

STATE OF COLORADO

Colorado Water Conservation Board

Department of Natural Resources

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TO: Colorado Water Conservation Board Members	Bill Ritter, Jr. Governor
FROM: Joe Busto, Watershed Protection & Flood Mitigation Section Ted Kowalski, Water Supply Protection Section	Harris D. Sherman DNR Executive Director
DATE: November 5, 2009	Jennifer L. Gimbel CWCB Director
SUBJECT: Agenda Item 28b, November 16-18, 2009 Watershed Protection and Flood Mitigation Section- En-bloc Non-Reimbursable Investments CWCB Weather Modification Program - Water Users Cost Share Assistance	Dan McAuliffe CWCB Deputy Director

Background

The State has had a weather modification permitting program since 1972 that has been delegated to the CWCB since 1987. There are eight active target areas in the Colorado, Gunnison, and Southwestern River Basins. In 2007 in response to Colorado River shortages formal agreements were signed with three Lower Basin water users and the State of New Mexico to assist Colorado cloud seeding. Since then New Mexico Interstate Stream Commission has provided \$84,000 and the Lower Basin Water Users have donated: \$458,300. The Board approved a strategic plan in May 2008 that is a mix of technical assistance and funding to support local cloud seeding programs. This fall the Lower Basin is donating \$152,300 and NMISC will decide in October.

Discussion

Recent discussions around shortages in the Colorado River Basin turned from those of litigation into a spirit of cooperation. Agreements were signed to jointly pursue strategies to meet water needs in the Basin and possibly avoid a complicated River Compact call and future litigation. One of those strategies with agreements to work together is water augmentation through cloud seeding as a means to try and help maintain the mean annual flows that are crucial to the Compact administration. The CWCB funding leverages funding from four other states and allows experts and new equipment into Colorado through these agreements. The CWCB also extends the length of operational time of local cloud seeding programs.

Staff Request

The CWCB Staff requests that the Board consider appropriating \$175,000 to the CWCB Weather Modification Program for Fiscal Year 2010/11.

Recommendation

Staff recommends that the Board request the General Assembly to appropriate up to \$175,000 from the Construction Fund to be appropriated to the Colorado Water Conservation Board for the CWCB Weather Modification Program.

ATTACHMENT – SUPPORTING JUSTIFICATION FOR APPROVAL OF REQUEST

Since the Board's target growth rate will be unmet this fiscal year, it is understood that there would be no funding for non-reimbursable grants as described under Policy 13. However, staff is requesting an exemption from this policy and recommends that funds be provided for the CWCB Weather Modification Program. In order to meet this request, staff is recommending that spending from the CWCB's litigation fund appropriation be restricted by \$175,000 for FY 2010-2011 to cover the expenses associated with CWCB Weather Modification Program. Staff believes that adequate funding exists for CWCB's litigation needs in the current fiscal year and the use of this fund for the CWCB Weather Modification Program will not limit the State's ability to adequately protect itself from possible litigation.

Water Project Construction Program - Project Data

Non-Reimbursable Investment

Grantee: Colorado Water Conservation Board **County:** Statewide

Project Name: Weather Modification - Water User Cost Share Assistance

Project Type: Grants for operations, grants for optimization of permitted cloud seeding programs

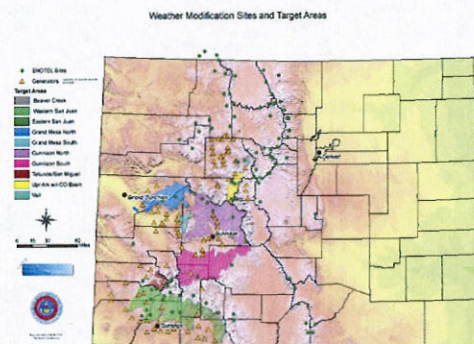
Drainage Basin: San Juan, Gunnison, Colorado **Water Source:** N/A

Total Project Cost: \$700,000 (Estimated Local Avg.) **Funding Source:** CWCB Const. Fund

Type of Grantee: Local Government **CWCB Non-Reimbursable Inv.:** \$175,000

SUMMARY

The CWCB has authority to permit and regulate weather modification operations in Colorado (C.R.S 36-20-101 through 36-20-127). The CWCB also has authorities to aide in the development of water resources. In section 36-20-108(4)(b) it states that "The director may represent the State and assist counties, municipalities, and public agencies in contracting with commercial operators for the performance of weather modification or cloud seeding operations." This request is a cost-share in the development of wintertime cloud seeding programs and could be considered building local capacity. Water augmentation agreements between the CWCB, the State of New Mexico, and three Colorado River Basin Water Users were developed to support Colorado's cloud seeding programs. The CWCB appropriation leverages and cooperates with other states and locals around snowpack augmentation to benefit our river systems. The funding is also used for modernization of their programs to ensure that all of our resources are being wisely invested. Evaluations have shown it is important to reliably release seeding material in clouds in order to achieve a 10% increase in snowpack snow water equivalent in a target area. Nevada went to remote operated (analog cellular communication) generators in 1975 in order to reliably release the seeding material near clouds. Colorado's has 100 manually operated generators and many are in mountain valleys and improvements can be made. Programs should seek to deploy equipment in the highest elevation terrain available. The picture shows the difference in cloud seeding equipment technologies we are deploying from the Desert Research Institute in Reno, Nevada. In the picture the old manual operated generator is tan (right), a propane tank (middle), and Colorado's first remote operated generator (green) are shown.



Total Grants Distribution (08-09)

During the winter 2008-09 the CWCB, Colorado River Water Users, and New Mexico agreements totaled \$343,000. The CWCB provided \$175,000 of that total. The total Lower Basin budget is \$300K per year and is the funding shared between Wyoming, Colorado, and Utah. In addition to providing grant money to local agencies and as part of the CWCB, Colorado River, and New Mexico Agreements, the following new equipment in Colorado is completed or is planned as well:

- Weather Station on Grand Mesa (deployed 2007)
- Remote operated generator on the west end of Grand Mesa on Kannah Creek (deployed 2007)
- Propane Dispenser added to Grand Mesa weather station (deployed 2008)
- Remote operated generator on Milk Creek above Cedaredge (deployed 2008)
- Weather Station at Purgatory/Durango Mountain Resort (deployed fall 2009)
- Remote operated generator on Mancos Mountain (deployed fall 2009)
- Two remote operated generators for Winter Park/Denver Water (deployed fall 2009)