Water-Data Report 2012

15258000 KENAI RIVER AT COOPER LANDING, AK

Kenai Peninsula Basin
Upper Kenai Peninsula Subbasin

LOCATION.--Lat 60°29′34″, long 149°48′28″ referenced to North American Datum of 1927, in NW ¼ SE ¼ sec.28, T.5 N., R.3 W., Kenai Peninsula Borough, AK, Hydrologic Unit 19020302, (Seward B-8 quad), Chugach National Forest, on right bank 10 ft downstream from bridge on Sterling Highway, 0.9 mi upstream from Bean Creek, 0.9 mi east of Cooper Landing, and at Kenai Lake outlet.

DRAINAGE AREA.--634 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--May 1947 to current year.

REVISED RECORDS.--WSP 2136: I964 (instantaneous maximum discharge).

GAGE.--Water-stage recorder. Datum of gage is 419.92 ft above sea level (levels by Alaska Department of Transportation). See WSP 2136 for history of changes prior to August 28, 1965. August 28, 1965 to January 21, 1974, at site 10 ft upstream at present datum. January 22, 1974 to September 30, 1981, non-recording gage at site 40 ft upstream at present datum.

COOPERATION.--Records of diversion provided by Chugach Electric Association.

REMARKS.--Records good, except for estimated daily discharges, which are poor. Diversion from Cooper Lake to Kenai Lake above gage through Cooper Lake power plant began May 1961. Rain gage at station. GOES satellite telemetry at station.

Suggested citation: U.S. Geological Survey, 2013, Water-resources data for the United States, Water Year 2012: U.S. Geological Survey Water-Data Report WDR-US-2012, site 15258000, accessed at http://wdr.water.usgs.gov/wy2012/pdfs/15258000.2012.pdf

15258000 KENAI RIVER AT COOPER LANDING, AK—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	4,890	5,410	1,160	838	527	534	445	1,560	3,890	9,130	7,850	4,820
2	5,220	6,840	1,140	825	552	531	443	1,670	4,010	8,750	7,780	4,870
3	6,500	9,360	1,130	800	543	524	445	1,760	4,090	8,410	7,810	4,910
4	6,850	10,900	1,180	788	548	519	450	1,810	4,130	8,100	7,630	5,070
5	6,720	9,240	1,200	798	539	518	456	1,840	4,150	7,820	7,260	5,300
6	6,420	7,560	1,210	788	527	512	470	1,850	4,220	7,830	6,860	5,390
7	6,050	6,230	1,210	772	513	505	467	1,870	4,260	8,190	6,600	5,280
8	5,630	5,330	1,190	756	507	493	471	1,900	4,440	8,580	6,400	5,010
9	5,200	4,570	1,160	747	521	497	475	1,960	4,770	8,660	6,220	4,610
10	4,740	3,930	1,140	748	516	478	478	2,010	5,040	8,420	6,050	4,380
11	4,350	3,490	1,170	736	519	472	478	2,050	5,240	8,070	5,900	4,010
12	4,000	3,090	1,180	724	518	471	479	2,070	5,470	7,770	5,750	3,750
13	3,760	2,780	1,160	710	516	465	481	2,080	5,680	7,680	e5,700	3,530
14	3,570	2,570	1,140	713	526	463	483	2,070	5,780	7,560	e5,650	3,350
15	3,360	2,370	1,130	695	527	462	492	2,050	5,760	7,390	e5,600	3,280
16	3,240	2,130	1,120	683	523	452	512	2,040	5,690	7,230	e5,550	4,200
17	3,120	2,030	1,100	673	525	447	537	2,050	5,620	7,080	e5,550	5,870
18	2,970	1,930	1,140	658	520	441	572	2,070	5,610	6,940	e5,500	6,580
19	2,860	1,830	1,140	645	517	437	618	2,090	5,860	6,850	e5,550	7,890
20	2,780	1,730	1,150	624	509	431	673	2,110	6,210	6,970	e5,600	11,800
21	2,700	1,650	1,160	614	507	433	735	2,150	6,580	7,210	e5,650	14,700
22	2,630	1,570	1,120	602	506	431	799	2,230	7,190	7,820	e5,700	16,400
23	2,560	1,500	1,100	601	504	436	867	2,320	8,010	8,660	5,790	18,600
24	2,550	1,430	1,070	588	507	430	930	2,500	9,030	8,910	e5,700	19,300
25	3,030	1,380	1,050	575	513	426	993	2,730	9,790	8,780	e5,600	17,900
26	3,790	1,330	1,010	568	526	428	1,070	2,970	10,300	8,540	5,580	17,000
27	4,070	1,280	988	561	522	431	1,150	3,180	10,400	8,300	5,410	16,600
28	4,160	1,230	956	548	521	432	1,240	3,310	10,200	8,240	5,340	15,900
29	4,200	1,210	932	538	530	439	1,350	3,390	9,880	8,130	5,220	14,400
30	4,320	1,200	904	532	---	442	1,450	3,500	9,510	8,010	5,080	12,600
31	4,700	---	878	523	---	442	---	3,720	---	7,920	4,890	---
Total	130,940	107,100	34,318	20,971	15,129	14,422	20,509	70,910	190,810	247,950	186,770	267,300
Mean	4,224	3,570	1,107	676	522	465	684	2,287	6,360	7,998	6,025	8,910
Max	6,850	10,900	1,210	838	552	534	1,450	3,720	10,400	9,130	7,850	19,300
Min	2,550	1,200	878	523	504	426	443	1,560	3,890	6,850	4,890	3,280
Med	4,070	2,250	1,140	683	521	452	502	2,070	5,690	8,070	5,700	5,350
Ac-ft	259,700	212,400	68,070	41,600	30,010	28,610	40,680	140,600	378,500	491,800	370,500	530,200
Cfsm	6.66	5.63	1.75	1.07	0.82	0.73	1.08	3.61	10.0	12.6	9.50	14.1
In.	7.68	6.28	2.01	1.23	0.89	0.85	1.20	4.16	11.20	14.55	10.96	15.68

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 2012, BY WATER YEAR (WY) #

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	3,376	1,920	1,163	822	671	525	556	2,012	5,488	6,948	6,281	5,250
Max	8,955	6,739	3,755	2,807	2,066	1,122	1,071	4,277	10,010	10,480	11,430	11,490
(WY)	(1980)	(2003)	(2003)	(1981)	(1981)	(1977)	(1980)	(2004)	(1953)	(1980)	(1977)	(1967)
Min	1,264	654	364	310	251	208	262	658	3,268	4,868	3,651	2,629
(WY)	(1956)	(1951)	(1951)	(1951)	(1949)	(1951)	(1952)	(1952)	(1972)	(1996)	(1969)	(1969)

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SUMMARY STATISTICS

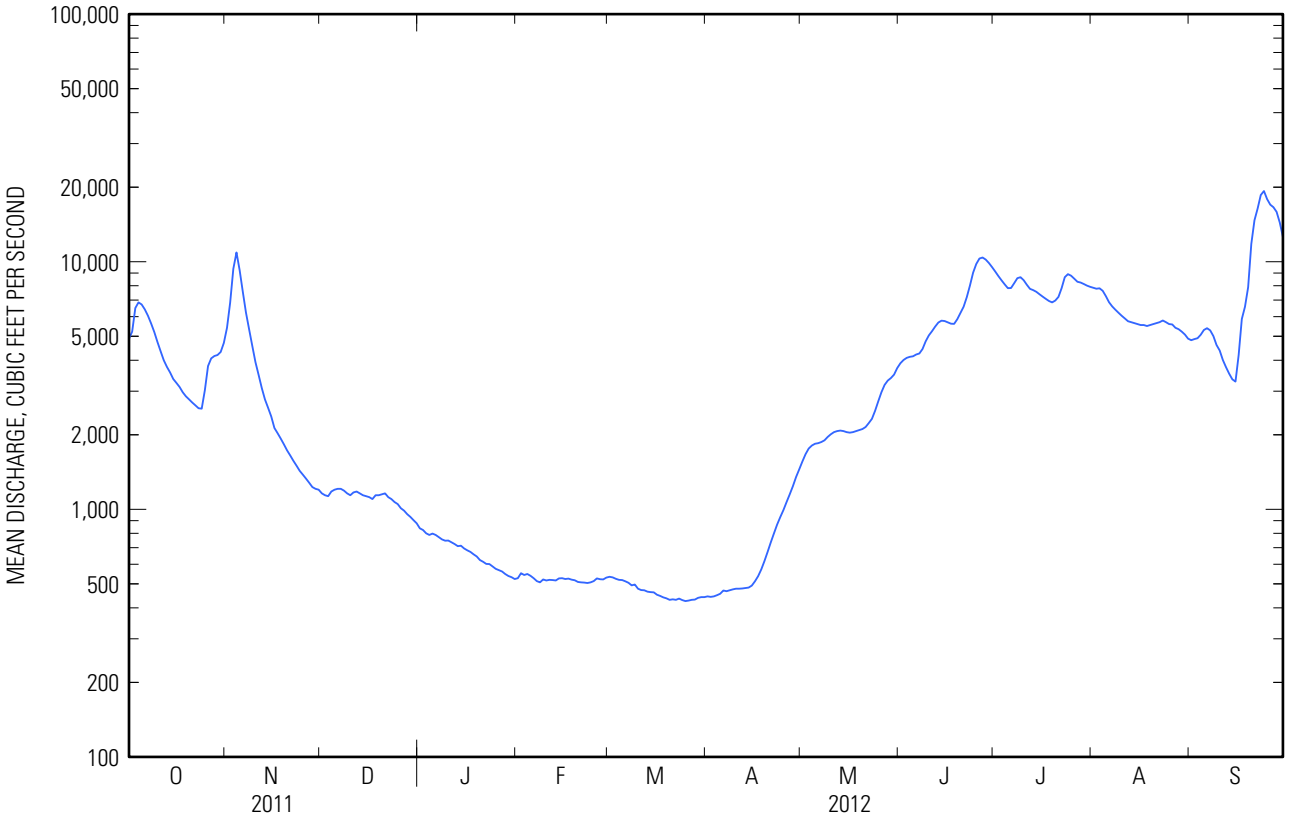
	Calendar Year 2011		Water Year 2012		Water Years 1947 - 2012#	
Annual total	1,104,972		1,307,129			
Annual mean	3,027		3,571		2,935	
Highest annual mean					4,499	1977
Lowest annual mean					2,102	1969
Highest daily mean	12,700	Sep 8	19,300	Sep 24	22,500	Sep 21, 1974
Lowest daily mean	352	Mar 30	426	Mar 25	100	Mar 28, 1964
Annual seven-day minimum	356	Mar 28	431	Mar 22	190	Mar 15, 1951
Maximum peak flow			19,600	Sep 24	[a]23,100	Sep 21, 1974
Maximum peak stage			16.01	Sep 24	17.18	Sep 21, 1974
Instantaneous low flow					[b]0.00	Mar 27, 1964
Annual runoff (ac-ft)	2,192,000		2,593,000		2,126,000	
Annual runoff (ac-ft)	*2,152,000		*2,506,000		*2,080,000	
Annual runoff (cfsm)	4.77		5.63		4.63	
Annual runoff (cfsm)	*4.69		*5.45		*4.51	
Annual runoff (inches)	64.83		76.70		62.90	
Annual runoff (inches)	*63.64		*74.13		*61.21	
10 percent exceeds	6,430		8,080		6,930	
50 percent exceeds	1,730		2,080		1,680	
90 percent exceeds	383		489		435	

See Period of Record; partial year was used in monthly statistics, and Remarks Values shown on this page are unadjusted for inflow from diversion, unless otherwise noted

* Adjusted to account for inflow from diversion, see Remarks

a Result of release of stored water from glacier-dammed lake at head of unnamed glacier in the Snow River Basin

b No flow, Mar. 27 and Mar. 28, 1964, caused by earthquake



15258000 KENAI RIVER AT COOPER LANDING, AK—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1950-53, 1955-60, 1966-74, 1976, 1994, and December 2002 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Water year 1950, and December 2002 to current year.

INSTRUMENTATION.--Electronic water-temperature recorder set for 15 minute recording interval.

REMARKS.--Records represent water temperature at the sensor within 0.5°C. Temperature at the sensor was compared with stream average by cross section on June 8 and September 5. A maximum variation of 1.5°C was found within the cross sections. No variation more than 0.5°C was found between mean stream temperature and sensor temperature. Occasional large variations across the cross section occur due to sensor location at outlet of Kenai Lake.

EXTREMES FOR PERIOD OF RECORD.--
WATER TEMPERATURE: Maximum, 18.0°C, August 18 and 19, 2004; minimum, 0.0°C, several days during most winter periods.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 12.5°C, August 14; minimum, 0.0°C, February 21, 27.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012
[ft, feet; ft³/s, cubic feet per second; °C, degrees Celsius]

Date	Sample start time	Stream width, ft (00004)	Location in cross section, distance from left bank looking down-stream, ft (00009)	Gage height, ft (00065)	Discharge, instanta-neous, ft³/s (00061)	Tempera-ture, water, °C (00010)	Tempera-ture, air, °C (00020)
June 8, 2012	**1443**	365	64.0	9.83	4,370	6.2	19.5
June 8, 2012	**1445**	365	112	9.83	4,370	5.1	19.5
June 8, 2012	**1447**	365	160	9.83	4,370	4.9	19.5
June 8, 2012	**1449**	365	208	9.83	4,370	5.0	19.5
June 8, 2012	**1451**	365	256	9.83	4,370	5.0	19.5
June 8, 2012	**1452**	365	304	9.83	4,370	4.7	19.5
June 8, 2012	**1453**	365	352	9.83	4,370	4.8	19.5
September 5, 2012	**1241**	330	44.0	10.26	5,360	8.8	12.7
September 5, 2012	**1242**	330	78.0	10.26	5,360	8.5	12.7
September 5, 2012	**1243**	330	112	10.26	5,360	8.5	12.7
September 5, 2012	**1244**	330	146	10.26	5,360	8.5	12.7
September 5, 2012	**1245**	330	180	10.26	5,360	8.5	12.7
September 5, 2012	**1246**	330	214	10.26	5,360	8.5	12.7
September 5, 2012	**1247**	330	248	10.26	5,360	8.5	12.7
September 5, 2012	**1248**	330	282	10.26	5,360	8.5	12.7
September 5, 2012	**1249**	330	316	10.26	5,360	8.6	12.7
September 5, 2012	**1250**	330	350	10.26	5,360	8.6	12.7

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TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		October			November			December			January	
1	8.5	8.0	8.0	5.0	5.0	5.0	3.0	2.5	2.5	2.0	1.5	1.5
2	8.0	7.5	8.0	5.0	5.0	5.0	2.5	2.5	2.5	2.0	1.5	2.0
3	7.5	7.5	7.5	5.0	4.5	4.5	2.5	2.0	2.5	2.0	2.0	2.0
4	7.5	7.0	7.5	4.5	4.5	4.5	2.5	2.0	2.5	2.0	1.5	2.0
5	7.5	7.0	7.5	4.5	4.5	4.5	2.5	2.5	2.5	2.0	1.5	2.0
6	7.5	7.5	7.5	4.5	4.0	4.5	2.5	2.5	2.5	2.0	1.5	1.5
7	7.5	7.0	7.5	4.5	4.0	4.0	2.5	2.0	2.5	1.5	1.0	1.0
8	7.5	7.5	7.5	4.0	4.0	4.0	2.5	2.0	2.0	1.0	1.0	1.0
9	7.5	7.5	7.5	4.0	4.0	4.0	2.5	2.0	2.0	1.0	1.0	1.0
10	7.5	7.0	7.0	4.0	3.5	3.5	2.5	2.0	2.5	1.0	1.0	1.0
11	7.0	7.0	7.0	3.5	3.5	3.5	2.5	2.0	2.5	1.0	1.0	1.0
12	7.0	6.5	7.0	3.5	3.5	3.5	2.0	2.0	2.0	1.0	0.5	1.0
13	7.0	6.5	6.5	3.5	3.5	3.5	2.0	2.0	2.0	1.0	0.5	0.5
14	6.5	6.5	6.5	3.5	3.5	3.5	2.5	2.0	2.0	0.5	0.5	0.5
15	6.5	6.5	6.5	3.5	3.0	3.5	2.0	2.0	2.0	1.0	0.5	1.0
16	6.5	6.5	6.5	3.0	2.5	3.0	2.0	1.5	2.0	1.0	0.5	1.0
17	6.5	6.0	6.5	3.0	2.5	2.5	2.0	2.0	2.0	1.0	0.5	1.0
18	6.5	6.0	6.5	3.0	2.5	2.5	2.0	2.0	2.0	1.0	0.5	1.0
19	6.5	6.5	6.5	3.0	2.5	2.5	2.0	2.0	2.0	1.0	0.5	0.5
20	6.5	6.0	6.0	3.0	2.0	2.0	2.0	1.5	2.0	0.5	0.5	0.5
21	6.0	6.0	6.0	3.0	2.5	3.0	2.0	1.5	2.0	1.0	0.5	0.5
22	6.0	6.0	6.0	3.0	2.5	2.5	2.0	2.0	2.0	1.0	0.5	0.5
23	6.0	6.0	6.0	2.5	2.5	2.5	2.0	2.0	2.0	0.5	0.5	0.5
24	6.0	6.0	6.0	2.5	2.0	2.0	2.0	2.0	2.0	1.0	0.5	0.5
25	6.0	5.5	6.0	2.0	2.0	2.0	2.0	2.0	2.0	0.5	0.5	0.5
26	6.0	5.5	6.0	2.0	2.0	2.0	2.0	1.5	1.5	0.5	0.5	0.5
27	5.5	5.5	5.5	2.0	2.0	2.0	2.0	1.5	2.0	0.5	0.5	0.5
28	5.5	5.5	5.5	2.5	2.0	2.0	2.0	1.5	2.0	0.5	0.5	0.5
29	5.5	5.5	5.5	2.5	2.0	2.0	2.0	2.0	2.0	0.5	0.5	0.5
30	5.5	5.5	5.5	3.0	2.0	2.5	2.0	1.5	2.0	0.5	0.5	0.5
31	5.5	5.0	5.0	---	---	---	2.0	1.5	2.0	0.5	0.5	0.5
Month	8.5	5.0	6.6	5.0	2.0	3.2	3.0	1.5	2.1	2.0	0.5	0.9

15258000 KENAI RIVER AT COOPER LANDING, AK—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		February			March			April			May	
1	0.5	0.5	0.5	0.5	0.5	0.5	1.5	0.5	1.0	3.0	2.5	3.0
2	0.5	0.5	0.5	0.5	0.5	0.5	2.0	0.5	1.0	3.0	2.5	3.0
3	0.5	0.5	0.5	0.5	0.5	0.5	2.0	0.5	1.0	3.0	3.0	3.0
4	0.5	0.5	0.5	0.5	0.5	0.5	1.5	0.5	1.0	3.0	3.0	3.0
5	0.5	0.5	0.5	0.5	0.5	0.5	1.5	1.0	1.0	3.0	2.5	3.0
6	0.5	0.5	0.5	0.5	0.5	0.5	2.0	1.0	1.5	2.5	2.0	2.5
7	0.5	0.5	0.5	0.5	0.5	0.5	1.5	1.0	1.0	3.0	2.5	2.5
8	0.5	0.5	0.5	0.5	0.5	0.5	2.0	1.0	1.5	3.5	3.0	3.0
9	0.5	0.5	0.5	1.0	0.5	0.5	2.0	1.0	1.5	3.5	3.0	3.5
10	0.5	0.5	0.5	0.5	0.5	0.5	2.5	1.0	1.5	3.5	3.0	3.0
11	0.5	0.5	0.5	0.5	0.5	0.5	2.5	1.0	1.5	3.5	3.0	3.0
12	0.5	0.5	0.5	0.5	0.5	0.5	2.5	1.0	1.5	3.5	3.0	3.5
13	0.5	0.5	0.5	0.5	0.5	0.5	2.5	1.0	1.5	3.5	3.0	3.5
14	0.5	0.5	0.5	0.5	0.5	0.5	2.0	1.0	1.5	3.5	3.0	3.5
15	0.5	0.5	0.5	1.0	0.5	0.5	2.5	1.5	2.0	4.0	3.5	3.5
16	0.5	0.5	0.5	1.0	0.5	0.5	2.5	1.5	2.0	4.0	3.5	4.0
17	0.5	0.5	0.5	1.0	0.5	0.5	2.5	1.5	2.0	4.0	3.5	4.0
18	0.5	0.5	0.5	1.0	0.5	0.5	2.5	1.5	2.0	4.5	4.0	4.0
19	0.5	0.5	0.5	1.0	0.5	0.5	2.5	1.5	2.0	4.0	4.0	4.0
20	0.5	0.5	0.5	0.5	0.5	0.5	2.5	1.5	2.0	4.0	4.0	4.0
21	0.5	0.0	0.5	1.0	0.5	0.5	2.5	2.0	2.0	4.5	4.0	4.0
22	0.5	0.5	0.5	1.0	0.5	0.5	2.5	2.0	2.0	5.0	4.0	4.5
23	0.5	0.5	0.5	0.5	0.5	0.5	2.5	2.0	2.5	4.5	4.5	4.5
24	0.5	0.5	0.5	1.0	0.5	0.5	2.5	2.0	2.5	5.0	4.5	4.5
25	0.5	0.5	0.5	1.0	0.5	0.5	2.5	2.0	2.5	5.0	4.5	5.0
26	0.5	0.5	0.5	1.0	0.5	0.5	3.0	2.5	2.5	5.0	4.5	5.0
27	0.5	0.0	0.5	1.0	0.5	0.5	3.0	2.5	2.5	5.0	5.0	5.0
28	0.5	0.5	0.5	1.0	0.5	0.5	2.5	2.5	2.5	5.0	5.0	5.0
29	0.5	0.5	0.5	1.5	0.5	1.0	2.5	2.5	2.5	5.0	5.0	5.0
30	---	---	---	1.5	0.5	1.0	3.0	2.5	2.5	5.0	5.0	5.0
31	---	---	---	1.5	0.5	1.0	---	---	---	5.0	5.0	5.0
Month	0.5	0.0	0.5	1.5	0.5	0.5	3.0	0.5	1.8	5.0	2.0	3.8

15258000 KENAI RIVER AT COOPER LANDING, AK—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		June			July			August			September	
1	5.0	5.0	5.0	9.0	6.5	8.0	10.5	---	---	9.0	8.5	9.0
2	5.5	5.0	5.0	8.0	6.5	7.0	---	---	---	9.0	8.5	8.5
3	5.5	5.5	5.5	8.5	6.5	7.5	9.0	8.5	9.0	9.0	8.5	9.0
4	6.0	5.5	5.5	9.0	8.5	8.5	10.0	8.5	9.5	8.5	8.5	8.5
5	5.5	5.0	5.5	8.5	8.5	8.5	9.5	9.0	9.5	8.5	8.5	8.5
6	6.0	5.0	5.5	8.5	7.5	8.0	9.5	9.0	9.5	8.5	8.0	8.5
7	6.0	5.5	5.5	8.5	8.0	8.0	9.5	8.5	9.0	8.5	8.5	8.5
8	6.0	5.0	5.5	8.5	8.0	8.0	9.5	8.5	9.0	8.5	8.0	8.5
9	6.0	5.5	6.0	8.5	8.0	8.0	11.0	8.5	9.5	8.0	7.5	8.0
10	6.0	5.5	6.0	8.5	6.5	7.5	10.5	10.0	10.5	8.0	7.5	8.0
11	6.5	6.0	6.0	9.0	8.5	8.5	10.5	10.0	10.0	8.0	7.5	8.0
12	6.0	6.0	6.0	8.5	8.0	8.5	11.0	9.5	10.0	8.0	7.5	8.0
13	6.0	6.0	6.0	8.5	8.0	8.0	11.0	9.5	10.5	8.0	7.5	8.0
14	6.5	6.0	6.0	8.5	7.5	8.0	12.5	9.5	11.0	8.0	7.5	8.0
15	6.5	6.0	6.0	8.5	8.5	8.5	12.0	11.0	11.5	8.0	7.5	8.0
16	6.0	5.5	6.0	8.5	7.5	8.0	11.5	---	---	8.0	7.5	7.5
17	6.0	5.5	6.0	8.0	7.5	8.0	11.0	9.5	10.5	7.5	7.5	7.5
18	6.0	5.5	6.0	8.0	7.5	7.5	11.0	9.5	10.0	7.5	7.0	7.5
19	8.0	5.5	6.0	8.0	7.0	7.5	11.0	10.5	11.0	7.5	7.0	7.5
20	8.5	6.5	7.5	11.0	7.0	9.0	10.5	---	---	7.5	7.5	7.5
21	6.5	5.5	6.0	10.5	10.0	10.5	---	---	---	7.5	7.5	7.5
22	6.5	5.5	6.0	10.5	10.0	10.0	10.0	8.5	9.0	7.5	---	---
23	6.0	5.5	6.0	10.0	9.0	9.5	10.5	10.0	10.5	---	---	---
24	10.0	6.0	9.0	---	---	---	10.0	9.5	10.0	---	---	---
25	8.5	6.0	7.0	8.0	7.5	8.0	10.0	9.0	9.5	7.5	7.0	7.5
26	7.5	6.5	7.0	8.0	7.5	7.5	---	8.5	---	7.5	7.5	7.5
27	7.0	6.5	6.5	8.0	7.5	7.5	---	---	---	7.5	7.5	7.5
28	8.0	6.5	7.5	10.5	7.0	8.5	9.0	7.5	8.5	7.5	7.0	7.5
29	7.0	5.5	6.5	11.0	9.5	10.5	9.0	8.0	8.5	7.0	7.0	7.0
30	8.5	6.5	6.5	11.0	10.0	10.5	9.5	9.0	9.5	7.0	7.0	7.0
31	---	---	---	10.5	9.0	9.5	9.0	---	---	---	---	---
Month	10.0	5.0	6.2	---	---	---	---	---	---	---	---	---