COLORADO
Colorado Water Conservation Board
Department of Natural Resources

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TO: Colorado Water Conservation Board Members

FROM: Lauren Ris, Deputy Director
Lauren Miremont, Finance Manager

DATE: March 20-21, 2019, Board Meeting

AGENDA ITEM: Agenda Item 11 – Severance Tax Operational Fund Grants

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Introduction

CWCB is entitled to an amount up to a 5% share of the Severance Tax Operational Fund. In January 2019, CWCB received internal requests and outside applications for funding that becomes available from the Operational Fund in July 2019 via the Long Bill enacted by the General Assembly. CWCB Staff reviews the applications and then recommends to the Board the projects that should receive funding. We expect to receive $1,275,500 in funding; however, should that amount be changed, the project funding will also need to be revised. Table 1 on pages 2 through 4 provides a summary of the recommended and non-recommended projects by CWCB Staff. These projects are described in more detail following Table 1 (see each write-up by the corresponding Project Number).

Recommendation

Staff recommends that the Board approve the proposed funding for each of the projects from the Severance Tax Operational Fund as summarized as Table 1 to this memo. Recommended projects are numbered 1 – 27 and projects not recommended are numbered 28 - 32.

Table 1
SEVERANCE TAX OPERATONAL FUND PROJECTS
FOR FUNDING FROM JULY 1, 2019 TO JUNE 30, 2020

No.	Applicant	Project Name	Funding Recommended	Priority
1	North La Junta Conservancy District	North La Junta Streamlined Flooding Mitigation and Flow Management Phase III	$25,000.00	High
2	CWCB	Water Plan Implementation	$50,000.00	High
3	CWCB	Alternative Transfer Methods Program Strategic Plan Development	$70,000.00	High
4	CWCB	Operating support related to outreach for ISF	$15,000.00	High
5	CWCB	Agency Case Management and Program Support	$100,000.00	High
6	CWCB	Colorado River Drought Contingency Planning	$100,000.00	High
7	Precision Water Resources Engineering	Evaluating RiverWare's Ability to Simulate Colorado Water Right Systems	$82,000.00	Medium
8	Brink, Inc	Demonstrating Ag Progress on Water Quality: Modeling the Effectiveness of EQIP - funded conservation practices	$24,250.00	Medium
9	Colorado Youth Corps Association	Watershed Health Grants: Implementation of riparian restoration, watershed health, and wildfire mitigation projects statewide	$60,000.00	High
10	CWCB	Work Related to Recreational Water Projects	$40,000.00	Medium
11	CWCB	CSU Water Resources Archive - Digitization of Water Resources Archive Materials	$25,000.00	Medium
12	CWCB	Flood Mitigation and Project Compliance	$100,000.00	High
13	CO Geological Survey, School of Mines	Statewide Mapping of Quaternary Alluvium	$48,215.00	Medium
14	Dryland Consulting LLC	Sustainability of Trout Populations and Role of Tributaries	$10,000.00	Medium
15	DWR - Dam Safety	CO Dam Safety Inundation Mapping Grant Program	$30,000.00	High

16	DWR - Dam Safety	CO Dam Safety Comprehensive Safety Evaluation (CDSE) Program	$30,000.00	High
17	Open Water Foundation	StateMod Dataset Cloud Publishing	$50,000.00	Medium
18	Open Water Foundation	Develop HydroBase Web Services Client API Software	$25,000.00	Medium
19	CWCB	Community Assistance Program	$35,000.00	High
		Total	$919,465.00	

HIGHER EDUCATION RESEARCH PROJECT REQUESTS:

20	CSU	Investigating the Impact of Recharge Ponds, Pumping, and a Drought on Groundwater Levels and Return Flows in the Lasalle/Gilcrest Area during 2013-2018	$50,000.00	High
21	Adams State University	Mineralogical and Microbiome Characterization of Aeolian Dust Deposited on Alpine Snowpack in the South San Juan Mountains Associated with Regional Climate Change	$11,293.00	High
22	CSU	Streamflow estimation in Colorado ungauged basins	$50,000.00	High
23	CSU	Quantifying Impacts of Hydrological Parameter Uncertainty on Dam Safety Analysis	$50,000.00	High
24	CSU	Tools for improving knowledge of reservoir water quality in the Front Range of Colorado	$49,991.00	High
25	CSU	Direct Measurements of Colorado Reservoir Evaporation: A Comparison Between Eddy Covariance and Class-A Pan Measurement, and model Results	$44,392.00	High
26	CSU	Exploring the Potential of Improved Soil Management Practices to Support Soil Health and Water Conservation in Irrigated Corn Systems of Eastern Colorado	$42,628.00	High
27	CSU	Relationship Between Irrigation Return Flows, Riparian Vegetation Water Use, and Soluble Pollutant Removal in the Lower Arkansas River Basin	$50,000.00	High
		Total	$348,304.00	

Grand Total **$1,267,769.00**

PROJECTS NOT RECOMMENDED:

No.	Applicant	Project Name	Funding Requested	Priority
28	Center for Snow & Avalanche Studies	Colorado Dust-on-Snow Program and Moutain Monitoring System	$25,000.00	Low
29	CWCB	Division 2 Acreage Verification Partnership	$25,000.00	Low
30	Poudre Heritage Alliance	Water Legacy: Documenting Knowledge for Future Generations	$10,000.00	Low
31	CSU	Utilizing a Statewide Agricultural Best Management Practice Adoption Survey to Inform Future Water Quality Research and Policy	$60,820.00	Low
32	CO Geological Survey, School of Mines	County Groundwater Resources Series, Year 8	$50,000.00	Low
33	Open Water Foundation	Develop General Point Flow Model Tool for CDSS	$50,000.00	Low
34	Open Water Foundation	Enhance CDSS StateDMI Software to Ensure RGDSS Functionality	$25,000.00	Low
35	Open Water Foundation	Enhance CDSS TSTool Software for HydroBase Historical Station Web Services	$25,000.00	Low

Severance Tax Operational Fund

Proposed Project for Fiscal Year 2019 – 2020

Project No. 1

Applicant:	North La Junta Conservancy District
Project Title:	North La Junta Streamlined Flooding Mitigation and Flow Management Phase III
Recommended Amount:	$25,000
Requested Amount:	$25,000

Description of Project: Flooding in the North La Junta Conservancy District has been endemic since the 1999 flood and continued through 2016. The flooding in 2016 created a common concern for sedimentation removal and dike construction to ensure the proper channel flows in the river from the west end of the Conservancy District to the East end of the district. In 2016 work began to build up the dike on the east end of the conservancy district along with sedimentation removal throughout the entire channel. On June 1, 2018 six (6) large islands full of sediment had been removed and the dike restored. After further evaluation it was noted that one more island on the West end of the Conservancy District should be removed to help alleviate pressure on the Arkansas River as it travers it path. This final island is estimated at 120 feet long, 43 feet wide, and 4 feet deep for a total of 764 cubic yards of sedimentation. In comparison during phase II of the project 530 cubic yards of sedimentation were removed. This work will help the Arkansas River stay in the channel and travel the path that was originally designed for without any further pinch points.

Project Manager(s):	Alex Funk
Program:	Interstate, Federal & Water Information

Purpose: This work will help the Arkansas River stay in channel.

Funding Available: July 1, 2019 – June 30, 2020

Severance Tax Operational Fund

Proposed Project for Fiscal Year 2019 – 2020

Project No. 2

Applicant: CWCB

Project Title: Water Project Planning and Implementation

Recommended Amount: $50,000
Requested Amount: $100,000

Description of Project: CWCB needs funding to meet immediate needs for water planning and implementation. CWCB is implementing a number of water planning efforts and has the responsibility to address other water planning needs that emerge during the fiscal year, but for which no other funding source is available.

Project Manager(s): Kirk Russell

Program: Water Project Planning and Implementation

Purpose: To provide technical and administrative assistance to water providers in the state for planning or implementation of small and urgent water project issues.

Funding Available: July 1, 2019 – June 30, 2020

Severance Tax Operational Fund

Proposed Project for Fiscal Year 2019 – 2020

Project No. 3

Applicant:	CWCB
Project Title:	Alternative Transfer Methods Program Strategic Plan Development
Recommended Amount:	$70,000
Requested Amount:	$70,000

Description of Project: Colorado's Water Plan (CWP) sets a goal of achieving 50,000 acre-feet through voluntary alternative transfer methods (ATM) by 2030 to meet growing municipal and industrial demands. CWP also recognizes the role of ATMs in supporting the environment, recreation, groundwater sustainability, and compact compliance. Since 2007, the CWCB has encouraged alternatives to permanent dry-up through the long-standing Agricultural Water Transfer Methods Grant Program. Grants awarded through the program have successfully identified barriers to ATM development and researched promising solutions, but have also discussed the need for additional technical and financial assistance to help reduce ATM transaction costs and expand ATM outreach and training efforts to elected officials, planners, watershed groups, developers, conservation districts, and other stakeholders to encourage and normalize ATMs. Altogether, although much has been accomplished over the past 11 years on ATMs, increasing programmatic support for ATMs would help achieve (and perhaps exceed) the goals of the CWP, decrease buy-and-dry transactions, create greater water system resilience and flexibility and maintain agricultural viability.

The Colorado Water Plan's No-And-Low Regrets Portfolio includes the development and implementation of an ATM Program to compile ATM data, identify actions to encourage stakeholders to enter agreements, analyze barriers, facilitate transactions and increase awareness. Such a program would build on current and past successes of ATM development and further enable, empower, and support ATM development moving forward. A strategic plan for the ATM Program will synthesize the lessons learned over the past years, and focus CWCB staff efforts and future funding into those areas where the most need exists and the most progress can be made to facilitate an ATM market that will achieve the CWP goal. The requested severance tax funds would be utilized to develop this strategic plan to enable a more comprehensive ATM Program and approach for Board approval. The strategic plan would be developed in collaboration with the Division of Water Resources, Colorado Department of Agriculture, ATM practitioners, the broader agriculture community and other stakeholders. The input of M&I water providers, irrigation districts and mutual ditch companies who are likely candidates for ATM use will be specifically solicited. The use of ATMs to address environmental and rec flows, compact compliance and groundwater sustainability will also be further explored.

Project Manager(s):	Alex Funk
Program:	Interstate, Federal & Water Information

Purpose: Implement Water Plan goals by reducing ATM transaction costs.

Funding Available: July 1, 2019 – June 30, 2020

Severance Tax Operational Fund

Proposed Project for Fiscal Year 2019 – 2020

Project No. 4

Applicant: Linda Bassi, S&LP Chief

Project Title: Stream and Lake Protection Section Outreach and Education

Recommended Amount: $15,000
Requested Amount: $15,000

Description of Project: In most years, the Stream and Lake Protection Section has budgeted between $12,000 and $16,000 to fund operating expenses such as travel, telecomm, printing, equipment, official functions, and conference registrations. However, those funds have been supplemented in most years by the Section's Severance Tax Operational Fund Outreach and Education Project, which historically has been funded at $15,000.

The Section's operating budget can vary significantly from year to year depending on the amount of outreach activities that are required to address issues associated with new appropriations, acquisitions, legal protection, and implementation of Colorado's Water Plan. This year, the Stream and Lake Protection Section is becoming more involved in stream management plans in an effort to address the goals of the Colorado Water Plan to have these plans in place on 80% of Colorado's important rivers and streams.

It is estimated that $15,000 of supplemental funding will be required to address travel associated with meetings, field work, and other outreach activities related to over 70 new ISF appropriation recommendations, increased acquisitions due to Request for Water, and stream management plans.

Project Manager(s): Linda Bassi / Rob Viehl

Program: Instream Flow and Natural Lake Level

Purpose: Supplemental funding for the Stream and Lake Protection Section's annual operating budget to address extended outreach and education needs.

Funding Available: July 1, 2019 – June 30, 2020

Severance Tax Operational Fund

Proposed Project for Fiscal Year 2019 – 2020

Project No. 5

Applicant(s):	Linda Bassi, S&LP Chief Brent Newman, IF&WI Chief Kevin Houck, W&FP Chief
Project Title:	Agency Case Management and Litigation Support
Recommended Amount:	$100,000
Requested Amount:	$100,000

Description of Project: Description of Project: Hire temporary or contract paralegal staff to (1) assist the Stream and Lake Protection Section with instream flow ("ISF") case management, including organizing and imaging case files, tracking court deadlines, prioritizing case review, and drafting pleadings, memos, correspondence and other documents as appropriate; (2) assist the Federal and Interstate Section with recreational in-channel diversion cases; the Bear Creek Lake appropriation and litigation; the Platte River Recovery Implementation Program; and Wild and Scenic River Alternative stakeholder group participation, including drafting pleadings, memos, correspondence and other documents as appropriate; (3) assist the Watershed and Flood Protection Section with implementing the Watershed Restoration Program and Fish and Wildlife Resources Fund projects by drafting or editing documents, letters, proposals, memos, and correspondence; drafting or editing contracts, documents, letters, proposals, memos, correspondence related to the Weather Modification Program; and developing rules, regulations and legislative analyses; and (4) assist the Finance Section with loan contracting issues.

Project Manager(s):	Linda Bassi/Kaylea White/Rob Viehl Brent Newman/Erik Skeie Kevin Houck/Chris Sturm/Joe Busto Kirk Russell/Peg Mason
Program:	Instream Flow and Natural Lake Level; Interstate, Federal, and Water Information; and Watershed and Flood Protection; and Water Projects Loan Program

Purpose: Provide adequate staffing for legal protection of the State's ISF water rights and implementation of various agency programs.

Funding Available: July 1, 2019 – June 30, 2020

Severance Tax Operational Fund

Proposed Project for Fiscal Year 2019 – 2020

Project No. 6

Applicant: Brent Newman, IF&WI Chief

Project Title: Colorado River Drought Contingency Planning

Recommended Amount: $ 100,000
Requested Amount: $ 100,000

Description of Project: Planning efforts associated with Colorado River drought contingency actions and demand management feasibility investigation.

Project Manager(s): Brent Newman / Michelle Garrison

Program: Interstate, Federal, and Water Information

Purpose: Coordinate with the Upper Colorado River Commission to model and evaluate possible drought contingency actions and reservoir operations. Modeling will explore drought contingency options, coordinated reservoir management options, and opportunities to improve short-term and mid-term forecasting of reservoir operations and storage levels. Funds will support efforts to investigate demand management feasibility pursuant to CWCB Support and Policy Statements adopted in November 2018.

Funding Available: July 1, 2019 – June 30, 2020

Severance Tax Operational Fund

Proposed Project for Fiscal Year 2019 – 2020

Project No. 7

Applicant:	Precision Water Resource Engineers
Project Title:	Evaluating RiverWare's Ability to Simulate Colorado Water Right Systems
Recommended Amount:	$82,000
Requested Amount:	$82,000

Description of Project: Evaluate RiverWare's ability to simulate Colorado's complex and unique water right systems which remains largely untested. This will be accomplished by modeling the White River Basin and water right system and comparing results to existing data. While a DSS is available for simulating water right systems already it has several significant limitations that RiverWare overcomes. This project wants to see what RiverWare can do.

Project Manager(s):	Brian Macpherson
Program:	Interstate, Federal & Water Information

Purpose: Determine if the software RiverWare can effectively model water right systems.

Funding Available: July 1, 2019 – June 30, 2020

Severance Tax Operational Fund

Proposed Project for Fiscal Year 2019 – 2020

Project No. 8

Applicant:	Brink, Inc
Project Title:	Demonstrating Ag Progress on Water Quality: Modeling the Effectiveness of EQIP - Funded Conservation Practices
Recommended Amount:	$24,250
Requested Amount:	$24,250

Description of Project: Modeling study that will utilize CSU's new Edge of Field conservation tool to model the effects of already-installed NRCS-EQIP practices on water quality. The analysis is intended to demonstrate the progress that CO agricultural producers have making toward the goal of protecting water quality.

Project Manager(s):	Alex Funk
Program:	Interstate, Federal & Water Information

Purpose: Document progress agricultural producers are making toward protecting water quality.

Funding Available: July 1, 2019 – June 30, 2020

Severance Tax Operational Fund

Proposed Project for Fiscal Year 2019 – 2020

Project No. 9

Applicant:	Colorado Youth Corps Association
Project Title:	Watershed Health Grants: Implementation of riparian restoration, watershed health, and wildfire mitigation projects statewide
Recommended Amount:	$60,000
Requested Amount:	$60,000

Description of Project: Fund Youth Corps activities in the realms of riparian restoration, watershed health, and wildfire mitigation work throughout the state. This work is critical for both water resources protection and providing professional work experience to the next generation of watershed stewards in CO.

Project Manager(s):	Erik Skeie
Program:	Interstate, Federal & Water Information

Purpose: Support youth corps activities throughout the state related to water resources protection.

Funding Available: July 1, 2019 – June 30, 2020

Severance Tax Operational Fund

Proposed Project for Fiscal Year 2019 – 2020

Project No. 10

Applicant: Brent Newman, IF&WI Chief

Project Title: Work related to Recreational Water Projects

Recommended Amount: $40,000
Requested Amount: $50,000

Description of Project: Staff has typically requested funds each year to either: (1) fund work associated with the litigation of Recreational In-Channel Diversions (RICDs); or (2) fund projects that have benefits to water based recreational interests. CWCB Staff is not aware of pending RICD litigation. If no RICD applications are filed in a timely matter, these funds will be used to assist local governments in the design, construction or repair of their whitewater courses. Products may include: 1) design drawings and permitting for these communities to move toward building and/or repairing their whitewater courses, and/or 2) construction or repair of these structures.

Project Manager(s): Erik Skeie

Program: Recreational Projects

Purpose: These funds will help assure that Colorado can fully use its compact entitlements while allowing mountain communities to develop water based recreational infrastructure. To the extent that recreational uses of water and the associated structures are designed and constructed in a manner that promotes maximum utilization of Colorado's water resources and that allows Colorado to fully use its compact entitlements, CWCB's missions are being fulfilled.

Funding Available: July 1, 2019 – June 30, 2020

Severance Tax Operational Fund

Proposed Project for Fiscal Year 2019 – 2020

Project No. 11

Applicant:	Brent Newman, IF&WI Chief
Project Title:	CSU Water Resources Archive - Digitization of Water Resources Archive Materials
Recommended Amount:	$25,000
Requested Amount:	$25,000

Description of Project: To digitize materials in CSU's Water Resources Archive. Of highest priority are documents related to groundwater research and administration in Colorado, especially in the South Platte, Rio Grande, and Arkansas river basins.

Project Manager(s):	Carolyn Kemp
Program:	Water Information

Purpose: To provide online, public access to historical water resource related documents within CSU's Water Resources Archive.

Funding Available:	July 1, 2019 – June 30, 2020

Severance Tax Operational Fund

Proposed Project for Fiscal Year 2019 – 2020

Project No. 12

Applicant: Kevin Houck, W&FP Chief

Project Title: Flood Mitigation and Project Compliance

Recommended Amount: $100,000
Requested Amount: $100,000

Description of Project: The CWCB has identified a substantial need for identification of deficiencies to flood mitigation projects throughout Colorado, a point vastly reinforced by the devastating floods of September 2013. Funds from this program will be used to develop solutions to bring these projects back into technical or regulatory compliance. In some cases, some financial assistance may be provided to smaller communities to perform required one-time maintenance activities for regulatory purposes provided that the local governments and other entities benefiting from the project expend as many local resources as available to perform the work. The focus of this work will be to address local requests as well as identification and design of projects that can be implemented or upgraded to reduce the flood risk. The best example of the use of these funds are the current nationwide focus on the condition of levees, which has already impacted some Colorado communities and is expected to impact many more in the coming years. Many of these levees and other flood control/mitigation projects are located in small or impoverished communities throughout the state that are in need of both technical and, in some cases, financial assistance. Other projects being considered include ongoing post-wildfire analysis and mitigation as well as a long overdue update to the Statewide Floodplain and Stormwater Criteria Manual, last updated in 2006. Finally, additional funding may be needed to perform tasks associated with monitoring and closeout activiites associated with the NRCS Emergency Watershed Protection (EWP) program that are necessary to perform, but ineligible to be reimbursed by the NRCS. The CWCB staff is requesting this Severance Tax non-reimbursable investment to provide a means of cost-sharing with local entities and other agencies to accomplish the much needed work. Cost-sharing will be emphasized when practicable to leverage the severance tax dollars.

Project Manager**:** Kevin Houck

Program: Watershed and Flood Protection

Purpose: Mitigate flood hazards throughout the state by partnering with local governments in plans, studies, and minor flood projects.

Funding Available: July 1, 2019 – June 30, 2020

Severance Tax Operational Fund

Proposed Project for Fiscal Year 2019 – 2020

Project No. 13

Applicant: CO Geological Survey, School of Mines

Project Title: Statewide Mapping of Quaternary Alluvium

Recommended Amount: $48,215
Requested Amount: $48,215

Description of Project: Create ArcGIS product to be used to fill a data gap for the Colorado Groundwater Atlas, will be available to agencies and the public. Map the alluvium statewide at a scale of 1:50,000 which is a great improvement on existing data and statewide coverage. CDPHE, DWR, COGCC and Dept. of Agriculture has stated a need and/or interest for this data.

Project Manager(s): Brian Macpherson

Program: Interstate, Federal & Water Information

Purpose: Improved alluvium mapping statewide.

Funding Available: July 1, 2019 – June 30, 2020

Severance Tax Operational Fund

Proposed Project for Fiscal Year 2019 – 2020

Project No. 14

Applicant: Dryland Consulting LLC

Project Title: Sustainability of Trout Populations and Role of Tributaries

Recommended Amount: $10,000
Requested Amount: $10,000

Description of Project: As air temperatures rise due to climate change need to determine if there is upstream thermal relief for native trout populations via tributaries and if so what actions can potentially be taken to enable populations to access this thermal relief. Project to analyze data from already existing sensors.

Project Manager(s): Megan Holcomb

Program: Water Supply Planning

Purpose: Determine what if any upstream thermal relief exists for trout as temperatures rise due to climate change.

Funding Available: July 1, 2019 – June 30, 2020

Severance Tax Operational Fund

Proposed Project for Fiscal Year 2019 – 2020

Project No. 15

Applicant: Colorado Division of Water Resources, Dam Safety Branch

Project Title: Dam Safety Inundation Mapping Grant Program

Recommended Amount: $30,000
Requested Amount: $30,000

Description of Project: Colorado's Dam Safety Rules require owners of high and significant hazard dams to prepare and maintain an Emergency Action Plan (EAP). A key component of the EAP is an inundation map which shows the calculated extends of the flood wave that would occur in the event the dam were to fail. Beginning in 2010, Colorado established the Inundation Mapping Grant Program with a significant portion of its FEMA National Dam Safety Program grant money to assist owners of high and significant hazard dams in updating inadequate inundation mapping. A typical grant provides a 50% cost share with the dam owner. To ensure the mapping products are consistent, all work is coordinated with the Dam Safety Branch and is required to conform to the State of Colorado Rules and Regulations for Dam Safety and Dam Construction (1/1/2007), and the Dam Safety Guidelines for Dam Breach Analysis (2/10/2010). Grant funds are not disbursed until the project has been approved by the Dam Safety Branch.

Project Manager(s): Jonathan Hernandez

Program: Dam Safety

Purpose: To provide additional funding to continue the current Dam Safety Branch Inundation Mapping Grant Program that has been in place since 2010.

Funding Available: July 1, 2019 – June 30, 2020

Severance Tax Operational Fund

Proposed Project for Fiscal Year 2019 – 2020

Project No. 16

Applicant: Colorado Division of Water Resources, Dam Safety Branch

Project Title: Dam Safety Comprehensive Safety Evaluation (CDSE) Program

Recommended Amount: $30,000
Requested Amount: $30,000

Description of Project: Pilot project to evaluate the effectiveness, efficiency and costs associated with consultant led CDSEs. CDSEs are intended to evaluate dams for potential failure and develop risk reduction and monitoring requirements by reviewing information related to design and construction and current reports on performance and analyses (go beyond physical inspection).

Project Manager(s): Jonathan Hernandez

Program: Dam Safety

Purpose: Go beyond physical dam inspection and evaluate usefulness of other criteria for determining dam safety.

Funding Available: July 1, 2019 – June 30, 2020

Severance Tax Operational Fund

Proposed Project for Fiscal Year 2019 – 2020

Project No. 17

Applicant: Open Water Foundation

Project Title: StateMod Dataset Cloud Publishing

Recommended Amount: $50,000
Requested Amount: $50,000

Description of Project: Develop and implement protocols and processes to upload fully-run StateMod datasets to the cloud, thereby enabling users of the datasets to download and input results without having to rerun the model (vs current situation of only receiving input files and having to re-run the models resulting in errors)

Project Manager(s): Brian Macpherson

Program: Interstate, Federal & Water Information

Purpose: Improve efficiency by allowing users of StateMod upload their own datasets for analysis.

Funding Available: July 1, 2019 – June 30, 2020

Severance Tax Operational Fund

Proposed Project for Fiscal Year 2019 – 2020

Project No. 18

Applicant: Open Water Foundation

Project Title: Develop HydroBase Web Services Client API Software

Recommended Amount: $25,000
Requested Amount: $25,000

Description of Project: Create a JavaScript API library to facilitate use of all web services from HydroBase REST. Currently there is no standard application programming interface (API) to read the web services so users must each re-develop the same software for use in their applications

Project Manager(s): Brian Macpherson

Program: Interstate, Federal & Water Information

Purpose: Improve efficiency by allowing users HydroBase REST to have a standard interface.

Funding Available: July 1, 2019 – June 30, 2020

Severance Tax Operational Fund

Proposed Project for Fiscal Year 2019 – 2020

Project No. 19

Applicant: Kevin Houck, W&FP Chief

Project Title: Community Assistance Program

Recommended Amount: $35,000
Requested Amount: $35,000

Description of Project: To administer the Community Assistance Program, a 75/25 partnership with FEMA for administration of the National Flood Insurance Program in Colorado.

Project Manager(s): Stephanie Dibetitto

Program: Watershed and Flood Protection

Purpose: To provide technical and administrative assistance for communities in the state for administering floodplain regulations and other related issues. To assist communities in adopting updated floodplain management regulations, including the requirements promulgated in the Rules and Regulations for Floodplains in Colorado.

Funding Available: July 1, 2019 – June 30, 2020

Severance Tax Operational Fund

Proposed Project for Fiscal Year 2019 – 2020

Project No. 20

Applicant: Reagan Waskom, Colorado State University

Project Title: Investigating Major Influences on Groundwater Levels in the LaSalle/Gilcrest Area

Recommended Amount: $50,000
Requested Amount: $50,000

Description of Project: To use the recently developed and tested MODFLOW groundwater model of the Gilcrest/LaSalle area to investigate reasons for high groundwater in the area, explore the effect of best management practices on groundwater elevation, and to monitor water table elevation fluctuations using a network of existing observation wells. To present findings in a technical report.

Project Manager(s): Erik Skeie

Program: Water Information Program

Purpose: To study the causes of high groundwater in the Gilcrest/LaSalle area including reduced pumping, deep percolation from irrigation water and rainfall, seepage from earthen canals, and seepage from augmentation plan recharge ponds. To numerically test best management practices such as increased pumping, curtailment of surface water irrigation, decreased canal seepage, and decreased recharge pond infiltration, which may help alleviate the high groundwater issue.

Funding Available: July 1, 2019 – June 30, 2020

Severance Tax Operational Fund

Proposed Project for Fiscal Year 2019 – 2020

Project No. 21

Applicant:	Reagan Waskom, Adams State University
Project Title:	Mineralogical and Microbiome Characterization of Aeolian Dust Deposited on Alpine Snowpack in the South San Juan Mountains Associated with Regional Climate Change
Recommended Amount:	$11,293
Requested Amount:	$11,293

Description of Project: Creation of data sets that will expand knowledge of the mineralogical characteristics and the taxonomic identity of the microbial community associated with aeolian dust deposited in alpine snowpack.

Project Manager(s):	Joe Busto
Program:	Watershed & Flood Protection

Purpose: Use data gathered as a factor in climate change monitoring.

Funding Available: July 1, 2019 – June 30, 2020

Severance Tax Operational Fund

Proposed Project for Fiscal Year 2019 – 2020

Project No. 22

Applicant: Reagan Waskom, Colorado State University

Project Title: Streamflow estimation in Colorado ungauged basins

Recommended Amount: $50,000
Requested Amount: $50,000

Description of Project: Develop models and spatial data products that estimate flow at a daily to annual time intervals for ungauged stream segments throughout the state. These products will provide water and land managers with accessible tools for determining credible values of streamflow in ungauged streams.

Project Manager(s): Brandy Logan/Jack Landers

Program: Stream & Lake Protection

Purpose: Develop estimation method for streamflow in ungauged streams.

Funding Available: July 1, 2019 – June 30, 2020

Severance Tax Operational Fund

Proposed Project for Fiscal Year 2019 – 2020

Project No. 23

Applicant:	Reagan Waskom, Colorado State University
Project Title:	Quantifying Impacts of Hydrological Parameter Uncertainty on Dam Safety Analysis
Recommended Amount:	$50,000
Requested Amount:	$50,000

Description of Project: Develop parameter estimation methods to facilitate implementation of new rainfall-runoff modeling guidelines which will allow regulators and consultants to apply the improved approaches for dam safety analyses and potentially water supply forecasting from ungauged basins.

Project Manager(s):	Brandy Logan/Jack Landers
Program:	Stream & Lake Protection

Purpose: Analyze models for potential use reduce uncertainty in rainfall – runoff.

Funding Available: July 1, 2019 – June 30, 2020

Severance Tax Operational Fund

Proposed Project for Fiscal Year 2019 – 2020

Project No. 24

Applicant:	Reagan Waskom, Colorado State University
Project Title:	Tools for improving knowledge of reservoir water quality in the Front Range of Colorado
Recommended Amount:	$49,991
Requested Amount:	$49,991

Description of Project: Develop tool for water managers to determine if an algal bloom is likely to occur or currently occurring in their reservoir, identify time-series trends of blooms and water clarity historically, use data to mitigate algal blooms.

Project Manager(s):	Michelle Garrson
Program:	Interstate, Federal and Water Information

Purpose: Predict issues with water quality.

Funding Available: July 1, 2019 – June 30, 2020

Severance Tax Operational Fund

Proposed Project for Fiscal Year 2019 – 2020

Project No. 25

Applicant:	Reagan Waskom, Colorado State University
Project Title:	Direct Measurements of Colorado Reservoir Evaporation: A Comparison Between Eddy Covariance and Class-A Pan Measurement, and model Results
Recommended Amount:	$44,392
Requested Amount:	$44,392

Description of Project: Installation of instrumentation to measure evaporation from a reservoir using the eddy covariance method to allow for better short-and long-term planning of water resources by giving water managers information about magnitude and timing of water loss and the best location for future reservoirs.

Project Manager(s):	Brandy Logan
Program:	Stream & Lake Protection

Purpose: Implement accurate evaporation measurement in reservoirs.

Funding Available: July 1, 2019 – June 30, 2020

Severance Tax Operational Fund

Proposed Project for Fiscal Year 2019 – 2020

Project No. 26

Applicant: Reagan Waskom, Colorado State University

Project Title: Exploring the Potential of Improved Soil Management Practices to Support Soil Health and Water Conservation in Irrigated Corn Systems of Eastern Colorado

Recommended Amount: $42,628
Requested Amount: $42,628

Description of Project: Examine benefits and costs of different soil management practices for supporting soil health and water quality in agricultural areas, particularly where the livestock industry is prominent to inform producers, extension agents and policymakers.

Project Manager(s): Alex Funk

Program: Interstate, Federal & Water Information

Purpose: Understand the influenc of the management treatments on water movement, storage and conservation potential.

Funding Available: July 1, 2019 – June 30, 2020

Severance Tax Operational Fund

Proposed Project for Fiscal Year 2019 – 2020

Project No. 27

Applicant: Reagan Waskom, Colorado State University

Project Title: Relationship Between Irrigation Return Flows, Riparian Vegetation Water Use, and Soluble Pollutant Removal in the Lower Arkansas River Basin

Recommended Amount: $50,000
Requested Amount: $50,000

Description of Project: Utilize models to assess relative groundwater fluxes in the unsaturated and saturated zones in the riparian regions of the Lower Arkansas River Valley to understand relationships between irrigation return flows, vegetation characteristics and solute removal to assist water managers in the region.

Project Manager(s): Alex Funk

Program: Interstate, Federal & Water Information

Purpose: Better understand relationship between riparian vegetation and irrigation influenced flows in the Lower Arkansas River Basin

Funding Available: July 1, 2019 – June 30, 2020

Severance Tax Operational Fund

Proposed Project for Fiscal Year 2019 – 2020

Project No. 28

Applicant: Center for Snow and Avalanche Studies

Project Title: Colorado Dust-on-Snow Program and Mountain Monitoring System

Recommended Amount: $0
Requested Amount: $25,000

Description of Project: Collect hydroclimate information at multiple dust on snow sites throughout the state to assist with day-today water management decisions and operations as well as state-of-the-science research. Data provides ability to develop plausible and probable patterns as dust-enhanced snowmelt behaviors are identified using prior year hydrographs by watershed.

Severance Tax Operational Fund

Proposed Project for Fiscal Year 2019 – 2020

Project No. 29

Applicant: CWCB

Project Title: Division 2 Acreage Verification Partnership

Recommended Amount: $0
Requested Amount: $25,000

Description of Project: To assist DWR Division 2 water commissioners and Division 2 Engineer with acreage verification process and technical records keeping. To provide easily accessible and technologically up to date acreage verification processes and equipment which will make acreage verification more efficient and instantly communicated to stakeholders.

Severance Tax Operational Fund

Proposed Project for Fiscal Year 2019 – 2020

Project No. 30

Applicant:	Poudre Heritage Alliance
Project Title:	Water Legacy: Documenting Knowledge for Future Generations
Recommended Amount:	$0
Requested Amount:	$10,000

Description of Project: Capturing and sharing knowledge via recorded oral histories and educational videos from individuals and organizations that have been instrumental in the development of water resources in CO

Severance Tax Operational Fund

Proposed Project for Fiscal Year 2019 – 2020

Project No. 31

Applicant:	Erik Wardle, Colorado State University
Project Title:	Utilizing a Statewide Agricultural Best Management Practice Adoption Survey to Inform Future Water Quality Research and Policy
Recommended Amount:	$0
Requested Amount:	$60,820

Description of Project: Study to assess agricultural best management practices including, nutrient management, irrigation management and tillage management. The primary goal will be related to the impacts of these practices on water quality and to provide information needed to update nutrient management rules for farmers

Severance Tax Operational Fund

Proposed Project for Fiscal Year 2019 – 2020

Project No. 32

Applicant:	Lesley Sebol, CO Geological Survey, School of Mines
Project Title:	County Groundwater Resources Series, Year 8
Recommended Amount:	$0
Requested Amount:	$50,000

Description of Project: County-wide geology and groundwater resource evaluation and information publication. This work addresses all aquifers utilized in each county (specific counties picked each year) including alluvial, sedimentary, and crystalline formations. This work will support existing DSS and builds on the Ground Water Atlas of CO.

Severance Tax Operational Fund

Proposed Project for Fiscal Year 2019 – 2020

Project No. 33

Applicant:	Open Water Foundation
Project Title:	Develop General Point Flow Model Tool for CDSS
Recommended Amount:	$0
Requested Amount:	$50,000

Description of Project: Develop a general point flow model tool for CDSS as an alternative to full StateMod models to help understand water balance including gain and loss at locations between stream gauges in river reaches including on an hourly or daily timestep (not currently supported in StateMod)

Severance Tax Operational Fund

Proposed Project for Fiscal Year 2019 – 2020

Project No. 34

Applicant:	Open Water Foundation
Project Title:	Enhance CDSS StateDMI Software to Ensure RGDSS Functionality
Recommended Amount:	$0
Requested Amount:	$25,000

Description of Project: CDSS StateDMI software will be enhanced to merge a previously created Rio Grande Decision Support System specific version back to the main code. This will allow one version of the software to be maintained for RGDSS and non-RGDSS projects.

Severance Tax Operational Fund

Proposed Project for Fiscal Year 2019 – 2020

Project No. 35

Applicant:	Open Water Foundation
Project Title:	Enhance CDSS TSTool Software for HydroBase Historical Station Web Services
Recommended Amount:	$0
Requested Amount:	$25,000

Description of Project: CDSS TSTool software will be enhanced to read all historical station data such as average CFS and monthly ACFT streamflow, climate station data, evaporation from HydroBase REST web services.