska Board of Fisheries regulatory process to revise management plan regulations for the Upper Subdistrict set gillnet fishery (Figure 1). The intent of revisions were to allow the harvest of sockeye salmon and minimize or eliminate king salmon harvest by set gillnet gear. Regulatory adjustments have included; changes to the Kenai River late-run king salmon escapement goal, set gillnet gear configuration changes, as well as decreases to allowable fishing time and area based on inseason king salmon abundance rather than inseason sockeye salmon abundance. Nonetheless, each year from 2018 through 2023 the Upper Subdistrict set gillnet fishery was restricted and/or closed inseason by Department management actions. In 2024 late-run Kenai River king salmon were placed in stock of concern status. Under stock of concern, the 2024 set gillnet fishery was replaced with a commercial dipnet fishery because the king salmon escapement was projected to be less than the escapement goal range.

Because low king salmon abundance persists, a regulatory solution allowing set gillnet gear in the Upper Subdistrict fishery to capture abundant sockeye salmon but not king salmon appears unlikely. In recognition of the importance of the commercial fisheries to the region, the Department of Fish and Game and Alaska Board of Fisheries have encouraged the public to explore alternative commercial fishing methods to harvest sockeye salmon and not harvest king salmon. Therefore, the need to review data collected from the experimental set beach seine gear type to harvest sockeye salmon and not harvest king salmon is important to fisheries conservation in the Cook Inlet Region.

Proof of Concept Gabriel Permit UCI-2024-01

Given that Upper Cook Inlet has the second strongest tides in the world there were many questions that needed to be answered to prove the concept of using set beach seine nets as an alternative gear type while in the stock of management concern.

1. Could existing infrastructure hold a 600 ft set beach seine without breaking or damaging the existing infrastructure and equipment? Yes.

2. Could a set beach seine successfully harvest sockeye and release king salmon that are in viable condition? Yes.

3. Could existing infrastructure, gear and equipment be utilized easily and affordably in the transition from set gillnets to set beach seine nets? Yes.

4. Could enough sockeye salmon be harvested for set beach seines to be an economically viable fishing method? Yes.

5. Could set beach seines be adapted to different beaches tested throughout Upper Subdistrict statistical areas. Yes.

6. Could set beach seines be utilized within existing leased or traditionally fished locations? Yes.

Methods and Data Collection Gabriel Permit UCI-2024-01

Under permit stipulations, fishing could be conducted daily, however retention and sale of Pacific salmon with the exception of king salmon, was allowed for project cost recovery only on days when the Upper Subdistrict commercial dip net fishery was open. The net was fished 17-days on an opportunistic basis beginning June 30 through July 31. Two set gillnet fishing sites within the North K-beach section 244-32 and one site in the Salamatof section 244-41, both in the Upper Subdistrict, were fished (Figure 1). Each day the net was fished, movement of the net was noted by four-time marks. The specified time was recorded to the nearest minute at: 1) start of the net deployment into the water (start set), 2) when net deployment stopped (net set), 3) when net retrieval started (start pull), and 4) when the net closed as observed when the net corks contacted the beach (net closed). Time marks represented the fishing process and allowed to identify fishing effort to the nearest minute and summarized fishing efficiency.

Hold time was the difference between the stop of net deployment (net set) and start of net retrieval (start pull). Active net time was the time between net retrieval (start pull) and time the net closed as observed when the net corks contacted the beach.

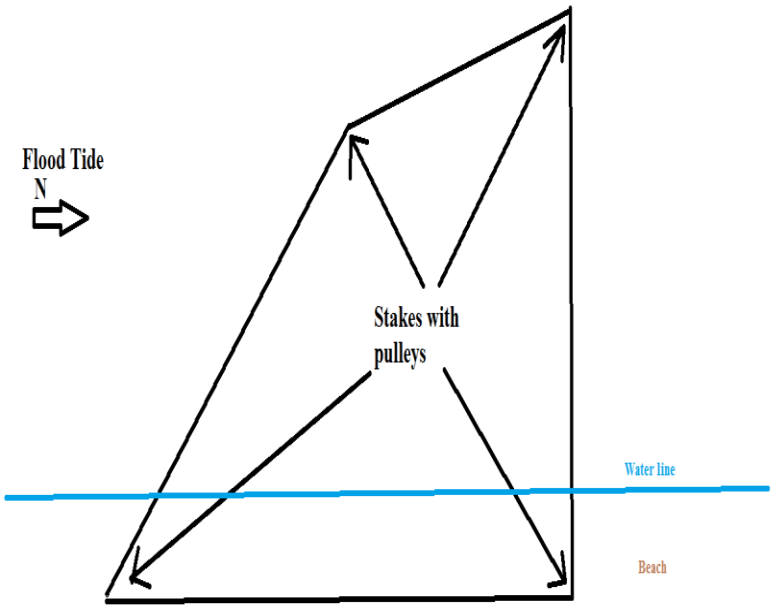
Active net time was added as a metric during the experimental fishery to estimate fishing time. On two occasions the net was deployed and retrieved back to the shore perpendicular to the beach rather than parallel to the beach without closing the set. During these two occasions no fish were captured in the net.

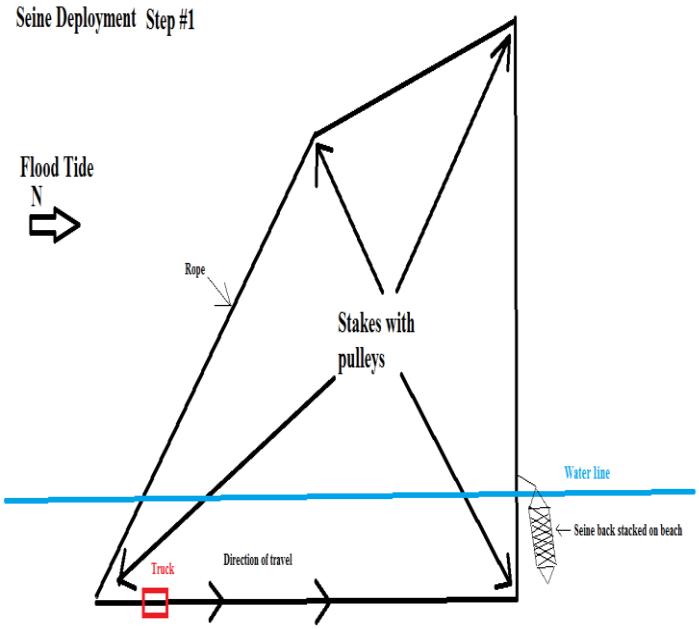
Tide stage and weather conditions (wind direction and velocity) were also recorded for each set.

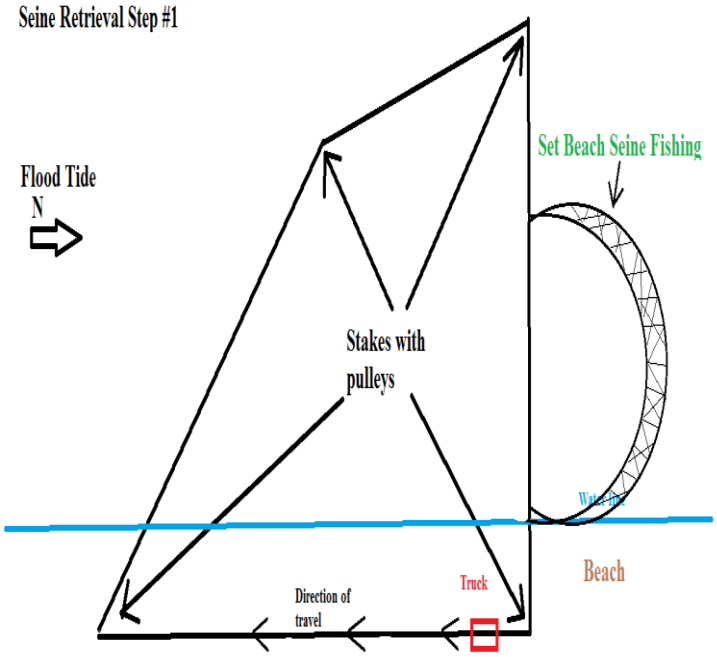
A variety of nets were employed during the fishery for permit UCI-2024-01 Gabriel. From June 30 to July 11, 2024 the first net deployed was 100 fathoms in length, 215 meshes deep including the chaffing strip on the lead line. Mesh size was 3.5-inch hung on a 6 pound lead line with an optional purse line. The second net was fished from July 13 through July 31. The second net

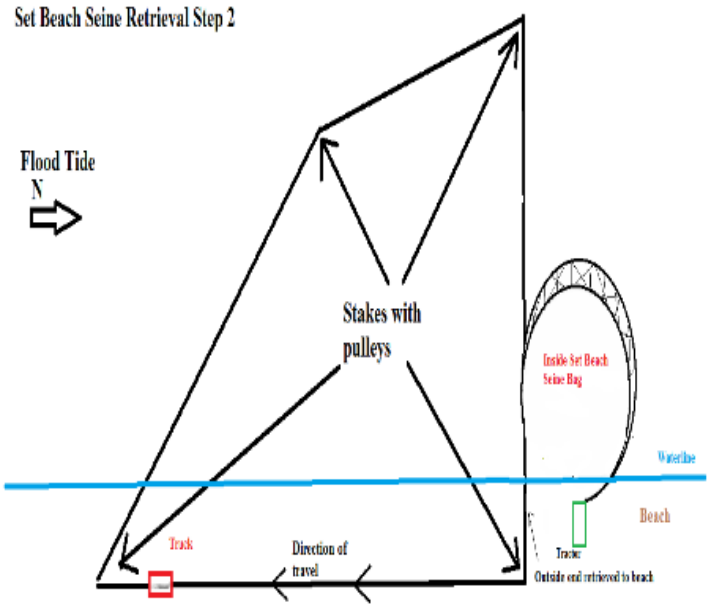
design was 70 fathoms in length, 3.5-inch mesh that was 105 meshes deep including chaffing and border strip with a 4 pound lead line without a purse line.

Existing set gillnet infrastructure was used for set beach seine net deployment and retrieval. A four-stake system was used with each stake equipped with a pulley that has a line strung through it (running line). The line was strung through all of the pulleys and is attached to itself forming a closed loop. At the start of a set beach seine set, the net is attached to the running line and then the running line is attached to a tractor between two stakes on the beach upland well above the high tide line. The start of a set occurred as the tractor pulled the running line in the direction that allowed one end of the net to be deployed into the water. Once the desired length of net was deployed, a portion of the net remained on shore and was affixed to a different tractor on shore. At the time the desired amount of net is deployed the net is set and the net set time is noted. The tractor used to pull the running line to deploy the net was repositioned to pull the running line in the opposite direction for retrieval. The net was held for a variable amount of time before the pull started to close the set. When the pull started the net was actively fishing until the set closed as indicated by the cork line contacting the beach. Now both ends of the net were on the beach and varying amount of net remained out in the water parallel to the beach some distance from shore. The illustrations below show a possible retrieval method with a set beach seine using existing infrastructure. The set and retrieval during the Gabriel testing was conducted in several different manners.




Seine Deployment Step #1
Flood Tide
N
Rope
Stakes with pulleys
Water line
Seine back stacked on beach
Truck
Direction of travel


Seine Retrieval Step #1
Flood Tide
N
Set Beach Seine Fishing
Stakes with pulleys
Water line
Beach
Truck
Direction of travel



King salmon identification and Pacific salmon capture

For each set, the beach seine net was drawn into shallow water from each end of the net by tractors on the beach. As the net was drawn towards the shoreline the operation paused several times. During each pause the tractors were repositioned to a closer distance from each other and the net drawn shoreward to form a bag. At this time personnel walked in the water behind the bag to inspect free-swimming fish in the catch for the presence of king salmon. If a king salmon was observed or suspected to be present in the catch, movement of the net bag to the beach was halted as the tractors stopped. The king salmon was measured in the water. Measurement was made by use of a five-foot PVC stick with a black tape mark at 34 inches to determine if it was a large or small king salmon. In addition, a black tape mark was present at the 20-inch and 16-inch mark to identify if the king salmon was a "jack" king salmon as defined by regulation. After measurement king salmon were released alive in viable condition by lowering the top of net or raising the lead line (bottom of net) and the fish guided out as it was released away from the fishing operation. Other Pacific salmon remained in the net, to the extent possible, and the bag drawn onto the shore. At this time fish were spilled onto the beach, where they were identified and enumerated by species with a thumb counter as they were placed into totes. All Pacific salmon were released in the same manner described above for king salmon on days fished when the Upper Subdistrict dipnet commercial fishery was closed. On such day's Pacific salmon were identified and enumerated to the extent practicable without crowding the fish into a small area of the net or removing them from the water.

Data Analysis

Catch per unit effort (CPUE) is the number of Pacific salmon captured divided by the number minutes of hold time. CPUE was estimated for each species of Pacific salmon and for all Pacific salmon captured. We present CPUE by day location and tide stage. In addition, the fraction in percentage of the total amount hold time for each 12 per hour period fished is presented. Active net time is also summarized. The active net time represents the amount of time in minutes the

free-end is moving shoreward to enclose the area of water encompassed by the seine where Pacific salmon may be present.

Methods and Data Collection Hollier Permit UCI-2024-03

For permit number UCI-2024-03 a set beach seine not to exceed 50 fathoms by 100 meshes including chaffing strip on the leadline was allowed to fish from July 20, 2024 to August 31, 2024 . The net was fished 7-days at the same site in the North K-beach section 244-32. Fishing was conducted only when the when the Upper Subdistrict dipnet commercial fishery was open and harvest was allowed by commissioners permit and Pacific salmon harvested could be sold. Data collection and methods were similar to those previous mentioned. Under permit number UCI-2021-03 the fishing season was July 22, 2024 to July 31, 2024 the set beach seine dimensions were 2 ½ days with a 35-fathom net and 4 ½ days with a 50-fathom net 29 ft deep.

Results Gabriel Permit UCI-2024-01

All through the 17-days fished, a total of 15,513 Pacific salmon were enumerated as captures in the set beach seine (Table 1, Appendix A). Thirteen king salmon were captured and released alive in viable unharmed condition. Only one large king salmon 34 inches or greater in total length was captured, (field measured approximately 36 inches) July 30 North K-Beach (Tables 1, 2, 4, 5, 7). Nine of the King salmon released unharmed were less than 20 inches in total length of which three were less than 16 inches in total length. The Ratio of king salmon to sockeye salmon captured was 0.0008 (13/15,425). Just 2 of the 13 king salmon captured and released alive unharmed were captured on the ebb tide while 11 were captured on the flood tide (Tables 2 and 3). Nearly all of the Pacific salmon captured, 15,425 (99.4%) were sockeye salmon. The highest sockeye salmon catch occurred on July 16 (Table 1 and Figure 2).

For all 17-days fished, the total hold time of the net summed across all fishing days was 42 hours and 44 minutes (Table 1). Hold time averaged 2 hours and 15 minutes per day for the experimental fishery (Table 4). In comparison to the 12-hour fishing period the total hold time ranged from 2% (17 minutes) to 46% (5 hours, 31 minutes) of the commercial fishing period (Tables 1 and 4). Total hold time was greater on the flood tide, 26 hours and 23 minutes than ebb tide, 16 hours and 21 minutes (Tables 2 and 3). Even though hold time was greater on the flood tide, more sockeye salmon and hold time catch per unit effort (CPUE) of sockeye salmon were greater on the ebb tide at all locations fished (Tables 2, 3, 5, 6, 7, 8). The average sockeye salmon CPUE on North K-beach was 4.002 on the flood tide and 4.895 on the ebb tide (Table 7). On Salamatof beach the sockeye salmon CPUE was 5.375 on the flood tide compared to 43.314 on the ebb tide (Table 8). CPUE for all other Pacific salmon species at all locations and tide stage was low (Table 4, 5, 6, 7, 8).

Active net time accounted for an even small fraction of the 12-hour fishing period, ranging less than 1% of the fishing period to 15% of the fishing period (Table 1). Overall, the active net time or amount of time in minutes the free-end is moving shoreward to enclose the area of water encompassed by the set beach seine where Pacific salmon may be present account for average of 7%, approximately 51 minutes of the 12 hour fishing period. No relationship among net hold time and CPUE was detected (Figure 3 and Tables 4, 5, 6, 7, 8). Indicating the catch is based on abundance of sockeye salmon in the area where the set beach seine is deployed and retrieved, rather than amount of time the net remains in the water.

Results Hollier Permit UCI-2024-03

A total of 3 small king salmon were captured and released unharmed during the 7-day fishery conducted under permit UCI-2024-03 (Tables 9 through 14). Overall, approximately 96% or 5,228 of the 5,468 Pacific salmon captured were sockeye salmon (Table 9). Differences in the permit activities and results were evident. For this permit some pink salmon were released as were all coho salmon (Table 1). In addition, fishing was conducted only on days when the Upper subdistrict commercial dipnet fishery was open, catch rates were higher on the flood tide and the amount of hold time each day fished was higher than for permit UCI-2024-01. Hold time accounted for a range of 17% to 47% and averaged approximately 35% (4 hours and 15 minutes) of the 12-hour fishing period across all 7-days fished (Tables 9-14).

Discussion

Set beach seine fishing in the area traditionally fished with set gillnet gear was successful at eliminating mortality of king salmon. Although the Gabriel permit UCI-2024-01 was permitted to fish to the end of August, we were not successful to have equipment and personnel available to fish more locations planned at the start of the fishery. We were able to fish three set gillnet sites in the Upper Subdistrict with variable geographic and tidal features. In addition, we used a variety of nets and fished on days when the commercial dip net fishery was not open requiring the release of Pacific salmon captured to further our knowledge of fishing with a set beach seine in the Upper Subdistrict.

Summary

On all tested locations, it was shown that sockeye salmon can be harvested at an economically viable level while releasing all king salmon in a healthy condition. It was shown that the set beach seine method could be adapted at different beach locations to account for different geographic elements such as tidal strength, current, water depth, beach angle and other beach characteristics. Capital costs to transition gear from set gillnets to set beach seines could be minimized by fishermen using existing corks, cork lines, lead lines and providing hanging labor. The cost to fishermen would be in acquiring seine web to hang in to the existing gear components. Testers feel that set beach seines, although effective, would not achieve the harvest level of a fully prosecuted eastside setnet fishery while using gillnets. But, because they allow the harvest of sockeye salmon while preserving king salmon, it is the consensus of the testers that set beach seines should be allowed to harvest sockeye in times of king salmon conservation and while in the stock of concern to harvest traditionally allocated sockeye salmon in the eastside setnet fishery.

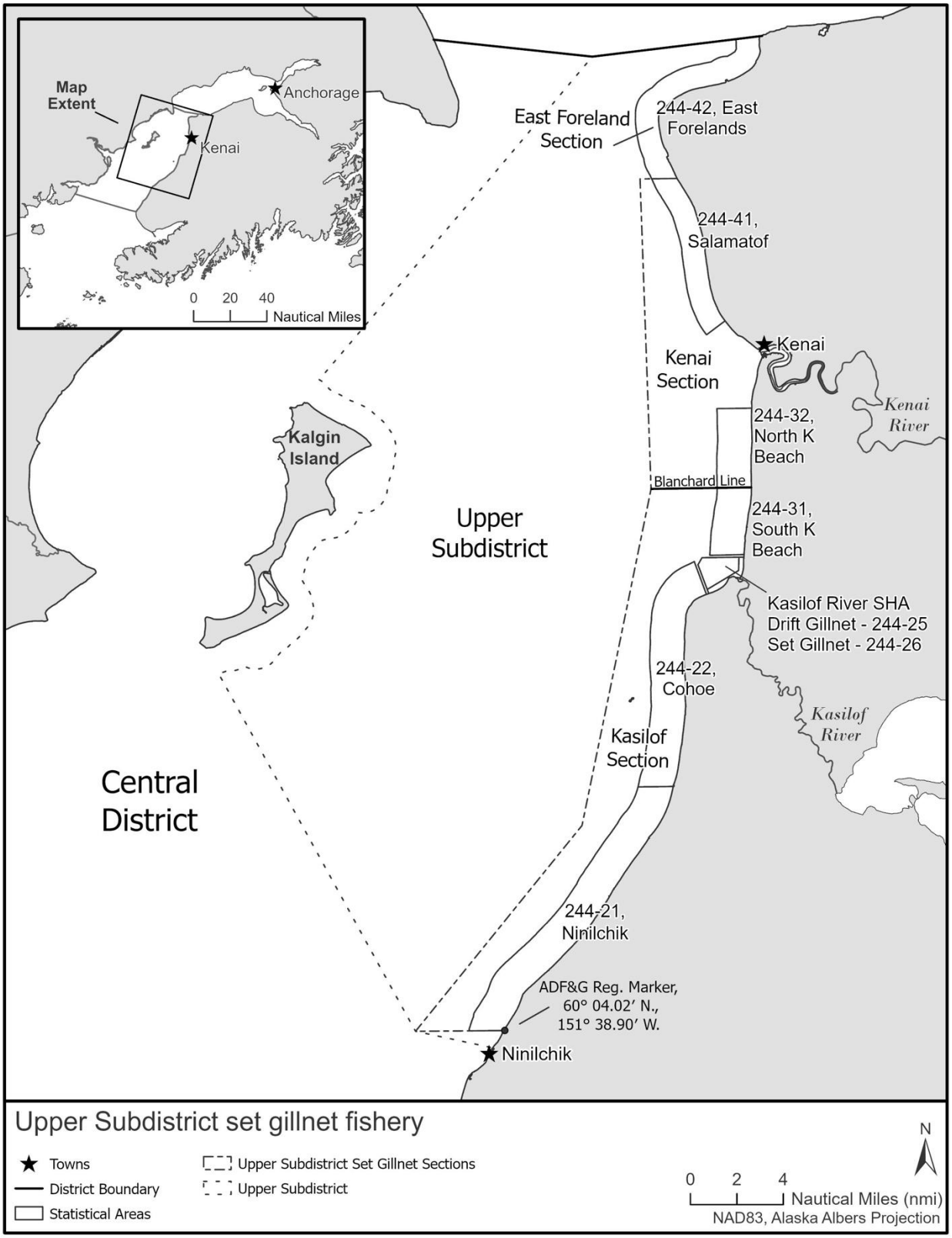


Figure 1. Map of Cook Inlet Upper Subdistrict commercial set gillnet fishery.

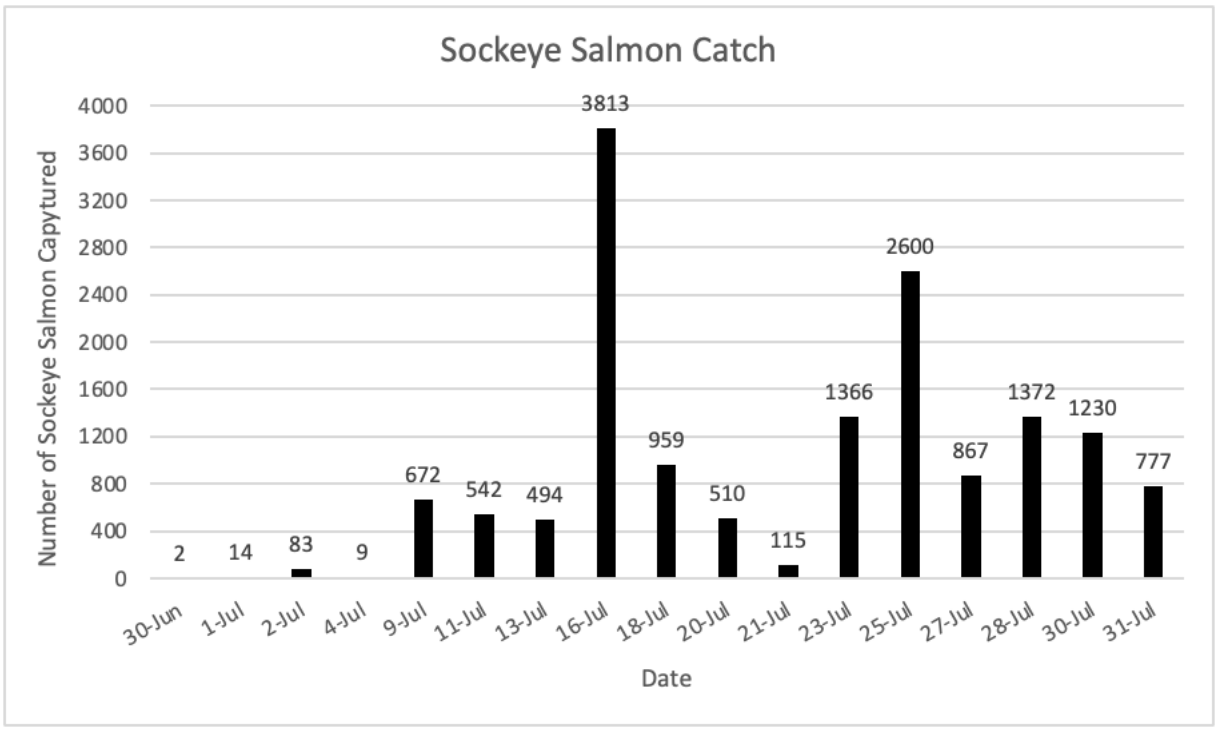


Figure 2. Sockeye salmon catch by day, Upper Cook Inlet Gabriel experimental beach seine, June 30 through July 31, 2024.

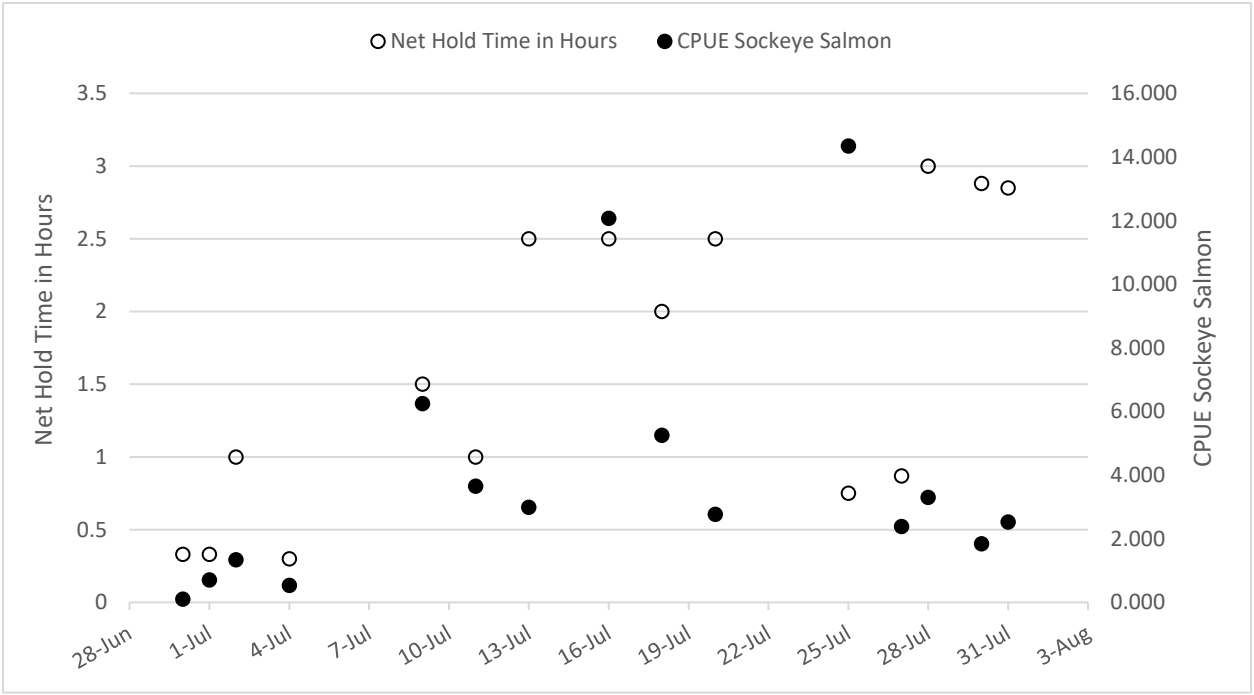


Figure 3. Catch per unit effort of sockeye salmon and net hold time, Upper Cook Inlet Gabriel experimental beach seine, June 30 through July 31, 2024.

Table 1. Salmon catch by day, fishing period, location, net hold time and active net time, Upper Cook Inlet Gabriel experimental beach seine, June 30 through July 31, 2024.

Date	Open Period	Location	# Sets	Sockeye	Pink	Coho	King Small	King Large	All Salmon	Hold Time	% 12 Hour Period Hold	Active Net Time	% 12 Hour Period Active
30-Jun	NO	North K-Beach	1	2					2	0:20	N/A	0:05	N/A
1-Jul	NO	North K-Beach	1	14					14	0:20	N/A	0:08	N/A
2-Jul	Yes	North K-Beach	6	83			1		84	1:02	8.61%	0:29	4.03%
4-Jul	Yes	North K-Beach	1	9					9	0:17	2.36%	0:02	0.28%
9-Jul	Yes	North K-Beach	15	672					672	3:10	26.39%	0:43	5.97%
11-Jul	Yes	North K-Beach	15	542	3	1	1		547	2:28	20.56%	1:05	9.44%
13-Jul	Yes	North K-Beach	20	494			1		495	3:32	29.44%	0:58	9.17%
16-Jul	Yes	North K-Beach	38	3813			3		3816	4:16	35.56%	1:50	15.28%
18-Jul	Yes	North K-Beach	22	959	1	1	3		964	3:29	30.83%	1:19	11.81%
20-Jul	Yes	North K-Beach	18	510	3		1		514	3:18	27.50%	1:11	10.28%
21-Jul	NO	Salamatof	4	115	2				117	0:26	N/A	0:16	N/A
23-Jul	Yes	Salamatof	9	1366					1366	0:45	6.25%	0:23	4.03%
25-Jul	Yes	Salamatof	7	1940	3				1943	0:47	6.53%	0:21	2.92%
25-Jul	Yes	North K-Beach	8	660	0				660	0:46	6.39%	0:28	3.89%
27-Jul	Yes	Salamatof	11	743	1				744	1:17	10.69%	0:30	4.17%
27-Jul	Yes	North K-Beach	4	124	6				130	0:52	7.22%	0:20	2.78%
28-Jul	Yes	North K-Beach	26	1372	8	1	2		1383	5:32	46.11%	1:13	10.13%
30-Jul	Yes	North K-Beach	23	1230	14	5		1	1250	5:31	45.97%	1:12	10.00%
31-Jul	Yes	North K-Beach	20	777	19	7			803	4:40	38.89%	1:16	10.56%
		Total	249	15425	60	15	12	1	15513	42:44		13:49	
		Total Harvested		15294	58	15	0	0	15367				
		Total Released		131	2	0	12	1	146				

Table 2. Salmon catch by day, fishing period, location, net hold time and active net time on the incoming - **flood tide**, Upper Cook Inlet Gabriel experimental beach seine, June 30 through July 31, 2024.

Flood Date	Open Period	Location	# Sets	Sockeye	Pink	Coho	King Small	King Large	Total Salmon	Hold Time	% 12 Hour Period Hold	Active Net Time	% 12 Hour Period Active
30-Jun	No	North K-Beach	1	2					2	0:20	N/A	0:05	N/A
1-Jul	No	North K-Beach	1	14					14	0:20	N/A	0:08	N/A
2-Jul	Yes	North K-Beach	6	83			1		84	1:02	8.61%	0:29	4.03%
4-Jul	Yes	North K-Beach	1	9					9	0:17	2.36%	0:02	0.28%
9-Jul	Yes	North K-Beach	9	562					562	1:30	12.50%	0:20	2.78%
11-Jul	Yes	North K-Beach	7	241	1	1	1		244	1:06	25.97%	0:26	3.61%
13-Jul	Yes	North K-Beach	15	451			1		452	2:31	20.97%	0:48	1.81%
16-Jul	Yes	North K-Beach	24	1811			1		1812	2:30	20.83%	1:00	8.33%
18-Jul	Yes	North K-Beach	14	635	1		3		639	2:01	16.81%	0:57	7.92%
20-Jul	Yes	North K-Beach	13	424	3		1		428	2:33	21.25%	1:01	8.47%
21-Jul	NO	Salamatof	4	115	2				117	0:26	N/A	0:16	N/A
23-Jul	Yes	Salamatof	5	126					126	0:27	3.75%	0:16	2.22%
25-Jul	Yes	North K-Beach	8	660					660	0:46	6.39%	0:28	3.89%
27-Jul	Yes	Salamatof	6	387					387	0:55	7.64%	0:17	2.36%
27-Jul	Yes	North K-Beach	4	124	5				129	0:52	7.22%	0:20	2.78%
28-Jul	Yes	North K-Beach	16	603	7	1	2		613	3:03	25.42%	0:44	6.11%
30-Jul	Yes	North K-Beach	13	318	12	4		1	335	2:53	24.03%	0:46	6.39%
31-Jul	Yes	North K-Beach	12	432	18	5			455	2:51	23.75%	0:49	6.81%
		Total	159	6997	49	11	10	1	7068	26:23		9:12	
		Harvested		6866	47	11	0	0	6924				
		Released		131	2	0	10	1	144				

Table 3. Salmon catch by day, fishing period, location, net hold time and active net time on the outgoing - **ebb tide**, Upper Cook Inlet Gabriel experimental beach seine, June 30 through July 31, 2024.

Ebb Date	Open Period	Location	# Sets	Sockeye	Pink	Coho	King Small	King Large	Total Salmon	Hold Time	% 12 Hour Period Hold	Active Net Time	% 12 Hour Period Active
9-Jul	Yes	North K-Beach	6	110					110	1:40	2.92%	0:26	3.61%
11-Jul	Yes	North K-Beach	8	301	2				303	1:22	11.39%	0:42	5.83%
13-Jul	Yes	North K-Beach	5	43					43	1:01	8.47%	0:18	7.36%
16-Jul	Yes	North K-Beach	14	2002			2		2004	1:46	14.72%	0:43	5.97%
18-Jul	Yes	North K-Beach	8	324		1			325	1:28	12.22%	0:28	3.89%
20-Jul	Yes	North K-Beach	5	86					86	0:45	6.25%	0:13	1.81%
23-Jul	Yes	Salamatof	4	1240					1240	0:18	2.50%	0:13	1.81%
25-Jul	Yes	Salamatof	7	1940	3				1943	0:47	6.53%	0:21	2.92%
27-Jul	Yes	Salamatof	5	356	1				357	0:18	2.50%	0:13	1.81%
28-Jul	Yes	North K-Beach	10	769	1				770	2:29	20.69%	0:35	4.86%
30-Jul	Yes	North K-Beach	10	912	3	1			916	2:38	21.94%	0:34	4.86%
31-Jul	Yes	North K-Beach	8	345	1	2			348	1:49	15.14%	0:27	3.75%
		Total	90	8428	11	4	2	0	8445	16:21		5:13	
		Harvested		8428	11	4	0	0	8443				
		Released					2		2				

Table 4. Daily catch per unit effort in minutes of net fishing hold time by date, location, and species, Upper Cook Inlet Gabriel experimental beach seine, June 30 through July 31, 2024.

		Catch Per Unit Effort Minutes of net fishing hold time							
Date	Location	Sockeye	Pink	Coho	King Small	King Large	All Salmon	Hold Time	% 12 Hour Period hold
30-Jun	North K-Beach	0.100					0.100	0:20	N/A
1-Jul	North K-Beach	0.700					0.700	0:20	N/A
2-Jul	North K-Beach	1.339			0.016		1.355	1:02	8.61%
4-Jul	North K-Beach	0.529					0.529	0:17	2.36%
9-Jul	North K-Beach	3.537					3.537	3:10	26.39%
11-Jul	North K-Beach	3.662	0.020	0.007	0.007		3.696	2:28	20.56%
13-Jul	North K-Beach	2.330			0.005		2.335	3:32	29.44%
16-Jul	North K-Beach	14.895			0.012		14.906	4:16	35.56%
18-Jul	North K-Beach	4.589	0.005	0.005	0.014		4.612	3:29	30.83%
20-Jul	North K-Beach	2.576	0.015		0.005		2.596	3:18	27.50%
21-Jul	Salamatof	4.423	0.077				4.500	0:26	N/A
23-Jul	Salamatof	30.356					30.356	0:45	6.25%
25-Jul	Salamatof	41.277	0.064				41.340	0:47	6.53%
25-Jul	North K-Beach	14.348					14.348	0:46	6.39%
27-Jul	Salamatof	9.649	0.013				9.662	1:17	10.69%
27-Jul	North K-Beach	2.385	0.115				2.500	0:52	7.22%
28-Jul	North K-Beach	4.133	0.024	0.003	0.006		4.166	5:32	46.11%
30-Jul	North K-Beach	3.716	0.042	0.015		0.003	3.776	5:31	45.97%
31-Jul	North K-Beach	2.775	0.068	0.025			2.868	4:40	38.89%
	Daily Average	7.754	0.023	0.003	0.003	0.0002	7.783	2:15	21.83%

Table 5. Daily catch per unit effort in minutes of net fishing hold time on the incoming - **flood tide** by date, location, and species, Upper Cook Inlet Gabriel experimental beach seine, June 30 through July 31, 2024.

		Catch Per Unit Effort Minutes of net fishing hold time							
Flood					King	King	All	Net Fishing	% 12 Hour
Date	Location	Sockeye	Pink	Coho	Small	Large	Salmon	Hold Time	Period Fished
30-Jun	North K-Beach	0.100					0.100	0:20	N/A
1-Jul	North K-Beach	0.700					0.700	0:20	N/A
2-Jul	North K-Beach	1.339			0.016		1.355	1:02	8.61%
4-Jul	North K-Beach	0.529					0.529	0:17	2.36%
9-Jul	North K-Beach	6.244					6.244	1:30	12.50%
11-Jul	North K-Beach	3.652	3.652	3.652	3.652		3.652	1:06	25.97%
13-Jul	North K-Beach	2.987			0.007		2.993	2:31	20.97%
16-Jul	North K-Beach	12.073			0.007		12.080	2:30	20.83%
18-Jul	North K-Beach	5.248	0.008		0.025		5.281	2:01	16.81%
20-Jul	North K-Beach	2.771	0.020		0.007		2.797	2:33	21.25%
21-Jul	Salamatof	4.423	0.077				4.500	0:26	N/A
23-Jul	Salamatof	4.667					4.667	0:27	3.75%
25-Jul	North K-Beach	14.348					14.348	0:46	6.39%
27-Jul	Salamatof	7.036					7.036	0:55	7.64%
27-Jul	North K-Beach	2.385	0.096				2.481	0:52	7.22%
28-Jul	North K-Beach	3.295	0.038	0.005	0.011		3.350	3:03	25.42%
30-Jul	North K-Beach	1.838	0.069	0.023		0.006	1.936	2:53	24.03%
31-Jul	North K-Beach	2.526	0.105	0.029			2.661	2:51	23.75%
	Daily Average	4.231	0.226	0.206	0.207	0.0003	4.262	1:27	15.17%

Table 6. Daily catch per unit effort in minutes of net fishing hold time on the outgoing - **ebb tide** by date, location, and species, Upper Cook Inlet Gabriel experimental beach seine, June 30 through July 31, 2024.

		Catch Per Unit Effort Minutes of net fishing hold time							
Ebb					King	King	All	Net Fishing	% 12 Hour
Date	Location	Sockeye	Pink	Coho	Small	Large	Salmon	Hold Time	Period Fished
9-Jul	North K-Beach	1.100					1.100	1:40	2.92%
11-Jul	North K-Beach	3.671	0.024				3.695	1:22	11.39%
13-Jul	North K-Beach	0.705					0.705	1:01	8.47%
16-Jul	North K-Beach	18.887			0.019		18.906	1:46	14.72%
18-Jul	North K-Beach	3.682		0.011			3.693	1:28	12.22%
20-Jul	North K-Beach	1.911					1.911	0:45	6.25%
23-Jul	Salamatof	68.889					68.889	0:18	2.50%
25-Jul	Salamatof	41.277	0.064				41.340	0:47	6.53%
27-Jul	Salamatof	19.778	0.056				19.833	0:18	2.50%
28-Jul	North K-Beach	5.161	0.007				5.168	2:29	20.69%
30-Jul	North K-Beach	5.772	0.019	0.006			5.797	2:38	21.94%
31-Jul	North K-Beach	3.165	0.009	0.018			3.193	1:49	15.14%
	Daily Average	14.500	0.015	0.003	0.002	0.000	14.519	1:21	10.44%

Table 7. Daily catch per unit effort in minutes of net fishing hold time by date, tide stage, and species at North K-Beach, Upper Cook Inlet Gabriel experimental beach seine, June 30 through July 31, 2024.

		Catch Per Unit Effort Minutes of net fishing hold time						
Date	Tide Stage	Sockeye	Pink	Coho	Small king	Large king	All Salmon	Hold Time
30-Jun	Flood	0.100					0.100	0:20
1-Jul	Flood	0.700					0.700	0:20
2-Jul	Flood	1.339			0.016		1.355	1:02
4-Jul	Flood	0.529					0.529	0:17
9-Jul	Flood	6.244					6.244	1:30
11-Jul	Flood	3.652	3.652	3.652	3.652		3.652	1:06
13-Jul	Flood	2.987			0.007		2.993	2:31
16-Jul	Flood	12.073			0.007		12.080	2:30
18-Jul	Flood	5.248	0.008		0.025		5.281	2:01
20-Jul	Flood	2.771	0.020		0.007		2.797	2:33
25-Jul	Flood	14.348					14.348	0:46
27-Jul	Flood	2.385	0.096				2.481	0:52
28-Jul	Flood	3.295	0.038	0.005	0.011		3.350	3:03
30-Jul	Flood	1.838	0.069	0.023		0.006	1.936	2:53
31-Jul	Flood	2.526	0.105	0.029			2.661	2:51
9-Jul	Ebb	1.100					1.100	1:40
11-Jul	Ebb	3.671	0.024				3.695	1:22
13-Jul	Ebb	0.705					0.705	1:01
16-Jul	Ebb	18.887			0.019		18.906	1:46
18-Jul	Ebb	3.682		0.011			3.693	1:28
20-Jul	Ebb	1.911					1.911	0:45
28-Jul	Ebb	5.161	0.007				5.168	2:29
30-Jul	Ebb	5.772	0.019	0.006			5.797	2:38
31-Jul	Ebb	3.165	0.009	0.018			3.193	1:49
All Daily Average		4.337	0.169	0.156	0.155	0.0002	4.361	1:38
Flood Daily Average		4.002	0.266	0.247	0.248	0.0004	4.034	1:38
Ebb Daily Average		4.895	0.007	0.004	0.002	0.000	4.908	1:39

Table 8. Daily catch per unit effort in minutes of net fishing hold time by date, tide stage, and species at Salamatof Beach, Upper Cook Inlet Gabriel experimental beach seine, June 30 through July 31, 2024

		Catch Per Unit Effort Minutes of net fishing hold time						
Date	Tide Stage	Sockeye	Pink	Coho	King Small	King Large	All Salmon	Hold Time
21-Jul	Flood	4.423	0.077				4.500	0:26
23-Jul	Flood	4.667					4.667	0:27
27-Jul	Flood	7.036					7.036	0:55
23-Jul	Ebb	68.889					68.889	0:18
25-Jul	Ebb	41.277	0.064				41.340	0:47
27-Jul	Ebb	19.778	0.056				19.833	0:18
All Daily Average		24.345	0.033	0.000	0.000	0.000	24.378	0:31
Flood Daily Average		5.375	0.026	0.000	0.000	0.000	5.401	0.025
Ebb Daily Average		43.314	0.039	0.000	0.000	0.000	43.354	0:27

Table 9. Salmon catch by day, fishing period, location, net hold time and active net time, Upper Cook Inlet Hollier experimental beach seine, July 20 through July 31, 2024.

Date	Open Period	Location	# Sets	Sockeye	Pink	Coho	King Small	King Large	All Salmon	Hold Time	% 12 Hour Period Hold	Active Net Time	% 12 Hour Period Active
20-Jul	Yes	North K-Beach	11	262	2		1		265	2:04	17.22%	0:19	2.64%
23-Jul	Yes	North K-Beach	19	1052	29	2			1083	3:49	31.81%	0:27	3.75%
25-Jul	Yes	North K-Beach	19	1234	48	4			1286	4:35	38.19%	0:34	4.72%
27-Jul	Yes	North K-Beach	17	832	11	1			844	4:39	38.75%	0:48	6.67%
28-Jul	Yes	North K-Beach	18	976	45	9	2		1032	5:38	46.94%	0:39	5.42%
30-Jul	Yes	North K-Beach	20	548	11	8			567	5:31	45.97%	1:04	8.89%
31-Jul	Yes	North K-Beach	11	324	60	7			391	3:29	29.03%	0:29	4.03%
		Total	115	5228	206	31	3	0	5468	29:45		4:20	
		Total Harvested		5228	205	0	0	0	5433				
		Total Released		0	1	31	3	0	35				

Table 10. Salmon catch by day, fishing period, location, net hold time and active net time on the incoming - **flood tide**, Upper beach seine, July 20 through July 31, 2024.

Flood Date	Open Period	Location	# Sets	Sockeye	Pink	Coho	King Small	King Large	Total Salmon	Hold Time	% 12 Hour Period Hold	Active Net Time	% 12 Hour Period Active
20-Jul	Yes	North K-Beach	11	262	2		1		265	2:16	18.89%	0:21	2.92%
23-Jul	Yes	North K-Beach	10	762	24				786	2:03	25.42%	0:14	1.94%
25-Jul	Yes	North K-Beach	6	754	40	2			796	1:17	10.69%	0:08	1.11%
27-Jul	Yes	North K-Beach	14	608	11	1			620	3:54	32.50%	0:38	5.28%
28-Jul	Yes	North K-Beach	14	918	40	8	2		968	4:13	35.13%	0:34	4.86%
30-Jul	Yes	North K-Beach	12	341	8	8			357	3:34	29.72%	0:27	3.75%
31-Jul	Yes	North K-Beach	11	324	60	11			3792	3:47	31.53%	0:31	4.31%
		Total	78	3969	185	30	3	0	4187	21:04		1:53	
		Harvested		3969	184	0	0	0	4153				
		Released		0	1	30	3	0	34				

Table 11. Salmon catch by day, fishing period, location, net hold time and active net time on the outgoing - **ebb tide**, Upper Cook Inlet Hollier experimental beach seine, July 20 through July 31, 2024.

Ebb Date	Open Period	Location	# Sets	Sockeye	Pink	Coho	King Small	King Large	Total Salmon	Hold Time	% 12 Hour Period Hold	Active Net Time	% 12 Hour Period Active
23-Jul	Yes	North K-Beach	9	283	5	2			290	1:35	13.19%	0:11	1.52%
25-Jul	Yes	North K-Beach	13	462	8	2			472	2:51	23.88%	0:19	2.63%
27-Jul	Yes	North K-Beach	3	198		1			199	0:53	7.36%	0:09	1.25%
28-Jul	Yes	North K-Beach	4	77	4	1			82	1:28	12.22%	0:09	1.25%
30-Jul	Yes	North K-Beach	8	197	3				200	2:27	20.42%	0:35	4.86%
		Total	37	1217	20	6	0	0	1243	9:14		1:23	
		Harvested		1217	20	0	0	0	8443				
		Released		0	0	6	2	0	2				

Table 12. Daily catch per unit effort in minutes of net fishing hold time by date, location, and species, Upper Cook Inlet Hollier experimental beach seine, July 20 through July 31, 2024

		Catch Per Unit Effort Minutes of net fishing hold time							
Date	Location	Sockeye	Pink	Coho	King Small	King Large	All Salmon	Hold Time	% 12 Hour Period hold
20-Jul	North K-Beach	2.113	0.016		0.008		2.137	2:04	17.22%
23-Jul	North K-Beach	3.771	0.127	0.009			4.729	3:49	31.81%
25-Jul	North K-Beach	4.487	0.175	0.015			4.676	4:35	38.19%
27-Jul	North K-Beach	2.982	0.039	0.004			3.025	4:39	38.75%
28-Jul	North K-Beach	2.888	0.133	0.027	0.006		3.053	5:38	46.94%
30-Jul	North K-Beach	1.656	0.033	0.024			1.713	5:31	50.83%
31-Jul	North K-Beach	1.550	0.287	0.033			1.871	3:29	29.03%
	Daily Average	2.778	0.116	0.019	0.007	0.000	3.029	4:15	36.11%

Table 13. Daily catch per unit effort in minutes of net fishing hold time on the incoming - **flood tide** by date, location, and species, Upper Cook Inlet Hollier experimental beach seine, July 20 through July 31, 2024

		Catch Per Unit Effort Minutes of net fishing hold time							
Flood					King	King	All	Net Fishing	% 12 Hour
Date	Location	Sockeye	Pink	Coho	Small	Large	Salmon	Hold Time	Period Fished
20-Jul	North K-Beach	1.926	0.015		0.007		1.949	2:16	18.89%
23-Jul	North K-Beach	6.195	0.195				6.390	2:03	25.42%
25-Jul	North K-Beach	9.792	0.519	0.026			10.338	1:17	10.69%
27-Jul	North K-Beach	2.598	0.047	0.004			2.650	3:54	32.50%
28-Jul	North K-Beach	3.628	0.158	0.032	0.008		3.826	4:13	35.13%
30-Jul	North K-Beach	1.593	0.037	0.037			1.668	3:34	29.72%
31-Jul	North K-Beach	1.427	0.264	0.048			16.705	3:47	31.53%
	Daily Average	3.880	0.177	0.030	0.008	0.000	6.218	3:00	26.27%

Table 14. Daily catch per unit effort in minutes of net fishing hold time on the outgoing - **ebb tide** by date, location, and species Upper Cook Inlet Hollier beach

		Catch Per Unit Effort Minutes of net fishing hold time							
Ebb					King	King	All	Net Fishing	% 12 Hour
Date	Location	Sockeye	Pink	Coho	Small	Large	Salmon	Hold Time	Period Fished
23-Jul	North K-Beach	2.979	0.053	0.021			3.053	1:35	13.19%
25-Jul	North K-Beach	2.702	0.047	0.012			2.760	2:51	23.88%
27-Jul	North K-Beach	3.736	0.000	0.019			3.755	0:53	7.36%
28-Jul	North K-Beach	0.875	0.045	0.011			0.932	1:28	12.22%
30-Jul	North K-Beach	1.340	0.020				1.361	2:27	20.42%
	Daily Average	2.326	0.033	0.016	0.000	0.000	2.372		0.154

APPENDIX A

Daily Set Beach Seine Fishing Data

UCI
2024-
01
Gabriel

		Wind					Recorded Net Time Data for Each Set					King Released		Sockeye		Pink		Coho	
Date	Location	Velocity	Direction	Open Period	Tide	Set #	Start Net	Net Set	Start Pull	Net Closed	Last Fish	Large	Small	Kept	Rel	Kept	Rel	Kept	Rel
30-Jun	K-Beach 1	2	SE	No	Flood	1	20:30	20:55	21:10	21:15	21:25	0	0	0	2	0	0	0	0
1-Jul	K-Beach 1	6	N-NE	No	Flood	1	11:40	11:59	12:11	12:19	12:58	0	0	0	14	0	0	0	0
2-Jul	K-Beach 1	9	W-SW	Yes	Flood	1	12:01	12:05	12:12	12:17	12:24	0	0	4	0	0	0	0	0
2-Jul	K-Beach 1	9	W-SW	Yes	Flood	2	12:29	12:35	12:53	12:58	13:00	0	0	9	0	0	0	0	0
2-Jul	K-Beach 1	9	W-SW	Yes	Flood	3	13:28	13:30	13:35	13:42	14:00	0	0	26	0	0	0	0	0
2-Jul	K-Beach 1	9	W-SW	Yes	Flood	4	14:19	14:24	14:29	14:33	14:40	0	0	22	0	0	0	0	0
2-Jul	K-Beach 1	9	W-SW	Yes	Flood	5	15:05	15:10	15:13	15:16	15:31	0	1	22	0	0	0	0	0
2-Jul	K-Beach 1	9	W-SW	Yes	Flood	6	15:40	15:43	17:00	17:05	17:05	0	0	0	0	0	0	0	0
4-Jul	K-Beach 1	15 - 31	S-SW	Yes	Flood	1	14:21	14:25	14:40	14:42	14:43	0	0	9	0	0	0	0	0
9-Jul	K-Beach 2	5	S	Yes	Ebb	1	8:00	8:05	8:25	8:30	8:36	0	0	50	0	0	0	0	0
9-Jul	K-Beach 2	5	S	Yes	Ebb	2	8:47	8:52	9:02	9:08	9:14	0	0	16	0	0	0	0	0
9-Jul	K-Beach 2	5	S	Yes	Ebb	3	9:28	9:32	9:34	9:39	9:42	0	0	6	0	0	0	0	0
9-Jul	K-Beach 2	5	S	Yes	Ebb	4	9:43	9:49	9:59	10:03	10:09	0	0	21	0	0	0	0	0
9-Jul	K-Beach 2	5	S	Yes	Ebb	5	10:15	10:23	10:43	10:46	10:51	0	0	10	0	0	0	0	0
9-Jul	K-Beach 2	5	S	Yes	Ebb	6	10:54	11:01	11:13	11:16	11:19	0	0	7	0	0	0	0	0
9-Jul	K-Beach 2	8	N-NW	Yes	Flood	7	16:00	16:06	16:14	16:17	16:23	0	0	62	0	0	0	0	0
9-Jul	K-Beach 2	8	N-NW	Yes	Flood	8	16:24	16:28	16:32	16:36	16:42	0	0	76	0	0	0	0	0
9-Jul	K-Beach 2	8	N-NW	Yes	Flood	9	16:44	16:47	16:50	16:55	17:05	0	0	98	0	0	0	0	0
9-Jul	K-Beach 2	8	N-NW	Yes	Flood	10	17:06	17:09	17:21	17:26	17:32	0	0	61	0	0	0	0	0
9-Jul	K-Beach 2	8	N-NW	Yes	Flood	11	17:34	17:38	17:46	17:48	17:52	0	0	32	0	0	0	0	0
9-Jul	K-Beach 2	8	N-NW	Yes	Flood	12	17:55	17:57	18:05	18:07	18:12	0	0	79	0	0	0	0	0
9-Jul	K-Beach 2	5	N-NW	Yes	Flood	13	18:14	18:17	18:27	18:30	18:34	0	0	71	0	0	0	0	0
9-Jul	K-Beach 2	5	N-NW	Yes	Flood	14	18:34	18:37	18:44	18:46	18:49	0	0	62	0	0	0	0	0
9-Jul	K-Beach 2	5	N-NW	Yes	Flood	15	18:49	18:53	18:54	18:57	19:00	0	0	21	0	0	0	0	0
11-Jul	K-Beach 2	4	E	Yes	Ebb	1	7:00	7:05	7:13	7:19	7:27	0	0	90	0	0	0	0	0
11-Jul	K-Beach 2	4	E	Yes	Ebb	2	7:28	7:35	7:36	7:40	7:45	0	0	82	0	0	0	0	0
11-Jul	K-Beach 2	4	E	Yes	Ebb	3	7:45	7:52	7:53	7:56	8:00	0	0	34	0	2	0	0	0
11-Jul	K-Beach 2	4	E	Yes	Ebb	4	8:00	8:04	8:11	8:14	8:20	0	0	41	0	0	0	0	0
11-Jul	K-Beach 2	4	E	Yes	Ebb	5	8:29	8:33	10:09	10:15	10:22	0	0	8	0	0	0	0	0
11-Jul	K-Beach 2	4	E	Yes	Ebb	6	10:23	10:30	10:37	10:41	10:46	0	0	15	0	0	0	0	0
11-Jul	K-Beach 2	5	E	Yes	Ebb	7	10:46	10:50	11:05	11:09	11:10	0	0	19	0	0	0	0	0
11-Jul	K-Beach 2	5	E	Yes	Ebb	8	11:10	11:13	11:20	11:32	11:34	0	0	12	0	0	0	0	0
11-Jul	K-Beach 2	17	NE	Yes	Flood	9	16:42	16:50	16:51	16:54	16:58	0	0	14	0	0	0	0	0
11-Jul	K-Beach 2	17	NE	Yes	Flood	10	16:58	17:05	17:09	17:12	17:17	0	0	38	0	0	0	0	0
11-Jul	K-Beach 2	17	NE	Yes	Flood	11	17:17	17:23	17:31	17:34	17:39	0	0	34	0	0	0	0	0
11-Jul	K-Beach 2	17	NE	Yes	Flood	12	17:39	17:42	17:50	17:54	17:54	0	0	43	0	0	0	0	0
11-Jul	K-Beach 2	17	NE	Yes	Flood	13	18:00	18:04	18:12	18:15	18:20	0	1	34	0	1	0	0	0
11-Jul	K-Beach 2	17	NE	Yes	Flood	14	18:20	18:23	18:31	18:34	18:38	0	0	22	0	0	0	1	0
11-Jul	K-Beach 2	17	NE	Yes	Flood	15	18:38	18:41	18:49	18:51	18:55	0	0	56	0	0	0	0	0
13-Jul	K-Beach 2	12	NE	Yes	Flood	1	7:00	7:04	7:10	7:13	7:20	0	0	31	0	0	0	0	0

13-Jul	K-Beach 2	12	NE	Yes	Flood	2	7:20	7:25	7:33	7:36	7:41	0	0	21	0	0	0	0	0
13-Jul	K-Beach 2	12	NE	Yes	Flood	3	7:42	7:46	7:54	7:58	8:01	0	0	21	0	0	0	0	0
13-Jul	K-Beach 2	12	NE	Yes	Flood	4	8:03	8:09	8:16	8:19	8:24	0	0	31	0	0	0	0	0
13-Jul	K-Beach 2	12	NE	Yes	Flood	5	8:24	8:30	8:37	8:40	8:46	0	0	41	0	0	0	0	0
13-Jul	K-Beach 2	12	NE	Yes	Flood	6	8:48	8:52	8:59	9:02	9:06	0	0	58	0	0	0	0	0
13-Jul	K-Beach 2	12	NE	Yes	Flood	7	9:10	9:14	9:21	9:24	9:35	0	0	95	0	0	0	0	0
13-Jul	K-Beach 2	12	NE	Yes	Flood	8	9:35	9:40	9:44	9:47	9:51	0	0	64	0	0	0	0	0
13-Jul	K-Beach 2	12	NE	Yes	Flood	9	9:51	10:00	10:00	10:03	10:07	0	0	52	0	0	0	0	0
13-Jul	K-Beach 2	12	NE	Yes	Flood	10	10:07	10:12	10:23	10:26	10:27	0	0	10	0	0	0	0	0
13-Jul	K-Beach 2	12	NE	Yes	Flood	11	10:27	11:24	11:28	11:32	11:33	0	0	5	0	0	0	0	0
13-Jul	K-Beach 2	12	NE	Yes	Flood	12	11:53	12:03	12:17	12:20	12:25	0	0	8	0	0	0	0	0
13-Jul	K-Beach 2	12	NE	Yes	Flood	13	12:25	12:31	12:38	12:41	12:44	0	0	10	0	0	0	0	0
13-Jul	K-Beach 2	12	NE	Yes	Flood	14	12:44	12:50	12:58	13:02	13:03	0	0	11	0	0	0	0	0
13-Jul	K-Beach 2	12	NE	Yes	Flood	15	13:05	13:13	13:20	13:24	13:28	0	0	10	0	0	0	0	0
13-Jul	K-Beach 2	12	NE	Yes	Ebb	16	13:28	13:32	13:39	13:43	13:42	0	0	4	0	0	0	0	0
13-Jul	K-Beach 2	12	NE	Yes	Ebb	17	17:28	17:39	17:46	17:48	17:51	0	0	2	0	0	0	0	0
13-Jul	K-Beach 2	12	NE	Yes	Ebb	18	17:57	18:01	18:11	18:14	18:17	0	1	4	0	0	0	0	0
13-Jul	K-Beach 2	12	NE	Yes	Ebb	19	18:19	18:22	18:32	18:37	18:40	0	0	6	0	0	0	0	0
13-Jul	K-Beach 2	12	NE	Yes	Ebb	20	18:41	18:45	18:52	18:55	18:59	0	0	10	0	0	0	0	0
16-Jul	K-Beach 2	2	S-SW	Yes	Flood	1	7:00	7:04	7:08	7:10	7:11	0	0	0	0	0	0	0	0
16-Jul	K-Beach 2	2	S-SW	Yes	Flood	2	9:30	9:32	9:33	9:35	9:36	0	0	31	0	0	0	0	0
16-Jul	K-Beach 2	2	S-SW	Yes	Flood	3	9:38	9:40	9:43	9:45	9:46	0	0	44	0	0	0	0	0
16-Jul	K-Beach 2	2	S-SW	Yes	Flood	4	9:49	9:53	9:55	9:58	9:59	0	0	81	0	0	0	0	0
16-Jul	K-Beach 2	2	S-SW	Yes	Flood	5	9:59	10:01	10:02	10:04	10:05	0	0	43	0	0	0	0	0
16-Jul	K-Beach 2	2	S-SW	Yes	Flood	6	10:05	10:08	10:11	10:14	10:17	0	0	55	0	0	0	0	0
16-Jul	K-Beach 2	2	S-SW	Yes	Flood	7	10:17	10:20	10:23	10:26	10:30	0	0	94	0	0	0	0	0
16-Jul	K-Beach 2	2	S-SW	Yes	Flood	8	10:30	10:32	10:35	10:44	10:47	0	0	98	0	0	0	0	0
16-Jul	K-Beach 2	2	S-SW	Yes	Flood	9	10:48	10:51	10:52	10:55	10:58	0	0	86	0	0	0	0	0
16-Jul	K-Beach 2	2	S-SW	Yes	Flood	10	10:58	11:01	11:04	11:06	11:08	0	0	79	0	0	0	0	0
16-Jul	K-Beach 2	2	S-SW	Yes	Flood	11	11:08	11:11	11:12	11:15	11:19	0	0	101	0	0	0	0	0
16-Jul	K-Beach 2	2	S-SW	Yes	Flood	12	11:21	11:24	11:27	11:30	11:32	0	0	79	0	0	0	0	0
16-Jul	K-Beach 2	2	S-SW	Yes	Flood	13	11:31	11:33	11:38	11:40	11:44	0	0	152	0	0	0	0	0
16-Jul	K-Beach 2	2	S-SW	Yes	Flood	14	11:44	11:46	11:51	11:53	11:55	0	0	120	0	0	0	0	0
16-Jul	K-Beach 2	2	S-SW	Yes	Flood	15	11:54	11:59	12:04	12:06	12:11	0	1	108	0	0	0	0	0
16-Jul	K-Beach 2	2	S-SW	Yes	Flood	16	12:10	12:13	12:17	12:20	12:22	0	0	161	0	0	0	0	0
16-Jul	K-Beach 2	2	S-SW	Yes	Flood	17	12:23	12:26	12:31	12:33	12:38	0	0	84	0	0	0	0	0
16-Jul	K-Beach 2	2	S-SW	Yes	Flood	18	12:37	12:40	12:45	12:47	12:52	0	0	133	0	0	0	0	0
16-Jul	K-Beach 2	2	S-SW	Yes	Flood	19	12:51	12:55	13:00	13:02	13:05	0	0	120	0	0	0	0	0
16-Jul	K-Beach 2	2	S-SW	Yes	Flood	20	13:06	13:10	13:15	13:18	13:22	0	0	38	0	0	0	0	0
16-Jul	K-Beach 2	2	S-SW	Yes	Flood	21	13:22	13:25	13:30	13:35	13:36	0	0	23	0	0	0	0	0
16-Jul	K-Beach 2	2	S-SW	Yes	Flood	22	13:36	13:43	13:46	13:49	13:51	0	0	22	0	0	0	0	0
16-Jul	K-Beach 2	2	S-SW	Yes	Flood	23	13:51	14:04	14:09	14:11	14:17	0	0	38	0	0	0	0	0
16-Jul	K-Beach 2	2	S	Yes	Flood	24	14:20	14:25	14:28	14:30	14:33	0	0	21	0	0	0	0	0
16-Jul	K-Beach 2	2	S	Yes	Ebb	25	15:25	15:30	15:41	15:44	15:49	0	0	146	0	0	0	0	0
16-Jul	K-Beach 2	2	S	Yes	Ebb	26	15:48	15:51	15:55	15:58	16:12	0	0	117	0	0	0	0	0
16-Jul	K-Beach 2	2	S	Yes	Ebb	27	16:02	16:05	16:08	16:12	16:20	0	1	128	0	0	0	0	0
16-Jul	K-Beach 2	2	S	Yes	Ebb	28	16:19	16:22	16:26	16:29	16:36	0	0	117	0	0	0	0	0
16-Jul	K-Beach 2	2	S	Yes	Ebb	29	16:36	16:38	16:44	16:48	16:51	0	1	101	0	0	0	0	0
16-Jul	K-Beach 2	2	S	Yes	Ebb	30	16:51	16:57	17:03	17:06	17:11	0	0	123	0	0	0	0	0
16-Jul	K-Beach 2	2	S	Yes	Ebb	31	17:10	17:13	17:18	17:22	17:25	0	0	126	0	0	0	0	0

16-Jul	K-Beach 2	2	S	Yes	Ebb	32	17:25	17:32	17:35	17:38	17:42	0	0	124	0	0	0	0	0
16-Jul	K-Beach 2	2	S	Yes	Ebb	33	17:37	17:40	17:45	17:48	17:52	0	0	137	0	0	0	0	0
16-Jul	K-Beach 2	2	S	Yes	Ebb	34	17:52	17:53	17:58	18:01	18:06	0	0	212	0	0	0	0	0
16-Jul	K-Beach 2	2	S	Yes	Ebb	35	18:04	18:12	18:16	18:19	18:26	0	0	235	0	0	0	0	0
16-Jul	K-Beach 2	2	S	Yes	Ebb	36	18:27	18:28	18:31	18:33	18:38	0	0	155	0	0	0	0	0
16-Jul	K-Beach 2	2	S	Yes	Ebb	37	18:35	18:39	18:42	18:44	18:48	0	0	158	0	0	0	0	0
16-Jul	K-Beach 2	2	S	Yes	Ebb	38	18:48	18:50	18:51	18:54	18:59	0	0	123	0	0	0	0	0
18-Jul	K-Beach 2	3	S-SW	Yes	Flood	1	11:43	11:47	11:50	11:53	11:54	0	0	17	0	0	0	0	0
18-Jul	K-Beach 2	3	S-SW	Yes	Flood	2	11:54	11:59	12:03	12:06	12:08	0	0	43	0	0	0	0	0
18-Jul	K-Beach 2	3	S-SW	Yes	Flood	3	12:08	12:15	12:18	12:23	12:24	0	0	39	0	1	0	0	0
18-Jul	K-Beach 2	3	S-SW	Yes	Flood	4	12:26	12:31	12:35	12:38	12:40	0	0	39	0	0	0	0	0
18-Jul	K-Beach 2	3	S-SW	Yes	Flood	5	12:41	12:48	12:52	12:55	12:57	0	0	60	0	0	0	0	0
18-Jul	K-Beach 2	3	S-SW	Yes	Flood	6	13:24	13:06	13:09	13:13	13:16	0	0	59	0	0	0	0	0
18-Jul	K-Beach 2	3	S-SW	Yes	Flood	7	13:17	13:21	13:24	13:28	13:32	0	0	42	0	0	0	0	0
18-Jul	K-Beach 2	3	S-SW	Yes	Flood	8	13:32	13:37	13:45	13:50	13:53	0	0	89	0	0	0	0	0
18-Jul	K-Beach 2	3	S-SW	Yes	Flood	9	13:53	13:59	14:05	14:16	14:17	0	2	79	0	0	0	0	0
18-Jul	K-Beach 2	3	S-SW	Yes	Flood	10	14:17	14:20	14:27	14:30	14:36	0	1	36	0	0	0	0	0
18-Jul	K-Beach 2	3	S-SW	Yes	Flood	11	14:36	14:40	14:47	14:50	14:50	0	0	37	0	0	0	0	0
18-Jul	K-Beach 2	3	W	Yes	Flood	12	14:55	15:01	15:04	15:12	15:13	0	0	43	0	0	0	0	0
18-Jul	K-Beach 2	3	W	Yes	Flood	13	13:16	15:30	15:35	15:36	15:38	0	0	30	0	0	0	0	0
18-Jul	K-Beach 2	3	W	Yes	Flood	14	15:37	15:39	15:40	15:44	15:45	0	0	22	0	0	0	0	0
18-Jul	K-Beach 2	3	W	Yes	Ebb	15	16:30	16:40	16:57	17:03	17:08	0	0	14	0	0	0	0	0
18-Jul	K-Beach 2	3	W	Yes	Ebb	16	17:09	17:13	17:17	17:21	17:24	0	0	19	0	0	0	0	0
18-Jul	K-Beach 2	3	W	Yes	Ebb	17	17:24	17:26	17:36	17:39	17:43	0	0	22	0	0	0	0	0
18-Jul	K-Beach 2	3	W	Yes	Ebb	18	17:43	17:47	17:53	17:55	17:58	0	0	28	0	0	0	0	0
18-Jul	K-Beach 2	3	W	Yes	Ebb	19	17:58	18:02	18:09	18:12	18:15	0	0	50	0	0	0	0	0
18-Jul	K-Beach 2	3	W	Yes	Ebb	20	18:15	18:19	18:24	18:27	18:30	0	0	39	0	0	0	0	0
18-Jul	K-Beach 2	3	W	Yes	Ebb	21	18:30	18:33	18:39	18:42	18:45	0	0	39	0	0	0	0	0
18-Jul	K-Beach 2	3	W	Yes	Ebb	22	18:45	18:48	18:54	18:57	18:59	0	0	113	0	0	0	1	0
20-Jul	K-Beach 2	2	E	Yes	Ebb	1	7:00	7:03	7:06	7:09	7:11	0	0	8	0	0	0	0	0
20-Jul	K-Beach 2	2	E	Yes	Ebb	2	7:11	7:12	7:18	7:21	7:23	0	0	18	0	0	0	0	0
20-Jul	K-Beach 2	2	E	Yes	Ebb	3	7:22	7:25	7:28	7:31	7:32	0	0	9	0	0	0	0	0
20-Jul	K-Beach 2	2	E	Yes	Ebb	4	7:32	7:34	7:47	7:49	7:52	0	0	21	0	0	0	0	0
20-Jul	K-Beach 2	2	E	Yes	Ebb	5	7:52	7:55	8:02	8:04	8:07	0	0	30	0	0	0	0	0
20-Jul	K-Beach 2	2	E	Yes	Flood	6	13:23	13:27	13:32	13:35	13:38	0	0	36	0	0	0	0	0
20-Jul	K-Beach 2	3	S-SW	Yes	Flood	7	13:38	13:40	13:47	13:50	13:54	0	0	29	0	0	0	0	0
20-Jul	K-Beach 2	3	S-SW	Yes	Flood	8	13:54	13:56	14:04	14:07	14:10	0	0	41	0	0	0	0	0
20-Jul	K-Beach 2	3	S-SW	Yes	Flood	9	14:10	14:12	14:18	14:22	14:26	0	0	48	0	0	0	0	0
20-Jul	K-Beach 2	3	S-SW	Yes	Flood	10	14:26	14:28	14:32	14:39	14:45	0	0	69	0	0	0	0	0
20-Jul	K-Beach 2	3	S-SW	Yes	Flood	11	14:46	14:48	14:53	14:57	15:00	0	0	24	0	0	0	0	0
20-Jul	K-Beach 2	3	S-SW	Yes	Flood	12	15:00	15:14	15:26	15:30	15:38	0	0	25	0	0	0	0	0
20-Jul	K-Beach 2	3	S-SW	Yes	Flood	13	15:32	15:37	15:44	15:48	15:52	0	0	38	0	0	0	0	0
20-Jul	K-Beach 2	3	S-SW	Yes	Flood	14	15:52	15:55	16:03	16:09	16:12	0	0	23	0	1	0	0	0
20-Jul	K-Beach 2	3	S-SW	Yes	Flood	15	16:12	16:15	16:24	16:30	16:32	0	0	21	0	0	0	0	0
20-Jul	K-Beach 2	3	S-SW	Yes	Flood	16	16:32	16:38	16:50	16:55	17:00	0	1	30	0	1	0	0	0
20-Jul	K-Beach 2	3	S-SW	Yes	Flood	17	17:00	17:03	17:09	17:14	17:18	0	0	22	0	1	0	0	0
20-Jul	K-Beach 2	3	S-SW	Yes	Flood	18	17:19	17:24	17:27	17:34	17:39	0	0	18	0	0	0	0	0
21-Jul	Salamatof	5	W	No	Flood	1	15:46	15:54	15:56	15:58	16:02	0	0	0	19	0	0	0	0
21-Jul	Salamatof	5	W	No	Flood	2	16:04	16:07	16:10	16:12	16:16	0	0	0	25	0	0	0	0
21-Jul	Salamatof	5	W	No	Flood	3	16:18	16:21	16:26	16:29	16:34	0	0	0	40	0	0	0	0

21-Jul	Salamatof	5	W	No	Flood	4	16:36	16:39	16:45	16:48	16:52	0	0	0	31	0	2	0	0
23-Jul	Salamatof	5	SE	Yes	Ebb	1	7:48	7:53	7:55	7:57	8:05	0	0	335	0	0	0	0	0
23-Jul	Salamatof	5	SE	Yes	Ebb	2	8:05	8:10	8:11	8:14	8:18	0	0	290	0	0	0	0	0
23-Jul	Salamatof	5	SE	Yes	Ebb	3	8:22	8:27	8:28	8:32	8:34	0	0	280	0	0	0	0	0
23-Jul	Salamatof	5	SE	Yes	Ebb	4	8:41	8:46	8:47	8:51	8:55	0	0	315	0	0	0	0	0
23-Jul	Salamatof	7	SW	Yes	Flood	5	16:46	16:51	16:52	16:55	16:59	0	0	10	0	0	0	0	0
23-Jul	Salamatof	7	SW	Yes	Flood	6	17:00	17:03	17:07	17:10	17:15	0	0	27	0	0	0	0	0
23-Jul	Salamatof	7	SW	Yes	Flood	7	17:16	17:22	17:27	17:30	17:36	0	0	28	0	0	0	0	0
23-Jul	Salamatof	7	SW	Yes	Flood	8	17:36	17:39	17:42	17:47	17:52	0	0	51	0	0	0	0	0
23-Jul	Salamatof	7	SW	Yes	Flood	9	17:52	17:55	17:58	18:00	18:04	0	0	10	0	0	0	0	0
25-Jul	Salamatof	5	SW	Yes	Ebb	1	8:46	8:51	9:08	9:11	9:14	0	0	167	0	0	0	0	0
25-Jul	Salamatof	5	SW	Yes	Ebb	2	9:14	9:20	9:22	9:25	9:26	0	0	454	0	0	0	0	0
25-Jul	Salamatof	5	SW	Yes	Ebb	3	9:26	9:33	9:34	9:37	9:38	0	0	477	0	0	0	0	0
25-Jul	Salamatof	5	SW	Yes	Ebb	4	9:41	9:54	9:47	9:50	9:51	0	0	394	0	1	0	0	0
25-Jul	Salamatof	5	SW	Yes	Ebb	5	9:54	9:58	9:58	10:02	10:05	0	0	211	0	2	0	0	0
25-Jul	Salamatof	5	SW	Yes	Ebb	6	10:05	10:09	10:10	10:13	10:14	0	0	156	0	0	0	0	0
25-Jul	Salamatof	5	SW	Yes	Ebb	7	10:14	10:17	10:20	10:22	10:27	0	0	82	0	0	0	0	0
25-Jul	K-Beach 2	5	W-SW	Yes	Flood	8	16:21	16:25	16:29	16:32	16:36	0	0	74	0	0	0	0	0
25-Jul	K-Beach 2	5	W-SW	Yes	Flood	9	16:36	16:38	16:42	16:45	16:46	0	0	78	0	0	0	0	0
25-Jul	K-Beach 2	5	W-SW	Yes	Flood	10	16:46	16:51	16:57	17:00	17:03	0	0	80	0	0	0	0	0
25-Jul	K-Beach 2	5	W-SW	Yes	Flood	11	17:03	17:06	17:11	17:15	17:16	0	0	68	0	0	0	0	0
25-Jul	K-Beach 2	5	W-SW	Yes	Flood	12	17:16	17:20	17:25	17:29	17:32	0	0	57	0	0	0	0	0
25-Jul	K-Beach 2	5	W-SW	Yes	Flood	13	17:32	17:35	17:44	17:48	17:53	0	0	134	0	0	0	0	0
25-Jul	K-Beach 2	5	W-SW	Yes	Flood	14	17:53	17:55	18:04	18:08	18:09	0	0	90	0	0	0	0	0
25-Jul	K-Beach 2	5	W-SW	Yes	Flood	15	18:11	18:18	18:26	18:29	18:36	0	0	79	0	0	0	0	0
27-Jul	Salamatof	12	SW	Yes	Flood	1	7:27	7:30	7:38	7:40	7:45	0	0	89	0	0	0	0	0
27-Jul	Salamatof	12	SW	Yes	Flood	2	7:52	7:54	8:02	8:05	8:08	0	0	77	0	0	0	0	0
27-Jul	Salamatof	12	SW	Yes	Flood	3	8:13	8:16	8:26	8:29	8:33	0	0	50	0	0	0	0	0
27-Jul	Salamatof	12	SW	Yes	Flood	4	8:36	8:40	8:45	8:48	8:53	0	0	57	0	0	0	0	0
27-Jul	Salamatof	12	SW	Yes	Flood	5	8:56	9:00	9:04	9:08	9:12	0	0	90	0	0	0	0	0
27-Jul	Salamatof	12	SW	Yes	Flood	6	9:15	9:18	9:21	9:23	9:28	0	0	24	0	0	0	0	0
27-Jul	Salamatof	12	SW	Yes	Ebb	7	11:12	11:16	11:19	11:22	11:24	0	0	102	0	0	0	0	0
27-Jul	Salamatof	12	SW	Yes	Ebb	8	11:24	11:28	11:29	11:31	11:36	0	0	93	0	1	0	0	0
27-Jul	Salamatof	12	SW	Yes	Ebb	9	11:36	11:39	11:40	11:43	11:47	0	0	47	0	0	0	0	0
27-Jul	Salamatof	12	SW	Yes	Ebb	10	11:47	11:51	11:54	11:57	11:59	0	0	72	0	0	0	0	0
27-Jul	Salamatof	12	SW	Yes	Ebb	11	11:59	12:03	12:04	12:06	12:08	0	0	42	0	0	0	0	0
27-Jul	K-Beach 2	5	W-SW	Yes	Flood	12	17:18	17:20	17:25	17:28	17:30	0	0	34	0	2	0	0	0
27-Jul	K-Beach 2	5	W-SW	Yes	Flood	13	17:31	17:33	17:43	17:51	17:56	0	0	35	0	1	0	0	0
27-Jul	K-Beach 2	5	W-SW	Yes	Flood	14	17:56	17:58	18:05	18:10	18:12	0	0	22	0	2	0	0	0
27-Jul	K-Beach 2	5	W-SW	Yes	Flood	15	18:15	18:19	18:29	18:33	18:34	0	0	33	0	0	0	0	0
28-Jul	K-Beach 2	4	SW	Yes	Flood	1	7:01	7:05	7:08	7:10	7:12	0	0	35	0	0	0	0	0
28-Jul	K-Beach 2	4	SW	Yes	Flood	2	7:12	7:15	7:18	7:20	7:25	0	0	100	0	0	0	0	0
28-Jul	K-Beach 2	4	SW	Yes	Flood	3	7:25	7:29	7:31	7:33	7:36	0	0	79	0	0	0	0	0
28-Jul	K-Beach 2	4	SW	Yes	Flood	4	7:36	7:40	7:44	7:47	7:48	0	0	20	0	0	0	0	0
28-Jul	K-Beach 2	4	SW	Yes	Flood	5	7:49	7:51	8:02	8:05	8:08	0	0	39	0	2	0	0	0
28-Jul	K-Beach 2	4	SW	Yes	Flood	6	8:08	8:10	8:20	8:23	8:25	0	0	43	0	1	0	0	0
28-Jul	K-Beach 2	4	SW	Yes	Flood	7	8:25	8:28	8:38	8:41	8:45	0	0	15	0	0	0	0	0
28-Jul	K-Beach 2	4	SW	Yes	Flood	8	8:45	8:48	9:00	9:04	9:05	0	1	42	0	0	0	0	0
28-Jul	K-Beach 2	4	SW	Yes	Flood	9	9:06	9:11	9:20	9:23	9:27	0	0	60	0	0	0	0	0
28-Jul	K-Beach 2	4	SW	Yes	Flood	10	9:27	9:30	9:39	9:43	9:44	0	0	32	0	0	0	0	0

28-Jul	K-Beach 2	4	SW	Yes	Flood	11	9:43	9:48	9:56	10:00	10:04	0	0	40	0	1	0	1	0
28-Jul	K-Beach 2	4	SW	Yes	Flood	12	10:06	10:11	10:16	10:21	10:21	0	0	0	0	0	0	0	0
28-Jul	K-Beach 2	4	SW	Yes	Flood	13	10:21	10:24	10:34	10:36	10:38	0	0	21	0	0	0	0	0
28-Jul	K-Beach 2	4	SW	Yes	Flood	14	10:38	10:42	10:51	10:54	10:58	0	0	40	0	0	0	0	0
28-Jul	K-Beach 2	4	SW	Yes	Flood	15	10:58	11:01	11:15	11:18	11:20	0	0	22	0	3	0	0	0
28-Jul	K-Beach 2	4	SW	Yes	Flood	16	11:22	11:24	11:39	11:42	11:43	0	0	15	0	0	0	0	0
28-Jul	K-Beach 2	4	SW	Yes	Ebb	17	12:24	12:38	12:45	12:47	12:51	0	0	52	0	0	0	0	0
28-Jul	K-Beach 2	4	SW	Yes	Ebb	18	12:50	12:56	13:00	13:04	13:06	0	0	33	0	0	0	0	0
28-Jul	K-Beach 2	4	SW	Yes	Ebb	19	13:09	13:11	13:16	13:19	13:22	0	0	19	0	0	0	0	0
28-Jul	K-Beach 2	4	SW	Yes	Ebb	20	13:20	13:24	13:34	13:41	13:43	0	0	67	0	1	0	0	0
28-Jul	K-Beach 2	4	SW	Yes	Ebb	21	13:46	13:48	14:02	14:05	14:08	0	0	118	0	0	0	0	0
28-Jul	K-Beach 2	4	SW	Yes	Ebb	22	14:08	14:11	14:26	14:29	14:32	0	0	152	0	0	0	0	0
28-Jul	K-Beach 2	4	SW	Yes	Ebb	23	14:34	14:37	14:52	14:56	14:58	0	0	150	0	0	0	0	0
28-Jul	K-Beach 2	4	SW	Yes	Ebb	24	15:00	15:02	15:14	15:18	15:22	0	0	96	0	0	0	0	0
28-Jul	K-Beach 2	4	SW	Yes	Ebb	25	15:21	15:25	15:40	15:42	15:44	0	0	58	0	0	0	0	0
28-Jul	K-Beach 2	4	SW	Yes	Ebb	26	15:46	15:48	16:05	16:08	16:12	0	0	24	0	0	0	0	0
30-Jul	K-Beach 2	5	N	Yes	Flood	1	9:32	9:34	9:44	9:47	9:50	0	0	22	0	0	0	0	0
30-Jul	K-Beach 2	5	N	Yes	Flood	2	9:50	9:54	10:01	10:04	10:07	0	0	29	0	0	0	1	0
30-Jul	K-Beach 2	5	N	Yes	Flood	3	10:07	10:10	10:20	10:23	10:26	0	0	33	0	2	0	0	0
30-Jul	K-Beach 2	5	N	Yes	Flood	4	10:26	10:29	10:39	10:42	10:46	1		23	0	1	0	0	0
30-Jul	K-Beach 2	5	N	Yes	Flood	5	10:45	10:48	10:58	11:02	11:07	0	0	27	0	2	0	1	0
30-Jul	K-Beach 2	5	N	Yes	Flood	6	11:06	11:09	11:19	11:22	11:26	0	0	21	0	1	0	0	0
30-Jul	K-Beach 2	5	N	Yes	Flood	7	11:26	11:30	11:40	11:45	11:48	0	0	25	0	0	0	0	0
30-Jul	K-Beach 2	5	N	Yes	Flood	8	11:48	11:54	12:04	12:09	12:13	0	0	44	0	3	0	1	0
30-Jul	K-Beach 2	5	N	Yes	Flood	9	12:13	12:15	12:25	12:29	12:33	0	0	24	0	1	0	0	0
30-Jul	K-Beach 2	5	N	Yes	Flood	10	12:33	12:35	12:45	12:48	12:54	0	0	22	0	2	0	0	0
30-Jul	K-Beach 2	5	N	Yes	Flood	11	12:54	12:57	13:07	13:10	13:13	0	0	23	0	0	0	0	0
30-Jul	K-Beach 2	5	N	Yes	Flood	12	13:13	13:17	13:27	13:30	13:36	0	0	15	0	0	0	0	0
30-Jul	K-Beach 2	5	N	Yes	Flood	13	13:35	13:38	13:48	13:52	13:54	0	0	10	0	0	0	1	0
30-Jul	K-Beach 2	5	N	Yes	Ebb	14	15:14	15:17	15:51	15:55	15:59	0	0	25	0	0	0	0	0
30-Jul	K-Beach 2	5	N	Yes	Ebb	15	16:00	16:02	16:12	16:16	16:20	0	0	59	0	0	0	0	0
30-Jul	K-Beach 2	5	N	Yes	Ebb	16	16:20	16:23	16:34	16:38	16:41	0	0	53	0	0	0	0	0
30-Jul	K-Beach 2	5	N	Yes	Ebb	17	16:41	16:45	16:57	17:00	17:04	0	0	101	0	2		0	0
30-Jul	K-Beach 2	5	N	Yes	Ebb	18	17:07	17:10	17:20	17:23	17:28	0	0	165	0	0	0	0	0
30-Jul	K-Beach 2	5	N	Yes	Ebb	19	17:29	17:31	17:43	17:46	17:50	0	0	146	0	0	0	0	0
30-Jul	K-Beach 2	5	N	Yes	Ebb	20	17:51	17:53	18:04	18:07	18:11	0	0	129	0	0	0	0	0
30-Jul	K-Beach 2	5	N	Yes	Ebb	21	18:10	18:13	18:18	18:21	18:24	0	0	96	0	1	0	1	0
30-Jul	K-Beach 2	5	N	Yes	Ebb	22	18:23	18:27	18:34	18:37	18:41	0	0	72	0	0	0	0	0
30-Jul	K-Beach 2	5	N	Yes	Ebb	23	18:40	18:43	18:55	18:59	19:01	0	0	66	0	0	0	0	0
31-Jul	K-Beach 2	3	N-NW	Yes	Flood	1	10:53	10:56	11:06	11:09	11:12	0	0	36	0	1	0	0	0
31-Jul	K-Beach 2	3	N-NW	Yes	Flood	2	11:12	11:15	11:25	11:28	11:30	0	0	32	0	0	0	0	0
31-Jul	K-Beach 2	3	N-NW	Yes	Flood	3	11:30	11:34	11:44	11:47	11:50	0	0	42	0	3	0	1	0
31-Jul	K-Beach 2	3	N-NW	Yes	Flood	4	11:50	11:53	12:03	12:08	12:11	0	0	33	0	1	0	1	0
31-Jul	K-Beach 2	3	N-NW	Yes	Flood	5	12:12	12:17	12:27	12:31	12:34	0	0	34	0	3	0	1	0
31-Jul	K-Beach 2	3	N-NW	Yes	Flood	6	12:34	12:42	12:52	12:56	13:00	0	0	30	0	0	0	0	0
31-Jul	K-Beach 2	3	N-NW	Yes	Flood	7	13:00	13:04	13:15	13:20	13:26	0	0	135	0	3	0	1	0
31-Jul	K-Beach 2	3	N-NW	Yes	Flood	8	13:29	13:32	13:41	13:45	13:49	0	0	17	0	2	0	0	0
31-Jul	K-Beach 2	3	N-NW	Yes	Flood	9	13:49	13:53	14:04	14:09	14:11	0	0	21	0	2	0	1	0
31-Jul	K-Beach 2	3	N-NW	Yes	Flood	10	14:11	14:14	14:24	14:29	14:31	0	0	22	0	2	0	0	0
31-Jul	K-Beach 2	3	N-NW	Yes	Flood	11	14:31	14:35	14:45	14:49	14:52	0	0	28	0	1	0	0	0

31-Jul	K-Beach 2	3	N-NW	Yes	Flood	12	14:51	14:55	15:06	15:10	15:12	0	0	10	0	0	0	0	0
31-Jul	K-Beach 2	6	W-NW	Yes	Ebb	13	16:21	16:25	16:35	16:39	16:40	0	0	3	0	0	0	0	0
31-Jul	K-Beach 2	6	W-NW	Yes	Ebb	14	16:40	16:44	17:00	17:02	17:04	0	0	12	0	0	0	0	0
31-Jul	K-Beach 2	6	W-NW	Yes	Ebb	15	17:04	17:10	17:20	17:23	17:26	0	0	24	0	0	0	0	0
31-Jul	K-Beach 2	6	W-NW	Yes	Ebb	16	17:27	17:30	17:40	17:43	17:45	0	0	42	0	1	0	2	0
31-Jul	K-Beach 2	6	W-NW	Yes	Ebb	17	17:45	17:48	17:58	18:04	18:07	0	0	57	0	0	0	0	0
31-Jul	K-Beach 2	6	W-NW	Yes	Ebb	18	18:06	18:09	18:20	18:23	18:25	0	0	73	0	0	0	0	0
31-Jul	K-Beach 2	6	W-NW	Yes	Ebb	19	18:29	18:32	18:37	18:40	18:43	0	0	65	0	0	0	0	0
31-Jul	K-Beach 2	6	W-NW	Yes	Ebb	20	18:42	18:44	18:54	18:57	19:00	0	0	69	0	0	0	0	0

Holliers UCI 2024-3

		Wind					Recorded Net Time Data for Each Set					King Released		Sockeye		Pink		Coho	
Date	Location	Velocity	Direction	Open Period	Tide	Set Number	Start Net	Net Set	Start Pull	Net Closed	Last Fish	Large	Small	Kept	Rel	Kept	Rel	Kept	Rel
20-Jul	K-Beach 3	3	S-SW	Yes	Flood	1	13:52	13:54	14:03	14:07	14:14		1	38					
20-Jul	K-Beach 3	3	S-SW	Yes	Flood	2	14:16	14:19	14:27	14:28	14:35			33					
20-Jul	K-Beach 3	3	S-SW	Yes	Flood	3	14:36	14:38	14:50	14:52	14:59			59		1	1		
20-Jul	K-Beach 3	3	S-SW	Yes	Flood	4	14:59	15:01	15:16	15:18	15:24			31					
20-Jul	K-Beach 3	3	S-SW	Yes	Flood	5	15:25	15:27	15:39	15:41	15:46			21					
20-Jul	K-Beach 3	3	S-SW	Yes	Flood	6	15:47	15:49	15:57	15:59	16:04			27					
20-Jul	K-Beach 3	3	S-SW	Yes	Flood	7	16:05	16:06	16:14	16:16	16:22			24					
20-Jul	K-Beach 3	3	S-SW	Yes	Flood	8	16:23	16:25	16:35	16:36	16:41			14					
20-Jul	K-Beach 3	3	S-SW	Yes	Flood	9	16:41	16:45	16:55	16:57	17:02			8					
20-Jul	K-Beach 3	3	S-SW	Yes	Flood	10	17:03	17:05	17:15	17:16	17:31			7					
23-Jul	K-Beach 3	5	SE	Yes	Ebb	1	07:09	07:11	07:21	07:22	07:26			16					
23-Jul	K-Beach 3	5	SE	Yes	Ebb	2	07:28	07:31	07:40	07:41	07:45			42					
23-Jul	K-Beach 3	5	SE	Yes	Ebb	3	07:46	07:49	07:57	07:58	08:02			60					
23-Jul	K-Beach 3	5	SE	Yes	Ebb	4	08:03	08:06	08:16	08:17	08:22			58		1			
23-Jul	K-Beach 3	5	SE	Yes	Ebb	5	08:23	08:25	08:35	08:36	08:41			38		2			
23-Jul	K-Beach 3	5	SE	Yes	Ebb	6	08:43	08:45	08:55	08:56	08:59			30		2			2
23-Jul	K-Beach 3	5	SE	Yes	Ebb	7	09:02	09:03	09:13	09:14	09:17			23					
23-Jul	K-Beach 3	5	SE	Yes	Ebb	8	09:20	09:22	09:32	09:34	09:35			16					
23-Jul	K-Beach 3	5	SE	Yes	Ebb	9	09:40	09:41	09:51	09:53	09:54			7					
23-Jul	K-Beach 3	7	SW	Yes	Flood	10	15:25	15:27	15:37	15:38	15:43			76					
23-Jul	K-Beach 3	7	SW	Yes	Flood	11	15:46	15:47	15:57	15:59	16:05			121		1			
23-Jul	K-Beach 3	7	SW	Yes	Flood	12	16:06	16:07	16:17	16:18	16:22			71		2			
23-Jul	K-Beach 3	7	SW	Yes	Flood	13	16:26	16:27	16:36	16:38	16:43			76		5			
23-Jul	K-Beach 3	7	SW	Yes	Flood	14	16:43	16:44	16:54	16:56	17:01			70		6			
23-Jul	K-Beach 3	7	SW	Yes	Flood	15	17:01	17:04	17:15	17:16	17:22			64		4			
23-Jul	K-Beach 3	7	SW	Yes	Flood	16	17:22	17:23	17:35	17:36	17:42			93		4			
23-Jul	K-Beach 3	7	SW	Yes	Flood	17	17:43	17:45	17:57	17:58	18:06			124		1			
23-Jul	K-Beach 3	7	SW	Yes	Flood	18	18:07	18:08	18:22	18:23	18:28			37					
23-Jul	K-Beach 3	7	SW	Yes	Flood	19	18:31	18:33	18:43	18:41	18:49			30		1			
25-Jul	K-Beach 3	5	SW	Yes	Ebb	1	07:00	07:01	07:14	07:15	07:22			32		1			
25-Jul	K-Beach 3	5	SW	Yes	Ebb	2	07:22	07:24	07:36	07:38	07:44			16		1			

25-Jul	K-Beach 3	5	SW	Yes	Ebb	3	07:46	07:47	07:57	07:59	08:05		14	1	
25-Jul	K-Beach 3	5	SW	Yes	Ebb	4	08:05	08:07	08:19	08:20	08:25		10	1	
25-Jul	K-Beach 3	5	SW	Yes	Ebb	5	08:25	08:27	08:35	08:37	08:42		6		
25-Jul	K-Beach 3	5	SW	Yes	Ebb	6	08:54	08:55	09:08	09:09	09:13		11		
25-Jul	K-Beach 3	5	SW	Yes	Ebb	7	09:13	09:18	09:31	09:33	09:34		16		
25-Jul	K-Beach 3	5	SW	Yes	Ebb	8	09:38	09:42	09:54	09:56	09:59		24	1	
25-Jul	K-Beach 3	5	SW	Yes	Ebb	9	10:00	10:04	10:17	10:18	10:23		42	1	
25-Jul	K-Beach 3	5	SW	Yes	Ebb	10	10:24	10:27	10:39	10:40	10:46		87		1
25-Jul	K-Beach 3	5	SW	Yes	Ebb	11	10:46	10:48	11:00	11:02	11:07		110	1	
25-Jul	K-Beach 3	5	SW	Yes	Ebb	12	11:09	11:11	11:23	11:25	11:31		94	1	1
25-Jul	K-Beach 3	5	SW	Yes	Ebb	13	11:32	11:34	11:48	11:49	11:52		18		
25-Jul	K-Beach 3	5	W-SW	Yes	Flood	14	16:19	16:23	16:33	16:35	16:42		76		
25-Jul	K-Beach 3	5	W-SW	Yes	Flood	15	16:43	16:46	16:56	16:58	17:03		59		
25-Jul	K-Beach 3	5	W-SW	Yes	Flood	16	17:05	17:07	17:19	17:20	17:35		195	15	1
25-Jul	K-Beach 3	5	W-SW	Yes	Flood	17	17:35	17:39	17:50	17:51	18:05		215	16	
25-Jul	K-Beach 3	5	W-SW	Yes	Flood	18	18:06	18:09	18:23	18:29	18:37		144	5	1
25-Jul	K-Beach 3	5	W-SW	Yes	Flood	19	18:37	18:39	18:52	18:54	19:03		65	4	
27-Jul	K-Beach 3	12	SW	Yes	Flood	1	07:00	07:06	07:16	07:18	07:24		52	2	1
27-Jul	K-Beach 3	12	SW	Yes	Flood	2	07:26	07:29	07:41	07:45	07:51		59	2	
27-Jul	K-Beach 3	12	SW	Yes	Flood	3	07:53	07:22	08:06	08:08	08:14		58		
27-Jul	K-Beach 3	12	SW	Yes	Flood	4	08:15	08:18	08:31	08:34	08:38		19	3	
27-Jul	K-Beach 3	12	SW	Yes	Flood	5	08:41	08:43	08:53	08:56	09:01		31	1	
27-Jul	K-Beach 3	12	SW	Yes	Flood	6	09:04	09:08	09:18	09:22	09:25		22	1	
27-Jul	K-Beach 3	12	SW	Yes	Flood	7	09:26	09:32	09:43	09:44	09:48		19	1	
27-Jul	K-Beach 3	12	SW	Yes	Flood	8	09:50	09:54	10:06	10:09	10:12		22		
27-Jul	K-Beach 3	12	SW	Yes	Flood	9	10:17	10:19	10:32	10:35	10:38		18	1	
27-Jul	K-Beach 3	12	SW	Yes	Flood	10	11:07	11:13	11:26	11:29	11:34		40		
27-Jul	K-Beach 3	12	SW	Yes	Flood	11	11:57	12:05	12:19	12:23	12:30		67		
27-Jul	K-Beach 3	12	SW	Yes	Flood	12	12:31	12:34	12:49	12:51	12:59		30		
27-Jul	K-Beach 3	12	SW	Yes	Flood	13	13:05	13:11	13:22	13:23	13:31		118		
27-Jul	K-Beach 3	12	SW	Yes	Flood	14	13:32	13:39	13:56	13:59	14:10		53		
27-Jul	K-Beach 3	12	SW	Yes	Ebb	15	17:14	17:18	17:28	17:31	17:38		45		
27-Jul	K-Beach 3	12	SW	Yes	Ebb	16	17:39	17:43	17:54	17:57	18:08		100		
27-Jul	K-Beach 3	12	SW	Yes	Ebb	17	18:13	18:18	18:29	18:33	18:46		79		
28-Jul	K-Beach 3	4	SW	Yes	Flood	1	07:09	07:17	07:29	07:32	07:39		104	4	1
28-Jul	K-Beach 3	4	SW	Yes	Flood	2	07:41	07:45	07:58	08:00	08:09		123	4	
28-Jul	K-Beach 3	4	SW	Yes	Flood	3	08:11	08:14	08:28	08:30	08:37		83	3	1
28-Jul	K-Beach 3	4	SW	Yes	Flood	4	08:39	08:43	08:55	08:57	09:07	1	123	9	2
28-Jul	K-Beach 3	4	SW	Yes	Flood	5	09:09	09:13	09:26	09:28	09:40		75	3	
28-Jul	K-Beach 3	4	SW	Yes	Flood	6	09:41	09:45	09:57	10:00	10:09		89	5	
28-Jul	K-Beach 3	4	SW	Yes	Flood	7	10:10	10:18	10:30	10:32	10:40		74	7	
28-Jul	K-Beach 3	4	SW	Yes	Flood	8	10:40	10:46	10:58	11:00	11:08		50		1
28-Jul	K-Beach 3	4	SW	Yes	Flood	9	11:11	11:15	11:27	11:29	11:36		41	1	1
28-Jul	K-Beach 3	4	SW	Yes	Flood	10	11:37	11:42	11:55	12:00	12:07		21	3	
28-Jul	K-Beach 3	4	SW	Yes	Flood	11	12:55	13:05	13:18	13:21	13:29	1	29	1	2
28-Jul	K-Beach 3	4	SW	Yes	Flood	12	13:30	13:35	13:49	13:50	13:58		41		
28-Jul	K-Beach 3	4	SW	Yes	Flood	13	14:00	14:05	14:20	14:21	14:26		31		
28-Jul	K-Beach 3	4	SW	Yes	Flood	14	14:30	14:35	14:51	14:54	14:59		34		
28-Jul	K-Beach 3	4	SW	Yes	Ebb	15	17:02	17:12	17:27	17:29	17:35		20	2	
28-Jul	K-Beach 3	4	SW	Yes	Ebb	16	17:36	17:41	17:56	17:58	18:03		11		

28-Jul	K-Beach 3	4	SW	Yes	Ebb	17	18:06	18:18	18:28	18:30	18:35	12	2	1
28-Jul	K-Beach 3	4	SW	Yes	Ebb	18	18:36	18:41	18:49	18:49	18:55	15	1	
30-Jul	K-Beach 3	5	N	Yes	Flood	1	09:12	09:16	09:29	09:31	09:36	26		
30-Jul	K-Beach 3	5	N	Yes	Flood	2	09:38	09:42	09:55	09:57	10:02	26		
30-Jul	K-Beach 3	5	N	Yes	Flood	3	10:03	10:06	10:19	10:20	10:24	18	2	
30-Jul	K-Beach 3	5	N	Yes	Flood	4	10:26	10:28	10:40	10:46	10:51	34		2
30-Jul	K-Beach 3	5	N	Yes	Flood	5	10:51	10:55	11:12	11:14	11:21	39		1
30-Jul	K-Beach 3	5	N	Yes	Flood	6	11:22	11:24	11:39	11:41	11:47	67		1
30-Jul	K-Beach 3	5	N	Yes	Flood	7	11:48	11:51	12:06	12:07	12:13	17	2	1
30-Jul	K-Beach 3	5	N	Yes	Flood	8	12:15	12:18	12:31	12:35	12:42	44	1	1
30-Jul	K-Beach 3	5	N	Yes	Flood	9	12:46	12:50	13:05	13:07	13:11	15	1	2
30-Jul	K-Beach 3	5	N	Yes	Flood	10	13:14	13:19	13:39	13:43	13:48	29	1	
30-Jul	K-Beach 3	5	N	Yes	Flood	11	13:51	13:54	14:12	14:13	14:19	19	1	
30-Jul	K-Beach 3	5	N	Yes	Flood	12	14:21	14:24	14:35	14:44	14:47	7		
30-Jul	K-Beach 3	5	N	Yes	Ebb	13	14:50	14:55	15:11	15:15	15:19	15		
30-Jul	K-Beach 3	5	N	Yes	Ebb	14	15:22	15:28	15:44	15:47	15:52	14		
30-Jul	K-Beach 3	5	N	Yes	Ebb	15	16:17	16:23	16:39	16:44	16:48	21		
30-Jul	K-Beach 3	5	N	Yes	Ebb	16	16:49	16:53	17:09	17:14	17:18	49	1	
30-Jul	K-Beach 3	5	N	Yes	Ebb	17	17:19	17:24	17:43	17:48	17:52	59	1	
30-Jul	K-Beach 3	5	N	Yes	Ebb	18	17:55	18:00	18:16	18:20	18:23	32	1	
30-Jul	K-Beach 3	5	N	Yes	Ebb	19	18:26	NA	18:29	NA	NA	0	0	
30-Jul	K-Beach 3	5	N	Yes	Ebb	20	18:32	18:34	18:50	18:52	18:56	17		
31-Jul	K-Beach 3	6	W-NW	Yes	Flood	1	10:42	10:51	11:03	11:04	11:06	9	1	
31-Jul	K-Beach 3	6	W-NW	Yes	Flood	2	11:10	11:13	11:25	11:27	11:32	21	4	2
31-Jul	K-Beach 3	6	W-NW	Yes	Flood	3	11:34	11:38	11:52	11:54	12:00	49	7	5
31-Jul	K-Beach 3	6	W-NW	Yes	Flood	4	12:02	12:06	12:18	12:20	12:26	20	14	1
31-Jul	K-Beach 3	6	W-NW	Yes	Flood	5	12:27	12:31	12:45	12:47	12:58	129	22	3
31-Jul	K-Beach 3	6	W-NW	Yes	Flood	6	13:00	13:04	13:19	13:22	13:28	27	2	
31-Jul	K-Beach 3	6	W-NW	Yes	Flood	7	13:31	13:34	13:47	13:49	13:55	26	6	
31-Jul	K-Beach 3	6	W-NW	Yes	Flood	8	13:58	14:02	14:17	14:20	14:27	24	2	
31-Jul	K-Beach 3	6	W-NW	Yes	Flood	9	14:29	14:33	14:53	14:58	15:05	13	2	
31-Jul	K-Beach 3	6	W-NW	Yes	Flood	10	15:05	15:08	15:23	15:27	15:32	5		
31-Jul	K-Beach 3	6	W-NW	Yes	Flood	11	15:32	15:36	15:57	16:00	16:04	1		

End Data