February 26, 2018
Manitoba Sustainable Development Client File No: 5577.00
Manitoba Sustainable Development EAL No: 3010

Attention: Peter Crocker, Regional Supervisor
Manitoba Sustainable Development
Environmental Compliance and Enforcement Branch
Box 13, 1129 Queens Avenue
Brandon, MB R7A 1L9

Dear Mr. Crocker,

Reference: Daly Irrigation Project – 2017 Monitoring Report

On behalf of Daly Irrigation Development Group (DIDG; the Licencee), AgriEarth Consulting Ltd. (AgriEarth) submits the following 2017 monitoring report for the Daly Irrigation Project (the Project). This letter provides a summary and status of monitoring data collected in 2017, as required by *Environment Act* Licence No. 3010 (the Licence), issued on July 5, 2012.

The following information is presented:

- Upstream and downstream flows, volumes and rates of water pumped, and durations of pumping as prescribed by Clause 21 of the Licence.
- Results of the Dissolved Oxygen Monitoring Program as prescribed by Clause 22 of the Licence.
- Photographs of the Little Saskatchewan River riffle bed exposure immediately downstream of the diversion point of the Project as prescribed by Clause 23 of the Licence.

MEASUREMENT OF UPSTREAM AND DOWNSTREAM FLOW RATES

In accordance with Clause 21 of the Licence, flow rates are to be recorded upstream and downstream of the diversion point on a daily basis while irrigation is occurring.

The upstream monitoring point is located at the Water Survey of Canada (WSC) Little Saskatchewan River near Rivers (05MF018) hydrometric station, close to the crossing of Highway 25 over Little Saskatchewan River. WSC flow and level data recorded at this station is used to monitor the river condition upstream of the diversion point.

Flows downstream of the diversion point were estimated by subtracting the maximum daily pumping discharge from the average daily upstream flow rate. These rates were calculated on a daily basis throughout the irrigation period (May 21 to September 9, 2017). Figure 1 shows the average daily upstream flow rates and the estimated downstream flow rates relative to the minimum in-stream flow of 0.524 m^3/sec prescribed in the Licence. Throughout the irrigation period the estimated flow downstream

of the diversion point was above the minimum instream flow requirement of 0.524 m^3/sec. However, the estimated downstream flows approached that level when flow rates fell below 1 m^3/sec from mid-August until early September at the end of the irrigation period (Figure 2).

VOLUMES AND RATES OF WATER PUMPED

A summary of daily pump volumes and rates recorded at the diversion point are provided in Table 1. As flow meters on the pumps measure instantaneous flow rate, total daily volume and accumulated volumes over the season, duration of pumping is not required to determine volume and rates but can be calculated if necessary. The daily maximum pumping rate exceeded the maximum pumping rate of 0.555 m^3/s specified by the Licence on nine days during the irrigation period. However, these exceedances were very short-term in duration. They occurred immediately following pump start-up when pumps ramp-up and momentarily pump above the target rate prior to "throttling" back to their steady rate under the daily maximum withdrawal rate. A total volume of 614,806,000 US gallons or 1,887 ac-ft were pumped for irrigation in 2017.

DISSOLVED OXYGEN CONCENTRATION

In accordance with Clause 22 of the Licence, a Dissolved Oxygen (DO) Monitoring Program was implemented in spring of 2017 with deployment of the HOBO® U26-001 DO Logger. The purpose of the DO Monitoring Program is to determine if the Project is having an impact on DO concentration and fish habitat within the Little Saskatchewan River downstream from the diversion point. Impacts to fish habitat are conceivable when DO concentration drops to 2-4 mg/L. Fish kills may occur at DO concentrations of <2 mg/L. Optimal habitat conditions within the river are achieved at a DO concentration of 5-8 mg/L.

The DO logger was deployed on July 27, and recorded DO and temperature values at 5-minute intervals until the logger was retrieved on October 10. The delay in logger deployment relative to June 29, the date within the irrigation period when the flow rate fell below 6 m^3/s, was due to the DO logger being lost, presumably due to the high water conditions of 2016 or ice flows. As a result, DO concentrations from the 2016 irrigation period after the last DO sensor data retrieval on August 11, 2016 are not able to be reported.

Daily average, minimum, and maximum DO concentration and daily average temperature were calculated from the logger data and are summarized in Figure 3. The average daily DO concentration fell below 5 mg/L on one day during the irrigation period following deployment of the DO logger. The recorded minimum DO concentration was below 4 mg/L for much of the irrigation period after July 27, and fell below 2 mg/L on three days just below the end of the irrigation period. The average DO concentration recorded was 8.6 mg/L.

RIFFLE MONITORING

Under Clause 23 of the Licence, the Licencee is required to provide photographs of the riffle bed exposure in the Little Saskatchewan River downstream from the Project's diversion point during the irrigation

season. A trail camera was used to record daily photographs of the riffle from May 19 to September 15, 2017.

During the period of record, the highest water levels at the upstream and downstream stations were recorded in late May. Photos 1 and 2 (Attachment 3) provide a visual representation of this relaitvley high flow rate condition with and without pumping, respectively. The lowest water levels at the upstream station were recorded in late August and early September. Photos 3 and 4 provide a visual representation of this low water level condition with and without pumping, respectively. A complete set of photographs taken by the trail camera will be provided on CD-ROM.

CLOSURE

This letter report was prepared by AgriEarth Consulting Ltd. The letter, including all contents and attachments, reflects the professional judgment of AgriEarth Consulting Ltd., and was developed based on existing and available information at the time it was published. Information provided by other parties was not verified by AgriEarth Consulting Ltd. Use of information in this report by a third party is done so at the sole responsibility and risk of the third party. AgriEarth Consulting Ltd. cannot be held responsible whatsoever for uses by the third party, including any costs or damages of any kind, if any, suffered by it or any other third party, as a result of decisions made or actions taken based on information in this document.

We trust the information presented satisfies the annual monitoring report requirements under the Licence. Should you have any questions on the information presented, please contact the undersigned.

Regards,

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Attachment: Attachment A – Figures
Attachment B – Water Use Summary
Attachment C – Riffle Photos

c. Ed Waldner – Daly Irrigation Development Group; Bruce Webb – Manitoba Sustainable Development

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Attachments

Reference: Daly Irrigation Project – 2017 Monitoring Report

Attachment A

Figures

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Attachments

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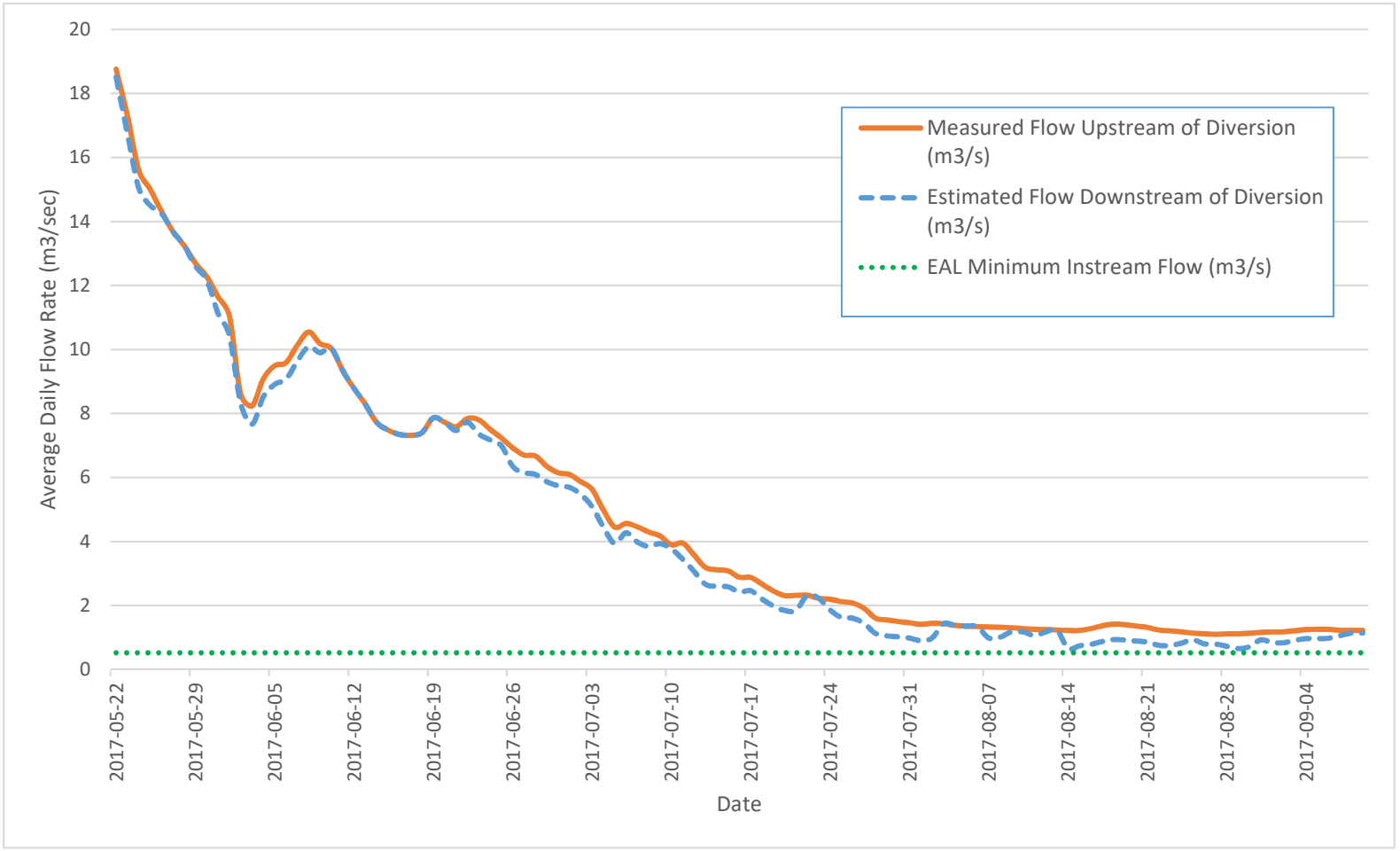

Figure 1: Average daily discharge upstream and downstream of diversion during irrigation period

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Attachments

Reference: Daly Irrigation Project – 2017 Monitoring Report

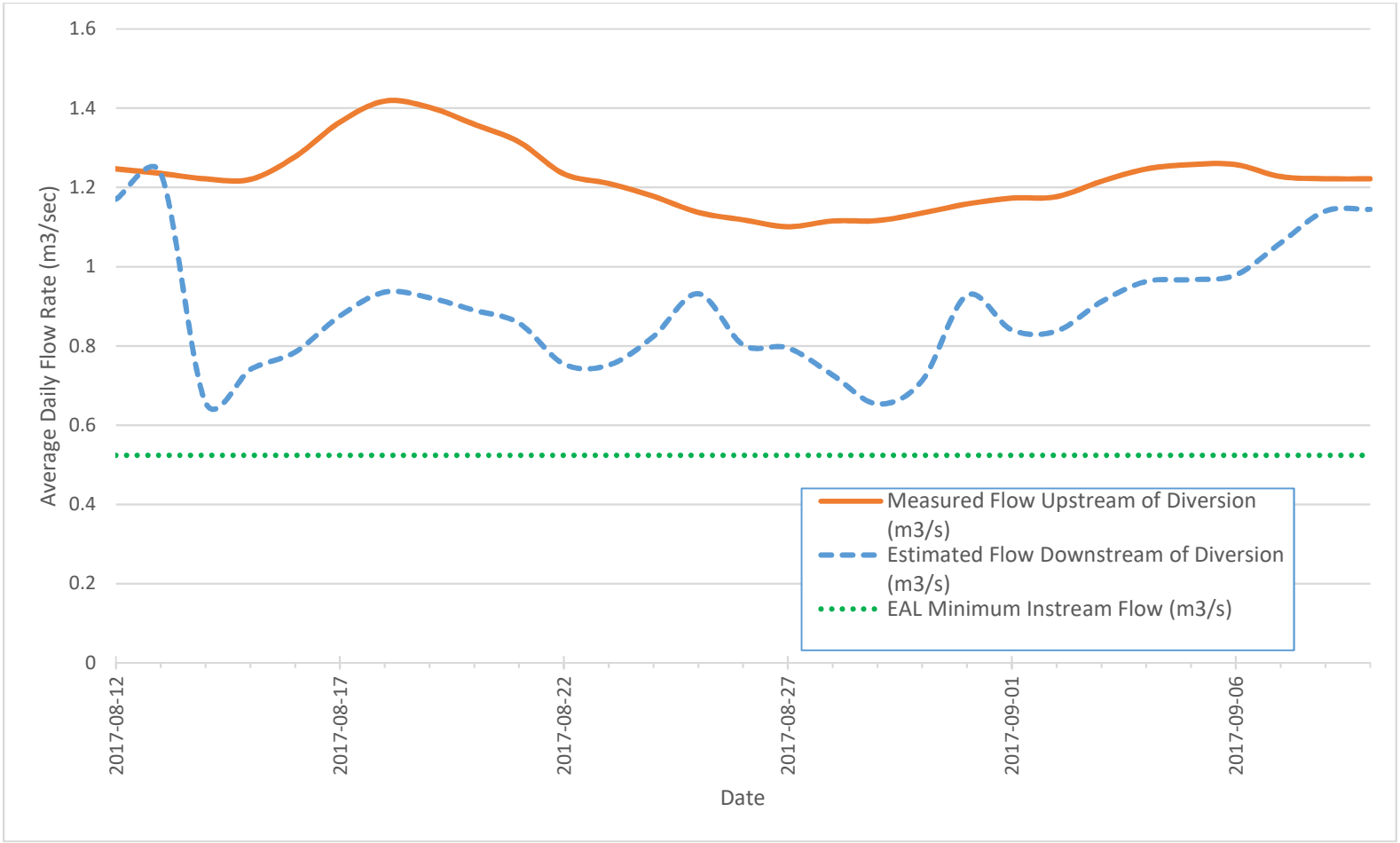

Figure 2: Average daily discharge upstream and downstream of diversion during low flow rate period

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Attachments

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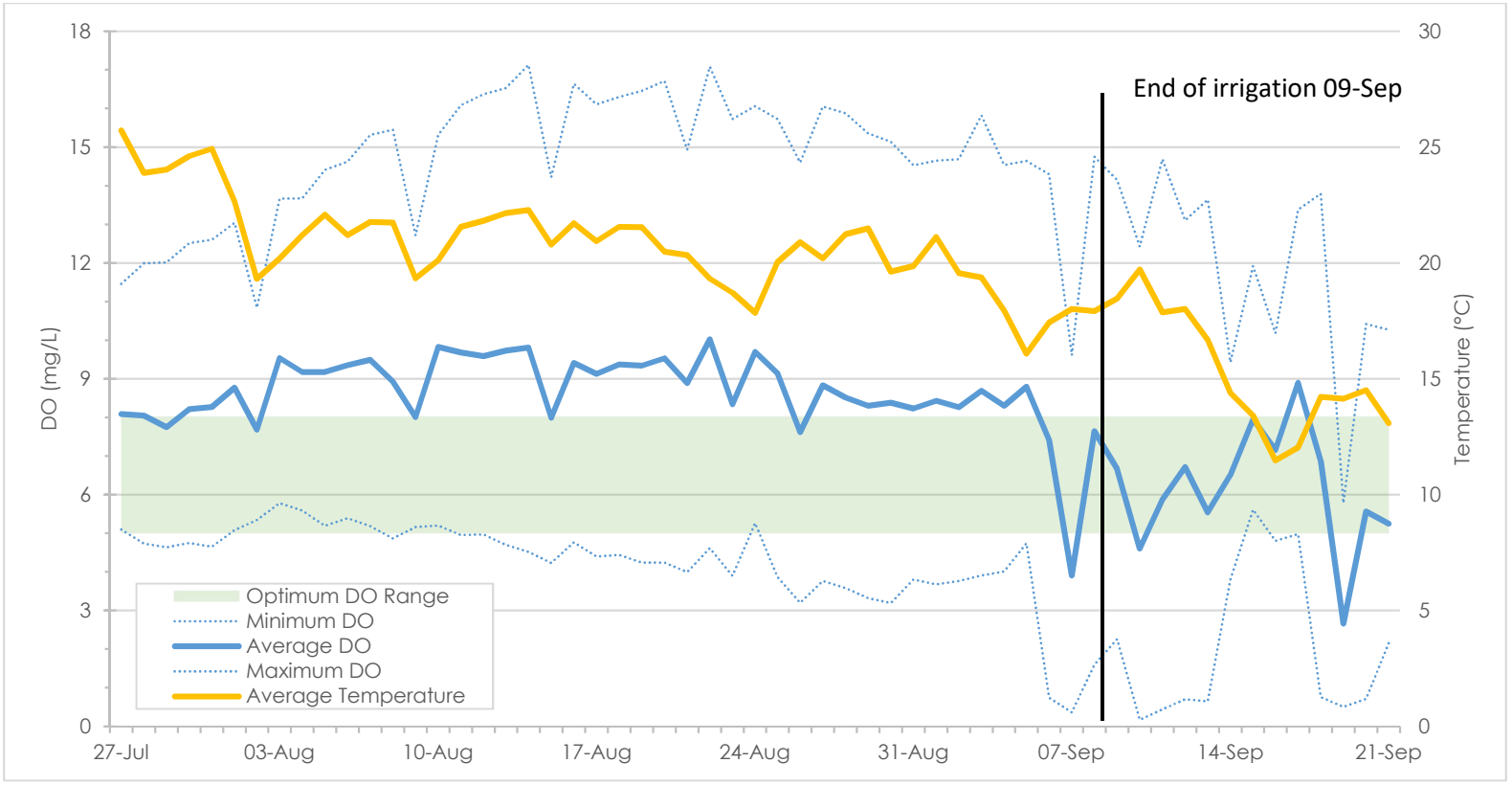

Figure 3: Daily dissolved oxygen concentration and temperature downstream of the diversion

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Attachment B

Water Use Summary

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Attachments

Reference: Daly Irrigation Project – 2017 Monitoring Report

Date	Keyriver		Redfern		Sundance (Pump 1)		Sundance (Pump 2)		Total Volume Pumped (gal)	Total Volume Pumped (ac-ft)	Total Volume Pumped (m^3)	Total Max Pumping Rate (gal/min)	Total Max Pumping Rate (m^3/s)
	Intake Location: NW 10-12-21W		Intake Location: NW10-12-21W		Intake Location: NW10-12-21W		Intake Location: NW10-12-21W						
	Pump Capacity: 2400 US gpm (0.1514 m^3/s)		Pump Capacity: 2400 US gpm (0.1514 m^3/s)		Pump Capacity: 2400 US gpm (0.1514 m^3/s)		Pump Capacity: 1600 US gpm (0.1001 m^3/s)						
	Volume Pumped (gal)	Max Pumping Rate (gal/min)	Volume Pumped (gal)	Max Pumping Rate (gal/min)	Volume Pumped (gal)	Max Pumping Rate (gal/min)	Volume Pumped (gal)	Max Pumping Rate (gal/min)					
2017-05-22	1,547,251	2,318	952,800	1,668	0	0	0	0	2,500,051	8	9,464	3,985	0.251
2017-05-23	3,179,807	2,612	2,189,280	2,260	2,189,071	2,296	1,098,377	1,700	8,656,535	27	32,769	8,867	0.559
2017-05-24	2,220,880	2,136	3,059,552	2,384	3,178,213	2,654	2,176,663	1,654	10,635,308	33	40,259	8,827	0.557
2017-05-25	1,064,571	1,554	2,387,968	2,620	1,285,488	2,284	1,099,086	1,574	5,837,112	18	22,096	8,032	0.507
2017-05-26	108,788	1,164	0	0	0	0	0	0	108,788	0	412	1,164	0.073
2017-05-27	0	0	0	0	0	0	0	0	0	0	0	0	0.000
2017-05-28	0	0	0	0	0	0	0	0	0	0	0	0	0.000
2017-05-29	0	0	0	0	602,402	1,555	0	0	602,402	2	2,280	1,555	0.098
2017-05-30	1,030,992	1,630	0	0	0	0	0	0	1,030,992	3	3,903	1,630	0.103
2017-05-31	1,542,843	2,575	1,467,232	2,984	1,273,285	2,657	0	0	4,283,360	13	16,214	8,216	0.518
2017-06-01	2,064,608	2,717	3,234,848	2,448	3,015,301	2,911	657,783	1,597	8,972,540	28	33,965	9,673	0.610
2017-06-02	0	0	3,013,120	2,400	776,183	2,083	0	0	3,789,303	12	14,344	4,483	0.283
2017-06-03	2,006,528	2,406	2,983,232	2,552	2,301,434	2,616	1,150,903	1,451	8,442,097	26	31,957	9,025	0.569
2017-06-04	3,317,162	2,741	3,067,136	2,304	3,291,282	2,439	1,943,063	1,428	11,618,643	36	43,981	8,912	0.562
2017-06-05	3,246,255	2,793	3,102,912	2,528	3,288,662	2,581	1,778,103	1,348	11,415,931	35	43,214	9,250	0.584
2017-06-06	1,392,870	1,579	2,919,936	2,320	2,841,449	2,782	1,854,309	1,506	9,008,564	28	34,101	8,186	0.516
2017-06-07	2,106,105	2,464	2,594,592	2,156	2,215,942	1,719	1,766,126	1,463	8,682,765	27	32,868	7,802	0.492
2017-06-08	2,805,851	2,465	744,896	1,624	2,333,635	1,688	1,842,034	1,451	7,726,416	24	29,248	7,228	0.456
2017-06-09	783,281	1,573	0	0	590,414	1,657	646,926	1,260	2,020,620	6	7,649	4,490	0.283
2017-06-10	0	0	0	0	0	0	0	0	0	0	0	0	0.000
2017-06-11	0	0	0	0	0	0	0	0	0	0	0	0	0.000

Attachments

Reference: Daly Irrigation Project – 2017 Monitoring Report

Date	Keyriver		Redfern		Sundance (Pump 1)		Sundance (Pump 2)		Total Volume Pumped (gal)	Total Volume Pumped (ac-ft)	Total Volume Pumped (m^3)	Total Max Pumping Rate (gal/min)	Total Max Pumping Rate (m^3/s)
	Intake Location: NW 10-12-21W		Intake Location: NW10-12-21W		Intake Location: NW10-12-21W		Intake Location: NW10-12-21W						
	Pump Capacity: 2400 US gpm (0.1514 m^3/s)		Pump Capacity: 2400 US gpm (0.1514 m^3/s)		Pump Capacity: 2400 US gpm (0.1514 m^3/s)		Pump Capacity: 1600 US gpm (0.1001 m^3/s)						
	Volume Pumped (gal)	Max Pumping Rate (gal/min)	Volume Pumped (gal)	Max Pumping Rate (gal/min)	Volume Pumped (gal)	Max Pumping Rate (gal/min)	Volume Pumped (gal)	Max Pumping Rate (gal/min)					
2017-06-12	0	0	0	0	0	0	0	0	0	0	0	0	0.000
2017-06-13	0	0	0	0	0	0	0	0	0	0	0	0	0.000
2017-06-14	0	0	0	0	0	0	0	0	0	0	0	0	0.000
2017-06-15	0	0	0	0	0	0	0	0	0	0	0	0	0.000
2017-06-16	1	0	0	0	0	0	0	0	1	0	0	0	0.000
2017-06-17	0	0	0	0	0	0	0	0	0	0	0	0	0.000
2017-06-18	0	0	0	0	0	0	0	0	0	0	0	0	0.000
2017-06-19	0	0	0	0	0	0	0	0	0	0	0	0	0.000
2017-06-20	0	0	0	0	0	0	0	0	0	0	0	0	0.000
2017-06-21	0	0	0	0	112,403	1,865	23	3	112,426	0	426	1,867	0.118
2017-06-22	0	0	0	0	1,626,545	1,849	0	0	1,626,545	5	6,157	1,849	0.117
2017-06-23	1,501,055	1,568	1,681,632	3,108	2,697,991	2,309	0	0	5,880,678	18	22,261	6,985	0.441
2017-06-24	1,685,210	1,649	3,080,672	2,208	1,984,044	1,405	0	0	6,749,925	21	25,551	5,262	0.332
2017-06-25	0	0	3,017,760	2,488	854,398	1,388	0	0	3,872,158	12	14,658	3,876	0.245
2017-06-26	1,180,871	2,362	3,075,136	2,412	1,751,644	2,995	329,006	1,428	6,336,657	19	23,987	9,197	0.580
2017-06-27	3,219,536	2,390	3,151,520	2,352	3,270,144	2,497	1,994,697	1,480	11,635,897	36	44,047	8,719	0.550
2017-06-28	2,595,263	2,682	3,229,088	2,624	2,949,814	2,431	1,899,726	1,408	10,673,891	33	40,405	9,145	0.577
2017-06-29	2,189,150	1,597	1,170,752	2,404	3,011,016	2,325	1,831,680	1,331	8,202,598	25	31,050	7,657	0.483
2017-06-30	2,578,231	2,514	0	0	2,904,860	2,412	1,911,314	1,511	7,394,405	23	27,991	6,438	0.406
2017-07-01	3,467,553	2,650	0	0	3,080,529	2,266	1,945,074	1,440	8,493,156	26	32,150	6,355	0.401
2017-07-02	3,208,704	2,669	0	0	3,071,242	2,240	1,900,092	1,348	8,180,037	25	30,965	6,258	0.395

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	Volume Pumped (gal)	Max Pumping Rate (gal/min)	Volume Pumped (gal)	Max Pumping Rate (gal/min)	Volume Pumped (gal)	Max Pumping Rate (gal/min)	Volume Pumped (gal)	Max Pumping Rate (gal/min)					
2017-07-03	2,971,437	2,150	1,879,776	2,656	3,171,446	2,411	1,868,114	1,360	9,890,774	30	37,441	8,576	0.541
2017-07-04	3,044,821	2,265	3,186,624	2,412	2,825,009	2,316	1,837,920	1,411	10,894,375	33	41,240	8,404	0.530
2017-07-05	2,729,483	2,208	2,886,688	2,444	2,239,094	2,050	1,758,446	1,406	9,613,711	30	36,392	8,108	0.512
2017-07-06	0	0	1,960,608	2,184	1,838,955	2,441	0	0	3,799,563	12	14,383	4,625	0.292
2017-07-07	57,780	1,483	3,076,224	2,340	2,671,858	2,277	981,783	1,428	6,787,645	21	25,694	7,528	0.475
2017-07-08	1,263,940	1,488	2,947,648	2,296	2,190,434	1,960	1,164,663	1,340	7,566,685	23	28,643	7,084	0.447
2017-07-09	136,826	1,371	1,947,328	2,444	0	0	0	0	2,084,154	6	7,889	3,814	0.241
2017-07-10	0	0	2,365,920	2,088	0	0	23	3	2,365,943	7	8,956	2,091	0.132
2017-07-11	1,800,615	2,056	1,790,912	2,052	1,870,450	2,447	1,168,846	1,437	6,630,823	20	25,100	7,993	0.504
2017-07-12	2,858,598	2,344	2,903,360	2,168	2,759,362	2,155	1,928,709	1,426	10,450,029	32	39,558	8,093	0.511
2017-07-13	2,949,689	2,517	2,865,728	2,076	2,759,407	2,263	1,991,063	1,497	10,565,887	32	39,996	8,353	0.527
2017-07-14	3,173,795	2,522	2,765,568	2,036	2,629,296	2,164	1,947,543	1,466	10,516,202	32	39,808	8,187	0.517
2017-07-15	2,912,475	2,197	2,771,840	2,164	2,837,782	2,108	1,970,629	1,414	10,492,726	32	39,719	7,883	0.497
2017-07-16	2,621,789	1,910	2,337,824	1,928	2,672,298	2,116	1,857,486	1,383	9,489,397	29	35,921	7,336	0.463
2017-07-17	2,503,097	1,842	1,589,152	1,644	2,527,600	1,833	1,769,394	1,254	8,389,242	26	31,757	6,573	0.415
2017-07-18	2,756,293	2,124	2,311,712	1,772	2,727,299	2,119	1,811,566	1,394	9,606,869	29	36,366	7,409	0.467
2017-07-19	2,634,259	1,975	2,428,544	1,780	2,905,719	2,245	1,929,692	1,440	9,898,214	30	37,469	7,439	0.469
2017-07-20	2,541,749	1,887	2,527,936	1,856	2,610,875	2,050	1,897,234	1,614	9,577,794	29	36,256	7,407	0.467
2017-07-21	2,255,577	1,732	2,211,360	1,716	2,243,834	2,514	1,527,246	1,406	8,238,016	25	31,184	7,367	0.465
2017-07-22	0	0	0	0	0	0	0	0	0	0	0	0	0.000
2017-07-23	0	0	0	0	0	0	0	0	0	0	0	0	0.000

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	Pump Capacity: 2400 US gpm (0.1514 m^3/s)		Pump Capacity: 2400 US gpm (0.1514 m^3/s)		Pump Capacity: 2400 US gpm (0.1514 m^3/s)		Pump Capacity: 1600 US gpm (0.1001 m^3/s)						
	Volume Pumped (gal)	Max Pumping Rate (gal/min)	Volume Pumped (gal)	Max Pumping Rate (gal/min)	Volume Pumped (gal)	Max Pumping Rate (gal/min)	Volume Pumped (gal)	Max Pumping Rate (gal/min)					
2017-07-24	1,349,441	2,101	0	0	1,272,113	2,043	87,634	1,163	2,709,188	8	10,255	5,307	0.335
2017-07-25	2,799,782	2,149	747,200	2,028	2,869,315	2,402	1,165,257	1,317	7,581,554	23	28,699	7,896	0.498
2017-07-26	2,686,497	2,027	2,688,800	2,040	2,676,330	2,137	1,790,994	1,317	9,842,621	30	37,258	7,521	0.474
2017-07-27	2,625,423	2,035	2,818,944	2,172	2,760,847	2,021	1,723,017	1,271	9,928,232	30	37,582	7,499	0.473
2017-07-28	2,667,656	2,051	2,889,408	2,208	2,737,985	2,065	1,644,343	1,243	9,939,391	31	37,625	7,567	0.477
2017-07-29	2,599,928	1,978	2,656,928	2,216	2,776,666	2,487	1,470,446	1,228	9,503,968	29	35,976	7,908	0.499
2017-07-30	2,147,863	1,841	2,674,656	2,028	2,760,992	2,397	1,631,292	1,317	9,214,803	28	34,882	7,583	0.478
2017-07-31	2,317,700	1,993	2,763,744	2,148	2,981,355	2,188	1,679,520	1,194	9,742,319	30	36,879	7,523	0.475
2017-08-01	2,843,620	2,386	2,883,264	2,208	2,904,306	2,322	1,649,783	1,191	10,280,973	32	38,918	8,107	0.511
2017-08-02	1,049,598	1,981	1,203,872	2,180	865,700	1,969	606,880	1,128	3,726,050	11	14,105	7,258	0.458
2017-08-03	0	0	0	0	0	0	0	0	0	0	0	0	0.000
2017-08-04	0	0	0	0	0	0	0	0	0	0	0	0	0.000
2017-08-05	0	0	0	0	0	0	0	0	0	0	0	0	0.000
2017-08-06	0	0	0	0	0	0	0	0	0	0	0	0	0.000
2017-08-07	1,702,622	1,895	0	0	1,794,465	2,461	1,032,663	1,180	4,529,750	14	17,147	5,535	0.349
2017-08-08	2,345,178	1,935	0	0	2,082,549	1,795	1,450,172	1,174	5,877,898	18	22,250	4,905	0.309
2017-08-09	0	0	0	0	466,903	2,047	0	0	466,903	1	1,767	2,047	0.129
2017-08-10	0	0	0	0	1,377,457	1,601	0	0	1,377,457	4	5,214	1,601	0.101
2017-08-11	434,559	1,498	0	0	1,856,639	1,529	0	0	2,291,198	7	8,673	3,027	0.191
2017-08-12	0	0	0	0	1,228,584	1,220	0	0	1,228,584	4	4,651	1,220	0.077
2017-08-13	0	0	0	0	0	0	0	0	0	0	0	0	0.000

Attachments

Reference: Daly Irrigation Project – 2017 Monitoring Report

Date	Keyriver		Redfern		Sundance (Pump 1)		Sundance (Pump 2)		Total Volume Pumped (gal)	Total Volume Pumped (ac-ft)	Total Volume Pumped (m^3)	Total Max Pumping Rate (gal/min)	Total Max Pumping Rate (m^3/s)
	Intake Location: NW 10-12-21W		Intake Location: NW10-12-21W		Intake Location: NW10-12-21W		Intake Location: NW10-12-21W						
	Pump Capacity: 2400 US gpm (0.1514 m^3/s)		Pump Capacity: 2400 US gpm (0.1514 m^3/s)		Pump Capacity: 2400 US gpm (0.1514 m^3/s)		Pump Capacity: 1600 US gpm (0.1001 m^3/s)						
	Volume Pumped (gal)	Max Pumping Rate (gal/min)	Volume Pumped (gal)	Max Pumping Rate (gal/min)	Volume Pumped (gal)	Max Pumping Rate (gal/min)	Volume Pumped (gal)	Max Pumping Rate (gal/min)					
2017-08-14	1,495,518	2,009	1,572,288	3,028	1,531,108	2,568	862,994	1,340	5,461,908	17	20,676	8,945	0.564
2017-08-15	2,839,925	2,198	2,891,360	2,136	2,563,551	1,844	1,843,749	1,428	10,138,584	31	38,379	7,607	0.480
2017-08-16	2,906,747	2,133	2,896,416	2,336	2,768,386	1,986	1,885,966	1,360	10,457,514	32	39,586	7,815	0.493
2017-08-17	2,831,014	2,094	2,960,576	2,292	2,800,712	1,980	1,916,960	1,394	10,509,263	32	39,782	7,760	0.490
2017-08-18	2,774,447	2,051	2,865,504	2,284	2,423,367	1,921	1,917,989	1,386	9,981,306	31	37,783	7,641	0.482
2017-08-19	2,481,956	2,156	2,880,608	2,096	2,420,035	1,966	1,845,692	1,400	9,628,290	30	36,447	7,617	0.481
2017-08-20	2,918,872	2,136	2,834,176	2,076	2,730,127	1,953	1,803,863	1,274	10,287,037	32	38,941	7,439	0.469
2017-08-21	2,227,991	1,919	2,774,400	2,048	2,730,299	1,975	1,832,960	1,306	9,565,650	29	36,210	7,247	0.457
2017-08-22	2,761,241	2,082	2,829,408	2,244	2,561,220	1,949	1,813,463	1,331	9,965,332	31	37,723	7,606	0.480
2017-08-23	2,170,705	1,981	2,862,592	2,136	2,458,513	1,836	1,752,412	1,314	9,244,221	28	34,993	7,267	0.458
2017-08-24	96,788	693	1,119,328	2,068	485,015	1,434	1,777,280	1,411	3,478,411	11	13,167	5,606	0.354
2017-08-25	0	0	0	0	1,797,974	1,987	611,314	1,268	2,409,288	7	9,120	3,256	0.205
2017-08-26	663,707	1,451	0	0	2,567,758	1,989	1,072,297	1,560	4,303,763	13	16,292	5,000	0.315
2017-08-27	1,964,787	1,552	0	0	2,261,951	1,928	1,042,263	1,368	5,269,000	16	19,945	4,848	0.306
2017-08-28	2,005,315	1,473	1,320,000	2,728	2,281,964	1,964	0	0	5,607,279	17	21,226	6,165	0.389
2017-08-29	1,959,952	1,489	2,935,616	2,284	2,549,950	2,299	696,229	1,260	8,141,746	25	30,820	7,332	0.463
2017-08-30	1,417,906	1,467	2,212,928	1,712	2,462,613	2,142	1,291,520	1,380	7,384,967	23	27,955	6,701	0.423
2017-08-31	0	0	2,084,576	1,588	2,689,179	2,067	0	0	4,773,755	15	18,071	3,654	0.231
2017-09-01	839,898	1,410	2,365,312	2,176	847,263	1,687	0	0	4,052,473	12	15,340	5,272	0.333
2017-09-02	1,762,912	1,911	2,265,312	1,688	1,837,124	1,777	0	0	5,865,348	18	22,203	5,375	0.339
2017-09-03	1,943,363	1,463	2,070,880	1,580	2,443,073	1,774			6,457,316	20	24,444	4,816	0.304

Attachments

Reference: Daly Irrigation Project – 2017 Monitoring Report

Date	Keyriver		Redfern		Sundance (Pump 1)		Sundance (Pump 2)		Total Volume Pumped (gal)	Total Volume Pumped (ac-ft)	Total Volume Pumped (m^3)	Total Max Pumping Rate (gal/min)	Total Max Pumping Rate (m^3/s)
	Intake Location: NW 10-12-21W		Intake Location: NW10-12-21W		Intake Location: NW10-12-21W		Intake Location: NW10-12-21W						
	Pump Capacity: 2400 US gpm (0.1514 m^3/s)		Pump Capacity: 2400 US gpm (0.1514 m^3/s)		Pump Capacity: 2400 US gpm (0.1514 m^3/s)		Pump Capacity: 1600 US gpm (0.1001 m^3/s)						
	Volume Pumped (gal)	Max Pumping Rate (gal/min)	Volume Pumped (gal)	Max Pumping Rate (gal/min)	Volume Pumped (gal)	Max Pumping Rate (gal/min)	Volume Pumped (gal)	Max Pumping Rate (gal/min)					
2017-09-04	1,980,618	1,446	1,831,264	1,300	2,407,879	1,753			6,219,760	19	23,544	4,499	0.284
2017-09-05	1,890,518	1,380	1,919,072	1,512	2,261,044	1,718			6,070,634	19	22,980	4,610	0.291
2017-09-06	633,511	1,323	2,042,176	1,508	1,722,351	1,582			4,398,038	13	16,648	4,412	0.278
2017-09-07	0	0	1,047,328	1,412	1,740,164	1,245			2,787,492	9	10,552	2,657	0.168
2017-09-08			0	0	1,618,358	1,297			1,618,358	5	6,126	1,297	0.082
2017-09-09					1,140,149	1,218			1,140,149	3	4,316	1,218	0.077
Totals	**159,393,141**	-	**168,786,752**	-	**191,491,432**	-	**95,134,288**	-	**614,805,612**	**1,887**	**2,327,291**	-	-

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Attachment C

Riffle Photos

Attachments

Reference: Daly Irrigation Project – 2017 Monitoring Report

Photo 1: Early season, high water level during pumping for irrigation (May 25, 2017)

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Attachments

Reference: Daly Irrigation Project – 2017 Monitoring Report

Photo 2: Early season, high water level, no pumping for irrigation (May 19, 2017)

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Attachments

Reference: Daly Irrigation Project – 2017 Monitoring Report

Photo 3: Late season, low water level during pumping for irrigation (August 30, 2017)

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Attachments

Reference: Daly Irrigation Project – 2017 Monitoring Report

Photo 4: Late season, low water level, no pumping for irrigation (September 10, 2017)

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