

Water-Data Report 2010

09427520 COLORADO RIVER BELOW PARKER DAM, AZ-CA

Lower Colorado Basin
Imperial Reservoir Subbasin

LOCATION.--Lat 34°17'44", long 114°08'22" referenced to North American Datum of 1927, in NW ¼ NW ¼ sec.3, T.2 N., R.27 E., San Bernardino County, CA, Hydrologic Unit 15030104, San Bernardino meridian, on north end of powerplant at Parker Dam, 13 mi northeast of Parker, AZ, and 14 mi upstream from Headgate Rock Dam.

DRAINAGE AREA.--182,700 mi² of which 4,000 mi² probably is noncontributing, The noncontributing area is the Great Divide basin in southern Wyoming.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--Feb. to Sept. 1934 (gage heights and fragmentary discharge records), Oct. 1934 to current year. Prior to Oct. 1937, published as "near Parker, Ariz."

REVISED RECORDS.--WSP 1313: 1941(M). WDR AZ-06-1: Gage information, 2001-05.

GAGE.--Water-stage recorder. Datum of gage is 300.00 ft above sea level. Prior to Oct. 1, 1967, at site 3.8 mi downstream at datum 346.23 ft above sea level.

REMARKS.--Record is rated good except for estimated record, which is rated fair. Flow regulated by Hoover Dam (Lake Mead) since Feb. 1, 1935, by Davis Dam (Lake Mohave) since Jan. 17, 1950, and by Parker Dam (Lake Havasu) since July 1, 1938. Many diversions above station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 42,400 ft³/s Feb. 8, 1937; no flow at Parker Dam for parts of several days in 1942 when gates in dam were closed. An unregulated discharge of probably less than 1,350 ft³/s occurred Aug. 18, 1934 (lowest unregulated discharge since 1917 and probably since a much earlier date).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 21,900 ft³/s, Aug. 3, gage height, 72.30 ft; minimum daily discharge, 2,060 ft³/s, Jan. 30.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	6,650	7,800	5,360	5,230	2,970	9,390	8,060	11,400	10,200	11,200	10,500	9,030
2	8,210	7,680	5,330	3,900	3,400	10,400	15,400	12,500	9,710	12,500	10,400	5,390
3	7,180	7,220	5,330	2,960	5,430	8,890	14,500	12,500	6,980	13,100	11,700	9,270
4	10,200	6,640	6,410	e4,200	3,320	7,850	13,600	12,500	13,100	13,600	9,960	8,890
5	10,300	4,130	6,580	e4,460	3,350	8,750	13,400	10,400	13,000	13,000	10,800	8,870
6	8,040	6,880	6,550	e4,470	2,930	9,910	13,400	7,690	11,000	12,600	10,400	9,310
7	7,150	6,920	5,030	e3,960	5,250	6,320	12,600	11,800	11,900	11,400	11,900	9,370
8	5,820	7,410	4,850	e5,630	3,780	4,810	7,840	12,500	12,700	9,500	10,900	10,800
9	7,450	6,410	4,840	e5,020	2,900	5,730	12,100	13,600	12,500	12,700	12,500	7,970
10	8,100	6,400	4,090	e4,460	2,170	7,290	11,400	13,600	8,970	13,000	10,900	10,700
11	9,150	5,910	3,890	e6,140	2,090	7,840	10,200	11,500	12,700	13,800	10,800	10,600
12	8,600	4,060	4,680	e6,170	2,980	8,890	11,100	11,200	11,100	13,900	9,140	10,900
13	7,090	5,040	4,840	5,110	3,920	10,900	12,900	6,640	11,100	14,600	9,830	10,900
14	6,210	6,860	6,240	4,750	4,800	12,100	11,600	11,900	11,100	12,900	10,600	10,700
15	6,250	5,460	5,760	4,870	7,770	11,600	8,310	11,800	11,400	11,600	10,700	10,300
16	7,690	5,840	4,850	5,250	9,480	13,000	12,500	12,000	13,200	11,500	10,200	8,910
17	8,340	5,870	2,560	5,780	5,980	13,200	11,600	11,900	7,900	12,700	11,000	9,430
18	9,370	6,340	3,860	4,340	5,680	13,800	12,500	11,900	12,600	13,400	10,300	9,450
19	9,520	5,900	4,400	3,030	9,770	14,800	12,600	10,300	12,000	12,200	8,640	9,460
20	8,040	6,840	5,200	2,120	8,050	15,000	11,100	8,130	12,100	12,700	9,800	10,500
21	7,880	7,350	5,670	2,290	8,940	15,100	10,700	11,300	11,600	11,600	10,800	11,600
22	6,400	7,040	4,810	2,280	7,650	14,700	8,170	11,300	11,400	11,600	11,500	10,300
23	6,900	5,630	3,500	2,150	7,900	12,800	12,000	11,000	11,000	13,300	11,200	10,000
24	6,970	5,830	2,130	2,550	7,790	11,600	11,800	10,300	6,670	12,900	10,900	10,500
25	6,910	5,670	3,860	2,520	7,810	8,960	12,200	9,800	12,500	12,600	11,700	10,500
26	8,390	4,830	4,700	2,100	7,590	12,300	13,400	10,300	11,600	12,200	7,300	11,000
27	8,320	4,890	5,150	2,520	9,860	13,700	11,800	10,300	11,500	12,200	10,400	10,500
28	8,260	4,430	3,850	2,100	10,400	13,700	12,600	10,900	12,600	10,500	10,200	10,200
29	6,300	5,330	4,330	2,080	---	12,800	5,000	11,900	13,300	9,500	10,200	9,120
30	5,340	5,320	4,170	2,060	---	11,200	12,600	11,400	12,600	11,100	10,000	7,650
31	6,550	---	3,410	3,470	---	10,200	---	11,200	---	10,500	10,000	---
Total	237,580	181,930	146,230	117,970	163,960	337,530	346,980	345,460	340,030	379,900	325,170	292,120
Mean	7,664	6,064	4,717	3,805	5,856	10,890	11,570	11,140	11,330	12,250	10,490	9,737
Max	10,300	7,800	6,580	6,170	10,400	15,100	15,400	13,600	13,300	14,600	12,500	11,600
Min	5,340	4,060	2,130	2,060	2,090	4,810	5,000	6,640	6,670	9,500	7,300	5,390
Ac-ft	471,200	360,900	290,000	234,000	325,200	669,500	688,200	685,200	674,400	753,500	645,000	579,400

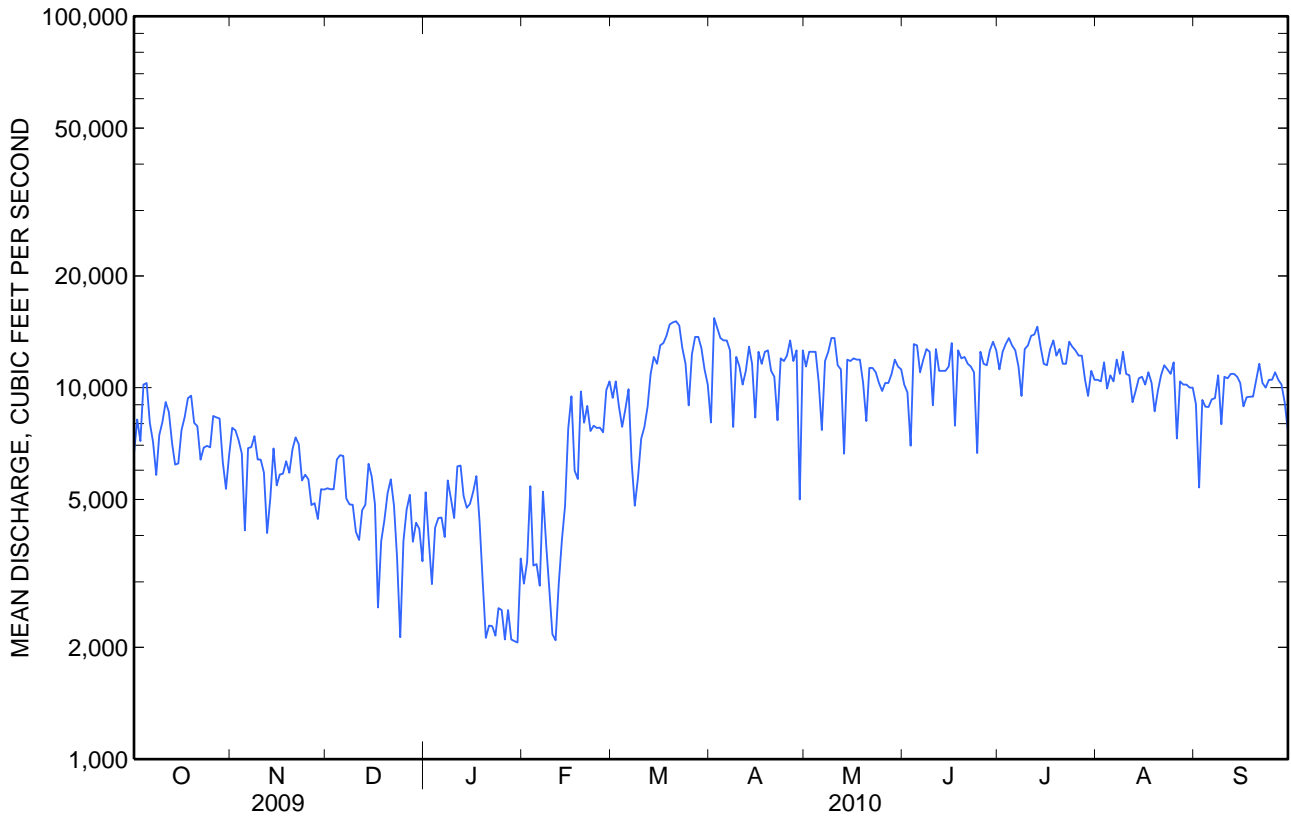
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1935 - 2010, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	10,220	8,969	8,928	9,351	10,700	12,930	13,810	13,250	14,390	14,980	13,710	12,130
Max	35,820	29,090	33,210	31,830	28,810	28,310	27,040	29,380	32,470	39,680	39,390	38,080
(WY)	(1984)	(1942)	(1942)	(1942)	(1984)	(1984)	(1984)	(1986)	(1984)	(1983)	(1983)	(1983)
Min	3,638	3,686	2,761	1,639	3,481	7,106	7,085	8,064	9,181	9,780	9,006	6,722
(WY)	(1973)	(1983)	(1968)	(1993)	(1993)	(1935)	(1935)	(1940)	(1937)	(1938)	(1992)	(1976)

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SUMMARY STATISTICS

	Calendar Year 2009		Water Year 2010		Water Years 1935 - 2010	
Annual total	3,294,960		3,214,860			
Annual mean	9,027		8,808		11,990	
Highest annual mean					29,100	1984
Lowest annual mean					7,552	1993
Highest daily mean	16,000	Apr 22	15,400	Apr 2	40,500	Aug 15, 1983
Lowest daily mean	2,130	Dec 24	2,060	Jan 30	30	Jan 5, 1995
Annual seven-day minimum	3,650	Jan 4	2,280	Jan 24	742	Jan 4, 1995
Annual runoff (ac-ft)	6,536,000		6,377,000		8,690,000	
10 percent exceeds	12,900		12,700		19,200	
50 percent exceeds	9,210		9,450		11,500	
90 percent exceeds	4,970		4,080		5,310	



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WATER-QUALITY RECORDS

PERIOD OF RECORD.--Oct. 1963 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Sept. 1982 to Sept. 2000.

WATER TEMPERATURES: Feb. 1954 to Aug. 1970, Sept. 1982 to Sept. 2000.

REMARKS.--Prior to Oct. 1968, published as 09428000.

WATER-QUALITY DATA

WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

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[%, percent; CaCO₃, calcium carbonate; MF, membrane filter; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; col/100 mL, colonies per 100 milliliters; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; μS/cm, microsiemens per centimeter; μg/L, micrograms per liter; <, less than; E, estimated; k, counts outside acceptable range; p, value reported is preferred; r, value verified by rerun, same method]

Date	Sample start time	Medium name	Sample type	Barometric pressure, mm Hg (00025)	Temperature, air, °C (00020)	Discharge, instantaneous, ft ³ /s (00061)	Dissolved oxygen, water, unfiltered, mg/L (00300)	Dissolved oxygen, water, unfiltered, % saturation (00301)	pH, water, unfiltered, field, standard units (00400)	Specific conductance, water, unfiltered, μS/cm at 25 °C (00095)
11-23-2009	1015	Surface water	Regular	763	19.5	9,070	9.3	95	8.2	996
02-22-2010	1045	Surface water	Regular	759	16.0	6,080	9.0	87	8.4	979
05-24-2010	1100	Surface water	Regular	759	31.5	14,700	8.7	99	8.3	964
08-19-2010	1110	Surface water	Regular	752	37.5	9,640	7.8	100	8.1	961

WATER-QUALITY DATA

WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

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[%, percent; CaCO₃, calcium carbonate; MF, membrane filter; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; col/100 mL, colonies per 100 milliliters; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; μS/cm, microsiemens per centimeter; μg/L, micrograms per liter; <, less than; E, estimated; k, counts outside acceptable range; p, value reported is preferred; r, value verified by rerun, same method]

Date	Temperature, water, °C (00010)	Turbidity, water, unfiltered, broad band light source (400-680 nm), detectors at multiple angles including 90 +/- 30 degrees, ratiometric correction, NTRU (63676)	Dissolved solids, dried at 180 °C, water, filtered, mg/L (70300)	Dissolved solids, filtered, sum of constituents, milligrams per liter (70301)	Dissolved solids, filtered, tons per acre-foot (70303)	Hardness, water, mg/L as CaCO ₃ (00900)	Noncarbonate hardness, water, filtered, field, milligrams per liter as calcium carbonate (00904)	Suspended solids, water, unfiltered, mg/L (00530)	Calcium, water, filtered, mg/L (00915)
11-23-2009	16.4	< 2.0	635	E 608	.86	291	169	< 15	72.6 p
02-22-2010	13.2	< 2.0	646	E 602	.88	286	154	< 15	71.3
05-24-2010	21.3	< 2.0	614	E 595	.84	294	164	< 15	74.2 p
08-19-2010	26.9	< 2.0	620	E 579	.84	277	149	< 15	70.0

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

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[%, percent; CaCO₃, calcium carbonate; MF, membrane filter; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; col/100 mL, colonies per 100 milliliters; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; μS/cm, microsiemens per centimeter; μg/L, micrograms per liter; <, less than; E, estimated; k, counts outside acceptable range; p, value reported is preferred; r, value verified by rerun, same method]

Date	Calcium, water, unfiltered, recover able, mg/L (00916)	Magne sium, water, filtered, mg/L (00925)	Magne sium, water, unfiltered, recover able, mg/L (00927)	Potassium, water, filtered, mg/L (00935)	Sodium adsorption ratio, water, number (00931)	Sodium, water, filtered, mg/L (00930)	Alkalinity, water, filtered, inflection- point, incremental titration method, field, mg/L as CaCO ₃ (39086)	Bicarbon ate, water, filtered, inflection- point, incremental titration method, field, mg/L (00453)	Carbonate, water, filtered, inflection- point incremental titration method, field, mg/L (00452)
11-23-2009	72.2 p	26.6 p	27.4 p	4.87	2.46	96.4	122	144	2
02-22-2010	73.7 p	26.2	26.7	4.93	2.27	88.3	132	149	6
05-24-2010	70.9 p	26.3 p	24.9 p	4.65	2.26	89.0	130	158	< 1
08-19-2010	70.0	24.8	24.7	4.49	2.14	82.0	128	147	4

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

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[%, percent; CaCO₃, calcium carbonate; MF, membrane filter; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; col/100 mL, colonies per 100 milliliters; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; μS/cm, microsiemens per centimeter; μg/L, micrograms per liter; <, less than; E, estimated; k, counts outside acceptable range; p, value reported is preferred; r, value verified by rerun, same method]

Date	Chloride, water, filtered, mg/L (00940)	Fluoride, water, filtered, mg/L (00950)	Sulfate, water, filtered, mg/L (00945)	Ammonia plus organic nitrogen, water, unfiltered, mg/L as N (00625)	Ammonia, water, filtered, mg/L as N (00608)	Nitrate plus nitrite, water, filtered, mg/L as N (00631)	Organic nitrogen, water, unfiltered, mg/L (00605)	Phos phorus, water, unfiltered, mg/L as P (00665)	Total nitrogen, water, unfiltered, mg/L (00600)	Esche richia coli, modified m-TEC MF method, water, col/100 mL (90902)
11-23-2009	86.4	.41	246	.19	.034	.29	.16	< .02	.49	< 1 k
02-22-2010	85.6	.34	244	.18	.021	.40	.16	< .02	.59	< 1 k
05-24-2010	88.0	.39	233	.27	.021	.39	.25	< .02	.66	< 1 k
08-19-2010	87.1	.36	233	.22	.037 r	.32	.18	< .02	.54	< 1 k

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

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[%, percent; CaCO₃, calcium carbonate; MF, membrane filter; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; col/100 mL, colonies per 100 milliliters; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; μS/cm, microsiemens per centimeter; μg/L, micrograms per liter; <, less than; E, estimated; k, counts outside acceptable range; p, value reported is preferred; r, value verified by rerun, same method]

Date	Barium, water, unfiltered, recover able, μg/L (01007)	Beryllium, water, filtered, μg/L (01010)	Beryllium, water, unfiltered, recover able, μg/L (01012)	Cadmium, water, filtered, μg/L (01025)	Cadmium, water, unfiltered, μg/L (01027)	Chromium, water, unfiltered, recover able, μg/L (01034)	Copper, water, filtered, μg/L (01040)	Copper, water, unfiltered, recover able, μg/L (01042)	Lead, water, filtered, μg/L (01049)	Lead, water, unfiltered, recover able, μg/L (01051)
11-23-2009	142	< .01	< .04	.04	E .02	< .42	< 1.0	< 1.4	E .02	E .06
02-22-2010	138	< .01	< .04	.04	< .04	< .42	E .54	< 1.4	E .02	E .05
05-24-2010	127	< .01	< .04	.04	< .04	< .42	E .57	< 1.4	E .02	.07
08-19-2010	138	E .01	< .04	.02	< .04	< .42	< 1.0	< 1.4	E .03	.10

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

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[%, percent; CaCO₃, calcium carbonate; MF, membrane filter; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; col/100 mL, colonies per 100 milliliters; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; μS/cm, microsiemens per centimeter; μg/L, micrograms per liter; <, less than; E, estimated; k, counts outside acceptable range; p, value reported is preferred; r, value verified by rerun, same method]

Date	Manganese, water, unfiltered, recover able, μg/L (01055)	Mercury, water, filtered, μg/L (71890)	Mercury, water, unfiltered, recover able, μg/L (71900)	Zinc, water, filtered, μg/L (01090)	Zinc, water, unfiltered, recover able, μg/L (01092)	Antimony, water, filtered, μg/L (01095)	Antimony, water, unfiltered, microgram s per liter (01097)	Arsenic, water, filtered, μg/L (01000)	Arsenic, water, unfiltered, μg/L (01002)	Boron, water, unfiltered, recoverabl e, microgram s per liter (01022)
11-23-2009	1.8	< .010	< .010	< 2.8	< 2.0	.38	E .3	2.9	2.9	149
02-22-2010	2.2	< .010	< .010	< 2.8	< 2.0	.38	E .3	2.6	2.7	122
05-24-2010	2.9	< .010	< .010	< 2.8	< 2.0	.35	E .3	2.8	3.1	82
08-19-2010	4.5	< .010	< .010	E 1.6	< 2.0	.32	E .3	2.6	3.6	139

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WATER YEAR OCTOBER 2009 TO SEPTEMBER
2010**

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[%, percent; CaCO₃, calcium carbonate; MF, membrane filter; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; col/100 mL, colonies per 100 milliliters; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; μS/cm, microsiemens per centimeter; μg/L, micrograms per liter; <, less than; E, estimated; k, counts outside acceptable range; p, value reported is preferred; r, value verified by rerun, same method]

Date	Suspended		Suspended sediment discharge, tons per day (80155)
	Selenium, water, unfiltered, μg/L (01147)	sediment concen tration, mg/L (80154)	
11-23-2009	1.7	2	49
02-22-2010	1.6	2	33
05-24-2010	1.8	24	953
08-19-2010	1.5	--	--