

Water Supply Operations Providing for the Recharge of Aquifers which Supply the City of Morgan Hill

May 2010

Recharge rates in facilities which supply the aquifers used by the City of Morgan Hill are currently approximately 16.4 MGD. This reflects a recharge rate in the Upper Llagas Basin recharge facilities (Main Avenue, Madrone and San Pedro percolation facilities) of = 13.8 MGD. Llagas Creek and Coyote Creek are currently flowing continuously and percolating an estimated additional 2.6 MGD to the aquifers accessed by the City of Morgan Hill.

Recharge for 2009 was 13,400 acre feet. This is equivalent to an average rate of 12.0 MGD. The 2009 total was about 103% of average delivery over the past 20 years. The 2010 Operations Plan reflecting median hydrology is projecting total delivery of 14,600 acre-feet. This equates to an average delivery of 13.0 MGD.

Main Avenue Percolation Ponds

The ponds were drained for cleaning and facility restoration in October 2009. Old inter-pond pipes, valves and catwalks were replaced. Conventional cleaning did not occur because of the soil in the pond bottoms did not dry sufficiently. Ponds were put in service on January 8. Initial recharge rates of 4.7 MGD were close to maximum capacity. Current rates have dropped off to about 3.1 MGD.

Madrone Channel

Madrone channel was put back in operation on Oct 31. Efforts to clear obstructions in the Madrone last fall pipeline increased capacity from about 10 cfs to at about 17 cfs. Releases are being made at about 16 cfs. The capital project to increase the pipeline capacity and reestablish the connection to Anderson Reservoir is moving forward.

San Pedro Ponds

San Pedro operations have been temporarily suspended and intermittent due to locally high groundwater. No cleaning, restoration or shutdown activities are scheduled.

Coyote Creek

Flow in Upper Coyote Creek will be continuous through the zone which recharges the water supply aquifers accessed by the City of Morgan Hill in 2010.

Llagas Creek

Flow in Upper Llagas Creek will be continuous through the zone which recharges the water supply aquifers accessed by the City of Morgan Hill in 2010.

Groundwater Recharge in Facilities Which Supply Aquifers Used by the City of Morgan Hill

Long Term Averages												
	Upper Llagas Basin Facilities			Llagas Creek ¹			Coyote Creek ²			Total		
	Annual AF	Avg MGD	% 20 yr Avg	Annual AF	Avg MGD	% 20 yr Avg	Annual AF	Avg MGD	% 20 yr Avg	Annual AF	Avg MGD	% 20 yr Avg
1990 to 2009 20 Year Average	10,238	9.1		1,445	1.3		1,445	1.3		13,129	11.7	
2000 to 2009 10 Year Average	10,532	9.4	103%	1,445	1.3	100%	1,445	1.3	100%	13,423	12.0	102%
Recent Totals												
2005	10,420	9.3	102%	1,445	1.3	100%	1,445	1.3	100%	13,311	11.9	101%
2006	9,562	8.5	93%	1,445	1.3	100%	1,445	1.3	100%	12,453	11.1	95%
2007	12,987	11.6	127%	1,260	1.1	87%	1,445	1.3	100%	15,877	14.2	121%
2008	7,705	6.9	75%	1,445	1.3	100%	1,445	1.3	100%	10,596	9.5	81%
2009	10,505	9.4	103%	1,445	1.3	100%	1,445	1.3	100%	13,395	12.0	102%
2010 ³	11,716	10.5	114%	1,445	1.3	100%	1,445	1.3	100%	14,607	13.0	111%
Upper Basin Facilities												
	Main Avenue			Madrone Channel			San Pedro Ponds			Totals		
	Annual AF	Avg MGD	% 20 yr Avg	Annual AF	Avg MGD	% 20 yr Avg	Annual AF	Avg MGD	% 19 yr Avg	Annual AF	Avg MGD	% 20 yr Avg
2005	1,292	1.2	58%	6,070	5.4	117%	3,058	2.7	129%	10,420	9.3	107%
2006	2,189	2.0	98%	6,679	6.0	129%	694	0.6	29%	9,562	8.5	98%
2007	3,150	2.8	142%	7,922	7.1	153%	1,915	1.7	81%	12,987	11.6	133%
2008	2,001	1.8	90%	3,660	3.3	70%	2,044	1.8	86%	7,705	6.9	79%
2009	2,746	2.5	123%	4,981	4.4	96%	2,778	2.5	117%	10,505	9.4	102%
2010 ³	2,545	2.3	114%	6,318	5.6	122%	2,853	2.5	121%	11,716	10.5	114%
¹ Llagas Creek US Santa Teresa												
² Coyote Creek above Morgan Hill Pumps												
³ Actuals through May 31, Operations Plan - Median Hydrology												