



COLORADO
**Colorado Water
Conservation Board**
Department of Natural Resources

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TO: Colorado Water Conservation Board Members

FROM: Jeff Baessler, Deputy Section Chief, Stream and Lake
Protection Section

DATE: November 18-19, 2015 Board Meeting

AGENDA ITEM: 18c. Non-Reimbursable Project Investment "En-Bloc" approval
Satellite Monitoring System Maintenance

Introduction

The Division of Water Resources (DWR) has requested an appropriation of \$380,000 for the continued operational viability of the state Satellite-linked Monitoring System (SMS) and Stream Gage Refurbishment Program. Each year, funding for this program has been reviewed and approved by both the Finance Committee and the Board. It has been recognized that it is critical for both the State's water planning and water administrative agencies to support and maintain state-of-art stream gaging programs and continue to provide accurate water resources data to support multi-agency and water user needs. The DWR Satellite-linked Monitoring program is outlined in §37-60-121 and §37-80-102 C.R.S.

Staff Recommendation

Staff recommends the Board request the General Assembly to authorize \$380,000 from the Construction Fund to the Department of Natural Resources for allocation to the Division of Water Resources (DWR) to replace out-dated Data Collection Platforms and associated satellite telemetry equipment in the existing satellite monitoring system, and to refurbish existing stream gages.

Discussion

The \$380,000 request for FY 2016-2017 will support the continued, long-term operational viability of 520 satellite-linked water resources monitoring sites. These funds will be allocated as follows:

\$275,000 for replacement of out-dated Data Collection Platforms (DCP) and associated satellite telemetry equipment and upgrading of satellite transmission components. The rate of replacement of DCPs is based on a life expectancy from normal wear, tear and software life cycle issues of 10 years. Replacement of out of date DCPs may also be required to accommodate technology upgrades and changes which are mandated by NOAA, the Federal Agency managing the GOES satellite resource.

\$55,000 for refurbishing existing stream gages as needed to maintain operational reliability of stream flow data collection infrastructure and equipment. This is a recurring annual request to cover refurbishment and repair costs which arise due to deterioration of the physical stream gage infrastructure. In addition, these funds will be used as necessary to purchase measurement equipment that can minimize or eliminate the need for future capital improvements such as personnel cableways.

The requested funding amount of \$380,000 is increased from last year's request to provide annual maintenance support for the Lysimeter in the Arkansas River Basin. The attached memo from Matthew Hardesty dated July 24, 2015 provides more in depth information regarding this request.



Satellite Monitoring System Maintenance

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This project entails the continued, long-term operational viability of the State Satellite Linked Monitoring System and Stream Gage Refurbishment Program, which is administered by the Division of Water Resources (DWR). This program currently encompasses 520 satellite stream gaging stations which require continued replacement of outdated data collection platforms, upgrades to transmission components, and refurbishment of the associated infrastructure. In addition, many existing gaging stations need to be modified to provide critical stream flow data for both flood and low flow monitoring. Changes in technology, which will ultimately increase reliability and real time data transmission rates, will require the DWR to continue to upgrade the system in the future. The costs associated with the continued refurbishment and operational viability of the system is currently approximately \$380,000 per year.

P R O J E C T D E T A I L S	
<i>Project Cost:</i>	\$380,000
<i>NRI Funding Request:</i>	\$380,000
<i>Funding Source:</i>	Construction Fund
<i>Project Type:</i>	DWR Streamgaging
<i>Type of Grantee:</i>	State Agency

L O C A T I O N	
<i>Benefits:</i>	Statewide
<i>Water Source:</i>	Various
<i>Drainage Basin:</i>	All Basins



North Fork Gunnison River - New Radar Sensor Installation (Note these installations are more cost efficient as they require significantly less infrastructure than a typical stilling well and shelter)

Purgatoire River @ Fishers Crossing
DWR/CWCB Compact Gage