

Section I: General Information

Project Title Volunteer Monitoring - Addressing Shared Goals

Project Sponsor Information

Sponsor Name Montana State University Extension Water Quality (MSUEWQ)

Tax Identification # 81-6010045

County Gallatin

Website http://waterquality.montana.edu/

DUNS # 625447982

Primary Contact Adam Sigler

Signatory Leslie Schmidt

Title Water Quality Specialist

Title Assistant VP for Research

Address PO Box 173120

Address _____

City Bozeman State Montana Zip Code 59717

City Bozeman State Montana Zip Code 59717

Phone Number 406-994-7381

Phone Number 406-994-2381

Fax Number 406-994-3933

Fax Number 406-994-7951

E-mail Address asigler@montana.edu

E-mail Address lschmidt@montana.edu

Signature _____

Signature _____

Project Location

Statewide ☒ *If project is not statewide please complete the rest of this section.*

How is project related to a TMDL? N/A

Watershed Name or HUC # _____

TMDL Planning Area _____

Project 1 Name	Latitude (1)	Longitude (1)
Project 2 Name	Latitude (2)	Longitude (2)
Project 3 Name	Latitude (3)	Longitude (3)
Project 4 Name	Latitude (4)	Longitude (4)
Project 5 Name	Latitude (5)	Longitude (5)

Nonpoint Source (NPS) Information

319 Project Category Education and Outreach

Waterbody Type

River/Stream

Functional Category Statewide Education/Information Program

Is waterbody on the 2010 Impaired Waters List?

1st Pollution Category Agriculture (Grazing Related Sources)

Percent of Total (%) 30

2nd Pollution Category Urban Runoff/Stormwater (Residential, e.g., non-commercial automotive/p

Percent of Total (%) 40

3rd Pollution Category Agriculture (Non-Irrigated Crop Production)

Percent of Total (%) 30

4th Pollution Category _____

Percent of Total (%) _____

Project Funding

319 Funds Requested

Does the project sponsor have any open 319 contracts?

Matching Funds

State Match

State In-Kind Match

Local Funds

Other Match

Total Matching Funds

Other Federal Funds

Total Project Budget

Advance Requested* Administrative Fee

**Advances require additional justification and DEQ approval.*

Project Title

DEQ Contract Number

319 Award

Projected Closing Date

Project Title

DEQ Contract Number

319 Award

Projected Closing Date

Project Description

Methods: Please describe the specific activities of this project.

MSUEWQ will collaborate with watershed group coordinators, Big Sky Watershed Corp administrators and members, DEQ staff, and MWCC workgroups to advance the capacity of watershed groups to collect volunteer water quality data and administer associated public education campaigns surrounding non-point source pollution. We will build on existing relationships & initiate new ones, utilize proven training and documentation approaches and will pilot new multimedia approaches in non-point source pollution education.

Objectives: Please describe the specific/measurable objectives that will ensure the achievement of the project goal(s).

We will work with 2 watershed groups interested in starting a monitoring program and 2 existing groups to develop/refine volunteer monitoring strategies and write/updated SAPs that address non-point source issues in their watershed. We will collaborate with MWCC workgroups to coordinate a spring training in 2014 that addresses the needs of the existing and prospective volunteer monitoring groups. We will coordinate with the MSU VOEIS database administrators to pilot use of the database as an interactive learning tool for housing/retrieving/interpreting volunteer monitoring data. We will work with volunteer monitors to produce 2 films that address the largest stumbling blocks that volunteers face in successfully completing volunteer monitoring efforts.

Overview: Please provide a brief summary of the proposed project.

MSUEWQ began ramping up collaborative efforts surrounding citizen based monitoring in 2009 and since that time has worked with watershed groups to stockpile a variety of proven methods for training, composing sample analysis plans (SAPs), managing data, and interfacing with volunteers. Over the past 4 years we have refined approaches based on feedback from volunteers and have inventoried the biggest obstacles to volunteer monitoring efforts. On August 17th 2012, MSUEWQ hosted a forum at the MWCC Summer Forum titled 'Mapping the Future of Citizen Based Monitoring In Montana.' One of the outcomes of the forum was a list of obstacles that watershed groups face in citizen based monitoring efforts. Distilled from the forum are the following 4 tasks to address shared needs:

1-2) Monitoring and Training: MSUEWQ will provide the technical assistance necessary for new and existing watershed groups to initiate or continue volunteer monitoring efforts. We will provide assistance with preparation of sample analysis plans (SAPs) so watershed groups can gain access to DEQ analytical lab funding and we will provide local Level II trainings for the two new watershed groups. We will also coordinate with MWCC E&O and Monitoring workgroups on a statewide training in the spring of 2014.

3) Database: Volunteers need an online database where data can be upload and easily accessed by the public. This need is currently not met, and MSU VOEIS has the potential to do the job. MSUEWQ uploaded Gallatin Stream Team data to VOEIS in 2012 while the database was under development and we are optimistic that VOEIS will provide additional benefits to volunteers beyond simple data storage.

4) Film: MSUEWQ will coordinate with volunteers to identify some of the larger stumbling blocks in conducting citizen based monitoring and will produce 2 films that will be viewable on YouTube to help address those stumbling blocks. Attendees at the fall forum expressed strong support for the potential of film as an educational tool for both field methods and data handling procedures.

A: Statement of Need and Intent

Citizens are both the cause and the solution to non-point source pollution. The lack of enforcement authority to address non-point source pollution under the Clean Water Act makes education a fundamental tool to improve non-point source issues. The Education and Outreach strategies outlined in the MDEQ 2012 NPS Plan are addressed by volunteer monitoring by: 1) Providing a hands on way for citizens to observe non-point source water quality impacts in local streams. 2) Fostering stewardship of water resources by helping citizens establish a "sense of ownership" (quote from Gallatin Stream Team member) for their local streams. 3) Providing a forum for educating citizens about what actions they can take to reduce non-point source pollution.

Volunteer monitoring has been nationally recognized as a useful tool to achieve non-point source pollution education but many groups face limitations in expertise, equipment, and access to analytical lab funding. In Montana, collaborative efforts have begun to address these limitations through MDEQ lab analysis funding, MWCC statewide trainings, 319 project funding to link watershed groups with technical assistance and most recently the incredible Big Sky Watershed Corp program. As part of the outreach arm of the Montana land grant university, MSUEWQ is poised to play a valuable role in this collaborative framework through technical assistance and by linking university resources to watershed groups.

The monitoring support needs listed by participants in the August forum included: personnel at the watershed level, technical assistance for watershed coordinators, lab analysis funding, funding for equipment, volunteer recruitment, funds for volunteer support and data management assistance. MSUEWQ has successfully worked with watershed groups to address training needs and to help groups articulate their monitoring goals into sample analysis plans. Under this project we will extend these services to additional watershed groups which will give more groups access to DEQ lab analysis funding. We have also helped watershed groups prepare 319 mini grant applications for monitoring equipment and can continue to do that. We will expand use of multimedia technology and web based delivery to help efficiently address training needs and reduce volunteer frustration which should enhance volunteer retention.

Possibly most exciting is the prospect of finally having a fully functional database repository for citizen data in the MSU VOEIS system. We are very optimistic that this system can meet volunteer needs for data storage and retrieval.

B: Collaborative Effort

Partner	Role
Montana Watershed Coordination Council (MWCC)	Providing framework for interaction of various collaborating partners, sending out newsletters, supporting the Big Sky Watershed Corp Program, supporting organization of trainings and meetings for watershed coordinators and other water professionals.
Big Sky Watershed Corp (BSWC)	Administering the BSWC program to house AmeriCorp members with watershed groups across Montana who are poised to ambitiously pursue water related projects including citizen based monitoring efforts.
Montana DEQ	Provision of funding for watershed groups under the 319 lab analysis funding program; provision of feedback on sample analysis plans so that citizen monitoring efforts meet basic data objectives; administration of EQUIS for long term storage of water quality data.
Sun, Teton, Madison, Gallatin, Mussleshell, Ruby and other watershed groups.	Organization of stakeholders at the local level and coordination of citizen based monitoring efforts with assistance from MSUEWQ and other partners listed above.

Additional Information (Collaborative Effort)

MSUEWQ strongly believes that addressing water resource issues effectively and efficiently requires collaborative efforts among diverse stakeholders. We work closely with watershed group coordinators, MDEQ staff, MWCC workgroups and Big Sky Watershed Corp members along with partners in other state and federal agencies both in MT and across the region to provide the best technical assistance possible for watershed groups to address non-point source pollution issues. We have been working to bring more MSU students into assisting with watershed work to better leverage MSU resources for addressing watershed group needs and to help train the watershed leaders of tomorrow. MSUEWQ will also be receiving a Big Sky Watershed Corp member who will assist other watershed groups interested in continuing or starting a volunteer monitoring program.

Funding Organization	Award Amount	Project Description	Project Status	Contact Information
USDA National Integrated Water Quality Program	129,278	Participatory research project in the Judith Basin of Central Montana investigating sources and potential solutions to elevated nitrate concentrations in shallow aquifers underlying small grain production.	Sept 2011 through Aug 2014	James Dobrowolski jdobrowolski@nifa.usda.gov
US NPS	27,138	Implementing water resource monitoring at the Bighorn Canyon NRA is a collaborative effort with the National Park Service to monitor water resources within the recreation area as part of the National Inventory and Monitoring Program.	Closing 3/31/2013	Kristin Legg Kristin_Legg@nps.gov
USDA National Integrated Water Quality Program	328,626	The USDA National Integrated Water Quality Project pulled together a network of water quality professionals at land grant universities in 2000 organized around EPA regions. This funding was to support MSUEWQ to serve as the MT coordinator for the Northern Plains and Mountains Regional Program on water projects that integrated research, education and outreach.	Initiated 2000 Closing May 2013	Reagan Waskom Reagan.Waskom@colostate.edu
MT DEQ	\$22,500	Volunteer Monitoring for E. coli is a pilot project for E. coli data collection through volunteer monitoring. This effort will engage volunteers in synoptic E. coli sample collection and analysis. In the Madison on Moore Creek and in the Gallatin on Bozeman Creek sampling will focus on refining understanding, variability, and potential sources of E. coli.	Start 7/1/2011 End 6/30/2014	Elena Evans eevans2@mt.gov
MT DEQ	\$20,000	Enhancing Volunteer Monitoring Capabilities in Montana is a project to enhance the advanced monitoring capabilities in Montana by providing advanced trainings and support. MSUEWQ will hold a forum bringing together stakeholders to discuss current monitoring efforts and exploration of shared goals and needs.	Start 7/1/2012 End 12/31/2013	Elena Evans eevans2@mt.gov

Additional Information (Planning and Management)

Adam Sigler took over from Jim Bauder as the MSU Extension Water Quality Specialist in 2009 and has continued the Bauder legacy of bringing in grant dollars to support an active research, education and outreach program. While Sigler's salary is now completely covered from other sources and all of his time on volunteer monitoring efforts is match, MSUEWQ relies on funding from MDEQ and other granting agencies to support our personnel to conduct education and outreach surrounding non-point source pollution.

MSUEWQ has two open 319 grants at the time that this proposal is being submitted. However, MSUEWQ is striving to close both of these grants early (June and September of 2013) which is shortly after funding would become available from this solicitation in the summer of 2013. If we do not receive funding under this solicitation, we will be without personnel dollars to support citizen based monitoring from the summer 2013 until the summer of 2014. This would significantly reduce our engagement in the volunteer monitoring community and would short circuit the significant momentum that we have gained with watershed groups in the last four years. For these reasons, we sincerely hope that this application will be fully considered despite the fact that we have two open 319 grants at the time of writing.

Section III: Project Components

A: Education and Outreach: Please briefly describe the education and outreach component of this proposal and the target audience.

All four tasks in this proposal are oriented around education and outreach. The project utilizes hands on experiences gained through citizen based monitoring and interpretation of data as the fundamental educational method. The educational experience starts with the first training and continues with in-stream experience monitoring and culminates annually with interpretation of the data. With the initiation of data storage in VOEIS, the data will not only be available for education of volunteers but for the broader community who will all have access to the database through the web. Being able to see and graph the data makes concepts more tangible and can create a greater impact on participants when they can see the results of their hard work.

All of the volunteer monitoring components in this project are based on non-point source pollution issues specific to the watersheds that MSUEWQ will be working with. By empowering watershed groups with the capacity to start or maintain a well developed volunteer monitoring program, it will reduce frustrations and increase the efficiencies of the groups to collect data that is important to their understanding of their streams. By increasing the amount of educational opportunities within a watershed it can increase community awareness and behavioral changes affecting non-point source pollution. The education and outreach impacts proposed here will be documented through feedback forms and surveys for every task proposed. Results from this feedback will further inform the evolution of future monitoring events and documents.

C: Operation and Maintenance

Monitoring and Training Tasks: Trainings are based on a strong legacy of past events which makes operation and maintenance relatively straight forward. SAP documents produced are all maintained on file by MDEQ and will also be uploaded to MSUEWQ's website so they are available for future groups to use.

Database Task: The VOEIS database being piloted for use is maintained by MSU Cyberinfrastructure Institute of Ecosystems and will not require additional work by MSUEWQ for operation and maintenance.

Film: Films will be created using equipment owned by either film students or the MSU film school and once they are complete they will be uploaded to YouTube. None of these activities require operation or maintenance on behalf of MSUEWQ.

D: Monitoring: Please briefly describe the monitoring component of this proposal.

Monitoring is the foundation of this project and all efforts outlined are to support collection, storage and dissemination of monitoring data. The specific monitoring objectives for a given watershed vary depending on the non-point source issues and the interests of the citizens in each location.

Madison Watershed monitoring is largely based on waterbodies that are listed as impaired by MDEQ and that are of interest to the local community.

Sun Watershed monitoring is largely based around assessing long term trends on the mainstem of the Sun and its primary tributaries.

Musselshell Watershed monitoring has been both to assess improvements in the the condition of Careless Creek as a result of restorative efforts and to monitor salinity levels which is of interest to irrigators.

Ruby Watershed monitoring will be to assess four tributaries in the watershed that are listed as impaired for flow, temperature, and sedimentation.

MSUEWQ works with each watershed group independently to determine which parameters, sample site locations, and sampling schedule makes sense to meet the monitoring objectives of the stakeholders.

Section IV: Scope of Work

Task 1 Title Monitoring: Collaborating with watershed groups to write or update sample analysis plans (SAPs)

Description

MSUEWQ will work with 2 new watershed groups to write sample analysis plans (SAPs) for volunteer monitoring efforts. We will also work with two groups who have existing SAP documents to update those documents given feedback from volunteers and/or evolving monitoring interests. We will interface with Big Sky Watershed Corp members to leverage the enthusiasm of the members in supporting volunteer monitoring efforts. The BSWC member that will be placed with MSUEWQ will serve as a valuable resource and will assist interested fellow BSWC members in initiating volunteer monitoring efforts.

Deliverables

2 new DEQ approved SAP documents
2 updated DEQ approved SAP documents from existing projects
Data from 4 watershed groups uploaded to EQUIS

Task 1 Funding

319 Funds	\$9,256.50
Non-Federal Match	\$2,940.00
Other Federal Funds	
Total Cost	\$12,196.50
Is Match Secured?	Yes

Timeline July 2013- June 2015

Match Source MSUEWQ Personnel Time and Watershed Assistance Funds

Task 2 Title Trainings: MWCC statewide training and 2 level two trainings

Description

MSUEWQ will coordinate with the MWCC Education and Outreach and the Monitoring Workgroups to plan a water quality monitoring training in the spring of 2014. The 2012 spring training was well received among the participants and MSUEWQ would partner with MWCC to assist with planning, organization, and presenting topics or materials for the 2014 training. Collaborations between MWCC, DEQ and MSUEWQ will insure that training needs of watershed groups are met in the most efficient way possible with the best technical resources available.

MSUEWQ will provide a Level II training for each new watershed group that a SAP is prepared for under task 1. These trainings will be catered to the needs of the watershed group and will be specific to the monitoring plan and methods outlined in the SAPs.

Deliverables

1 statewide MWCC collaborative monitoring training in the spring of 2014
2 Level II volunteer monitoring trainings

Task 2 Funding

319 Funds	\$4,118.00
Non-Federal Match	\$2,000.00
Other Federal Funds	
Total Cost	\$6,118.00
Is Match Secured?	Yes

Timeline July 2013- June 2015

Match Source MSUEWQ Personnel Time

Description

MSUEWQ will work with watershed groups to upload historic data to the MSU VOEIS database. This is a very robust database which is maintained by the MSU Cyberinfrastructure Institute of Ecosystems and has capability far in excess of what volunteer monitors will need. While much of the functionality of the VOEIS database will not be necessary for volunteers, the additional data resources housed there may provide a valuable additional educational opportunity for volunteer outreach.

MSUEWQ will produce supplemental data uploading instructions specific to watershed groups who will enter their data in VOEIS. These resources will be in addition to the online instructional tutorials provided on the VOEIS website. MSUEWQ will solicit feedback from volunteers about the use of VOEIS and the utility as a data storage/dissemination/interpretation tool.

Deliverables

Historic data from 3 groups uploaded to VOEIS
 Supplemental instructions for watershed groups on top of tutorials provided at VOEIS website
 Feedback from volunteer monitors on use of VOEIS

Task 3 Funding

319 Funds	\$4,654.50
Non-Federal Match	\$2,000.00
Other Federal Funds	
Total Cost	\$6,654.50
Is Match Secured?	Yes

Timeline July 2013- June 2015

Match Source MSUEWQ Personnel Time

Task 4 Title Film: 2 films addressing monitoring stumbling blocks

Description

MSUEWQ will work with a watershed group that has an approved SAP to produce 2 short films that address common stumbling blocks that the volunteers face in completing water monitoring tasks. These films will be very visually oriented with a combination of field footage and narration with graphics as necessary to clearly relay concepts. Feedback will be collected from volunteers on the films to assess the effectiveness as a methods education tool.

Deliverables

2 films three to seven minutes in length that address primary stumbling blocks for volunteers in completing water quality monitoring related tasks.
 Compiled feedback on the utility of the films for methods education.

Task 4 Funding

319 Funds	\$4,699.00
Non-Federal Match	\$2,000.00
Other Federal Funds	
Total Cost	\$6,699.00
Is Match Secured?	

Timeline July 2013- June 2015

Match Source MSUEWQ Personnel Time

Description

This task goes toward administrative costs associated with reporting, invoicing and MSU operations. The 10% allowed administrative cost is 34% less than the 44% that MSU typically charges for administration of grants. The balance of the foregone operational costs is counted as an MSU match contribution to this project.

Deliverables

Project administration, reporting and invoicing.

Task 5 Funding

319 Funds	<input type="text" value="\$2,272.00"/>
Non-Federal Match	<input type="text" value="\$7,728.00"/>
Other Federal Funds	<input type="text"/>
Total Cost	<input type="text" value="\$10,000.00"/>
Is Match Secured?	<input type="text"/>

Timeline	<input type="text" value="July 2013- June 2015"/>	Match Source	<input type="text" value="Foregone IDCs"/>
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Task 6 Title

Description

Deliverables

Task 6 Funding

319 Funds	<input type="text"/>
Non-Federal Match	<input type="text"/>
Other Federal Funds	<input type="text"/>
Total Cost	<input type="text"/>
Is Match Secured?	<input type="text"/>

Timeline	<input type="text"/>	Match Source	<input type="text"/>
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Section V: Supporting Documents

A: Detailed Project Budget

[illegible]

B: Project Milestone Table: Please complete the following Project Milestone Table by entering task numbers and titles in the left hand column, then check the box(es) for the appropriate quarter(s) and year(s) in which the task will take place.

Milestone	2QT 2013	3QT 2013	4QT 2013	1QT 2014	2QT 2014	3QT 2014	4QT 2014	1QT 2015	2QT 2015	3QT 2015	4QT 2015	1QT 2016
T1: Two new DEQ approved SAPs	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
T1: Two updated DEQ approved SAPs from existing projects	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
T1: Data from four watershed groups uploaded to EQUIS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
T2: Collaborative MWCC monitoring training	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
T2: Two Level 2 volunteer monitoring trainings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
T3: Historic data from three groups uploaded to VOEIS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
T3: VOEIS upload instructions for volunteers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
T4: Two films 3-7 minutes on monitoring methods	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please ensure that you submit a project map(s) and letters of support along with this Final Application form. If design drawings are available please provide those as well. For on-the-ground work please include copies of the applicable permits.

☒ **C: Project Map**

☒ **D: Letters of Support**

☐ **E: Design Drawings**

☐ **F: Applicable Permits**

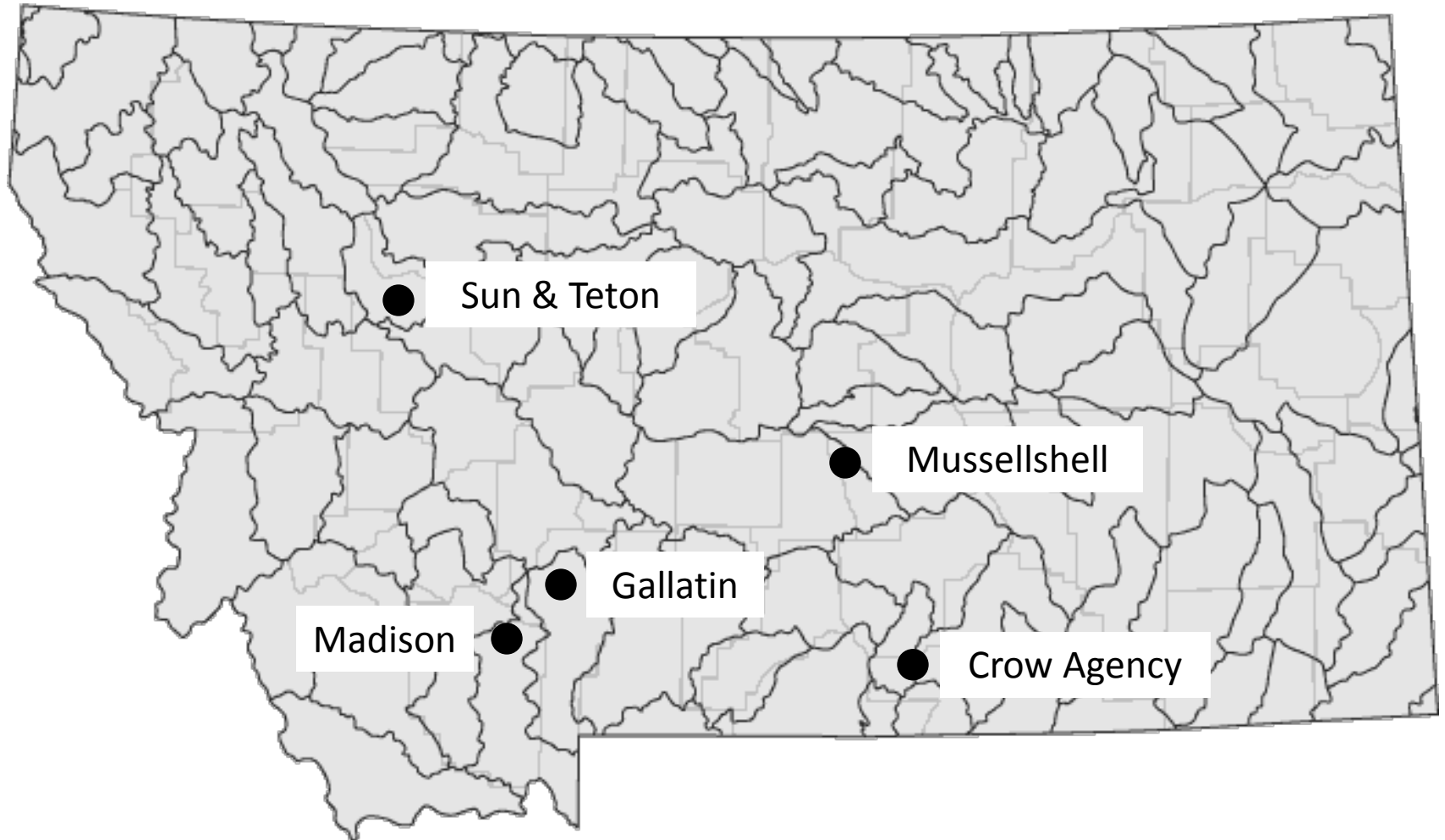
G: Comments: Please use the space provided for any additional information that may not have been captured by this application form.

MSUEWQ is engaged in a variety of citizen based data collection efforts from private well testing to stream monitoring to Extension 4-H projects. In addition, Sigler is currently pursuing a PhD working on a participatory research project engaging farmers in central Montana to address non-point source nitrogen pollution of ground and surface water. MSUEWQ strongly believes that addressing water resource issues in Montana must be accomplished through collaborative efforts that engage citizens in understanding the science behind the issues. We are passionate about this work but ambition will only take you so far without funding, so we very much appreciate the review panel's consideration of this request.

Letters of support include:

1. Alan Rollo - Sun and Teton Watershed Coordinator
2. Ann Schwmed - MWCC
3. Bryan Wilson - BSWC
4. Gwen Jacobs - VOEIS
5. Katie Makarowski - MDEQ
6. Rebecca Mayfield Ramsey - Ruby Watershed Coordinator
7. Sunni Heikes-Knapton - Madison Watershed Coordinator

Current MSUEWQ Collaborations





a non-profit organization benefiting all water users in the basin
816 Grizzly Drive Great Falls, Montana 59404 406-727-4437

September 26, 2012

Robert Ray, Watershed Protection Section Supervisor
Water Quality Planning Bureau
Department of Environmental Quality
1520 E. Sixth Avenue
P.O. Box 200901
Helena, MT 59620-0901

Dear Mr. Ray,

The Sun River Watershed Group would like to go on record supporting the MSU Land Resources and Environmental Science's citizen based monitoring 319 grant proposal. Over the past 17 years the SRWG has frequently used the MSU expertise to assist in research and monitoring projects. This project will help: 1) assist watershed groups write new and update SAPS, 2) work with MWCC to plan a spring training in 2014 that we would like to attend, 3) create a truly usable online monitoring database, and 4) create a video for watershed groups to use for monitoring training.

So please give favorable consideration to funding the MSU's program to research citizen based monitoring.

Thank you for considering our request.

Sincerely,

Alan Rollo, Coordinator
Sun River watershed Group

cc: MSU Extension



Building and Uniting Watershed Communities

Robert Ray
DEQ Water Quality Protection Section Supervisor
Water Quality Planning Bureau
Department of Environmental Quality
PO Box 200901
Helena, MT 59620

Oct. 1, 2012

RE: MSU Extension WQ, *Volunteer Monitoring: Addressing Shared Goals*

Dear Robert,

I am writing to express our support for the MSU Extension Water Quality's 319 application, *Volunteer Monitoring: Addressing Shared Goals*. Along with DEQ, MSU and MWCC provide a great framework to support community based groups and their efforts to develop and sustain volunteer water quality monitoring programs in their watersheds. Each organization possesses individual strengths and connections that create a strong network for supporting and community based water monitoring and data collection. MWCC provides a direct communication link and outreach to the locally based watershed groups. DEQ is the collector and keeper of the data. MSU Extension WQ helps bridge the gap between state agencies, watersheds and academia. MSU Extension and DEQ actively participate and assist MWCC with water quality training activities for watershed coordinators and Big Sky Watershed Corps members throughout Montana.

This synergy of strength, skills and connection ensures that we as a state are developing, delivering and supporting programs that collectively meet the goals of improved water quality. This project proposal is a cornerstone piece to developing a coordinated volunteer monitoring approach to collecting water quality data in Montana. I urge you to give full consideration to their application, please call me if you have questions.

Sincerely,

Ann Schwend
Chair Montana Watershed Coordination Council



**MONTANA
CONSERVATION
CORPS**

206 N. Grand Ave, Bozeman, MT 59715 • PH:406.587.4475 • www.mtcors.org

September 28th, 2012

Robert Ray, Manager
Watershed Protection Services
Water Quality Planning Bureau
Montana Department of Environmental Quality
P.O. Box 200901
Helena, MT 59620-0901

Dear Robert and 319 Review Panel,

This letter is written in support of the Montana State University Extension Water Quality (MSUEWQ) 319 grant for fiscal year 2013. The trainings and additional support that MSUEWQ provided to Big Sky Watershed Corp members in the first season (2011-2012) was very well received by the members.

The Montana Conservation Corp was happy to select MSUEWQ as a host site for the 2013 program. We believe that having a member located at MSUEWQ will result in efficient dissemination of information about well and septic education, citizen based monitoring, and a variety of other water related outreach topics that our members are engaged with.

I hope you will give this proposal full consideration for funding in fiscal year 2013.

Sincerely,

Bryan Wilson, Program Coordinator
Big Sky Watershed Corps
Office-406-587-4475
Cell-330-242-4482
Email- bryan@mtcors.org





September 28th, 2012

Robert Ray, Manager
Watershed Protection Services
Water Quality Planning Bureau
Montana Department of Environmental Quality
P.O. Box 200901
Helena, MT 59620-0901

Dear Robert and 319 Review Panel,

This letter is written in support of the Montana State University Extension Water Quality (MSUEWQ) 319 grant for fiscal year 2013. The Virtual Observatory and Ecological Informatics System (VOEIS) datahub is a multi-institution data-management solution funded by the National Science Foundation (NSF) and housed at Montana State University. The datahub is intended as a broad application data management system to house both complex modeling results and continuous ecological datasets, but can also house more modest discrete sample sets like those collected by citizen scientists.

The project coordinators support the use of the datahub for public education and at this point there is no charge for use of the datahub for public education oriented data storage. MSUEWQ began piloting the entry of citizen based data into VOEIS in the fall of 2011 and has successfully entered multiple years of data from the Gallatin Stream Team. MSUEWQ provided feedback to VOEIS staff on the public interface of the system while it was under development in the last year.

While there are not dedicated personnel resources to provide technical assistance to VOEIS users, the system is fully operational and a number of tutorials are available on the website. Technical issues with the database will be resolved as they arise and a modest level of support can be provided to MSUEWQ to facilitate their support of watershed groups entering data into the database.

We at VOEIS welcome the opportunity to house citizen based monitoring data from Montana watershed groups and hope that you will fully consider MSUEWQ's proposal for funding to facilitate this work.

Sincerely,

A handwritten signature in black ink, appearing to read 'Gwen A. Jacobs', written over a horizontal line.

Dr. Gwen A. Jacobs
Director of Cyberinfrastructure Institute of Ecosystems
Montana State University - Bozeman
gwen@cns.montana.edu
406-994-7334

Research Computing Group
1 Lewis Hall
PO Box 173505
Montana State University
Bozeman, Montana 59717-3505

406.994.3416
406.994.7438-f
rcg.montana.edu



Brian Schweitzer, Governor
Richard H. Opper, Director

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October 1, 2012

Robert Ray, Manager
Watershed Protection Services - Water Quality Planning Bureau
Montana Department of Environmental Quality
P.O. Box 200901
Helena, MT 59620-0901

Dear Robert and 319 Review Panel,

I am writing this letter in support of the Montana State University Extension Water Quality (MSUEWQ) 319 grant for fiscal year 2013. I am a MDEQ staff member working in the WQPB Monitoring and Assessment Section and do not have any involvement with the 319 grant proposal review or selection process. I also serve as an agency representative for the Montana Watershed Coordination Council (MWCC) as the Monitoring Work Group Leader.

As the leader of this work group, I worked with MSUEWQ while planning and presenting the MWCC 2012 spring training, "Effective Water Quality Monitoring," and I appreciated the insight and experience that Adam Sigler was able to bring to that training. MDEQ staff provided extensive expertise on DEQ methods and technical aspects of monitoring whereas MSUEWQ highlighted a variety of less technical methods that they have been promoting with citizen-based monitoring groups. This collaborative approach coupled with the enthusiasm of the attendees made for a very successful event. MSUEWQ also took the initiative to produce a film about the spring training which is available to view (via their YouTube channel) and will soon be linked on the MWCC website.

Furthermore, MSUEWQ has worked closely with the Madison Stream Team to build capacity, provide trainings and assist with sampling and analysis plan development. As a project manager in the Madison watershed, I believe the support that MSUEWQ has provided to the Madison Watershed Coordinator and local volunteers has helped to set the stage for MDEQ to successfully interface with the citizen community while monitoring and assessing water quality in advance of the TMDL process.

As the leader of the MWCC Monitoring Workgroup, I look forward to collaborative efforts with MSUEWQ to provide resources for our citizen-based watershed groups statewide. I believe this partnership is instrumental in fulfilling several needs identified in the MWCC Monitoring Work Group work plan, including training on water quality monitoring and assessment techniques, continued support for new and existing monitoring programs, and data management. I hope you will give this proposal full consideration for funding in fiscal year 2013.

Sincerely,

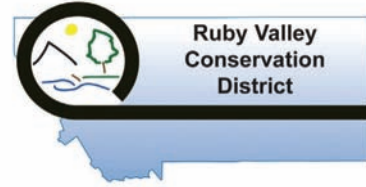
Katie Makarowski
Montana Watershed Coordination Council Monitoring Work Group Leader
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**Ruby Watershed
Council**

**Ruby Valley
Conservation District**

P.O. Box 295
Sheridan, MT 59749
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Robert Ray, Manager
Watershed Protection Services
Water Quality Planning Bureau
Montana Department of Environmental Quality
P.O. Box 200901
Helena, MT 59620-0901

September 28th, 2012

Dear Robert and 319 Review Panel,

This letter is written in support of the Montana State University Extension Water Quality (MSUEWQ) 319 grant for fiscal year 2013. The Ruby Watershed Council (RWC) has been interested in initiating a citizen based monitoring program for more than 2 years. The RWC has begun organizing resources to make the monitoring program a reality and is very excited to have a Big Sky Watershed Corp (BSWC) member in the 2013 season to help spearhead this effort, in part with assistance from DEQ.

The resources that MSUEWQ has provided to watershed groups and to BSWC members in the past is exactly the type of assistance that the RWC needs to make our program a success. The efforts that MSUEWQ has proposed with SAP development are particularly compelling to our group and we are also very interested in the data management, film, and training components as our program matures.

I hope you will give this proposal full consideration for funding in fiscal year 2013.

Sincerely,

Rebecca Mayfield Ramsey
Ruby Watershed Coordinator



MADISON CONSERVATION DISTRICT

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Local Common Sense Conservation

September 28, 2012

Robert Ray, Manager
Watershed Protection Services
Water Quality Planning Bureau
Montana Department of Environmental Quality
P.O. Box 200901
Helena, MT 59620-0901

Dear Robert and 319 Review Panel,

This letter is written in support of the Montana State University Extension Water Quality (MSUEWQ) 319 grant for fiscal year 2013. The Madison Watershed Partnership has been working with MSUEWQ on citizen based monitoring since I started as the coordinator in 2009. As someone new to the world of volunteer monitoring, the technical services that MSUEWQ was able to provide were invaluable. The level 2 training and SAP writing assistance provided in 2010 followed by a level 2 and a level 3 training in the summer of 2011, put the Madison Stream Team (MST) in a great place to work with DEQ starting in the summer of 2012 to help collect data in preparation for the TMDL process. We are hopeful that the high level of community involvement in the data collection process will help to streamline the public interface portion of the TMDL process.

The MST has also been collaborating with MSUEWQ on the E. coli monitoring project on Moore Creek which has initiated conversations with livestock managers in the watershed who are interested in understanding potential water quality issues surrounding livestock, as well as providing education opportunities for new volunteers and high school students.

The capacity building that MSUEWQ has offered to the development of the Madison Stream Team has been an incredible asset and we welcome the opportunity to continue to work with MSUEWQ on efforts moving forward. Without the availability, knowledge and adaptive approach provided by the MSUEWQ staff, the accomplishments and activities relating to nonpoint source education and outreach would be a fraction of what it is today. We also hope that other watershed groups will have the same access to the resources that MSUEWQ has to offer and we hope you will give the MSUEWQ proposal full consideration for funding in fiscal year 2013.

Sincerely,

Sunni Heikes-Knapton
Madison Watershed Coordinator
406-682-3181