



OBEC CONSULTING ENGINEERS PROJECT TECHNICAL MEMORANDUM

Project No.: 298-7.2 Date: November 22, 2010 Prepared: Bob Goodrich, PE
Reviewed: Gary Rayor, PE/SE
John Kalvelage, PE

Project: Minto Brown Pedestrian Bridge

Re: Navigational Restrictions on the Main Stem Willamette River with L-1 Bridge
Alternative

To: Allen Dannen, PE , Engineering Program Manager – City of Salem
Todd Klocke, Project Coordinator – City of Salem

Executive Summary

OBEC Consulting Engineers has reviewed and evaluated data provided by Mr. Richard Chesbrough regarding lost days of navigation resulting from construction of the project noted above. OBEC's conclusions differ from those of Mr. Chesbrough. A summary of the evaluation, an explanation for the difference and conclusions are provided below.

1. The difference is accounted for in the date ranges used.
2. OBEC performed additional evaluation of the United States Geological Survey (USGS) data.
3. Two considerations are key to determining lost days of navigation:
 - a. Date ranges of data (post-dam construction era is the most significant)
 - b. Data type (arithmetic mean and median [50th percentile] are two possibilities)
4. Mean data correlates to approximately the 55th to 60th percentile of the data set.
5. Median data is likely a more accurate measure of lost days of navigation.

Using post-dam construction date ranges and median data, the annual lost days of navigation are 70 to 77 days.

Introduction

This technical memorandum studies navigation restrictions and differences between OBEC's and Mr. Chesbrough's navigation analysis on the main stem of the Willamette River. The study is required because the Low Arch Bridge Alternative L-1 precludes use of the Willamette Slough for navigation. OBEC's analysis indicated an average of 73 lost days of navigability per year on the main stem Willamette River, and Mr. Chesbrough's analysis indicated either 120 or 140 based on two different data sets. Due to the significant difference in conclusions, the City has requested that OBEC further investigate the differences and provide a summary of findings.

Available United States Geological Survey Surface-Water Statistics for the Nation

Hydrological data, including river discharge and gage height, are available from the USGS for numerous river gages in the nation. For USGS 14191000 Willamette River at Salem, Oregon, two relevant sets of data are available on-line¹:

1. 1988 to 2010 Surface Water Daily Statistics discharge and gage data.
2. 1909 to 1916 and 1923 to 2010 Surface Water Daily Statistics discharge data.

Discharge measures the river flow in cubic feet per second, while gage height measures the elevation of the river water surface elevation in feet. Though discharge data has been recorded by the USGS for a longer period, gage height is the parameter that governs Mr. Chesbrough's United States Coast Guard (USCG) permit. Daily historical data can be queried online for any timeframe of available data. This data source is used for all the analyses in this technical memorandum.

OBEC Data Use in the City Council Presentation

OBEC used recent data (1988 to 2010) that contains both discharge and gage data, and discharge data from 1955 to 2007. From this data, OBEC concluded an average of 73 days of navigational restriction on the main stem of the Willamette River.

Chesbrough Data Submitted

Mr. Chesbrough provided three files he used to determine the number of lost days of navigation:

1. The Rating Curve Plot for the gage station near his vessel dated January 2004.
2. USGS discharge data for October 1959 to September 2009.
3. USGS discharge data for 88 years (1909 to 1916 and 1923 to 2004).

OBEC reviewed the information provided by Mr. Chesbrough. Utilizing a current Rating Curve Plot² we nearly match the information provided in number 1. We replicated the data provided in number 2. We were able to closely match the data in number 3 using the date on the printed page (4/3/2005) and starting when USGS first recorded discharge data (1909). Numbers 2 and 3 indicate a loss of 120 and 140 days (counting days above 29,535 cfs and rounding up) according to Mr. Chesbrough.

Data Analysis and Considerations

The number of lost days of navigation concluded by OBEC and by Mr. Chesbrough are both supported by USGS data, yet there is a significant difference between the numbers. The difference is accounted for in the date ranges of the data and the type of data used for each analysis.

¹ U.S. Geological Survey, 2001, National Water Information System (NWISWeb) data accessed November 2010, at URL http://waterdata.usgs.gov/nwis/dvstat?&site_no=14191000&agency_cd=USGS&referred_module=sw&format=sites_selection_links

² A plot correlating discharge to gage height. <http://www.nwrfc.noaa.gov/river/station/ratplot/ratplot.cgi?SLMO3>

There are two considerations when deciding which data set to use. The first consideration is the range of dates. The second consideration is the type of data. USGS provides data for mean, median (50th percentile), and eight other percentiles (5, 10, 20, 25, 75, 80, 90, 95). Each consideration is evaluated below.

Consideration 1 – Date Range

Mr. Chesbrough has provided USGS data dating back to 1959 and 1909 that indicate 120 and 140 annual lost days, respectively. OBEC previously reported an average of 73 days of loss of navigation annually using data starting in 1988. The trend is fairly obvious and easily explained. The more recent data clearly shows a reduction in the average discharge for a given day; this is likely due to the 13 dams and reservoirs constructed in the Willamette River drainage system between 1941 and 1968.³ The dams and reservoirs moderate the high and low flows in the Willamette River as reflected in the data. The conclusion of this point is that more recent data is very likely more accurate in determining the lost number of days of navigation.

Consideration 2 – Data Type

The type of data to use is determined by the intended use of the data. There are several possible data types to use. Mean (average); median (50th percentile); or another percentile are three of the more likely choices. Mean data is defined as the arithmetic average of a data set. Median (50th percentile) and other percentile data are defined as a value below which a certain percent of all data points falls. For example the 75th percentile data point is the value below which 75 percent of the data points will be found.

Generally, mean and median data provide different representations of the data. Consider three discharge data points: 6,950; 35,700; and 158,000 cubic feet per second (cfs). These represent the 5th, 50th, and 95th percentile data for a given day. The median is 35,700 cfs, while the average is 66,900 cfs. Applied to navigational restrictions, it does not matter whether the river discharge is 29,600 cfs or 125,000 cfs on a given day; it is a lost day of navigation. The mean value for the data set will increase more for the larger discharge data point, whereas the median value will only change as a result of one additional data point.

If the intent of the analysis is to determine the average annual lost days of navigation, using mean data will probably not accurately determine this number. Median data will provide a more appropriate count of the lost days, since half the days during the date range will have occurred above the median and half below the median. The mean value will be skewed by large flood events as demonstrated above. For the winter months, when high or flood flows are predominant, there are no corresponding low flow days to balance the mean.

Refined Analysis

At this time, the best approach recommended by OBEC to determine annual lost days of navigation is to use more recent (post-dam construction) data. We reviewed two such data sets: 1988 to 2010 and 1967 to 2010. The first date range used starts in 1988 when gage height data was first continually recorded. As previously mentioned, gage height is the parameter

³ <http://www.nwr.noaa.gov/Salmon-Hydropower/Willamette-Basin>

governing Mr. Chesbrough's USCG permit. The second date range represents the time period beginning near the completion of the last dam. Since there is no gage height data available for most of this time period, only discharge data is obtainable. The rating table provides a way to correlate discharge to gage height. Therefore, this second date range still serves to estimate the annual lost days of navigation. Rather than using only mean data, we have considered the full range of percentile data available from USGS as well. Table 1 summarizes the lost days of navigation per year for the data types considered.

Table 1 – Summary of Annual Lost Days of Navigation

Date Type	1988-2009 Data		1967-2009 Data	
	No. of days based on		No. of days based on	
	Discharge	Gage	Discharge	Gage
5th percentile	0	0	0	Data not available
10th percentile	0	0	0	
20th percentile	0	0	0	
25th percentile	5	5	4	
50th (median)	70	77	73	
75th percentile	136	143	141	
80th percentile	164	176	158	
90th percentile	216	219	205	
95th percentile	227	230	229	
Arithmetic Mean	91	86	107	

Chesbrough mean data starting in 1959	118	Data not available
Chesbrough mean data starting in 1909	138	

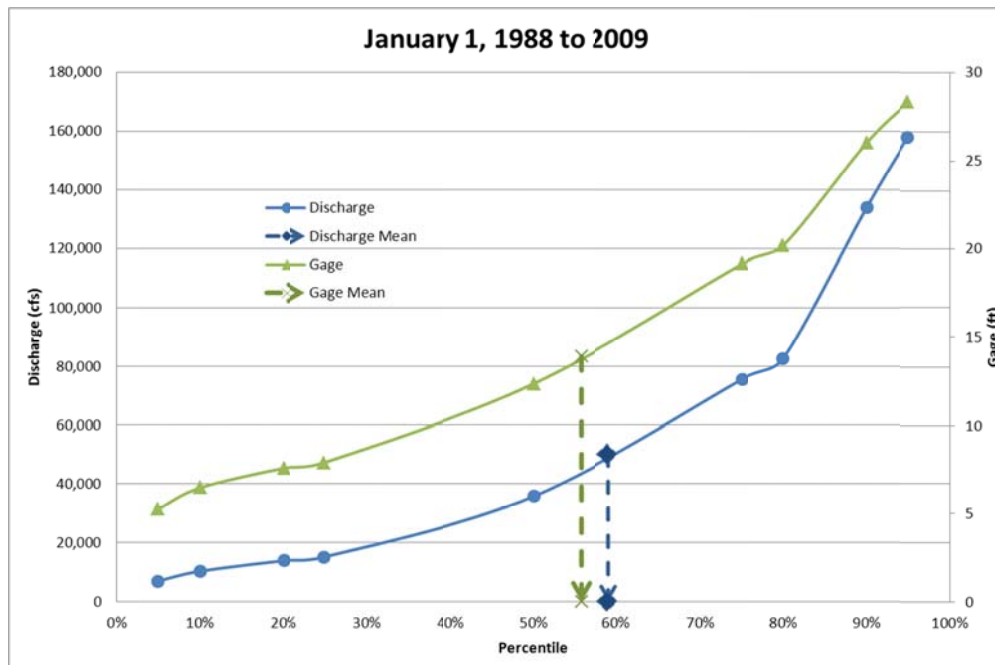
In addition, using available percentiles for 36 days (the 1st, 15th and 28th of each month), we interpolated the statistical percentile representing the mean daily discharge. This information is summarized in Table 2. The highlighted rows present the months of interest in this study.

Table 2 – Mean Percentile of Data Sets

	Data Set Mean Percentile								
	1988-2009 Discharge			1988-2009 Gage Height			1967-2009 Discharge		
	1st	15th	28th	1st	15th	28th	1st	15th	28th
Jan	59%	56%	53%	56%	47%	52%	57%	56%	56%
Feb	55%	61%	61%	52%	54%	59%	60%	61%	63%
Mar	63%	55%	60%	56%	52%	56%	62%	58%	59%
Apr	60%	67%	64%	54%	68%	63%	67%	63%	65%
May	66%	56%	57%	64%	53%	55%	61%	48%	57%
Jun	62%	59%	58%	56%	57%	54%	56%	60%	68%
Jul	58%	49%	60%	56%	50%	55%	62%	54%	57%
Aug	59%	54%	59%	52%	51%	55%	57%	59%	62%
Sep	53%	40%	48%	42%	40%	50%	61%	57%	55%
Oct	51%	58%	57%	54%	59%	52%	56%	58%	61%
Nov	71%	62%	58%	66%	58%	55%	60%	64%	57%
Dec	56%	58%	62%	55%	57%	58%	55%	56%	58%

Figure 1 is provided as a graphical representation of the interpolation for a single day (January 1) for the duration of the data record (1988 through 2009).

Figure 1 – Mean versus Median Comparison



The conclusion drawn from Table 2 and Figure 1 is that the mean daily value represents a percentile greater than the median. The mean represents approximately the 55th to 60th percentile.

Raw data obtained from the USGS website were inserted into spreadsheets for data processing. This data analysis is contained in the form of numerous figures and a table appended to this technical memorandum. The data is organized into three sections: (1) Rating Table, (2) 1988 to 2009 USGS Data, and (3) 1967 to 2009 USGS Data.

Conclusion

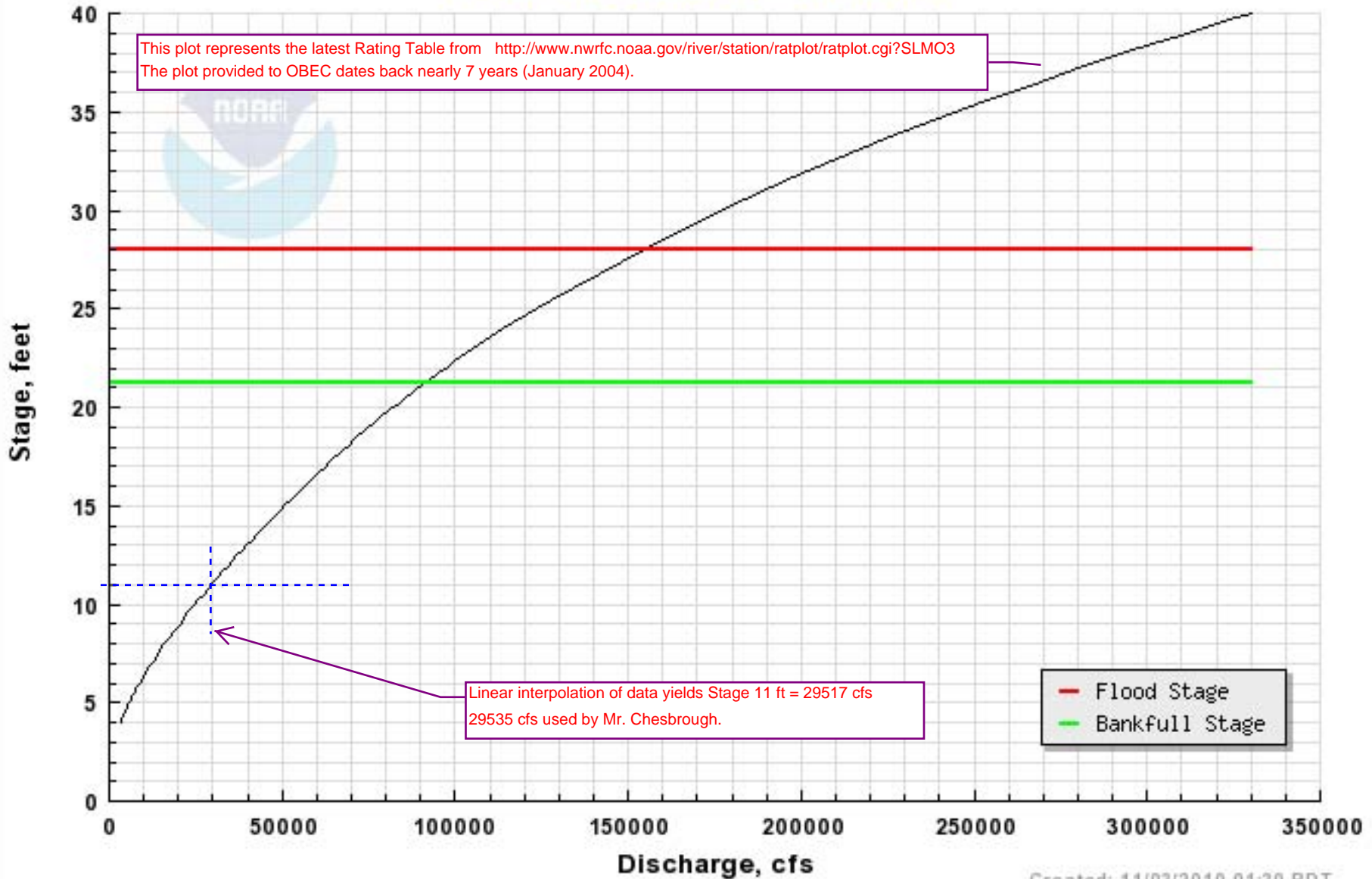
The difference between OBEC's and Mr. Chesbrough's lost days of navigation is accounted for in the date ranges used. OBEC performed additional evaluation of the USGS data and determined there are two key considerations for assessing lost days of navigation: (1) date ranges of data, and (2) data type (i.e., arithmetic mean and median). Median data is likely a more accurate measure of lost days of navigation than mean data. Based on post-dam construction dates and median data, the range of annual lost days of navigation in the main stem Willamette River is determined to be 70 to 77 days.

Rating Table Data

Rating Table

(SLMO3) WILLAMETTE - AT SALEM

This plot represents the latest Rating Table from <http://www.nwrfc.noaa.gov/river/station/ratplot/ratplot.cgi?SLMO3>
The plot provided to OBEC dates back nearly 7 years (January 2004).



Linear interpolation of data yields Stage 11 ft = 29517 cfs
29535 cfs used by Mr. Chesbrough.

— Flood Stage
— Bankfull Stage

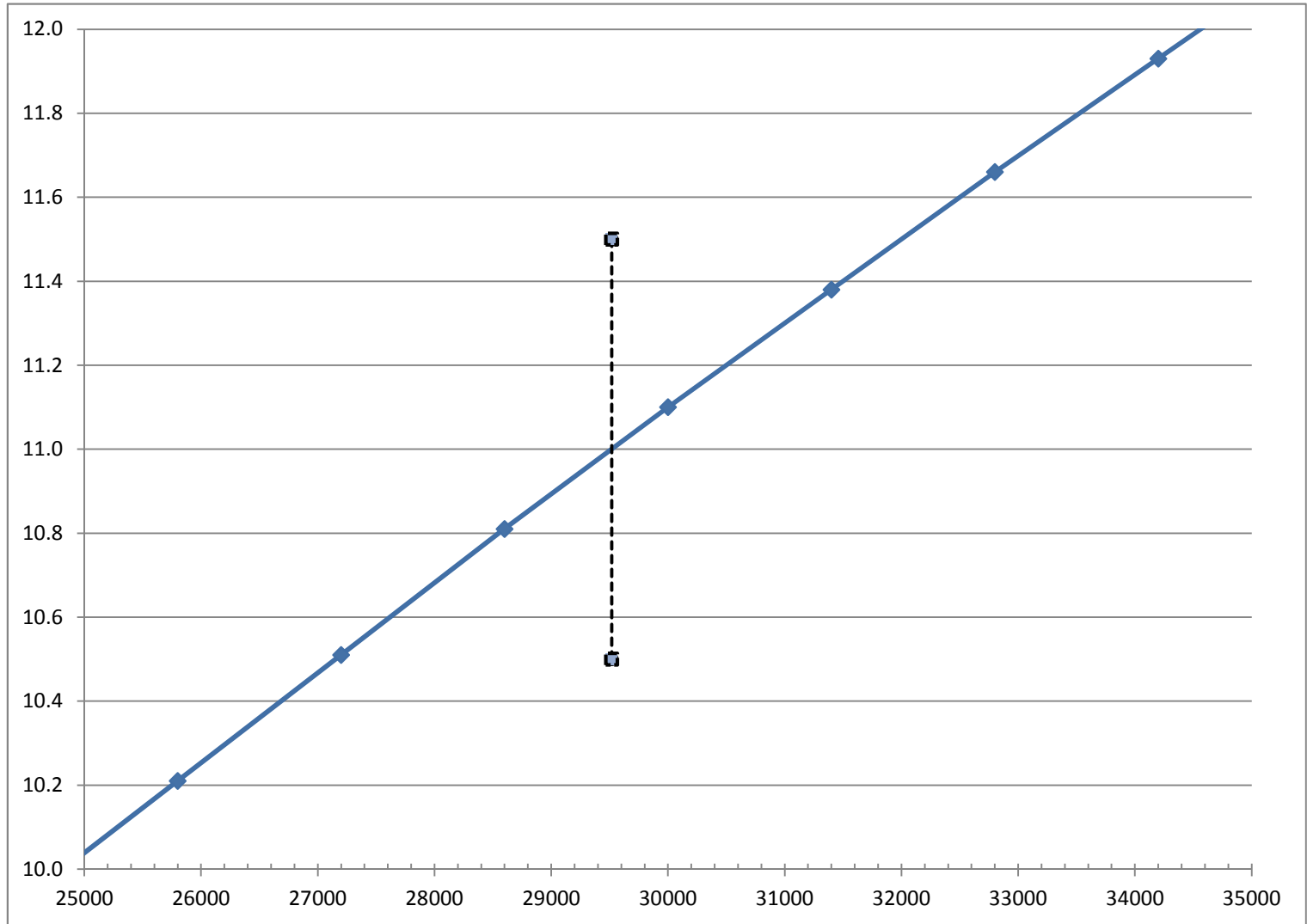
WILLAMETTE--AT SALEM (SLMO3)

County: MARION State: ORElevation: 106 (feet) Latitude: 44 56' 39" Longitude: 123 2' 30"

<http://www.nwrfc.noaa.gov/river/station/ratplot/ratplot.cgi?SLMO3>

Stage (ft) Flow (cfs)

4.00	3330
4.14	3640
4.28	3960
4.42	4290
4.56	4630
4.70	4990
4.84	5360
4.98	5750
5.12	6140
5.26	6550
5.40	6970
5.54	7400
5.68	7830
5.82	8280
5.96	8730
6.10	9190
6.24	9670
6.44	10400
6.84	11800
7.22	13200
7.59	14600
7.95	16000
8.29	17400
8.63	18800
8.96	20200
9.28	21600
9.60	23000
9.91	24400
10.21	25800
10.51	27200
10.81	28600
11.10	30000
11.38	31400



Interpolation
29517

1988 to 2009 USGS Data

MINTO BROWN ISLAND PEDESTRIAN BRIDGE WATER ELEVATION DATA
USGS Data considering the range of data available for both discharge and gage

Flow Limit 29517 cfs
 00 days > limit

Gage (EL) Limit 11.00 ft
 00 days > limit

00060, Discharge, cubic feet per second,												
Day of month	05 th percentile of daily mean values for each day for 21 - 22 years of record in, cfs (Calculation Period 1987-10-01 -> 2009-09-30)											
	Period-of-record for statistical calculation restricted by user											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	6,950	9,560	8,270	8,620	9,450	5,940	5,800	5,630	5,700	6,800	7,340	7,200
2	8,100	9,210	8,250	8,470	9,390	5,780	5,810	5,570	5,710	6,750	7,310	7,140
3	8,610	9,020	8,250	8,230	9,200	5,780	5,880	5,510	5,720	6,700	7,310	7,190
4	8,500	8,780	8,080	8,110	9,030	5,700	5,770	5,530	5,690	6,580	7,400	7,120
5	9,510	8,550	7,890	8,220	9,220	5,680	5,900	5,560	5,710	6,570	7,180	6,930
6	10,700	8,330	7,640	8,730	9,340	5,690	5,890	5,560	5,720	6,570	7,210	6,940
7	10,700	8,240	7,370	9,020	9,080	5,830	5,850	5,520	5,770	6,610	7,290	6,530
8	11,100	8,180	7,260	9,130	8,980	6,170	5,810	5,480	5,830	6,640	7,370	6,240
9	11,100	7,970	7,150	9,990	8,840	6,200	5,760	5,460	5,840	6,680	7,370	6,140
10	11,300	7,970	7,110	13,800	8,800	6,050	5,670	5,510	5,870	6,730	7,270	6,140
11	11,300	8,040	7,060	13,500	8,700	5,890	5,610	5,480	5,820	6,920	7,220	6,550
12	10,600	8,020	6,960	13,100	8,560	5,880	5,580	5,540	5,800	7,620	7,300	8,050
13	9,900	8,080	6,810	12,700	8,650	6,000	5,540	5,480	5,810	7,390	7,640	8,910
14	10,200	9,710	6,700	11,900	8,200	6,330	5,520	5,530	5,850	7,100	7,910	9,790
15	10,900	9,610	6,610	11,300	7,520	6,550	5,520	5,520	5,920	6,900	7,880	10,700
16	10,800	9,380	6,570	11,000	7,290	6,280	5,500	5,540	5,950	6,860	8,250	11,300
17	10,800	9,180	6,710	11,200	7,150	6,120	5,440	5,540	5,970	6,780	8,880	11,400
18	11,300	9,000	7,110	11,400	7,000	6,000	5,400	5,530	5,950	6,710	9,300	11,600
19	10,300	8,800	7,100	11,300	6,780	5,900	5,300	5,550	5,900	6,720	9,340	12,300
20	10,400	8,850	7,440	10,800	6,820	5,770	5,370	5,560	6,100	6,740	9,240	11,500
21	10,600	9,000	8,030	10,200	7,020	5,730	5,350	5,530	6,150	6,900	8,790	10,800
22	11,400	9,600	8,140	9,620	6,760	5,700	5,330	5,610	6,150	7,020	8,430	10,000
23	11,800	9,700	8,140	9,950	6,570	5,570	5,360	5,830	6,150	7,660	8,820	9,520
24	11,700	9,390	8,520	11,200	6,360	5,560	5,300	5,990	6,300	7,750	9,780	9,060
25	12,400	9,100	8,840	11,400	6,130	5,640	5,230	5,900	6,550	7,670	9,730	8,520
26	11,900	8,760	8,850	11,200	6,050	5,690	5,220	5,740	6,740	7,500	9,430	8,050
27	11,200	8,480	8,890	10,600	6,050	5,650	5,220	5,690	6,860	7,550	8,190	7,880
28	10,600	8,310	8,860	10,300	6,020	5,690	5,210	5,720	6,850	7,520	7,130	7,610
29	10,500		8,660	9,770	5,980	5,960	5,260	5,640	6,810	7,590	6,570	7,120
30	10,400		8,490	9,440	5,910	5,940	5,390	5,640	6,770	7,760	6,670	6,710
31	9,960		8,540		5,880		5,570	5,690		7,650		6,570

00065, Gage height, feet,												
Day of month	05 th percentile of daily mean values for each day for 20 - 22 years of record in, ft (Calculation Period 1987-10-01 -> 2009-09-30)											
	Period-of-record for statistical calculation restricted by user											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	5.20	6.25	5.86	5.50	6.27	4.76	4.83	4.66	4.81	5.26	5.66	5.65
2	5.61	6.14	5.83	5.57	6.22	4.69	4.65	4.71	4.74	5.27	5.65	5.63
3	5.74	6.07	5.80	5.48	6.13	4.69	4.74	4.74	4.71	5.35	5.66	5.63
4	5.77	5.99	5.74	5.44	6.07	4.65	4.67	4.74	4.70	5.49	5.69	5.60
5	6.13	5.91	5.67	5.49	6.13	4.64	4.74	4.59	4.72	5.48	5.61	5.52
6	6.52	5.83	5.58	5.57	6.18	4.64	4.85	4.59	4.79	5.48	5.62	5.53
7	6.51	5.79	5.49	5.65	6.08	4.63	4.91	4.63	4.83	5.48	5.65	5.39
8	6.80	5.77	5.48	5.67	6.06	4.71	4.85	4.68	4.79	5.51	5.67	5.28
9	6.79	5.70	5.44	5.77	6.01	4.71	4.76	4.71	4.81	5.53	5.67	5.23
10	6.85	5.70	5.41	7.44	5.99	4.69	4.68	4.72	4.79	5.47	5.63	5.20
11	6.85	5.73	5.40	7.38	5.96	4.64	4.63	4.67	4.76	5.60	5.62	5.41
12	6.67	5.72	5.36	7.24	5.92	4.66	4.61	4.63	4.74	5.77	5.72	5.93
13	6.46	5.75	5.30	7.15	5.94	4.69	4.62	4.58	4.75	5.75	5.78	6.09
14	6.54	6.30	5.26	6.89	5.78	4.91	4.60	4.63	4.79	5.67	5.76	6.36
15	6.69	6.36	5.23	6.69	5.55	5.00	4.57	4.66	4.82	5.61	5.74	6.62
16	6.69	6.29	5.21	6.64	5.34	4.89	4.55	4.68	4.82	5.60	5.75	6.80
17	6.71	6.22	5.24	6.67	5.29	4.82	4.53	4.70	4.84	5.56	5.94	6.82
18	6.86	6.10	5.36	6.73	5.22	4.76	4.62	4.70	4.84	5.53	6.08	6.88
19	6.56	6.04	5.35	6.70	5.14	4.73	4.56	4.67	4.83	5.53	6.09	7.08
20	6.57	6.06	5.46	6.57	5.16	4.67	4.56	4.65	4.89	5.54	6.05	6.84
21	6.63	6.18	5.70	6.38	5.24	4.66	4.54	4.63	4.92	5.60	5.89	6.62
22	6.85	6.36	5.76	6.18	5.13	4.65	4.57	4.65	4.93	5.64	5.78	6.39
23	6.96	6.40	5.76	6.28	5.06	4.57	4.61	4.75	4.92	5.75	5.92	6.23
24	6.89	6.24	5.72	6.76	4.96	4.55	4.64	4.82	4.99	5.60	6.54	6.06
25	7.16	6.15	5.71	6.79	4.86	4.57	4.63	4.76	5.19	5.52	6.52	5.80
26	7.05	6.03	5.72	6.71	4.82	4.59	4.65	4.70	5.44	5.46	6.29	5.63
27	6.82	5.93	5.72	6.57	4.82	4.59	4.70	4.67	5.30	5.47	5.70	5.55
28	6.79	5.87	5.70	6.48	4.80	4.62	4.69	4.71	5.25	5.51	5.30	5.44
29	6.61		5.62	6.31	4.78	4.81	4.65	4.76	5.21	5.55	5.08	5.28
30	6.52		5.56	6.21	4.74	4.87	4.62	4.76	5.22	5.72	5.12	5.12
31	6.37		5.60		4.72		4.61	4.81		5.77		5.06

Source of Data:

http://waterdata.usgs.gov/nwis/dvstat?referred_module=sw&site_no=14191000&por_14191000_2=546606.00060.2.1909-10-01.2010-01-11&site_no=14191000&por_14191000_3=546606.00065.3.1988-06-01.2010-01-11&start_dt=1988-06-01&end_dt=2009-09-30&format=html_table&stat_cds=p05_va&date_format=YYYY-MM-DD&compression=file&submitted_form=parameter_selection_list

MINTO BROWN ISLAND PEDESTRIAN BRIDGE WATER ELEVATION DATA
USGS Data considering the range of data available for both discharge and gage

Flow Limit 29517 cfs
 00 days > limit

Gage (EL) Limit 11.00 ft
 00 days > limit

00060, Discharge, cubic feet per second,												
Day of month	10 th percentile of daily mean values for each day for 21 - 22 years of record in, cfs (Calculation Period 1987-10-01 -> 2009-09-30)											
	Period-of-record for statistical calculation restricted by user											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	10,300	10,000	9,300	13,700	12,600	8,080	6,330	5,760	6,070	7,000	8,110	9,530
2	12,900	9,760	9,880	13,400	12,500	7,810	6,180	5,790	5,940	6,970	8,070	11,100
3	12,300	9,940	10,900	13,000	12,600	7,620	6,020	5,860	5,950	7,020	8,000	12,000
4	11,500	9,940	10,500	12,800	12,100	7,490	6,050	5,900	5,940	7,120	7,860	11,600
5	11,000	9,850	10,200	12,300	11,400	7,550	6,010	5,690	5,990	7,160	7,700	11,500
6	11,500	9,770	10,300	12,500	11,200	7,780	6,010	5,720	6,090	7,180	7,670	11,500
7	11,400	9,830	9,930	13,600	11,500	8,750	6,060	5,770	6,190	7,340	7,660	9,910
8	11,600	9,940	9,600	14,800	11,200	10,500	6,060	5,830	6,120	7,440	7,920	9,210
9	12,300	9,700	9,850	14,300	11,200	10,300	5,910	5,870	6,110	7,450	8,000	8,880
10	13,000	9,430	9,930	14,600	11,300	9,360	5,800	5,860	6,070	7,380	7,640	8,620
11	13,200	9,220	9,680	14,400	11,000	8,490	5,730	5,770	6,030	7,570	7,570	8,550
12	13,000	9,060	9,350	15,000	10,900	8,120	5,700	5,740	5,980	7,780	7,760	8,650
13	12,400	9,120	9,050	14,900	11,100	8,030	5,700	5,680	6,000	8,140	7,960	9,750
14	11,800	10,000	8,830	15,300	10,400	7,960	5,670	5,690	6,060	8,020	8,870	10,900
15	12,100	10,500	8,730	16,500	8,440	8,390	5,630	5,760	6,110	7,780	9,300	14,400
16	11,800	9,890	8,880	16,000	7,950	8,110	5,610	5,820	6,150	7,930	9,040	14,600
17	11,600	9,620	9,360	15,100	8,390	7,780	5,570	5,860	6,220	8,150	10,100	14,200
18	14,000	9,390	10,400	14,000	8,510	7,550	5,730	5,870	6,240	7,920	12,200	13,600
19	14,100	9,350	11,000	13,100	8,090	7,270	5,650	5,780	6,200	7,880	12,200	12,800
20	15,700	9,200	10,700	12,300	7,790	7,050	5,650	5,720	6,450	7,770	12,000	12,000
21	14,500	10,100	10,400	11,700	8,210	6,920	5,610	5,690	6,650	7,750	11,700	11,700
22	13,700	10,200	10,100	11,400	8,560	6,840	5,630	5,810	6,670	7,710	10,700	11,800
23	12,500	10,100	9,720	11,400	8,330	6,790	5,710	5,950	6,640	8,260	10,200	12,400
24	12,300	10,600	9,350	12,600	8,070	6,730	5,760	6,080	6,640	7,990	10,700	11,600
25	12,900	10,400	10,000	13,800	8,230	6,730	5,760	6,070	6,850	7,720	11,000	10,800
26	12,800	10,100	10,900	14,000	7,920	6,720	5,780	5,970	7,060	7,550	10,300	9,720
27	12,200	9,720	12,200	12,900	7,810	6,550	5,850	5,910	7,060	7,740	9,540	9,500
28	11,300	9,470	12,900	12,400	7,740	6,360	5,810	5,840	6,980	7,790	9,000	9,570
29	10,700		12,600	11,700	7,780	6,190	5,750	5,910	6,920	7,830	8,660	9,540
30	10,700		12,100	11,900	7,970	6,370	5,710	5,940	6,930	8,110	8,020	9,240
31	10,400		13,100		7,980		5,710	6,030		8,180		8,880

00065, Gage height, feet,												
Day of month	10 th percentile of daily mean values for each day for 20 - 22 years of record in, ft (Calculation Period 1987-10-01 -> 2009-09-30)											
	Period-of-record for statistical calculation restricted by user											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	6.43	6.47	6.25	7.46	7.52	5.76	4.92	4.84	5.08	5.54	5.96	6.12
2	7.21	6.40	6.29	7.44	7.38	5.67	4.93	4.85	5.07	5.52	5.94	6.72
3	7.06	6.42	6.61	7.33	7.12	5.60	4.97	4.83	5.05	5.52	5.93	6.97
4	6.79	6.36	6.49	7.27	6.95	5.56	4.99	4.85	5.05	5.51	5.89	6.79
5	6.63	6.30	6.43	7.15	6.74	5.58	4.96	4.87	5.01	5.53	5.85	6.76
6	6.92	6.28	6.38	7.20	6.66	5.65	4.92	4.86	4.99	5.52	5.84	6.72
7	6.85	6.30	6.28	7.51	6.79	5.88	4.94	4.86	5.08	5.54	5.85	6.40
8	6.88	6.33	6.38	7.76	6.78	6.49	4.92	4.86	5.12	5.63	5.93	6.18
9	7.09	6.23	6.38	7.64	6.81	6.48	4.89	4.89	5.14	5.64	5.91	6.07
10	7.30	6.15	6.40	7.97	6.82	6.18	4.89	4.90	5.15	5.56	5.77	5.97
11	7.37	6.09	6.32	7.91	6.78	5.89	4.89	4.87	5.15	5.63	5.75	5.97
12	7.29	6.04	6.22	7.94	6.75	5.73	4.86	4.89	5.13	5.83	5.74	6.06
13	7.12	6.09	6.12	7.93	6.66	5.59	4.84	4.97	5.14	5.90	5.81	6.37
14	6.90	6.46	6.06	8.02	6.45	5.66	4.79	4.95	5.14	5.88	6.00	6.68
15	7.01	6.57	6.03	8.37	5.75	5.88	4.80	4.97	5.17	5.80	5.98	7.80
16	6.97	6.39	6.08	8.19	5.69	5.91	4.85	4.99	5.23	5.84	6.08	7.78
17	6.90	6.27	6.12	7.89	5.84	5.84	4.86	5.01	5.26	5.85	6.56	7.69
18	7.50	6.24	6.27	7.60	5.84	5.77	4.85	5.04	5.30	5.79	7.18	7.49
19	7.51	6.24	6.42	7.34	5.74	5.69	4.87	5.07	5.27	5.76	7.13	7.18
20	7.92	6.19	6.20	7.15	5.63	5.63	4.86	5.08	5.38	5.74	7.04	6.91
21	7.61	6.41	6.10	6.99	5.77	5.57	4.85	5.05	5.47	5.74	6.94	6.84
22	7.40	6.38	6.15	6.92	5.89	5.52	4.84	5.04	5.47	5.76	6.78	6.86
23	7.09	6.42	6.03	6.91	5.82	5.42	4.78	5.02	5.47	5.82	6.62	6.95
24	7.10	6.61	6.10	7.11	5.71	5.33	4.75	5.00	5.47	5.80	6.70	6.75
25	7.22	6.56	6.44	7.44	5.76	5.22	4.76	5.04	5.47	5.68	6.79	6.53
26	7.29	6.45	6.72	7.48	5.68	5.16	4.77	5.06	5.51	5.62	6.55	6.24
27	7.09	6.36	7.10	7.18	5.66	5.10	4.78	5.06	5.51	5.81	6.45	5.99
28	7.20	6.30	7.28	7.06	5.63	5.05	4.81	5.09	5.56	5.76	6.28	5.95
29	6.64		7.18	6.91	5.65	4.96	4.84	5.08	5.58	5.77	6.14	6.15
30	6.65		7.05	7.00	5.71	4.95	4.85	5.08	5.56	5.83	5.92	6.07
31	6.57		7.49		5.73		4.83	5.08		5.98		5.96

Source of Data:

http://waterdata.usgs.gov/nwis/dvstat?referred_module=sw&site_no=14191000&por_14191000_2=546606.00060.2.1909-10-01.2010-01-11&site_no=14191000&por_14191000_3=546606.00065.3.1988-06-01.2010-01-11&start_dt=1988-06-01&end_dt=2009-09-30&format=html_table&stat_cds=p10_va&date_format=YYYY-MM-DD&rdp_compression=file&submitted_form=parameter_selection_list

MINTO BROWN ISLAND PEDESTRIAN BRIDGE WATER ELEVATION DATA
USGS Data considering the range of data available for both discharge and gage

Flow Limit 29517 cfs
 00 days > limit

Gage (EL) Limit 11.00 ft
 00 days > limit

00060, Discharge, cubic feet per second,												
Day of month	20 th percentile of daily mean values for each day for 21 - 22 years of record in, cfs (Calculation Period 1987-10-01 -> 2009-09-30)											
	Period-of-record for statistical calculation restricted by user											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	13,900	12,700	13,500	14,800	14,800	13,400	7,100	6,030	6,500	8,310	10,500	13,800
2	14,200	13,400	14,500	15,400	15,100	13,200	6,900	6,040	6,520	8,610	10,500	13,900
3	15,900	14,100	14,500	15,400	13,800	13,000	6,690	6,040	6,530	8,630	10,900	12,700
4	16,400	13,500	14,100	15,800	13,200	12,600	6,570	6,060	6,560	8,820	10,600	13,400
5	16,500	13,600	14,000	15,300	12,600	12,100	6,460	6,090	6,520	8,900	10,600	15,000
6	18,100	13,700	15,600	14,900	12,300	12,200	6,380	6,120	6,540	8,870	10,600	13,800
7	19,700	13,200	15,300	16,000	12,400	12,600	6,300	6,100	6,600	8,990	10,100	13,700
8	18,800	12,400	15,600	15,800	13,600	11,800	6,260	6,140	6,700	8,840	9,820	19,000
9	18,500	12,000	17,300	15,200	13,900	11,700	6,270	6,150	6,960	8,730	9,690	20,100
10	17,300	11,600	17,200	16,000	13,800	11,200	6,230	6,110	6,980	8,580	10,600	19,700
11	21,500	11,500	16,800	17,200	13,300	10,700	6,180	6,120	6,950	8,540	11,900	18,800
12	26,300	11,300	15,500	16,500	12,700	10,500	6,100	6,150	6,920	8,760	12,600	17,700
13	25,000	11,400	14,600	18,500	12,200	9,860	6,080	6,130	6,990	8,770	13,400	16,500
14	23,100	11,600	13,900	18,500	13,100	9,180	6,080	6,230	6,990	8,590	13,700	16,100
15	24,000	11,200	14,400	17,900	13,400	9,110	6,110	6,250	7,030	8,460	13,600	16,700
16	22,100	10,900	14,200	16,900	12,600	9,090	6,170	6,290	7,100	8,460	13,400	18,700
17	22,300	10,800	13,700	16,100	11,900	9,260	6,130	6,310	7,170	8,640	13,000	17,500
18	20,200	12,300	13,300	15,500	11,600	9,150	6,140	6,340	7,470	8,700	12,600	15,600
19	21,900	13,700	14,200	15,300	11,900	8,600	6,240	6,450	7,710	8,530	13,200	15,200
20	21,300	14,000	15,100	16,000	12,600	8,460	6,200	6,480	7,540	8,490	13,300	16,400
21	18,800	15,000	14,400	15,900	12,500	8,280	6,160	6,560	7,320	8,530	13,000	15,700
22	16,700	16,500	14,300	15,100	12,400	7,960	6,130	6,590	7,190	8,700	12,100	21,500
23	16,300	16,000	13,900	14,200	12,200	7,560	6,020	6,520	7,220	8,640	11,700	25,300
24	17,400	16,900	13,700	14,300	12,900	7,400	6,000	6,470	7,230	9,110	12,000	23,500
25	18,800	16,100	13,700	15,700	13,300	7,210	6,030	6,450	7,220	9,030	13,100	21,000
26	17,500	14,900	13,600	15,700	13,900	7,000	5,990	6,530	7,510	8,770	14,800	20,000
27	16,500	13,900	14,000	14,900	13,800	7,030	6,010	6,500	7,390	8,970	14,600	19,700
28	16,800	14,100	15,200	14,400	13,900	7,140	6,020	6,470	7,560	8,870	14,300	18,500
29	15,100	16,600	15,800	14,300	13,800	7,090	6,040	6,510	8,150	8,940	14,500	17,400
30	13,300		14,800	14,400	13,800	6,940	6,060	6,500	8,270	9,030	14,500	16,400
31	12,600		14,500		13,700		6,060	6,490		10,000		15,400

00065, Gage height, feet,												
Day of month	20 th percentile of daily mean values for each day for 20 - 22 years of record in, ft (Calculation Period 1987-10-01 -> 2009-09-30)											
	Period-of-record for statistical calculation restricted by user											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	7.56	7.03	7.43	7.78	7.85	7.46	5.44	5.06	5.22	6.06	6.59	7.50
2	7.52	7.31	7.67	7.94	7.84	7.41	5.40	5.04	5.18	6.06	6.58	7.51
3	8.08	7.28	7.74	7.90	7.67	7.25	5.35	5.02	5.19	6.01	6.63	7.17
4	8.16	7.15	7.60	8.02	7.49	7.18	5.30	5.00	5.23	6.10	6.54	7.33
5	8.15	7.43	7.47	8.02	7.34	7.09	5.28	5.02	5.25	6.14	6.53	7.76
6	8.53	7.32	8.07	7.97	7.26	7.07	5.24	5.02	5.25	6.13	6.54	7.50
7	9.00	7.22	7.84	8.29	7.19	7.08	5.20	5.01	5.20	6.15	6.36	7.39
8	8.76	7.01	7.82	8.31	7.38	6.97	5.18	4.97	5.31	6.15	6.28	8.87
9	8.62	6.89	8.43	8.20	7.52	6.87	5.13	4.94	5.40	6.11	6.34	9.29
10	8.30	6.89	8.34	8.43	7.64	6.74	5.06	4.95	5.47	6.08	6.67	9.12
11	9.28	6.77	8.17	8.46	7.51	6.59	5.00	5.00	5.50	6.07	7.00	8.98
12	10.49	6.71	7.85	8.36	7.29	6.50	4.97	5.01	5.49	6.07	7.11	8.69
13	10.22	6.70	7.62	8.83	7.43	6.37	4.96	5.03	5.47	6.04	7.45	8.37
14	9.78	6.78	7.44	8.82	7.47	6.20	4.93	5.06	5.48	5.98	7.62	8.24
15	9.27	6.68	7.57	8.71	7.34	6.13	4.93	5.05	5.48	5.92	7.58	8.29
16	9.39	6.60	7.62	8.50	7.14	6.10	4.94	5.05	5.49	5.97	7.55	8.77
17	9.46	6.58	7.51	8.35	6.94	6.09	4.99	5.07	5.51	6.05	7.36	8.36
18	8.98	7.12	7.37	8.18	6.86	6.03	4.98	5.10	5.55	6.07	7.26	7.91
19	9.48	8.10	7.61	8.11	6.95	5.89	4.96	5.12	5.72	6.01	7.37	7.88
20	9.49	7.86	7.88	8.11	7.07	5.81	4.95	5.10	5.67	5.96	7.52	8.23
21	8.90	7.80	7.57	8.00	7.10	5.78	4.93	5.12	5.61	5.96	7.36	8.03
22	8.39	7.90	7.74	7.86	7.08	5.69	4.92	5.17	5.61	6.00	7.09	9.32
23	8.25	7.74	7.66	7.62	7.04	5.63	4.90	5.21	5.65	6.14	6.94	10.16
24	8.42	8.19	7.62	7.81	7.23	5.58	4.89	5.24	5.63	6.27	6.96	9.77
25	8.70	8.05	7.60	7.92	7.44	5.57	4.88	5.22	5.67	6.24	7.30	9.35
26	8.37	7.73	7.51	7.99	7.56	5.58	4.89	5.19	5.68	6.15	7.80	9.14
27	8.12	7.44	7.75	8.06	7.60	5.58	4.89	5.17	5.74	6.16	7.78	9.23
28	8.56	7.51	8.01	7.94	7.57	5.58	4.90	5.17	5.76	6.20	7.64	8.84
29	7.69	8.18	8.04	7.78	7.54	5.56	4.91	5.18	5.90	6.24	7.68	8.43
30	7.15		7.77	7.73	7.47	5.46	4.95	5.21	6.02	6.18	7.68	8.23
31	6.96		7.72		7.45		5.01	5.22		6.42		7.97

Source of Data:

http://waterdata.usgs.gov/nwis/dvstat?referred_module=sw&site_no=14191000&por_14191000_2=546606.00060.2.1909-10-01.2010-01-11&site_no=14191000&por_14191000_3=546606.00065.3.1988-06-01.2010-01-11&start_dt=1988-06-01&end_dt=2009-09-30&format=html_table&stat_cds=p20_va&date_format=YYYY-MM-DD&rdp_compression=file&submitted_form=parameter_selection_list

MINTO BROWN ISLAND PEDESTRIAN BRIDGE WATER ELEVATION DATA
USGS Data considering the range of data available for both discharge and gage

Flow Limit 29517 cfs
 05 days > limit

Gage (EL) Limit 11.00 ft
 05 days > limit

00060, Discharge, cubic feet per second,												
Day of month	25 th percentile of daily mean values for each day for 21 - 22 years of record in, cfs (Calculation Period 1987-10-01 -> 2009-09-30)											
	Period-of-record for statistical calculation restricted by user											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	15,100	15,800	15,800	15,700	15,300	14,100	7,170	6,170	6,570	8,700	10,900	15,700
2	15,300	15,800	15,100	17,500	15,300	13,700	7,040	6,080	6,580	8,760	10,800	16,600
3	18,600	19,800	14,700	16,700	14,700	13,700	6,870	6,200	6,580	8,760	11,300	15,500
4	22,000	17,600	14,300	16,600	14,100	13,200	6,700	6,140	6,620	9,010	11,200	15,800
5	22,000	15,300	14,800	16,500	14,000	12,600	6,710	6,140	6,720	9,260	11,300	18,800
6	20,900	14,400	15,700	16,300	14,000	12,500	6,750	6,120	6,680	9,100	11,200	17,700
7	24,800	13,800	16,100	16,200	13,600	12,800	6,680	6,180	6,630	9,070	10,700	16,500
8	21,700	13,100	16,500	16,300	14,100	12,100	6,570	6,150	6,790	9,050	10,700	20,400
9	22,100	12,200	19,000	16,200	14,300	12,000	6,580	6,190	7,130	9,080	11,400	22,800
10	24,200	12,100	18,200	18,400	14,400	11,500	6,480	6,200	7,290	9,200	12,900	21,900
11	29,300	12,100	17,200	19,200	14,500	11,100	6,370	6,190	7,270	9,270	13,900	21,100
12	31,600	12,600	16,200	19,100	13,900	10,600	6,300	6,230	7,300	9,290	14,300	19,500
13	33,900	13,100	15,200	19,400	14,000	10,100	6,290	6,330	7,320	9,220	14,000	19,000
14	30,600	12,900	14,600	19,600	14,100	9,720	6,250	6,340	7,230	9,190	14,500	18,000
15	35,100	12,300	17,200	18,200	14,800	9,920	6,250	6,430	7,180	9,100	14,100	18,400
16	31,300	11,800	17,500	17,400	14,500	9,800	6,250	6,390	7,260	9,070	13,700	19,700
17	28,800	11,700	17,500	17,100	14,500	9,790	6,230	6,430	7,400	8,800	13,400	19,600
18	25,800	13,500	16,500	16,600	14,400	9,700	6,270	6,440	7,740	9,080	13,200	19,400
19	23,400	16,600	15,700	16,600	14,800	9,330	6,340	6,500	8,150	8,990	13,500	18,100
20	24,500	15,800	16,000	16,400	15,000	8,650	6,260	6,570	7,940	9,030	14,400	18,400
21	22,300	15,400	15,300	16,800	14,700	8,500	6,230	6,620	7,640	9,290	14,700	20,600
22	20,600	18,400	16,400	15,700	14,300	8,260	6,160	6,650	7,580	9,220	13,600	22,200
23	21,200	18,800	16,500	15,300	13,900	8,090	6,140	6,590	7,760	9,040	13,200	26,100
24	21,600	17,500	16,000	16,100	13,700	8,060	6,070	6,580	7,680	9,960	13,600	24,600
25	21,600	16,600	15,100	16,000	14,200	8,100	6,070	6,560	7,870	9,800	14,500	23,500
26	20,500	16,000	14,200	16,000	14,100	7,960	6,080	6,550	7,950	9,180	17,200	21,700
27	18,700	15,400	16,800	15,500	14,100	7,700	6,040	6,550	8,120	9,750	16,100	20,800
28	19,100	15,800	16,900	15,500	14,200	7,630	6,100	6,590	8,180	9,890	15,300	19,300
29	18,200	17,200	16,000	15,100	13,900	7,510	6,150	6,590	8,470	10,200	14,800	17,500
30	17,400		15,100	14,900	14,100	7,300	6,120	6,580	8,770	10,200	17,500	17,100
31	16,500		15,500		14,400		6,100	6,570		10,200		16,300

00065, Gage height, feet,												
Day of month	25 th percentile of daily mean values for each day for 20 - 22 years of record in, ft (Calculation Period 1987-10-01 -> 2009-09-30)											
	Period-of-record for statistical calculation restricted by user											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	7.87	7.69	7.98	8.10	7.89	7.70	5.55	5.08	5.24	6.08	6.63	8.02
2	7.90	7.68	7.74	8.45	7.88	7.59	5.46	5.06	5.23	6.09	6.70	8.20
3	8.44	8.51	7.83	8.30	7.89	7.43	5.41	5.04	5.24	6.07	6.90	7.94
4	9.50	8.16	7.74	8.31	7.82	7.32	5.36	5.07	5.32	6.14	6.78	7.91
5	9.50	7.67	7.71	8.50	7.68	7.15	5.32	5.08	5.37	6.26	6.77	8.83
6	9.25	7.66	8.09	8.50	7.71	7.09	5.31	5.05	5.35	6.23	6.66	8.56
7	10.00	7.39	7.99	8.38	7.61	7.18	5.24	5.04	5.31	6.25	6.57	8.25
8	9.44	7.18	8.11	8.38	7.60	6.99	5.21	5.02	5.34	6.29	6.57	9.15
9	9.50	7.02	8.80	8.37	7.77	7.02	5.18	4.98	5.52	6.30	6.85	9.90
10	10.07	6.99	8.53	8.50	7.76	6.86	5.10	5.00	5.63	6.27	7.30	9.58
11	10.89	6.90	8.30	8.95	7.67	6.68	5.06	5.04	5.65	6.25	7.56	9.56
12	11.61	6.92	8.03	8.91	7.66	6.55	5.04	5.04	5.66	6.21	7.59	9.13
13	12.00	7.02	7.78	9.19	7.68	6.46	5.02	5.05	5.65	6.19	7.70	9.00
14	12.42	6.97	7.62	9.25	7.81	6.32	5.00	5.10	5.61	6.16	7.72	8.64
15	11.77	6.86	8.37	8.86	7.81	6.33	5.01	5.12	5.60	6.13	7.65	8.71
16	11.38	6.74	8.50	8.59	7.73	6.21	5.02	5.11	5.61	6.17	7.62	8.93
17	10.82	7.12	8.48	8.46	7.75	6.26	5.02	5.12	5.71	6.16	7.48	8.89
18	10.25	7.78	8.33	8.36	7.73	6.19	5.07	5.14	5.77	6.22	7.34	8.98
19	9.95	8.27	8.15	8.28	7.83	6.04	5.02	5.16	5.82	6.21	7.54	8.65
20	10.09	8.18	8.21	8.19	7.88	5.89	4.98	5.16	5.80	6.22	7.79	8.71
21	9.57	8.09	7.97	8.34	7.80	5.92	4.95	5.16	5.76	6.29	7.77	9.19
22	9.16	8.65	8.26	8.03	7.74	5.80	4.94	5.20	5.70	6.29	7.44	9.59
23	9.31	8.62	8.27	7.94	7.62	5.79	4.93	5.23	5.73	6.23	7.31	10.57
24	9.43	8.39	8.14	8.20	7.56	5.78	4.92	5.25	5.70	6.43	7.51	10.12
25	9.43	8.18	7.91	8.21	7.65	5.78	4.94	5.24	5.75	6.41	7.79	9.86
26	9.16	8.00	7.69	8.05	7.65	5.73	4.96	5.21	5.78	6.21	8.36	9.47
27	8.70	7.94	8.32	8.23	7.64	5.72	4.95	5.20	5.84	6.41	8.07	9.54
28	9.28	7.99	8.33	8.10	7.61	5.73	4.95	5.19	5.86	6.45	7.93	9.19
29	8.31	8.27	8.16	7.99	7.62	5.66	4.93	5.20	5.90	6.52	7.86	8.57
30	8.08		7.98	7.82	7.59	5.57	4.97	5.25	6.07	6.50	8.45	8.36
31	7.84		7.87		7.66		5.04	5.24		6.53		8.20

Source of Data:

http://waterdata.usgs.gov/nwis/dvstat?referred_module=sw&site_no=14191000&por_14191000_2=546606.00060.2.1909-10-01.2010-01-11&site_no=14191000&por_14191000_3=546606.00065.3.1988-06-01.2010-01-11&start_dt=1988-06-01&end_dt=2009-09-30&format=html_table&stat_cds=p25_va&date_format=YYYY-MM-DD&compression=file&submitted_form=parameter_selection_list

MINTO BROWN ISLAND PEDESTRIAN BRIDGE WATER ELEVATION DATA
USGS Data considering the range of data available for both discharge and gage

Flow Limit 29517 cfs
70 days > limit

Gage (EL) Limit 11.00 ft
77 days > limit

00060, Discharge, cubic feet per second,												
Day of month	50 th percentile of daily mean values for each day for 21 - 22 years of record in, cfs (Calculation Period 1987-10-01 -> 2009-09-30)											
	Period-of-record for statistical calculation restricted by user											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	35,700	36,200	21,000	20,800	16,300	16,900	8,350	6,570	7,050	9,960	13,500	35,400
2	31,300	34,100	23,100	20,200	16,400	16,100	8,100	6,620	7,110	10,200	13,100	37,800
3	31,300	32,200	22,600	20,200	17,400	15,400	7,820	6,630	7,240	10,500	13,000	42,000
4	33,800	29,500	21,700	19,300	17,100	15,900	7,700	6,660	7,260	10,400	13,600	38,800
5	36,400	26,800	24,100	19,000	16,400	15,100	7,630	6,690	7,340	10,300	13,800	37,000
6	36,900	30,800	26,700	19,000	15,800	14,200	7,430	6,640	7,370	10,500	16,400	34,900
7	35,900	27,300	27,100	18,200	16,500	14,300	7,390	6,610	7,380	10,500	17,900	31,800
8	44,700	29,100	25,900	21,000	16,500	14,300	7,370	6,650	7,680	10,400	18,900	29,100
9	44,900	31,800	23,400	21,200	16,600	13,400	7,190	6,750	7,910	10,500	18,600	32,600
10	45,300	28,700	23,700	24,000	16,300	13,500	7,120	6,730	8,010	10,300	17,800	37,300
11	56,400	25,300	24,500	23,100	16,400	12,900	7,180	6,730	8,330	10,400	17,300	37,300
12	56,700	23,500	23,300	23,000	16,200	13,400	7,130	6,700	8,480	10,700	17,100	36,200
13	58,100	22,200	21,900	22,600	16,100	13,000	7,140	6,680	8,610	10,600	17,700	42,100
14	53,900	23,500	23,500	23,900	16,000	12,800	7,160	6,750	8,610	10,700	18,300	37,700
15	49,400	21,500	25,000	23,500	17,300	11,900	7,080	6,770	8,700	10,700	17,800	32,900
16	51,900	20,800	25,800	20,800	18,800	11,900	6,990	6,740	8,590	10,800	16,800	30,900
17	48,600	21,200	23,100	20,700	18,600	11,800	6,880	6,760	8,680	11,000	17,900	38,000
18	43,100	22,800	22,200	22,500	17,400	11,500	6,910	6,820	8,750	11,200	18,700	37,500
19	42,400	23,800	21,200	22,400	16,700	11,100	6,780	6,790	9,020	12,000	19,800	35,300
20	38,500	25,000	21,300	21,300	16,400	10,700	6,730	6,800	9,330	12,400	20,000	32,500
21	42,500	28,000	21,700	20,400	15,800	10,300	6,680	6,860	9,360	12,600	22,300	33,700
22	39,500	26,700	24,500	21,000	15,900	9,960	6,780	6,960	9,220	12,400	23,300	36,500
23	37,100	26,000	25,200	20,400	16,000	9,570	6,700	6,950	9,410	12,200	25,000	34,400
24	40,100	23,900	24,200	19,500	15,600	9,610	6,690	6,820	9,370	12,200	26,700	35,000
25	36,800	26,600	23,500	18,800	15,400	9,600	6,710	6,790	9,500	12,200	31,200	34,600
26	33,000	23,700	23,900	17,900	15,900	9,270	6,670	6,880	9,600	12,300	34,700	32,500
27	33,000	21,500	23,200	18,500	15,100	8,920	6,570	6,880	9,730	11,900	32,100	30,500
28	38,300	19,700	23,300	18,000	16,000	8,800	6,510	6,980	9,770	12,700	28,800	30,000
29	39,400	26,200	22,100	18,100	16,600	8,620	6,450	7,100	9,790	13,500	28,700	30,800
30	41,200		19,900	17,400	16,600	8,500	6,460	7,120	9,730	12,900	29,600	41,300
31	38,100		20,200		16,300		6,520	7,140		12,600		37,500

00065, Gage height, feet,												
Day of month	50 th percentile of daily mean values for each day for 21 - 22 years of record in, cfs (Calculation Period 1987-10-01 -> 2009-09-30)											
	Period-of-record for statistical calculation restricted by user											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	12.34	12.65	9.51	9.42	8.23	8.34	5.81	5.36	5.50	6.37	7.50	11.75
2	11.80	12.31	9.91	9.26	8.06	7.96	5.76	5.39	5.49	6.40	7.53	12.48
3	11.35	11.60	9.74	9.23	8.35	7.92	5.68	5.34	5.50	6.54	7.40	13.07
4	12.70	11.25	9.82	9.13	8.32	8.05	5.62	5.38	5.53	6.57	7.54	12.84
5	13.20	10.93	10.26	9.10	8.25	7.91	5.58	5.37	5.55	6.54	7.58	12.28
6	12.74	11.66	10.50	8.82	8.12	7.78	5.56	5.34	5.64	6.49	8.19	11.97
7	13.42	11.06	10.64	8.83	8.22	7.85	5.53	5.38	5.66	6.55	8.72	11.35
8	14.68	11.98	10.37	9.35	8.15	7.70	5.53	5.39	5.68	6.60	9.03	10.87
9	14.60	11.71	9.90	9.46	8.22	7.46	5.47	5.39	5.68	6.61	8.84	11.54
10	15.37	11.24	10.15	9.83	8.00	7.38	5.46	5.37	5.74	6.56	8.72	12.39
11	15.87	10.65	10.05	9.86	8.06	7.33	5.46	5.38	5.88	6.55	8.70	12.80
12	16.31	10.17	9.86	9.91	8.07	7.37	5.46	5.39	5.99	6.58	8.83	12.57
13	16.27	10.05	9.75	9.74	8.17	7.34	5.49	5.38	5.97	6.54	8.86	13.41
14	16.43	10.03	9.84	9.80	8.29	7.24	5.48	5.36	6.03	6.54	8.79	12.05
15	15.48	9.66	10.04	9.79	8.58	6.92	5.44	5.35	6.01	6.62	8.72	11.07
16	15.33	9.59	10.34	9.29	8.99	7.08	5.42	5.36	6.04	6.75	8.59	11.09
17	15.03	9.52	9.96	9.26	8.80	6.94	5.36	5.39	6.04	6.82	8.90	12.93
18	14.07	9.97	9.56	9.64	8.53	6.88	5.38	5.39	6.01	6.81	9.59	12.64
19	13.78	9.80	9.31	9.51	8.43	6.88	5.39	5.39	6.08	6.98	9.54	12.04
20	12.92	10.45	9.33	9.30	8.21	6.81	5.39	5.40	6.12	7.06	9.54	11.79
21	13.68	10.81	9.39	9.15	8.15	6.61	5.36	5.41	6.13	7.13	9.70	12.07
22	13.41	10.71	9.93	9.14	8.19	6.43	5.32	5.42	6.18	7.16	10.23	12.67
23	12.95	10.55	10.09	9.08	8.13	6.47	5.34	5.43	6.22	7.13	10.39	12.46
24	13.25	10.19	9.88	8.92	8.07	6.38	5.35	5.42	6.29	7.06	11.14	12.57
25	12.41	10.44	10.03	8.75	8.00	6.24	5.31	5.41	6.27	7.01	11.44	12.07
26	11.67	9.88	10.02	8.65	7.98	6.18	5.35	5.41	6.29	7.04	11.87	11.52
27	11.86	9.48	9.91	8.60	7.96	6.11	5.33	5.40	6.31	7.05	11.39	11.30
28	12.90	8.97	9.81	8.50	8.19	6.08	5.28	5.42	6.33	7.38	11.52	11.34
29	13.24	10.71	9.41	8.46	8.19	5.98	5.29	5.46	6.31	7.48	11.34	11.52
30	13.74		9.09	8.30	8.12	5.90	5.29	5.46	6.31	7.54	11.44	12.09
31	13.48		9.17		8.04		5.32	5.46		7.44		12.03

Source of Data:

http://waterdata.usgs.gov/nwis/dvstat?referred_module=sw&site_no=14191000&por_14191000_2=546606.00060.2.1909-10-01.2010-01-11&site_no=14191000&por_14191000_3=546606.00065.3.1988-06-01.2010-01-11&start_dt=1988-06-01&end_dt=2009-09-30&format=html_table&stat_cds=p50_va&date_format=YYYY-MM-DD&rdp_compression=file&submitted_form=parameter_selection_list

MINTO BROWN ISLAND PEDESTRIAN BRIDGE WATER ELEVATION DATA
USGS Data considering the range of data available for both discharge and gage

Flow Limit 29517 cfs
 136 days > limit

Gage (EL) Limit 11.00 ft
 143 days > limit

00060, Discharge, cubic feet per second,												
Day of month	75 th percentile of daily mean values for each day for 21 - 22 years of record in, cfs (Calculation Period 1987-10-01 -> 2009-09-30)											
	Period-of-record for statistical calculation restricted by user											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	75,600	66,100	31,000	25,400	24,700	20,300	9,570	7,260	7,500	10,800	17,500	62,100
2	69,900	68,100	33,200	24,200	24,600	21,400	9,290	7,250	7,670	11,100	19,600	67,100
3	66,500	63,900	33,800	24,400	22,900	20,800	8,720	7,300	8,000	11,100	18,800	72,800
4	77,300	58,200	37,800	23,000	23,800	21,300	8,430	7,190	8,010	11,400	19,700	68,300
5	75,300	49,900	39,300	24,500	24,300	20,900	8,360	7,140	8,030	11,700	20,900	65,000
6	67,000	49,800	37,300	23,900	25,800	19,200	8,270	7,140	8,180	11,800	23,300	60,500
7	62,400	49,100	35,400	23,400	25,600	19,400	8,220	7,210	8,360	12,100	27,200	63,300
8	65,700	47,400	37,600	23,400	25,400	19,800	8,130	7,220	8,550	12,300	25,000	70,500
9	67,900	46,200	33,900	27,100	27,200	19,000	8,070	7,260	8,900	13,000	25,500	65,300
10	71,100	42,100	32,300	29,000	24,300	18,200	8,090	7,240	8,960	13,400	26,300	56,400
11	74,500	36,900	33,300	33,300	26,800	18,100	8,130	7,190	9,170	13,300	25,400	60,600
12	77,200	33,100	33,600	31,300	27,200	17,300	8,010	7,150	9,200	12,900	24,800	55,500
13	75,700	30,700	34,500	27,900	27,100	18,300	7,910	7,120	8,960	12,300	26,900	49,500
14	74,900	30,200	31,900	26,500	26,100	17,100	7,630	7,090	9,230	12,100	30,100	68,700
15	68,600	28,500	31,600	26,200	25,300	16,200	7,540	7,050	9,330	12,600	29,500	75,300
16	67,300	28,600	40,200	27,500	24,900	15,100	7,490	7,080	9,360	12,900	28,500	75,600
17	73,300	30,700	37,300	28,600	25,600	14,600	7,580	7,180	9,600	13,200	28,600	77,200
18	69,500	38,900	34,800	27,200	26,700	13,700	7,600	7,200	9,730	13,300	32,300	68,600
19	66,700	37,000	32,100	26,100	27,800	13,300	7,510	7,390	9,860	13,500	33,800	64,700
20	67,100	37,800	34,400	26,300	29,200	12,600	7,570	7,360	10,000	14,800	30,400	61,100
21	62,100	37,400	35,600	26,000	32,700	11,800	7,620	7,320	10,400	14,500	37,400	58,400
22	67,500	42,800	40,700	25,600	31,500	11,600	7,570	7,260	10,600	15,200	44,600	50,200
23	67,300	36,700	37,900	23,300	29,300	11,400	7,500	7,690	10,700	15,700	45,100	51,000
24	56,900	35,000	33,900	21,100	27,400	10,800	7,480	7,550	10,500	15,000	43,400	51,000
25	62,800	35,600	32,100	20,900	24,400	10,700	7,420	7,570	10,600	14,900	41,100	42,700
26	71,300	36,900	30,000	20,700	22,700	10,600	7,300	7,480	10,600	15,200	66,800	37,200
27	65,200	40,900	30,600	20,600	22,700	10,300	7,260	7,530	10,800	15,000	65,900	45,100
28	63,100	34,900	31,400	26,700	22,500	10,200	7,240	7,440	10,700	16,300	66,900	55,600
29	59,700	36,200	28,600	26,300	23,800	10,200	7,310	7,430	10,600	16,900	69,400	61,500
30	57,700		30,400	25,400	25,100	9,860	7,260	7,440	10,800	17,000	62,400	73,000
31	57,400		27,600		22,300		7,300	7,450		15,800		73,300

00065, Gage height, feet,												
Day of month	75 th percentile of daily mean values for each day for 21 - 22 years of record in, cfs (Calculation Period 1987-10-01 -> 2009-09-30)											
	Period-of-record for statistical calculation restricted by user											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	19.15	18.68	11.75	10.32	10.14	9.27	6.60	5.65	5.60	6.72	8.52	16.93
2	18.35	18.70	12.14	9.93	10.31	9.36	6.49	5.69	5.73	6.78	9.06	17.97
3	17.19	17.89	12.21	10.32	9.91	9.24	6.31	5.82	5.74	6.78	8.98	18.82
4	19.39	16.77	13.26	9.98	10.16	9.41	6.20	5.69	5.76	6.93	9.18	18.14
5	19.15	15.41	13.32	10.14	9.96	9.53	6.12	5.66	5.80	7.06	9.40	17.66
6	17.89	15.16	12.74	9.93	10.50	9.27	6.02	5.64	5.82	6.98	9.93	16.87
7	17.18	15.28	12.10	9.75	10.43	8.97	5.96	5.64	5.91	7.01	10.80	17.30
8	17.55	14.53	12.89	9.75	10.39	9.00	5.89	5.63	6.05	7.06	10.21	18.41
9	18.02	14.38	12.19	10.69	10.70	8.75	5.84	5.60	6.13	7.20	10.41	17.70
10	18.50	13.63	11.77	10.94	10.19	8.73	5.78	5.56	6.14	7.39	10.48	16.35
11	19.02	12.85	11.73	11.71	10.46	8.51	5.84	5.54	6.20	7.38	10.36	16.83
12	19.39	12.06	12.11	11.35	10.67	8.37	5.84	5.55	6.15	7.22	10.20	15.82
13	19.12	11.58	12.30	10.72	10.56	8.90	5.76	5.53	6.15	7.18	10.43	14.83
14	19.14	11.41	11.78	10.37	10.36	8.56	5.67	5.55	6.17	7.14	11.34	18.08
15	18.10	10.99	11.58	10.25	10.25	8.37	5.65	5.58	6.22	7.13	11.83	19.17
16	17.93	10.92	13.12	10.64	10.21	8.05	5.60	5.60	6.24	7.22	11.35	19.22
17	18.90	11.68	12.61	10.89	10.22	7.93	5.67	5.60	6.27	7.31	11.03	19.38
18	18.35	13.44	12.00	10.68	10.73	7.64	5.69	5.64	6.31	7.34	11.60	18.12
19	17.93	12.81	11.57	10.59	11.16	7.46	5.66	5.68	6.36	7.46	12.05	17.53
20	17.98	13.17	12.10	10.49	11.47	7.29	5.65	5.63	6.49	7.73	11.38	16.96
21	17.19	13.11	12.70	10.64	12.14	7.04	5.66	5.72	6.64	7.74	12.72	16.53
22	17.87	14.19	13.36	10.40	11.82	6.92	5.73	5.73	6.67	7.94	14.16	15.32
23	17.84	12.63	12.95	9.93	11.38	6.90	5.77	5.74	6.68	8.03	14.15	15.42
24	16.12	12.15	12.20	9.34	10.82	6.78	5.77	5.75	6.64	7.83	13.87	15.37
25	17.25	12.42	11.81	9.38	10.00	6.83	5.74	5.68	6.62	7.80	13.39	13.90
26	18.56	12.65	11.34	9.29	10.29	6.85	5.71	5.73	6.66	7.94	17.73	12.84
27	17.67	13.33	11.39	9.21	9.56	6.69	5.70	5.73	6.70	7.86	17.49	14.33
28	17.74	12.30	11.75	10.43	9.48	6.65	5.69	5.72	6.62	8.20	17.96	16.30
29	16.88	12.68	11.14	10.38	10.15	6.66	5.69	5.71	6.55	8.32	18.19	16.96
30	16.33		11.18	10.25	10.36	6.62	5.67	5.67	6.64	8.30	17.26	18.78
31	16.52		10.59		9.88		5.69	5.65		8.04		18.77

Source of Data:

http://waterdata.usgs.gov/nwis/dvstat?referred_module=sw&site_no=14191000&por_14191000_2=546606.00060.2.1909-10-01.2010-01-11&site_no=14191000&por_14191000_3=546606.00065.3.1988-06-01.2010-01-11&start_dt=1988-06-01&end_dt=2009-09-30&format=html_table&stat_cds=p75_va&date_format=YYYY-MM-DD&rdp_compression=file&submitted_form=parameter_selection_list

MINTO BROWN ISLAND PEDESTRIAN BRIDGE WATER ELEVATION DATA
USGS Data considering the range of data available for both discharge and gage

Flow Limit 29517 cfs
 164 days > limit

Gage (EL) Limit 11.00 ft
 176 days > limit

00060, Discharge, cubic feet per second,												
Day of month	80 th percentile of daily mean values for each day for 21 - 22 years of record in, cfs (Calculation Period 1987-10-01 -> 2009-09-30)											
	Period-of-record for statistical calculation restricted by user											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	82,600	80,600	34,500	27,600	27,800	22,600	10,100	7,500	7,590	11,300	21,300	64,100
2	87,500	81,700	35,100	25,100	27,100	25,100	9,860	7,520	7,830	11,300	20,300	76,000
3	82,400	73,700	36,900	27,600	28,800	24,700	9,590	7,670	8,030	11,300	21,300	76,700
4	85,500	63,400	42,300	27,500	27,300	23,100	9,380	7,550	8,060	11,700	22,300	69,500
5	81,600	55,500	40,300	26,600	26,900	22,200	9,280	7,500	8,170	12,900	22,100	68,700
6	74,700	57,200	38,400	29,900	28,300	21,000	9,130	7,420	8,220	13,200	26,300	66,200
7	65,700	57,700	38,100	30,800	28,800	20,800	9,010	7,370	8,420	13,400	29,600	70,500
8	67,300	47,700	40,000	30,600	29,000	22,700	8,770	7,350	8,780	13,400	27,700	74,100
9	76,100	47,000	36,700	32,100	28,100	22,300	8,580	7,360	9,020	13,300	27,900	69,800
10	76,000	43,000	35,800	33,100	26,000	20,900	8,390	7,320	9,020	13,600	28,100	63,300
11	79,900	38,800	35,300	34,400	29,000	21,600	8,220	7,250	9,250	13,700	25,800	62,200
12	78,400	34,100	37,200	33,300	28,800	20,200	8,220	7,240	9,330	13,300	27,000	61,400
13	79,700	31,400	40,700	29,500	28,600	19,400	8,050	7,210	9,340	13,400	27,800	53,700
14	77,200	31,500	42,800	29,900	28,200	18,400	7,870	7,190	9,280	12,900	35,100	73,700
15	81,000	29,500	40,800	31,800	27,600	19,000	7,740	7,160	9,600	13,200	36,400	86,800
16	79,700	29,300	41,800	31,400	27,100	19,200	7,560	7,190	9,760	13,300	31,100	84,900
17	77,300	37,200	38,700	30,700	25,900	16,900	7,590	7,230	9,840	13,400	30,300	80,800
18	77,600	41,100	36,100	29,000	30,300	15,100	7,710	7,370	9,830	13,400	37,100	75,000
19	75,400	41,700	40,400	30,100	36,400	13,800	7,790	7,530	9,960	14,300	35,600	69,800
20	76,600	43,800	42,300	27,800	37,800	13,800	7,680	7,480	10,400	15,700	37,400	66,700
21	70,600	48,200	42,900	30,600	37,400	14,200	7,740	7,540	10,800	15,300	44,800	64,400
22	73,200	47,800	44,100	29,100	38,100	13,100	7,780	7,550	11,100	15,800	47,300	58,400
23	73,900	46,700	40,300	26,900	34,800	12,700	7,640	7,850	11,000	16,800	60,200	60,500
24	71,800	41,000	39,800	30,200	31,600	12,300	7,640	7,930	10,800	16,300	62,600	59,300
25	77,600	40,300	37,300	34,500	28,900	11,200	7,570	7,690	10,800	15,800	66,000	53,500
26	82,000	46,200	35,600	31,300	28,000	10,900	7,520	7,560	11,200	15,800	77,200	45,400
27	76,700	43,500	34,600	29,100	26,900	10,700	7,480	7,590	11,300	16,600	73,200	48,700
28	70,100	39,000	37,600	32,000	26,700	10,500	7,450	7,460	11,100	17,300	68,400	62,500
29	64,900	38,100	34,800	30,000	25,600	10,300	7,470	7,480	11,000	17,000	74,800	75,800
30	60,300		32,500	30,100	27,300	10,100	7,460	7,490	11,200	17,900	68,500	80,800
31	65,300		32,000		24,800		7,510	7,540		18,200		80,300

00065, Gage height, feet,												
Day of month	80 th percentile of daily mean values for each day for 20 - 22 years of record in, ft (Calculation Period 1987-10-01 -> 2009-09-30)											
	Period-of-record for statistical calculation restricted by user											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	20.15	20.03	12.15	11.00	11.00	9.81	6.66	5.89	5.68	6.82	9.51	17.49
2	20.72	20.36	12.62	10.31	10.80	10.32	6.57	5.89	5.77	6.88	9.28	19.31
3	17.95	19.09	12.94	10.77	11.19	10.27	6.48	5.97	5.78	6.87	9.47	19.40
4	20.52	17.38	13.78	10.73	10.69	10.16	6.41	5.81	5.79	7.01	9.70	18.33
5	20.06	16.09	13.45	10.38	10.73	9.82	6.38	5.78	5.84	7.40	9.71	18.11
6	18.94	16.66	12.95	11.03	11.17	9.52	6.33	5.77	5.89	7.37	10.74	17.76
7	17.59	16.79	12.61	11.20	11.17	9.09	6.29	5.76	5.92	7.39	11.29	18.37
8	17.94	14.62	13.49	11.18	11.22	9.31	6.21	5.75	6.11	7.42	10.94	18.94
9	19.25	14.41	12.48	11.48	10.83	9.18	6.14	5.72	6.15	7.40	11.00	18.27
10	19.23	13.69	12.32	11.69	10.41	8.99	6.08	5.68	6.20	7.53	11.01	17.55
11	19.71	13.03	12.24	11.91	10.95	9.23	6.07	5.66	6.21	7.49	10.42	17.12
12	19.54	12.15	12.57	11.71	10.91	9.09	6.04	5.66	6.20	7.38	10.62	16.99
13	19.76	11.82	13.22	10.98	11.13	9.00	5.88	5.64	6.24	7.32	10.88	15.78
14	19.45	11.86	13.60	11.16	10.77	8.85	5.78	5.65	6.22	7.31	12.28	18.89
15	20.47	11.06	13.21	11.51	10.74	8.98	5.73	5.66	6.24	7.43	12.58	20.78
16	19.70	11.34	13.30	11.54	10.46	8.99	5.68	5.71	6.28	7.47	11.49	20.53
17	19.47	13.05	12.80	11.44	10.45	8.36	5.73	5.71	6.34	7.50	11.26	19.89
18	19.50	13.71	12.37	10.94	11.65	7.90	5.87	5.76	6.55	7.52	12.58	19.07
19	19.20	13.92	13.18	11.30	12.75	7.55	5.86	5.76	6.58	7.64	12.18	18.31
20	19.38	14.07	14.09	11.00	12.96	7.70	5.87	5.75	6.61	8.09	12.52	17.85
21	18.48	15.30	13.96	11.42	13.05	7.85	5.86	5.76	6.73	7.98	14.06	17.49
22	18.86	14.83	13.85	11.06	13.17	7.48	5.87	5.83	6.74	7.97	14.53	16.64
23	18.94	15.01	13.54	10.63	12.21	7.31	6.00	5.76	6.73	8.28	16.54	16.84
24	18.55	13.29	13.18	11.07	11.65	7.30	5.99	5.81	6.71	8.18	17.19	16.58
25	19.47	13.37	12.68	11.91	11.13	7.02	5.97	5.74	6.73	7.98	17.37	15.73
26	20.13	14.26	12.59	11.51	11.36	6.94	5.96	5.82	6.80	8.04	19.35	14.31
27	19.39	13.67	12.43	11.10	10.53	6.93	5.95	5.83	6.81	8.26	18.66	15.09
28	18.56	13.03	13.08	11.75	10.52	6.84	5.92	5.82	6.77	8.41	18.08	17.34
29	17.87	12.99	12.21	11.38	10.45	6.78	5.92	5.80	6.80	8.45	19.05	19.15
30	16.95		11.85	11.41	10.80	6.71	5.90	5.78	6.81	8.57	18.01	19.81
31	17.93		11.77		10.38		5.89	5.73		8.63		19.76

Source of Data:

http://waterdata.usgs.gov/nwis/dvstat?referred_module=sw&site_no=14191000&por_14191000_2=546606.00060.2.1909-10-01.2010-01-11&site_no=14191000&por_14191000_3=546606.00065.3.1988-06-01.2010-01-11&start_dt=1988-06-01&end_dt=2009-09-30&format=html_table&stat_cds=p80_va&date_format=YYYY-MM-DD&rdp_compression=file&submitted_form=parameter_selection_list

MINTO BROWN ISLAND PEDESTRIAN BRIDGE WATER ELEVATION DATA
USGS Data considering the range of data available for both discharge and gage

Flow Limit 29517 cfs
 216 days > limit

Gage (EL) Limit 11.00 ft
 219 days > limit

00060, Discharge, cubic feet per second,												
Day of month	90 th percentile of daily mean values for each day for 21 - 22 years of record in, cfs (Calculation Period 1987-10-01 -> 2009-09-30)											
	Period-of-record for statistical calculation restricted by user											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	134,000	94,200	41,100	40,500	38,800	33,800	11,900	8,440	8,390	13,500	38,500	91,100
2	126,000	92,300	38,600	38,200	35,200	34,800	11,900	8,410	8,460	13,500	36,200	96,100
3	112,000	88,400	46,400	37,900	37,400	38,900	12,100	8,420	8,430	13,500	32,400	96,700
4	99,600	87,600	46,200	40,700	37,700	39,700	11,900	8,410	8,420	14,600	30,000	95,700
5	90,600	78,800	57,000	38,000	41,000	36,400	11,500	8,240	8,460	14,800	30,900	91,700
6	87,700	71,100	56,000	36,600	41,000	34,000	11,000	8,200	8,660	14,900	32,100	88,200
7	89,100	69,700	50,700	38,900	41,200	31,400	10,700	8,300	9,130	14,300	32,300	85,200
8	93,800	72,600	46,300	35,900	42,400	31,700	10,600	8,520	9,340	14,700	30,900	82,900
9	91,300	69,900	39,800	34,800	40,300	30,600	10,100	8,480	9,480	14,400	30,700	80,900
10	87,900	57,600	47,200	38,100	34,900	28,100	10,200	8,450	9,580	14,400	33,700	80,900
11	87,500	54,900	48,200	38,800	31,600	26,900	10,000	8,250	9,660	15,300	35,600	84,100
12	89,500	49,400	47,900	36,300	34,600	26,200	9,840	8,180	9,590	17,500	48,600	92,600
13	80,400	43,300	54,400	39,100	32,700	27,600	9,600	8,060	9,700	17,400	55,700	101,000
14	91,000	42,100	53,600	44,800	31,800	27,000	9,410	8,150	9,700	16,300	58,500	104,000
15	100,000	47,300	47,500	43,000	29,300	23,000	9,170	8,300	10,000	15,500	54,400	108,000
16	97,400	50,300	49,200	40,600	31,300	22,300	9,150	8,330	10,900	15,400	47,700	99,500
17	103,000	56,400	62,200	39,700	35,300	21,700	9,050	8,260	11,100	15,100	42,600	87,300
18	91,000	76,100	66,300	41,700	44,500	20,500	9,070	8,450	11,400	15,400	41,500	85,500
19	97,900	86,300	59,600	43,600	51,700	19,500	8,770	8,440	12,300	18,400	50,200	83,500
20	98,500	78,400	54,700	39,400	55,000	18,500	8,530	8,590	12,200	21,700	54,200	78,600
21	103,000	62,400	53,000	36,600	51,400	17,600	8,470	8,660	11,800	20,200	50,100	68,400
22	111,000	56,700	47,500	35,100	46,900	17,500	8,610	8,950	11,400	19,600	62,500	68,800
23	112,000	57,400	60,600	40,100	42,100	15,600	9,120	8,760	11,400	19,400	71,400	66,800
24	105,000	65,200	62,300	47,600	36,300	14,500	9,080	8,870	11,300	17,800	79,800	66,800
25	93,800	68,100	55,800	46,000	32,300	14,300	8,990	8,620	11,500	17,600	87,000	75,000
26	86,100	55,100	58,100	44,500	33,900	14,300	8,940	8,960	12,000	17,400	92,200	83,000
27	85,100	46,800	59,500	44,100	32,500	13,500	8,870	9,430	12,300	18,200	98,500	93,300
28	79,400	43,900	47,300	47,200	29,200	14,100	8,850	9,160	12,900	24,100	91,900	93,900
29	78,900		48,800	42,400	27,500	13,800	8,630	8,680	13,600	23,200	85,600	126,000
30	83,400		50,100	39,200	28,600	12,800	8,470	8,570	13,300	22,600	85,300	129,000
31	83,500		43,900		27,900		8,410	8,410		24,700		130,000

00065, Gage height, feet,												
Day of month	90 th percentile of daily mean values for each day for 20 - 22 years of record in, ft (Calculation Period 1987-10-01 -> 2009-09-30)											
	Period-of-record for statistical calculation restricted by user											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	26.01	21.80	13.49	13.27	12.88	11.85	7.30	6.07	5.91	7.53	12.84	21.36
2	25.25	21.55	13.03	12.69	12.34	12.42	7.29	6.09	5.94	7.51	12.68	22.00
3	23.87	21.06	14.76	12.53	12.55	12.94	7.36	6.02	5.90	7.51	11.94	22.07
4	22.32	20.98	14.61	13.13	12.67	13.00	7.31	6.09	5.89	7.83	11.45	21.93
5	21.16	19.69	16.42	12.62	13.27	12.43	7.11	6.02	5.96	7.87	11.47	21.41
6	20.79	18.73	16.31	12.30	13.24	12.02	6.97	5.99	6.05	7.87	11.58	20.98
7	20.99	18.41	15.15	12.73	13.27	11.58	6.84	5.97	6.13	7.72	11.79	20.56
8	21.68	19.10	14.18	12.18	13.50	11.70	6.59	5.95	6.25	7.73	11.41	20.26
9	21.36	18.67	13.17	12.01	13.09	11.41	6.45	5.93	6.48	7.67	11.49	19.97
10	20.90	16.54	14.66	12.66	12.06	10.88	6.53	5.93	6.44	7.64	12.21	20.16
11	20.82	15.99	14.53	12.80	11.77	10.65	6.64	5.91	6.57	7.99	12.56	20.37
12	21.07	15.08	14.49	12.25	12.30	10.51	6.57	5.91	6.59	8.61	14.92	21.50
13	19.86	13.76	15.66	12.78	11.66	11.11	6.50	5.93	6.59	8.60	15.97	22.55
14	21.43	13.88	15.53	13.86	11.57	10.59	6.42	5.96	6.60	8.29	16.43	22.86
15	22.65	15.07	14.41	13.56	10.92	9.93	6.36	5.96	6.72	8.08	16.02	23.27
16	22.16	15.35	14.70	13.11	11.49	9.72	6.28	5.96	6.98	8.06	15.10	22.35
17	22.76	16.34	16.95	12.95	12.30	9.50	6.26	6.00	7.03	7.98	13.95	20.86
18	21.34	19.69	17.79	13.32	14.26	9.37	6.22	6.05	7.01	8.04	13.77	20.61
19	22.13	21.14	16.76	13.65	15.53	9.15	6.27	6.05	7.19	8.85	15.03	20.34
20	22.25	19.91	16.12	12.85	16.06	8.96	6.21	6.07	7.12	9.58	15.72	19.66
21	22.85	17.23	15.88	12.37	15.44	8.78	6.21	6.08	6.99	9.30	15.02	18.18
22	23.66	16.34	14.74	12.15	14.43	8.67	6.18	6.11	6.96	9.16	17.23	18.21
23	23.82	16.55	16.71	13.41	13.68	8.22	6.24	6.09	6.91	8.91	18.59	17.90
24	22.96	17.65	17.07	14.76	12.59	7.95	6.32	6.05	6.88	8.55	19.79	17.91
25	21.69	18.07	15.99	14.48	11.84	7.92	6.28	6.01	6.98	8.53	20.74	18.98
26	20.69	16.04	16.29	13.87	12.44	7.63	6.27	6.07	7.13	8.48	21.49	20.11
27	20.55	14.66	16.48	13.79	12.12	7.46	6.23	6.23	7.22	8.78	22.28	21.87
28	19.83	13.94	14.36	14.31	11.48	7.65	6.14	6.13	7.41	10.04	21.46	21.77
29	19.84		14.78	13.83	10.91	7.81	6.07	5.91	7.55	9.81	20.62	25.12
30	20.52		14.96	12.97	11.02	7.56	6.10	5.85	7.47	9.83	20.58	25.48
31	20.39		13.82		10.79		6.05	5.85		10.30		25.68

Source of Data:

http://waterdata.usgs.gov/nwis/dvstat?referred_module=sw&site_no=14191000&por_14191000_2=546606.00060.2.1909-10-01.2010-01-11&site_no=14191000&por_14191000_3=546606.00065.3.1988-06-01.2010-01-11&start_dt=1988-06-01&end_dt=2009-09-30&format=html_table&stat_cds=p90_va&date_format=YYYY-MM-DD&rdp_compression=file&submitted_form=parameter_selection_list

MINTO BROWN ISLAND PEDESTRIAN BRIDGE WATER ELEVATION DATA
USGS Data considering the range of data available for both discharge and gage

Flow Limit 29517 cfs
 227 days > limit

Gage (EL) Limit 11.00 ft
 230 days > limit

00060, Discharge, cubic feet per second,												
Day of month	95 th percentile of daily mean values for each day for 21 - 22 years of record in, cfs (Calculation Period 1987-10-01 -> 2009-09-30)											
	Period-of-record for statistical calculation restricted by user											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	158,000	99,500	92,300	49,300	60,400	41,500	15,400	9,210	9,300	14,400	43,200	96,100
2	163,000	108,000	90,200	45,600	50,400	48,100	15,100	9,280	9,270	15,300	46,700	101,000
3	153,000	103,000	84,200	43,900	45,200	52,400	14,200	9,080	9,320	17,000	41,400	104,000
4	138,000	91,400	82,100	57,100	48,600	49,800	13,300	8,730	10,500	18,900	36,400	102,000
5	125,000	90,200	80,200	65,000	45,400	48,800	12,700	8,630	10,500	21,700	39,500	106,000
6	115,000	85,800	67,300	60,700	42,400	49,600	12,100	8,620	10,500	23,100	37,400	112,000
7	106,000	114,000	52,600	53,500	49,800	44,900	11,700	8,630	10,600	20,800	36,900	118,000
8	99,400	207,000	54,900	49,000	49,500	41,400	10,800	8,760	10,700	19,300	60,500	127,000
9	95,500	211,000	61,700	50,600	47,600	37,300	10,600	8,920	10,600	20,400	54,700	131,000
10	102,000	187,000	57,000	60,700	44,700	34,800	10,500	8,660	10,900	23,900	52,200	125,000
11	116,000	149,000	67,400	66,100	40,200	32,200	10,800	8,570	11,200	24,400	53,600	118,000
12	126,000	120,000	73,000	64,200	36,700	31,600	10,600	8,520	11,300	25,800	57,800	111,000
13	121,000	101,000	73,300	54,600	36,300	30,700	10,400	8,600	11,400	25,400	60,200	113,000
14	111,000	93,900	66,100	47,600	32,700	28,400	10,200	8,740	11,600	24,200	63,200	114,000
15	114,000	90,200	53,900	59,900	31,900	25,400	9,950	8,760	12,100	22,300	58,600	115,000
16	120,000	87,200	53,600	61,800	32,800	23,900	9,800	8,790	12,800	21,300	54,700	110,000
17	108,000	84,600	65,200	59,500	40,500	22,200	9,670	8,880	14,300	20,000	54,500	101,000
18	126,000	88,500	74,400	55,500	48,100	21,500	9,510	9,060	16,000	19,500	48,800	92,800
19	134,000	97,300	78,200	49,000	62,700	20,600	9,550	9,120	15,800	19,800	78,300	87,600
20	133,000	97,400	75,900	41,300	64,200	20,000	9,400	9,220	14,900	23,300	123,000	79,300
21	124,000	89,500	71,200	41,400	55,500	20,300	9,330	9,470	14,500	26,600	142,000	75,200
22	121,000	82,400	67,400	39,000	48,700	20,300	9,200	9,530	14,300	24,300	139,000	70,200
23	121,000	83,300	75,200	45,500	52,800	20,000	9,770	9,420	13,800	20,700	120,000	68,600
24	112,000	81,500	79,400	65,800	55,600	18,900	10,700	9,410	13,700	20,600	105,000	68,100
25	98,700	73,100	74,400	75,300	49,500	16,800	10,800	9,650	13,600	29,300	102,000	81,700
26	91,900	66,600	71,900	77,200	40,600	15,700	10,500	9,660	13,700	34,600	100,000	110,000
27	86,300	64,600	68,100	69,700	33,600	16,000	9,780	10,000	13,900	31,100	101,000	141,000
28	85,300	81,900	67,700	53,500	29,900	15,600	9,340	9,710	14,000	27,000	95,500	144,000
29	88,100		62,200	64,700	28,100	15,700	9,240	9,510	13,900	26,800	92,800	139,000
30	93,200		53,300	66,600	35,900	15,700	9,340	9,390	13,700	26,000	91,500	154,000
31	93,700		50,900		44,300		9,130	9,310		37,600		146,000

00065, Gage height, feet,												
Day of month	95 th percentile of daily mean values for each day for 20 - 22 years of record in, ft (Calculation Period 1987-10-01 -> 2009-09-30)											
	Period-of-record for statistical calculation restricted by user											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	28.34	22.42	21.36	14.81	16.64	13.76	7.97	6.15	6.21	7.77	14.05	22.00
2	28.85	23.50	21.52	14.06	14.94	14.59	7.93	6.14	6.20	8.04	14.46	22.53
3	28.17	22.96	20.67	13.73	14.15	15.27	7.65	6.09	6.21	8.51	13.50	22.90
4	26.41	21.41	20.39	16.09	14.76	14.83	7.41	6.14	6.57	8.97	12.56	22.60
5	25.15	21.33	20.00	17.40	14.18	14.63	7.31	6.13	6.60	9.66	13.10	23.08
6	24.09	20.73	18.07	16.68	13.47	14.79	7.13	6.16	6.60	9.99	12.68	23.77
7	23.11	24.15	15.42	15.47	14.80	14.07	7.05	6.24	6.63	9.44	12.81	24.44
8	22.42	32.68	15.72	14.68	14.74	13.38	7.01	6.38	6.66	9.07	16.78	25.33
9	21.93	33.06	16.92	14.95	14.42	12.59	6.96	6.41	6.68	9.36	15.78	25.73
10	22.64	31.14	16.16	16.68	13.88	12.10	6.92	6.33	6.76	10.16	15.39	25.41
11	24.16	27.84	17.97	17.56	13.10	11.57	6.88	6.25	6.88	10.29	15.62	24.41
12	25.26	24.97	18.80	17.26	12.53	11.46	6.88	6.21	6.92	10.61	16.34	23.76
13	24.75	22.76	18.84	15.64	12.38	11.29	6.82	6.18	6.94	10.52	16.91	23.94
14	23.75	21.98	17.79	14.41	11.66	11.15	6.80	6.23	6.99	10.25	17.38	23.96
15	24.16	21.48	15.88	16.61	11.49	10.19	6.72	6.26	7.11	9.83	16.69	24.12
16	24.78	21.07	15.84	16.93	12.12	9.84	6.74	6.25	7.34	9.57	15.86	23.59
17	23.38	20.65	17.68	16.53	13.58	9.64	6.72	6.22	7.77	9.26	15.80	22.53
18	25.22	21.06	18.95	15.87	14.54	9.45	6.62	6.18	8.25	9.13	14.82	21.59
19	26.10	22.16	19.52	14.68	17.08	9.23	6.52	6.17	8.15	9.21	19.45	20.88
20	25.92	22.25	19.33	13.26	17.33	9.10	6.43	6.19	7.91	9.91	24.79	19.75
21	25.04	21.32	18.57	13.71	15.85	9.16	6.38	6.27	7.79	10.54	26.55	19.15
22	24.77	20.38	17.85	13.25	15.02	9.17	6.37	6.28	7.75	10.03	26.35	18.40
23	24.84	20.50	19.05	14.47	15.72	9.11	6.36	6.25	7.61	9.44	24.51	18.22
24	23.71	20.05	19.68	17.77	16.16	8.86	6.57	6.24	7.57	9.41	23.02	18.13
25	22.31	18.87	18.93	19.15	15.15	8.32	6.61	6.32	7.56	11.35	22.73	20.05
26	21.46	17.91	18.53	19.37	13.64	8.32	6.51	6.32	7.60	12.42	22.48	23.50
27	20.71	17.60	17.96	18.29	12.34	8.45	6.26	6.43	7.64	11.73	22.59	27.03
28	20.61	20.02	17.89	15.81	11.54	8.31	6.21	6.34	7.67	10.86	21.93	27.22
29	21.02		17.00	17.40	11.12	8.09	6.18	6.26	7.62	10.83	21.58	26.52
30	21.69		15.46	17.65	12.78	8.04	6.18	6.21	7.58	10.68	21.42	27.99
31	21.76		15.02		14.26		6.15	6.19		13.01		27.28

Source of Data:

http://waterdata.usgs.gov/nwis/dvstat?referred_module=sw&site_no=14191000&por_14191000_2=546606.00060.2.1909-10-01.2010-01-11&site_no=14191000&por_14191000_3=546606.00065.3.1988-06-01.2010-01-11&start_dt=1988-06-01&end_dt=2009-09-30&format=html_table&stat_cds=p95_va&date_format=YYYY-MM-DD&rdp_compression=file&submitted_form=parameter_selection_list

MINTO BROWN ISLAND PEDESTRIAN BRIDGE WATER ELEVATION DATA
USGS Data considering the range of data available for both discharge and gage

Flow Limit 29517 cfs
 91 days > limit

Gage (EL) Limit 11.00 ft
 86 days > limit

00060, Discharge, cubic feet per second,												
Day of month	Mean of daily mean values for each day for 21 - 22 years of record in, cfs (Calculation Period 1987-10-01 -> 2009-09-30)											
	Period-of-record for statistical calculation restricted by user											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	50,100	42,400	26,000	22,700	21,700	18,500	8,720	6,830	7,110	10,000	16,900	41,800
2	49,100	42,900	26,000	21,800	20,700	18,900	8,560	6,860	7,160	10,200	17,000	43,400
3	48,400	41,500	26,500	21,600	20,500	18,900	8,340	6,860	7,220	10,300	16,300	44,800
4	48,100	38,600	27,700	22,300	20,400	18,500	8,150	6,850	7,310	10,700	16,000	43,800
5	47,600	35,600	29,200	22,700	20,500	18,100	8,010	6,790	7,400	11,000	17,000	42,500
6	46,400	34,900	28,600	22,400	20,800	17,600	7,870	6,780	7,500	11,100	18,100	41,600
7	45,900	36,200	27,900	22,400	20,800	17,100	7,750	6,800	7,620	11,000	19,100	41,800
8	47,200	40,200	27,300	22,700	20,600	17,100	7,600	6,830	7,780	10,900	20,000	42,600
9	48,300	38,900	26,100	23,400	20,500	16,600	7,470	6,840	7,970	11,100	19,900	42,800
10	50,900	35,300	26,000	25,300	20,000	15,900	7,430	6,800	8,070	11,300	20,200	42,500
11	53,500	31,200	26,300	26,400	19,900	15,200	7,390	6,780	8,230	11,500	20,300	42,200
12	55,200	27,800	26,700	25,800	20,000	14,800	7,300	6,790	8,290	11,700	21,200	42,100
13	54,900	26,000	27,200	25,200	19,900	14,700	7,240	6,780	8,290	11,600	22,600	42,100
14	53,700	25,400	27,000	25,200	19,300	14,100	7,150	6,810	8,340	11,400	24,100	44,500
15	53,800	24,500	26,300	25,300	19,100	13,400	7,070	6,810	8,450	11,300	23,400	46,000
16	53,200	25,100	27,200	24,600	19,300	13,100	7,010	6,840	8,590	11,400	22,200	45,300
17	51,400	26,600	28,500	24,100	20,000	12,600	7,010	6,880	8,770	11,400	22,300	44,800
18	50,400	29,700	28,200	24,000	21,800	12,200	7,040	6,950	9,000	11,500	23,600	43,500
19	48,900	31,300	28,100	23,400	23,300	11,800	7,000	6,990	9,200	12,000	25,600	41,400
20	47,800	31,800	27,900	22,300	23,700	11,400	6,930	6,990	9,310	12,600	28,500	39,300
21	48,100	31,200	27,200	22,100	23,200	11,200	6,900	7,040	9,360	12,700	31,000	38,300
22	48,400	30,700	27,600	21,600	22,400	10,900	6,900	7,110	9,360	12,800	33,100	38,400
23	46,900	30,300	28,500	21,700	21,500	10,500	6,940	7,130	9,350	12,700	35,100	38,000
24	44,700	30,200	28,600	23,400	20,500	10,100	6,980	7,160	9,280	12,500	35,300	37,100
25	43,700	30,000	27,500	24,100	19,500	9,840	6,960	7,090	9,340	12,900	37,300	36,300
26	43,300	28,300	27,100	23,600	18,900	9,580	6,920	7,140	9,480	13,100	41,600	36,700
27	42,200	26,900	26,800	22,800	18,200	9,370	6,870	7,180	9,590	13,100	42,500	38,500
28	41,500	26,300	26,400	22,800	17,900	9,220	6,800	7,150	9,680	13,700	41,300	41,800
29	41,200	26,600	25,800	22,600	18,000	9,090	6,770	7,120	9,760	13,900	40,700	46,400
30	40,800		24,400	22,200	18,700	8,920	6,780	7,110	9,840	13,900	41,200	48,800
31	41,100		23,200		18,600		6,800	7,100		14,700		50,000

00065, Gage height, feet,												
Day of month	Mean of daily mean values for each day for 21 - 22 years of record in, cfs (Calculation Period 1987-10-01 -> 2009-09-30)											
	Period-of-record for statistical calculation restricted by user											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	13.88	13.16	10.08	9.56	9.29	8.57	6.01	5.38	5.47	6.42	8.16	12.85
2	13.90	13.25	10.21	9.39	9.11	8.62	5.94	5.39	5.48	6.47	8.20	13.07
3	13.57	13.07	10.32	9.32	9.07	8.60	5.88	5.40	5.50	6.53	8.05	13.23
4	13.94	12.59	10.58	9.44	9.03	8.53	5.81	5.39	5.53	6.63	8.01	13.05
5	13.94	12.06	10.84	9.50	9.06	8.44	5.77	5.37	5.56	6.71	8.21	12.85
6	13.94	11.97	10.61	9.44	9.11	8.33	5.72	5.37	5.59	6.72	8.47	12.68
7	14.01	12.08	10.39	9.46	9.09	8.14	5.68	5.37	5.64	6.70	8.72	12.64
8	14.22	12.35	10.47	9.54	9.04	8.15	5.63	5.38	5.69	6.71	8.91	12.74
9	14.37	12.09	10.24	9.71	9.04	8.03	5.59	5.37	5.76	6.74	8.94	12.81
10	14.78	11.53	10.22	10.05	8.95	7.87	5.58	5.35	5.80	6.80	9.01	12.68
11	15.13	10.92	10.23	10.34	8.94	7.71	5.56	5.34	5.86	6.83	9.02	12.82
12	15.38	10.37	10.25	10.23	8.97	7.62	5.53	5.35	5.88	6.87	9.17	12.80
13	15.36	10.11	10.31	10.11	8.93	7.67	5.51	5.35	5.88	6.85	9.44	12.75
14	15.39	10.05	10.29	10.12	8.83	7.46	5.47	5.36	5.90	6.81	9.72	13.08
15	15.21	9.87	10.19	10.12	8.77	7.31	5.44	5.36	5.93	6.81	9.70	13.29
16	15.03	10.00	10.40	9.95	8.82	7.25	5.42	5.37	5.97	6.84	9.46	13.40
17	14.72	10.33	10.59	9.85	8.95	7.13	5.43	5.38	6.03	6.85	9.43	13.53
18	14.50	10.95	10.50	9.84	9.27	7.03	5.44	5.41	6.11	6.86	9.77	13.34
19	14.22	11.23	10.50	9.71	9.55	6.91	5.43	5.42	6.17	6.99	10.09	12.98
20	14.04	11.34	10.40	9.51	9.60	6.80	5.41	5.43	6.20	7.13	10.45	12.65
21	14.09	11.28	10.31	9.47	9.54	6.73	5.40	5.44	6.22	7.17	10.84	12.56
22	14.09	11.19	10.44	9.34	9.37	6.65	5.40	5.47	6.22	7.20	11.26	12.71
23	13.81	11.09	10.60	9.35	9.19	6.53	5.41	5.48	6.22	7.18	11.69	12.67
24	13.45	10.96	10.60	9.64	8.99	6.45	5.42	5.49	6.20	7.16	11.75	12.44
25	13.40	10.93	10.43	9.75	8.78	6.36	5.41	5.46	6.23	7.22	12.08	12.26
26	13.27	10.62	10.35	9.64	8.74	6.29	5.40	5.48	6.27	7.24	12.81	12.07
27	13.12	10.41	10.33	9.50	8.53	6.22	5.38	5.49	6.30	7.28	12.94	12.32
28	13.36	10.17	10.28	9.53	8.47	6.16	5.36	5.48	6.33	7.45	12.82	12.83
29	13.02	10.53	10.16	9.47	8.52	6.13	5.35	5.47	6.35	7.50	12.71	13.25
30	12.95		9.89	9.38	8.66	6.07	5.36	5.47	6.38	7.51	12.81	13.54
31	13.00		9.65		8.60		5.37	5.46		7.70		13.74

Source of Data:

http://waterdata.usgs.gov/nwis/dvstat?referred_module=sw&site_no=14191000&por_14191000_2=546606.00060.2.1909-10-01.2010-01-11&site_no=14191000&por_14191000_3=546606.00065.3.1988-06-01.2010-01-11&start_dt=1988-06-01&end_dt=2009-09-30&format=html_table&stat_cds=mean_va&date_format=YYYY-MM-DD&rb_compression=file&submitted_form=parameter_selection_list

MINTO BROWN ISLAND PEDESTRIAN BRIDGE WATER ELEVATION DATA ANALYSIS

Data Percentile Summary and Mean Percentile Assessment using USGS Data

Data from 1988 to 2009

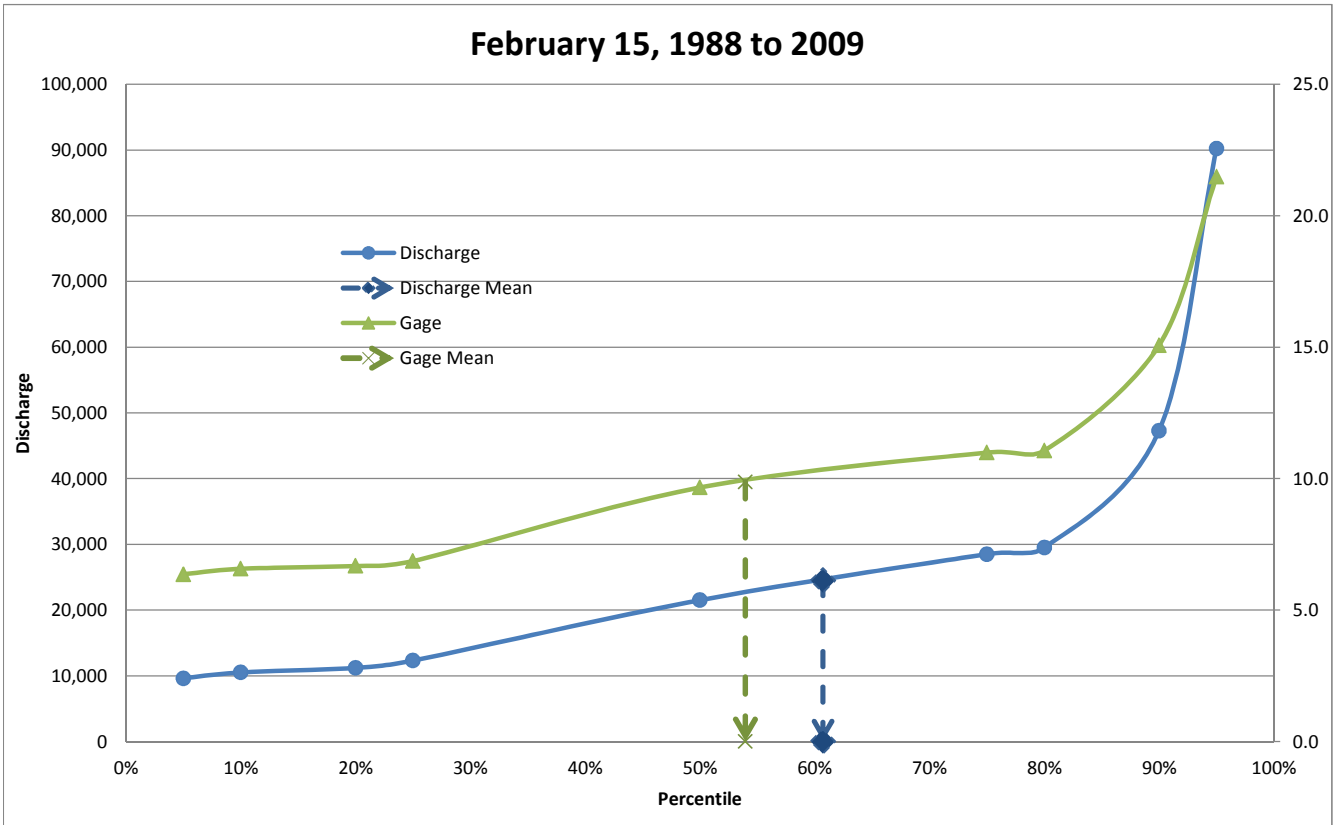
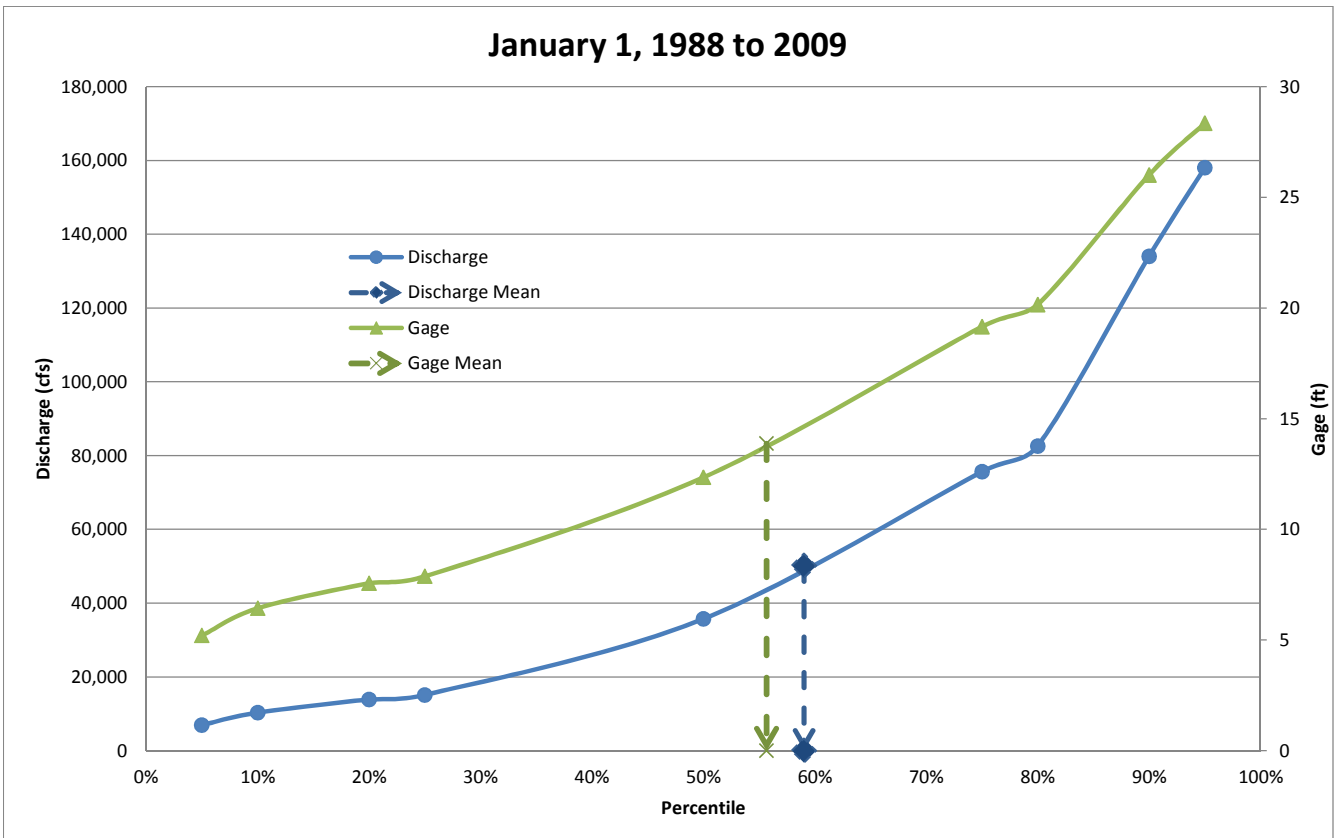
DISCHARGE PERCENTILE SUMMARIES FOR CERTAIN DAYS OF THE MONTH

	Jan 1st	Feb 1st	Mar 1st	Apr 1st	May 1st	Jun 1st	Jul 1st	Aug 1st	Sep 1st	Oct 1st	Nov 1st	Dec 1st
5%	6,950	9,560	8,270	8,620	9,450	5,940	5,800	5,630	5,700	6,800	7,340	7,200
10%	10,300	10,000	9,300	13,700	12,600	8,080	6,330	5,760	6,070	7,000	8,110	9,530
20%	13,900	12,700	13,500	14,800	14,800	13,400	7,100	6,030	6,500	8,310	10,500	13,800
25%	15,100	15,800	15,800	15,700	15,300	14,100	7,170	6,170	6,570	8,700	10,900	15,700
50%	35,700	36,200	21,000	20,800	16,300	16,900	8,350	6,570	7,050	9,960	13,500	35,400
75%	75,600	66,100	31,000	25,400	24,700	20,300	9,570	7,260	7,500	10,800	17,500	62,100
80%	82,600	80,600	34,500	27,600	27,800	22,600	10,100	7,500	7,590	11,300	21,300	64,100
90%	134,000	94,200	41,100	40,500	38,800	33,800	11,900	8,440	8,390	13,500	38,500	91,100
95%	158,000	99,500	92,300	49,300	60,400	41,500	15,400	9,210	9,300	14,400	43,200	96,100
mean	50,100	42,400	26,000	22,700	21,700	18,500	8,720	6,830	7,110	10,000	16,900	41,800
~ %	59%	55%	63%	60%	66%	62%	58%	59%	53%	51%	71%	56%
	Jan 15th	Feb 15th	Mar 15th	Apr 15th	May 15th	Jun 15th	Jul 15th	Aug 15th	Sep 15th	Oct 15th	Nov 15th	Dec 15th
5%	10,900	9,610	6,610	11,300	7,520	6,550	5,520	5,520	5,920	6,900	7,880	10,700
10%	12,100	10,500	8,730	16,500	8,440	8,390	5,630	5,760	6,110	7,780	9,300	14,400
20%	24,000	11,200	14,400	17,900	13,400	9,110	6,110	6,250	7,030	8,460	13,600	16,700
25%	35,100	12,300	17,200	18,200	14,800	9,920	6,250	6,430	7,180	9,100	14,100	18,400
50%	49,400	21,500	25,000	23,500	17,300	11,900	7,080	6,770	8,700	10,700	17,800	32,900
75%	68,600	28,500	31,600	26,200	25,300	16,200	7,540	7,050	9,330	12,600	29,500	75,300
80%	81,000	29,500	40,800	31,800	27,600	19,000	7,740	7,160	9,600	13,200	36,400	86,800
90%	100,000	47,300	47,500	43,000	29,300	23,000	9,170	8,300	10,000	15,500	54,400	108,000
95%	114,000	90,200	53,900	59,900	31,900	25,400	9,950	8,760	12,100	22,300	58,600	115,000
mean	53,800	24,500	26,300	25,300	19,100	13,400	7,070	6,810	8,450	11,300	23,400	46,000
~ %	56%	61%	55%	67%	56%	59%	49%	54%	40%	58%	62%	58%
	Jan 28th	Feb 28th	Mar 28th	Apr 28th	May 28th	Jun 28th	Jul 28th	Aug 28th	Sep 28th	Oct 28th	Nov 28th	Dec 28th
5%	10,600	8,310	8,860	10,300	6,020	5,690	5,210	5,720	6,850	7,520	7,130	7,610
10%	11,300	9,470	12,900	12,400	7,740	6,360	5,810	5,840	6,980	7,790	9,000	9,570
20%	16,800	14,100	15,200	14,400	13,900	7,140	6,020	6,470	7,560	8,870	14,300	18,500
25%	19,100	15,800	16,900	15,500	14,200	7,630	6,100	6,590	8,180	9,890	15,300	19,300
50%	38,300	19,700	23,300	18,000	16,000	8,800	6,510	6,980	9,770	12,700	28,800	30,000
75%	63,100	34,900	31,400	26,700	22,500	10,200	7,240	7,440	10,700	16,300	66,900	55,600
80%	70,100	39,000	37,600	32,000	26,700	10,500	7,450	7,460	11,100	17,300	68,400	62,500
90%	79,400	43,900	47,300	47,200	29,200	14,100	8,850	9,160	12,900	24,100	91,900	93,900
95%	85,300	81,900	67,700	53,500	29,900	15,600	9,340	9,710	14,000	27,000	95,500	144,000
mean	41,500	26,300	26,400	22,800	17,900	9,220	6,800	7,150	9,680	13,700	41,300	41,800
~ %	53%	61%	60%	64%	57%	58%	60%	59%	48%	57%	58%	62%

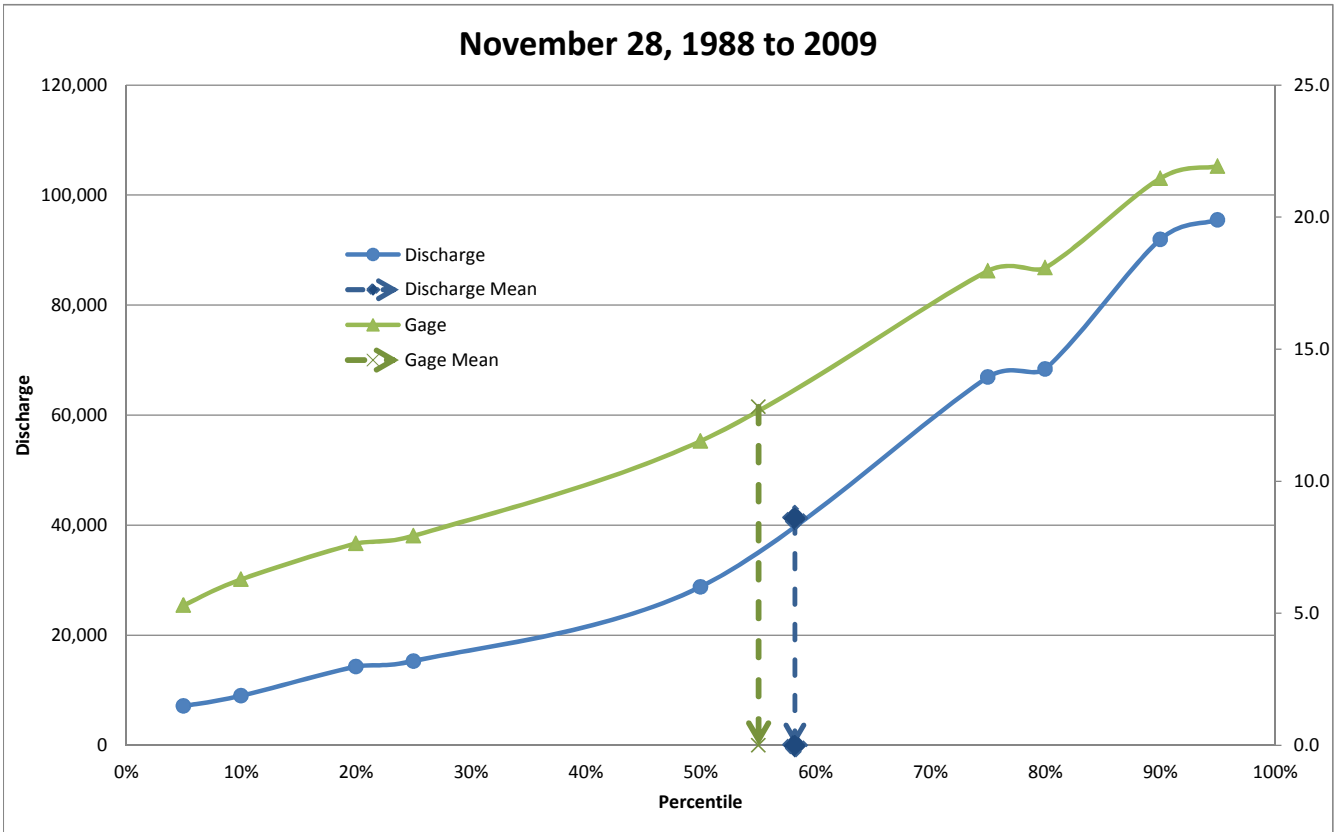
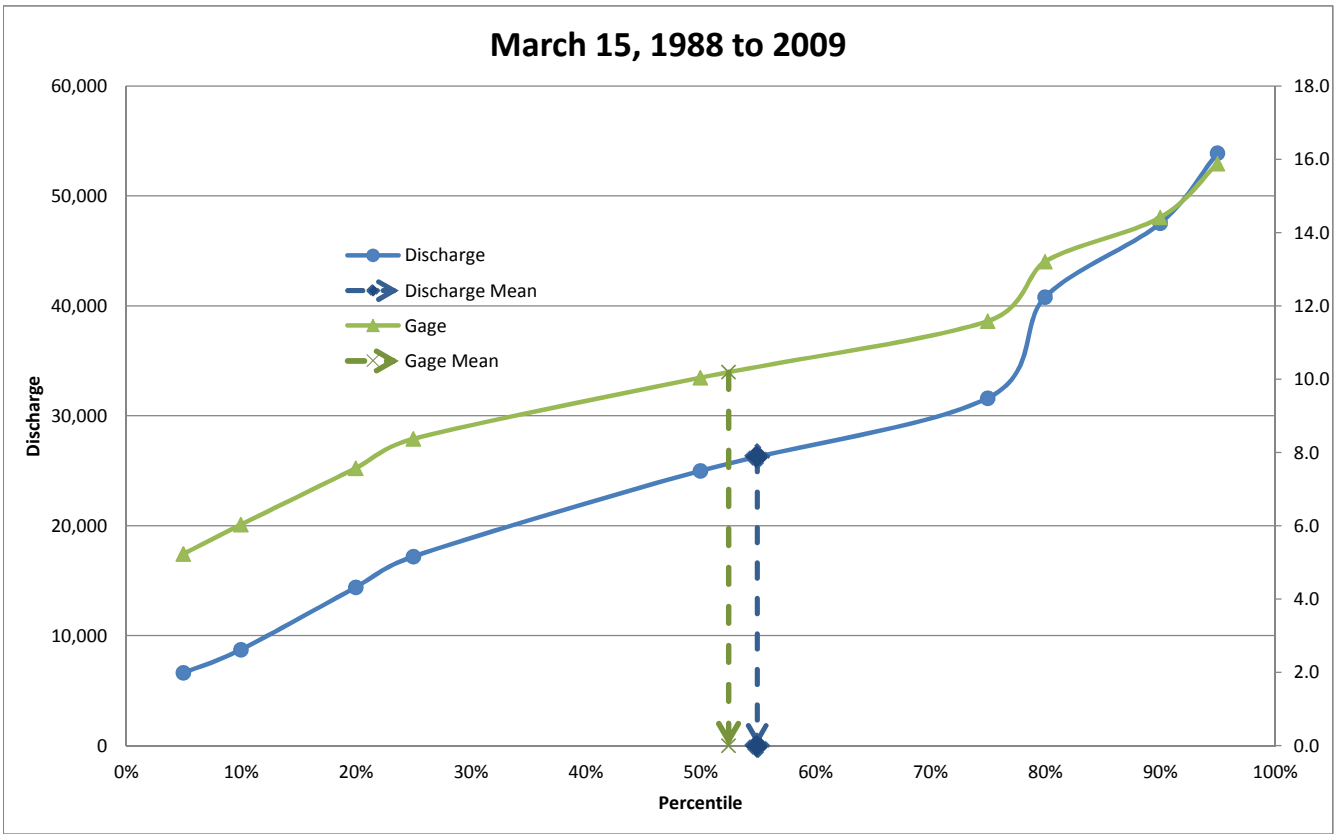
GAGE HEIGHT PERCENTILE SUMMARIES FOR CERTAIN DAYS OF THE MONTH

	Jan 1st	Feb 1st	Mar 1st	Apr 1st	May 1st	Jun 1st	Jul 1st	Aug 1st	Sep 1st	Oct 1st	Nov 1st	Dec 1st
5%	5.2	6.3	5.9	5.5	6.3	4.8	4.8	4.7	4.8	5.3	5.7	5.7
10%	6.4	6.5	6.3	7.5	7.5	5.8	4.9	4.8	5.1	5.5	6.0	6.1
20%	7.6	7.0	7.4	7.8	7.9	7.5	5.4	5.1	5.2	6.1	6.6	7.5
25%	7.9	7.7	8.0	8.1	7.9	7.7	5.6	5.1	5.2	6.1	6.6	8.0
50%	12.3	12.7	9.5	9.4	8.2	8.3	5.8	5.4	5.5	6.4	7.5	11.8
75%	19.2	18.7	11.8	10.3	10.1	9.3	6.6	5.7	5.6	6.7	8.5	16.9
80%	20.2	20.0	12.2	11.0	11.0	9.8	6.7	5.9	5.7	6.8	9.5	17.5
90%	26.0	21.8	13.5	13.3	12.9	11.9	7.3	6.1	5.9	7.5	12.8	21.4
95%	28.3	22.4	21.4	14.8	16.6	13.8	8.0	6.2	6.2	7.8	14.1	22.0
mean	13.9	13.2	10.1	9.6	9.3	8.6	6.0	5.4	5.5	6.4	8.2	12.9
~ %	56%	52%	56%	54%	64%	56%	56%	52%	42%	54%	66%	55%
	Jan 15th	Feb 15th	Mar 15th	Apr 15th	May 15th	Jun 15th	Jul 15th	Aug 15th	Sep 15th	Oct 15th	Nov 15th	Dec 15th
5%	6.7	6.4	5.2	6.7	5.6	5.0	4.6	4.7	4.8	5.6	5.7	6.6
10%	7.0	6.6	6.0	8.4	5.8	5.9	4.8	5.0	5.2	5.8	6.0	7.8
20%	9.3	6.7	7.6	8.7	7.3	6.1	4.9	5.1	5.5	5.9	7.6	8.3
25%	11.8	6.9	8.4	8.9	7.8	6.3	5.0	5.1	5.6	6.1	7.7	8.7
50%	15.5	9.7	10.0	9.8	8.6	6.9	5.4	5.4	6.0	6.6	8.7	11.1
75%	18.1	11.0	11.6	10.3	10.3	8.4	5.7	5.6	6.2	7.1	11.8	19.2
80%	20.5	11.1	13.2	11.5	10.7	9.0	5.7	5.7	6.2	7.4	12.6	20.8
90%	22.7	15.1	14.4	13.6	10.9	9.9	6.4	6.0	6.7	8.1	16.0	23.3
95%	24.2	21.5	15.9	16.6	11.5	10.2	6.7	6.3	7.1	9.8	16.7	24.1
mean	15.2	9.9	10.2	10.1	8.8	7.3	5.4	5.4	5.9	6.8	9.7	13.3
~ %	47%	54%	52%	68%	53%	57%	50%	51%	40%	59%	58%	57%
	Jan 28th	Feb 28th	Mar 28th	Apr 28th	May 28th	Jun 28th	Jul 28th	Aug 28th	Sep 28th	Oct 28th	Nov 28th	Dec 28th
5%	6.8	5.9	5.7	6.5	4.8	4.6	4.7	4.7	5.3	5.5	5.3	5.4
10%	7.2	6.3	7.3	7.1	5.6	5.1	4.8	5.1	5.6	5.8	6.3	6.0
20%	8.6	7.5	8.0	7.9	7.6	5.6	4.9	5.2	5.8	6.2	7.6	8.8
25%	9.3	8.0	8.3	8.1	7.6	5.7	5.0	5.2	5.9	6.5	7.9	9.2
50%	12.9	9.0	9.8	8.5	8.2	6.1	5.3	5.4	6.3	7.4	11.5	11.3
75%	17.7	12.3	11.8	10.4	9.5	6.7	5.7	5.7	6.6	8.2	18.0	16.3
80%	18.6	13.0	13.1	11.8	10.5	6.8	5.9	5.8	6.8	8.4	18.1	17.3
90%	19.8	13.9	14.4	14.3	11.5	7.7	6.1	6.1	7.4	10.0	21.5	21.8
95%	20.6	20.0	17.9	15.8	11.5	8.3	6.2	6.3	7.7	10.9	21.9	27.2
mean	13.4	10.2	10.3	9.5	8.5	6.2	5.4	5.5	6.3	7.5	12.8	12.8
~ %	52%	59%	56%	63%	55%	54%	55%	55%	50%	52%	55%	58%

Percentile Plot and Mean Percentile Interpolation



Percentile Plot and Mean Percentile Interpolation



1967 to 2009 USGS Data

MINTO BROWN ISLAND PEDESTRIAN BRIDGE WATER ELEVATION DATA

USGS Data considering the range of data available for discharge

Flow Limit 29517 cfs
00 days > limit

Gage (EL) Limit 11.00 ft
data unavailable

00060, Discharge, cubic feet per second,												
Day of month	05 th percentile of daily mean values for each day for 41 - 42 years of record in, cfs (Calculation Period 1967-10-01 -> 2009-09-30)											
	Period-of-record for statistical calculation restricted by user											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	7,090	9,570	8,950	9,900	9,200	6,330	5,800	5,730	6,030	6,990	7,340	8,080
2	8,370	9,230	9,360	9,940	9,120	6,170	5,810	5,640	5,880	6,950	7,310	7,520
3	8,810	9,000	10,400	10,600	9,100	6,250	5,880	5,580	5,840	6,990	7,310	7,410
4	8,670	8,830	10,100	10,500	8,790	6,200	5,870	5,540	5,830	7,030	7,400	7,310
5	9,590	8,590	9,880	10,200	9,000	6,100	5,980	5,590	5,890	7,070	7,180	7,360
6	10,700	8,390	9,600	10,300	8,850	6,000	5,950	5,580	6,030	7,100	7,210	7,380
7	10,700	8,310	9,250	10,600	8,830	5,970	5,930	5,670	6,100	7,290	7,290	6,970
8	11,100	8,250	9,050	10,700	8,660	5,910	5,880	5,740	6,020	7,260	7,370	6,960
9	11,100	8,040	9,130	10,500	8,470	5,880	5,810	5,730	6,030	7,320	7,370	7,290
10	11,400	8,020	9,550	11,200	8,300	5,970	5,770	5,710	5,990	7,350	7,270	7,780
11	11,400	8,080	9,560	10,900	8,260	5,950	5,660	5,710	5,940	7,500	7,220	7,440
12	10,700	8,050	9,250	10,200	8,120	6,260	5,630	5,650	5,900	7,700	7,300	8,050
13	9,990	8,120	8,950	10,200	8,190	6,310	5,660	5,570	5,920	8,030	7,900	8,910
14	10,300	9,720	8,730	10,200	8,000	6,150	5,620	5,620	5,980	8,010	8,590	9,790
15	10,900	9,660	8,630	10,000	7,550	6,110	5,560	5,710	6,030	7,760	8,560	10,300
16	10,800	9,400	8,800	9,950	7,480	6,030	5,550	5,740	6,060	7,880	8,520	8,920
17	10,800	9,190	9,320	10,500	7,470	6,240	5,510	5,800	6,100	8,040	9,650	11,200
18	11,300	9,000	10,400	10,600	7,110	6,350	5,670	5,800	6,110	7,810	9,150	11,600
19	10,300	8,810	10,400	10,600	6,870	6,220	5,550	5,710	6,080	7,810	9,340	12,300
20	10,100	8,850	10,100	10,500	6,810	6,140	5,550	5,660	6,410	7,720	9,240	11,500
21	10,300	9,060	9,760	10,100	6,950	6,190	5,500	5,610	6,590	7,730	8,790	10,800
22	11,100	9,620	9,480	9,570	6,670	6,310	5,520	5,750	6,590	7,650	8,760	10,000
23	11,800	9,710	9,310	9,870	6,490	6,090	5,540	5,910	6,560	7,990	9,190	9,520
24	11,700	9,410	9,240	10,200	6,680	6,110	5,620	6,050	6,570	7,750	9,780	9,060
25	12,400	9,130	9,950	10,000	7,160	6,000	5,590	6,030	6,830	7,670	10,400	8,520
26	12,000	8,790	10,700	9,890	6,880	5,990	5,610	5,920	7,050	7,510	9,460	8,050
27	11,200	8,500	10,700	9,790	6,850	5,960	5,830	5,850	7,060	7,550	8,760	7,880
28	10,700	9,040	10,700	9,660	6,840	5,890	5,800	5,800	6,960	7,520	8,230	8,020
29	10,500		10,400	9,480	6,640	5,960	5,720	5,880	6,880	7,590	7,790	7,570
30	10,400		10,200	9,200	6,380	5,910	5,660	5,900	6,890	7,760	7,340	7,100
31	9,970		10,100		6,340		5,650	6,000		7,650		6,830

Source of Data:

http://waterdata.usgs.gov/nwis/dvstat?referred_module=sw&site_no=14191000&por_14191000_2=546606.00060.2.1909-10-01.2010-01-11&site_no=14191000&por_14191000_3=546606.00065.3.1988-06-01.2010-01-11&start_dt=1968-01-01&end_dt=2009-09-30&format=html_table&stat_cds=p05_va&date_format=YYYY-MM-DD&rdb_compression=file&submitted_form=parameter_selection_list

MINTO BROWN ISLAND PEDESTRIAN BRIDGE WATER ELEVATION DATA

USGS Data considering the range of data available for discharge

Flow Limit 29517 cfs
00 days > limit

Gage (EL) Limit 11.00 ft
data unavailable

00060, Discharge, cubic feet per second,												
Day of month	10 th percentile of daily mean values for each day for 41 - 42 years of record in, cfs (Calculation Period 1967-10-01 -> 2009-09-30)											
	Period-of-record for statistical calculation restricted by user											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	13,200	10,200	12,600	12,100	9,750	8,500	6,300	5,830	6,460	7,670	10,100	9,870
2	13,200	9,860	13,500	12,400	9,540	8,470	6,300	5,790	6,480	8,190	10,400	12,900
3	13,400	9,960	13,000	12,100	10,500	7,890	6,130	5,840	6,520	8,330	10,400	12,300
4	12,600	10,000	12,800	11,500	10,400	7,500	6,050	5,810	6,550	8,400	9,790	12,600
5	11,800	10,800	13,400	11,600	10,000	7,330	6,040	5,720	6,480	8,410	9,280	12,700
6	12,800	10,700	12,800	12,000	9,720	7,210	6,070	5,910	6,520	8,360	9,010	11,800
7	11,600	11,200	13,300	12,200	9,370	7,840	6,030	5,940	6,600	8,360	8,710	11,200
8	11,700	11,600	13,100	12,200	9,110	8,170	5,970	5,950	6,680	8,600	8,350	10,500
9	13,700	11,400	12,900	11,700	8,930	7,900	5,900	5,890	6,800	8,450	9,160	9,940
10	14,400	11,100	12,800	13,400	9,080	7,870	5,900	5,830	6,800	8,180	9,040	9,780
11	17,300	10,900	12,000	12,500	9,100	7,740	5,860	5,820	6,850	8,140	9,020	10,100
12	17,400	10,800	12,200	11,500	8,910	7,420	5,780	5,810	6,820	8,350	8,960	11,100
13	15,800	10,600	11,800	11,300	8,950	7,300	5,850	5,840	6,860	8,370	9,020	12,700
14	14,700	10,800	11,400	11,300	8,870	7,570	5,810	5,890	6,870	8,160	10,900	13,500
15	14,300	10,800	11,100	10,800	8,140	7,440	5,770	6,010	6,920	8,160	11,600	14,400
16	14,100	10,400	11,000	10,700	7,900	7,480	5,770	6,100	7,050	8,250	11,400	14,600
17	13,800	10,700	10,800	10,900	7,940	7,450	5,830	6,190	7,080	8,620	10,600	14,200
18	14,200	11,000	10,800	11,200	7,870	7,410	5,960	6,320	7,270	8,500	11,800	14,100
19	14,400	10,900	10,900	11,400	7,650	7,130	5,980	6,390	7,250	8,290	12,200	13,200
20	15,300	10,700	10,700	12,000	7,800	6,900	5,950	6,470	7,330	8,110	12,500	13,000
21	14,500	10,400	10,800	11,400	7,990	6,860	5,930	6,470	7,220	8,050	11,800	13,900
22	13,700	10,500	10,900	11,100	8,170	6,640	5,870	6,470	7,130	8,210	11,700	16,300
23	12,900	10,400	10,900	10,900	8,120	6,540	5,850	6,470	7,150	8,580	11,300	16,500
24	13,100	10,900	11,400	11,100	7,960	6,430	5,890	6,460	7,150	8,270	11,400	16,600
25	12,800	11,300	11,700	10,800	8,220	6,550	5,860	6,410	7,140	7,960	11,300	16,800
26	12,600	12,200	11,400	10,900	8,930	6,510	5,900	6,470	7,470	7,780	11,600	15,500
27	12,600	12,000	12,100	10,800	8,410	6,490	5,940	6,440	7,250	8,440	11,400	15,200
28	12,100	12,300	12,900	10,800	7,920	6,310	5,890	6,410	7,510	8,170	10,800	15,800
29	11,600	12,400	12,700	10,800	7,700	6,120	5,870	6,420	7,880	7,960	10,300	15,800
30	11,500		12,200	10,300	7,880	6,220	5,890	6,460	7,910	8,250	9,790	15,200
31	10,800		12,600		8,260		5,860	6,450		9,890		14,300

Source of Data:

http://waterdata.usgs.gov/nwis/dvstat?referred_module=sw&site_no=14191000&por_14191000_2=546606.00060.2.1909-10-01.2010-01-11&site_no=14191000&por_14191000_3=546606.00065.3.1988-06-01.2010-01-11&start_dt=1968-01-01&end_dt=2009-09-30&format=html_table&stat_cds=p10_va&date_format=YYYY-MM-DD&rdb_compression=file&submitted_form=parameter_selection_list

MINTO BROWN ISLAND PEDESTRIAN BRIDGE WATER ELEVATION DATA

USGS Data considering the range of data available for discharge

Flow Limit 29517 cfs
00 days > limit

Gage (EL) Limit 11.00 ft
data unavailable

00060, Discharge, cubic feet per second,												
Day of month	20 th percentile of daily mean values for each day for 41 - 42 years of record in, cfs (Calculation Period 1967-10-01 -> 2009-09-30)											
	Period-of-record for statistical calculation restricted by user											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	15,200	14,700	14,900	14,100	14,000	10,600	6,810	6,000	6,660	8,900	10,900	14,100
2	17,000	14,200	14,800	14,100	13,100	10,600	6,580	6,040	6,650	8,940	11,100	14,500
3	19,500	15,000	14,600	14,100	12,900	10,700	6,490	6,040	6,670	9,180	11,400	15,300
4	20,300	14,200	14,300	14,100	12,700	10,300	6,570	6,060	6,780	9,380	11,100	15,700
5	19,400	13,900	14,300	13,500	12,100	10,300	6,460	6,090	6,870	9,450	11,500	17,000
6	17,800	14,200	15,600	14,100	12,100	10,200	6,390	6,120	6,960	9,280	11,300	16,600
7	18,600	13,400	15,700	14,200	11,800	10,400	6,250	6,100	6,980	9,180	11,500	16,800
8	18,900	13,200	15,900	14,900	11,800	10,400	6,210	6,140	7,160	9,340	11,600	19,000
9	18,900	12,500	16,300	14,700	11,600	10,300	6,140	6,150	7,250	9,430	12,400	20,100
10	20,500	12,400	15,200	14,500	11,400	9,820	6,120	6,110	7,360	9,530	12,600	19,700
11	21,900	12,400	16,100	15,400	11,200	9,320	6,090	6,120	7,470	9,830	13,600	19,400
12	25,800	12,300	15,500	15,400	11,400	9,180	6,000	6,220	7,580	9,940	13,500	21,700
13	26,800	12,600	14,900	15,000	11,200	9,080	5,990	6,210	7,830	9,880	13,400	21,100
14	26,200	14,000	14,700	14,600	10,800	8,650	6,000	6,310	7,770	9,860	13,700	19,800
15	25,300	13,400	14,400	14,500	10,700	8,490	5,960	6,330	7,820	9,990	13,500	20,000
16	25,800	12,700	13,900	13,800	10,600	8,240	6,050	6,390	7,960	9,740	12,900	20,600
17	23,000	12,600	13,500	13,600	10,500	7,980	6,120	6,460	8,260	9,760	13,000	20,400
18	20,500	14,200	13,100	13,700	10,800	8,160	6,170	6,550	7,990	9,700	13,200	21,700
19	21,000	16,600	13,700	13,500	11,700	8,180	6,180	6,590	8,200	10,000	13,700	19,400
20	20,200	15,800	14,200	13,100	12,100	7,730	6,160	6,620	8,160	10,000	14,400	18,900
21	18,400	15,400	13,800	12,800	11,800	7,690	6,130	6,610	8,510	10,100	14,500	19,600
22	16,500	16,500	13,000	13,800	12,000	7,550	6,130	6,630	8,510	10,400	14,100	22,100
23	15,800	16,800	13,500	13,200	11,900	7,400	6,110	6,600	8,240	10,000	13,900	24,900
24	16,300	17,000	14,100	13,900	11,800	7,300	6,070	6,620	8,320	10,500	13,000	23,300
25	19,700	16,100	13,800	15,000	12,400	7,030	6,090	6,600	8,420	10,400	13,100	22,400
26	18,400	15,300	13,500	14,700	12,100	6,790	6,040	6,550	8,420	10,600	15,100	21,600
27	17,300	15,200	13,800	14,300	12,300	6,850	6,020	6,570	8,430	10,900	16,000	20,800
28	18,800	15,200	14,600	14,000	12,600	6,750	6,020	6,590	8,440	11,000	15,300	19,300
29	18,200	17,000	15,100	13,900	12,400	6,620	5,970	6,600	8,500	10,900	15,200	18,000
30	17,100		14,700	13,500	12,300	6,790	5,980	6,620	8,940	11,000	15,000	17,400
31	16,100		14,100		11,200		6,000	6,670		10,800		16,300

Source of Data:

http://waterdata.usgs.gov/nwis/dvstat?referred_module=sw&site_no=14191000&por_14191000_2=546606.00060.2.1909-10-01.2010-01-11&site_no=14191000&por_14191000_3=546606.00065.3.1988-06-01.2010-01-11&start_dt=1968-01-01&end_dt=2009-09-30&format=html_table&stat_cds=p20_va&date_format=YYYY-MM-DD&rdb_compression=file&submitted_form=parameter_selection_list

MINTO BROWN ISLAND PEDESTRIAN BRIDGE WATER ELEVATION DATA

USGS Data considering the range of data available for discharge

Flow Limit 29517 cfs
04 days > limit

Gage (EL) Limit 11.00 ft
data unavailable

00060, Discharge, cubic feet per second,												
Day of month	25 th percentile of daily mean values for each day for 41 - 42 years of record in, cfs (Calculation Period 1967-10-01 -> 2009-09-30)											
	Period-of-record for statistical calculation restricted by user											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	17,500	18,000	15,400	14,900	14,800	12,400	7,030	6,050	6,810	9,510	12,500	17,400
2	18,800	17,300	15,300	14,900	14,800	12,300	6,920	6,090	6,750	9,500	12,400	18,000
3	21,000	18,100	15,200	15,500	13,900	11,900	6,750	6,210	6,880	9,640	12,000	19,200
4	24,300	16,800	15,200	15,300	13,400	11,500	6,710	6,240	7,070	9,710	12,100	19,100
5	22,100	15,300	15,100	14,800	13,000	10,900	6,740	6,200	7,130	9,850	12,100	23,300
6	21,300	14,400	15,700	15,000	12,400	11,100	6,580	6,220	7,130	9,630	12,200	21,900
7	20,700	14,100	16,700	15,900	12,500	11,100	6,530	6,200	7,210	9,550	13,200	21,000
8	19,600	13,600	17,300	15,500	13,900	11,500	6,550	6,250	7,310	9,630	13,100	22,300
9	21,100	12,800	16,800	15,200	14,100	10,900	6,470	6,230	7,480	9,820	13,700	24,900
10	23,200	13,800	16,600	15,600	13,500	10,100	6,390	6,220	7,720	9,780	14,300	24,000
11	23,400	14,700	16,900	15,900	12,500	10,100	6,320	6,190	7,840	9,880	14,300	22,400
12	29,600	14,300	16,500	16,400	12,400	10,300	6,270	6,230	7,910	10,100	14,500	26,100
13	31,400	14,400	15,700	16,100	12,500	9,620	6,260	6,350	8,140	10,100	14,900	24,200
14	29,900	14,300	15,200	16,100	13,200	8,890	6,220	6,400	8,350	10,000	14,700	24,400
15	30,400	14,900	16,200	16,400	12,400	8,680	6,180	6,450	8,320	10,200	14,100	22,500
16	28,000	14,200	14,900	15,900	12,300	8,700	6,180	6,450	8,410	10,100	13,700	22,200
17	25,600	17,500	15,300	15,200	13,200	8,500	6,230	6,520	8,380	10,200	13,600	22,900
18	23,500	17,300	15,200	14,900	13,400	8,470	6,300	6,610	8,270	10,200	13,900	24,200
19	22,500	17,500	16,000	14,700	14,100	8,480	6,300	6,650	8,360	10,500	14,500	26,000
20	21,900	18,000	16,000	15,800	14,500	8,220	6,240	6,670	8,860	10,500	14,800	22,700
21	18,900	17,600	15,500	15,100	13,700	7,900	6,230	6,650	8,630	10,800	15,900	23,600
22	18,300	18,500	15,500	15,000	13,700	7,670	6,180	6,660	8,760	10,600	16,600	23,800
23	21,000	18,600	14,800	14,800	12,600	7,560	6,200	6,640	8,820	10,600	15,400	26,100
24	22,700	18,200	14,700	14,600	12,700	7,480	6,150	6,660	8,910	11,100	15,000	24,600
25	22,500	17,700	14,400	15,800	12,800	7,310	6,150	6,620	9,050	11,100	16,700	24,200
26	21,400	16,900	14,200	15,800	13,500	7,190	6,120	6,590	8,970	11,300	17,500	23,100
27	20,800	16,500	14,600	15,000	13,600	7,070	6,060	6,620	8,930	11,300	17,300	22,400
28	21,500	15,600	15,800	15,000	13,600	7,190	6,120	6,630	8,530	11,600	16,400	20,400
29	21,200	18,200	15,700	14,600	13,000	6,910	6,100	6,630	8,830	11,200	16,300	19,300
30	20,000		14,900	14,700	12,600	6,920	6,090	6,630	9,190	11,200	19,100	17,500
31	18,500		14,700		12,400		6,060	6,750		11,300		18,000

Source of Data:

http://waterdata.usgs.gov/nwis/dvstat?referred_module=sw&site_no=14191000&por_14191000_2=546606.00060.2.1909-10-01.2010-01-11&site_no=14191000&por_14191000_3=546606.00065.3.1988-06-01.2010-01-11&start_dt=1968-01-01&end_dt=2009-09-30&format=html_table&stat_cds=p25_va&date_format=YYYY-MM-DD&rdp_compression=file&submitted_form=parameter_selection_list

MINTO BROWN ISLAND PEDESTRIAN BRIDGE WATER ELEVATION DATA

USGS Data considering the range of data available for discharge

Flow Limit 29517 cfs
73 days > limit

Gage (EL) Limit 11.00 ft
data unavailable

00060, Discharge, cubic feet per second,												
Day of month	50 th percentile (median) of daily mean values for each day for 41 - 42 years of record in, cfs (Calculation Period 1967-10-01 -> 200											
	Period-of-record for statistical calculation restricted by user											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	38,100	27,900	23,000	20,700	16,900	15,700	8,350	6,630	7,500	10,600	15,100	38,000
2	35,700	29,000	24,000	20,400	16,500	14,800	8,100	6,760	7,650	11,100	15,700	44,400
3	33,000	29,200	23,100	20,400	17,600	14,400	7,820	6,770	7,770	11,000	15,900	43,600
4	36,000	27,200	23,600	19,600	17,700	13,700	7,700	6,770	7,980	11,200	15,100	48,200
5	35,900	26,500	23,900	19,800	18,000	13,500	7,670	6,710	8,180	11,500	17,300	45,200
6	36,200	26,400	24,300	19,500	17,400	13,200	7,470	6,670	8,190	11,200	19,900	44,600
7	35,400	27,000	25,400	20,400	17,000	13,500	7,390	6,690	8,320	11,300	18,900	50,100
8	35,800	26,500	24,100	21,000	16,600	13,300	7,370	6,650	8,490	11,300	20,200	47,100
9	34,900	31,800	23,000	20,900	16,900	12,700	7,190	6,610	8,780	11,200	18,900	42,900
10	43,200	28,700	23,100	23,000	17,500	12,600	7,120	6,680	8,880	11,600	19,900	40,300
11	47,700	25,000	22,600	22,800	17,300	12,700	7,180	6,670	9,040	11,800	19,100	45,300
12	47,300	24,200	21,600	22,800	17,400	12,700	7,120	6,700	9,130	11,900	19,000	45,400
13	51,300	25,900	21,400	22,200	16,500	12,800	7,120	6,680	8,790	11,600	19,000	43,800
14	52,100	26,000	23,500	20,800	17,700	12,600	7,110	6,760	9,130	11,800	19,100	45,500
15	49,300	24,100	25,500	19,900	19,200	12,000	7,070	6,830	9,180	11,800	18,100	41,800
16	54,100	26,700	26,100	20,100	19,800	11,800	7,000	6,890	9,230	12,200	18,100	38,500
17	50,000	29,000	23,500	19,800	19,100	11,300	6,880	6,960	9,470	12,000	22,300	40,000
18	50,500	31,800	23,300	19,500	19,300	11,100	6,810	6,990	9,730	12,500	25,000	37,500
19	49,800	31,300	21,300	20,000	16,800	10,900	6,760	7,090	9,790	12,700	25,100	36,300
20	44,800	29,800	21,700	20,200	16,500	10,400	6,800	7,160	9,950	12,600	23,900	34,300
21	43,200	29,200	21,500	20,100	16,500	9,960	6,800	7,130	10,100	12,900	25,000	35,000
22	39,600	27,400	20,800	20,800	16,200	9,490	6,780	7,190	10,200	13,200	25,400	36,500
23	36,400	26,400	21,500	20,400	16,200	9,420	6,700	7,270	10,400	13,200	26,000	39,700
24	37,100	23,900	22,600	19,600	15,500	9,610	6,660	7,210	10,400	12,900	30,700	37,300
25	37,100	27,000	22,700	18,800	15,300	9,470	6,700	7,200	10,500	13,000	30,600	35,200
26	36,200	24,500	22,200	19,200	16,100	9,220	6,700	7,240	10,400	13,100	34,700	32,800
27	34,500	24,000	22,200	18,500	15,400	9,130	6,630	7,290	10,300	13,700	32,100	32,600
28	36,200	23,000	23,400	17,900	16,200	8,860	6,620	7,220	10,400	14,100	31,400	35,300
29	35,700	32,000	23,100	18,100	16,700	8,710	6,630	7,290	10,500	14,000	29,700	35,600
30	33,000		20,400	17,400	15,500	8,600	6,590	7,330	10,400	14,400	29,600	44,300
31	29,200		20,500		15,200		6,610	7,370		15,200		42,000

Source of Data:

http://waterdata.usgs.gov/nwis/dvstat?referred_module=sw&site_no=14191000&por_14191000_2=546606.00060.2.1909-10-01.2010-01-11&site_no=14191000&por_14191000_3=546606.00065.3.1988-06-01.2010-01-11&start_dt=1968-01-01&end_dt=2009-09-30&format=html_table&stat_cds=p50_va&date_format=YYYY-MM-DD&rdb_compression=file&submitted_form=parameter_selection_list

MINTO BROWN ISLAND PEDESTRIAN BRIDGE WATER ELEVATION DATA

USGS Data considering the range of data available for discharge

Flow Limit 29517 cfs
141 days > limit

Gage (EL) Limit 11.00 ft
data unavailable

00060, Discharge, cubic feet per second,												
Day of month	75 th percentile of daily mean values for each day for 41 - 42 years of record in, cfs (Calculation Period 1967-10-01 -> 2009-09-30)											
	Period-of-record for statistical calculation restricted by user											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	70,100	54,300	40,300	27,000	22,800	21,000	10,300	7,280	8,290	13,200	22,400	62,100
2	64,400	55,100	36,300	25,500	23,200	20,700	10,500	7,310	8,490	12,900	23,400	75,100
3	57,900	52,000	34,900	26,600	22,800	19,900	10,200	7,420	8,410	13,200	22,700	73,400
4	57,100	53,900	40,300	25,300	23,700	19,500	9,810	7,250	8,720	12,900	22,500	69,700
5	59,800	48,600	39,800	25,800	24,400	18,800	9,530	7,150	8,930	13,200	22,600	71,600
6	66,800	49,700	38,200	23,900	26,500	17,800	9,170	7,180	9,110	13,100	24,000	75,300
7	61,600	46,400	37,100	24,200	26,700	18,200	8,990	7,230	9,340	13,500	25,800	75,300
8	65,400	44,700	38,800	25,600	26,400	19,500	8,840	7,190	9,470	13,700	27,300	75,700
9	66,000	40,400	35,100	28,900	25,500	19,400	8,700	7,260	9,640	13,600	27,500	71,800
10	67,300	39,000	32,500	29,000	25,200	19,400	8,520	7,250	9,890	14,000	27,900	68,200
11	73,900	36,300	34,100	31,300	26,300	19,200	8,380	7,190	10,300	14,000	25,800	62,900
12	76,000	34,700	35,700	32,500	26,400	19,000	8,420	7,150	10,400	14,000	27,900	64,200
13	73,600	38,000	35,600	30,900	27,000	18,800	8,150	7,130	10,700	13,900	27,800	59,200
14	76,900	37,900	34,100	31,500	25,500	17,400	7,920	7,200	10,900	13,900	31,100	68,900
15	73,100	38,600	36,900	28,800	24,900	15,500	7,830	7,350	10,800	14,100	34,500	74,900
16	74,000	41,800	39,500	28,500	23,900	14,100	7,680	7,730	11,300	14,100	32,700	82,200
17	79,300	44,500	37,500	27,600	25,600	13,800	7,630	7,970	11,500	14,200	32,200	79,300
18	73,800	45,200	34,400	26,900	25,300	13,200	7,670	8,060	11,600	13,800	39,400	69,800
19	70,500	57,400	32,700	25,700	24,500	12,900	7,640	8,130	11,900	14,400	37,200	65,400
20	71,300	56,100	33,600	24,700	23,500	12,600	7,550	8,120	11,900	15,400	36,500	61,200
21	64,100	57,300	30,400	24,600	22,800	12,200	7,410	8,560	11,800	15,300	38,100	64,200
22	63,300	53,400	32,100	26,300	21,000	11,700	7,300	8,550	12,100	15,800	44,900	63,800
23	61,000	47,100	36,200	25,400	22,400	11,700	7,500	8,700	11,800	16,800	48,100	63,400
24	59,400	42,500	33,600	23,600	21,500	12,000	7,390	8,940	12,200	16,900	55,600	62,600
25	62,400	40,000	32,000	24,200	20,400	11,300	7,350	8,650	12,000	16,800	58,900	65,500
26	75,900	45,700	31,000	23,500	20,600	11,000	7,260	8,720	12,500	16,900	60,900	59,500
27	73,700	44,600	32,900	24,300	21,300	11,300	7,210	8,840	12,500	18,100	64,200	61,400
28	68,300	40,900	32,400	23,400	20,300	10,700	7,210	8,440	12,800	17,900	66,900	65,400
29	61,800	39,300	28,900	22,600	22,700	10,400	7,270	8,310	13,100	17,800	69,400	65,700
30	58,000		30,300	22,000	22,500	10,300	7,260	8,270	13,200	18,000	62,400	63,500
31	54,700		28,600		21,400		7,310	8,620		18,700		70,900

Source of Data:

http://waterdata.usgs.gov/nwis/dvstat?referred_module=sw&site_no=14191000&por_14191000_2=546606.00060.2.1909-10-01.2010-01-11&site_no=14191000&por_14191000_3=546606.00065.3.1988-06-01.2010-01-11&start_dt=1968-01-01&end_dt=2009-09-30&format=html_table&stat_cds=p75_va&date_format=YYYY-MM-DD&rdp_compression=file&submitted_form=parameter_selection_list

MINTO BROWN ISLAND PEDESTRIAN BRIDGE WATER ELEVATION DATA

USGS Data considering the range of data available for discharge

Flow Limit 29517 cfs
158 days > limit

Gage (EL) Limit 11.00 ft
data unavailable

00060, Discharge, cubic feet per second,												
Day of month	80 th percentile of daily mean values for each day for 41 - 42 years of record in, cfs (Calculation Period 1967-10-01 -> 2009-09-30)											
	Period-of-record for statistical calculation restricted by user											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	71,800	69,100	42,800	30,900	23,800	22,000	10,900	7,610	8,970	13,400	25,300	71,900
2	65,300	66,400	38,600	29,900	24,000	22,400	11,400	7,720	9,020	13,400	25,300	77,200
3	60,900	62,700	39,000	28,400	23,700	21,400	11,600	7,620	9,200	13,300	26,000	76,500
4	62,000	60,500	42,200	30,100	25,600	21,100	11,400	7,420	9,260	13,300	24,400	71,600
5	65,100	56,200	41,500	27,000	27,500	21,000	10,900	7,380	9,410	13,700	23,900	77,600
6	72,700	54,300	38,800	28,600	28,800	19,200	10,600	7,380	9,620	13,800	25,400	82,900
7	68,600	47,800	39,900	30,800	28,000	20,300	10,300	7,380	10,100	14,000	27,800	82,300
8	70,600	46,100	42,600	30,100	27,600	20,000	9,910	7,280	10,700	14,300	28,900	79,800
9	73,900	46,100	38,100	34,100	27,400	22,400	9,300	7,410	11,000	14,600	29,700	74,100
10	74,900	42,700	35,700	32,900	26,300	21,700	9,140	7,460	11,300	14,500	30,600	71,200
11	81,100	41,000	36,300	34,100	27,400	21,800	9,300	7,270	11,100	14,500	28,800	76,900
12	77,200	36,400	38,300	33,700	28,600	21,600	9,060	7,260	11,100	14,800	29,900	72,700
13	79,600	43,200	41,600	36,800	27,400	20,300	8,840	7,270	11,300	14,600	30,300	72,000
14	78,100	43,600	43,300	38,900	27,200	18,600	8,590	7,470	11,200	14,300	33,000	76,500
15	88,900	47,500	46,600	33,900	26,700	19,000	8,250	7,910	11,200	14,600	37,800	86,800
16	86,900	44,800	42,300	31,900	26,300	18,600	7,940	8,180	11,700	14,500	35,300	85,700
17	82,500	46,700	40,000	30,700	26,100	16,900	7,830	8,220	12,200	14,500	39,300	81,100
18	82,000	57,000	37,500	29,600	26,300	15,100	7,730	8,160	11,900	14,500	41,300	75,600
19	78,300	59,600	39,800	28,500	26,500	13,800	7,800	8,190	12,600	14,800	40,400	69,800
20	77,100	65,600	39,200	27,200	25,500	14,000	7,680	8,560	12,600	16,100	39,100	66,700
21	73,000	64,000	40,900	27,800	26,100	14,700	7,640	8,970	12,300	16,000	46,500	68,100
22	73,000	56,700	40,600	26,900	24,900	14,800	7,600	8,630	12,300	16,400	52,800	70,000
23	73,000	53,000	37,800	26,600	26,000	14,400	7,570	8,880	12,300	17,100	54,200	68,200
24	82,400	45,000	39,000	26,600	24,400	13,900	7,490	9,020	12,400	18,100	56,400	68,000
25	86,900	50,800	41,700	25,600	22,800	13,400	7,420	8,930	12,500	18,300	67,300	73,900
26	82,300	53,100	39,500	26,200	22,300	12,400	7,350	9,030	12,600	18,000	68,900	71,800
27	77,000	46,900	35,100	26,500	23,500	11,800	7,260	9,060	12,600	19,100	72,500	67,300
28	72,500	45,400	37,400	26,900	22,600	11,400	7,320	9,040	12,900	20,400	73,100	72,300
29	68,100	51,500	35,100	24,400	23,900	11,100	7,320	8,600	13,300	20,300	76,500	71,400
30	60,000		32,100	24,800	25,000	10,900	7,350	8,750	13,300	20,000	76,700	73,900
31	59,900		31,500		23,000		7,460	9,120		22,900		72,900

Source of Data:

http://waterdata.usgs.gov/nwis/dvstat?referred_module=sw&site_no=14191000&por_14191000_2=546606.00060.2.1909-10-01.2010-01-11&site_no=14191000&por_14191000_3=546606.00065.3.1988-06-01.2010-01-11&start_dt=1968-01-01&end_dt=2009-09-30&format=html_table&stat_cds=p80_va&date_format=YYYY-MM-DD&rb_compression=file&submitted_form=parameter_selection_list

MINTO BROWN ISLAND PEDESTRIAN BRIDGE WATER ELEVATION DATA

USGS Data considering the range of data available for discharge

Flow Limit 29517 cfs
205 days > limit

Gage (EL) Limit 11.00 ft
data unavailable

00060, Discharge, cubic feet per second,												
Day of month	90 th percentile of daily mean values for each day for 41 - 42 years of record in, cfs (Calculation Period 1967-10-01 -> 2009-09-30)											
	Period-of-record for statistical calculation restricted by user											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	87,600	88,100	69,400	45,500	29,000	26,300	14,400	8,010	10,500	14,500	32,800	91,100
2	90,600	88,800	68,500	40,300	29,200	25,400	14,400	7,970	10,400	14,100	31,000	86,600
3	85,600	86,000	64,200	37,500	33,600	24,900	14,300	7,870	10,600	13,900	28,000	86,800
4	85,900	83,000	57,600	40,300	32,500	23,500	12,600	8,140	10,900	14,800	27,100	90,300
5	84,200	75,100	58,900	37,700	32,500	29,200	11,900	7,970	10,900	14,300	29,000	94,000
6	81,000	63,400	58,900	36,900	37,400	34,000	11,500	8,200	11,000	14,600	28,600	95,500
7	86,800	63,200	52,200	40,000	38,300	31,500	11,200	8,300	11,100	14,400	31,400	96,500
8	93,600	66,800	53,600	39,200	34,400	33,700	10,800	8,130	11,400	15,400	31,700	90,700
9	91,200	66,200	52,900	37,200	30,000	35,000	10,600	8,160	11,800	15,500	42,600	89,000
10	87,900	60,300	53,800	41,000	31,200	31,100	10,400	8,290	12,400	16,500	51,500	85,100
11	87,300	64,100	50,300	43,700	30,200	28,500	10,200	8,200	12,600	15,700	51,800	88,700
12	90,900	61,500	56,100	40,600	30,400	27,100	9,950	7,960	12,800	18,200	57,200	93,000
13	94,000	58,900	54,000	42,000	29,100	25,600	9,630	8,100	12,900	17,700	59,900	95,000
14	93,500	57,900	55,300	45,000	30,300	27,300	9,130	8,280	13,200	17,100	62,800	96,900
15	98,500	56,300	61,400	42,800	29,000	25,000	8,840	8,390	12,600	16,900	58,500	94,900
16	104,000	57,400	55,000	39,600	30,000	23,800	8,590	8,790	13,000	16,700	56,700	100,000
17	105,000	74,700	61,500	37,300	29,100	22,100	8,310	8,900	13,200	16,200	58,500	101,000
18	92,500	80,900	64,900	41,200	34,600	21,000	8,710	9,040	13,400	16,000	51,600	94,200
19	102,000	95,800	58,900	37,400	40,200	19,800	8,910	9,270	13,000	17,200	65,600	87,800
20	103,000	83,900	54,500	33,100	39,900	18,500	8,810	9,540	13,500	19,500	62,000	84,300
21	104,000	77,400	53,600	33,700	37,700	19,600	8,520	9,440	13,300	21,300	60,800	85,800
22	109,000	84,200	53,700	31,800	39,200	17,700	8,380	9,350	13,200	20,300	63,100	87,500
23	107,000	87,000	54,800	34,900	37,500	16,500	8,460	9,330	13,100	20,400	70,200	89,300
24	106,000	88,900	54,600	38,800	32,000	15,700	8,430	9,430	13,400	19,900	77,300	84,000
25	97,900	79,500	56,800	42,900	30,400	16,600	8,340	9,780	13,500	21,200	82,100	82,900
26	91,700	73,000	59,000	39,600	31,200	15,500	8,280	9,850	13,400	26,000	84,300	84,500
27	88,000	65,200	60,600	36,400	31,300	15,700	8,130	9,980	14,000	28,100	90,500	86,300
28	85,300	72,400	48,200	40,200	28,300	15,500	8,040	9,660	14,000	27,100	89,600	91,700
29	82,000	79,800	51,700	36,100	26,400	15,500	8,080	9,610	14,100	26,900	87,700	87,500
30	76,200		50,800	32,500	27,500	15,300	8,050	10,800	14,400	26,100	91,500	88,800
31	78,900		49,000		26,700		8,000	10,700		28,100		91,700

Source of Data:

http://waterdata.usgs.gov/nwis/dvstat?referred_module=sw&site_no=14191000&por_14191000_2=546606.00060.2.1909-10-01.2010-01-11&site_no=14191000&por_14191000_3=546606.00065.3.1988-06-01.2010-01-11&start_dt=1968-01-01&end_dt=2009-09-30&format=html_table&stat_cds=p90_va&date_format=YYYY-MM-DD&rdp_compression=file&submitted_form=parameter_selection_list

MINTO BROWN ISLAND PEDESTRIAN BRIDGE WATER ELEVATION DATA

USGS Data considering the range of data available for discharge

Flow Limit 29517 cfs
229 days > limit

Gage (EL) Limit 11.00 ft
data unavailable

00060, Discharge, cubic feet per second,												
Day of month	95 th percentile of daily mean values for each day for 41 - 42 years of record in, cfs (Calculation Period 1967-10-01 -> 2009-09-30)											
	Period-of-record for statistical calculation restricted by user											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	135,000	94,300	95,800	76,100	39,000	35,500	16,900	8,620	11,000	16,900	39,100	93,400
2	127,000	92,500	93,700	73,400	35,300	35,000	16,000	8,570	11,200	16,200	37,300	96,500
3	112,000	93,200	87,900	72,200	39,600	41,300	18,700	8,640	11,600	16,400	41,400	96,800
4	99,900	88,400	84,500	71,200	46,000	41,500	16,500	8,600	11,300	15,500	36,400	102,000
5	90,700	82,700	79,100	67,700	45,300	36,500	14,800	8,490	11,500	15,400	39,500	107,000
6	88,000	83,200	67,600	59,900	42,300	38,500	13,900	8,470	11,300	15,200	37,400	104,000
7	94,100	86,100	65,800	51,300	46,200	45,400	13,300	8,510	11,400	17,500	36,900	120,000
8	102,000	83,400	60,700	48,100	49,200	42,400	12,900	8,640	12,100	19,300	61,300	126,000
9	97,900	79,700	62,900	50,900	47,400	40,200	11,400	8,590	12,500	20,000	57,200	106,000
10	101,000	75,700	63,600	57,400	43,100	49,500	11,100	8,620	12,600	21,000	71,300	99,800
11	106,000	72,600	68,900	59,200	35,500	42,800	10,900	8,570	13,300	20,600	78,700	99,700
12	100,000	73,500	73,900	56,900	34,700	31,800	10,600	8,440	13,800	20,800	78,400	99,800
13	95,600	71,700	77,400	51,900	32,700	30,700	10,400	8,470	14,400	24,500	80,300	106,000
14	111,000	91,400	75,600	48,700	31,800	28,600	10,200	8,750	14,900	24,300	81,800	114,000
15	113,000	91,200	66,800	59,000	31,300	26,900	9,950	8,770	15,100	22,600	80,900	115,000
16	120,000	87,400	76,200	60,600	31,500	24,800	9,800	9,100	14,700	21,500	78,300	113,000
17	110,000	86,200	76,200	55,400	36,400	22,800	9,670	9,580	14,700	20,100	72,800	112,000
18	128,000	95,100	72,800	45,100	44,700	21,600	9,510	9,880	14,900	19,600	69,700	109,000
19	131,000	99,600	68,700	44,700	52,300	20,700	9,550	9,940	15,400	19,800	80,000	102,000
20	132,000	104,000	65,400	40,500	55,700	21,200	9,410	10,100	15,100	23,300	81,500	98,400
21	127,000	98,200	62,500	41,200	51,700	20,600	9,330	10,200	14,800	26,800	84,000	97,500
22	121,000	97,600	58,200	38,800	47,100	20,400	9,200	9,690	14,600	24,400	90,200	95,800
23	121,000	99,000	67,200	41,600	42,600	20,300	9,770	9,840	14,200	21,200	90,400	96,100
24	126,000	93,700	65,500	49,000	37,700	19,300	10,100	11,000	14,100	28,000	88,000	88,800
25	119,000	90,200	62,500	54,500	32,600	19,700	9,470	12,000	13,800	33,600	87,800	85,900
26	109,000	82,500	65,700	54,000	34,400	23,500	9,180	12,300	14,100	35,900	100,000	110,000
27	102,000	77,400	65,600	48,200	32,900	25,000	9,140	12,100	15,100	33,000	99,700	131,000
28	93,700	84,500	62,100	48,000	29,800	22,000	9,340	11,400	15,900	30,200	91,900	105,000
29	88,200		56,100	42,600	27,700	19,300	9,240	11,800	15,700	31,600	93,900	133,000
30	92,900		54,700	39,500	28,700	18,300	9,010	11,400	17,000	32,000	95,200	135,000
31	93,100		74,800		27,900		8,720	11,500		37,200		131,000

Source of Data:

http://waterdata.usgs.gov/nwis/dvstat?referred_module=sw&site_no=14191000&por_14191000_2=546606.00060.2.1909-10-01.2010-01-11&site_no=14191000&por_14191000_3=546606.00065.3.1988-06-01.2010-01-11&start_dt=1968-01-01&end_dt=2009-09-30&format=html_table&stat_cds=p95_va&date_format=YYYY-MM-DD&rdp_compression=file&submitted_form=parameter_selection_list

MINTO BROWN ISLAND PEDESTRIAN BRIDGE WATER ELEVATION DATA

USGS Data considering the range of data available for discharge

Flow Limit 29517 cfs
107 days > limit

Gage (EL) Limit 11.00 ft
data unavailable

00060, Discharge, cubic feet per second,												
Day of month	Mean of daily mean values for each day for 41 - 42 years of record in, cfs (Calculation Period 1967-10-01 -> 2009-09-30)											
	Period-of-record for statistical calculation restricted by user											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	46,600	38,600	31,200	24,900	19,400	17,000	9,310	6,820	7,850	11,200	18,000	43,100
2	44,700	38,600	30,500	24,200	19,100	17,100	9,140	6,830	7,980	11,200	18,300	44,700
3	43,100	37,900	30,300	23,900	19,400	16,800	8,980	6,830	8,180	11,300	18,600	47,600
4	43,000	36,100	30,400	24,000	19,900	16,300	8,740	6,820	8,290	11,400	18,500	49,100
5	43,600	33,900	30,500	23,500	20,200	16,400	8,540	6,790	8,330	11,500	19,000	50,200
6	44,100	32,800	29,800	22,800	20,400	16,400	8,270	6,800	8,380	11,600	19,700	50,000
7	43,700	33,200	29,100	22,800	20,500	16,600	8,090	6,820	8,490	11,700	20,500	50,800
8	44,000	35,300	28,800	22,700	20,300	17,300	7,950	6,800	8,670	11,800	21,800	50,700
9	44,900	34,900	27,700	23,500	20,000	17,300	7,760	6,810	8,860	12,000	22,700	48,700
10	47,800	33,300	27,400	24,900	19,600	16,700	7,660	6,810	9,050	12,200	23,800	47,600
11	50,500	31,100	27,500	25,600	19,600	15,900	7,550	6,800	9,300	12,300	24,200	47,400
12	52,200	29,200	28,000	25,500	19,600	15,100	7,440	6,790	9,450	12,600	24,900	47,300
13	53,100	29,600	28,700	25,000	19,300	14,700	7,340	6,820	9,520	12,600	25,800	46,900
14	53,600	30,400	28,900	24,800	19,000	14,000	7,250	6,910	9,600	12,500	26,600	48,500
15	54,700	30,400	29,300	24,400	18,800	13,400	7,190	7,020	9,650	12,500	27,000	50,000
16	55,900	30,800	29,400	23,500	19,000	12,800	7,100	7,160	9,790	12,600	27,600	50,700
17	56,000	33,700	29,100	22,700	19,400	12,400	7,060	7,240	9,850	12,600	27,900	50,600
18	54,400	36,400	28,400	22,200	20,200	12,000	7,060	7,360	9,970	12,500	28,400	48,600
19	52,600	38,300	28,100	21,700	20,600	11,600	7,070	7,410	10,200	12,900	29,200	45,700
20	50,700	39,200	27,500	20,900	20,400	11,300	7,060	7,490	10,300	13,600	30,600	43,400
21	49,800	38,200	26,300	21,100	20,000	11,100	7,040	7,540	10,300	14,000	31,900	43,700
22	49,200	36,700	26,000	20,900	19,500	11,000	6,970	7,540	10,300	14,200	33,600	44,500
23	47,800	35,800	26,500	21,000	19,200	10,700	6,960	7,600	10,300	14,400	35,300	44,300
24	47,300	35,300	27,300	21,900	18,600	10,400	6,960	7,720	10,400	14,500	36,400	43,500
25	46,800	35,100	27,500	22,600	17,900	10,200	6,900	7,770	10,500	14,700	38,900	43,100
26	46,300	33,700	27,200	22,500	17,800	10,300	6,850	7,770	10,600	15,200	41,300	42,700
27	44,900	32,400	27,100	21,700	17,700	10,300	6,810	7,880	10,800	15,400	42,100	44,100
28	43,500	32,100	26,500	21,200	17,300	10,200	6,780	7,820	10,900	15,800	41,600	45,200
29	41,700	34,700	25,800	20,700	17,100	9,960	6,770	7,740	11,000	16,000	41,300	46,400
30	39,700		25,300	19,900	17,300	9,660	6,780	7,780	11,100	16,100	42,000	47,200
31	38,500		25,200		17,200		6,790	7,870		16,700		47,800

Source of Data:

http://waterdata.usgs.gov/nwis/dvstat?referred_module=sw&site_no=14191000&por_14191000_2=546606.00060.2.1909-10-01.2010-01-11&site_no=14191000&por_14191000_3=546606.00065.3.1988-06-01.2010-01-11&start_dt=1968-01-01&end_dt=2009-09-30&format=html_table&stat_cds=mean_va&date_format=YYYY-MM-DD&rdb_compression=file&submitted_form=parameter_selection_list

MINTO BROWN ISLAND PEDESTRIAN BRIDGE WATER ELEVATION DATA ANALYSIS

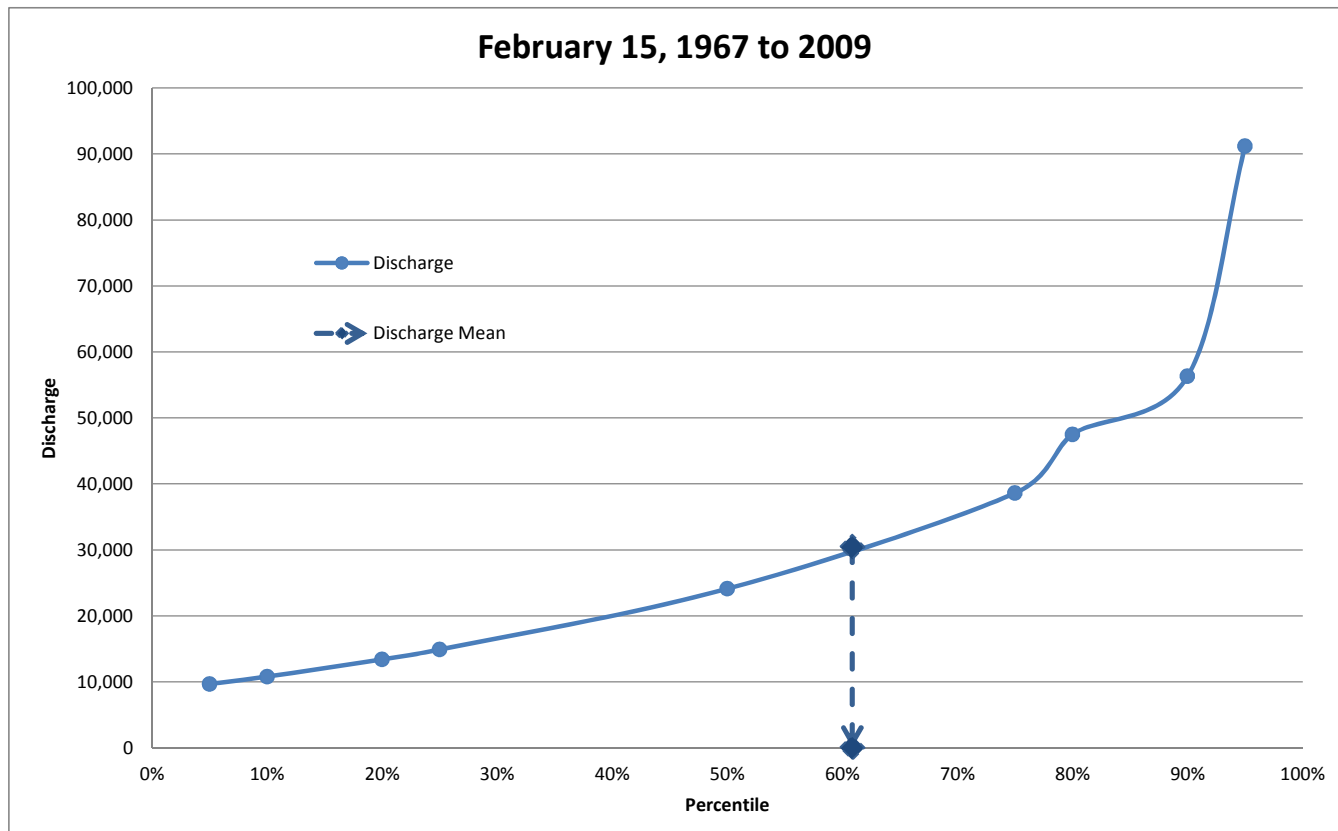
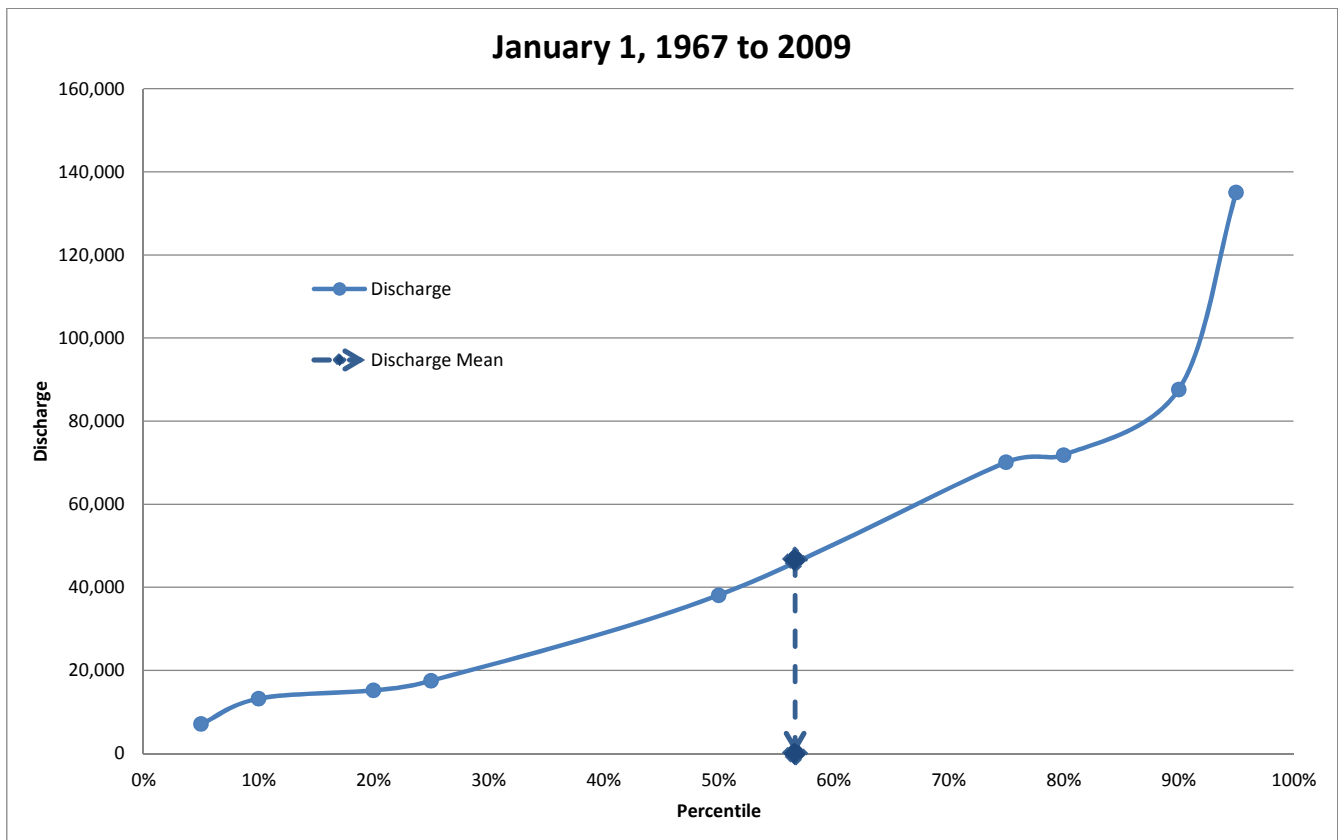
Data Percentile Summary and Mean Percentile Assessment using USGS Data

Data from 1967 to 2009

DISCHARGE PERCENTILE SUMMARIES FOR CERTAIN DAYS OF THE MONTH

	Jan 1st	Feb 1st	Mar 1st	Apr 1st	May 1st	Jun 1st	Jul 1st	Aug 1st	Sep 1st	Oct 1st	Nov 1st	Dec 1st
5%	7,090	9,570	8,950	9,900	9,200	6,330	5,800	5,730	6,030	6,990	7,340	8,080
10%	13,200	10,200	12,600	12,100	9,750	8,500	6,300	5,830	6,460	7,670	10,100	9,870
20%	15,200	14,700	14,900	14,100	14,000	10,600	6,810	6,000	6,660	8,900	10,900	14,100
25%	17,500	18,000	15,400	14,900	14,800	12,400	7,030	6,050	6,810	9,510	12,500	17,400
50%	38,100	27,900	23,000	20,700	16,900	15,700	8,350	6,630	7,500	10,600	15,100	38,000
75%	70,100	54,300	40,300	27,000	22,800	21,000	10,300	7,280	8,290	13,200	22,400	62,100
80%	71,800	69,100	42,800	30,900	23,800	22,000	10,900	7,610	8,970	13,400	25,300	71,900
90%	87,600	88,100	69,400	45,500	29,000	26,300	14,400	8,010	10,500	14,500	32,800	91,100
95%	135,000	94,300	95,800	76,100	39,000	35,500	16,900	8,620	11,000	16,900	39,100	93,400
mean	46,600	38,600	31,200	24,900	19,400	17,000	9,310	6,820	7,850	11,200	18,000	43,100
~ %	57%	60%	62%	67%	61%	56%	62%	57%	61%	56%	60%	55%
	Jan 15th	Feb 15th	Mar 15th	Apr 15th	May 15th	Jun 15th	Jul 15th	Aug 15th	Sep 15th	Oct 15th	Nov 15th	Dec 15th
5%	10,900	9,660	8,630	10,000	7,550	6,110	5,560	5,710	6,030	7,760	8,560	10,300
10%	14,300	10,800	11,100	10,800	8,140	7,440	5,770	6,010	6,920	8,160	11,600	14,400
20%	25,300	13,400	14,400	14,500	10,700	8,490	5,960	6,330	7,820	9,990	13,500	20,000
25%	30,400	14,900	16,200	16,400	12,400	8,680	6,180	6,450	8,320	10,200	14,100	22,500
50%	49,300	24,100	25,500	19,900	19,200	12,000	7,070	6,830	9,180	11,800	18,100	41,800
75%	73,100	38,600	36,900	28,800	24,900	15,500	7,830	7,350	10,800	14,100	34,500	74,900
80%	88,900	47,500	46,600	33,900	26,700	19,000	8,250	7,910	11,200	14,600	37,800	86,800
90%	98,500	56,300	61,400	42,800	29,000	25,000	8,840	8,390	12,600	16,900	58,500	94,900
95%	113,000	91,200	66,800	59,000	31,300	26,900	9,950	8,770	15,100	22,600	80,900	115,000
mean	54,700	30,400	29,300	24,400	18,800	13,400	7,190	7,020	9,650	12,500	27,000	50,000
~ %	56%	61%	58%	63%	48%	60%	54%	59%	57%	58%	64%	56%
	Jan 28th	Feb 28th	Mar 28th	Apr 28th	May 28th	Jun 28th	Jul 28th	Aug 28th	Sep 28th	Oct 28th	Nov 28th	Dec 28th
5%	10,700	9,040	10,700	9,660	6,840	5,890	5,800	5,800	6,960	7,520	8,230	8,020
10%	12,100	12,300	12,900	10,800	7,920	6,310	5,890	6,410	7,510	8,170	10,800	15,800
20%	18,800	15,200	14,600	14,000	12,600	6,750	6,020	6,590	8,440	11,000	15,300	19,300
25%	21,500	15,600	15,800	15,000	13,600	7,190	6,120	6,630	8,530	11,600	16,400	20,400
50%	36,200	23,000	23,400	17,900	16,200	8,860	6,620	7,220	10,400	14,100	31,400	35,300
75%	68,300	40,900	32,400	23,400	20,300	10,700	7,210	8,440	12,800	17,900	66,900	65,400
80%	72,500	45,400	37,400	26,900	22,600	11,400	7,320	9,040	12,900	20,400	73,100	72,300
90%	85,300	72,400	48,200	40,200	28,300	15,500	8,040	9,660	14,000	27,100	89,600	91,700
95%	93,700	84,500	62,100	48,000	29,800	22,000	9,340	11,400	15,900	30,200	91,900	105,000
mean	43,500	32,100	26,500	21,200	17,300	10,200	6,780	7,820	10,900	15,800	41,600	45,200
~ %	56%	63%	59%	65%	57%	68%	57%	62%	55%	61%	57%	58%

Percentile Plot and Mean Percentile Interpolation



Percentile Plot and Mean Percentile Interpolation

