

Prototype Project Assessment and Evaluation Plan
Beneficial Use Improvement and Protection
Mill Creek Integrated Regional Water Management Implementation Project

I. Project Summary

A. Funding Program

The Project is supported by the Proposition 50 Integrated Regional Water Management Grant Program, and local and federal matching funds.

B. Project Description

Through a cooperative planning effort, the City of Mill Creek, Oakwood County Water Agency, and Oakwood Resource Conservation District have identified a suite of water management projects and programs within the Mill Creek Watershed that, together, will improve water supply reliability and water quality for the community, reduce dependence on imported water, provide habitat diversity, and eliminate or reduce pollution in sensitive habitat areas and areas of special biological significance. The projects accomplish the regional objectives established through the regional planning process, and incorporate multiple water management elements to provide multiple benefits.

C. Problem Statement:

i. Identify or characterize baseline data

N/A

ii. Identify one or more sources of pollution

The main source of drinking water pollutants are increased sediment load, salt, nitrogen, phosphorus, and pesticide residue that comes from agricultural activities in the Russian River watershed. The City of Mill Creek drinking water supply intakes are located near agricultural discharges.

iii. Identify and describe current (if applicable) and proposed restoration activities; Best Management Practices (BMPs); load reduction activities; prevention activities

N/A

iv. Describe the manner in which BMPs or Management Measures are proposed to be implemented

N/A

v. Summarize how the effectiveness of project implementation will be measured

The effectiveness of the project will be measured by evaluating the success of the restoration activities and whether federal and state regulatory requirements for drinking water and local water quality goals have been met. Changes in flow pattern in affected water bodies will also be determined to the extent feasible. Pre-project data will be collected and compared to post implementation data to determine whether the stated goals and desired outcomes of the projects have been met.

Determine, to the extent feasible, changes in flow pattern in affected water bodies

N/A

Determine economic benefits of implementing project

Improving water quality decreases the costs to consumers (by increasing the life of appliances and plumbing, decreasing costs to industrial users by increasing the life of industrial facilities through corrosion), lowers the capital and operating costs of equipment to treat the water, decreases water use of industrial customers (fewer cycles), is less costly to treat in order to meet drinking water regulations, increases opportunities for water recycling and enhances the environmental beneficial use.

D. Project Activities or Tasks

Task 1: Relocate the City of Mill Creek water intakes along the Russian River further north away from the agricultural activities where there is better source water quality.

Task 2: Install an additional drinking water well in the Oak Park area to supplement water supply from the Russian River and convey the water to the City of Mill Creek Drinking Water Treatment Plant pumps via new, dedicated pipelines, where it can be blended with surface water prior to delivery to customers.

Task 3: Expand the City of Mill Creek Drinking Water Treatment Plant from 10 to 20 mgd to accommodate growing demand.

*Task 4: Remove 50 acres of *Arundo donax* (giant reed) from the Mill Creek and restore native riparian habitat along the Mill Creek and at the confluence of the Russian River.*

Task 5: Management and implementation:

- i. Project Management and Administration*
- ii. Develop detailed implementation and monitoring plans, outlining:
 - water quality sampling and monitoring (number of samples, analysis, location, timing, statistical analysis, etc.)*
 - drinking water treatment process*
 - giant reed eradication sequence and treatment process**
- iii. Develop Quality Control Assurance Plan*
- iv. Obtain the required permits*
- v. Obtain landowner agreements for implementation of giant reed eradication along the Mill Creek*
- vi. Train and mobilize field crews including volunteers in giant reed removal, treatment (cane-cutting, painting & cutting, herbicide spray, tarping, micro-chipping, on-site composting of biomass) and safety procedures*
- vii. Conduct post giant reed eradication site visits to document success*
- viii. Prepare re-infestation prevention plan and incorporate plan into Public Works floodway maintenance SOPs*
- ix. Prepare a final report detailing project success and failures*

E. Category of Project Activities or Tasks:
Project activities and tasks fall into the Beneficial Use Improvement and Protection Categories.

II. Project Goals & Desired Outcomes

The goals of this project are:

- 1) Improve water supply reliability*
- 2) Improve delivered water quality*
- 4) Improve water quality for public health and safety protection*
- 5) Environmental restoration and enhancement*

The desired outcomes of this project are:

- 1) Reduce source water impairment (particularly sedimentation and salt)*
- 2) Expand and increase the efficiency of water treatment plants in operation*
- 3) Increase drinking water supply*
- 4) Meet or exceed current and future state and federal drinking water quality requirements*
- 5) Provide drinking water that meets and exceeds federal and state drinking water requirements*
- 6) Completely eradicate giant reed infestation along the Mill Creek and revegetate the affected area with native plants*

III. Project Performance Measures Table

Table 5
Example Performance Indicators for Beneficial Use Improvement and Protection
Mill Creek Integrated Regional Water Management Implementation Project

Project Goals	Desired Outcomes	Output Indicators	Outcome Indicators	Measurement Tools and Methods	Targets
Improve water supply reliability	1. Reduce source water impairment 2. Expand and increase the efficiency of water treatment plants in operation 3. Increase drinking water supply	1. Number of intakes relocated and capacity for conveyance to treatment facilities 2. Improvement in water quality due to intake relocation 3. Capacity of new groundwater well	1. Water quality improvement creating incremental efficiency in water treatment facilities 2. Increase in new local water supply that does not impact other beneficial uses	1. DWR – Cal. Water Plan– 2005 http://www.waterplan.water.ca.gov/cwpu2005/ 2. DWR – Bulletin 16098 http://rubicon.water.ca.gov/pdfs/b160cont.html#v2	Increase the water supply reliability by 100% over the next 10 years
Improve delivered water quality	Meet or exceed current and future state and federal drinking water quality requirements	1. Measure of source water quality improvement	30% increase in improvement of drinking water quality delivered to residents	1. DHS, Drinking Water Program http://www.dhs.ca.gov/ps/ddwem/technical/certification/devices.html 2. USEPA Treatment Technology http://www.epa.gov/ogwdw/standard/pp/treatpp.html	1. Meet current state and federal drinking water quality requirements by 2008 2. Achieve goals of the Long Term 2 Enhanced Surface Water Treatment Rule and the Partnership for Safe Water by achieving a combined filter water turbidity less than 0.1 NTU, 95 percent of the time.
Improve water quality for public health and safety protection	Provide drinking water that meets and exceeds federal and state drinking water requirements	No. of compliance inspections conducted by the local inspectors	Increasing percentage of water treatment facilities meeting and exceeding the drinking water standard requirements	1. DHS, Drinking Water Program http://www.dhs.ca.gov/ps/ddwem/technical/certification/devices.html 2. USEPA standards http://www.epa.gov/safewater/	1. 100% of the operating water treatment facilities getting DHS certification 2. Meet all primary and secondary drinking water standards over the next 10 years
Environmental restoration, and enhancement	Completely eradicate giant reed infestation along the Mill Creek and revegetate the effected area with native plants	1. No. of landowners granting access permission; 2. No. of volunteers participating in giant reed removal. 3. Acres of giant reed removed	Increase in water supply for environmental enhancement and the City of Mill Creek	Russian River <i>Arundo</i> Eradication Manual	100% eradication of giant reed from the Mill Creek watershed area