

DATE: March 21, 2016

TO: RMC Governing Board

FROM: Mark Stanley, Executive Officer

SUBJECT: Item 11: Consideration of a resolution authorizing a grant to the Council for Watershed Health for water quality monitoring support for the San Gabriel River Watershed Ranger Program (RMC 15114)

PROGRAM AREA: Mountains and Foothills

PROJECT TYPE: Programming & Planning

JURISDICTION: San Gabriel Mountains National Monument / County of Los Angeles
Supervisory District 5 (Unincorporated)

PROJECT MANAGER: Luz Quinnell

RECOMMENDATION: That the RMC authorize a grant in the amount of \$65,000 to the Council for Watershed Health for water quality monitoring support for the San Gabriel River Watershed Ranger Program. The time period for this grant will be from April 1, 2016 to March 31, 2017.

Project:	San Gabriel River Watershed Ranger Program (RMC 15114)	
Applicant:	Council for Watershed Health	
Program area:	Mountains and Foothills	
Amount requested:	\$65,000	
Amount recommended for funding:	\$65,000	
PROJECT EVALUATION CRITERIA SUMMARY	Project Score	Total Possible Points
1. Access Value	8	10
2. Cultural or Historic Resource Value	0	3
3. Educational / Interpretive Value	5	5
4. Habitat Value	23	37
5. Matching Funds	5	10
6. Public Health Value	5	6
7. Recreational Resource Value	5	9
8. Restoration Resource Value	0	6
9. Scenic Resource Value	1	2
10. Stakeholders / Partners Resource Value	4	4

11. Stewardship and Management Plan Value	5	5
12. Sustainability Value	0	6
13. Trails / Multi-use Trails	5	5
14. Urban Land Value	0	14
15. Water Resource and Quality Value	15	25
<u>TOTAL POINTS</u>	<u>81</u>	<u>147</u>

PROJECT DESCRIPTION: The Council for Watershed Health (CWH), in partnership with the Watershed Conservation Authority (WCA), proposes a robust water quality data collection and monitoring program along the upper reaches of the San Gabriel River, within the San Gabriel Mountains National Monument. The water quality data seeks to characterize the occurrences and severity of littering and provide land managers information and recommendations for the current conditions. Field monitoring components will include (1) conducting trash assessment surveys, (2) sampling and analysis for fecal indicator bacteria (including microbial source analysis), (3) physical habitat assessments using the California Rapid Assessment Method (CRAM), and (4) watershed reporting. The proposed monitoring program is designed for multiple purposes. In addition to helping to answer important overarching watershed management questions for the San Gabriel River, the proposed monitoring is a vital element of the WCA's 2016 San Gabriel River Watershed Ranger Program, which is an extension of the RMC's supported Cattle Canyon Project (RMC09105).

The San Gabriel River Watershed Rangers Program is an improved version of the environmental education outreach conducted in 2013 and 2014 as part of the Cattle Canyon Phase 1 Project. WCA is working in partnership with the San Gabriel Valley Conservation Corps to deploy a crew of at-risk youth to conduct roaming outreach along high-use recreational corridors of the East, North, and West Forks of the San Gabriel River. Outreach will target the cumulative habitat impacts of trash and recreational uses (rock dam building) that results in stream modification by speaking with the public visitors about the importance of sustainable recreation, best management practices, and applicable USFS regulations. The crew will also engage in direct conservation activities during non-holiday workweek days. This program will run from Memorial Day Weekend to Labor Day Weekend, employing a crew of 7 for 5 days a week.

To provide for a project assessment component, WCA proposes to partner with CWH to assess stream condition, as well as measurable effects of the outreach efforts. Measurable effects will include the levels of trash and bacteria in the environment on days when the program is and is not offered. The following table provides an illustrative example of how the data will support an evaluation of the Watershed Ranger outreach.

Example table: Water Quality Monitoring Results Supporting Evaluation of Outreach

	E. coli Geometric Mean				Trash Assessment Score			
	Outreach Present		Non-Program Weekend Days		Outreach Present		Non-Program Weekend Days	
	Results	n =	Results	n =	Results	n =	Results	n =
East Fork Site 1	XX	XX	XX	XX	XX	XX	XX	XX
East Fork Site 2	XX	XX	XX	XX	XX	XX	XX	XX

Additionally, CWH has designed the monitoring program to address the following overarching watershed management questions:

1. What is the condition of stream reaches that are used heavily for recreation?
2. Are conditions of these reaches getting better or worse?
3. Is it safe to swim in these reaches?

BACKGROUND: During the summers of 2013 and 2014 the WCA, in collaboration with the Angeles National Forest, piloted an educational outreach program along the East Fork of the San Gabriel River as part of the Phase 1 Cattle Canyon Project. The outreach program engaged the recreating public on the topics of trash pollution and stream modifications from recreational use, and related impacts to water quality and the river's ecology. CWH partnered with the WCA, providing water quality monitoring, including trash assessment and bacteria monitoring. This type of data is critical in evaluating the outreach program, as well as the planned future assessment of the overall Cattle Canyon Project.

In order to continue to provide critical water quality monitoring information for WCA's current effort, the Watershed Ranger Program, CWH is proposing an enhanced water quality monitoring program (refer to Exhibit A). Five focal sampling sites with different human use patterns will be independently examined for trash quantity and type over 20 dates during the peak summer usage period. This will allow assessment of the severity of the trash levels and how they vary over time. A mixture of dates during the work week, on weekends and on holiday weekends will be examined. During surveys, field staff will also complete a field data sheet observing the number of humans and animals present, their activities, and record basic water chemistry data (pH, conductivity, total dissolved solids (TDS) and temperature with the use of field meters). Water samples will also be collected for bacterial analysis while field staff are present at the sites.

The water samples collected from the 5 field sites on 20 dates will be analyzed using an approved EPA method for examining Enterococcus bacteria – EPA1600. This method is appropriate for comparing with the standards for swimming safety. Exceedances have previously been noted at a sampling site (SGUT206) located on the East Fork at the confluence of Cattle Canyon Creek. These exceedances were found during holiday weekends as part of the 'safe to swim' testing that CWH previously conducted as part of the San Gabriel River Regional Monitoring Program.

New genetic technology also gives CWH the exciting capability of discovering the source of bacteria pollution. A manual has been produced by the Southern California Coastal Water Research Project "The California Microbial Source Identification Manual: A Tiered Approach to Identifying Fecal Pollution Sources to Beaches." This report describes validated qPCR markers which were tested from Source Molecular, on behalf of the California State Water Resources Control Board. The Manual was completed as part of a Proposition 84 Clean Beaches Initiative (CBI) grant to develop a standard source identification protocol to identify fecal indicator bacteria (FIB) sources contributing to chronically polluted beaches. These established protocols for bacterial source monitoring have the potential to also be very informative for analysis of fresh water samples. It will allow CWH to distinguish between bacteria from a variety of sources (e.g., humans, birds, ruminants such as deer, dogs, and horses). It will also allow the quantification of bacteria loads from these sources at each of the 5 focal areas, information of which will be very valuable in making management decisions to reduce the bacteria levels.

The California Rapid Assessment Method (CRAM) is an established method for assessing the health of streams in California. This method takes into account the buffer and landscape,

hydrology, physical structure and biotic structure of the assessment area as well as identifying anthropogenic sources of stress to condition. Photographs, field data sheets, and CRAM scores for each of the 5 reaches will be provided. It is recommended that these assessments be repeated annually to provide quality information about the changes in stream health over time.

Sampling will begin on Memorial Day (May 30th, 2016) and extend until mid-September 2016. Trash surveys and water samples will be collected at each of the five sites over 20 dates during the peak summer usage period of 2016. Weekends, holidays, and days of projected heavy recreational use will be targeted. A one-time CRAM assessment will also occur at each of the five sampling sites over the course of the summer usage period of 2016. CWH will produce a final report highlighting results to be used for the evaluation of the San Gabriel River Watershed Ranger Program outreach. CWH will also provide a presentation to stakeholders about the findings of the monitoring program.

FISCAL INFORMATION: The funding for this project will utilize Environmental License Plate Fund for this proposed grant from the Rivers and Mountains Conservancy support budget.

The monitoring component of the 2016 San Gabriel River Watershed Ranger Program is budgeted in amount of \$65,000. The total estimated project cost for the 2016 program year is \$132,200. The Council for Watershed Health in partnership with the WCA has secured federal and private match funds in the amount of \$67,200 in order to fully fund the 2016 San Gabriel River Watershed Ranger Program. In addition the WCA is contributing in-kind matching funds for labor, transportation, training, and supplies for the San Gabriel Valley Conservation Crew.

CWH has identified the scope for the monitoring component into 6 separate tasks, as follows:

Task	Task Description	Cost
1	WCA Project Coordination / Management	\$8,000
2	Trash Assessment Surveys	\$19,000
3	Bacteria Sampling & Analysis	\$12,400
4	Microbial Source Analysis	\$11,000
5	CRAM Assessments (five sites)	\$9,500
6	Reporting / Presentation	\$5,100
Total Budget		\$65,000

LEGISLATIVE AUTHORITY AND RMC ADOPTED POLICIES/AUTHORITIES: The Rivers and Mountains Conservancy (RMC) statute provides in part that:

Section 32614: The conservancy may do all of the following:

- (b) Enter into contracts with any public agency, private entity, or person necessary for the proper discharge of the conservancy's duties, and enter into a joint powers agreement with a public agency, in furtherance of the purposes set forth in Section 32602.
- (e) Enter into any other agreement with any public agency, private entity, or person necessary for the proper discharge of the conservancy's duties for the purposes set forth in Section 32602.

Staff recommends funding in the amount of \$65,000 to the Council for Watershed Health for water quality monitoring support for the San Gabriel River Watershed Ranger Program, since it exceeds the RMC's guiding principles based on its goals, objectives, timeline, and ability to complete the project.

Mark Stanley, Executive Officer
Rivers and Mountains Conservancy
100 N. Old San Gabriel Canyon Road
Azusa, California 91702

RE: Grant Request for San Gabriel River Watershed Ranger Program

Dear Mr. Stanley:

The Council for Watershed Health (CWH), in partnership with the Watershed Conservation Authority (WCA), is requesting the consideration of the Rivers and Mountains Conservancy (RMC) Board to award a grant in the amount of \$65,000 to support the 2016 San Gabriel River Watershed Ranger Program. This is an urgent request as RMC funds will be used to leverage resources from other partners, as well as continue a history of support for the Cattle Canyon Project. This work would be an extension of the Cattle Canyon Outreach Program, with the water quality monitoring supporting on-going project evaluation efforts.

During the summers of 2013 and 2014 the WCA, in collaboration with the Angeles National Forest, piloted an educational outreach program along the East Fork of the San Gabriel River as part of the Phase 1 Cattle Canyon Project. The outreach program engaged the recreating public about how trash pollution and stream modifications from recreational use impact water quality and the river's ecology. CWH partnered with the WCA to provide water quality monitoring, including rapid trash assessment and bacteria monitoring. This type of data is critical evaluating the outreach program, as well as the planned future assessment of the overall Cattle Canyon Project.

The initial grant from the RMC allowed the WCA to pilot the outreach program. With many lessons learned from the first two years the WCA has outlined a modified outreach program, and received \$50,000 from the National Fish and Wildlife Foundation for a 2016 summer program. WCA is also seeking additional match from the Resources Legacy Fund for outreach crew training, uniforms, supplies, and other support items totaling \$17,230.

In order to continue to provide critical water quality monitoring information that complements the work of WCA, CWH is proposing an enhanced water quality monitoring program for Cattle Canyon in the San Gabriel Watershed. Cattle Canyon is located within the San Gabriel Mountains National Monument. Within this canyon, there are five distinct areas (zones) that are used by visitors for water recreation. These five locations will be targeted for this project.

A robust data collection and monitoring program will seek to characterize the occurrence and severity of littering and provide land managers information about the current conditions of streams in the San Gabriel Canyon. Field monitoring

components will include (1) conducting trash assessment surveys, (2) sampling and analysis for fecal indicator bacteria (including microbial source analysis), (3) physical habitat assessments using the California Rapid Assessment Method (CRAM), and (4) watershed reporting. These elements will not only inform and support evaluation of WCA's efforts, but will help answer important, overarching watershed management questions for the San Gabriel River:

1. What is the condition of stream reaches that are used heavily for recreation?
2. Are conditions of these reaches getting better or worse?
3. Is it safe to swim in these reaches?

To conduct the trash assessments, sites with different patterns of human use will be examined independently for trash/refuse quantity and type during the peak summer usage period using standardized methods. This assessment will allow quantification of trash burdens at each site and how these vary over time. The large data set of rapid trash assessments will also allow for comparisons of stream conditions in relationship to the Watershed Rangers efforts, providing a way to associate improved conditions in river corridors (in regards to reduced littering) following outreach efforts.

In addition, water samples will be collected and analyzed using an approved EPA method for examining Enterococcus bacteria – EPA1600. This method is appropriate for comparing with the standards for swimming safety and important for enabling the site management to make informed decisions about public health safety in regards to water-based recreation. Bacterial samples will also provide land managers a better understanding of how standards for swimming safety may be exceeded. Genetic source-tracking technology will be used to identify the source of bacteria pollution (e.g., human, canine, avian) at each of the five focal swim areas.

The California Rapid Assessment Method (CRAM) will be used to examine the physical and riparian habitat of each study site. CRAM is an established protocol for assessing the health of streams in California. It is recommended that these assessments be repeated annually to provide semi-quantitative information about the changes in stream health over time.

We look forward to this opportunity for continued partnership with the WCA and the ability to support and inform the 2016 San Gabriel River Watershed Ranger Program. Please do not hesitate to contact me with any questions.

Sincerely,

Wendy Ramallo
Executive Director
wendy@watershedhealth.org

March 21, 2016 – Item 11

RESOLUTION 2015-08

RESOLUTION OF THE SAN GABRIEL AND LOWER LOS ANGELES RIVERS AND MOUNTAINS CONSERVANCY (RMC) AUTHORIZING A GRANT TO THE COUNCIL FOR WATERSHED HEALTH FOR WATER QUALITY MONITORING SUPPORT FOR THE SAN GABRIEL RIVER WATERSHED RANGER PROGRAM (RMC15114)

WHEREAS, The legislature has found and declared that the San Gabriel River and its tributaries, the Lower Los Angeles River and its tributaries, and the San Gabriel Mountains, Puente Hills, and San Jose Hills constitute a unique and important open space, environmental, anthropological, cultural, scientific, educational, recreational, scenic, and wildlife resource that should be held in trust to be preserved and enhanced for the enjoyment of, and appreciation by, present and future generations; and

WHEREAS, The RMC may award grants to local public agencies, state agencies, federal agencies, and nonprofit organizations for the purposes of Division 22.8 the Public Resources Code; and

WHEREAS, The Applicant has submitted a project which is consistent with the purposes of Division 22.8 of the Public Resources Code; and

WHEREAS, This action is exempt from the environmental impact report requirements of the California Environmental Quality Act (CEQA); and NOW

Therefore be it resolved that the RMC hereby:

1. FINDS that this action is consistent with the San Gabriel and Lower Los Angeles Rivers and Mountains Conservancy Act and is necessary to carry out the purposes and objectives of Division 22.8 of the Public Resources Code.
2. FINDS that the actions contemplated by this resolution are exempt from the environmental impact report requirements of the California Environmental Quality Act.
3. ADOPTS the staff report dated March 21, 2016.
4. AUTHORIZES a grant to the Council for Watershed Health in the amount of \$65,000 for water quality monitoring support for the San Gabriel River Watershed Ranger Program (RMC15114).

~ End of Resolution ~

Motion _____ Second: _____

Ayes: _____ Nays: _____ Abstentions: _____

Resolution 2016-08

Passed and Adopted by the Board of the
SAN GABRIEL AND LOWER LOS ANGELES RIVERS AND MOUNTAINS
CONSERVANCY on March 21, 2016.

Frank Colonna, Chair

ATTEST:

Terry Fujimoto
Deputy Attorney General