WaterSMART

Cooperative Watershed Management Program
Phase II

Funding Opportunity Announcement No. BOR-DO-18-F013

Snake River Tributary Sedimentation and Phosphorus Ponds

Twin Falls, Idaho

Southern Idaho Water Quality Coalition
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357 6th Ave. West
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January 29, 2019

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Technical Proposal and Evaluation Criteria

Executive Summary

The executive summary should include:

- *The date, applicant name, city, county, and state*
- *A one paragraph project summary that specifies the work proposed, including how funds will be used to accomplish specific project activities and briefly identifies how the proposed project contributes to accomplishing the goals of this FOA*
- *State the length of time and estimated completion date for the proposed project*
- *Whether or not the project is located on a Federal facility*

Date:	January 29, 2019
Applicant:	Southern Idaho Water Quality Coalition, Twin Falls, Idaho 83301
Project Title:	Snake River Tributary Sedimentation and Phosphorus Ponds

Project Summary:

The Snake River Tributary Sedimentation and Phosphorus Ponds Project (Project) entails constructing a series of sedimentation ponds on the O Coulee and Auger Falls Lateral 43 Canals. These ponds are expected to remove nearly 86% of the Total Suspended Solids (TSS) and 60% of the Total Phosphorus (TP) from these Snake River tributaries. The ponds are expected to remove nearly 1,150 tons of TSS and 2,385 pounds of TP annually helping to improve the water quality on the Snake River below Twin Falls, Idaho.

Approximate Length:	10 Months
Completion Date:	May 30, 2020
Federal Facility:	The Project is partially located on a Federal facility.

Background Data

Area Map

Provide a map of the area showing the general geographic location (include the state, county, and direction from nearest town) of the proposed project. Note: the map should fit onto a standard 8½ by 11 inches page.

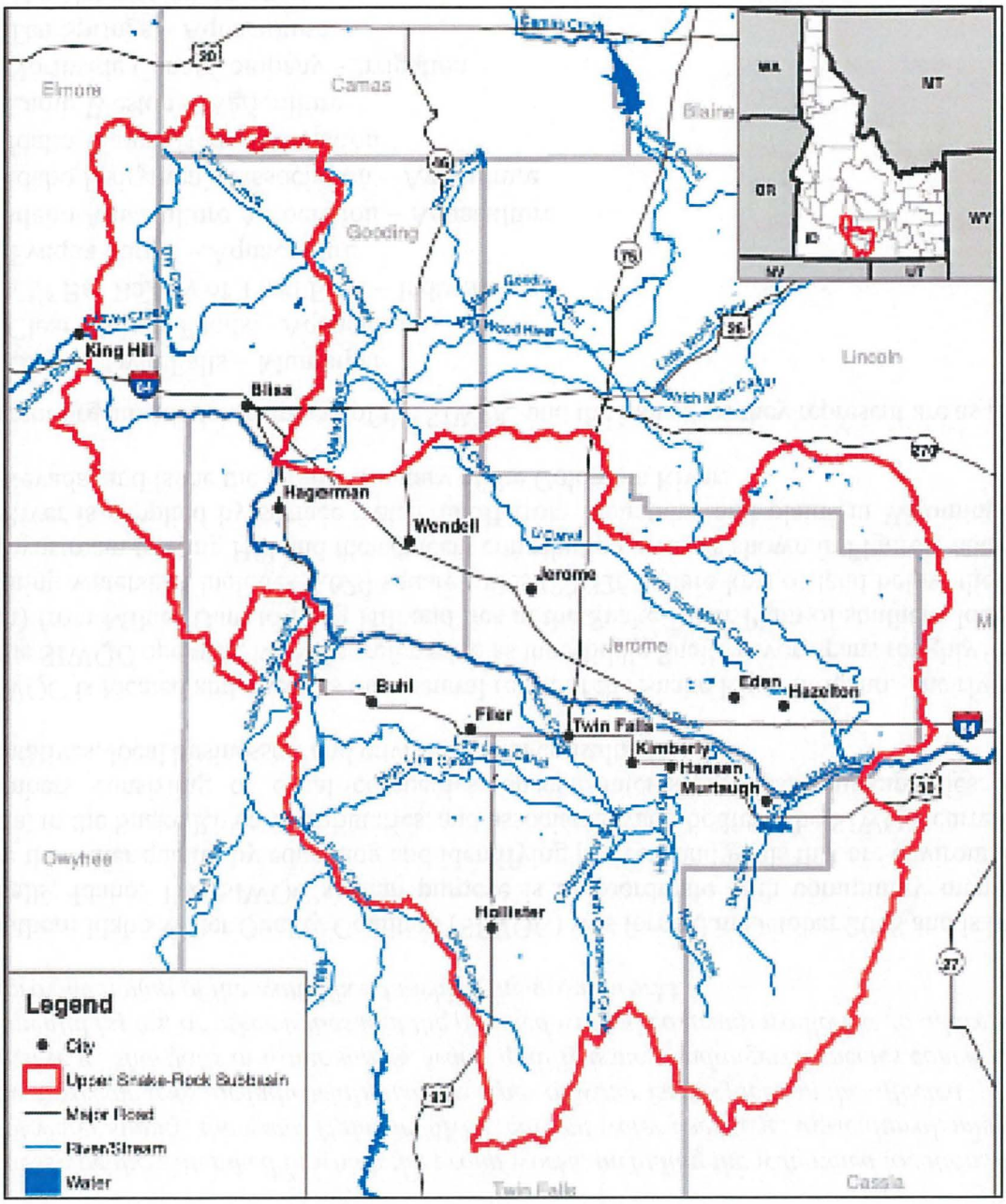

Figure 1: Watershed Boundary

Watershed Group

Provide a brief description of the watershed group, including when and why the group was formed, the structure of the group, and the stakeholders that participate in the group.

Briefly describe the watershed in which the group works, including the watershed location, the source of water supply, the water rights involved, current water uses (e.g., agricultural, municipal, domestic, instream uses, or industrial), and the types of water issues faced in the affected watershed (e.g., shortfalls in water supply, water quality issues, endangered species concerns, environmental issues, or other issues that the planned watershed group would like to address). Please provide a map of the watershed in which the group works.

The Southern Idaho Water Quality Coalition (SIWQC) was formed in October 2018 and is based in Twin Falls, Idaho. The SIWQC's main purpose is to coordinate with community members to improve the water quality by educating and identifying projects and goals that are environmentally beneficial to the Snake River, its tributaries, and associated water bodies. The SIWQC currently has 12 members consisting of canal companies, special interest groups, municipalities, county representatives, local businesses, and environmental consultants.

The SIWQC is located and operates on a central reach of the Snake River in Idaho. The river reach where the SIWQC operates, hereafter referred to as the Middle Snake River, spans roughly 93 miles (150 km) from Milner Dam to King Hill and lies in the Snake River Plain of southern Idaho. The contributing watershed includes 8,620 square miles (22,326 square km) of land below the Milner Dam downstream to King Hill and the adjacent contributing areas as shown in Figure 1 above. The Snake River is supplied by surface water runoff from mountains and plains in Wyoming, Utah, Idaho, Nevada, and is the the largest tributary of the Columbia River.

The current organizational members of the SIWQC and the industries they represent are as follows:

- City of Twin Falls – Municipal
- Clear Springs Foods – Aquaculture
- Clif Bar Bakery of Twin Falls – Industrial
- Evaqua Farms – Aquaculture
- Idaho Aquaculture Association – Aquaculture
- Idaho Dairymen's Association – Agriculture
- Idaho Water Users Association
- Lamb Weston – Agriculture
- Northside Canal Company – Irrigation
- Ten Springs – Aquaculture
- The Nature Conservancy
- Twin Falls Canal Company – Irrigation
- Snake River Soil and Water Conservation District – Environmental

Prior Work with Reclamation

Identify any past working relationships with Reclamation. This should include the date(s), description of prior relationships with Reclamation, and a description of the project(s).

There have been no direct working relationships between the SIWQC and the Bureau of Reclamation (Reclamation), even though the SIWQC has been in contact with the USBR Snake River Office discussing various water quality improvement options associated with river operations. However, several members of the SIWQC have had working experience with Reclamation. Twin Falls Canal Company (TFCC) has received the following Energy and Water Efficiency Grants from the USBR Snake River Office:

- Low Line runoff – broad crest weir/automation (2003/04)
- Lateral 4/7, L Coulee, SI Coulee, Lateral 29A, Lateral 16A, Lateral 39/62, East Perrine monitoring site (all weirs/automation) (2005)
- High Line Canal Clay Core project (2006)
- Kinyon Pond Regulating Reservoir WaterSMART Grant (2013)

Northside Canal Company (NSCC) received a WaterSMART Grant in 2010 to purchase automation and monitor runoff in 15 different laterals that return to the Snake River. NSCC has also received smaller local grants for automation/water conservation projects over the years from the USBR Snake River Office.

Project Location

Provide specific information on the proposed project location or project area including a map showing the geographic location. For example, {project name} is located in {state and county} approximately {distance} miles {direction, e.g. northeast} of {nearest town}. The project latitude is {##°##'N} and longitude is {###°##'W}. For larger project areas, please provide location information in one of the following formats:

1. *Shapefile (.shp)*
2. *KMZ/KML (.kmz or .kml) aka Google Earth File, not an exported Google Earth map*
3. *AutoCAD (.dwg)*
4. *PDF map (.pdf)*

The Auger Falls Lateral 43 Ponds are located approximately 4.8 miles northwest of Twin Falls City in Twin Falls County, Idaho. The latitude is 42°37'13.30"N and the longitude is 114°30'51.21"W. These ponds discharge directly to the Snake River.

The O Coulee Allen Ponds are located approximately 2.6 Miles west of Twin Falls City in Twin Falls County, Idaho. The latitude is 42°33'47.48"N and the longitude is 114°30'44.92"W. These ponds discharge to Rock Creek, one of the seriously impacted tributaries to the Snake River, specifically identified in the Total Maximum Daily Load's (TMDL) load allocations.

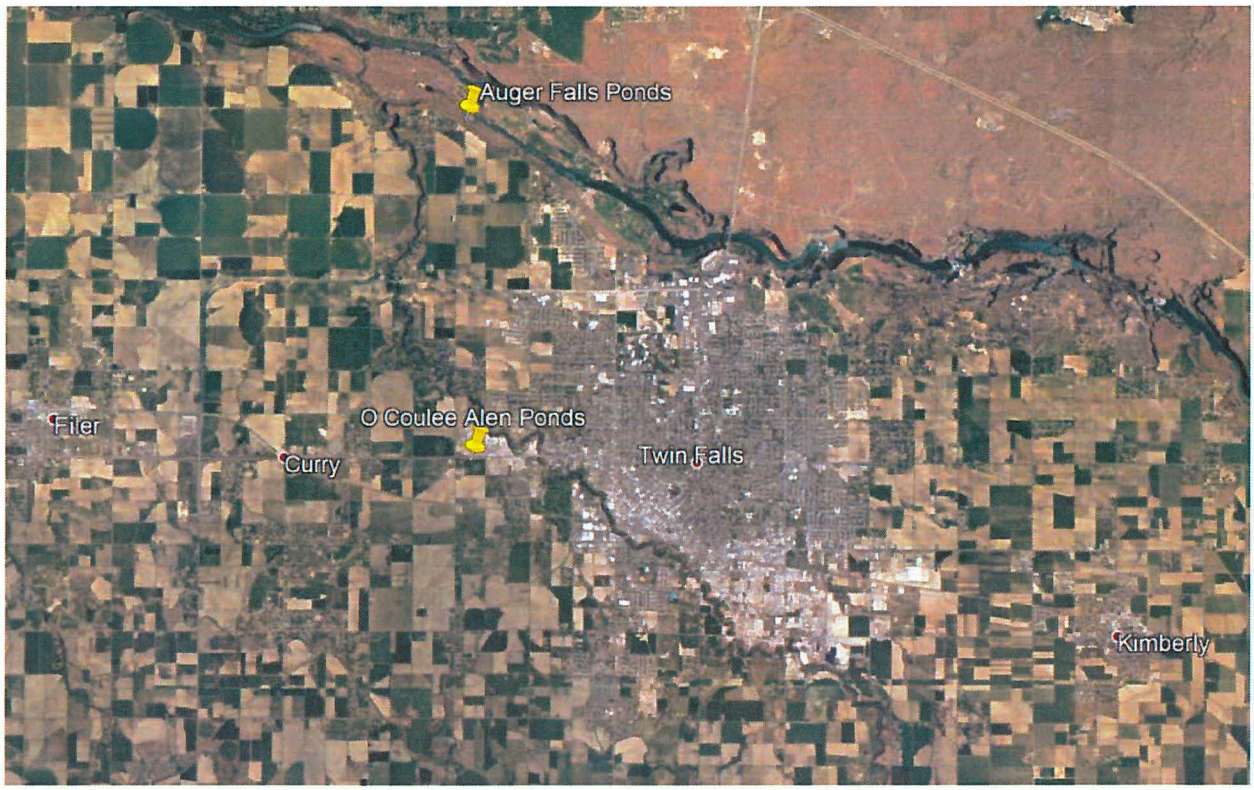

Figure 2: Google Earth Image of the Project Location Relative to Twin Falls, Idaho.

Technical Project Description

The technical project description should provide a summary of the work that will be completed as part of the proposed project; briefly describe how the project will address critical water supply needs, water quality concerns, and restoration needs of the watershed; and identify the expected outcomes of the project. Please note, if the work for which you are requesting funding is a phase of a larger project, please only describe the work that is reflected in the budget and exclude description of other activities or components of the overall project.

The Snake River Tributary Sedimentation and Phosphorus Ponds Project (Project) entails construction of sediment and phosphorus removal ponds on the O Coulee Canal and the Auger Falls Lateral 43 Canal. There will be multiple pond cells constructed to remove sediment and phosphorus from these Snake River tributaries. Total Suspended Solids (TSS) and Total Phosphorus (TP) are riverine pollutants that are identified as the primary focus of the Middle Snake River Total Maximum Daily Load (TMDL). The Project will prevent nearly 1,150 tons of sediment and 2,385 pounds of phosphorus from entering the Snake River annually. The Project is part of the SIWQC's Middle Snake River Watershed Master Plan (Plan) to restore the Snake River and its associated tributaries identified in the Middle Snake River TMDL. This project is not a phase of a larger project and will provide immediate benefits to water quality in the Snake River.

The Project consists of two portions, the O Coulee Allen Ponds and the Auger Falls Lateral 43 Ponds, as shown in Figure 2 previously. There will be eight pond cells at the O Coulee Allen project site and five pond cells at the Auger Falls Lateral 43 project site. See proposed pond configuration maps in Appendix F. The ponds will be designed to operate in parallel for serviceability. The ponds will be constructed off the original canal alignment to preserve the original canal for flood control redundancy. The diversion structures in the canals will be constructed with overflow protection so high flows will bypass the diversion structure and sedimentation ponds. The ponds will be constructed using a cut fill balance of native material from the Project site and will be unlined. Since these ponds are at the ends of their respective canals, there are no more water users beyond these locations, and water quality of the Snake River is the primary consideration. Evaporation and infiltration are identified in the Middle Snake River TMDL as viable methods of TSS and TP removal. The ponds are meant to remove a large portion of the TSS and TP from the canal flows before they enter the Snake River.

Evaluation Criteria

Evaluation Criterion A: Project Benefits

*Up to **30 points** may be awarded based on the evaluation of the benefits that are expected to result from the proposed project. This criterion evaluates the extent to which the project will address water supply needs, water quality concerns, and restoration needs for the rivers, streams, or riparian systems within the watershed, and whether the project will benefit multiple water uses (e.g., agricultural, municipal, tribal, environmental, recreation) and issues within the watershed.*

Proposals containing a well-supported description of project benefits will receive more points under this criterion.

Please note, if the work described in your application is a phase of a larger project, please only discuss the benefits that will result directly from the work discussed in your application and that is reflected in the budget and exclude discussion of benefits expected from the overall project.

Expected Benefits

- *Describe the expected benefits of the proposed project. Address all of the following sub-bullets that apply to the project (the described benefits are not listed in order of priority). In your responses, describe the geographic extent and the magnitude of the benefits associated with the project. Project benefits that are supported and quantified will receive more points.*

    a. *Will the project make more water available to meet water needs, or make water available at a more advantageous time or location? If so, how and to what extent?*

The Project is not expected to make more water available to meet water needs or make water available at a more advantageous time or location. However, the project assists in improving the quality of the water to meet the beneficial uses of the water to downstream users and the environment. The SIWQC and Twin Falls City believe that, in the future, the Project will be converted to secondary irrigation pump back locations to supply irrigation water to the city residents during the irrigation season as the city expands. At that point in time, 100% of the TSS and TP would be prevented from entering the Snake River.

    b. *Will the project result in long-term improvements to water quality? For example, will the project decrease sediment or nutrient pollution, improve water temperature, or mitigate impacts from floods or drought? If so, how and to what extent?*

The Project targets sediment and nutrient removal for the long term, particularly TSS and TP. The O Coulee Allen Ponds are expected to remove nearly 86% of the TSS and 60% of the TP on the O Coulee Canal. The ponds are expected to treat an average of 5 cfs during the April 1 to October 31 irrigation season and 2 cfs for the remainder of the year. This will result in removing nearly 880 tons of TSS annually, and 1,320 pounds of TP during the summer and 540 pounds during the winter for a total of 1,860 pounds of TP per year.

The Auger Falls Lateral 43 Ponds are expected to remove nearly 86% of the TSS and 60% of the TP on the Auger Falls Lateral 43 Canal. The Auger Falls Ponds are expected to treat an average of 2 cfs during the April 1 to October 31 irrigation season. This will result in removing nearly 271 tons of TSS annually and 530 pounds of TP per year.

Combined, the two pond sites account for approximately 32% of the TP reduction allocated to the Twin Falls Canal Company in the Snake River TMDL Management Plan. This will benefit the

Middle Snake River and the sections downstream of the Project. Measurable effects will be isolated to the Middle Snake River reach as the beneficial effects will be diluted at points further downstream on the Snake River.

c. *Will the project benefit aquatic or riparian ecosystems within the watershed? For example, will the project reduce flood risk, reduce bank erosion, increase biodiversity, or preserve native species? If so, how and to what extent?*

The ponds will benefit the aquatic ecosystem of the Snake River, particularly the area downstream of Pillar Falls, by removing TSS and TP. This was identified, within the Middle Snake Watershed Master Plan (Plan), as an area where TSS and TP contaminant concentrations are higher than other sections of the Mid Snake River. There are 35 native fish species in the Snake River below Shoshone Falls (near the City of Twin Falls), of which only 12 are found in the Columbia River and four are endemic (only found in a localized region) of the Middle Snake River. Additionally, there are 14 native fish species above Shoshone Falls that are not found in the rest of the Columbia River Basin but are found in northwestern Utah. Several of these native species will benefit directly from the improved water quality, including those shown in Table 1 below.

Table 1: Native Species

Species	Status
Bliss Rapids Snail	Threatened
Banbury Springs lanx	Endangered
Snake River physa snail	Endangered
Idaho spring snail	Endangered
Utah valvata	Endangered
Red Band Rainbow Trout	Native
Snake River Cutthroat Trout	Native
White Sturgeon	Native (land locked by downstream dams)
Shoshone Sculpin	Native
Bald Eagle	Native (Formerly Endangered)

d. *Will the project benefit specific species and habitats? If so, describe the species and/or type of habitat that will benefit. How and to what extent will the project benefit the species or habitat? Please explain the status of species and habitat that will benefit (e.g., native species, game species, federally threatened or endangered, state listed, and whether critical habitat has been designated).*

Five separate species of snails residing in the main stem of the Snake River, and in tributaries or springs flowing into the Middle Snake River, were listed as either Endangered or Threatened under the Endangered Species Act in 1992, including: The Bliss Rapids snail (Threatened), the Banbury Springs lanx (Endangered), the Idaho spring snail (Endangered), the Snake River physa snail (Endangered), and the Utah valvata (Endangered). These snails are considered susceptible to variations in nutrient concentrations and sediments depositing on the snail and their habitats. The

increased TSS and TP and resulting effects on oxygen and vegetation are attributed with a large part of the condition of these snails. The reduction of TSS and TP will continue to benefit these snail species, and further help in their restoration in accordance with the respective mitigation plans. Large sections of the Snake River in this basin have been designated as critical habitat for the protection and mitigation of these species.

The improvement of the health of the snail species, combined with the reduced TSS and TP, will also benefit the native fish species, particularly the native salmonids (rainbow trout and cutthroat trout). The restoration of water quality in the Snake River, and Rock Creek particularly, will help restore habitat.

Additionally, while benefitting numerous aquatic species, the Auger Falls portion of the Project being built partially in the bottom of the Snake River Canyon, will provide significant habitat to birds in the canyon. Other ponds in the area provide significant nesting, feeding, and resting areas for both water fowl and shore birds. These ponds will provide similar benefits.

e. *Will the project benefit multiple water uses within the watershed (e.g., agricultural, municipal, tribal, environmental, recreation uses)? If so, how and to what extent?*

Agricultural Water Users: The Project does not benefit agriculture in the Middle Snake, but it will benefit agricultural users downstream.

Municipal Water Users: The City of Twin Falls will be given credit towards their required reductions of TSS and TP.

Hydropower Generation: As the sediments and nutrients are reduced, it is expected that the rooted aquatic vegetation (macrophyte) population will start to reduce to more natural levels. One of the problems produced by nutrient rich sediments is a large volume of macrophytes. These macrophytes tend to break loose from the roots and float downstream where they cause operation and maintenance problems on the intake screens of the hydropower facilities.

Recreation: The Middle Snake River hosts a broad range of recreational uses including fishing, hunting, rafting, kayaking, canoeing, water skiing, birdwatching, swimming, and others. As the water quality continues to improve to meet IDEQ water quality standards for primary and secondary contact, recreational benefits will also continue to increase. The Middle Snake River is renowned for its white sturgeon fishing, duck hunting, and trout fishing. There are additionally numerous non-native species also fished for recreationally including smallmouth and largemouth bass, catfish, bluegill, and crappie.

f. Will the project benefit watershed stakeholders in ways not addressed in the preceding questions? If so, how? Will the project reduce water conflicts within the watershed? Will the project increase resiliency to drought? Will the project provide benefits to other water uses not mentioned above? If so, how and to what extent?

Dredged material from maintenance of the ponds can be reused by the City of Twin Falls as top soil and land fill cover material. This material can also be used to restore areas in the TFCC service area where erosion has removed significant amounts of top soil.

- *Will the project address multiple issues of concern within the watershed (e.g., both water supply and fish habitat issues)?*

See discussion under item e above.

- *Will the project benefit multiple water uses within the watershed (e.g., agricultural, municipal, tribal, environmental, recreation uses)? If so, how and to what extent?*

See discussion under item e above.

Evaluation Criterion B: Watershed Restoration Planning

Up to 30 points may be awarded based on the extent to which the proposed project is supported by an existing watershed restoration plan (see Section D.2.2.7 Documentation in Support of Applicant Eligibility for more information regarding watershed restoration plan requirements). Reclamation will use the following criteria to prioritize proposals based on watershed restoration plans that are more holistic, address multiple issues related to water resources within the watershed, and that are developed by stakeholders with diverse interests. Please attach a copy of the applicable watershed restoration plan as an appendix to your application, or provide a link, and identify the sections relevant to the project. These pages will not be included in the total page count for the application.

- *Describe your watershed restoration plan.*

a. When was the restoration plan prepared and for what purpose?

The Middle Snake River Watershed Master Plan (Plan) was finished in January 2019. The Plan was prepared by the SIWQC to serve as a guide to collaborative efforts to restore the Middle Snake River to meet the needs of the community. In this document, the SIWQC defines the boundaries of what is called the Middle Snake River; they identify the major problems facing the watershed; new projects that address these problems; goals for watershed restoration; accomplishments to date; priorities for continued restoration efforts; and the need for a flexible approach to water quality improvement programs. As with any plan, the document must be reviewed and updated on a regular basis to reflect current conditions and the benefits of knowledge and experience as implementation proceeds. The Plan serves this purpose and provides a communication tool for the SIWQC and the community.

b. *What types of watershed management issues are addressed in the plan? For example, does the restoration plan address water quantity issues, water quality issues, and/or issues related to ecosystem health or the health of species and habitat within the watershed?*

The Plan addresses water quality issues and pollutants, particularly Total Phosphorus, E. coli, and Total Suspended Solids. These pollutants have a direct relationship to the health of the aquatic ecosystem of the Middle Snake River and its associated tributaries. The Plan discusses the source or cause of these pollutants and addresses plans to reduce the pollutants, minimize the adverse effects, and restore the watershed.

c. *Who was involved in preparing the plan? Was the plan prepared with input from stakeholders with diverse interests (e.g., water, land or forest management interests, or agricultural, municipal, tribal, environmental, recreation uses)? What was the process used for interested stakeholders to provide input during the planning process?*

The Plan was prepared under the direction of the SIWQC members, members of the local communities, and other local groups. The Plan received input from city representatives, professional and business associations, soil and water conservation districts, irrigation districts, local business owners, the Idaho Department of Environmental Quality, Trout Unlimited, aquaculture groups, and representatives from the research and academia at some of the local colleges and universities.

The Plan was presented to the SIWQC members over the course of several months with input being recorded and the Plan developed reflecting the SIWQC's goals.

d. *If the restoration plan was prepared by an entity other than the applicant, explain why the watershed group applying did not prepare its own plan. In cases where the applicant did not prepare the restoration plan, the applicant must provide documented support for the proposed project by the entity that authored the plan.*

The Southern Idaho Water Quality Coalition prepared the Middle Snake River Watershed Mater Plan.

- *Describe how the existing restoration plan provides support for your proposed watershed management project.*

a. *Does the proposed project implement a goal or need identified in the restoration plan?*

Yes, the SIWQC Middle Snake River Watershed Master Plan lists goals on page II-4 of restoring the Snake River Basin, protecting endangered species, and attaining water quality beneficial uses. The Project aims to reduce the amount of TSS and TP from the Auger Falls Lateral 43 and O Coulee Canal, both of which are tributaries to the Snake River. Reducing the TSS and TP concentrations in

these Snake River tributaries will assist in meeting water quality goals and restoring the Middle Snake River.

b. Describe how the proposed project is prioritized in the referenced restoration plan.

The SIWQC prioritized the Project by group consensus. This was based on factors like the project's readiness to move forward, whether the project lands were currently owned by coalition members or could be easily purchased, support from the SIWQC members, support from the community, familiarity of the SIWQC with the type of project, measurable project benefits, project cost, and potential funding sources. The O Coulee and Auger Falls projects are listed as "Priority Projects" in the SIWQC Middle Snake River Watershed Master Plan.

Evaluation Criterion C: Stakeholder Support

Up to 15 points may be provided based on the level of stakeholder support for the proposed project and the extent to which the project will complement, and not duplicate, other ongoing efforts in the watershed. Proposals which demonstrate support for the project from a diverse array of stakeholders, and which will complement other ongoing activities, will receive the most points under this criterion.

- *Please describe the level of stakeholder support for the proposed project. Are letters of support from stakeholders provided (see Section D.2.2.8. Letters of Support)? Are any stakeholders providing support for the project through cost-share contributions, or through other types of contributions to the project?*

SIWQC member support is strong. All SIWQC members unanimously voted to support the Project on January 15, 2019. The SIWQC members voted to adopt the attached Official Resolution in Appendix B as well. Non-SIWQC member groups supporting the project have provided letters of project support, attached in Appendix A.

SIWQC member support for the Project extends to the Twin Falls Canal Company, the SIWQC, Twin Falls City, and the local landowners. The Twin Falls Canal Company will contribute construction services, assist with construction permit applications, and support ongoing water monitoring operations after project completion. The SIWQC will provide part of the cost-share contributions, assist with public outreach, perform construction management assistance, prepare construction permit applications, assist with environmental reporting, and support ongoing water monitoring operations after project completion. Twin Falls City will provide public outreach, assist with construction permit applications, assist with environmental reporting, and support ongoing water monitoring operations after project completion.

- *Please explain whether the project is supported by a diverse set of stakeholders (appropriate given the types of interested stakeholders within the watershed and the scale,*

type and complexity of the proposed project). For example, is the project supported by entities representing agricultural, municipal, tribal, environmental, or recreation uses?

The proposed project is supported by a diverse group of stakeholders. The following members of the SIWQC are provided below, including the industries they represent.

- City of Twin Falls – Municipal
- Clear Springs Foods – Industrial
- Clif Bar Bakery of Twin Falls – Industrial
- Evaqua Farms – Aquaculture
- Idaho Aquaculture Association – Aquaculture
- Idaho Dairymen's Association – Agriculture
- Lamb Weston – Agriculture
- Northside Canal Company – Irrigation
- Ten Springs – Aquaculture
- Twin Falls Canal Company – Irrigation
- Snake River Soil and Water Conservation District – Environmental

Other entities outside of the SIWQC that also support the project are the Idaho Department of Environmental Quality (IDEQ), the Idaho Conservation League (ICL), and the Middle Snake Regional Water Resource Commission (MSRWRC). The IDEQ, ICL, and MSRWRC represent environmental issues relevant to Idaho.

- *Is the project supported by entities responsible for the management of land, water, recreation, or forestry within the watershed? Is the project consistent with the policies of those agencies?*

Yes, the project is supported by the City of Twin Falls, Twin Falls Soil and Water Conservation District, Idaho Dairymen's Association, IDEQ, Twin Falls Canal Company, Northside Canal Company, the MSRWRC, and the ICL. These entities are responsible for the management of land, water, recreation, or forestry within the Middle Snake River Watershed, and more specifically the area where the Project is to be constructed.

- Will the proposed project complement other, ongoing watershed management activities by state, Federal, or local government entities, nonprofits or individual landowners within the watershed? Please describe other relevant efforts, including who is undertaking these efforts and whether they support the proposed project. Explain how the proposed project will avoid duplication or complication of other ongoing efforts.

The Project will compliment other water quality projects in the area. One current project currently in progress includes the 24-acre flood and water quality ponds being constructed by the Twin Falls Canal Company, in cooperation with IDEQ. The Project will not affect other water quality projects in the area. Other water quality sediment ponds have been constructed on other canals and laterals. The Project locations are at the very tail end of their associated canal. The proposed ponds will not, and are not intended to, replace, complicate, or hinder the intended purpose of these other projects.

The act of duplicating this project on the canals is beneficial to a point, in a sense that the water quality becomes better as more sedimentation ponds are added. This project, however, does not needlessly add sedimentation ponds, but these ponds each serve a specific purpose to efficiently help remove relatively high TSS and TP concentrations from Snake River tributaries.

- *Is the project completely or partially located on Federal land or a Federal facility? If so, explain why the Federal agency is not completing the project, whether the agency supports the project, and whether the agency will contribute toward the project?*

A portion of the Auger Falls Lateral 43 Ponds are on land that was deeded to the City of Twin Falls by the Bureau of Land Management for "public purposes." This use fully meets that purpose.

- *Is there opposition to the proposed project? If so, describe the opposition and explain how it will be addressed. Opposition will not necessarily result in fewer points.*

Projects similar to this in the area have not faced any opposition. This project has not seen any preliminary evidence of opposition, nor is any expected.

Evaluation Criterion D: Readiness to Proceed

*Up to **10 points** may be awarded based upon the extent to which the watershed group is capable of proceeding with the proposed project upon entering into a financial assistance agreement. Applicants that describe a detailed implementation plan (e.g., estimated project schedule that shows the stages and duration of the proposed work, including major tasks, milestones, and dates, and a detailed budget) will receive the most points under this criterion.*

- *Describe the implementation plan for the proposed project. Please include an estimated project schedule that shows the stages and duration of the proposed work, including major tasks, milestones, and dates.*

See Appendix G for the Project Schedule.

- *The project budget outlining costs for specific tasks (required in Section D.2.2.5. Project Budget) should identify costs associated with the tasks in your project schedule, and all contractor costs should be broken out to identify the specific tasks included in those costs.*

See Budget Proposal below.

- *Describe any permits and agency approvals that will be required, along with the process and timeframe for obtaining such permits or approvals.*

Similar sedimentation pond projects have not required any permits or approvals. Beyond the environmental investigatory requirements, it is expected that no other permits or approvals will need

to be obtained for project construction. The only expected requirements are going to be those associated with the WaterSMART program.

- *Identify and describe any engineering or design work performed specifically in support of the proposed project, or that will be performed as part of the project. Priority will be given to project that are further along in the design process and ready for implementation.*

Preliminary engineering of the ponds has been completed in preparation of the Project application by the City of Twin Falls and Twin Falls Canal Company (TFCC). Estimated benefits to water quality and construction estimates were prepared for this WaterSMART application. With the Project being like so many other previously completed wetland projects and sedimentation ponds completed by TFCC, the amount of additional engineering required to finalize a design for the ponds would be minimal and consist mostly of just grading plans.

- *Does the applicant have access to the land or water source where the project is located? Has the applicant obtained any easements that are required for the project? If so, please provide documentation. If the applicant does not yet have permission to access the project location, please describe the process and timeframe for obtaining such permission.*

The SIWQC currently does not have access to the proposed project lands. The SIWQC has not yet obtained any easements for the proposed project. The SIWQC currently is working with a landowner that is willing to provide an easement for the O Coulee Allen Ponds location. The SIWQC expects to obtain the easement within 1-2 months after WaterSMART project funding has been awarded. The TFCC currently owns the canal and the water in the canal. No other canal water users are downstream of the Project location, and any water in the canal at this point will spill into Rock Creek and the Snake River.

The SIWQC and Twin Falls City have been working with the BLM to obtain a suitable area for the Auger Falls Lateral 43 Ponds that is agreeable for all parties. The SIWQC and Twin Falls City expect to have an agreement in place within five months of WaterSMART project funding being awarded, based on the BLM requirement for the land to be used for "public purposes".

- *Describe the type of environmental and cultural resource you anticipate will be necessary for this project and how the estimated cost of environmental compliance was developed. Provide support for both the type of compliance you anticipate and your estimate. Have the compliance costs been discussed with the local Reclamation office? Environmental compliance must be completed prior to any ground disturbing activity. These costs are considered project costs that must be included in the project budget and will be cost shared accordingly. These costs vary based on project type, location, and potential impacts to the environment and cultural resources. Please consider the questions posed under Section H.1. Environmental and Cultural Resources Compliance Considerations when answering this criterion.*

See Environmental Compliance section below under Budget Proposal.

Evaluation Criterion E: Performance Measures

*Up to **10 points** may be provided based on the extent to which the proposal describes a plan to monitor the progress and effectiveness of the project once complete.*

> *Please describe the performance measures that will be used to quantify actual project benefits upon completion of the project. Include support for why the specific performance measures were chosen.*

The performance measures that will be used to show project benefit will be water quality measurements of TSS and TP concentrations at the inflow and outflow of the project ponds and the ponds' flow rate. The Project plans to reduce TSS and TP concentrations by nearly 86% and 60%, respectively. Reduction of TSS and TP concentrations can be directly measured with monitoring equipment. The measurements of TSS and TP concentrations and flow rates at the outflow of the ponds will be subtracted from the inflow concentrations to determine the ponds effectiveness to remove TSS and TP. Thus, the benefits of the Project can be directly measured to determine the Project's benefits.

Evaluation Criterion F: Department of the Interior Priorities

Up to 10 points may be awarded based on the extent that the proposal demonstrates that the Project supports the Department of the Interior priorities. Please address those priorities that are applicable to your Project. You may address only the parts of a priority that are applicable. It is not necessary to address priorities that are not applicable to your Project. A Project will not necessarily receive more points simply because multiple priorities are addressed. The points available under this criterion will not be divided among the priorities, and Projects will not be penalized if some of the priorities are not applicable. Points will be allocated based on the degree to which the Project supports one or more of the priorities listed, and whether the connection to the priority(ies) is well supported in the proposal.

1. *Creating a conservation stewardship legacy second only to Teddy Roosevelt*
   a. *Utilize science to identify best practices to manage land and water resources and adapt to changes in the environment;*
   b. *Examine land use planning processes and land use designations that govern public use and access;*
   c. *Revise and streamline the environmental and regulatory review process while maintaining environmental standards.*
   d. *Review DOI water storage, transportation, and distribution systems to identify opportunities to resolve conflicts and expand capacity;*
   e. *Foster relationships with conservation organizations advocating for balanced stewardship and use of public lands;*

f. *Identify and implement initiatives to expand across to DOI lands for hunting and fishing;*
g. *Shift the balance towards providing greater public access to public lands over restrictions to access.*

The proposed project will utilize modern science principals, principally treatment wetlands, to remove TSS and TP from Snake River Tributaries. Since most of the TP is bound to the sediments, sediment reductions remove a majority of the associated TP. The SIWQC has seen similar benefits on other wetland and sedimentation ponds to know that the principals of the Project have predictable results and will provide similar benefits as other projects.

The SIWQC is using this project to foster relationships that currently exist between SIWQC members and the Idaho Conservation League (ICL). Where the SIWQC is a newer coalition, the Project will provide a great relationship starter between the SIWQC and Reclamation.

The Auger Falls Lateral 43 Ponds portion of the Project will be constructed on public lands and is not expected to hinder public access to the Auger Falls Park area. This project is expected to bolster aquatic and bird wildlife in the area and draw more interested members of the public to the area.

2. *Utilizing our natural resources*
   a. *Ensure American Energy is available to meet our security and economic needs;*
   b. *Ensure access to mineral resources, especially the critical and rare earth minerals needed for scientific, technological, or military applications;*
   c. *Refocus timber programs to embrace the entire 'healthy forests' lifecycle;*
   d. *Manage competition for grazing resources.*

Not Applicable.

3. *Restoring trust with local communities*
   a. *Be a better neighbor with those closest to our resources by improving dialogue and relationships with persons and entities bordering our lands;*
   b. *Expand the lines of communication with Governors, state natural resource offices, Fish and Wildlife offices, water authorities, county commissioners, Tribes, and local communities.*

The SIWQC believes the Project will facilitate beneficial communication between the SIWQC, City of Twin Falls, BLM, Twin Falls Canal Company, Northside Canal Company, the USBR, ICL, IDEQ, and local members of the community. This communication will happen over the course of the Project to facilitate project completion. Communication between these groups is expected to continue after project completion, with the City of Twin Falls and the Twin Falls Canal Company working together to monitor the project. The knowledge and information gained from the Project will be included in future publications of the SIWQC Middle Snake River Watershed Plan which will be available to all members of the SIWQC and the community. The Project is expected to be a benefit to the local community, Middle Snake River Watershed, and those neighboring areas downstream that depend on the Snake River.

4. *Striking a regulatory balance*
    a. *Reduce the administrative and regulatory burden imposed on U.S. industry and the public;*
    b. *Ensure that Endangered Species Act decisions are based on strong science and thorough analysis.*

Not Applicable.

5. *Modernizing our infrastructure*
    a. *Support the White House Public/Private Partnership Initiative to modernize U.S. infrastructure;*
    b. *Remove impediments to infrastructure development and facilitate private sector efforts to construct infrastructure projects serving American needs;*
    c. *Prioritize DOI infrastructure needs to highlight:*
        1. *Construction of infrastructure;*
        2. *Cyclical maintenance;*
        3. *Deferred maintenance.*

The Project suggests adding modern scientific equipment that integrates with the irrigation company SCADA system. This will decrease the need for personnel and vehicle travel time and money to be spent to monitor the site. The design of the pond cells will be done so that maintenance of these facilities will be efficient and integrate with the regular Twin Falls Canal Company's maintenance routine. Additionally, the construction of the Project adds a return flow capture and treatment system prior to discharge from the irrigation facilities built as part of the Carey Act and the Reclamation Act.

Performance Measures

All applicants are required to propose a method (performance measure) of quantifying the benefits of their proposed project once it is implemented. Quantifying project benefits is an important means to determine the relative effectiveness of various water management efforts, as well as the overall effectiveness of the project.

Note: Projects may include the development of a monitoring and data management plan or the installation of necessary equipment to monitor progress. However, proposed projects must not include the implementation of a monitoring or data management plan or post-construction monitoring activities (these are considered normal operation and maintenance activities and the costs are the responsibility of the applicant).

As part of the Project's implementation, monitoring stations will be installed at the inlet and outlet of each set of ponds. Each monitoring station shall consist of a flow measurement device, access point for collecting TP and TSS samples, and a SCADA control connection. This information will allow the SIWQC and its members to quantify the amount of TP and TSS being removed from the return flows. Annual reports will include tons of sediment removed and pounds of TP removed.

Project Budget

The project budget includes:

(1) Funding plan and letters of commitment
(2) Budget proposal
(3) Budget narrative

Project costs for environmental and cultural compliance and engineering/design that were incurred or are anticipated to be incurred prior to award should be included in the proposed project budget. If the proposed project is selected, the awarding Reclamation Grants Officer will review the proposed pre-award costs to determine if they are consistent with program objectives and are allowable in accordance with the authorizing legislation. Proposed pre-award costs must also be compliant with all applicable administrative and cost principles criteria established in 2

Code of Federal Regulations (CFR) Part 200, available at www.ecfr.gov, and all other requirements of this FOA.

Please note that the costs for preparing and submitting an application in response to this FOA, including the development of data necessary to support the proposal, are not eligible project costs under this FOA and must not be included in the budget proposal.

Funding Plan and Letters of Commitment

Describe how the non-Federal share of project costs will be obtained. Reclamation will use this information in making a determination of financial capability.

Project funding provided by a source other than the applicant shall be supported with letters of commitment from these additional sources. Letters of commitment shall identify the following elements:

- *The amount of funding commitment*
- *The date the funds will be available to the applicant*
- *Any time constraints on the availability of funds*
- *Any other contingencies associated with the funding commitment*

Commitment letters from third party funding sources should be submitted with your application. If commitment letters are not available at the time of the application submission, please provide a timeline for submission of all commitment letters. Cost-share funding from sources outside the applicant's organization (e.g., loans or State grants), should be secured and available to the applicant prior to award.

Reclamation will not make funds available for an award under this FOA until the recipient has secured non-Federal cost-share. Reclamation will execute a financial assistance agreement once non-Federal funding has been secured or Reclamation determines that there is sufficient evidence and likelihood that non-Federal funds will be available to the applicant subsequent to executing the agreement.

Please identify the sources of the non-Federal cost share contribution for the project, including:

- *Any monetary contributions by the applicant towards the cost-share requirement and source of funds (e.g., reserve account, tax revenue, and/or assessments)*

The members of the SIWQC plan to contribute $234,274 (60%) in qualifying match funding. This funding will be available at the start of the project. There are no other contingencies with this funding. This funding will be used for construction materials, NEPA compliance, labor, fringe benefits, construction costs, and other contractual costs.

- *Any costs that will be contributed by the applicant*

The SIWQC plans to cover all costs associated with the Project through monetary funds.

- *Any third party in-kind costs (i.e., goods and services provided by a third party)*

No third-party in-kind costs are planned for this project.

- *Any cash requested or received from other non-Federal entities.*

At the time of application, no additional funds have been requested or received from other non-Federal entities.

- *Any pending funding requests (i.e. grants or loans) that have not yet been approved, and explain how the project will be affected if such funding is denied.*

At the time of application, no additional funds have been requested or received. The Project is expected to be completed with the funding being requested from Reclamation. Should this funding not be awarded, the project will most likely be delayed until enough funds can be obtained.

Table 2: Summary of Non-Federal and Federal Funding Sources

FUNDING SOURCES	AMOUNT
Non-Federal Entities	
1. SIWQC	$234,274
Non-Federal Subtotal	**$234,274**
Other Federal Entities	
1. **None**	$0
Other Federal Subtotal	**$0**
REQUESTED RECLAMATION FUNDING	**$156,182**

In addition, please identify whether the budget proposal includes any project costs that have been or may be incurred prior to award.

None of the costs associated with the Project have been incurred prior to the anticipated funding award.

Budget Proposal

The total project cost (Total Project Cost), is the sum of all allowable items of costs, including all required cost sharing and voluntary committed cost sharing, including third-party in-kind contributions, that are necessary to complete the project.

Table 3: Total Project Cost

SOURCE	AMOUNT
Costs to be reimbursed with the requested Federal funding	$156,182
Costs to be paid by the applicant	$234,274
Value of third-party in-kind contributions	$0
TOTAL PROJECT COST	**$390,456**

*The budget proposal should include detailed information on the categories listed below and must clearly identify **all** items of cost, including those that will be contributed as non-Federal cost share by the applicant (required and voluntary), third-party in-kind contributions, and those that will be covered using the funding requested from Reclamation, and any requested pre-award costs. Unit costs must be provided for all budget items including the cost of services or other work to be provided by consultants and contractors. Applicants are strongly encouraged to review the standards for procurement transactions for Federal awards found at 2 CFR §200.317 through §200.326 before developing the budget proposal.*

It is also strongly advised that applicants use the budget proposal format shown below in Table 2 or a similar format that provides this information. If selected for award, successful applicants must submit detailed supporting documentation for all budgeted costs.

See Budget Proposals in Appendix E.

Budget Narrative

Submission of a budget narrative is mandatory. An award will not be made to any applicant who fails to fully disclose this information. The budget narrative provides a discussion of, or explanation for, all items included in the budget proposal. The types of information to describe in the narrative include, but are not limited to, those listed in the following subsections. Costs, including the valuation of in-kind contributions, must comply with the applicable cost principles contained in 2 CFR Part §200, available at the Electronic Code of Federal Regulations (www.ecfr.gov).

Salaries and Wages

Indicate the Project Manager and other key personnel by name and title. The Project Manager must be an employee or board member of the applicant. Other personnel should be indicated by title alone. For all positions, indicate salaries and wages, estimated hours or percent of time, and rate of compensation. The labor rates must identify the direct labor rate separate from the fringe rate or fringe cost for each category. All labor estimates must be allocated to specific tasks as outlined in the applicant's technical project description. Labor rates and proposed hours shall be displayed for each task.

The budget proposal and narrative should include estimated hours for compliance with reporting requirements, including final project and evaluation. Please see Section F.3.2. Program Performance Reports for information on types and frequency of reports required.

Generally, salaries of administrative and/or clerical personnel will be included as a portion of the stated indirect costs. If these salaries can be adequately documented as direct costs, they should be included in this section; however, a justification should be included in the budget narrative.

O Coulee Allen Ponds

The Project Manager will be Randy MacMillan, President of the SIWQC. It is anticipated that he will spend 75 hours performing managerial tasks associated with the project, pay request processing, observing project progress, and purchasing construction materials. This accounts for up to two site visits each week for observing the progress of the work and purchasing and delivering construction materials.

Other employees are mentioned by their titles with their associated task hours and responsibilities shown in the table below.

Table 4: O Coulee Allen Ponds Task Hours

TITLE	Rate $/HOUR	TASK HOURS	TASK DESCRIPTION
Foreman	$25.88	140	Operating equipment
Foreman	$25.88	20	Manage field work and direct construction crews in accordance with engineering plans. Report work progress and payroll.
Operator	$23.81	480	Operate associated equipment to complete work
Truck Driver	$21.74	320	Operate haul trucks to move excavation material
Concrete Crew	$20.70	240	Install, form, and pour diversion structures, flow regulating structures, and associated concrete work.

Auger Falls Lateral 43 Ponds

The Project Manager will be Randy MacMillan, President of the SIWQC. It is anticipated that he will spend 100 hours performing managerial tasks associated with the project, pay request processing, observing project progress, and purchasing construction materials. This accounts for up to 2 site visits each week for observing the progress of the work and purchasing and delivering construction materials.

Other employees are mentioned by their titles with their associated task hours and responsibilities shown in the table below.

Table 5: O Coulee Allen Ponds Task Hours

TITLE	Rate $/HOUR	TASK HOURS	TASK DESCRIPTION
Foreman	$25.88	140	Operating equipment
Foreman	$25.88	20	Manage field work and direct construction crews in accordance with engineering plans. Report work progress and payroll.
Operator	$23.81	640	Operate associated equipment to complete work
Truck Driver	$21.74	320	Operate haul trucks to move excavation material
Concrete Crew	$20.70	240	Install, form, and pour diversion structures, flow regulating structures, and associated concrete work.

Fringe Benefits

Identify the rates/amounts, what costs are included in this category, and the basis of the rate computations. Federally approved rate agreements are acceptable for compliance with this item.

The below table shows the categories of the fringe benefits and their associated costs for each employee.

Table 6: Fringe Benefits Table

		Position				
		Foreman	Operator	Truck Driver	Concrete Crew	
	Hourly Rate 2019	$ 38.81	$ 35.71	$ 32.60	$ 31.05	
Fringe Benefits (Included in Hourly Rate 2019)	Retirement	$ 3.32	$ 3.05	$ 2.79	$ 2.65	8.5%
	Group Health Insurance	$ 6.18	$ 5.68	$ 5.19	$ 4.94	15.9%
	Social Security	$ 2.31	$ 2.12	$ 1.94	$ 1.85	5.9%
	Dental Insurance	$ 0.33	$ 0.30	$ 0.27	$ 0.26	0.8%
	Vacation and Sick Leave Payments	$ 0.36	$ 0.33	$ 0.30	$ 0.29	0.9%
	State Unemployment Insurance	$ 0.10	$ 0.09	$ 0.08	$ 0.08	0.3%
	Long Term Disability Insurance	$ 0.10	$ 0.09	$ 0.08	$ 0.08	0.3%
	Workers' Compensation	$ 0.23	$ 0.21	$ 0.19	$ 0.18	0.6%
	State Disability Insurance	$ 0.03	$ 0.03	$ 0.03	$ 0.03	0.1%

Percentage

Travel

Identify the purpose of each anticipated trip, destination, number of persons traveling, length of stay, and all travel costs including airfare (basis for rate used), per diem, lodging, and miscellaneous travel expenses. For local travel, include mileage and rate of compensation.

Travel is included in the equipment time under "Pickup". It is anticipated that there will be two trips per week, for four weeks during construction activities at each project site for project management operations and materials delivery. Each trip is anticipated to be between 5 to 10 miles round trip. Mileage reimbursement rate is included in the hourly rate of the pickup.

Equipment

If equipment will be purchased, itemize all equipment valued at or greater than $5,000. For each item, identify why it is needed for the completion of the Project and how the equipment was priced. Note: if the value is less than $5,000, the item should be included under materials and supplies.

If equipment is being rented, specify the number of hours and the hourly rate. Local rental rates are only accepted for equipment actually being rented or leased.

If the applicant intends to use their own equipment for the purposes of the project, the proposed usage rates should fall within the equipment usage rates outlined by the United States Army Corp of Engineers (USACE) within their Construction Equipment Ownership and Operating Expense Schedule (EP 1110-1-8) at www.publications.usace.army.mil/USACE-Publications/Engineer-Pamphlets/u43545q/313131302D312D38.

Note: If the equipment will be furnished and installed under a construction contract, the equipment should be included in the construction contract cost estimate.

No equipment purchases are planned for the Project. TFCC, a nonprofit member of the SIWQC, will be using their equipment for the work. Equipment rates are included for each Project Budget in Appendix E.

Materials and Supplies

Itemize supplies by major category, unit price, quantity, and purpose, such as whether the items are needed for office use, research, or construction. Identify how these costs were estimated (i.e., quotes, invoices from a previous similar project, engineering estimates, or other methodology). Note: If the items will be furnished and installed under a construction contract, the materials/supplies should be included in the construction contract cost estimate.

The materials and supplies for each project are listed under Project Budget in Appendix E. All materials and supplies costs were sourced from similar projects previously completed in the area by SIWQC members.

Contractual

Identify all work that will be accomplished by consultants, or contractors, including a breakdown of all tasks to be completed, and a detailed budget estimate of time, rates, supplies, and materials that will be required for each task. For each proposed contract, identify the procurement method that will be used to select the consultant or contractor and the basis for selection.

The NEPA compliance work will be contracted to a consultant that has worked with the SIWQC in the past and has experience with the NEPA process. From similar previous projects, the estimated cost for NEPA compliance on a project similar to the O Coulee Allen Ponds is around $2,500. The estimated cost for NEPA compliance on a project similar to the Auger Falls Lateral 43 Ponds is around $20,000.

Engineering and surveying work will also be contracted via competitive bid. Bids will be evaluated based on proposed costs and experience. The estimate is based on previous pond projects of similar size and scope.

Third-Party In-Kind Contributions

Identify all work that will be accomplished by third-party contributors or volunteers, including a breakdown of all tasks to be completed, and a detailed budget estimate of time, rates, supplies, and materials that will be required for each task.

No third-party contributions are expected on the Project.

Environmental and Regulatory Compliance Costs

Prior to awarding financial assistance, Reclamation must first ensure compliance with Federal environmental and cultural resources laws and other regulations ("environmental compliance"). Every project funded under this program will have environmental compliance costs associated with activities undertaken by Reclamation and the recipient. Note that these particular types of projects, i.e., watershed management projects, typically incur relatively high environmental compliance costs (e.g., between $30,000 and $50,000 per project).

In order to estimate environmental compliance costs, please contact compliance staff at your local Reclamation Office for additional details regarding the type and costs of compliance that may be required for your project. Note, support for your compliance costs estimate will be considered during review of your application. See Section G. Agency Contacts of this FOA for a list of Reclamation staff by region to contact regarding compliance costs and requirements.

Environmental compliance costs are considered project costs and must be included as a line item in the project budget and will be cost shared accordingly. The amount of the line item should be based on the actual expected environmental compliance costs for the project, including Reclamation's cost to review environmental compliance documentation. Environmental compliance costs will vary based on project type, location, and potential impacts to the environment and cultural resources.

How environmental compliance activities will be performed (e.g., by Reclamation, the applicant, or a consultant) and how the environmental compliance funds will be spent will be determined pursuant to subsequent agreement between Reclamation and the applicant. The amount of funding required for Reclamation to conduct any environmental compliance activities, including Reclamation's cost to review environmental compliance documentation, will be withheld from the Federal award amount and placed in an environmental compliance account to cover such costs. If any portion of the funds budgeted for environmental compliance is not required for compliance activities, such funds may be reallocated to the project, if appropriate.

Costs associated with environmental and regulatory compliance must be included in the budget. Compliance costs include costs associated with any required documentation of environmental compliance, analyses, permits, or approvals. Applicable Federal environmental laws could include

NEPA, ESA, NHPA, CWA, and other regulations depending on the project. Such costs may include, but are not limited to:

- *The cost incurred by Reclamation to determine the level of environmental compliance required for the project*
- *The cost incurred by Reclamation, the recipient, or a consultant to prepare any necessary environmental compliance documents or reports*
- *The cost incurred by Reclamation to review any environmental compliance documents prepared by a consultant*
- *The cost incurred by the recipient in acquiring any required approvals or permits, or in implementing any required mitigation measures*

This work will be contracted to a consultant with experience in the NEPA compliance process. Cost for this item is included in the corresponding Project Budget in Appendix E.

Other Expenses

Any other expenses not included in the above categories shall be listed in this category, along with a description of the item and why it is necessary. Profit or fees are not allowed.

No costs qualifying as "other expenses" are expected on the Project.

Indirect Costs

Indirect costs are costs incurred by the applicant for a common or joint purpose that benefit more than one activity of the organization and are not readily assignable to the activities specifically benefitted without undue effort. Costs that are normally treated as indirect costs include, but are not limited to, administrative salaries and fringe benefits associated with overall financial and organizational administration; operation and maintenance costs for facilities and equipment; and, payroll and procurement services. If indirect costs will be incurred, identify the proposed rate, cost base, and proposed amount for allowable indirect costs based on the applicable cost principles for the applicant's organization. It is not acceptable to simply incorporate indirect rates within other direct cost line items.

If the applicant has never received a Federal negotiated indirect cost rate, the budget may include a de minimis rate of up to 10 percent of modified total direct costs (MTDC). For further information on modified total direct costs, refer to 2 CFR §200.68 available at www.ecfr.gov.

If the applicant does not have a federally approved indirect cost rate agreement and is proposing a rate greater than the de minimis 10 percent rate, include the computational basis for the indirect expense pool and corresponding allocation base for each rate. Information on "Preparing and Submitting Indirect Cost Proposals" is available from Interior, the National Business Center, and Indirect Cost Services, at www.doi.gov/ibc/services/finance/indirect-cost-services. If the proposed

project is selected for award, the recipient will be required to submit an indirect cost rate proposal with their cognizant agency within 3 months of award.

Fringe Benefits are shown in Appendix E. Additional details are shown in the "Fringe Benefits" section above.

Project Manager costs are shown in the Project Budget in Appendix E. Project manager responsibilities are shown in the "Salaries and Wages" section above.

Environmental and Cultural Resources Compliance

To allow Reclamation to assess the probable environmental and cultural resources impacts and costs associated with each application, all applicants should consider the following list of questions focusing on the NEPA, ESA, and NHPA requirements. Please answer the following questions to the best of your knowledge. If any question is not applicable to the project, please explain why. The application should include answers to:

- *Will the proposed project impact the surrounding environment (e.g., soil [dust], air, water [quality and quantity], animal habitat)? Please briefly describe all earth-disturbing work and any work that will affect the air, water, or animal habitat in the project area. Please also explain the impacts of such work on the surrounding environment and any steps that could be taken to minimize the impacts.*

As with any earth moving project there will be some disturbance of the area. However, these disturbances will be kept to a minimum using Best Management Practices (BMPs).

Work at the Auger Falls Lateral 43 Ponds site is expected to disturb the soils alongside the Lateral 43 Canal. This will be managed by appropriately using erosion and sediment control measures in accordance with any applicable permits and a stormwater pollution prevention plan, water trucks for dust control, construction site track-out pads, and other applicable BMPs. As the construction is planned to take place during the non-irrigation season, the canal is expected to be dry. Stormwater runoff will still need to be controlled using applicable BMPs. No animal habitat is expected to be disturbed as part of the construction activities. However, all work will be conducted in accordance with the EA document should a potential impact be discovered.

Work at the O Coulee Allen Ponds site is expected to disturb the soils on the O Coulee Canal. This will be managed by appropriately using erosion and sediment control measures in accordance with any applicable permits and a stormwater pollution prevention plan, water trucks for dust control, construction site track-out pads, and other applicable BMPs. As the construction is planned to take place during the non-irrigation season, the canal flow is expected to be significantly less (< 3 cfs) than during the irrigation season. Due to the canal being used as a land drain, there is water expected in the canal during the winter months. Appropriate measures will be taken to divert the water around the construction site. Stormwater runoff will still need to be controlled using applicable BMPs. No animal habitat is expected to be disturbed as part of the construction activities. However, all work will be conducted in accordance with the EA document should a potential impact be discovered.

- *Are you aware of any species listed or proposed to be listed as a Federal threatened or endangered species, or designated critical habitat in the project area? If so, would they be affected by any activities associated with the proposed project?*

No. The area of the O Coulee Allen Ponds is not on the channel of the Snake River or Rock Creek. As a result, it is an off-channel treatment facility and is not expected to impact any threatened or endangered species.

No. The area of the Auger Falls Lateral 43 Ponds is not on the channel of the Snake River. As a result, it is an off-channel treatment facility and is not expected to impact any threatened or endangered species.

Should the EA documents indicate the project area is an active habitat for any critical species, construction activities would potentially have an impact. However, potential actions for remediation would be investigated.

- *Are there wetlands or other surface waters inside the project boundaries that potentially fall under CWA jurisdiction as "Waters of the United States?" If so, please describe and estimate any impacts the proposed project may have.*

No, there are not any wetlands or other surface waters inside the project boundaries that potentially fall under CWA jurisdiction as Waters of the United States.

- *When was the water delivery system constructed?*

The Twin Falls Canal Company system is part of the Milner Dam Project which was built between 1903 to 1905 by the Buhl-Kimberly Corporation under authorization of the Carey Act (1894), the precursor to the Reclamation Act (1902). Since then the Twin Falls Canal Company has been greatly expanding its infrastructure to deliver water across Twin Falls County.

- *Will the proposed project result in any modification of or effects to, individual features of an irrigation system (e.g., headgates, canals, or flumes)? If so, state when those features were constructed and describe the nature and timing of any extensive alterations or modifications to those features completed previously.*

The Auger Falls Lateral 43 Ponds are expected to alter the canal alignment by diverting the water from the channel, through the sedimentation ponds alongside the existing canal, and then the water will be returned to the existing canal alignment following its treatment. The amount of existing canal that will be bypassed will be nearly 400 feet. The existing channel will be maintained for use in higher flows, during storms, and during pond maintenance. The canal was constructed in 1905. No extensive alterations or modifications to the Auger Falls Lateral 43 has taken place or is expected.

The O Coulee Allen Ponds are expected to alter the canal alignment by diverting the water from the canal, through the sedimentation ponds alongside the existing canal, and then the water will be returned to the existing canal alignment. The amount of existing canal that will be bypassed will be

nearly 1,100 feet. The O Coulee Canal was constructed around 1905 and most recently had a small sedimentation pond constructed on the canal in 2004.

- *Are any buildings, structures, or features in the irrigation district listed or eligible for listing on the National Register of Historic Places? A cultural resources specialist at your local Reclamation office or the State Historic Preservation Office can assist in answering this question.*

Yes, there are structures and features within the irrigation district that are listed as historical features. One of the principal features within the Twin Falls Canal Company irrigation district is the Milner Dam Project. Milner Dam was built between 1903 to 1905 by the Buhl-Kimberly Corporation under authorization of the Carey Act (1894), the precursor to the Reclamation Act (1902). Milner Dam is associated with the Minidoka Project by the Bureau of Reclamation. However, none of the facilities are within the Project area.

- *Are there any known archeological sites in the proposed project area?*

No, there are not any known archeological sites in the Project area.

- *Will the proposed project have a disproportionately high and adverse effect on low income or minority populations?*

No, the Project will not have a disproportionately high or adverse effect on low income or minority populations.

- *Will the proposed project limit access to and ceremonial use of Indian sacred sites or result in other impacts on tribal lands?*

No, the Project will not limit access to any ceremonial use of Indian sacred sites or result in other impacts on tribal lands.

- *Will the proposed project contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area?*

No, the Project is planned to control noxious weeds in the Project area and areas affected by the pond treated water through the use of revegetation with wetland vegetation. With the sedimentation ponds removing a large percentage of the TSS and TP, noxious weeds like the Common Reed (Phragmites), Watermilfoil, and Hydrilla are expected to be reduced by removing the phosphorus and nutrient rich sediments these plants feed on. The removal of the TSS and TP are part of the long-term plan to reduce macrophytes (rooted water vegetation) in the Middle Snake River.

Required Permits or Approvals

Applicants must state in the application whether any permits or approvals are required and explain the plan for obtaining such permits or approvals.

The SIWQC will need to work with Reclamation to obtain approval and other requirements for the project, should the project be funded through this WaterSMART Project. Similar sedimentation pond projects have not required any local permits or approvals when constructed on private land like the O Coulee Allen Ponds. The Auger Falls Lateral 43 Ponds are expected to need the approval of the BLM and Twin Falls City Council. Preliminary discussions have shown that the Project is acceptable to all parties. Beyond the environmental investigatory requirements, it is expected that no additional local permits or approvals will need to be obtained for Project construction.

Documentation in support of Applicant Eligibility

The application must include the following documentation to demonstrate that the applicant is eligible to receive an award under this FOA.

Meets the Definition of a "Watershed Group" as Defined in Section 6001(5) of the Cooperative Watershed Management Act (Act)

To be eligible under this FOA, a watershed group must self-certify that the watershed group is a grassroots, non-regulatory entity that addresses water availability and quality issues within the relevant watershed, represents a diverse group of stakeholders, and is capable of promoting the sustainable use of water resources in the watershed. Please include a list of the members of the watershed group.

The SIWQC self certifies that they are a grassroots, non-regulatory entity that addresses water availability and quality issues within the Middle Snake River Watershed, represents a diverse group of stakeholders, and is capable of promoting the sustainable use of water resources in the watershed.

Articles of Incorporation

Attach a copy of the applicant's articles of incorporation. Watershed groups that are not currently incorporated may apply, but they will need to complete the incorporation process prior to an award of funding. If an applicant has not fully complied with this requirement by the time the Reclamation is ready to make an award, Reclamation may determine that the applicant is not qualified to receive a Federal award and use that determination as a basis for making a Federal award to another applicant.

Southern Idaho Water Quality Coalition exists as an unincorporated nonprofit association pursuant to Idaho Code 30-27-101 et seq. The association is governed by its First Amended Bylaws (adopted 12/17/2018) and a board of directors. The association was formed in 2018 for common nonprofit purpose to raise awareness and implement projects to improve water quality in the Middle Snake

River watershed. Southern Idaho Water Quality Coalition is authorized under Idaho law to do all things necessary or convenient to carry on its purposes, including owning property and entering into contracts. See Idaho Code 30-27-106. The association is authorized to but is not required to appoint an agent for service of process with the Idaho Secretary of State's office. There is no other formal filing with the State of Idaho.

The SIWQC would be able to complete the incorporation process should the USBR require.

Bylaws

Attach a copy of the bylaws adopted by the applicant.

The SIWQC By-Laws are attached in Appendix C.

Mission Statement

To be eligible under this FOA, the applicant must also have a mission statement. Attach a copy of the mission statement developed by the watershed group.

The following information comes from the SIWQC Middle Snake Watershed Master Plan under section I.C – Coalition Goals and Objectives.

"*Building on the past efforts of the Middle Snake Watershed Advisory Group, the Coalition has engaged a broad spectrum of area land and water users to identify, manage, and increase awareness for water quality issues, projects, and partnerships benefiting the Mid-Snake River and tributary rivers, streams, and creeks. The Coalition's interest is to encourage comprehensive water quality improvement projects and programs that achieve conformance with state water quality standards and the designated beneficial uses.*"

Meetings

To be eligible under this FOA, a watershed group must hold regular meetings. In the proposal, the applicant should self-certify that the watershed group holds regular meetings.

The SIWQC self certifies that they conduct regular group meetings. Minutes from these meeting can be found in Appendix C.

Watershed Restoration Plan

Attach a copy of the applicable watershed restoration plan as an appendix to your application, or include a link, and identify the sections of the plan that support the proposed project. A watershed restoration plan is a tool designed to help a watershed group plan for and implement restoration activities in their watershed. For the purposes of this FOA, a watershed restoration plan must describe the issues of concern related to water resources within the watershed and identify potential solutions. Such plans do not need to have been approved by Reclamation or developed under Phase I of the Cooperative Watershed Management Program. In cases where the applicant

did not prepare the restoration plan itself, the applicant must provide documented support for the proposed project by the entity that authored the plan.

Reclamation understands that watershed restoration plans may take different forms depending on the purpose for which they were developed. Rather than prescribing a particular format or set of elements, Reclamation will use the evaluation criteria (see Section E.1.1. Evaluation Criterion A: Watershed Restoration Planning) to prioritize proposals based on watershed restoration plans that are more holistic, addressing multiple issues related to water resources within the watershed, and plans developed by stakeholders with diverse interests.

The SIWQC Middle Snake River Watershed Master Plan is attached as Appendix D.

Letters of Support

Please include letters from interested stakeholders supporting the proposed project. To ensure your proposal is accurately reviewed, please attach all letters of support/partnership letters as an appendix. (Note: this will not count against the application page limit.) Letters of support received after the application deadline for this FOA will not be considered in the evaluation of the proposed project.

Letters of Support are included in Appendix A.

Official Resolution

Include an official resolution adopted by the applicant's board of directors or governing body, or for State government entities, an official authorized to commit the applicant to the financial and legal obligations associated with receipt of a financial assistance award under this FOA, verifying:

- *The identity and the position of the official with legal authority to enter into an agreement*
- *The board of directors, governing body, or appropriate official who has reviewed and supports the application submitted*
- *The capability of the applicant to provide the amount of funding and/or in-kind contributions specified in the funding plan*
- *That the applicant will work with Reclamation to meet established deadlines for entering into a grant or cooperative agreement*

An official resolution meeting the requirements set forth above is mandatory. *If the applicant is unable to submit the official resolution by the application deadline because of the timing of board meetings or other justifiable reasons, the official resolution may be submitted up to 30 days after the application deadline.*

The signed Official Resolution is shown in Appendix B.

Unique Entity Identifier and System for Award Management

All applicants (unless the applicant has an exception approved by Reclamation under 2 CFR §25.110[d]) are required to:

(i) Be registered in the System for Award Management (SAM) before submitting its application;
(ii) Provide a valid unique entity identifier in its application; and
(iii) Continue to maintain an active SAM registration with current information at all times during which it has an active Federal award or an application or plan under consideration by a Federal awarding agency.

SIWQC has completed the SAM application process and has an active account. SIWQC plans to maintain this account throughout the project duration. The unique entity identifier information is included on the attached SF-424 Forms.

Appendix A

Letters of Support

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IDAHO
CONSERVATION
LEAGUE

208.345.6933 • PO Box 844, Boise, ID 83702 • www.idahoconservation.org

Dr. Randy MacMillan, President
Southern Idaho Water Quality Coalition
357 6th Ave. West
Twin Falls, Idaho 83301

January 21, 2019

Re: Letter of Support for Southern Idaho Water Quality Coalition - 2019 WaterSMART Application for Auger Falls/Lateral 43 Wetland Project

Dear Dr. MacMillan:

On behalf of the Idaho Conservation League (ICL), I am writing to express our support for the Auger Falls/Lateral 43 Wetland Project. As Idaho's leading voice for conservation, ICL represents more than 30,000 supporters from across the state who care deeply about protecting our state's clean water and wildlife. The Idaho Conservation League has a long history of involvement with conservation, watershed restoration, and the Clean Water Act in the Snake River region, and beyond.

The Idaho Conservation League appreciates the efforts of the Southern Idaho Water Quality Coalition to address water quality concerns in the Mid-Snake Region. In particular, we are encouraged by the involvement of non-point source contributors in the Mid-Snake Region to step up their investments to improve and restore water quality. As a result, we support the Auger Falls/Later 43 Wetland Project and encourage you to fully fund it.

If you have any questions, or need any additional information, please do not hesitate to contact me at your convenience.

Sincerely,

Jonathan Oppenheimer
Government Relations Director
joppenheimer@idahoconservation.org
(208) 345-6933 ext. 26

STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

1410 North Hilton • Boise, Idaho 83706 • (208) 373-0502
www.deq.idaho.gov

Governor Brad Little
Director John H. Tippets

January 18, 2019

Dr. Randy MacMillan
President
Southern Idaho Water Quality Coalition
357 6th Ave. West
Twin Falls, Idaho 83301

Re: Southern Idaho Water Quality Coalition
2019 WaterSMART Application for Auger Falls / Lateral 43 Project

Dear Dr. MacMillan:

The Idaho Department of Environmental Quality fully supports the efforts of the Southern Idaho Water Quality Coalition as they seek funding through the USBR's WaterSMART grant program. The Auger Falls / Lateral 43 wetland project will greatly benefit water quality in the Mid Snake River near Twin Falls, Idaho and will provide other recreation/wildlife benefits, including enhancing the City's Auger Falls property.

Our organization supports this important project and its value to the residents of southern Idaho.

Sincerely,

Barry N. Burnell
Water Quality Division Administrator

BNB:tg

c: Dave Anderson, Regional Administrator, Twin Falls Regional Office
Tim Wendland, Grants and Loans Program Manager
Jason Pappani, Surface Water Program Manager

Middle Snake Regional
Water Resource Commission

Lew Pence, Chairman
Bob Muffley, Executive Director
125 5th Ave West
Gooding, ID 83330
PH: 208-934-4781 Email: bmuffley@muffleyins.com

January 24, 2019

Dr. Randy MacMillan
President
Southern Idaho Water Quality Coalition
357 6th Ave. West
Twin Falls, ID 83301

RE: Southern Idaho Water Quality Coalition [2019 Water SMART Application for Auger Falls/lateral 43 Project and other similar projects]

Dear Mr. MacMillan:

This Commission, representing the counties of Cassia, Gooding, Jerome, Lincoln and Twin Falls, fully support the efforts of the Southern Idaho Water Quality Coalition as they seek funding through the USBR's Water Smart grant program. The Auger Falls/lateral 43 wetlands project, as well as similar projects will greatly benefit water quality in the Mid Snake River near Twin Falls, Idaho and will provide other recreation/wildlife benefits, including enhancing the City's Auger Falls Property.

This Commission supports this important projects and its value to the residence of southern Idaho.

Sincerely

Lew Pence
Chairman

IDAHO
CONSERVATION
LEAGUE

208.345.6933 • PO Box 844, Boise, ID 83702 • www.idahoconservation.org

Dr. Randy MacMillan, President
Southern Idaho Water Quality Coalition
357 6th Ave. West
Twin Falls, Idaho 83301

January 24, 2019

Re: Letter of Support for Southern Idaho Water Quality Coalition - 2019 WaterSMART Application for O Coulee Allen Project

Dear Dr. MacMillan:

On behalf of the Idaho Conservation League (ICL), I am writing to express our support for the O Coulee Allen Project. As Idaho's leading voice for conservation, ICL represents more than 30,000 supporters from across the state who care deeply about protecting our state's clean water and wildlife. The Idaho Conservation League has a long history of involvement with conservation, watershed restoration, and the Clean Water Act in the Snake River region, and beyond.

The Idaho Conservation League appreciates the efforts of the Southern Idaho Water Quality Coalition to address water quality concerns in the Mid-Snake Region. In particular, we are encouraged by the involvement of non-point source contributors in the Mid-Snake Region to step up their investments to improve and restore water quality. As a result, we support the O Coulee Allen Project and encourage you to fully fund it.

If you have any questions, or need any additional information, please do not hesitate to contact me at your convenience.

Sincerely,

Jonathan Oppenheimer
Government Relations Director
joppenheimer@idahoconservation.org
(208) 345-6933 ext. 26

STATE OF IDAHO
DEPARTMENT OF
ENVIRONM ENTAL QUALITY

14"10 North Hilton · Boise, Idal10 83706 • (208) 373-0502
www.deq.idaho.gov

Governor Brad Little
Director John H. Tippets

January 25, 2019

Dr. Randy MacMillan
President
Southern Idaho Water Quality Coalition
357 6th Ave. West
Twin Falls, ID 83301

Re: Southern Idaho Water Quality Coalition
2019 WaterSMART Application for O Coulee Allen Project

Dear Dr. MacMillan:

The Idaho Department of Environmental Quality fully supports the efforts of the Southern Idaho Water Quality Coalition as they seek funding through the USBR's WaterSMART grant program. DEQ understands that the Coalition, the City of Twin Falls, and Twin Falls Canal Company are proposing the O Coulee Allen Project as a joint venture. The O Coulee Allen Project is a sedimentation pond project that is planned to be constructed on the O Coulee Canal just above Rock Creek. The ponds will cover approximately 6 acres and remove nearly 86% of the total suspended solids (TSS) and 60% of the total phosphorus in the O Coulee canal before flowing into Rock Creek and the Snake. This project is estimated to be able to remove 880 tons/year of TSS and nearly 1,860 lbs./year of total phosphorus before it empties into the Snake River.

DEQ supports this important project and its value to the residents of southern Idaho.

Sincerely,

Barry N. Burnell

Barry N. Burnell
Water Quality Division Administrator

BNB: tg

c: Dave Anderson, Regional Administrator, Twin Falls Regional Office

Middle Snake Regional
Water Resource Commission

Lew Pence, Chairman
Bob Muffley, Executive Director
125 5th Ave West
Gooding, ID 83330
PH: 208-934-4781 Email: bmuffley@muffleyins.com

January 24, 2019

Dr. Randy MacMillan
President
Southern Idaho Water Quality Coalition
357 6th Ave. West
Twin Falls, ID 83301

RE Southern Idaho Water Quality Coalition [2019 Water SMART Application for the O Coulee Allen Project]

Dear Mr. MacMillan:

This Commission, representing the counties of Cassia, Gooding, Jerome, Lincoln and Twin Falls, fully support the efforts of the Southern Idaho Water Quality Coalition as they seek funding through the USBR's Water SMART program. The O Coulee Allen Project, as well as similar projects will greatly benefit water quality in the Mid Snake River near Twin Falls, Idaho and will provide other recreation/wildlife benefits.

This Commission supports this important project and its value to the residence of southern Idaho.

Sincerely

Lew Pence

Lew Pence
Chairman

The Nature Conservancy
Protecting nature. Preserving life.®

The Nature Conservancy in Idaho
116 First Avenue North
Hailey, ID 83333

Tel (208) 788-8988
Fax (208) 788-9040

nature.org

January 28, 2019

Mr. Randy MacMillan
President
Southern Idaho Water Quality Coalition
357 6th Ave. West
Twin Falls, Idaho 83301

Re: Southern Idaho Water Quality Coalition – 2019 WaterSMART Application for Auger Falls / Lateral 43 Project and O Coulee Projects

Dear Mr. MacMillan:

On behalf of The Nature Conservancy (TNC) Idaho, I am writing to express support for the grant application submitted by the Southern Idaho Water Quality Coalition (SIWQC). TNC historically partnered with landowners and water user associations in this region and implemented similar types of projects as proposed by the SIWQC. TNC has recently reengaged its efforts in this landscape and we see the value in working with coalitions such as the SIWQC and the power of coalitions such as this can have in implementing projects. To effectively meet the scale of the need resulting from these efforts TNC and partners, such as SIWQC are working to strategically organize and coordinate implementation efforts, integrate land and water conservation, and harness our collective strengths.

TNC is committed to provide assistance to SIWQC in developing and supporting projects throughout the middle Snake River region to address water quality and other land and water issues as identified by this partnership. By working with the partners to develop new partnerships and opportunities will allow projects such as the Auger Falls/Lateral 43 and O Coulee projects to be expanded to other regions in the middle Snake River of Idaho; and aligning the project with broader regional goals in such a way as to attract new funding sources.

We believe that the diverse, collaborative, efforts in the middle Snake River to develop and implement projects such as those proposed can have numerous positive impacts to address water quality concerns as well as create wildlife habitat. TNC Idaho supports this important project and its value to the residents of southern Idaho. We hope you will join us with your support as well.

Sincerely,

Mark Davidson
Director of Conservation Initiatives
The Nature Conservancy Idaho

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Appendix B

Signed Official Resolution

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OFFICIAL RESOLUTION
OF THE
SOUTHERN IDAHO WATER QUALITY COALITION

RESOLUTION NO. 2019 - 01

WHEREAS, the United States Department of the Interior, Bureau of Reclamation has announced the *WaterSMART Cooperative Watershed Management Program Phase II* in order to implement watershed management projects that address critical water supply needs, water quality concerns and restoration needs to help avoid conflict in the western United States, and has requested proposals from eligible entities to be included in the WaterSMART Program; and

WHEREAS, the Southern Idaho Water Quality Coalition has a present need for funding to construct several sediment/wetland projects as well as water quality monitoring stations in the Middle Snake River reach in southern Idaho; and

WHEREAS, the project is intended to monitor water quality, help reduce pollution, and improve water quality within the Middle Snake River Watershed.

NOW, THEREFORE, BE IT RESOLVED that the Southern Idaho Water Quality Coalition Board of Directors agrees and authorizes that:

1. The Southern Idaho Water Quality Coalition has reviewed and supports the proposal submitted;

2. The applicant is capable of providing the amount of funding and/or in-kind contributions, specified in the funding plan; and

3. If selected for a WaterSMART Grant, the applicant will work with Reclamation to meet established deadlines for entering into a cooperative agreement.

DATED: 1-15-19

Randy MacMillan
President, Southern Idaho Water Quality Coalition

ATTEST:

Signature

Travis L. Thompson
Printed Name
Secretary

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Appendix C

SIWQC Supporting Documents

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Southern Idaho Water Quality Coalition

April 4, 2018

WHEREAS, the State of Idaho, through the Idaho Department of Environmental Quality (IDEQ) implements the Clean Water Act (33 U.S.C. § 1251 et seq.), including promulgating state water quality standards to meet identified beneficial uses and listing impaired waters that require development of a total maximum daily load (TMDL) for specific pollutants; and

WHEREAS, waterbodies in Southern Idaho are complex, dynamic, and non-equilibrium systems used for agricultural, industrial, municipal, and domestic purposes, and have many stressors including legacy and background conditions, point and non-point source pollution, and flow alteration; and

WHEREAS, implementing and/or rewriting TMDL standards may not be the most beneficial and cost-effective mechanism to improve water quality, including in the Mid-Snake River, and area TMDLs need greater flexibility and innovative frameworks to achieve water quality standards and beneficial uses; and

WHEREAS, municipalities, industry, agriculture, and all facets of the southern Idaho economy rely upon the Snake River and area waterbodies and stand to benefit from improved water quality in the area; and

WHEREAS, the Southern Idaho Water Quality Coalition (SIWQC) is being formed to engage a broad coalition of area land and water users to identify, manage, and increase awareness for water quality issues, projects, and partnerships to benefit the Mid-Snake River and related waterbodies.

NOW, THEREFORE BE IT RESOLVED, SIWQC encourages comprehensive water quality improvement projects and programs to meet water quality standards and beneficial uses;

BE IT FURTHER RESOLVED, SIWQC seeks to work collaboratively and voluntarily to invest and obtain resources to implement water quality projects, raise awareness, and form partnerships to improve and sustain healthy river and waterbodies in the area;

BE IT FURTHER RESOLVED, SIWQC calls upon local, state, and federal authorities to allocate resources for the implementation of water quality projects and programs to meet these goals.

Southern Idaho Water Quality Coalition
August 23, 2018 Meeting
Twin Falls Canal Company
357 6th Ave. West, Twin Falls, Idaho 83301

Attendance:
Brian Olmstead, TFCC
Alan Hansten, NSCC
Jason Brown, City of Twin Falls
Randy MacMillan, Clear Springs Foods
Rick Naerebout, IDA
Jim Henderhan, Tom Van Tassel, EvAqua Farms LLC
Todd Kirkendall, Lamb Weston
Dan Davidson, Minidoka Irr. Dist.
Gary Lemmon, Idaho Aquaculture Assn.
Ron Jones, Rock Creek Soil & Water Cons. Dist.
Travis Thompson, Barker Rosholt
John Simpson, Barker Rosholt (via teleconference)
Pat Sullivan, Sullivan & Reberger (via teleconference)
Paul Woods, Woods Consulting Group (via teleconference)
Paul Arrington, IWUA (via teleconference)

Randy M. called the meeting to order at 2:00 p.m.

Prior Meeting Minutes:

No minutes were kept at the meeting of July 12, 2018.

Old Business:

First order of business was consideration of the revised bylaws (Ex. A). Rick N. motioned to approve, second by Jason B. **Motion carried.**

New Business:

Officer Appointment
The group discussed officers and proposed the following: Pres. – Randy M.; Vice-Pre – Jason B., Sec/Treas – Travis T. Brian O. motioned to approve, second by Rick N. **Motion carried**. The officers will serve the rest of the year and elections will be held at the first annual meeting in January 2019.

General Information
Jason B. noted the vacancies on the Lake Walcott WAG board and that DEQ was taking nominations. Dan D. indicated he will apply for the irrigated ag position.

Brian O. inquired about membership recruitment to the coalition. John S. will meet with Idaho Power Company to see if they can provide information and/or can join.

Projects List

Randy M. discussed the proposed book of water quality projects. The first project is a potential shaping and use of flow augmentation flows from U.S. Bureau of Reclamation to help water quality in the Mid-Snake below Milner Dam. John S. reported on the meeting with BOR at the end of July and another meeting is set for Sept. 10th. BOR responded positively and indicated they would like some technical information from the group to show benefits and critical flows needed to impair aquatic vegetation growth. Randy M. noted the need to measure the impact of such flows and potential use of a Helley-Smith Bedload Sampler to gauge sediment movement impacts.

Brian O. reviewed potential water quality pond sites on the TFCC project and described the recent Norris Pond property acquisition. TFCC has about 10 primary sites where additional wetlands or water quality ponds could be installed.

Alan H. discussed a potential wetland improvement project at the end of the J Coulee on the NSCC project. The pond is located on Gary Lemmon's property.

Rick N. provided a copy of brochure describing IDA's proposed manure management program. IDA is working with the Idaho Legislature to create a program to provide matching funds for improvements on dairy farms to show water quality benefits. Rick identified staff and a photographer that may be able to assist SIWQC with its booklet or program descriptions. The group hopes to put something together this fall to be able to use with discussions with legislators.

Jason B. discussed the City's potential projects, including the Auger Falls site and other properties where wetlands and water quality ponds may be installed. Jason also described a pilot program to enhance the wastewater treatment plant that may be able to use biological processes to remove total phosphorus. Jason also noted that the City is working with TFCC and may be able to modify or enhance some ponds at the golf course.

Randy M. identified the need to form a funding committee to start looking at opportunities to fund certain projects including through grants or other sources. John S. gave the example of the BOR WaterSmart program and how the notice typically goes out in Nov for the following year. Randy suggested John and Pat start working on a funding list.

Ron J. inquired of the purpose of the group and the end goal. Discussion was had on water quality improvement in the river and interface with the ongoing Mid-Snake TP TMDL rewrite.

Randy M. noted the annual assessment notice will go out for 2018.

Southern Idaho Water Quality Coalition
November 2, 2018 Meeting
Twin Falls Canal Company
357 6th Ave. West, Twin Falls, Idaho 83301

Attendance:
Brian Olmstead, TFCC
Alan Hansten, NSCC
Jason Brown, City of Twin Falls
Randy MacMillan, Clear Springs Foods
Wade Allen, Clif Bar, Inc.
Jim Henderhan, Tom Van Tassel, EvAqua Farms LLC
Todd Kirkendall, Lamb Weston
Gary Fornshell, University of Idaho
Travis Thompson, Barker Rosholt
John Simpson, Barker Rosholt (via teleconference)
Chad Brown, Franson Engineering
Pat Sullivan, Phil Reberger, Sullivan & Reberger (via teleconference)
Paul Woods, Woods Consulting Group (via teleconference)

Randy M. called the meeting to order at 10:00 a.m.

Prior Meeting Minutes:

No minutes were kept at the meeting of Sept. 19, 2018.

Old Business:

No Old Business

New Business:

Pat S. provided a summary of the meeting with David Hensley (Gov. Chief of Staff) and expressed the Governor's willingness to work with the group and find a path forward on the TMDL. Governor is willing to take action or steps with EPA (Region 10). Plan to meet with the new Governor after the new year as well. Noted that Chobani wants to join the coalition and that the Governor made a special call to CEO.

John S. noted the purpose of the meeting was to discuss the TMDL schedule and get time to work on projects and programs to benefit water quality.

Randy M. noted that David had read the white paper and wanted to make it clear with DEQ that it is not a toxics issue regarding the nutrient TMDL and that a narrative standard should be

used. Randy expressed the support for seasonal consideration and the 50 year period of record for determining a flow. Randy explained to David that they wanted more openness from DEQ with the WAG.

Randy M. noted the intent to file a for a WaterSmart grant and need to improve the current project and program list.

Jason B. discussed WaterSmart grant outline of issues

Chad B. discussed option of putting together a plan and applying for a Phase II grant (deadline is January 30, 2019)

John S. recommended filing for a Phase II grant and developing the watershed plan. Need to gather data and current plans that are out there for inclusion in the watershed plan, including current TMDL implementation plans.

General discussion on data and programs to try and assimilate.

John S. gave a summary of his meeting with Tim Petty (Interior Dept.) and his support for projects in Idaho. Tim supports the Coalition's approach and wants to see Idaho water quality programs implemented with federal support.

Chad B. discussed ability to work on and submit the BOR WaterSmart application, their office is familiar with program and has successfully obtained grants for entities, projects in Utah.

Travis T. suggested the Coalition appoint a subcommittee to work with Chad and gather the information needed for the plan. Group approved and appointed the following: Jason B., Paul W., Brian O., Randy M., and Wade A.

Chad will work on a proposal to submit back to the Coalition.

Southern Idaho Water Quality Coalition
December 17, 2018 Meeting
Twin Falls Canal Company
357 6th Ave. West Twin Falls, Idaho 83301

Attendance:
Brian Olmstead, TFCC
Alan Hansten, NSCC
Jason Brown, City of Twin Falls
Randy MacMillan, Andy Morton, Clear Springs Foods
Jim Henderhan, Karen Henderson, Gary Almgren, EvAqua Farms LLC
Todd Kirkendall, Lamb Weston
Ron Jones, Snake River Soil & Water Conservation Dist.
Dan Davidson, Minidoka Irr. Dist.
Gary Fornshell, University of Idaho
Mark Davidson, Tha Nature Conservancy
Paul Arrington, Idaho Water Users Assn.
Rick Naerebout, Idaho Dairyman's Assn.
Travis Thompson, Barker Rosholt
John Simpson, Barker Rosholt
Chad Brown, Lance Houser, Franson Engineering (via teleconference)
Pat Sullivan, Phil Reberger, Sullivan & Reberger
Paul Woods, Woods Consulting Group

Randy M. called the meeting to order at 1:30 p.m.

Prior Meeting Minutes:

Minutes of the November 2, 2018 meeting were distributed by email. Brian O. moved to approve. Jason B. second. Motion carried.

Old Business:

No Old Business

New Business:

a. **General Updates:**

Randy provided a general update on activities since the 11/2/18 meeting. Randy started with a summary of the meeting with DEQ and the Governor's office held on 11/30/18.

Jason B. felt it was a positive meeting on the status of the TMDL and the issues raised in the WAG meetings. Brian and Pat also commented and felt that Director Tippets was engaged and

informed on the issues. Barry Burnell believed the flow shaping action was positive and had support from the Regional DEQ office. Barry further reaffirmed that the nutrient TMDL as not a toxics issue. Kylie is leaving the regional office and will know more about her replacement at the Jan. WAG meeting. David Hensley expressed a desire by the Governor to send a letter to EPA Region 10 office on the timeline of the TMDL.

Brian O. explained the effort to obtain funding and the need to have the state match federal funding for water quality programs.

Pat S. commented Gov. Otter was going to include $10 million in his proposed budget for water quality projects.

John S. gave an update on the proposed flow augmentation shaping program with BOR. Members of the group had a call with BOR on 12/13/18. BOR does not want to violate any downstream obligations but is willing to set up a technical committee to explore scenarios and options to use water for more than one purpose. BOR may also have funding for such studies or data gathering.

Randy, Paul W., and Karen H. volunteered to serve on the tech committee with BOR on this issue. Randy noted that Wade A. from Clif Bar may be interested in participating too.

Jason B. discussed that he and Paul met with Idaho Power, USGS, and DEQ about re-initiating a water quality data program in the Mid-Snake. Would like to fill in the existing data gaps since DEQ quit monitoring around 2008.

b. Amended By-Laws

Randy M. and Travis T. discussed the proposed by-law changes that had been distributed by email. Rick N. moved to appove. Alan H. seconded. The motion carried.

c. Director Elections

Randy discussed the need to elect a board of directors and asked for nominations. The following slate was nominated: Brian O., Jason B., Rick N., Randy M., Alan H., Karen H., Wade A.. Brian O. moved to approve. Rick N. seconded. The motion carried.

d. BOR WaterSmart Grant Application

Chad and Lance joined the meeting by teleconference. Chad discussed the current status of the draft watershed plan needed for the grant application. Chad explained that the group can email comments/edits to him.

Randy requested the group to email comments/edits and requested information to Chad and Lance by the end of Dec. 28th.

Lance generally discussed the grant application criteria and information to be requested from the members for scoring, including public outreach.

Lance also requested a list of water quality projects since 2010. Need to identify and discuss efforts to reduce phosphorus inputs.

Chad also noted the group needs to list and prioritize projects for the grant application. Likely will submit an application for one or two projects.

Randy inquired about water quality monitoring as a proposed project. Chad believed equipment would qualify.

Fransom had provided a scope of work and contract for services to produce the plan and grant application. The estimated cost is $19,500. Brian moved to approve, Jim H. seconded. Jason B. abstained from voting. The motion carried. Randy M. will execute contract on behalf of SIWQC not to exceed $19,500.

e. Misc.

Randy discussed membership and possible non-voting options. Randy noted that Trout Unlimited is interesting in participating. Paul spoke with Peter Anderson. Will follow up with others that may be interested.

Mark D. discussed a new agricultural program that TNC is launching to look at water quality and soil health on the Snake River Plain. Looking to work with farmers/ranchers in the Magic Valley and implement water quality projects. Would like to work with other similar groups in the area.

Rick N. moved to approve TNC as a non-voting member. Jason B. seconded the motion. Motion carried.

f. Annual Meeting

The group discussed and set the annual meeting for January 28, 2019 at 2 p.m. (TFCC).

Meeting adjourned at 4:15 p.m.

IRS DEPARTMENT OF THE TREASURY
INTERNAL REVENUE SERVICE
CINCINNATI OH 45999-0023

Date of this notice: 09-11-2018

Employer Identification Number:
83-1869462

Form: SS-4

Number of this notice: CP 575 E

SOUTHERN IDAHO WATER QUALITY
COALITION
% BRIAN OLMSTEAD
357 6TH AVE W
TWIN FALLS, ID 83301

For assistance you may call us at:
1-800-829-4933

IF YOU WRITE, ATTACH THE
STUB AT THE END OF THIS NOTICE.

WE ASSIGNED YOU AN EMPLOYER IDENTIFICATION NUMBER

Thank you for applying for an Employer Identification Number (EIN). We assigned you EIN 83-1869462. This EIN will identify you, your business accounts, tax returns, and documents, even if you have no employees. Please keep this notice in your permanent records.

When filing tax documents, payments, and related correspondence, it is very important that you use your EIN and complete name and address exactly as shown above. Any variation may cause a delay in processing, result in incorrect information in your account, or even cause you to be assigned more than one EIN. If the information is not correct as shown above, please make the correction using the attached tear-off stub and return it to us.

When you submitted your application for an EIN, you checked the box indicating you are a non-profit organization. Assigning an EIN does not grant tax-exempt status to non-profit organizations. Publication 557, Tax-Exempt Status for Your Organization, has details on the application process, as well as information on returns you may need to file. To apply for recognition of tax-exempt status under Internal Revenue Code Section 501(c)(3), organizations must complete a Form 1023-series application for recognition. All other entities should file Form 1024 if they want to request recognition under Section 501(a).

Nearly all organizations claiming tax-exempt status must file a Form 990-series annual information return (Form 990, 990-EZ, or 990-PF) or notice (Form 990-N) beginning with the year they legally form, even if they have not yet applied for or received recognition of tax-exempt status.

Unless a filing exception applies to you (search www.irs.gov for Annual Exempt Organization Return: Who Must File), you will lose your tax-exempt status if you fail to file a required return or notice for three consecutive years. We start calculating this three-year period from the tax year we assigned the EIN to you. If that first tax year isn't a full twelve months, you're still responsible for submitting a return for that year. If you didn't legally form in the same tax year in which you obtained your EIN, contact us at the phone number or address listed at the top of this letter.

For the most current information on your filing requirements and other important information, visit www.irs.gov/charities.

(IRS USE ONLY) 575E 09-11-2018 SOUT O 9999999999 SS-4

IMPORTANT REMINDERS:

* Keep a copy of this notice in your permanent records. **This notice is issued only one time and the IRS will not be able to generate a duplicate copy for you.** You may give a copy of this document to anyone asking for proof of your EIN.

* Use this EIN and your name exactly as they appear at the top of this notice on all your federal tax forms.

* Refer to this EIN on your tax-related correspondence and documents.

* Provide future officers of your organization with a copy of this notice.

Your name control associated with this EIN is SOUT. You will need to provide this information, along with your EIN, if you file your returns electronically.

If you have questions about your EIN, you can contact us at the phone number or address listed at the top of this notice. If you write, please tear off the stub at the bottom of this notice and include it with your letter. Thank you for your cooperation.

Keep this part for your records. CP 575 E (Rev. 7-2007)

Return this part with any correspondence so we may identify your account. Please correct any errors in your name or address.

CP 575 E

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Your Telephone Number ( ) -

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DATE OF THIS NOTICE: 09-11-2018
EMPLOYER IDENTIFICATION NUMBER: 83-1869462
FORM: SS-4 NOBOD

INTERNAL REVENUE SERVICE
CINCINNATI OH 45999-0023

SOUTHERN IDAHO WATER QUALITY COALITION
% BRIAN OLMSTEAD
357 6TH AVE W
TWIN FALLS, ID 83301

Southern Idaho Water Quality Coalition
First Amended By-Laws

Article I – Name and Location

The name of this unincorporated nonprofit association shall be the "Southern Idaho Water Quality Coalition." The principal place of business shall be Twin Falls, Idaho. The Association is established pursuant to Idaho Code § 30-27-101 et seq. (as may be amended).

Article II – Purpose

The purpose of this Association is to engage a broad coalition of stakeholders to develop a cost-effective framework to identify, manage, and implement water quality improvement projects to benefit the Snake River, tributaries, and related waterbodies. The Association seeks to work collaboratively and voluntarily to invest and obtain resources to implement water quality improvement projects and raise awareness for water availability and quality issues in the area. The Association seeks to implement projects that will improve water quality and the overall environmental health of the watershed. Further, the Association is a grassroots local group that seeks to promote sustainable water use, conservation, water quality, ecological resiliency, and the reduction of water conflicts.

Article III – Membership

Section 1. The Association shall consist of membership, without stock, and shall be operated on a non-profit basis. All income of the Association shall be devoted to the above stated purpose. Any benefits resulting from the projects/actions taken by the Association, shall be, to the extent possible, apportioned to the members based upon financial and/or in-kind participation.

Section 2. Membership of the Association shall be composed as follows:

a. Canal companies;
b. Irrigation districts;
c. Municipalities;
d. Industry and commercial entities;
e. Utilities;
f. Trade associations;
g. Individuals;
h. Any other person or entity approved by the Board

Section 3. Initial Members. The Association's initial members are Twin Falls Canal Company, Clear Springs Foods, Inc., City of Twin Falls, North Side Canal Company, Lamb-Weston, Idaho Aquaculture Association, Idaho Dairymen's Association, Evaqua Farms LLC, Clif Bar Baking Company Twin Falls, and Blind Canyon Aquaranch, Inc.

Section 4. Non-Voting Members. The Association may approve non-voting members who do not have to pay annual dues.

Section 4. New Members. Any person or entity desiring to join the Association shall first make application (verbal or written) for membership to the Board of Directors. The Board will consider any application at a scheduled board meeting and vote to approve or deny.

Article IV – Dues

Section 1. Annual Dues. Voting Membership dues shall be $1,000.00 per year, to be assessed and received in January by the date of the annual meeting or as otherwise determined by the Board. Credit for annual dues will be given for members providing financial support to applications, projecs, or programs approved by the Board. Further, dues of similar or greater value may be provided as "in-kind" contribution of paid consultants or specialized individuals.

Section 2. Sponsorships. Members may also contribute additional funding at levels to be determined by the Board.

Section 3. Dues and sponsorships are necessary to support and implement the purposes of the Association and implement water quality improvement projects.

Article V – Meetings and Vote

Section 1. Annual Meeting. The Association shall hold an annual meeting for the election of the Board of Directors and the transaction of business that may properly come before the membership. The annual meeting shall be held in January each year and the Board shall determine the date, place, and time.

Section 2. Special Meetings. Special meetings may be called at any time by the Board of Directors or by two or more officers.

Section 3. Meeting Notice. Notice of any meeting shall be sent to all members by electronic mail at least five (5) days prior to the date of the meeting.

Section 4. Voting. Each dues paying member is entitled to one vote for purposes of electing the Board of Directors, provided the member is current in the payment of dues. Other than the election of the Board of Directors, all decisions and transaction of business of the Association must be made on a consensus basis.

Article VI – Directors & Officers

Section 1. Directors. The business of this Association shall be conducted by a Board made up of between five (5) and nine (9) Directors with two (2) year terms elected by the members at the annual meeting. Directors may be re-elected for successive terms.

Section 2. Officers. The Board of Directors shall elect or appoint a President, Vice-President, and Secretary/Treasurer. Officers shall serve for a one (1) year term or until a successor is elected.

Section 3. Compensation. No Director or Officer shall receive any salary or payment for his or her services.

Article VII – Duties of Directors

Section 1. Management of Business. The Board shall have general supervision and control of the business and affairs of the Association. The Board shall determine the benefits to be apportioned to members for participating in specific water quality projects and actions.

Section 2. Meetings. The Board may schedule and hold meetings as needed. All board meetings shall be open to the membership.

Section 3. President. The President shall preside over all meetings of the Association and of the Board and perform all acts and duties usually required of an executive and presiding officer.

Section 4. Vice-President. The Vice-President shall be vested with all the powers of the President in his or her absence.

Section 5. Secretary / Treasurer. The Sec/Tres shall be the custodian of the Association funds and cause to be kept a full and complete record of all receipts and disbursements. The Sec/Tres shall keep a full and complete record of all meetings and shall make such reports as required by the Association or Board.

Section 6. Committees. The Board may designate and form committees as needed to further the purposes of the Association.

Article VIII – Financial Matters.

Section 1. Budget. The members are authorized to set a budget at the annual meeting and identify and request funding and/or sponsorships of specific water quality projects,

Section 2. Fiscal Year. The fiscal year of the Association shall be Jan. 1 to Dec. 31.

Section 2. Deposits / Accounting Systems / Reports. The Board may designate an entity and/or trust account for purposes of receiving contributions/dues and payment of approved invoices. The Board may set up a separate bank account for Association funds. Two Directors or Officers must sign any checks that disburse Association funds for any purpose. The Board shall cause to be established and maintained, in accordance with generally accepted principles of accounting, an appropriate accounting system including reports.

Section 3. Non-Liability for Debts. No member shall be liable or responsible for any debts or liabilities of the Association.

Section 4. Projects. The Association may develop and implement projects with contributions and/or in-kind assistance from the members. The Association will work to identify and implement cost-effective projects that improve water quality in the Snake River, its tributaries, and related waterbodies. The Association will endeavor to seek out federal and state funding to assist in such projects.

Article IX – Amendments

These by-laws may be amended at any regular or special Board meeting by a two-thirds (2/3) vote in person, by mail, or electronic mail, provided that no amendment shall be adopted unless a copy of such proposed amendment is included with the notice of such meeting.

Article X – Dissolution

The Association may be dissolved by two-thirds (2/3) vote of the members at any annual or special meeting. Upon dissolution the Board shall wind up the Association's affairs pursuant to Idaho Code § 30-27-128 (as may be amended). Any remaining assets or property of the Association following dissolution may be distributed to another entity with similar non-profit purposes.

DATED this 17th day of December, 2018

SOUTHERN IDAHO WATER QUALITY COALITION

By: J. Randy MacMillan
Its: President

By: Travis L. Thompson
Its: Secretary

Appendix D

SIWQC Middle Snake River Watershed Master Plan

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Middle Snake River Watershed Master Plan

REGISTERED PROFESSIONAL ENGINEER
LANCE ERIC HOUSER
No. 186072-2202
1/25/2019
STATE OF UTAH

JANUARY 2019

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I. Executive Summary

The Southern Idaho Water Quality Coalition (Coalition) prepared the Middle Snake River Watershed Master Plan to summarize water quality issues on the Middle Snake River and its tributaries, identify the efforts of the various Coalition members to improve the water quality, and to identify further projects the coalition can coordinate and implement to further improve the water quality of the Snake River and its tributaries.

A. Definition of the Middle Snake River Watershed

The Middle Snake River Watershed consists of the Snake River in southern Idaho from the outlet to Milner Dam to King Hill, approximately 93 miles downstream. It also includes all the tributaries. In area, this watershed includes approximately 8,620 square miles and affects eight counties.

B. Water Quality Issues and TMDLs

The Idaho Department of Environmental Quality (IDEQ), in cooperation with the Middle Snake River Watershed Advisory Group, developed a TMDL for the Middle Snake River in 1998. This has been updated and modified through 2011. The last monitoring report was prepared by the IDEQ in 2010. There is now improved understanding about the riverine ecosystem complexity, hydrological and biogeochemical process delays, and various legacies of past land use management practices that encourages a more expansive effort than relying solely on a TMDL to achieve water quality improvement. The Coalition has recognized these complexities and have adapted their approach based on the proven successes since the implementation of the TMDL.

1. Load Reduction Goals

When the Middle Snake River TMDL was first implemented, total suspended solids, total phosphorus, and E. coli were identified as the primary pollutants of concern. After heavy capital improvements by several members of the Coalition, total suspended solids and E. coli have been recommended for removal from the Middle Snake River TMDL. However, they are still issues on some of the tributaries, including Rock Creek.

The goal of the total phosphorus concentrations was set at 0.075 mg/L throughout the system. The goals specifically set the location for compliance as measured at Gridley Bridge in Hagerman, Idaho. Due to the action of the Coalition members, total phosphorus concentrations have been reduced from 0.112 mg/L to 0.095 mg/L, as measured over a three-year period from 2013 to 2016. In other reaches, particularly where the Middle Snake River passes King Hill, the outlet to the system, the concentrations have been lowered to 0.062 mg/L.

2. Schedules for Compliance

The original compliance goal set in the 1998 plan was five years. However, with numerous modifications, the date has been shifted many times. The Coalition is now partnering with the IDEQ with the primary goal is to continue the improvements and to get the whole reach, and the associated tributaries, in compliance as fast as possible based on the specific complexities of the Middle Snake River and its tributaries.

C. Coalition Goals and Objectives

Building on the past efforts of the Middle Snake Watershed Advisory Group, the Coalition has engaged a broad spectrum of area land and water users to identify, manage, and increase awareness for water quality issues, projects, and partnerships benefiting the Mid-Snake River and tributary rivers, streams, and creeks. The Coalition's interest is to encourage comprehensive water quality improvement projects and programs that achieve conformance with state water quality standards and the designated beneficial uses.

D. Completed Projects

Since 1998, members of the Coalition have completed over 50 projects to improve water quality in the Middle Snake River and its tributaries. Projects range from wastewater treatment improvements, the creation of treatment wetlands, modification to feed and management practices in fish hatcheries, improved nutrient management by agricultural land owners, and extensive public education. The results of these projects are seen in the improved water quality in the Middle Snake River and its tributaries.

E. Monitoring of Benefits

IDEQ established monitoring locations in the TMDL process. While they have not updated their monitoring since the 2010 update and report, several Coalition members have continued monitoring and providing the results to IDEQ and the Coalition. Additionally, Coalition members have been monitoring the inflow and outflow water quality and flow rates from specific project s to quantify effectiveness. As part of this master plan, the Coalition is further looking to improve their monitoring to better track the progress of the implementation efforts over time.

F. Priority Projects

Projects were evaluated based on estimated project cost, projected benefits, availability of land, and the projects readiness to proceed. The projects are sorted into Priority, Development, and Proposed groups. The Priority Projects listed are the Auger Falls Lateral 43 Project, and the O Coulee Allen Project.

G. Public Relations and Outreach

The Coalition has participated in extensive public outreach and education efforts and are continually seeking to improve their public relations. Efforts have included:

- Several presentations by Coalition members to canal companies and their members, city councils, professional societies, elementary schools, state agencies, and the general community.
- Development and education of nutrient management standards for the agriculture and aquaculture industries in the area.
- Extensive support and incorporation of university research leading to professional publications and the continued education of the industry, particularly in the aquaculture industry.

II. Introduction

This document was prepared by the Southern Idaho Water Quality Coalition (SIWQC or Coalition) to serve as a watershed plan to guide our collaborative efforts to restore the Middle Snake River to meet the needs of our community. In this document, the Coalition defines the boundaries of what is called the Middle Snake River; they identify the major problems facing the watershed; Coalition projects that best address these problems; goals for watershed restoration; accomplishments to date; priorities for continued restoration efforts; and the need for a flexible approach to water quality improvement programs. As with any plan, the document must be reviewed and updated on a regular basis to reflect current conditions and the benefits of knowledge and experience as implementation proceeds. The document serves this purpose, as well as provides a communication tool for the Coalition and the community.

The current organizational members of the Coalition are as follows:

- City of Twin Falls
- Clear Springs Foods
- Clif Bar Bakery of Twin Falls
- Evaqua Farms
- Idaho Aquaculture Association
- Idaho Dairymen's Association
- Lamb Weston
- Northside Canal Company
- Ten Springs
- Twin Falls Canal Company
- Twin Falls Soil and Water Conservation District

The current individual member of the Coalition is Gary Fornshell, PHD.

The principal documents supporting and guiding the creation and continued development of this plan are:

(1998). The Middle Snake River Watershed Management Plan.

(1999). The Upper Snake Rock Watershed Management Plan.

(2000). TMDL Executive Summary Upper Snake/Rock Subbasin TMDL.

(2001). The Upper Snake Rock Implementation Plan 2001.

(2004). Upper Snake Rock TMDL Modification, Part 1.

(2005). Upper Snake Rock TMDL Modification, Part 2.

(2005). Upper Snake Rock TMDL Modification, Part 3.

(2005). Upper Snake Rock TMDL Modification.

(2010). Upper Snake Rock/Middle Snake TMDLs.

(2011). Upper Snake Rock Subbasin TMDL (2000 & 2005) City of Twin Falls TSS Revision.

(2014). Idaho's 2014 Integrated Report.

III. Coalition Purpose

In 1991, the Environmental Protection Agency convened federal, state, and county organizations, along with private organizations, academic researchers, and interested citizens, in a series of workshops and meetings to discuss long-term goals for the Middle Snake River known as the Watershed Advisory Group (WAG).

The management goals that were identified in this process were:

- Attainment of water quality beneficial uses
- Establishment of total maximum daily loads for major pollutants
- Water supply for hydropower, aquaculture, recreation, and irrigation
- Restoration of the Snake River Basin
- Protection of endangered species and
- Sustained economic well-being

Building on this past effort and recognizing the limitations of the Middle Snake Watershed Advisory Group, that is singularly focused on Clean Water Act compliance, the Southern Idaho Water Quality Coalition (Coalition) was formed in 2018 to engage a broad spectrum of area land and water users to identify, manage, and increase awareness for water quality issues, projects, and partnerships benefiting the Mid-Snake River and tributary rivers, streams, and creeks. The Coalition's interest is to encourage comprehensive water quality improvement projects and programs that achieve conformance with state water quality standards and designated beneficial uses. These water quality improvements have addressed both point and non-point pollutant sources, with the entire Coalition working together to improve the health of the Middle Snake River.

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IV. Middle Snake River Watershed Background

The Snake River is the tenth longest river in the United States, extending 1,036 miles (1,667 km) from its origins in western Wyoming to its union with the Columbia River at Pasco, Washington. The river reach of concern, Milner Dam to King Hill, hereafter referred to as the Middle Snake River, and also known as the Upper Snake Rock Subbasin, spans roughly 93 miles (150 km) and lies in the Snake River Plain of southern Idaho. The contributing watershed includes 8,620 square miles (22,326 square km) of land below the Milner Dam downstream to King Hill and the adjacent contributing areas as shown in Figure 1.

This subbasin is primarily in Gooding, Jerome, Twin Falls, Cassia, and Elmore Counties, with small amounts in Owyhee, Lincoln, and Minidoka Counties. The topography of the basin consists of tablelands with relatively medium to high relief. The native vegetation is predominantly sagebrush-grass zone with minimal riparian vegetation limited to water ways.

In 1904, the area around the present cities of Burley and Rupert was a nearly uninhabited sagebrush desert with only a few scattered ranches. Early investigations of irrigation possibilities in Idaho were made under the direction of the Geological Survey in 1889-1890. These surveys included a preliminary examination of the Minidoka Project. During 1902, the information obtained about the storage potential in the headwaters of the Snake River indicated that suitable storage capacity and dams could be developed at a reasonable cost.

Milner Dam was built between 1903 to 1905 by the Buhl-Kimberly Corporation under authorization of the Carey Act (1894), the precursor to the Reclamation Act (1902).

The Minidoka Project was authorized by the Secretary of the Interior on April 23, 1904. Construction activities on the project began in 1904 at Minidoka Dam which, with its associated diversions and canals, formed the nucleus of the present development. Construction of the initial phases of the Minidoka Project brought water to the land, giving opportunity for expansion and for it to become a prosperous, highly developed farm area. By 1919, 2,208 farms were in operation, there were six towns, and the total population was about 17,000. The first power came from the Minidoka Powerplant in 1909; the last generator was installed in 1942. Minidoka Dam was part of the Minidoka Project (built 1904-1906) and was the first Reclamation Service Project under the Reclamation Act to be built in Idaho. The Minidoka Power Plant was finished by 1909 and was the first federal power plant in the Northwest.

The completion of the Milner and Minidoka projects converted the Magic Valley, from a desert dry sagebrush and grass area into a productive agricultural, aquaculture, and industrial production region. Currently, the 2010 census shows the Magic Valley to have a population of 185,790 people, approximately 12% of Idaho's population. (*Water and Power Resources Service Project Data*, 1981)

By 1997, the land used in the basin had been modified to 54% desert shrublands (grazing is a major industry for both cattle and sheep) and 41% agriculture, both irrigated and dryland. Major crops include beans, sugar beets, corn (maize), potatoes, cereal grains, and alfalfa. Livestock products include dairy (particularly in Jerome and Gooding Counties), cattle, and sheep.

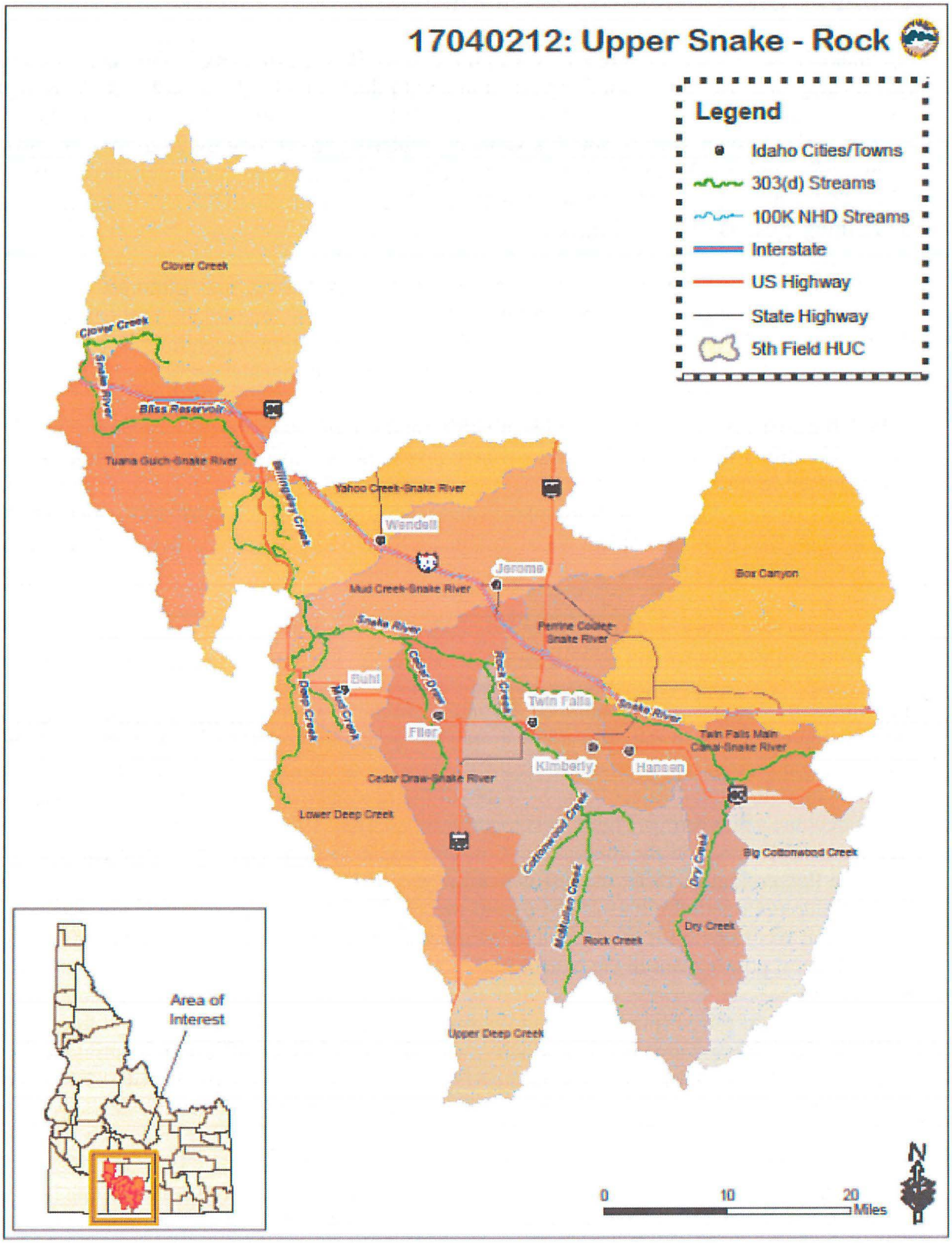

Figure 1: Map of Upper Snake Rock Subbasin

According to the Idaho State Department of Agriculture, aquaculture is the third largest food animal industry in Idaho. There are approximately 115 permitted aquaculture facilities in Idaho, of which nearly 70% operate in the Middle Snake River Basin and discharge to the Snake River and its tributaries. These facilities make Idaho the largest commercial producer of rainbow trout. (http://www.deq.idaho.gov/water-quality/wastewater/aquaculture/, web, Jan. 7, 2019) Additional species include steelhead trout, sturgeon, and warm-water species including catfish, tilapia, and tropical fish. The aquaculture facilities are both private or government owned.

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V. Environmental Problems Facing the Watershed

Water quality in the Middle Snake River is degraded as a result of cumulative impacts from nutrient-laden organic and inorganic material from point and non-point sources in the watershed. Altered flows, periodic droughts, nutrient inputs from upstream sources, and the underlying aquifer contribute to the water quality problems. Most notably during summer months, the Middle Snake River may exhibit extensive aquatic vegetation growth, low aquatic biological diversity, fluctuating oxygen levels, and increased water temperatures.

Between 1989 and 1991, the Middle Snake River Study Group worked with local counties to develop a Coordinated Water Resource Management Plan (CWRMP) for the Middle Snake River. The Middle Snake River Study Group was the origin of the Middle Snake Regional Water Resource Commission as it is known today. Gooding, Jerome, Lincoln, and Minidoka Counties were involved in the initial development of the document. Amendments to the document between 1993 and 2018 have expanded the topics covered by the CWRMP with Twin Falls County and Cassia County adopting the document in 1996 and 2003 respectively.

To date, federal and state agencies have relied on various Clean Water Act requirements to improve water bodies that are impaired by the presence of "nuisance aquatic plant growth." In the late 1990s, the Idaho Department of Environmental Quality (IDEQ) established a 30% reduction goal in rooted macrophyte growth in the Gridley Bridge area as the Water Quality Target for nutrients in the Mid-Snake reach. The primary regulatory tool being applied to remedy this impairment relies on a Total Maximum Daily Load (TMDL) for total phosphorus. Non-point sources of Total Phosphorus (TP) account for 85% of the nutrient loading for the Upper Snake Rock Subbasin. The overabundance of TP is commonly believed to be a main driver behind high aquatic vegetation levels and contribute directly to harmful algal blooms (HABs). Multiple TMDLs have been in place for the subbasin since 1999. When the TMDLs were first incorporated, Total Suspended Solids (TSS), TP, and E. coli were all identified as pollutants in the subbasin. Due to cooperative work and heavy capital investment, TSS and E. coli were recommended for removal from the TMDL in the 2010 Status Report by IDEQ.

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VI. Regulatory Compliance Directives

To date, federal and state agencies have relied on various Clean Water Act requirements to both define the problems facing the watershed, as well as determining the improvements necessary to correct the problems. The Middle Snake River Watershed Advisory Group (WAG) was originally created in 1995 as an outgrowth of House Bill 1284 ("WAG-BAG Law"). The primary purpose was to provide input to DEQ and EPA in restoring the beneficial uses and water quality standards of the Snake River, Rock Creek and their major tributaries. The Middle Snake River WAG encompasses one major subbasin, the Upper Snake Rock Subbasin. The WAG, in cooperation with DEQ, created the Middle Snake River Watershed Management Plan (approved 1997), the Upper Snake Rock Watershed Management Plan (2000), and the Upper Snake Rock TMDL Modification (2005). The WAG has stakeholder industries that represent agricultural irrigation, confined animal feeding operations, food processors, aquaculture, municipalities, grazing, recreation, and forestry. Ground water is also a concern to the WAG and is included in the TMDLs. Currently, the WAG meets monthly (or as needed) to provide input to DEQ and EPA on the 5-year review of the Middle Snake River Subbasin Assessment, TMDL, and Implementation Plan.

Key documents resulting from the TMDL process include the following:

- (1998). The Middle Snake River Watershed Management Plan
- (1999). The Upper Snake Rock Watershed Management Plan
- (2000). TMDL Executive Summary Upper Snake/Rock Subbasin TMDL
- (2001). The Upper Snake Rock Implementation Plan 2001
- (2004). Upper Snake Rock TMDL Modification, Part 1
- (2005). Upper Snake Rock TMDL Modification, Part 2
- (2005). Upper Snake Rock TMDL Modification, Part 3
- (2005). Upper Snake Rock TMDL Modification
- (2010). Upper Snake Rock/Middle Snake TMDLs
- (2011). Upper Snake Rock Subbasin TMDL (2000 & 2005) City of Twin Falls TSS Revision
- (2014). Idaho's 2014 Integrated Report

The TMDL process has set the following implementation pollutant goals at Gridley Bridge in Hagerman, Idaho:

- Instream Total Phosphorus (TP) – 0.075 mg/L
- Instream Total Suspended Solids (TSS) – 52.0 mg/L
- Instream *Escherichia coli* (E. coli) – 126 CFU Geometric Mean, 406 CFU Instantaneous Maximum

However, attainment is monitored at seven discrete locations in the Middle Snake River (Figure 2, Table 19 from 2010 Update).

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VII. Major Pollutants in the Middle Snake River

The Idaho Department of Environmental Quality has stated that TMDLs have been completed and implemented on the Middle Snake River (Upper Snake-Rock HUC 1704212) subbasin, including 10 segments of the Snake River and 28 named tributaries.

The Middle Snake River is impacted by runoff from irrigated crop production, rangeland, pastureland, animal holding areas, feedlots, dredging, hydro-modifications, and urban runoff. Natural springs have also exhibited hydro-modifications and streambank modifications from activities related to sedimentation, aquaculture, hydropower, irrigated crop production, and land development. These impacts have affected the primary beneficial uses of cold water aquatic life, salmonid spawning, and primary and secondary contact recreation.

The primary contaminants identified in the TMDL process are Total Suspended Sediment (TSS), Total Phosphorus (TP), and pathogens as measured in E. coli (1999 TMDL). The TSS and TP external sources are typically associated with agriculture, aquaculture, wastewater effluent, and urban runoff. However, the E. coli are generated from fecal material from mammals, including humans and cattle, and birds. Typically, while E. coli itself can be hazardous, it can also be an indicator of the presence of other potentially hazardous pathogens.

In the Upper Snake Rock Watershed Management Plan (December 20, 1999, Section 3.5.1), it states that the Middle Snake River met the State Water Quality Standards for primary and secondary contact recreation with only infrequent, minor exceedances of the instantaneous fecal coliform standard. As a result, the IDEQ proposed to delist the Middle Snake River for pathogens. However, several tributaries were listed as being in exceedance of the limits and had been submitted to EPA for inclusion on the 303(d) list. Additionally, IDEQ stated that implementation of TSS reductions would reduce pathogens and would meet the water quality standards proposed. As a result, no further allocation efforts were made for E. coli or pathogens.

Primary sources of contamination specifically identified in the TMDL process have included both point sources and non-point sources, as discussed.

A. Point Sources

1. Aquaculture

These facilities generate fairly continuous discharges of relatively dilute concentrations of ammonia, phosphorus, and organic solids as waste products. The 1999 TMDL estimated that 34.9% of the TP summer load in the Middle Snake came from aquaculture facilities. However, the 2007 National Pollutant Discharge Elimination System (NPDES) discharge permit indicated that less than this amount was attributed to aquaculture in the area. Following significant improvements and further monitoring efforts, these numbers have been reduced to only about 13 to 15% currently.

No pathogen or TSS loads were allocated to aquaculture activities in the 1999 TMDL or initial management plan. However subsequent NPDES permits and updates for Aquaculture (Parts 1 through 3) have provided waste load allocations and requirements for each farm individually.

2. Municipalities and Publicly Owned Treatment Works (POTW)

Sediments and nutrients from POTW discharge ammonia, phosphorus, and suspended solids (mostly organic) into the Snake River and its tributaries. The 1999 TMDL estimated that 23.2% of the TP comes from POTW. However, the TSS contributions were so small that no additional TSS allocations were given to the POTW.

3. Urban Stormwater Runoff

Sediments and nutrients associated with stormwater are not addressed in the TMDL. However, typically, stormwater is credited with some of the associated nutrient, sediment, and E. coli loading in the river system. As the population continues to increase, areas of the Magic Valley will fall into the Phase 2 NPDES classification and the EPA will require stormwater to be addressed more completely. Typically, as this happens, the classification tends to extend and include the Cities, surrounding smaller communities, and often times the surrounding County.

B. Non-Point Sources

The following is from the Department of Environmental Quality's report Upper Snake Rock/Middle Snake TMDLs, dated April 2010 (*http://www.deq.idaho.gov/media/453716-snake_rock_upper_five_year_review_0409.pdf*, web, Dec. 21, 2018):

> *"Agriculture and grazing remain the primary nonpoint source pollutant sources. Population growth within Upper Snake Rock Subbasin has increased the demand on community infrastructure. This demand has caused municipalities to reconsider how wastewater NPDES permit limits will be met in the future. Possible solutions that have been considered are; pollutant trading, improved filtration systems, possible land application."*

1. Confined Feeding Operation (Feedlots, Dairies, etc.)

The TMDL associates the Confined Feeding Operation (CFO) with no contribution in the study since they are defined as a zero discharge. However, the CFO industry recognizes that not all operators are using appropriate best management practices and that land application of CFO wastes, which exceeds the nutrient uptake capability of the soils, can contaminate both surface and ground water. However, at the time of the 1999 TMDL, the CFOs were not accounted as a contributor directly of TSS or TP.

2. Irrigated Agriculture

The TMDL states that irrigated agriculture contributes both sediment and nutrient loads to the system through return flows, both directly to the Middle Snake River and to its tributaries. In 1992, a study by Brockway and Robison measured nutrient and sediment loads in return flows. They estimated that these flows represented approximately 70% of the summer direct discharges to the Middle Snake River. Delimiting the sources of contaminants in irrigation return flows is difficult since the over-application of the CFO wastes (B.1 above) can result in surface runoff or ground water contamination. The 1991 summer load estimates indicated that approximately 13.2% of the TP and 49.9% of the TSS came directly from irrigated agriculture.

3. Other Non-Point Sources

Other non-point sources include erosion of grazed lands, stream bank and river bank erosion, and lands that are impacted by fires. While these contributions are very difficult to monitor and measure, the TMDL attributed 10.9% of the TP summer load and 50.1% of the TSS to these other non-point sources.

C. Background Sources

One of the biggest challenges in managing TP is the tendency for it to bind to sediments. It then settles into the bed of the rivers, streams, and reservoirs. This TP then becomes a sink/source within the system based on the ability of aquatic vegetation, particularly rooted vegetation, to absorb the phosphorus and for the phosphorus to re-mobilize by dissolution into the water column as the residual concentrations are lowered or the sediments are disturbed. Additionally, the plants themselves tend to remobilize the TP as they absorb it and store it in the vegetative bio-mass, which then dies and decays, thus releasing the TP back into the water column. As a result, this sink/source can cause significant fluctuations in TP and other nutrients, making management difficult.

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VIII. Public Relations and Outreach

Both Coalition and individual members continually reach out to the community to encourage participation, input, and potential membership.

Recent community outreach efforts by the Coalition include presentations to the:

- Idaho Board of Environmental Quality (May 17, 2018)
- Idaho Aquaculture Association
- Idaho Speaker of the House of Representatives
- Middle Snake River Watershed Advisory Group (September 18, 2018)
- Chief of Staff for Governor Otter and IDEQ (December 2018)
- Middle Snake River Water Resource Commission (December 19, 2018)

The Coalition was able to present on the SIWQC mission, goals, efforts, and successes to improve the Middle Snake River.

A. North Side Canal Company Efforts

The North Side Canal Company (NSCC) conducts an annual company meeting where staff presents updated information to the shareholders regarding the performance of the current water quality projects. Projects planned for the next year are also presented to those in attendance.

Every September, NSCC provides an educational field day for area sixth graders at the W 28 Nature Conservancy Wetland Area. During this field day, students are taught about phosphorous and its impact on the environment, sedimentation, how a wetland functions to remove pollutants, and where pollutants originate from in our built environment.

B. Idaho Aquaculture Environmental Stewardships Efforts

The aquaculture community has worked to be good environmental stewards. Some of their efforts are listed below.

- Publication of *Idaho Waste Management Guidelines for Aquaculture Operations* in 1996. The Idaho Waste Management Guidelines for Aquaculture Operations, with site specific information, is used to develop waste management plans to meet water quality goals. This plan addresses Idaho's water quality concerns associated with aquaculture in response to the federal Clean Water Act (CWA), Idaho Water Quality Standards, and Wastewater Treatment Requirements. Collaborative effort involved Idaho Department of Environmental Quality, Idaho Department of Agriculture, University of Idaho Aquaculture Research Institute, University of Idaho Extension, Idaho Conservation League, Idaho Rivers United, Hagerman Valley Citizens Alert, College of Southern Idaho, Idaho Aquaculture Association, and the public.
- United States Agriculture Department funded research (about $2 million) through the Western Regional Aquaculture Center to improve effluent water quality from aquaculture facilities in the Magic Valley. Several reports from this research include:

  - Pollutant reduction in salmonid aquaculture by diet modification (1993-1996)
  - Development of economical, high-performance, low-polluting feeds and feeding strategies (1997-2001)
  - Reducing phosphorous discharge from high density, flow-through aquaculture facilities (2000-2004)
  - Evaluation and improvement of solids removal systems used in aquaculture production (1993-1997)
  - Cost-effective, alternative protein diets for rainbow trout that support optimal growth, health, and product quality (2009-2012)
- These research efforts, included both in-kind contributions and direct expenditures of $30 million resulting in improvement, modification, and/or installation of waste treatment systems, improved fish feeding programs, and implementation of best management practices. This was done in collaboration with the aquaculture industry, University of Idaho Extension, and University of Idaho Aquaculture Research Institute. These efforts have resulted in:
  - Meeting the 40% reduction of Total Phosphorus (TP) discharge required by the Middle Snake River Total Maximum Daily Load Waste Load Allocation for aquaculture.
  - Further reducing the TP discharge requirement of 40% by an additional estimated 200-300 pounds per day (based on Tetra Tech review of the Middle Snake River TMDL).
  - A significant reduction in Total Suspended Solids (TSS) discharged, with almost 100% of aquaculture facilities reporting below the 5 mg/L TSS net compliance limit 100% of the time.
- Monitoring instream TP concentrations in the Snake River at the Ken Curtis Bridge (Buhl) since 2001. Mean annual TP concentrations have declined significantly since 2001.
- Since the late 1980s, when efforts first began, continuous engagement and cooperation by the Idaho Aquaculture Association, aquaculture companies and producers, with DEQ, EPA, and Middle Snake River stakeholders have been addressing water quality issues in the reach.
- Idaho Aquaculture Association and individual companies and producers have been members of the Middle Snake River Watershed Advisory Group and Technical Committee since its inception in 1996.
- Western Sustainable Agriculture Research and Education grant that investigated composting aquaculture solids and fish mortalities during the mid-1990s. Aquaculture companies and producers have adopted composting aquaculture solids, which has led to improved and sustainable handling and disposal of solids.
- Conversion of earthen aquaculture production facilities to concrete aquaculture production facilities resulting in improved waste management and effluent water quality.
- Participation by aquaculture companies and producers with University of Idaho Extension educational programs since 1992 related to aquaculture waste management, improved effluent water quality, development and implementation of best management practices plans, and NPDES permit compliance via:

  - Workshops
  - Classes
  - Presentations at aquaculture association meetings
  - Newsletters
  - Extension publications
  - Feed demonstration trials
  - Farm and office visits
- Selected University of Idaho Extension Aquaculture Educator publications related to improved waste management and water quality:
  - Hinshaw, J.M. and G. Fornshell. 2002. Effluents from Raceways. Pages 77-104 in Aquaculture and the Environment in the United States. J.R. Tomasso (editor). U.S. Aquaculture Society, A Chapter of the World Aquaculture Society, Baton Rouge, Louisiana, USA.
  - Buyuksonmez, F., R. Rynk, T. Hess, and G. Fornshell. 2005. Composting Characteristics of Trout Manure. Journal of Residuals Science & Technology 2 (3): 149-157.
  - Engle, C.R., S. Pomerleau, G. Fornshell, J.M. Hinshaw, D. Sloan, and S. Thompson. 2005. The Economic Impact of Proposed Effluent Treatment Options for Production of Trout Oncorhynchus mykiss in Flow-through Systems. Aquacultural Engineering 32: 303-323.
  - Fornshell, G., J.M. Hinshaw, and J.H. Tidwell. 2012. Flow-through raceways. In Aquaculture Production Systems. (Ed. J. H. Tidwell). Wiley-Blackwell.
  - Fornshell, G. and J.M. Hinshaw. 2008. Best Management Practices for Flow-through Aquaculture Systems, in Environmental Best Management Practices for Aquaculture. C.S. Tucker and J.A. Hargreaves (editors) Blackwell Publishing, Ames, Iowa.
  - Chen, S. and G. Fornshell. 2000. Effluents: Dissolved Compounds, Pages 283-286 in Encyclopedia of Aquaculture. Robert Stickney (editor) John Wiley & Sons, Inc.
  - Fornshell, G. 2001. Settling Basin Design. Western Regional Aquaculture Center Publication 106, University of Washington, Seattle, Washington.
  - Fornshell, G. 2013. Working Together to Improve Water Quality. University of Idaho Extension Impact Statement.

C. Twin Falls Efforts

The City of Twin Falls incorporates regular public input in its council meeting, city planning documents (e.g. strategic plan), and other important public resolutions. One of the most recent examples of community involvement has been the issuance of a wastewater bond to upgrade the wastewater treatment facility. The City of Twin Falls formed a Citizens Committee to receive recommendations from the public and to help educate the public of the necessity for upgrades to the wastewater treatment facility. On Monday, March 11, 2013, the Citizens Committee reported to the City Council and the public its recommendations from its public input on treatment improvements. The success of this committee and the public education was demonstrated when the public voted for the bond approval and subsequent treatment plant improvements.

Other important public involvement has come with the expansion of the Auger Falls Conservation Area. This area has had a lot of public input over the past ten years. This area is a place for reactional enthusiasts, bird watchers, and the public to go and enjoy the out of doors. The city received a discharge permit from the Idaho Department of Environmental Quality to land apply treated wastewater effluent from the municipal waste treatment plant. The process of obtaining this permit required general comments from the public. The public is very interested in this area, the city receives comments and input from time to time on what needs to occur to protect and enhance this area of the city.

The city remains involved in communication on NPDES or Idaho Pollutant Discharge Elimination System (IDPES) permits, whether that communication comes directly or indirectly through other associations that the city is affiliated with.

D. IDA Research, Education & Outreach Efforts

The Idaho Dairymen's Association (IDA) puts considerable resources towards environmental research, education, and outreach to continue to help IDA's members improve their stewardship of Idaho's air, land, and water.

1. Recent Soil Health & Water Quality Research

The IDA has made environmental research a priority over the past decade, with water quality being one of the primary areas of emphasis. The IDA has provided grants totaling over $1 million to fund research focused on the potential environmental impacts related to Idaho's dairy industry. Below are three current projects the IDA are helping to fund and collaborate on:

- Long Term Impacts of Manure Application on Crop Production, Soil Quality and Environmental Footprint – Dr. April Leytem, USDA ARS, Kimberly, ID (2013-2020)
- Measuring the Efficiency & Financial Feasibility of a Centrifuge Separator – Dr. Lide Chen, University of Idaho, Dr Hernan Tejeda, University of Idaho (2017-2018)
- Evaluating Manure Separation Technologies on Dairy Farms – Dr. April Leytem, USDA ARS, Kimberly, ID (2019)

2. Education & Outreach

The IDA works to provide its members with the latest scientific information regarding water quality and soil health through two main avenues; regional producer meetings and newsletters.

Every winter, the IDA hosts regional educational meetings throughout the state for its members in 4-5 separate locations central to where its dairy farm members are located. The IDA in-house scientists, as well as researchers from USDA ARS and University of Idaho, provide presentations on topics covering nutrient management, factors impacting nutrient loss from fields, emerging technologies and practices that benefit soil health and water quality, and other timely subjects.

This same expertise contributes to the IDA newsletter, which is received by the 457 dairy farm members, as well as nearly 2,000 other recipients. The IDA publishes 4-6 newsletters per year, with each edition having an environmental topic. Past articles have ranged from 'Soil Test Phosphorus – Don't let it be Your Legacy' to 'Manure Analysis 101'. These articles are written with the dairy producer as the target audience, and typically are about subject matters that are opportune and relevant to environmental practices within Idaho's dairy industry.

3. New Environmental Standard Development

The IDA works closely with the state and federal agencies that regulate the dairy industry. In 2018, the IDA endeavored to have the Idaho State Department of Agriculture adopt rules that would allow a newly created Phosphorus Site Index (PSI) risk assessment tool to be used as a Nutrient Management Standard within Idaho's dairy industry. The PSI was created at the request of the IDA by Drs. David Bjorneberg, April Leytem, and David Tarkalson with the USDA ARS in Kimberly, Idaho. The IDA's goal was to modernize nutrient management standards with the most recent science available, while also having a more producer-minded resource developed to enhance its adoption and use.

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IX. Implementation Efforts and Effects

Both nationally and internationally, riverine nutrient TMDLs have failed to achieve their desired goals, even after investment of millions of dollars over many years. Riverine nutrient TMDLs do not account for ecosystem complexity and assume simple, yet false, "cause and effect" relationships. This plan accounts for the Clean Water Act requirements to develop waste load and load allocations for nutrient phosphorus, total suspended solids, and E. coli, but takes a more general approach based on a local understanding of the river ecosystem following current scientific understandings and working with local partnerships.

In the Middle Snake River, point sources account for approximately 15% of identified phosphorus loads, while being held responsible for complete riverine water quality recovery. Riverine nutrient TMDLs also do not account for hydrological and biogeochemical process delays and various legacies of past land use management practices. The nutrient TMDL assumes nearly immediate recovery of an impaired water body, yet legacy issues and hydrologic time lags alone may require an exceedingly long mitigation period before water quality standards can be achieved. Work by Houser et al (1998) documented a 20-year lag expectation in the Colorado River Basin on salinity, a much simpler process compared to phosphorus, after the implementation of best management practices. Similar effects were seen on Selenium on the Kendrick Project in Wyoming and the Kesterson National Wildlife Refuge in California.

The Coalition recognizes that the TMDL and current Clean Water Act regulatory framework focuses primarily on the point sources as the avenue to reach water quality goals across the nation. However, due to the extreme costs associated with point source mitigation compared to non-point source mitigation, many regions in the country have recognized the value of using non-point source reductions to offset point source reductions. The WAG, and subsequently the Coalition, has long recognized the value of working together to accomplish a more functional and economically viable solution to improved water quality of the Middle Snake River.

The Coalition recommends, as in previous Idaho DEQ and EPA approved iterations of the Mid-Snake TMDL, continued use of the Mean Water Year Flow (albeit with a 50-year period of record) as the critical flow for determining the river's total phosphorus load assimilative capacity. DEQ has adopted a mean water year flow as the statistical method for other nutrient TMDLs throughout the Snake River. Use of such a flow allows beneficial uses to be attained and resource flexibility to implement additional projects.

Additionally, the Coalition has identified water flow and non-point source pollution projects for their initial focus. Investing individually, and with funds from state and federal sources, partnering with the US Bureau of Reclamation, and utilizing the technical expertise of the Idaho Power Company, water flow scenarios are being modeled in the Mid-Snake River to increase the frequency of higher flows/river elevations during the critical summer period. Initial modeling conducted by the Idaho Power Company suggests this alone would decrease aquatic plant biomass by about 30%.

Further, a recent water rights administration agreement between the Surface Water Coalition and the Idaho Ground Water Appropriators, along with state investment in aquifer recharge targets

200-300 cubic feet per second (cfs), water flow increases in tributary springs to the Mid-Snake. Within the past two years, there has been an Eastern Snake Plain Aquifer (ESPA) storage increase of nearly 2.3 million ac-ft to the ground water resource. Increasing ground water levels will increase flows in adjacent reaches of the Snake River, including the Mid-Snake.

Table 1: Water Quality Data Along the Middle Snake River.

	Milner Dam (MD)		Pillar Falls (PF)		Crystal Springs (CS)		Box Canyon (BC)		Gridley Bridge (GB)		Shoestring Bridge (SB)		King Hill (KH)	
Year	<2000	>2000	<2000	>2000	<2000	>2000	<2000	>2000	<2000	>2000	<2000	>2000	<2000	>2000
TSS, mg/L														
N	199	97	63	101	61	99	152	98	77	99	14	98	29	98
Min	0.2	0.3	2	0.5	<0.0	0.1	2	0.5	0.5	0.5	18	0.5	3	0.5
Mean	**15.1**	**11.4**	**18.7**	**10.6**	**27**	**9.8**	**26.1**	**7.8**	**25**	**6.4**	**40.7**	**8**	**43.9**	**76**
Max	77	35	50	79	65	56	134	54	109	130	156	32	305	30
Median	**15**	**10.5**	**16**	**8**	**25**	**8**	**18**	**6.6**	**17**	**4**	**33**	**7.4**	**27**	**6.2**
TP, mg/L														
N	199	97	95	99	94	99	207	98	131	99	14	98	29	98
Min	0.03	0.029	0.049	0.005	0.06	0.051	0.018	0.035	0.022	0.038	0.074	0.033	0.076	0.01
Mean	**0.164**	**0.137**	**0.101**	**0.102**	**0.137**	**0.142**	**0.119**	**0.111**	**0.112**	**0.094**	**0.116**	**0.097**	**0.118**	**0.081**
Max	0.9	0.41	0.27	0.91	0.3	1.4	0.43	0.229	0.4	0.236	0.263	0.62	0.471	0.19
Median	**0.1**	**0.117**	**0.09**	**0.077**	**0.135**	**0.122**	**0.111**	**0.107**	**0.1**	**0.088**	**0.104**	**0.083**	**0.1**	**0.078**
E. coli, cfu/100mL														
N		96		100		98		97		99		97		97
Min		0		1		1		1		1		1		1
Mean		**3**		**15**		**14**		**25**		**21**		**7**		**7**
Max		50		980		80		500		687		110		52
Median		**1**		**2**		**10**		**10**		**8**		**4**		**4**
pH														
N	199	98	67	100	66	101	122	101	101	101	15	102	30	100
Min	6.9	7.41	6.5	7.66	7.1	7.6	6.9	7.61	6.9	7.59	7.92	7.65	7.91	7.38
Mean	**8.57**	**8.54**	**8.4**	**8.46**	**8.3**	**8.4**	**8.23**	**8.32**	**8.15**	**8.23**	**8.23**	**8.35**	**8.25**	**8.43**
Max	9.4	9.6	8.9	9.4	9	9.4	9.05	9	8.79	8.8	8.4	8.9	8.45	9.08
Median	**8.6**	**8.55**	**8.4**	**8.47**	**8.4**	**8.45**	**8.23**	**8.36**	**8.16**	**8.27**	**8.26**	**8.37**	**8.28**	**8.5**
DO, mg/L														
N	199	98	61	98	60	99	112	99	89	99	15	100	30	99
Min	6.6	4.2	5.3	6.6	6.7	5.8	7.1	5.2	7.1	5.8	6.19	6.8	5.44	6
Mean	**10.3**	**10.2**	**9.8**	**9.8**	**9.7**	**10.3**	**10**	**9.6**	**9.7**	**9.3**	**9.25**	**9.8**	**9.5**	**9.8**
Max	17	20	14.3	13.8	14.7	14.7	15.6	14.4	14.5	12.8	14.81	12.4	12.27	15.7
Median	**10.4**	**9.7**	**9.5**	**9.8**	**9.6**	**10.3**	**9.5**	**9.4**	**9.2**	**9.2**	**9.14**	**9.7**	**9.22**	**9.7**
Temp, °C														
N	199	98	67	99	65	100	123	100	101	100	15	100	30	98
Min	0	-2.14	1.2	-1.2	1.5	1.68	2.11	1.68	2.97	2.05	7.63	1.98	8.06	1.36
Mean	**10.95**	**11.81**	**14.7**	**11.81**	**15**	**12.57**	**14.47**	**13.08**	**14.4**	**12.9**	**16.07**	**12.93**	**16.08**	**12.85**
Max	24.2	23.5	21.6	24.2	22	24	24	21	22	23	19.61	21	19.65	22
Median	**10.69**	**9.75**	**16**	**12**	**16**	**12.51**	**16**	**12.7**	**15.4**	**12.3**	**17.56**	**12.95**	**17.42**	**12.6**

2010 TMDL water quality data was compared from the years 2000 to 2008. Later loads were not considered. Original TMDL written for Fecal Coliform, WQ standards were changed to evaluate E. coli.

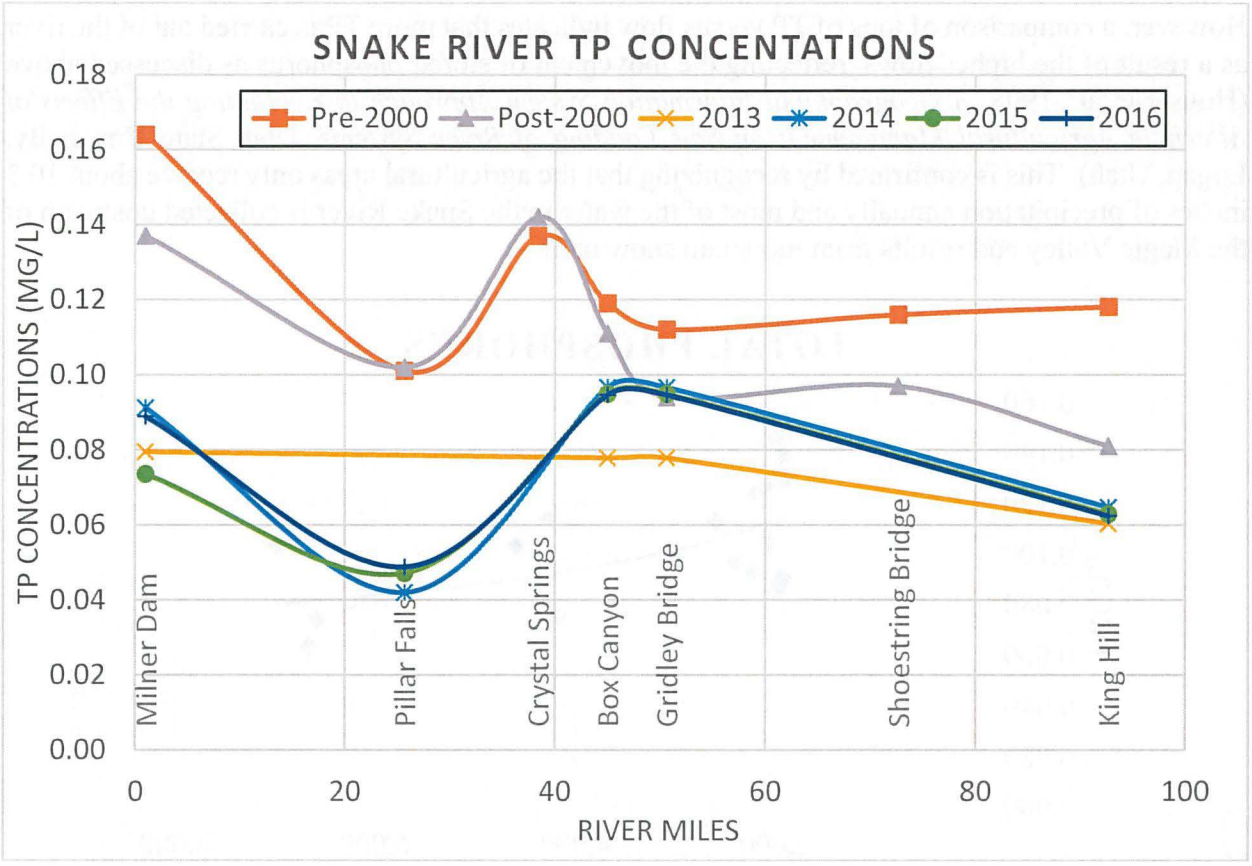

Figure 2: Table 19 from 2010 TMDL Update

The Coalition members have implemented numerous projects since the implementation of the TMDL. As a result, significant reductions have been recognized in both TP and TSS. According to the 2010 update, there has been a 23.7% reduction in TP and an 18.5% reduction in TSS. In the last segment, as measured at King Hill, there has been a 92.3% reduction in TSS and a 60.2% reduction in TP. Additionally, it should also be recognized that the inflow TP from above Milner Dam has averaged 0.137 mg/L, almost double the target level while the water leaving this reach is approaching the TP target goals prior to 2010. Since 2013, the Milner Dam levels have averaged .074 mg/L. Figure 2 shows the reductions of the total phosphorus concentrations in the Middle Snake River since the 1998 TMDL. The "Post-2000" data points are the average from the IDEQ from 2005 to 2010, as summarized in the update.

Figure 2 shows that there is a consistent declining trend in TP concentration in the water column reflecting the effects of the projects.

Additional sampling has been collected consistently at the Ken Curtis Bridge near Buhl, Idaho. This data is collected in the segment between the Crystal Springs and Box Canyon monitoring stations. This data, shown in Figure 3, shows that there is a fairly weak correlation between flow rates and TP concentrations, reflecting the effects of dilution. However, it should be noted that there are many other variables that affect the concentrations of TP which have not been quantified. This is reflecting the complexity of the hydrological relationship to the TP concentrations.

However, a comparison of tons of TP versus flow indicates that more TP is carried out of the river as a result of the higher flows, reflecting the movement of stored phosphorus as discussed above (Houser et al., 1998, *A Geographical Information System Approach to Evaluating the Effects of Alternate Agricultural Management on Salt Loading of River Systems*, Utah State University, Logan, Utah). This is confirmed by recognizing that the agricultural areas only receive about 10.3 inches of precipitation annually and most of the water in the Snake River is collected upstream of the Magic Valley and results from mountain snow melt.

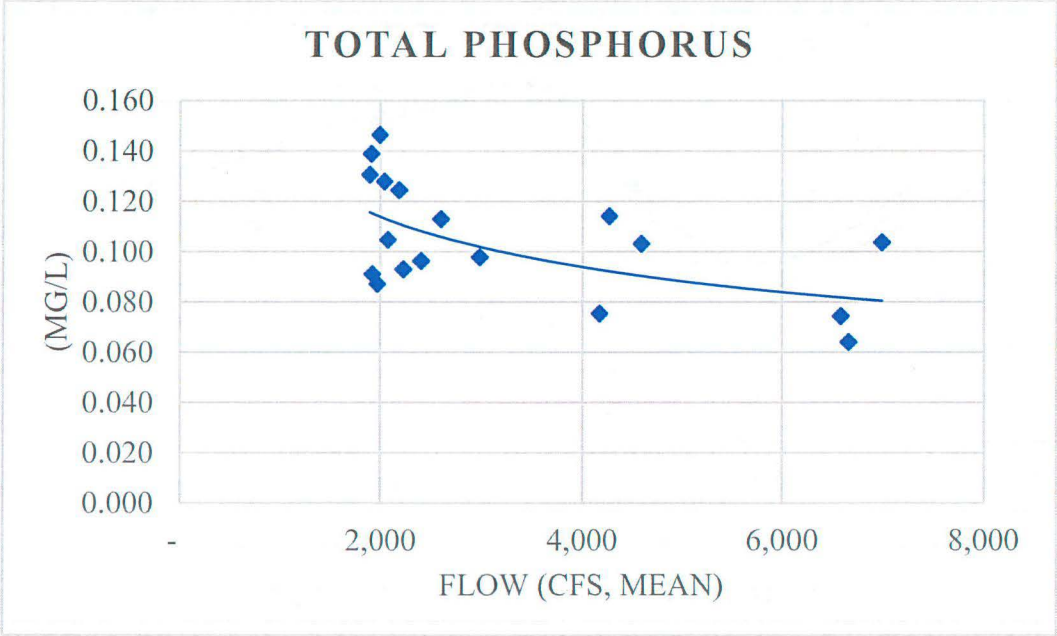

Figure 3: TP Concentration Correlation with Flow Rates at Ken Curtis Bridge

Additional evaluation of the data further confirms a correlation between flow and the tons of phosphorus moved through the system at the Ken Curtis Bridge, as shown in Figure 4. Note that high flow years tend to coincide with higher tonnages of phosphorus as expected. However, the flushing flows of 2017 seem to have moved extra stored phosphorus, most likely bonded to the sediments upstream of the Ken Curtis Bridge. Interestingly, the following year reflects a significant reduction in water column phosphorus movement. The pattern is very dramatic in in 2017 and 2018, but flows of 2011 and 2012show a similar pattern. This seems to demonstrate a significant benefit to the system from these flushing flows. Further monitoring of this pattern is important to determine the long-term benefits. Additionally, it is important to understand the effects of the sediment movement downstream, especially in the reservoirs.

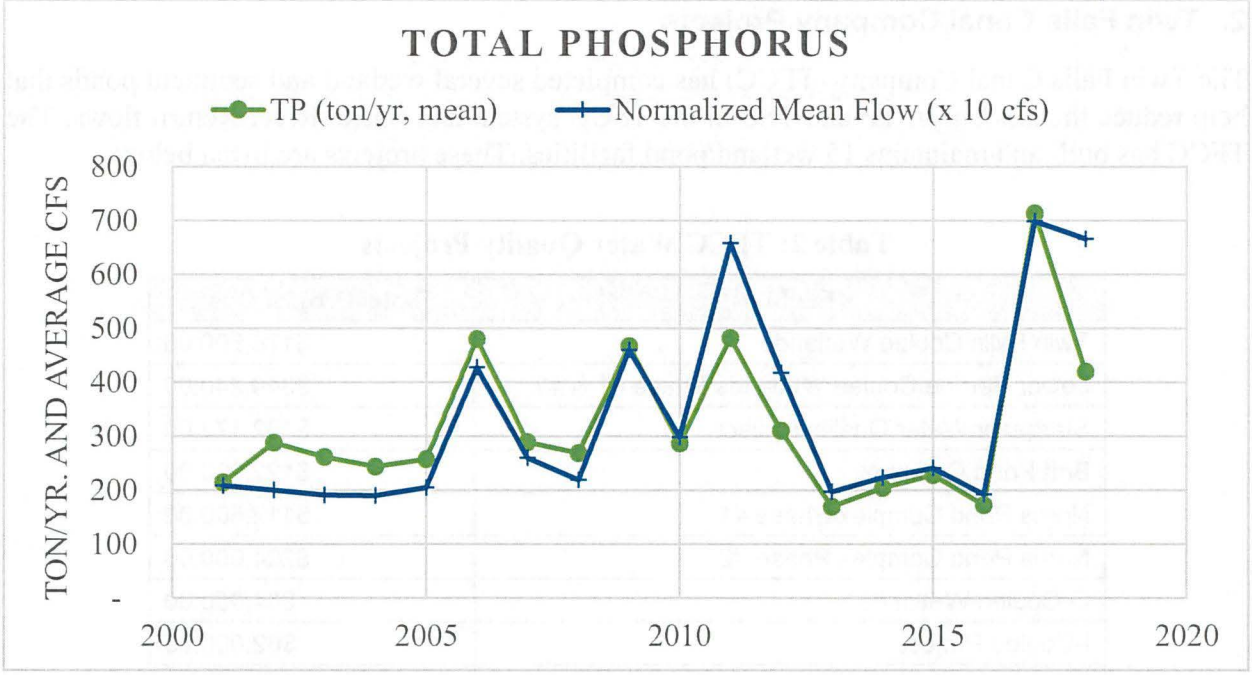

Figure 4: Ken Curtis Bridge – Tons of Sediment and Annual Average Flow Rate

A. Completed Projects

1. City of Twin Falls Projects

In 2011, the City of Twin Falls and the Twin Falls Canal Company collaborated to create two different wetland settling ponds system. The ponds system settle sediments from non-point irrigations returns, which reduce the amount of sediment returning to the Snake River. Along with the sediment reductions, any nutrients (e.g. phosphorus, nitrogen, etc.) partitioned to the sediment are also removed. This partnership allowed the City of Twin Falls the ability to offset sediment reductions at the wastewater treatment facility.

The largest project the City of Twin Falls has implemented since 2010 would be the expansion of the wastewater treatment facility in 2015. This expansion required public input, education, and ultimately a revenue bond in the amount of $38 million in order to provide future benefits. The wastewater treatment facility expansion not only gave the City of Twin Falls more capacity, but also introduced the ability for biological nutrient removal (BNR). The BNR process has allowed the city to further reduce its nutrient discharge to the river through treatment technologies. The city continues to try and improve the performance of their wastewater treatment facility, but also looks for ways of gaining a greater environmental impact, while trying to keep rates as low as practical.

In 2014, the city also constructed wetlands at the Auger Falls Park. This park takes treated wastewater effluent and applies it into infiltration basins. This project has allowed the city to create an open space for bicycle enthusiasts, bird watchers, and general out of doors recreation.

As the city continues to grow and develop, it continues to look for ways to benefit the environment, but also be diligent in the use of public funds and resources.

2. Twin Falls Canal Company Projects

The Twin Falls Canal Company (TFCC) has completed several wetland and sediment ponds that help reduce the amount of TP and TSS in the TFCC system and Snake River Return flows. The TFCC has built and maintains 15 wetland/pond facilities. These projects are listed below:

Table 2: TFCC Water Quality Projects

Facility	Total Project Cost
Twin Falls Coulee Wetlands	$178,600.00
Lower Perrine Coulee Wetlands Phase #1 & #2	$340,240.00
Stargazer Water Quality Project	$132,172.00
Britt Pond Complex	$122,200.00
Norris Pond Complex Phase #1	$112,500.00
Norris Pond Complex Phase #2	$204,000.00
O-Coulee Wetlands	$64,050.00
I-Coulee Project	$62,000.00
Miller Pond Complex	$92,346.00
Mud Creek/Silo Creek Phase #1	$272,704.00
Mud Creek/Silo Creek Phase #2	$344,650.00
Malone Pond #2	$45,675.00
LS/LQ	$285,000.00
Oregon Trail Project	$163,866.00
Lateral 5/5A	$107,000.00
Total	**$2,348,403.00**

The TFCC recently completed the Stargazer Wetlands Project in the spring of 2018 and it was operational for the 2018 irrigation season. The facility was constructed on Rock Creek and consists of four cleaning cells. The facility is expected to remove nearly 550 tons of sediment from the drainage annually, along with reductions in TP, TSS, and E. coli. Water Quality monitoring during the 2018 irrigation season by the University of Idaho indicated the wetland removed 86.2% of the TSS and 60.8% of the TP during its first year of operation. Monitoring of the facility is planned for another two years. (Snake River Soil & Water Conservation District, *Stargazer Water Quality Project Final Report,* December 21, 2018)

Figure 5: Stargazer Wetlands Project

The TFCC is currently working on a 24-acre pond/wetland complex for flood prevention, flood risk reduction, nutrient load reduction, and TSS reduction. The project is in cooperation with the Idaho Water Resources Board as part of a grant and is currently under construction.

Figure 6: 24-Acre Pond/Wetland Complex

3. Northside Canal Company Projects

The Northside Canal Company (NSCC) has completed 22 water quality improvement projects since the early 1990s. Partners on the projects included underlying and adjacent landowners, the Idaho Department of Fish and Game, the Natural Resource Conservation Service, and the Nature Conservancy. These projects consisted of the construction of sediment settling ponds and wetland areas. The "inactive" sites were developed, served their purpose, and now due to upstream

management and control changes, no longer discharge to the Snake River. These projects are listed in the table below.

Table 3: Northside Canal Company Water Quality Improvement Projects.

Facility	Current Status
Seller's Drain	Active
A Drain	Active
C 50 (Lockwood) Drain	Active
C 55 (McFarland) Drain	Active
C 33 (Ehlers) Drain	Inactive
K Drain	Active
N 34 Drain	Inactive
N 30 Drain	Active
N 24 Drain	Intermittent Flow, <1 cfs typically
N 23 Drain	Active
J 8 Drain	Active
S 39 (Moore) Drain	Intermittent Flow, < 1 cfs typically
S Drain	Active
W 28 (Nature Conservancy) Drain	Active
W 26 Drain	Active
W 46 Drain	Active
W (Birch Creek) Drain	Intermittent Flow, < 1 cfs typically
Z 6 Drain	Inactive
Z 9 Drain	Inactive
Z Drain	Intermittent Flow, < 1 cfs typically
Y Drain	Intermittent Flow, < 1 cfs typically
Y 8 Drain	Active

These projects consisted of constructing sediment settling ponds and vegetative wetland areas at the end of lateral ditches that discharge operational spill water to the Snake River. These projects have served as an effective first step in reducing nutrient and sediment discharges from the NSCC canal system back to the Snake River. Due to improved water management practices over the past few years, some of these facilities have essentially "dried up" and no longer discharge operational spill water to the river. Operational spill water that returns to the river that has passed through these projects consistently has total suspended solids less than 52 mg/l and total phosphorous levels below or slightly above the 0.075 mg/l standard.

The Twin Falls and North Side Canal Companies are working to build additional sediment traps and additional wetlands that remove solids and phosphorus from their return flows.

4. Dairymen's Voluntary Nutrient Management Program

The Idaho Dairymen's Association has identified a number of manure processing techniques to help limit the need for manure application on fields and has instituted a new Phosphorus Index Nutrient Management Program. Most of their effort has been associated with education of their members.

5. Aquaculture Improved Feed Program

During the late 1990s studies were completed by the Western Sustainable Agriculture Research and Education grant on the dietary requirements of fish and their feeding programs. Many of these programs, at the time, used feeding methods that increased the nutrient load of the facility effluent to the Snake River. Since the early 2000s, fisheries in the Middle Snake River have improved feeding programs through developing efficient fish feed. The non-soluble nutrients in the feed are minimized while increasing the biologically available nutrients. The manufacturing process used to create the feed has also been improved to minimize the amount of feed that dissolves in the water before being ingested by the fish. This program, in combination with other efforts, has led the Idaho Aquaculture to meet NPDES, IDEQ, and EPA requirements to minimize nutrient loading of the facility effluent into the Snake River.

6. Projects from 2010 TMDL Update

The following list of projects were previously completed and listed in the 2010 TMDL update.

Table 4: Projects on the Middle Snake River Completed Since 2000.

Water Body or Location	Pollutant	Activity or Strategy	Program Funding	Sponsors or Supporters
Snake River	TSS, TP, E. coli	Sediment control basins, constructed wetlands	Private	TFCC
Perrine Coulee	TSS, TP, E. coli	Sediment control basins, constructed wetlands	319	Snake River SWCD, TFCC, TF City ISCC, DEQ, NRCS
Cedar Draw	TSS, TP, E. coli	Sediment control basins, constructed wetlands	319	Balanced Rock SCD, TFCC, Dickerson Living Trust, ISCC, DEQ, NRCS
McMullen Cr	TSS, TP, E. coli	Corral relocation & fencing	319	TF SWCD, TFCC, ISCC, DEQ, NRCS, Private
Rock Cr	TSS, TP, E. coli	Sediment control basin, irrigation system, habitat improvement & remove debris	319	TFCo commissioners, TFCo Parks, TFCo Research, TFCo Juvenile Corrections
**Jeff Woody Wetland	TSS, TP, E. coli	Sediment control basin & constructed wetlands	319	Snake River SWCD, TFCC
Wilson Cr	TSS, TP, E. coli	Sediment control basin, constructed wetlands & habitat improvement	319	Balanced Rock SCD, Twin Falls, Pat Kueny, ISCC, DEQ, NRCS
Rock Cr	TSS, TP, E. coli	Sediment control basin, constructed wetlands and restoration, habitat improvement, thermal cover & storm drain BMP	TF Aquatic Ecosystem Restoration Project	TF City, TFCC, ISCC, DEQ, IDWR, EPA, USACE, TF Chamber of Commerce, NRCS, CSI, Rock Creek Brigade, Southern Idaho Land Trust
J-8 Drain & Snake River	TSS, TP, E. coli	Sediment control basins, constructed wetlands & wildlife habitat management	Private	NSCCo, IF&G
J-8 Drain & Snake River	TSS, TP, E. coli	Sediment control basins, constructed wetlands & wildlife habitat management	Private	NSCCo, Nature Conservancy
53WQ	TSS, TP, E. coli	Sediment control basins & constructed wetlands	Private	NSCCo

Water Body or Location	Pollutant	Activity or Strategy	Program Funding	Sponsors or Supporters
USR & Salmon Falls	TSS, TP, E. coli	EQIP BMPs	EQIP	Private, SCD, FSA & NRCS
Snake River	TSS, TP, E. coli	Sediment control basins & constructed wetlands	319	TF City, Snake River SCD, TFCC
Rock Cr	TSS, TP, E. coli	Sediment control basins & constructed wetlands	319	Snake River SCD, TFCC
Clover Cr	TSS, TP, E. coli	Sediment control basins & constructed wetlands	319	NSCCo & Private
Rock Cr	NO3, TSS, TP, E. coli	Irrigation & drainage water management, buffer strips, nutrient & fertilizer application management, pasture and riparian water management & wellhead assessment & protection	319	Snake River SCD, TFCC, SCC, U of I
Billingsley Cr	TSS, TP, E. coli	Steam channel stabilization, habitat improvement & management, wetland restoration & wildlife habitat management	Private	Private, NRCS, DEQ
Snake River	NO3	Irrigation water management, BMP plans for irrigated fields	319	Gooding SCD, SCC, NRCS, Private
Perrine Coulee & Snake River	NO3, TSS, TP, E. coli	Sediment control basins & constructed wetlands	INEL Grant DEQ	INEL Grant from DEQ, TFCo Parks & Rec, TFCC
Perrine Coulee & Snake River	NO3, TSS, TP, E. coli	Sediment control basins & constructed wetlands	INEL Grant DEQ	NEL Grant from DEQ, CSI, TFCC
Rock Cr	TSS, TP, E. coli	Dispersed campsites and stream bank restoration	USFS	USFS
Snake River & Various Tribs	TSS, TP, E. coli	Restricted motor vehicle to designated roads and trails	USFS	USFS
Rock Cr	NO3, TSS, TP, E. coli	Channel stabilization, stream & wetland habitat improvement & management, wetland restoration	INEL Grant DEQ	INEL Grant from DEQ, TFCo, TF Parks & Rec, TFCC
Snake River Tuanna Gulch Bancroft Springs	TSS, TP, E. coli	Channel stabilization, stream & wetland habitat improvement & management, wetland restoration	Private	Idaho Power
Snake River Tuanna Gulch Bancroft Springs	TSS, TP, E. coli	Channel stabilization, stream & wetland habitat improvement & management, wetland restoration	Private	Idaho Power

TSS = Total Suspended Solids, TP = Total Phosphorus, E. coli = Escherichia coli, 319 = 319 Non-Point Source Program, TF SWCD = Twin Falls Soil & Water Conservation District, TFCC = Twin Falls Canal Company, ISCC = Idaho Soil Conservation Commission, DEQ = Department of Environmental Quality, NRCS = Natural Resource Conservation Commission, TFCo = Twin Falls County, SCD = Soil Conservation District, BMP = Best Management Practice, IDWR = Idaho Department of Water Resources, EPA = Environmental Protection Agency, USACE = United States Army Corp of Engineers, CSI = College of Southern Idaho, NSCCo = North Side Canal Company, IF&G = Idaho Fish & Game, FSA = Farm Service Agency, NO3 = Nitrate, U of I = University of Idaho, INEL = Idaho National Energy Laboratory, USFS = United States Forest Service

X. Proposed Projects and Expected Benefits

A. Southern Idaho Water Quality Coalition Proposed Projects:

The SIWQC proposes the following projects:

1. Extend the Coalition efforts upstream of Milner Dam into the upstream reach

The SIWQC would like to extend the efforts of the Coalition upstream of the Middle Snake River reach. By working with the upstream WAG, the Coalition would be able to extend the benefits of better water quality upstream and further downstream on the Snake River.

2. Management of water level and design of flushing flows for Middle Snake River environmental maintenance

The Middle Snake River is part of a complex, highly reservoir-regulated river system subject to alteration of flow regimes and interruption of sediment transport. Flow management (e.g. altered timing and/or water quantity with subsequent increased water depth) into the Middle Snake River offers opportunity to improve water quality conditions, while continuing to meet downstream water quantity demands. Phase I of this SIWQC project is to develop testable flow alterations (e.g. pulsed flows and times, and temporary depth alteration) that can be quantitatively assessed for impact. Improved flow management will diminish sediment accrual in the Middle Snake River and decrease rooted macrophyte growth in problematic areas (e.g. Crystal Springs).

The SIWQC considers this a high priority project and hopes to complete this project in partnership with the US Bureau of Reclamation in 2019. This project is not expected to have any costs associated with it. The largest hurdles of the project are the downstream demands for water decrease flexibility for water flow delivery, as well as reluctance of federal agencies to alter current management. Periodic drought also diminishes water availability for this project.

B. Twin Falls Canal Company Proposed Projects:

The TFCC has constructed wetland/pond complexes in the past with great success and immediate benefits. The TFCC plans to construct the projects listed below in the near future.

1. Auger Falls – Lateral 43 Project

The Auger Falls Lateral 43 Project will remove sediment from the Lateral 43 return canal, prior to spilling over the Snake River Canyon. The project will include a pond system at the City of Twin Falls Auger Falls Recreation Area. These ponds will have environmental improvement benefits by removing sediment and phosphorus from the canal return flows before entering the Snake River. It will also provide recreational and nature observation opportunities.

This project will be completed by the City of Twin Falls and the Twin Falls Canal Company (TFCC). This project is estimated to cost around $100,000, based on similar projects previously completed. This project could be completed by 2021. At this time, the city owns the property on which the project would be constructed. The land was donated to the City of Twin Falls by the Bureau of Land Management (BLM) for public purposes. Construction will be completed by the TFCC.

2. Q Coulee – Pigeon Cover Project

The Q Coulee Pigeon Cover Project entails expanding the Q Coulee sediment removal pond system, which would further reduce the amount of sediment and phosphorus that returns to the Snake River. This project would add additional capacity to the Pigeon Cover Project, which also helps clean the water for the Pigeon Cover Power Plant.

This project will be completed by the TFCC, with support from the City of Twin Falls. This project is estimated to cost around $300,000, based on similar projects previously completed. This project could be completed by 2021. The property on which the project would be constructed will need to be acquired from the current landowner. However, the canal company is in conversation with the owner and they seem amenable to the project.

3. P Coulee – KTFI Creek Project

The P Coulee KTFI Creek Project entails constructing a new series of sedimentation ponds on the P Coulee (KTFI Creek) system to help reduce the amount of sediment and phosphorus that returns to the Snake River. The TFCC, with support from City of Twin Falls, could potentially complete the project by the year 2022 for an estimated $200,000. The property for the project would need to be purchased from the current landowner. The canal company is in conversations with the owner and are trying to secure the property for the future project.

4. K Coulee – Slaughterhouse Gulch Project

The K Coulee Slaughterhouse Gulch Project will reduce the amount of sediment and phosphorus that return to Rock Creek, and eventually the Snake River, by constructing a new series of ponds on the K Coulee system. The TFCC, with support from City of Twin Falls, could potentially complete the project by the year 2022 for an estimated $200,000. The property for the project would need to be purchased from the current landowner. The canal company is in conversations with the owner and are trying to secure the property for the future project.

5. O Coulee – Allen Project

The O Coulee Allen Project will reduce the amount of sediment and phosphorus that return to the Snake River by constructing a new series of sedimentation ponds on the O Coulee system. The TFCC, with support from City of Twin Falls, could potentially complete the project by the year 2022 for an estimated $200,000.00. The property for the project would need to be purchased from the current land owner. The Canal Company is in conversations with the owner and are trying to secure the property for the future project.

C. North Side Canal Company Proposed Projects:

To further improve the water quality of the Snake River, as well as more efficiently use irrigation water, projects would be developed to minimize or completely eliminate operational spill water discharge to the Snake River. Projects would be implemented at or upstream of the existing pond and wetland facilities. Projects would consist of a combination of additional regulating reservoirs, "pump back" systems, and SCADA control. The following sites would have these improvements constructed where feasible:

- Seller's Drain

- A Drain
- C 50 (Lockwood) Drain
- C 55 (McFarland) Drain
- K Drain
- N 30 Drain
- N 23 Drain
- J 8 Drain
- S Drain
- W 28 (Nature Conservancy) Drain
- W 26 Drain
- W 46 Drain
- Y 8 Drain

Further research and analysis is needed for these projects to determine feasibility, effectiveness, environmental impact, and cost. Development of these projects would require coordination with underlying landowners.

D. Twin Falls City Proposed Project:

1. K-Coulee Auger Falls Wetland Project

This project takes non-point source irrigation returns and settles sediment and partitioned phosphorus before the water returns to the Snake River. Typically, these projects cost between $25,000 to $50,000 to construct, if land purchases are not involved. It is estimated that 500 tons of sediment can be removed from similar sized returns annually. This equates to approximately 1,200 pounds of phosphorus can be removed annually. This project is planned and could be in construction quickly. The general design is also complete, as these types of projects have been done in other locations in the city and surrounding irrigated cropland. This project would sit at the canyon rim and just below. There would be no competing projects since this is at the end of the return, before it returns to the Snake River. Typically, these projects have been successful with little to no opposition from public members.

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XI. Proposed Monitoring Efforts

The IDEQ and EPA have established several control and monitoring points in the Middle Snake River. The Snake River has been divided into six segments, with seven monitoring locations to evaluate the compliance with the TMDL for instream water quality criteria and targets for TSS, TP, and E. coli. Additionally, the tributaries and manmade canal-ways were identified at the confluence to the Snake River or other natural water bodies as monitoring (control) points to further determine compliance. The primary monitoring points on the Middle Snake River include:

- Milner Dam
- Pillar Falls
- Crystal Springs
- Box Canyon
- Gridley Bridge
- Shoestring Bridge
- King Hill

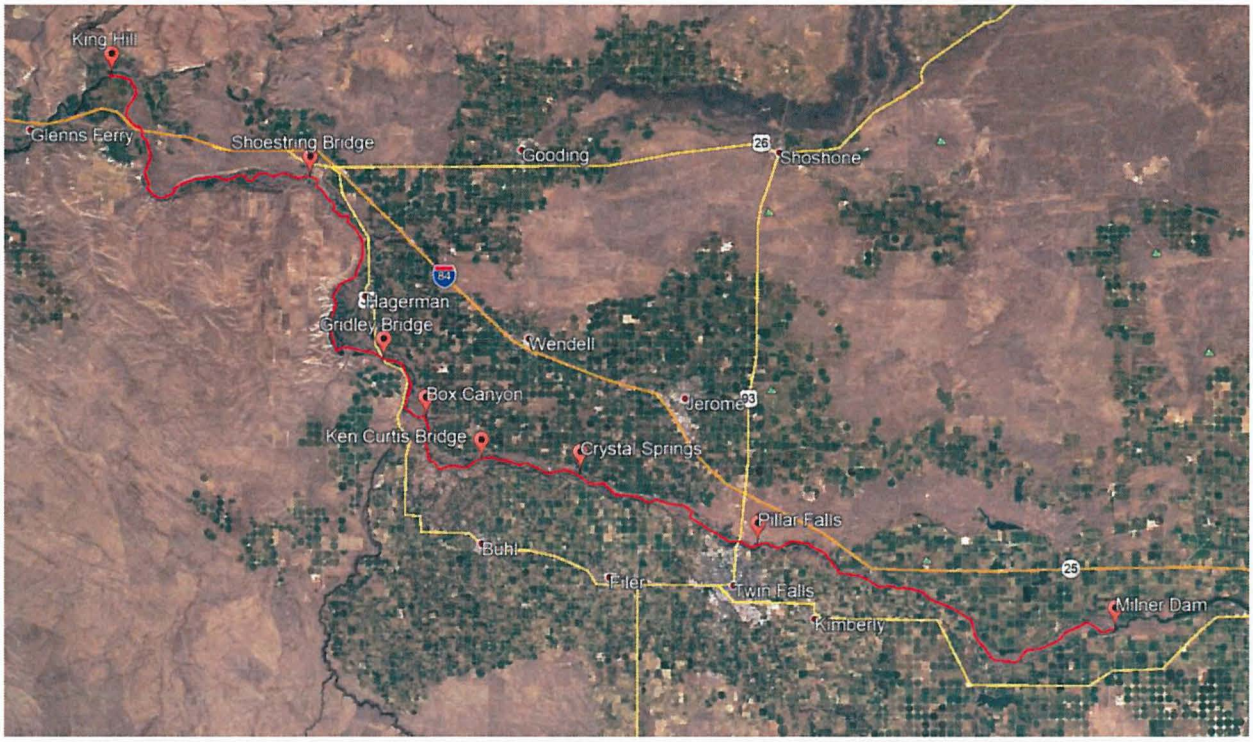

Figure 7: Middle Snake River Monitoring Points

NSCC has an in-house water quality monitoring program that was started when the 22 pond and wetland facilities were being developed to determine the effectiveness of the projects. Water samples are obtained and analyzed monthly during the irrigation season. Data is reviewed to determine trends and if there are any issues that may need to be addressed to improve the performance of the treatment facilities.

The TFCC has also monitored the benefits and impacts of their treatment ponds with a specific focus on TSS and TP removal. These results are used in the planning and design of further treatment wetlands.

XII. Schedule of Implementation and Funding

The projects listed in Section X are prioritized in the following order based on the current status, expected benefits, the project readiness to proceed, and the availability of project funds. This list reflects the priority of the Coalition at the time of publication. Project priority can change depending on issues encountered in the project development process.

Table 5: SIWQC Prioritized Project List.

Project Name	Estimated Cost	Sponsors
Priority Projects		
Auger Falls – Lateral 43 Project	$100,000	Twin Falls City Twin Falls CC
O Coulee Allen Project	$200,000	Twin Falls City Twin Falls CC
Projects Under Development		
Management of water level and design of flushing flows for Middle Snake River environmental maintenance		SIWQC
Mid Perrine Wetland 6 Acres		SIWQC
Q Coulee Pigeon Cover Project	$300,000	Twin Falls City Twin Falls CC
K Coulee Slaughterhouse Gulch Project	$200,000	Twin Falls City Twin Falls CC
P Coulee KTFI Creek Project	$200,000	Twin Falls City Twin Falls CC
K-Coulee Auger Falls Wetland Project	$50,000	Twin Falls City
Extend the Coalition efforts upstream of Milner Dam into the upstream reach.		SIWQC
Proposed Projects		
J 8 Drain Project		North Side CC
N 23 Drain Project		North Side CC
W 26 Drain Project		North Side CC
W 28 (Nature Conservancy) Drain Project		North Side CC
Lateral 30 Drain Wetland		SIWQC
C 55 (McFarland) Drain Project		North Side CC
C 50 (Lockwood) Drain Project		North Side CC
W 46 Drain Project		North Side CC
A Drain Project		North Side CC
K Drain Project		North Side CC
Seller's Drain Project		North Side CC
Y 8 Drain Project		North Side CC

Project Name	Estimated Cost	Sponsors
S Drain Project		North Side CC
Upper I Coulee Wetland		SIWQC
N 30 Drain Project		North Side CC

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Cover photo: Martin Pena / Photo courtesy of USDA Natural Resources Conservation Service. / Public Domain.

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Appendix E

Project Budget

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O Coulee Allen Ponds Proposed Budget

BUDGET ITEM DESCRIPTION	COMPUTATION		Quantity Type	TOTAL COST
	$/Unit	Quantity		
Salaries and Wages				
Foreman	$ 25.88	160	Hours	$4,140.00
Operator	$ 23.81	480	Hours	$11,426.40
Truck Driver	$ 21.74	320	Hours	$6,955.20
Concrete Crew	$ 20.70	240	Hours	$4,968.00
Fringe Benefits				
Full-Time Employees	$ 11.51	1,275	Hours	$14,680.83
Travel				
Included in Pickup Time Below	0.58	0	Miles	$0.00
Equipment				
Excavator	$ 72.00	240	Hours	$17,280.00
Dump Truck	$ 42.25	320	Hours	$13,520.00
Loader	$ 87.25	240	Hours	$20,940.00
Dozer	$ 72.50	80	Hours	$5,800.00
Grader	$ 72.00	120	Hours	$8,640.00
Pickup	$ 5.60	75	Hours	$420.00
Supplies/Materials				
Pipe, 24" PIP	$ 30.00	1,225	Ft.	$36,750.00
Diversion Structure	$ 8,000.00	1	Ea.	$8,000.00
Flow Regulating Structures	$ 1,500.00	8	Ea.	$12,000.00
Flow Measurement Structures	$ 600.00	2	Ea.	$1,200.00
Rock and Gravel	$ 6.00	500	Cu. Yd.	$3,000.00
SCADA Points	$ 5,000.00	2	Ea.	$10,000.00
Excavation	(Equipment Time)	25,000	Cu. Yd.	$0.00
Contractual/Construction				
NEPA Compliance	$ 2,500.00	1	LS	$2,500.00
Engineering Design and Survey	$ 5,000.00	1	LS	$5,000.00
TOTAL DIRECT COSTS				**$187,220.43**
Indirect Costs				
Project Manager	32.15	75	Hours	$2,411.25
TOTAL ESTIMATED PROJECT COSTS				**$189,631.68**

Auger Falls Lateral 43 Ponds Proposed Budget

BUDGET ITEM DESCRIPTION	COMPUTATION		Quantity Type	TOTAL COST
	$/Unit	Quantity		
Salaries and Wages				
Foreman	$ 25.88	160	Hours	$4,140.00
Operator	$ 23.81	640	Hours	$15,235.20
Truck Driver	$ 21.74	320	Hours	$6,955.20
Concrete Crew	$ 20.70	240	Hours	$4,968.00
Fringe Benefits				
Full-Time Employees	$ 11.51	1,460	Hours	$16,810.99
Travel				
Included in Pickup Time Below	0.58	0	Miles	$0.00
Equipment				
Excavator	$ 72.00	320	Hours	$23,040.00
Dump Truck	$ 42.25	320	Hours	$13,520.00
Loader	$ 87.25	320	Hours	$27,920.00
Dozer	$ 72.50	80	Hours	$5,800.00
Grader	$ 72.00	160	Hours	$11,520.00
Pickup	$ 5.60	100	Hours	$560.00
Supplies/Materials				
Pipe, 15" PIP	$ 14.00	1,010	Ft.	$14,140.00
Diversion Structure	$ 8,000.00	1	Ea.	$8,000.00
Flow Regulating Structures	$ 1,500.00	4	Ea.	$6,000.00
Flow Measurement Structures	$ 600.00	2	Ea.	$1,200.00
Rock and Gravel	$ 6.00	300	Cu. Yd.	$1,800.00
SCADA Points	$ 5,000.00	2	Ea.	$10,000.00
Excavation	(Equipment Time)	34,000	Cu. Yd.	$0.00
Contractual/Construction				
NEPA Compliance	$ 20,000.00	1	LS	$20,000.00
Engineering Design and Survey	$ 6,000.00	1	LS	$6,000.00
TOTAL DIRECT COSTS				**$197,609.39**
Indirect Costs				
Project Manager	32.15	100	Hours	$3,215.00
TOTAL ESTIMATED PROJECT COSTS				**$200,824.39**

Appendix F

Additional Supporting Information

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Auger Falls Lateral 43 Project

O Coulee Allen Project

Appendix G
Project Schedule

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SIWQC 2019 WaterSMART Project Schedule	
Date	Task
May 2019	WaterSMART Award Notice
August 2019	Enter into Agreement with USBR
Aug 2019 - Nov 2019	Complete NEPA requirements
Aug 2019 - Dec 2019	Obtain land easements
Nov 2019 - Dec 2019	Construction on O Coulee Allen Ponds
Jan 2019 - Feb 2020	Construction on Auger Falls Lateral 43 Ponds
April 1, 2020	Test project sites, incorporate SCADA.
June 2020	Complete Final Project Reporting

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