



# **TUOLUMNE – STANISLAUS INTEGRATED REGIONAL WATER MANAGEMENT REGION**

**2014 IRWM DROUGHT GRANT PROPOSAL**

**ATTACHMENT 1 – AUTHORIZATION AND ELIGIBILITY REQUIREMENTS  
ATT1\_DG\_TuolStan\_Eligible\_11of11 “Water Conservation Programs”**

**Integrated Regional Water Management Program  
Applicant: Tuolumne-Stanislaus Integrated Regional Water Management Authority**

## Attachment 1 – Authorization and Eligibility Requirements – Water Conservation Program and Measures Tuolumne- Stanislaus IRWM Region - 2014 IRWM Drought Grant Proposal

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The TCRC Regional Water Conservation Program provides immediate regional drought preparedness through an aggressive regional approach to integrated water conservation that will address consumer behavior, improve landscape irrigation efficiencies, and result in short and long term water use savings. By reducing use and demand, the limited local water supply can be used more efficiently and reliably over the short and long term. Most critically, this project assists the local water suppliers (inclusive of the many smaller private systems in the region) to implement conservation programs and measures that are not locally cost-effective.

For the purposes of the 2014 IRWM Drought solicitation, "not locally cost-effective" means the present value of the local benefits of implementing a water conservation program or measure is less than the present value of the local costs of implementing that program or measure (CWC Section 10631.5 (a)(4)(B)).

Table ES-3 (below) shows that using an average price of \$500 per acre-foot, the conservation program's savings value (at 186 AF/YR) is approximately \$93,000/yr. (\$957,342 over a 15 year project life span). This is significantly less than what the cost of implementing an aggressive conservation program would be for each of the major water purveyors, not to mention all of the smaller independent systems.

For example, Twain Harte CSD alone implemented the following water conservation measures this year: public outreach (mailers, signs, newspaper/radio ads, public info forums, website updates, etc.) ; free low-flow showerheads, aerators and leak dye tabs; customer leak detection and leak repair enforcement; mandatory conservation measures and enforcement. Their estimated costs this past year for these efforts (including labor) are approximately \$100,000 (The normal budget for THCS conservation is about \$15,000/yr). Consuming that much staff time has kept them from performing normal maintenance and repair work and completing budgeted capital projects. It also has kept their office staff from being able to perform normal duties. CCWD' and TUD's typical budget for conservation is about \$18,000 to \$20,000 per year.

Additional conservation measures that should be implemented, such as more aggressive fixture replacement rebates, ongoing public education campaigns, water surveys, rain barrel/cistern installations, and landscape efficiencies etc., are simply not affordable at a local level. The regional integrated conservation program will immediately and efficiently utilize funds to spread out the benefits region-wide.

The annualized cost of the conservation program over a 15 year life is approximately \$3,435,000 (Shown in Table ES-5 below). With a present value of approximately \$93,000 per year for water saved, the 15 year benefit (as shown in Table ES-3) of the program is \$957,342. The annualized cost of the program over the life of the project exceeds the annualized monetary benefit realized from the program, and as such meets the definition of "not locally cost effective".

Additionally, the Tuolumne Stanislaus Region is rural in nature and the major water providers and the smaller water companies simply do not have a rate payer base that can support this kind of aggressive conservation effort.

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<b>Table ES-3 – Annual Benefit</b>									
(All benefits should be in 2014 dollars)									
Project: <u>TCRCD REGIONAL WATER CONSERVATION PROGRAM</u>									
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
Year	Type of Benefit	Measure of Benefit (Units)	Without Project	With Project	Change Resulting from Project (e) – (d)	Unit \$ Value <sup>(1)</sup>	Annual \$ Value <sup>(1)</sup> (f) x (g)	Discount Factor <sup>(1)</sup> <sup>(2)</sup>	Discounted Benefits <sup>(1)</sup> (h) x (i)
2014	Water Saved	AF/YR	0	186	186	\$ 500	\$ 93,000	1.000	\$ 93,000
2015	Water Saved	AF/YR	0	186	186	\$ 500	\$ 93,000	0.943	\$ 87,699
2016	Water Saved	AF/YR	0	186	186	\$ 500	\$ 93,000	0.890	\$ 82,770
2017	Water Saved	AF/YR	0	186	186	\$ 500	\$ 93,000	0.84	\$ 78,120
2018	Water Saved	AF/YR	0	186	186	\$ 500	\$ 93,000	0.792	\$ 73,656
2019	Water Saved	AF/YR	0	186	186	\$ 500	\$ 93,000	0.747	\$ 69,471
2020	Water Saved	AF/YR	0	186	186	\$ 500	\$ 93,000	0.705	\$ 65,565
2021	Water Saved	AF/YR	0	186	186	\$ 500	\$ 93,000	0.665	\$ 61,845
2022	Water Saved	AF/YR	0	186	186	\$ 500	\$ 93,000	0.627	\$ 58,311
2023	Water Saved	AF/YR	0	186	186	\$ 500	\$ 93,000	0.592	\$ 55,056
2024	Water Saved	AF/YR	0	186	186	\$ 500	\$ 93,000	0.558	\$ 51,894
2025	Water Saved	AF/YR	0	186	186	\$ 500	\$ 93,000	0.527	\$ 49,011
2026	Water Saved	AF/YR	0	186	186	\$ 500	\$ 93,000	0.497	\$ 46,221
2027	Water Saved	AF/YR	0	186	186	\$ 500	\$ 93,000	0.469	\$ 43,617
2028	Water Saved	AF/YR	0	186	186	\$ 500	\$ 93,000	0.442	\$ 41,106
<b>Total Present Value of Discounted Benefits Based on Unit Value (Sum of the values in Column (j) for all Benefits shown in table)</b>									<b>\$ 957,342</b>
<b>Comments:</b>									

(1) Complete these columns if dollar value is being claimed for the benefit.

(2) Discount Factors are contained in Table ES-1

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<b>Table ES-5 – Annual Costs of Project</b> (All costs should be in 2014 Dollars) Project: TCRCD REGIONAL WATER CONSERVATION PROGRAM										
	Initial Costs Grand Total Cost from Table 7 (row (i), column (d))	Adjusted Grant Total Cost <sup>(1)</sup>	Annual Costs <sup>(2)</sup>					Discounting Calculations		
			Admin	Operation	Maintenance	Replacement	Other	Total Costs (a) +...+ (g)	Discount Factor <sup>(3)</sup>	Discounted Project Costs (h) x (i)
Year	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
2014	\$ 935,196	\$ 935,196		\$935,196				\$935,196	1.000	\$ 935,195.75
2015	\$ 935,196	\$ 935,196		\$935,196				\$935,196	0.943	\$ 881,889.59
2016	\$ 935,196	\$ 935,196		\$935,196				\$935,196	0.890	\$ 832,324.22
2017	\$ 935,196	\$ 935,196		\$935,196				\$935,196	0.840	\$ 785,564.43
<b>Total Present Value of Discounted Costs (Sum of column (j))</b>										\$
<b>Transfer to Table ES-6, column (c), Proposal Benefits and Costs Summaries</b>										<b>3,434,973.99</b>
<b>Comments: Annual costs are estimated based on an equal division of total project costs over the life of the Grant (total/4 years)</b>										

(1) If any, based on opportunity costs, sunk costs and associated costs

(2) The incremental change in O&M costs attributable to the project

(3) Discount Factors are contained in Table ES-1

Table ES-6 below provides a summary of anticipated benefits and costs

<b>Table ES-6 – Benefits and Costs Summary</b>			
<b>Proposal: Tuolumne Stanislaus IRWM Region – 2014 IRWM Drought Grant Proposal</b>			
<b>Agency: Tuolumne-Stanislaus Integrated Regional Water Management Authority</b>			
<b>Project</b>	<b>Project Proponent</b>	<b>Total Present Value Project Costs <sup>(1)</sup></b>	<b>Total Present Value Project Benefits<sup>(2)</sup></b>
<b>(a)</b>	<b>(b)</b>	<b>(c)</b>	<b>(d)</b>
<b>TCRCD REGIONAL WATER CONSERVATION PROGRAM</b>	TCRCD	\$ 3,434,974	\$ 957,342

*(1) From Table ES-5*

*(2) From Table ES-3 Annual Benefit or ES-4 Annual Cost of Avoided Projects*