



# Section 319 Grant - Final Proposal Form

FY2014 Final Proposals are due Friday, October 4, 2013

## Section I: General Information

Project Title California Creek Restoration, Big Hole River Watershed

### Project Sponsor Information

Sponsor Name Big Hole Watershed Committee (BHWC)

County Anaconda-Deer Lodge

Website http://bhwc.org

Tax Identification # 11-3737644

DUNS # 623593147

SAMs # 4FAW8

Primary Contact Jennifer Downing

Signatory Jennifer Downing

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Fax Number n/a

Fax Number \_\_\_\_\_

E-mail Address info@bhwc.org

E-mail Address info@bhwc.org

Signature \_\_\_\_\_

Signature \_\_\_\_\_

### Project Location

Watershed Name or HUC # California Creek/Deep Creek

TMDL Planning Area Middle-Lower Big Hole River

(1) Waterbody Name from 2012 List of Impaired Water California Creek (headwaters to confluence with French Creek)

(1) Probable Cause(s) of Impairment Sediment/Siltation, Turbidity, Cu, Fe, As, Alt. Streamside, etc.

(2) Waterbody Name from 2012 List of Impaired Waters French Creek (headwaters to confluence with Deep Creek)

(2) Probable Cause(s) of Impairment Sediment/Siltation, Copper (Cu)

(3) Waterbody Name from 2012 List of Impaired Waters \_\_\_\_\_

(3) Probable Cause(s) of Impairment \_\_\_\_\_

Activity 1 Name California Creek Restoration

Latitude (1) 46.009674

Longitude (1) -112.977344

Activity 2 Name \_\_\_\_\_

Latitude (2) \_\_\_\_\_

Longitude (2) \_\_\_\_\_

Activity 3 Name \_\_\_\_\_

Latitude (3) \_\_\_\_\_

Longitude (3) \_\_\_\_\_

### Nonpoint Source (NPS) Information

Which WRP does the project implement?

What is the WRP status?

Does the project implement recommendations in a TMDL?

Waterbody Type

Functional Category

1st Pollution Category

Percent of Total (%)

2nd Pollution Category

Percent of Total (%)

3rd Pollution Category

Percent of Total (%)

4th Pollution Category

Percent of Total (%)

### Project Funding

319 Funds Requested	\$111,400.00	Does the project sponsor have any open 319 contracts?	No
Matching Funds		Project Title	_____
State Match	\$74,500.00	DEQ Contract Number	_____
State In-Kind Match	\$500.00	319 Award	_____
Local Funds		Projected Closing Date	_____
Other Match	\$4,767.00	Project Title	_____
Total Matching Funds	\$79,767.00	DEQ Contract Number	_____
Other Federal Funds	\$0.00	319 Award	_____
Total Project Budget	\$191,167.00	Projected Closing Date	_____
Administrative Fee	\$10,700.00		

### Project Description

Methods: Please describe the specific activities of this project.

Capture and prevent sediment influx into California Creek and prevent movement of sediment downstream into French Creek and Deep Creek. Project will capture eroding upland sediment from large gullies using check dams, enhance natural revegetation on unvegetated upland slopes, and protect streambanks. The project will then expand and repair the riparian buffer in the upper 6 miles of California Creek to capture sediment, restore vegetation, manage livestock and wildlife browse, and enhance wetlands.

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

Install upland sediment check dams to collect eroding upland sediments in gullies.  
 Restore and/or enhance riparian buffer in upper 6 miles of California Creek.  
 Restore native wetlands to the riparian buffer for increased sediment capture by reconnecting the stream with the floodplain.  
 Reduce sediment inputs into California Creek and downstream as a result of upland sediment erosion.  
 Increase vegetation density in the riparian buffer, extending buffer to include upland species in sediment plume areas.

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

California Creek is a headwater tributary on the continental divide [Big Hole River < Deep Creek < French Creek < California Creek] and within the state owned Mt. Haggin Wildlife Management Area (WMA). The area has extensive history of mining related disturbance, logging and livestock grazing. The Mt. Haggin uplands soil is highly erodible volcanic tuff material, was logged extensively, accumulated contaminated Anaconda smelter fallout, and is dry, high elevation. As a result, it is difficult for vegetation to reestablish. Today huge eroded gullies and dry, unvegetated uplands wash contaminated plumes of fine white sediment directly into California Creek particularly during storm events or rapid snowmelt. That sediment travels downstream into French Creek, Deep Creek and Big Hole River in what local residents have observed as a white plume that enters the Big Hole River and visible for several miles downstream. The following are critical points for this project:

- 2012 303(d) lists California Creek for metals (Iron, Copper, Arsenic) contamination
- 2012 List of Impaired Waters lists the entire drainage [California Creek > French Creek > Deep Creek > Big Hole River] with impairments in sediment/siltation, physical habitat alterations, metals, etc.
- Middle-Lower Big Hole River TMDL lists Deep, French, California with high sediment and metals
- Middle-Lower Big Hole WRP lists the project area (Deep Creek/French Creek and headwaters) as a high priority for fish, wetlands, WQ
- Project meets DEQ NPS action plan numbers R13, R18, and EO3
- NRDP allocated a portion of Mt. Haggin Uplands restoration funds to east of the Continental Divide in 2013 and considers California Creek a top priority. EPA's Charlie Coleman fully supports NRDP's decision to seek sediment restoration in California Creek.
- Watershed Consulting is under contract with NRDP and leads the technical aspects of this project. This includes site assessment and project design. Note that some design/planning work will be completed in 2013. Our 319 request is final design and implementation.
- French Creek (downstream of California Creek) is undergoing restoration of placer mining to benefit westslope cutthroat trout (led by BHWC and MFWP). MFWP has concerns for French Creek restoration if the sediment source in California Creek remains unrepaired.
- MDT has plans to relocate the Mill Creek Road (crosses California Creek and is also a sediment source) out of the floodplain pending funding in 2014.

**A: Statement of Need and Intent**

The objective of this project is to address sediment contributions to California Creek, which come from 4 main areas impacted by smelter emissions and historic logging. Bare hillsides of welded volcanic tuff over 80+ years of smelting in Anaconda have developed networks of rills that come together into large gullies which transport sediment unimpeded into waterways on the valley floor. The major contributing issues are: lack of vegetation, poor soil conditions, rapid transport of sediment through gullies and lack of adequate germination substrate for local seed sources. These techniques have been tested and proven over 4 years of work with NRDP on other sites with similar conditions.

- Riparian/Sediment Plumes: Approximately 1000 linear feet of bare streamside riparian areas will be planted densely with willow stakes (collected on site), and native riparian shrubs to provide a streamside buffer from sediment. Sediment “plumes” in 5 areas will be enclosed with browse protection fencing (approx. 1500’ perimeter) and revegetated densely, using shrubs, trees and grasses appropriate to the site. These plume areas will be restored to natural reference conditions, from riparian species to the appropriate upland forest species for the site. Native seed and approximately 3000 native plants will be installed in these areas. One cattle crossing area with an exposed culvert that is no longer functional on California Creek will be restored by removing the culvert, re-grading streambanks, fencing the area off from cattle temporarily, and revegetated.

- Gullies: Treated with check dams, field fit depending on the material available. Existing conifers, rock and coir logs will be used to build 3-15ft tall structures in every large, active contributing gully from all 4 bare areas. Work will proceed from the bottom of gullies to their beginnings. Potentially French Creek placer mining restoration project fill could be used to fill gullies.

- Bare Hillsides: These bare areas are harsh sites covering large areas. Areas free of weeds will be fertilized to stimulate native plant establishment. Fertilization, depending on the site, will be applied aerially (helicopter) or by hand, depending on the location, and will be raked in. Other techniques to be applied to these hills include transplant of native sedges from nearby forested areas, application of lime, planting of grass plugs, and the application of woody stems and debris on the ground to increase surface roughness and provide on-slope catchment locations as well as locations for the germination of local seeds.

**B: Collaborative Effort**

<b>Partner</b>	<b>Role</b>
Big Hole Watershed Committee (BHWC)	Contract Administration Education and Outreach Project Coordination (Contractor, Agency Partners, Technical Working Group, etc.)
Natural Resources Damages Program (NRDP) Technical Work Group	The NRDP is the funding and oversight agency for the uplands remediation of this project. Made up of agency partners and remediation specialists. Oversees the entire Mt. Haggin WMA restoration use of NRDP funds.
Watershed Consulting/Pedro Marques	Watershed Consulting is contracted by NRDP to provide technical services on remediation in the Anaconda Smelter area, including California Creek. Pedro will provide technical assistance on this project in both uplands and riparian portions.
Montana Fish, Wildlife and Parks: Jim Olsen, Big Hole River Fish Biologist Vanna Boccadori, WMA Manager, Wild. Bio.	Jim is the French Creek restoration lead. Vanna is the Mt. Haggin Wildlife Management Area Manager and Wildlife Biologist. They each will represent state lands. Their involvement will each include project monitoring in-kind support, including helicopter use.
DEQ: Water Quality Wetlands	Proposed funder. We will include DEQ input in water quality improvement and activities. The wetlands program initially were involved in this project in Watershed Restoration Planning. We will consult with the wetlands program to ensure wetlands needs are met.

*Additional Information (Collaborative Effort)*

This project has several interests and funders. The open and clear communication, collaboration, scheduling, and oversight will be a critical piece to this project, more so than other projects we have led. The upland and riparian work in California Creek under this proposal needs to be synchronized, as does the projects surrounding this project (for example, WMA grazing plans and use, French Creek restoration downstream, and projects related to the road relocation). Secondly, this project deals with contaminated, highly erodible sediments. There are several experienced technical resources that will provide review and oversight, but to include this oversight takes time and coordination. Yet, it is important we extensively review our proposed plan. This may be our best opportunity to repair this stream.

## C: Project Planning and Management

Funding Organization	Award Amount	Project Description	Project Status	Contact Information
Montana Department of Environmental Quality 319 2011 - 2013 211081	\$83,500	Projects to address water quality in the Big Hole River. Deliverables include a Lower Wise River monitoring report for surface water, groundwater and surface water/groundwater interaction, headgate replacement and water measurement installation, Big Hole River 100 Yr. Floodplain map support, newsletters, Big Hole River Drought Plan, mobile watershed tour, and stakeholder coord.	Complete	Ann McCauley Water Quality Specialist Montana Department of Environmental Quality (406) 444-9897 <a href="mailto:AMcCauley@mt.gov">AMcCauley@mt.gov</a>
Montana Department of Environmental Quality 319 2010 - 2013 210109	\$126,500	Projects to address water quality in the Big Hole River. Deliverables include Middle-Lower Watershed Restoration Plan, Big Hole River Temperature Trend Analysis, headgate and water measurement installation, 2 children's education forums, 2 public watershed tours, public meetings, newsletters, online and electronic outreach, coordination with stakeholders & more.	Complete	Ann McCauley Water Quality Specialist Montana Department of Environmental Quality (406) 444-9897 <a href="mailto:AMcCauley@mt.gov">AMcCauley@mt.gov</a>
Montana Department of Environmental Quality 319 2010 - 2013 209161	\$135,000	Projects to address water quality in the Big Hole River. Deliverables include Upper Big Hole River Watershed Restoration Plan, Big Hole River Restoration Success report, Governor Creek Bridge replacement for sediment load reduction, newsletters, public meetings, stakeholder coordination, electronic outreach, public watershed tour, 1 Children's Education Forum.	Complete	Ann McCauley Water Quality Specialist Montana Department of Environmental Quality (406) 444-9897 <a href="mailto:AMcCauley@mt.gov">AMcCauley@mt.gov</a>
Resource Advisory Council (RAC) Grant Sponsored by USFS 2012	\$15,000	Upper Big Hole Watershed Range Rider: A range rider was hired (July - October) to monitor federal grazing allotments in the Upper Big Hole. Range rider was to monitor allotments for condition, livestock health and location, and predator activity. Goal was to monitor pasture health and notify producers of problems and limit livestock losses to depredation.	Complete	Sharon Sawyer Grants Management Sp. US Forest Service Beaverhead-Deer Lodge 406-683-3919 <a href="mailto:ssawyer@fs.fed.us">ssawyer@fs.fed.us</a>
Montana Department of Natural Resources and Conservation (DNRC) RRG Planning Grant 2012	\$11,000	The Lower Big Hole River suffers from extreme dewatering, high water temperatures, lack of suitable fish habitat, erosion, infrastructure damage and more. BHWC is working in this area to address these problems. The report completed by Confluence Consulting helped to review and prioritize potential solutions to address issues. Sponsored by Ruby Valley Conservation District.	Complete	Pam Smith DNRC 406-444-6839 <a href="mailto:pamsmith@mt.gov">pamsmith@mt.gov</a>

### Additional Information (Planning and Management)

The list above identifies state and federal contracts the BHWC has held or managed in recent years. The BHWC also manages and/or sponsors other projects and grants. For example:

- The Montana Fish, Wildlife and Parks French Gulch Restoration Project is in its design phase in 2013. Jim Olsen requested BHWC support to coordinate and manage this project. BHWC worked with contractors and MFWP to complete LiDAR survey work and SHPO Cultural Inventory. Funds were provided by several other non-profit organizations and one agency. All management of this project is on schedule and complete. Reference - Jim Olsen, MFWP

- Range Rider 2013: The Range Rider program in the Upper Big Hole continued this year despite the RAC 2013 money falling through. BHWC led and managed an effort to quickly regain and collect funds from other sources, initiate and coordinate the program, and hire and pay the contracted Range Rider in just a matter of weeks from learning the RAC dollars would not be available. This program is a joint effort between MFWP, Wildlife Conservation Society, and People and Carnivores. Reference - Nathan Lance, MFWP

The BHWC has extensive experience in logistically and fiscally managing large projects similar to California Creek and providing effective education and outreach. The systems to handle this are in place and used frequently for other projects. We invite input and expertise from outside sources in order gain the greatest success.

### Section III: Project Components

#### **A: Education and Outreach: Please briefly describe the education and outreach component of this proposal, the target audience, and the method of delivery.**

The Education and Outreach portion of this project will keep partners and community members informed on the project progress and results. The target audience will be two fold: 1. inform the BHWC traditional audience (for example, board, donors, residents, participants) and 2. inform other interests outside of the traditional BHWC target area (for example, remediation specialists). Activity will include:

1. Project Tour: BHWC will host a "watershed tour" on the completed project. Participants will hear from contractors and project representatives on how and why the project was completed and expected results, tour the completed project, and have an opportunity to ask questions.
2. News: BHWC will publish one newsletter on the project that will be distributed to our mailing list via hardcopy and e-mail, posted on our website, and additional hard copies made available. Newsletter will include project method, photos, and expected result. In addition, BHWC will work with a local media outlet to publish the completed project in a local newspaper or equivalent.
3. Public Meeting: BHWC holds a public meeting the 3rd Wednesday of each month each with a dedicated topic. BHWC will host one monthly meeting where the completed project is the topic.
4. Online: BHWC will note project status and progress on our website (BHWC.org) and in our social media (Facebook).

#### **C: Operation and Maintenance**

Riparian: The riparian enclosure fences should will be left up for a minimum of three years. MFWP has agreed to maintain the fences after this project is complete and to take the fences down after three years.

Upland Gullies: The gully check structures will be monitored and reinforced as needed following run-off events in the spring of 2015. Monitoring of the check structures will be conducted by Watershed Consulting, under their contract with NRDP. NRDP will cover the costs of any maintenance needed on the upland portion of this effort.

A portion of this proposal includes a detailed plan and design for the riparian portion of this project. Additional portions of this work may require its own operation and maintenance considerations.

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

The improvements made to the system as a result of this project will cause significant improvements to sediment influx and potentially metals contamination over the next decade or more. Long-term geomorphic assessment of stream channel shape and longitudinal profile, or D-50 pebble counts, typically used as metrics to gauge changes in sediment loading, are impracticable for the time frame foreseen in this project. Presence and future absence of fine sediment along streambanks, particularly in sediment plume areas, will be one measure of whether or not the project has prevented sediment from entering the system. Vegetated riparian buffer width, species density and photo documentation will also be used to show that the project is meeting its objectives. In gully areas, monitoring stakes with pre-marked measurements will be installed behind most check structures in order to gauge the volume of sediment trapped behind each structure. Basic vegetation cover plots will be established to note changes in vegetated cover on bare slopes over time. MFWP is committed to maintaining photo points and monitoring changes over a longer time scale. However, for this contract, we anticipate creating short-term monitoring schemes that can show changes before and after the project. We are interested in working with DEQ on creating a scheme that fits for a project of this scope.

## Section IV: Scope of Work

Task 1 Title California Creek Restoration

**Description**

Restore upper 6 miles of California Creek by remediating upland sediment sources and restoring the riparian corridor. Restoration is divided into two zones:

1. Upland Restoration [NRDP led and most work provided as match]: Check dams made of natural structures (conifers and rock) will be installed to stop upland sediment from washing into stream. Upland slope natural revegetation will be enhanced through aerial liming and fertilization. Watershed Consulting is contracted by NRDP to lead this effort. Upland sediment is the source for stream sediment as it forms plumes of sediment on streambanks. MFWP will also help to provide match, including helicopter delivery of materials.

2. Riparian Restoration [BHWC led and most of 319 Request]: Riparian restoration will occur based on the project plan and design created under Task 2 of this proposal. The plan will include temporary animal enclosures, stream bank repair and revegetation, wetland establishment, and removal or sequestration of contaminated sediment from streamside. MFWP will also help to provide match.

This task will support contracted on the ground restoration work. At current plan a permit is not required. Permits will be secured if need.

**Deliverables**

- Completed California Creek restoration
- Final project report submitted to Montana DEQ including before and after photos

**Task 1 Funding**

319 Funds	\$70,000.00
Non-Federal Match	\$69,000.00
Other Federal Funds	\$0.00
<b>Total Cost</b>	<b>\$139,000.00</b>
Is Match Secured?	Yes

Timeline Fall 2014, Spring 2015

Match Source NRDP, MFWP

Task 2 Title California Creek Coordination and Design

**Description**

This task will support the coordination of efforts in California Creek with NRDP, Watershed Consulting, MFWP, the Mt. Haggin Uplands Technical Working Group, DEQ, MDT, Anaconda-Deer Lodge County, and others to ensure project work is leveraged and fits well with other simultaneous efforts (meetings, sharing information via e-mail and phone, and site visits).

This task will also support the meshing of riparian project plan with the upland project plan by creating a design for riparian restoration to be used in Task 1 (some of which be completed by other sources prior to this contract's start). The Technical Working Group will review this project plan and design. The final project plan and design will include a plan for operation and maintenance of the planned riparian restoration.

Funds will support BHWC staff time and mileage to coordinate and to participate in meetings, and review the project design. Funds will also support contractor time and mileage to participate in coordination activity and to create the project design and plan.

**Deliverables**

List of coordination activities (meetings, conference calls, actions or steps) and outcomes.

Montana DEQ approved project plan and design for riparian restoration including and operation and maintenance of the planned riparian restoration work.

**Task 2 Funding**

319 Funds	\$17,000.00
Non-Federal Match	\$4,000.00
Other Federal Funds	\$0.00
<b>Total Cost</b>	<b>\$21,000.00</b>
Is Match Secured?	Yes

Timeline Entire contract.

Match Source MTFWP, NRDP



Task 3 Title California Creek Education and Outreach

Description

BHWC will publish content related to the project and its completion on the BHWC website, social media, hardcopy notices, public meetings, and public media outlets through three channels:

1. Watershed Tour: BHWC will host a "Watershed Tour" of the completed project. Participants will hear from project contractors and sponsors and tour completed project.
2. News: BHWC will include project in one BHWC newsletter. Approx. 1000 hardcopy, 410 electronic e-mails, and available for download online. BHWC will also work with a local media outlet or equivalent to publish the completed project.
2. Public Meeting: Completed project will be presented at one BHWC monthly meeting. Average attendance is 15 - 50 people.

This task includes BHWC staff time and mileage, facility rental and supplies for meetings, printing, and contractor time and mileage for involvement in the watershed tour and BHWC meeting. Target audience includes BHWC audience (BHWC board members, partners, donors, residents, participants) and project specific interests (remediation specialists, Clark Fork River restoration stakeholders) Evaluation will include number of attendees, online activity count or reach, and tour evaluation. BHWC will also provide regular updates on project status at our meetings and on our website.

Deliverables

One "Watershed Tour" of the project site.

One "BHWC newsletter where the completed project is described with photos distributed in both hardcopy and electronic format.

One BHWC public meeting presentation and discussion dedicated to the completed project.

Task 3 Funding

319 Funds	\$6,700.00
Non-Federal Match	\$4,267.00
Other Federal Funds	\$0.00
Total Cost	\$10,967.00
Is Match Secured?	Yes

Timeline At restoration completion.

Match Source Meeting attendance

Task 4 Title California Creek Project Monitoring

Description

We anticipate creating short-term monitoring schemes that can show changes before and after the project. This could include change in riparian buffer area, volume of sediment capture in check structures, number/species of newly established vegetation, etc.

We are interested in working with DEQ on creating a scheme that fits for a project of this scope while providing quantitative, measurable improvements in water quality. We recognize that measurable improvements in sediment inputs may be challenging to quantify in a short time frame of this contract as changes to the landscape will occur over decades. However, there are components that can be measured that can either show improvement over a short time period or can be extrapolated through modeling to predict sediment reduction capacity

This task supports contractor time and BHWC staff time to create a "Sampling and Analysis Plan" and to conduct monitoring.

Deliverables

Project "Sampling and Analysis Plan" created and approved by Montana DEQ

Monitoring results compiled and reported.

Task 4 Funding

319 Funds	\$7,000.00
Non-Federal Match	\$1,500.00
Other Federal Funds	\$0.00
Total Cost	\$8,500.00
Is Match Secured?	Yes

Timeline Before and after project work

Match Source NRDP, Agency Partners

Task 5 Title Administration

Description

BHWC will hold the 319 contract and provide administration duties for the contract. This includes:

- Track and document work completed on contracted tasks to meet requirements.
- Communicate regularly with Montana DEQ staff on progress.
- Provide quarter, annual, and final reports in electronic and hard copy.
- Document expenses and project match.

Deliverables

- Quarter reports through life of contract
- Annual reports through life of contract
- 1 Final Report

Task 5 Funding

319 Funds	<input type="text" value="\$10,700.00"/>
Non-Federal Match	<input type="text"/>
Other Federal Funds	<input type="text" value="\$0.00"/>
Total Cost	<input type="text" value="\$10,700.00"/>
Is Match Secured?	<input type="text"/>

Timeline Entire contract.

Match Source

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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

Match Source



Task 7 Title \_\_\_\_\_

Description

Deliverables

Task 7 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 \_\_\_\_\_ Match Source \_\_\_\_\_

Task 8 Title \_\_\_\_\_

Description

Deliverables

Task 8 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 \_\_\_\_\_ Match Source \_\_\_\_\_

Task 9 Title \_\_\_\_\_

Description

Deliverables

Task 9 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 \_\_\_\_\_ Match Source \_\_\_\_\_

Task 10 Title \_\_\_\_\_

Description

Deliverables

Task 10 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 \_\_\_\_\_ Match Source \_\_\_\_\_

**Section V: Supporting Documents**

**A: Detailed Project Budget**

Task Number and Specific Action	Cash Match			In-Kind Match			319 Funds	Total Costs
	Private	State	Federal	Private	State	Federal		
Task 1: Upland Restoration		\$59,000					\$0	\$59,000
Task 1: Riparian Restoration		\$10,000					\$70,000	\$80,000
Task 2: Project Coordination				\$500	\$500		\$7,000	\$8,000
Task 2: Project Plan and Design		\$3,000					\$10,000	\$13,000
Task 3: Watershed Tour		\$1,000		\$2,000			\$2,000	\$5,000
Task 3: BHWC News							\$3,200	\$3,200
Task 3: BHWC Meeting				\$2,267			\$1,500	\$3,767
Task 4: Monitoring SAP Develop.							\$2,000	\$2,000
Task 4: Monitoring		\$1,500					\$5,000	\$6,500
Task 5: Administration							\$10,700	\$10,700
<b><u>TOTAL</u></b>		<b><u>\$74,500</u></b>		<b><u>\$4,767</u></b>	<b><u>\$500</u></b>		<b><u>\$111,400</u></b>	<b><u>\$191,167</u></b>

**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	3QT 2014	4QT 2014	1QT 2015	2QT 2015	3QT 2015	4QT 2015	1QT 2016	2QT 2016	3QT 2016	4QT 2016	1QT 2017
Task 1: California Creek Restoration	<input checked="" type="checkbox"/>	<input checked="" 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"/>	<input type="checkbox"/>
Task 2: California Creek Coordination and Design	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<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"/>
Task 3: California Creek Education and Outreach	<input type="checkbox"/>	<input type="checkbox"/>	<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"/>
Task 4: California Creek Monitoring	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" 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"/>
Task 5: Adiministration	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<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"/>
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Please ensure that you submit a **project map(s)** and **letters of support (at least 3)** 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: Draft of amended WRP**

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

The BHWC, established 1995, seeks understanding and agreement among individuals with diverse viewpoints on water use and management in the Big Hole watershed. Our education, planning, restoration, and partnerships work in Land Use Planning, Weeds, Wildlife, and Water Quality. We have implemented four DEQ contracts successfully since 2010, three of which were 319 contracts. We are experienced at operating state, federal, and private grants. Improving water quality is a top priority of the BHWC. We have two approved watershed restoration plans, operate an active drought management plan to maintain river flows and water temperatures, and have implemented many projects in education and outreach, on-the ground restoration, and partnerships.

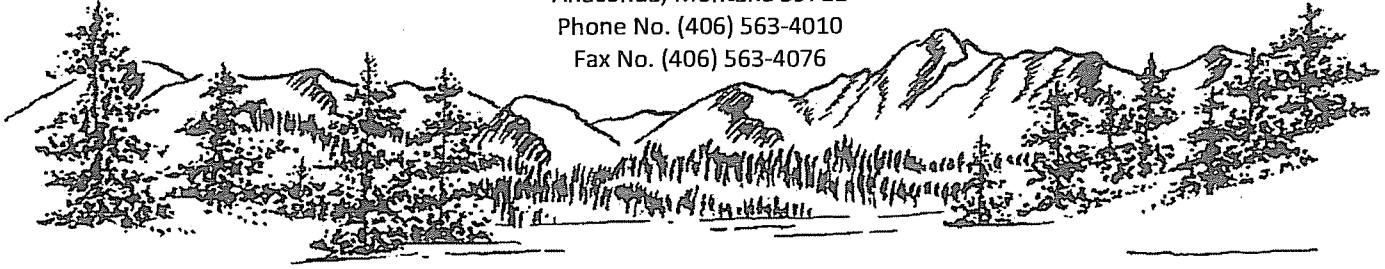
Pedro Marques is a Restoration Ecologist/Project Manager with Watershed Consulting based out of Missoula, Montana and sits on the Mt. Haggin Work Group. Pedro is contracted by NRDP and provides technical support and design for this project and has worked in the Anaconda Smelter clean-up on similar projects for 4 years. Together with NRDP and the Technical Working Group, Watershed Consulting has been pioneering erosion control and revegetation techniques in these extremely difficult conditions for over 4 years.

The Natural Resources Damages Program (NRDP) manages, funds, and oversees restoration activities in the Anaconda Smelter impact area, of which Mt. Haggin is a part of. Previously, funds were allocated for restoration west of the divide (Clark Fork River), leaving impacts on the east side of the Divide (Big Hole River) without repair. After significant lobbying by MFWP, NRDP agreed to allocate funds east of the divide Spring 2013. As a result, restoration of California Creek is possible. However time is short and NRDP is interested in completing work as soon as possible.

The California Creek project is a joint effort, and yet both parts are required for success:

1. NRDP: Leads and manages the upland restoration, provided here as match (Watershed Consulting is their Contractor).
2. BHWC: Leads and manages the riparian restoration, our 319 request (Watershed Consulting assisted with the request).

ANACONDA-DEER LODGE COUNTY  
PLANNING DEPARTMENT  
800 South Main  
Anaconda, Montana 59711  
Phone No. (406) 563-4010  
Fax No. (406) 563-4076



October 1, 2013

ATTN: Robert Ray  
Montana Department of Environmental Quality  
PO Box 200901  
Helena, Montana 59620

Dear Mr. Ray,

**Subject: Anaconda-Deer Lodge County support of California Creek mediation work**

Anaconda-Deer Lodge County (ADLC) is submitting this letter to lend support to the efforts of the Big Hole Watershed Committee for the remediation work to be completed along California Creek.

As you know this area serves as the "gateway" to the Big Hole River for those traveling from Anaconda. While this area is beautiful and picturesque in many ways, it is not without its challenges. Particularly, there are still large areas that suffered de-vegetation and de-forestation, much of it due to the years of smelting operations in Anaconda. The long-term result of these impacts include significant erosion in areas and degraded fish and wildlife habitat. While much work has been done, throughout the County, to remediate these areas and mitigate these impacts, there are still areas such as California Creek that are in need of further help.

We believe that the work that is planned by the Big Hole Watershed Committee, NRDP, Montana FWP, and the MDOT is critical to maintaining a quality gateway to the Big Hole from Anaconda. The proposed work will help to prevent erosion along much of this area and contribute to the restoration of critical fish and wildlife habitat in this area, including along the Mount Haggin State Wildlife Management Area. Ultimately, these are the things that draw people to this area and help to sustain our County's portion of the State's tourist economy, as well as a providing a healthier environment for County residents. To this end, ADLC not only offers its encouragement but is prepared to support this project in whatever way we are able to help.

Thank you,

Doug Clark  
ADLC Planning Director

Cc: Jen Downing, BWHC Executive Director



**Pedro Marques**  
Project Manager/Restoration Ecologist  
(406) 541-2565  
pedro@watershedconsulting.com

October 1, 2013

Montana Department of Environmental Quality  
PO Box 200901  
Helena, Montana 59620

Dear Mr. Robert Ray,

Watershed Consulting is pleased to support the proposed 319 project application for work on California Creek, in the French Gulch drainage. We have served as the State Department of Justice, Natural Resource Damage Program's (NRDP) Revegetation Consultant for steep slope remediation and restoration work since 2009. Much of this work has been in the Mt. Haggin Wildlife Management Area (WMA), particularly on steep slopes inaccessible to motorized vehicles.

For the past year we have helped coordinate a multi-stakeholder Technical Working Group (including FWP, NRDP, DEQ, Pioneer Technical and KC Harvey), whose objective is to develop a 5-year plan for the reclamation and restoration of sites in the WMA impacted by aerial smelter emissions. Our primary focus is on documenting actual sediment sources and evaluating the costs/benefits to different restoration approaches in backcountry settings. We extensively documented sediment sources and sediment catchment on the northern side of the continental divide in 2011-2012.

With NRD funds recently extended to the southern side of the divide, we have focused our efforts over the past year to approaches to stop sediment from entering the primary tributary to California Creek. Using existing NRDP funds under our current contract we have identified the 4 primary sediment source areas and have implemented demonstration projects to show how we can address sediment delivery issues from large gullies that have formed in the drainage. We are confident that our proposed approach to restoring this landscape can be effective- but NRD funds are not enough to get us there, particularly in addressing stream side, riparian vegetation issues. This 319 project proposal is the ideal mechanism to leverage multiple agency support for this work, and provide the critical missing funding to implement the successful restoration of the upper California Creek drainage. The timing is right and this is our one shot at leveraging the support we need to fully implement our plans in this drainage.

We fully support this proposal and are happy to answer any questions you may have.

Pedro Marques, Project Manager

Thank you,

Mark Vander Meer, Principal

September 29, 2013

Ralston Ranch  
54289 Highway 43  
Wise River, Montana 59762

*Big Hole Watershed Committee California Creek 2013 319 Request - Letter of Support*

Montana Department of Environmental Quality  
PO Box 200901  
Helena, Montana 59620

Dear Mr. Robert Ray,

I would like to communicate my support for the Big Hole Watershed Committee's project to restore California Creek through the 319 application process.

The Ralston Ranch is our family cattle ranch and is the only operating ranch in the Deep Creek drainage. Our family began ranching here in 1886. Our property is located lower end of Deep Creek and on the Big Hole River near Deep Creek and includes 2 miles of Deep Creek and 4 miles of Big Hole river frontage. Our lands border both the Mt. Haggin Wildlife Management Area and US Forest Service and we are one four leases for cattle grazing on the Mt. Haggin Wildlife Management Area.

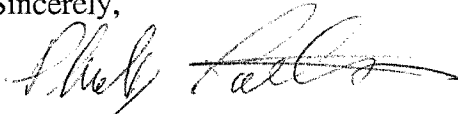
I have been a board member and supporter of the Big Hole Watershed Committee since its inception in 1995. Our ranch is enrolled in the Candidate Conservation Agreement with Assurances (CCAA) program for restoration of the Arctic Grayling. Our ranch welcomed the first restoration project completed under the CCAA program in 1998.

California Creek and the entire upper drainage affected by the Anaconda Smelter fallout have long been a problem and its repair of interest to us. The sediment wash from California Creek that enters the stream is very fine. In a heavy rain event white sediment from California Creek uplands enters the stream and washes down through Deep Creek, enters the Big Hole River, and stays in suspension for miles. When placer mining was active in the entire drainage, similar white sediment washed downstream turning the waters white.

Big Hole Watershed Committee had previously attempted to bring attention to the problems in California Creek in 2000 by bringing it to the attention of several agency personnel. No reasonable routes of repair or funding resulted.

I urge Montana DEQ to support the Big Hole Watershed Committee's request to support California Creek's repair. Its location at the headwaters of the Deep Creek drainage makes this a critical piece to watershed health and water quality.

Sincerely,



Phil Ralston, Ralston Ranch



DEPARTMENT OF JUSTICE  
NATURAL RESOURCE DAMAGE PROGRAM



TIM FOX  
ATTORNEY GENERAL

1301 EAST LOCKEY AVENUE

STATE OF MONTANA

(406) 444-0205 (OFFICE)  
(406) 444-0236 (FAX)

PO BOX 201425  
HELENA, MONTANA 59620-1425

1 October 2013

Robert Ray  
Montana Department of Environmental Quality  
PO Box 200901  
Helena, Montana 59620

Re: California Creek Project

Dear Ray:

On behalf of the State of Montana's Natural Resource Damage Program, I support DEQ's assistance with 319 grant funds for the California Creek Project. I am the Environmental Specialist responsible for remedy and restoration actions in the Mount Haggin Wildlife Management Area due to soil metal contamination from the release of smelter emissions from Anaconda. Natural Resource Damage funds are earmarked for soil stabilization and revegetation on the east side of the Continental Divide and are much more limited for work on the west side of the Divide where California Gulch is located. In coordination with Montana Fish Wildlife and Parks I should be able to match some of the potential 319 funding via on the ground soil stabilization work. I know Montana Fish Wildlife and Parks resource managers are very interested in reducing sediment loading to California Creek and are planning to seek funding for fishery enhancements downstream of the California drainage impact areas in Lower California Gulch to the Big Hole River.

Sincerely,

A handwritten signature in cursive script that reads "Gregory Mullen".

Gregory Mullen  
Natural Resource Damage Program  
Montana Department of Justice  
Helena



# Montana Fish, Wildlife & Parks

1820 Meadowlark Lane, Butte, MT 59701

September 25, 2013

Montana DEQ  
PO Box 200901  
Helena, Montana 59620

Dear Mr. Robert Ray,

California Creek is a tributary to French Creek which drains into Deep Creek. Deep Creek and its tributaries are home to several imperiled aquatic species including Arctic grayling, westslope cutthroat trout and western pearlshell mussels. Extensive mining, grazing and fallout from the Anaconda Smelter have had significant effects on the aquatic and riparian habitat in California Creek. Past aquatic inventories suggested the excessive fine sediment inputs related to smelter impacts have significant impacts on the fishery. California Creek had one of the lowest densities of fish for its size of any of the streams flowing through the Mt. Haggin Wildlife Management Area. Montana Department of Environmental Quality has listed California Creek as impaired because of excessive fine sediments and metals. The majority of the estimated 1.3 million pounds of sediment discharged to California Creek to originate from areas impacted as a result of the atmospheric deposition from the Anaconda Smelter.

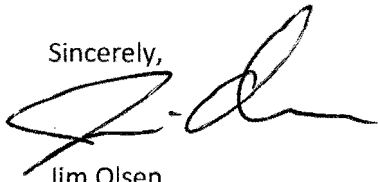
Significant gullies and rills are present on the steep, impacted slopes of Sugarloaf Mountain. Because of the high elevation and large snowpack that is present in most years at this elevation, there is significant annual runoff from these sites. As these gullies and rills converge, large downcuts have formed further exacerbating erosion. Large plumes of fine sediment have formed on the floodplain of California Creek as these gullies converge with the stream (Figure 2). Further, these deltas are crossing public roads causing issues with maintaining access to public areas. High levels of fine sediment in streams are responsible for reduced spawning success and trout egg survival. Fine sediment is also responsible for reduced aquatic invertebrate diversity and abundance.

California Creek along with French Creek are slated for native fish restoration including Arctic grayling and westslope cutthroat trout. The fine sediment loading problems in California Creek could limit the potential of the restored fish assemblage. Native salmonids are not as tolerant to fine sediment as non-native brook trout. Further, both westslope cutthroat trout and Arctic grayling are spring spawners and their eggs incubate in stream gravels well into July. This incubation time makes them vulnerable to excessive fine sediment inputs and could result in the smothering of incubating eggs. French Creek is also home to a native population of pearlshell mussels. No pearlshell mussels have been documented in California Creek, but the habitat conditions in the creek appears suitable for the species, with the exception of the high levels of fine sediment. It may also be possible to restore pearlshell mussels to California Creek once the large sediment loading is curtailed.

The collaboration between FWP, the Big Hole Watershed Committee and other partners to improve the water quality and fisheries of California Creek represent a huge step in the right direction for aquatic

recovery of the area. While significant healing has occurred over the past 100 years, there are still areas that have been slow to heal and continue to pump out large amounts of fine sediment and metals into the stream. Efforts such as those proposed in the 319 grant application will make great strides in preventing the sediment from reaching California Creek and in establishing permanent vegetative cover that should all but eliminate sediment issues. I would hope that Montana DEQ funds this grant proposal because of the potential improvements to water quality and metals in California Creek.

Sincerely,

A handwritten signature in black ink, appearing to read 'J. Olsen', written in a cursive style.

Jim Olsen  
Fisheries Biologist  
Montana Fish Wildlife and Parks



## **Montana Fish, Wildlife & Parks**

**1820 Meadowlark Lane, Butte, MT 59701**

16 September 2013

Montana Department of Environmental Quality  
PO Box 200901  
Helena, Montana 59620

Dear Mr. Robert Ray,

On behalf of the wildlife program in Fish, Wildlife & Parks' Region 3, I'd like to state my support for the California Creek Project. As the wildlife biologist that manages Mount Haggin Wildlife Management Area (WMA), it is my responsibility to seek out and implement those projects that will improve habitat conditions for native wildlife. Sometimes it is the case that on-the-ground efforts have broader ramifications and provide benefits to fisheries as well. The California Creek project is just such a case.

The main goals of this project are to stabilize steep slopes through re-vegetation, minimize deep gully erosion with the use of check dams and other flow-slowing means, and restore riparian areas where currently a large sediment plume exists. Collectively, these efforts will restore habitat function both for fish and wildlife to an area that has been heavily impacted by past mining activities and has been marginally functioning for the better part of the last 50 years.

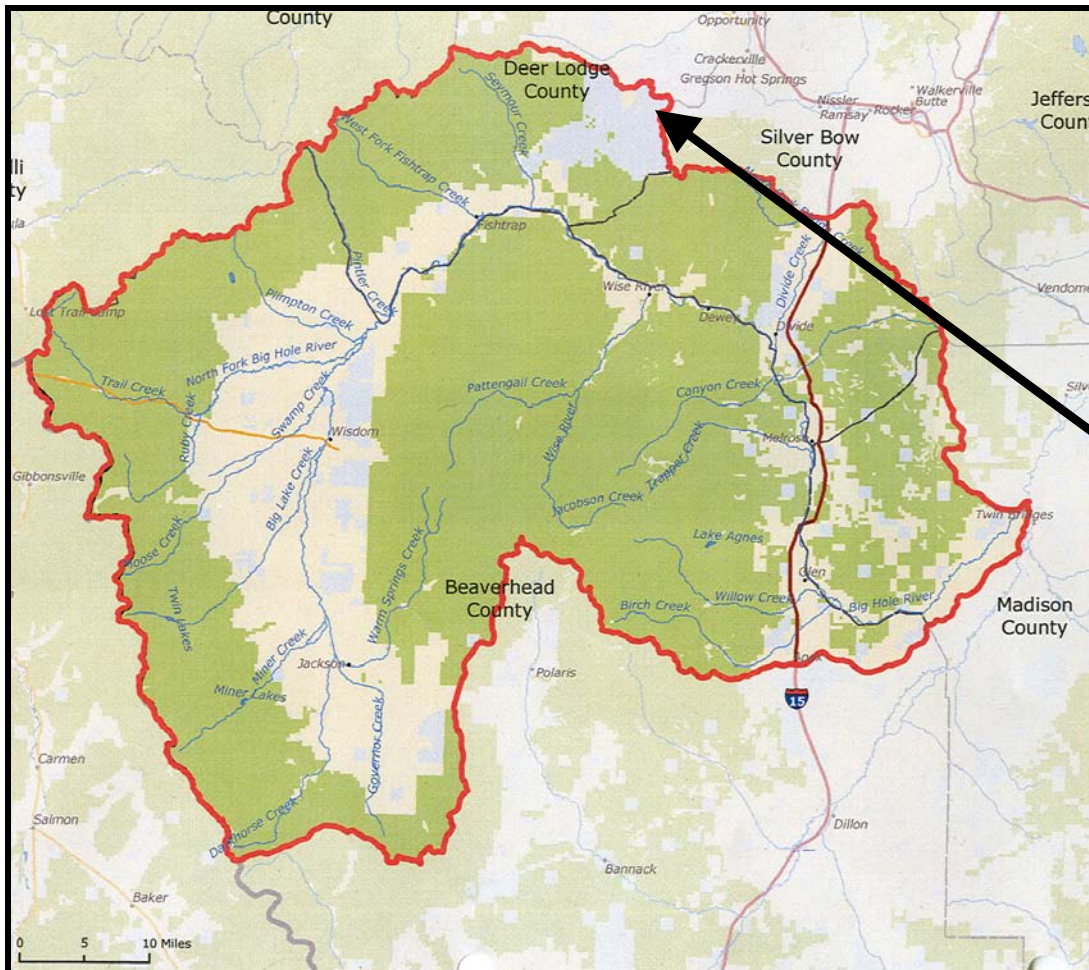
Restoration of the upper reaches of California Creek area has been a priority for the WMA for the past 8 years. Recently, FWP has been able to move forward on this project by solidifying cooperation with the Natural Resource Damage Program and its partners (Western Watershed Consulting and Pioneer Technical) and the Big Hole Watershed Committee. Through the collaboration and expertise of the group, we have been able to develop a sound restoration plan for both the uplands and riparian habitat in upper California Creek. Implementation of the project began this spring and we're already seeing positive results in sediment catchment. Funds received from the DEQ will help ensure that this project gets completed as designed for the betterment of fish and wildlife habitat.

Sincerely,

Vanna Boccadori  
Butte Area Wildlife Biologist  
Montana Fish, Wildlife & Parks

# California Creek: Big Hole Watershed Committee - October 2013

## Big Hole Watershed Map

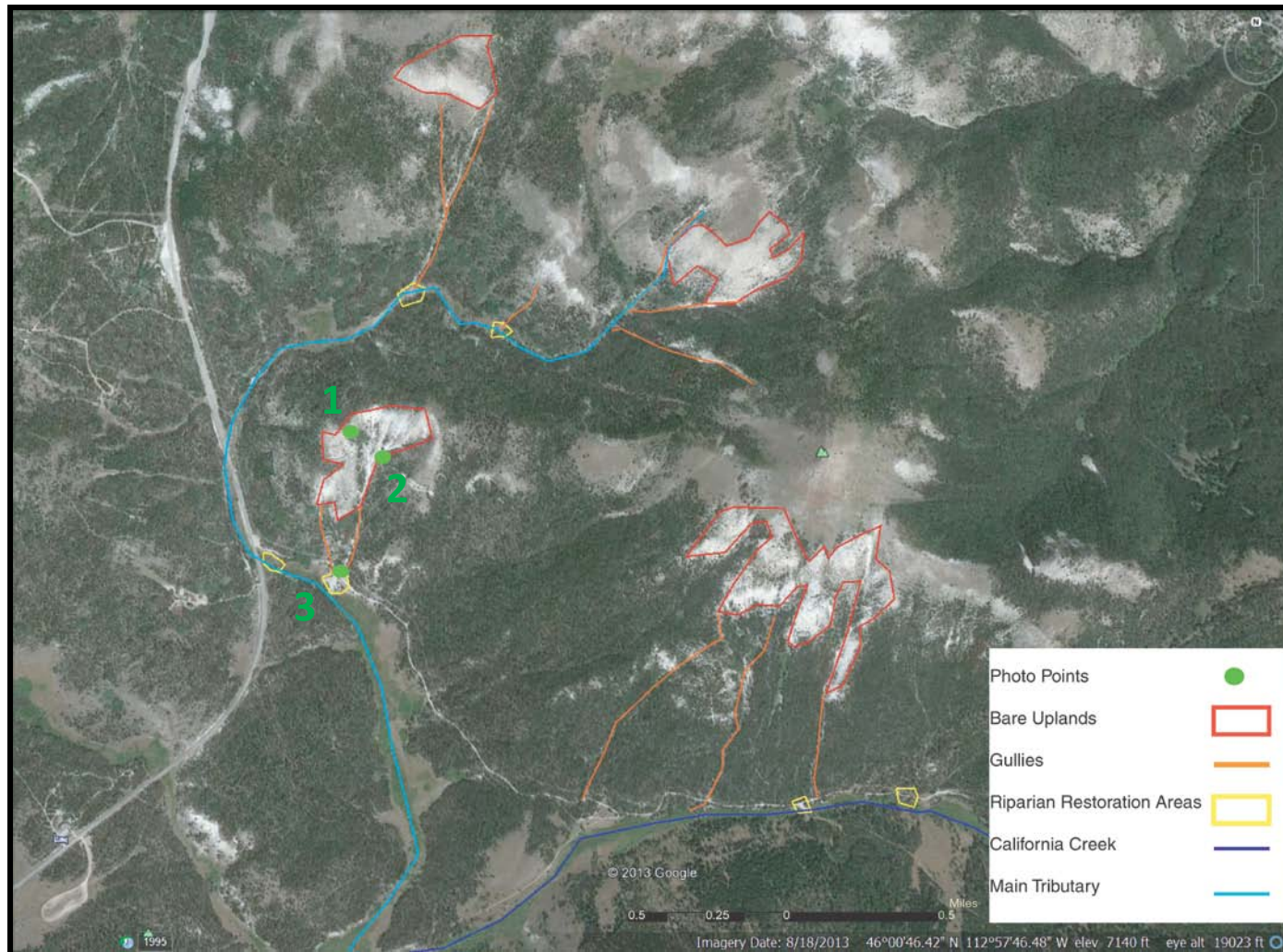


The Big Hole Watershed (outlined in red) is located in southwest Montana. The entire watershed and those interested in the watershed is the target area for the Big Hole Watershed Committee education and outreach.

The California Creek Restoration Project is located in the Mt. Haggin Wildlife Management Area, south of Anaconda, Montana.

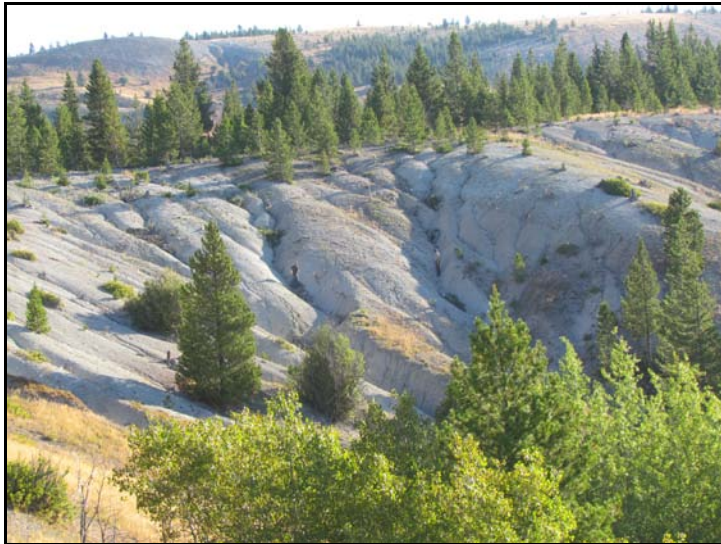


## California Creek Restoration Area Map



The California Creek Restoration Project is located in the Mt. Haggin Wildlife Management Area, south of Anaconda, Montana. The highlighted areas represent specific points of concern in the project area. Photos for photo points are provided on the next page.

## California Creek Restoration Area Photos - See Restoration Area Map for Locations



**Photo 1**

Example top of the upland slopes.



**Photo 2**

Example eroded gully.



**Photo 3**

Example sediment plume. The gully empties into the flat riparian bottom and allows sediment to fall out into a plum. The stream is located in the background of the photo.

Stream