

Work Task E34: Groundwater and Soil Salinity Monitoring Network

FY12 Estimate	FY12 Actual Obligations	Cumulative Expenditures Through FY12	FY13 Approved Estimate	FY14 Proposed Estimate	FY15 Proposed Estimate	FY16 Proposed Estimate
\$0	\$0	\$0	\$250,000	\$250,000	\$300,000	\$300,000

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Start Date: FY13

Expected Duration: FY55

Long-term Goal: Restoration research to guide management actions.

Conservation Measures: CLRA1, WIFL1, BONY2, RASU2, WRBA2, WYBA3, CRCR2, YHCR2, LEBI1, BLRA1, YBCU1, ELOW1, GIFL1, GIWO1, VEFL1, BEVI1, YWAR1, SUTA1, FLSU1, MNSW2, CLMB2, PTBB2.

Location: Conservation Areas.

Purpose: Monitor soil and groundwater salinity to inform management actions that will allow for the long-term health and survival of established land cover types on LCR MSCP Conservation Areas.

Connections with Other Work Tasks (past and future): This work task was initiated with funds from G3, E24, and E4.

Project Description: Monitoring soil and groundwater conditions provides information about why some restoration sites establish and develop more successfully than others. The network will be expanded, and soil and groundwater monitoring will be standardized across all applicable LCR MSCP Conservation Areas. The process of determining which phases will be monitored and to what level will occur over a period of years. The information gathered through this effort will inform decisions about managing saline conditions of soils and groundwater, and will ensure the long term viability of LCR MSCP conservation areas.

Previous Activities: Research from previous studies funded by G3 has suggested that riparian obligate trees will utilize groundwater over applied surface water when they have reached sufficient maturity.

An extensive review of the literature available on salinity and sodicity was conducted to summarize what was already know about managing saline soil and groundwater conditions and is available on our website.

A soil and groundwater monitoring network was established at three LCR MSCP Conservation Areas: Beal, PVER, and Cibola Unit #1.

Using the data collected from the three conservation areas over 2.5 years, a mass balance model to evaluate salt accretion/loss in soils and groundwater was developed.

FY12 Accomplishments: This is a new start in FY13.

FY13 Activities: Soil and groundwater data will continue to be monitored at the three conservation areas within the established network. Expenditures will be less than approved to allow time to prepare, contract, and implement the strategy for expanding the soil and groundwater salinity monitoring network into other established Conservation Areas. Also during that time, data from the preceding three years will be sequenced into the LCR MSCP database.

Proposed FY14 Activities: The new soil and groundwater monitoring effort will go into effect and additional LCR MSCP conservation areas will be added to the network, which is reflected in the increased budget.

Pertinent Reports: *Cibola NWR Unit 1 Conservation Area 2010 Annual Report; Review of Salinity and Sodicity; Monitoring, and Remediation for Riparian Restoration Areas; and Groundwater and Soil Salinity Monitoring Network in Support of Long-Term Irrigation and Salt Management of MSCP Restoration Areas: Well Installation and Preliminary Monitoring Data Report*, will be posted to the website.