WEST STANISLAUS IRRIGATION DISTRICT

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Subject: Summary of water conservation efforts by West Stanislaus Irrigation District.

West Stanislaus Irrigation District (WSID) performed a variety of water conservation efforts during the year of 2014. The majority of the effort focused on Main Canal SCADA and automation and best management practices on the farm level. The following is a list of conservation efforts WSID either directly implemented or promoted to its customers:

February 2014 – The Westside Coalition put together a tour of Vegetated Waterways for Water Quality Improvements and conservation efforts. This tour was an opportunity for Westside Growers to meet with other growers that have implemented buffer strips and vegetated drainage ditches as best management practices. Included in the tour was a presentation from Jon O'Brien with Environmental Resources Associate for Yolo County Flood Control and Water Conservation District.

March 2014- As done in the past, the Coalition, RCD and Stakeholders put together a workshop to educate farm staff that directly handles water and pesticides about the water quality regulations and best management practices to keep pesticides, herbicides and sediment on the farm and out of state waterways.

July 2014 – A series of Special meetings of the Westside San Joaquin River Watershed Coalition were conducted. The meetings were well attended and provided updates on the new Grower requirements under the Irrigated Lands Regulatory Program. Each meeting also covered best management practices for Westside Ag and discussion on pesticide exceedances in the area.

August 2014 – Rich Peltzer with CURES and Jorge Alvarado with West Stanislaus Resource Conservation District have been working with to Coalition to review activities on the ground. They are helping farmer's understand their responsibilities and following up on surveys and management practice efforts of the Westside Coalition.

Since 2009, WSID has been investigating and implementing water and energy conservation projects. These projects were phased starting in 2010 with the majority of the projects complete and ready for operation during 2014. A significant portion of conservation projects included automation of the Main Canal. Efforts were expended integrating SCADA/automation into all six of the District's pumping plants. This effort greatly improved accurate and reliable water supply service to District customers by automatically maintaining a constant water surface elevation over a wide range of demand. In 2012, the headworks of two laterals were automated which proved to provide increased reliable water service to growers and reduce operational spill from the end of laterals. Since it was a success at these two sites, headworks at the remaining laterals were automated in 2013. As part of the lateral headworks automation, flow measurement improvements

were made at all sites. The true benefit of this overall Main Canal Automation project was not seen until 2014 as all phases came together for operation. The overall benefit of this project was improvement of operational efficiency calculated using total water delivered compared to total water diverted. Operational efficiency was improved from 79.9% in 2009 to 86.1% in 2014. 2009 was used as the baseline because implementation of this project was phased starting in 2010. Implementation of this project resulted in water conservation in the amount of 2,603 AF in 2014. Additional conservation will be seen in future years as refinements are made to control algorithms thereby improving automation operation.

Other components of water conservation improvements made and ready for operation in 2014 was construction of Phase I and Phase II of the Main Canal Modernization Project. This project replaced four pumping plants with two new pumping and a replaced roughly 9,400 ft. of open concrete lined canal with a 96 inch reinforced concrete pipeline. This increased water service reliability to growers while greatly improving river diversions to more accurately meet demand. This project also eliminated seepage and evaporation loss in the portion of Main Canal converted to pipeline and is calculated to have conserved roughly 124 AF and 43 AF, respectively, during 2014.

Other water and energy conservation projects implemented and made operational during 2014 were implemented in the District's distribution system. One of the projects included collection of operational spill from the end of two distribution laterals and conveyed using gravity to another distribution lateral for beneficial use. Water collected and put to beneficial use is metered and totaled 491 AF during 2014. The other project includes a 2 AF pond that collects irrigation tailwater from roughly 750 acres and pumps that water into a distribution lateral for beneficial use. During 2014, a total of 360 AF was collected and put to beneficial use through operation of this project.

The table below summarizes water conservation as a result of District implemented projects.

2014 WSID Water Conservation Summary

Projects	Conservation, AF
Main Canal Automation	2,603
Phase I & II Main Canal Modernization	167
Lateral Spill Collection	491
Irrigation Tailwater Collection	360
Total:	***3,621***

Note. Data is compared with baseline data of 2009.