



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

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**TO:** Colorado Water Conservation Board Members

**FROM:** Derek Johnson, P.E., Project Manager  
Kirk Russell, P.E., Finance Section Chief

**DATE:** March 22-23, 2017 Board Meeting

**AGENDA ITEM:** 13a. Reservoir Dredging Grant Program  
Jackson Lake Reservoir and Irrigation Company  
Jackson Lake Dredging Feasibility Study

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### Introduction

The Jackson Lake Reservoir and Irrigation Company is applying for a grant to prepare a Dredging Feasibility Study for the Jackson Lake Reservoir. The purpose of the study is to determine feasibility-level costs and options to perform dredging operations in the bottom of the reservoir, including connection of an isolated dead pool to the existing reservoir outlet works. Study costs are estimated at \$48,756, with a maximum of 50% to be funded by the Reservoir Dredging Grant Program.

### Reservoir Dredging Grant Program

The CWCB Board, at the November 2016 meeting, approved the Reservoir Dredging Grant Program Guidance in response to Section 11 of Senate Bill 16-174, which appropriated \$1,000,000 to fund reservoir dredging projects. To purpose and intent of the program is to make funding available to remove accumulated sediments in reservoirs, the cost of which would otherwise be prohibitive due to the difficulty of sediment removal in submerged or wet conditions, as well as to restore storage volume lost to sediment accumulation or disconnected dead pools.

In this, the first of two application periods, staff received two grant applications, and determined the Jackson Lake Reservoir and Irrigation Company application is the only application that can be supported as conforming to program objectives.

### Staff Recommendation

Staff recommends the Board approve a grant covering 50% of project costs not to exceed \$ 24,378 to the Jackson Lake Reservoir and Irrigation Company for the Jackson Lake Dredging Feasibility Study Project from the CWCB Reservoir Dredging Grant Program.



## PROJECT DESCRIPTION

Jackson Lake Reservoir and Irrigation Company (Company) owns and operates Jackson Lake Reservoir (Jackson Lake). The dam and reservoir were constructed in about 1905 to store water for irrigation.

Jackson Lake is an off-stream reservoir located in Morgan County, Colorado, approximately 17 miles northwest of Fort Morgan, Colorado. Access to the reservoir is via State Highway 144 to Morgan County Road 3. Jackson Lake is filled from the South Platte River via a diversion headgate located on the north bank of the South Platte River and transported to Jackson Lake by means of an inlet canal.

Over the years, the Company has considered dredging sediment from the bottom of the reservoir to recapture some or all of the original storage capacity. When the water level is low, water in storage on the north side of Jackson Lake is cut off from the outlet by accumulated sediment that has been deposited by the filler ditch. It is estimated that this stranded pool holds approximately 2,000 acre-feet.

The Company is considering dredging to restore the usable capacity of Jackson Lake. Prior to dredging, the Company plans to perform a feasibility study to determine a course of action to restore their full storage rights.

## PROJECT COST ESTIMATE

Estimated project costs are shown in Table 1.

**Table 1: Estimated Costs**

| Study Elements                                      | Cost      |
|---|-----------|
| 1. Historical Review and Data Gathering             | \$ 1,733  |
| 2. Project Planning and Coordination                | \$ 1,682  |
| 3. Reservoir Bathymetric Survey                     | \$ 15,135 |
| 4. Reservoir Perimeter General Survey               | \$ 9,185  |
| 5. Office Computations-Dredging Options             | \$ 8,505  |
| 6. 3D Reservoir Model                               | \$ 4,851  |
| 7. Cost Estimates                                   | \$ 3,566  |
| 8. Feasibility Report                               | \$ 4,099  |
| Total Project Costs:                                | \$ 48,756 |
| CWCB Reservoir Dredging Grant Program Funding (50%) | \$ 24,378 |
| Company Cash Funding                                | \$ 24,378 |

CWCB Dredging Grant Program funds will be disbursed at a cumulative maximum 50% of the total of all invoices submitted for reimbursement for qualified project costs.

cc: Harold Griffith, Board President, Jackson Lake Irrigation Company  
Jennifer Mele, Colorado Attorney General's Office