Monterey One Water
Providing Cooperative Water Solutions
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Utilization of Winter Wastewater Flows

As Monterey County braces for the implementation of several Sustainable Groundwater Management plans, utilizing all types of waters to help develop a safe, reliable and sustainable water supplies for our communities is paramount. Wasting water, regardless of quality, is not responsible or recommended.

Each fall and winter, the Salinas Valley Reclamation Project goes dormant due to low demand. The wastewater sent to the regional treatment plant is treated and discharged to the ocean. Utilizing this resource only once before it is discarded is not an effective water resource management strategy. Using winter wastewater for beneficial purposes when demands are limited is a practical and innovative way to improve regional water resource management concepts.

One way to utilize a portion of the winter wastewater is to make modifications to the Salinas Valley Reclamation Project. Implementing minor modification to the system will allow small volumes of water to be made available to CSIP growers during the winter. This project modification will allow CSIP growers to avoid pumping groundwater and utilize recycled water as their sole water supply during the winter.

Another path to utilize unused winter wastewater is for groundwater replenishment. If Pure Water Monterey is called upon to expand and produce more water for groundwater injection, additional wastewater will be needed during the winter months. The unused winter wastewater could be a viable supply for reuse. These flows could be utilized immediately by Pure Water Monterey and then be proportioned when the winter modifications of SVRP are completed and CSIP growers are utilizing a portion of the winter flows for irrigation needs.

Historical Records of SVRP and Regional Treatment Plant volumes have been accessed to illustrate the average volumes utilized during the calendar year. A compelling case can be made to allow winter wastewater flows to be used for either winter agriculture irrigation or supplemental groundwater injection or perhaps even both uses.

As noted in the table, the recent monthly averages (2010 -2016) for ocean outflows during the winter show a discharge of 1600 AF. When compared to the historical outfall discharges (1998-2009), the reduction in flows discharged to the ocean can be attributed to indoor conservation efforts by residents in Monterey One Water service area.

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The table below captures historic SVRP data values, Well Pumping volumes and SRDF amounts for the calendar year. The numbers used in the table are based on averages since SVRP began delivering recycled water (1998).

Average Production By Month 1998-2017 (SRDF 2010-2017)				
	SVRP	Wells	SRDF	Total Average Demand
January	68	288	0	355
February	226	275	0	502
March	630	332	0	962
April	1250	500	56	1805
May	1690	514	374	2579
June	1752	1052	584	3388
July	1859	1143	612	3613
August	1841	841	508	3191
September	1546	405	147	2098
October	1019	151	31	1201
November	219	197	0	416
December	15	195	0	210

The table below highlights the amount of water utilized by SVRP and well pumping through 2009. Outfall amounts are also noted in the last column.

Average Demand vs. Outfall Flow 1998-2009 (AC-FT)				
	SVRP	Wells	Total Demand	Outfall
January	2	234	236	1889.8
February	76	335	411	1761.7
March	578	350	929	1418.2
April	1202	620	1822	727.3
May	1612	515	2127	409.1
June	1722	1286	3008	241.1
July	1850	1453	3303	159.6
August	1824	1002	2826	177.1
September	1559	477	2036	355.8
October	1041	207	1248	891.7
November	172	217	389	1673.2
December	24	157	182	1835.7
Annual Total	**11661**	**6855**	**18516**	**11540**

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The table below highlights the amount of water utilized by SVRP and well pumping during more recent calendar years. These amounts reflect conservation effects as well as cropping pattern changes. Outfall amounts are also noted in the last column.

Average Demand vs. Outfall Flow 2010-2016 (AC-FT)					
	SVRP	Wells	SRDF	Total Demand	Outfall
January	191	411	0	602	1526.0
February	517	198	0	715	1057.2
March	790	266	0	1055	958.1
April	1384	318	72	1774	388.5
May	1814	499	407	2720	27.9
June	1795	749	585	3129	2.6
July	1887	690	611	3188	-5.6
August	1866	634	528	3028	6.9
September	1744	340	190	2274	51.1
October	1127	76	40	1243	698.0
November	330	190	0	521	1357.2
December	1	288	0	289	1699.5
Annual Total	**13446**	**4659**	**2432**	**20537**	**7767**

It is important to note the table that uses 2010-2016 data shows an increase in water use during the winter months. This uptick in use is due to the change in cropping patterns in the CSIP area. More permanent crops are being planted and these crops need supplemental irrigation during the winter months if natural precipitation is unreliable.

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Another value provided with the data is an approximation of expanding CSIP by 25% and what the volumes of recycled water would be needed during the winter months to meet the needs of CSIP growers under dry winter conditions. When contrasted to the recent winter usage data (2010-2016) with an additional 25% added for potential CSIP expansion, the amount of water available for both irrigation needs and groundwater replenishment needs can be met with existing flows. It is important to note that these numbers being utilized in the tables are averages. Dry or abnormally dry winter months will lead to more winter flows being sent through SVRP to meet CSIP irrigation needs.

Capacity Projections with 25% Demand Increase (Ac-Ft)

	Total Demand 2010-2016	Total Demand (with 25% Increase)	2010-2016 Average Outfall
January	602	752	1526
February	715	894	1057
March	1055	1319	958
April	1774	2218	388
May	2720	3399	28
June	3129	3912	3
July	3188	3985	-6
August	3028	3785	7
September	2274	2842	51
October	1243	1553	698
November	521	651	1357
December	289	361	1699