

**DATE:** April 29, 2019

**TO:** RMC Governing Board

**FROM:** Mark Stanley, Executive Officer

**SUBJECT:** Item 10: Consideration of a Resolution authorizing the San Gabriel and Lower Los Angeles Rivers and Mountains Conservancy to establish an agreement with the Santa Monica Mountains Conservancy to implement the Los Angeles River Environmental Flows Study Supplemental Analysis

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**PROGRAM AREA:** Rivers and Tributaries

**PROJECT TYPE:** Planning

**JURISDICTION:** Los Angeles River

**PROJECT MANAGER:** Joseph Gonzalez

**RECOMMENDATION:** That the San Gabriel and Lower Los Angeles Rivers and Mountains Conservancy approve a resolution authorizing the RMC to establish and enter into an agreement with the Santa Monica Mountains Conservancy to implement the Los Angeles River Environmental Flows Study Supplemental Analysis

**PROJECT DESCRIPTION:**

- Exhibit A: LA River Instream Flow Criteria: Technical Study, Scope of Work and Budget.

When a wastewater treatment plant seeks to reduce the amount of water they discharge into a river, and that reduction could reduce instream flow, they must file a wastewater change petition and obtain approval under Water Code Section 1211 (1211 petition) from the State Water Board. A key provision of the 1211 petition is to demonstrate that the reduced discharge will not unreasonably affect fish and wildlife, or other public trust resources. The City of Burbank has submitted a 1211 petition for flow reduction associated with reuse and this was protested by another city. For this reason, the State Water Board has decided to pursue development of a collaborative (Tier 2) case study for the Los Angeles River that will help them develop a methodical, science-informed approach for evaluating future 1211 petitions and other proposals for water capture and/or reuse. The Southern California Coastal Water Research Project (SCCWRP) is the lead consultant facilitating the Study. The scope, budget, and timeline for the Los Angeles River Environmental Flows Study, as it is currently funded, is included as Exhibit A.

Much of the water that flows in the Lower Los Angeles River year-round is discharged from upstream water treatment plants along its banks. Due to the potential impacts of reduced flows to the LA River downstream of Burbank, collaboration between the RMC and the Santa Monica Mountains Conservancy in contributing to the State Water Board Tier 2 case study of the LA River is beneficial for a holistic result of how reduced flows could impact ecological and recreational resources.

In August 2018, the RMC and Santa Monica Mountains Conservancy (SMMC) engaged each other on how to supplement the Los Angeles River Environmental Flows Study to include analysis

of existing and planned recreation and habitat resources for the Lower and Upper Los Angeles River, and directed WCA and Mountains Recreation and Conservation Authority (MRCA), SMMC's joint powers authority (JPA), to engage SCCWRP on a scope of work and budget for the supplemental analysis. The proposed project would be a supplemental analysis that would expand the State Water Board's current Tier 2 scope. WCA and MRCA will jointly pursue funding through Proposition 1 to split the costs evenly for the Los Angeles River Environmental Flows Study Supplemental Analysis.

The expanded analysis would include, as part of the Los Angeles River Environmental Flows Study, consideration of the existing and planned recreation and habitat uses of the Upper and Lower Los Angeles River. Specific work would include:

- Addition of oversight and review of scoping, data, analysis, and findings at all stages of the process relating to the Lower Los Angeles River by partner agency; as well as leading an expanded community outreach program.
- Augmenting Activity 4 to explore options for lessening lower flow impacts by creating improved physical habitat in key confluence and adjacent areas, such as the Rio Hondo and Compton Creek.
- Addition of Activity 7 – Water Quality Assessment, to model reduced flows effects to water temperature, sediment, salinity, and metals (including Contaminants of Emerging Concern [CECs]) and includes evaluating different water quality management scenarios.
- Addition of third-party technical reviews of data and findings in the study by subject matter experts.
  - The purpose of the third-party technical review is to ensure that the data, analysis, and recommendations of the Los Angeles River Environmental Flows Study are consistent with the RMC's goals and objectives for the Lower Los Angeles River.

The Santa Monica Mountains Conservancy (SMMC) will approve a similar action to establish an agreement with the RMC to implement this Supplemental study at its next Board meeting in May.

Funding for the implementation of this supplemental study will be allocated from the following sections of Proposition 1, under statute:

79731 (f): San Gabriel and Lower Los Angeles Rivers and Mountains Conservancy, the sum of thirty million dollars (\$30,000,000) and section 79735 (a) of the funds authorized by Section 79730, one hundred million dollars (\$100,000,000) shall be available, upon appropriation by the Legislature, for projects to protect and enhance an urban creek, as defined in subdivision (e) of Section 7048, and its tributaries pursuant to Division 22.8 (commencing with Section 79508....

Of this amount, \$13,000,000 is for planning and implementation of projects approved jointly by both Conservancies. The proposed grant is to be funded from these joint funds.

**BACKGROUND:** To manage water scarcity in Los Angeles, the State Water Resources Control Board (State Water Board) and Regional Water Quality Control Boards (Water Boards) are investing heavily to promote water reuse and recycling. Instead of treated waste water being discharged into the LA River, they are proposing that the water be redirected to be used for

appropriate urban needs. However, reuse can lead to potential reductions in river flow, and thus potential impacts to ecological resources both aquatic and non-aquatic, and recreational resources.

The Water Boards are responsible for establishing flows for a variety of beneficial uses. Wastewater Treatment Plant dischargers seeking to reduce discharges associated with reducing flow in a stream for reuse must file a wastewater change petition and obtain approval under Water Code Section 1211 (1211 petition) from the State Water Board prior to reducing discharges. A key provision of the 1211 petition is to demonstrate that the reduced discharge will not unreasonably affect fish and wildlife, or other public trust resources. However, establishing appropriate flow criteria is challenging because the tools and processes for determining flow requirements that protect various beneficial uses are still in early stages of development, and there is no established protocol for determining allocation of flow requirements when there are multiple discharges or water users on a single body of water, such as the LA River.

The State Water Board is currently funding the development of the California Environmental Flows Framework (CEFF), a two-tiered approach for setting environmental flow criteria to resolve any potential conflicts between increased reuse and maintaining sufficient instream flows for ecological and public trust resources. Tier 1 involves defining ecologically protective flow ranges based on reference hydrology for nine general stream classes in the state. The Tier 2 approach, which is just starting, provides a framework to develop specific flow criteria for different seasons necessary to protect specific species, habitats, or beneficial uses. Developing the Tier 2 framework includes a series of proposed case studies across the state demonstrating how watershed-specific analyses can be used to define flow targets for specific beneficial uses.

**FISCAL INFORMATION:** This action, consisting of entering into an agreement with the Santa Monica Mountains Conservancy for the implementation of the Los Angeles River Environmental Flows Study Supplemental Analysis, does not result in a fiscal impact.

In 2017, the State of California legislature appropriated Proposition 1 (water bond) Urban Creeks funding to both the RMC and the SMMC totaling one hundred million dollars (\$100,000,000), resulting in fifty million dollars (\$50,000,000) to each conservancy. A component of the appropriation is a thirteen million dollar (\$13,000,000) set aside for planning and implementation of projects approved jointly by both Conservancies.

Funding for projects will be allocated from the following sections of Proposition 1, under statute:

79731 (f): San Gabriel and Lower Los Angeles Rivers and Mountains Conservancy, the sum of thirty million dollars (\$30,000,000) and section 79735 (a) of the funds authorized by Section 79730, one hundred million dollars (\$100,000,000) shall be available, upon appropriation by the Legislature, for projects to protect and enhance an urban creek, as defined in subdivision (e) of Section 7048, and its tributaries pursuant to Division 22.8 (commencing with Section 79508....

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

Section 32602: There is in the Resources Agency, the San Gabriel and Lower Los Angeles Rivers and Mountains Conservancy, which is created as a state agency for the following purposes:

- (a) To acquire and manage public lands within the Lower Los Angeles River and San Gabriel River watersheds, and to provide open-space, low-impact recreational and educational

uses, water conservation, watershed improvement, wildlife and habitat restoration and protection, and watershed improvement within the territory.

- (b) To preserve the San Gabriel River and the Lower Los Angeles River consistent with existing and adopted river and flood control projects for the protection of life and property.
- (c) To acquire open-space lands within the territory of the conservancy.

Section 32604: The conservancy shall do all of the following:

- (a) Establish policies and priorities for the conservancy regarding the San Gabriel River and the Lower Los Angeles River, and their watersheds, and conduct any necessary planning activities, in accordance with the purposes set forth in Section 32602.
- (b) Approve conservancy funded projects that advance the policies and priorities set forth in Section 32602.
- (d) To provide for the public's enjoyment and enhancement of recreational and educational experiences on public lands in the San Gabriel Watershed and Lower Los Angeles River, and the San Gabriel Mountains in a manner consistent with the protection of lands and resources in those watersheds.

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.
- (f) Recruit and coordinate volunteers and experts to conduct interpretive and recreational programs and assist with construction projects and the maintenance of parkway facilities.

Further, Section 32614 provides that: The conservancy may do all of the following:

- (g) Undertake, within the territory, site improvement projects, regulate public access, and revegetate and otherwise rehabilitate degraded areas, in consultation with any other public agency with appropriate jurisdiction and expertise, in accordance with the purposes set forth in Section 32602. The conservancy may also, within the territory, upgrade deteriorating facilities and construct new facilities as needed for outdoor recreation, nature appreciation and interpretation, and natural resources projection. The conservancy may undertake those projects by itself or in conjunction with another local agency; however, the conservancy shall provide overall coordination of those projects by setting priorities for the projects and by ensuring a uniform approach to projects. The conservancy may undertake those projects with prior notification to the legislative body of the local agency that has jurisdiction in the area in which the conservancy proposes to undertake that activity.

Section 32614.5:

- (a) The conservancy may award grants to local public agencies, state agencies, federal agencies, and nonprofit organizations for the purposes of this division.
- (b) Grants to nonprofit organizations for the acquisition of real property or interests in real property shall be subject to all of the following conditions:
  - (1) The purchase price of any interest in land acquired by the nonprofit organization may not exceed fair market value as established by an appraisal approved by the conservancy.
  - (2) The conservancy approves the terms under which the interest in land is acquired.

- (3) The interest in land acquired pursuant to a grant from the conservancy may not be used as security for any debt incurred by the nonprofit organization unless the conservancy approves the transaction.
  - (4) The transfer of land acquired pursuant to a grant shall be subject to the approval of the conservancy and the execution of an agreement between the conservancy and the transferee sufficient to protect the interests of the state.
  - (5) The state shall have a right of entry and power of termination in and over all interests in real property acquired with state funds, which may be exercised if any essential term or condition of the grant is violated.
  - (6) If the existence of the nonprofit organization is terminated for any reason, title to all interest in real property acquired with state funds shall immediately vest in the state, except that, prior to that termination, another public agency or nonprofit organization may receive title to all or a portion of that interest in real property, by recording its acceptance of title, together with the conservancy's approval, in writing.
- (c) Any deed or other instrument of conveyance whereby real property is acquired by a nonprofit organization pursuant to this section shall be recorded and shall set forth the executor interest or right of entry on the part of the state.

**Los Angeles River Instream Flow Criteria: Technical Study**  
**Scope of Work and Budget**  
**September 13, 2018**

**Background**

The State Water Resources Control Board (State Water Board) and Regional Water Quality Control Boards (collectively Water Boards) have invested heavily in promoting water reuse and recycling. However, reuse leads to potential reduction in stream flow, and the Water Boards are responsible for establishing flows for a variety of beneficial uses. Wastewater Treatment Plant dischargers seeking to reduce discharges associated with reducing flow in a stream for reuse (or any other purpose) must file a wastewater change petition and obtain approval under Water Code Section 1211 (1211 petition) from the State Water Board prior to reducing discharges. A key provision of the 1211 petition is to demonstrate that the reduced discharge will not unreasonably affect fish and wildlife, or other public trust resources.

Resolving the potential conflict between increased reuse and maintaining sufficient instream flows is challenging for two reasons. The first is technical, as the tools and processes for determining flow requirements that protect various beneficial uses are still in early stages of development. The State Water Board is currently funding development of the California Environmental Flows Framework (CEFF), a two-tier approach for setting environmental flow criteria. Tier 1 involves defining ecologically protective flow ranges based on reference hydrology for nine general stream classes in the state. The Tier 2 approach, which is just starting, provides a framework to develop specific flow criteria for different seasons necessary to protect specific species, habitats, or beneficial uses. Developing the Tier 2 framework includes a series of proposed case studies across the state demonstrating how watershed-specific analyses can be used to define flow targets for specific beneficial uses.

The second reason is procedural, as there is no established protocol for determining allocation of flow requirements when there are multiple dischargers or water users on a single water body. That circumstance has already materialized in the Los Angeles River (LA River), where the City of Burbank's 1211 petition for flow reduction associated with reuse was protested by another city, which asked the State Water Board to forestall that decision until a comprehensive environmental analysis could be completed to determine how much water should remain in the Los Angeles River. Although the most recent challenges have been addressed, the procedural concerns for equitable allocation of permission to reduce discharges for reuse remains.

A series of scoping meetings involving the State and Regional Water Boards, City and County agencies and land conservancies were held to develop an approach to help address the technical and procedural challenges associated with defining environmental flow targets for the LA River. This scope of work represents the outcome of those meetings and provides a science-informed approach for assessing flow needs and evaluating future 1211 petitions and other proposals for water capture, diversion and/or reuse.

## Project Goal

The Los Angeles River Flow Study has two overarching goals. The first is to develop technical tools that quantify the relationship between various alternative flow regimes (which may include seasonal or annual needs for flow, such as presence and depth of pools, temperature, or flow timing, duration, frequency, or magnitude) and the extent to which beneficial uses are achieved. The second is to engage multiple affected parties in application of these tools to inform and solicit input about appropriate flow needs in the Los Angeles River. The ultimate outcome of this project is to provide technically sound recommendations and alternatives to the Water Boards for consideration and implementation of flow objectives.

## Scope and Tasks

The following provides the scope of work and tasks that will be completed or led by SCCWRP. Note: Community Outreach is an essential activity that is not included in this draft scope of work and budget, but will need to be incorporated into the project.

The process to achieving the project goals involves six activities. Underneath these activities are provided more detailed technical tasks.

*Activity 1: Stakeholder and Technical Advisory Group Coordination.* Development of both the technical approach and implementation strategy should be informed by a robust stakeholder coordination process. The project will be coordinated through two advisory workgroups; a technical advisory group will be regularly consulted to help guide the analytical approach, and a stakeholder advisory group will provide input on decisions regarding the beneficial uses analyzed, the biological communities focused on, and implementation approaches considered. A series of meetings or workshops will be held with key stakeholders to solicit their input and participation in the overall process and in defining desired outcomes. Stakeholders may include other regulatory agencies, discharger agencies, other public or private entities, or non-governmental organizations. State and regional water board staff will oversee the stakeholder process. Under this task, the technical team will provide summary materials on the project process and products that can support the stakeholder process and will participate in the stakeholder workgroup meetings to help answer technical questions and respond to suggestions.

SCCWRP (technical team) will lead the technical workgroup. This will include providing materials for review and facilitating discussion among the technical workgroup that will serve to provide technical review of analytical approaches and draft products.

*Products:* Agendas, presentation materials, and meeting summaries for the technical and stakeholder advisory workgroups.

*Activity 2: Non-aquatic Life Beneficial Use Assessments.* The LA River supports a suite of non-aquatic life beneficial uses, such as recreation, fishing and kayaking. Existing information will be compiled on these uses and the hydrological needs necessary for their support.

Task 2A: Characterize non-aquatic life uses. The goal of this task is to identify the prevalence of non-aquatic life uses, such as recreation and fishing, in various reaches of the LA River. A preliminary set of current and potential uses will be developed by the project team and vetted

through the stakeholder advisory workgroup. The goal of this task is not to “define the beneficial uses” but to summarize activities that occur (or could occur in the future) associated with each use, in each reach of the river. The uses will be related to specific indicators to determine the basis for potential flow criteria.

*Product:* Map of specific non-aquatic life uses and associated indicators by reach of the LA River

Task 2B: Determine flow-use relationships for priority beneficial uses. A conceptual assessment approach will be developed for each beneficial use that allows changes in flow to be related to changes in use that exceed specific levels designated important from a management perspective. Focused group surveys will be conducted with knowledgeable stakeholder groups to help determine hydrologic needs associated with each use. The ultimate flow-use relationships will be based on the stakeholder input, expert judgement, and/or empirical relationships.

*Product:* Draft and final technical memo summarizing non-aquatic life beneficial uses, flow-use relationships and the associated flow targets necessary for their support.

*Activity 3: Aquatic Life Beneficial Use Assessments.* This activity will involve applying the Tier 2 California Environmental Flows Framework for the Los Angeles River. The State’s Tier 2 framework includes the following basic steps, which will need to be evaluated and possibly adapted for their application to the Los Angeles River:

1. Characterize aquatic life uses
2. Assess hydrologic baseline conditions
3. Identify priority ecological endpoints of management concern
4. Determine flow-ecology relationships for priority ecological endpoints
5. Determine appropriate hydrologic and ecologic tools for analysis

Task 3A: Assess hydrologic baseline conditions. The Los Angeles River has been the subject of past and ongoing hydrologic studies by entities including Colorado School of Mines/UCLA, City of Los Angeles, Cities of Glendale and Burbank, and the Army Corps of Engineers. In addition, there are a range of past reports an analysis ranging from the 1962 Final Report of Referee for the Upper Los Angeles River Area to the recent Enhanced Watershed Management Plan (EWMP). This task will compile and review results from existing hydrologic studies to determine existing conditions relative to ecologically relevant hydrologic metrics. Data gaps associated with differences in the objectives of past studies relative to the goals of this study will be identified to guide subsequent hydrologic analysis.

*Product:* Summary of baseline hydrology and identification of data gaps

Task 3B: Identify priority ecological endpoints of management concern. The CEFF uses benthic invertebrates and fish as the primary ecological endpoints, largely because of the large amount of data on these organisms. However, other groups, such as amphibians, birds, or riparian habitat may be important for the determination of flow criteria for the Los Angeles River. This task will identify key ecological endpoints and their locations in the river, and prioritize them based on stakeholder interest, relevance to the goals of the study, and availability of data and

analytical tools. Hydrologic needs of each species or habitat will be compiled to support future analysis of flow-ecology relationships.

*Product:* Ranked list of priority ecological endpoints and summary of available data on species distributions and flow-ecology relationships

Task 3C: Determine flow-ecology relationships and targets for stream and riparian endpoints.

This task will focus on developing (or refining) the conceptual flow-ecology models and targets for riparian ecological endpoints. This task will provide targets for organisms for which the basic flow-ecology relationships have already been (or are currently being) developed as part of an ongoing project on the LA River; specifically, benthic invertebrates and focal vertebrate species identified as part of the ongoing Regional Water Board project investigating climate change induced flow changes on instream vertebrate communities (3 fish, 2 birds, 1 reptile, 1 amphibian). The conceptual models outline the key flow characteristics, seasonality, and desired variability necessary to support the priority ecological endpoints. Flow targets build from flow-ecology relationships by identifying thresholds of response that can serve as quantitative management criteria. They form the foundation for quantitative analysis of flow needs and provide an important platform for discussion among the stakeholders of where analysis should be focused.

*Product:* Flow-ecology models and preliminary flow targets for each reach of the LA River, based on benthic invertebrate and focal vertebrate communities.

Task 3D: Determine flow-ecology relationships and targets for non-riverine ecological endpoints.

This task will expand the analysis of flow-ecology relationships to include additional habitats and species, specifically those associated with emergent marsh habitats and tidal flats located near the mouth of the river. Similar to Task 3C, this task will develop the conceptual relationships between hydrologic properties and probability of occurrence for marsh and estuarine species. These relationships will be used with hydrologic analysis to produce putative flow-ecology targets for these additional ecological endpoints.

*Product:* Flow-ecology models and preliminary flow targets for emergent marsh and estuarine habitats and species of the LA River.

*Activity 4: Apply Environmental Flows Framework to quantify effects of flow modification on the Los Angeles River and evaluate management scenarios.* For this activity, we will apply the CEFF framework to assess the effects of wastewater reuse and other flow management actions on aquatic and non-aquatic life uses in the Los Angeles River. Scenarios that will be analyzed will be developed in coordination with the project's technical advisory and stakeholder committees.

Task 4A: Determine appropriate hydrologic tools and update modeling for analysis. For this task, we will enhance the existing hydrologic model for the LA River watershed to accommodate the goals of this project. Colorado School of Mines (CSM) has an established hydrologic/stormwater model for the LA River watershed that was previously implemented for the LA Sustainable Water Project. The model will be discretized to improve spatial resolution, expanded to include a reach hydraulic model, and refined with new data and information to provide baseline daily flows for all applicable reaches of the LA River. These baseline flows will be used in subsequent tasks to assess potential effects of flow modification.

*Product:* Hydrologic and hydraulic models for use in scenario analysis for the Los Angeles River

Task 4B: Analyze tolerances of river to flow modifications. Hydrologic models will be used iteratively to evaluate how sensitive different aquatic life and non-aquatic life endpoints are to flow alteration. The resulting tolerances will be used to define a range of flow conditions that should be considered “protective” for each ecological endpoint (i.e. how far can flow deviate from the defined reference targets before ecological impacts occur). These ranges will be used to support development of preliminary flow criteria.

*Product:* Flow tolerance ranges of riparian habitat, benthic invertebrates and focal vertebrate species

Task 4C: Analyze wastewater reuse scenarios. The effect of changes in discharge and flow in the LA River associated with proposed wastewater reuse scenarios will be evaluated to determine the potential effects on the priority beneficial uses. Changes in flow associated with reduced discharge will be modeled to determine the effect on beneficial use indicators. The results will be used to produce a map of “potential effect” by river reach and beneficial use.

*Product:* Map of potential effects on beneficial use associated with proposed wastewater reuse scenarios.

Task 4D: Evaluate stormwater capture scenarios. This task would involve modeling the effects of various stormwater management scenarios on ecological endpoints and assessing potential effects on proposed flow criteria. Stormwater capture may occur in tributaries, storm drain conveyance systems, or on the mainstem river (e.g. through use of rubber dams) and can include capturing elements of both dry season and (some) wet season runoff. Stormwater capture scenarios will be developed with the local municipalities and appropriate stakeholder groups and may also include the effects of Low Impact Development (LID) or conservation practices that reduce runoff to the river.

*Product:* Map of potential beneficial use effects associated with proposed stormwater capture in combination with wastewater reuse scenarios

Task 4E: Evaluate groundwater interactions. This task would expand the watershed model to include groundwater-surface water interactions. Groundwater discharge is a significant component of the hydrology in specific reaches of the LA River (e.g. Glendale Narrows). This task would allow for more direct consideration of the relative influence of changes in recharge or discharge, wastewater reuse or stormwater capture on groundwater discharge and subsequent environmental flows.

*Product:* Map of potential beneficial use effects associated with groundwater interactions in combination with wastewater reuse scenarios

Task 4F: Evaluate habitat modifications to offset flow reduction impacts. This task would explore options for mitigating flow impacts by creating improved physical habitat. The results could provide a mechanism for enhancing biological conditions (as well as non-aquatic life uses) in the stream as an offset to modified flow regimes. The task would provide a means of

balancing costs for physical habitat alterations against the value of the water that could be recovered. Habitat restoration scenarios would be developed in coordination with stakeholder groups and in consultation of existing restoration/revitalization plans.

*Product:* List of potential habitat restoration projects; Map of potential beneficial use associated with habitat restoration

Task 4G: Evaluate effects of flow alteration on tidal portions of the river. This task would evaluate the effects of flow alteration on the tidal portion of the LA River. The lowest reaches of the river are subject to bidirectional flow that produces habitat similar to tidal mudflats. This habitat is known to support a diverse assemblage of wading shorebirds. This task would develop a hydrologic model able to simulate bidirectional flow that, along with the flow-ecology relationships for wading shorebirds, would be used to assess the effect of wastewater and stormwater management on estuarine habitat.

*Product:* Map of potential beneficial use effects on the tidal portion of the LA River associated with the various scenarios evaluated.

Task 4H: Establish recommended flow criteria with stakeholder group. The results from previous tasks will be used to develop recommended flow criteria for each reach of the LA River. Criteria may also vary by season or type of year. This task will be done in conjunction with project partners and will focus on integrating across all beneficial uses vs. being driven by desired conditions for each individual ecological endpoint.

*Product:* Technical memo/report summarizing the assessment process and providing recommended flow criteria by reach of the LA River (and season).

*Activity 5: Adaptive monitoring and management during implementation.* Ongoing monitoring will be a key element of any implementation program. A robust monitoring strategy will provide data that can be used to validate model predictions, inform adaptive management strategies, and improve models for future applications or scenario assessments. We will work with the stakeholders and Water Board to develop monitoring recommendations that will provide a way to evaluate the actual effect of altered flow on instream biological communities and other non-aquatic life related beneficial uses. Monitoring data can be used to inform adaptive implementation management strategies and to improve models for future applications.

*Product:* Proposed monitoring strategy

*Activity 6: Summary of Results/Reporting.* The products of all project tasks will be compiled into an overall project report that summarizes the process used, technical approach and key findings of the project. Recommendations for implementation and future investigations will also be provided. A draft report will be produced for review by the technical workgroup and the stakeholder workgroup. Comment received from these two groups will be addressed to the extent possible before the report is finalized.

*Product:* Draft and final project report

## Project Budget and Schedule

A budget for the technical elements of this scope of work is provided in Table 1. The costs are based on implementation through a partnership of the Southern California Coastal Water Research Project Authority (SCCWRP) and the Colorado School of Mines (hydrological modeling). The project costs also assume that the Los Angeles Regional Water Board will be responsible for coordinating stakeholder involvement in the project.

In addition to the technical elements included in this scope, the State Water Resources Control Board and the Los Angeles Regional Water Quality Control Board have already committed \$1.4 million and \$300,000, respectively to support this through existing contracts focused on developing tools for assessment environmental flow requirements. The State and Regional Water Boards will also provide ongoing staff resources to support the project, as described previously in this scope of work. This funding is supporting foundational science products that are directly usable for this project. Costs for any future CEQA analysis that may be necessary are not included in the current budget.

**Table 1:** Overall project budget

Activity/Task	Cost
<b>Activity 1 - Stakeholder coordination</b>	<b>\$61, 600</b>
<b>Activity 2 - Non-aquatic Life Use Assessment</b>	<b>\$40,000</b>
2A Characterize non-aquatic life uses	\$7,500
2B Determine flow use relationships	\$32,500
<b>Activity 3 - Aquatic Life Beneficial Use Assessment</b>	<b>\$215,000</b>
3A Asses hydrologic baseline condition	\$20,000
3B Identify priority ecological endpoints	\$20,000
3C Determine flow ecology relationships for stream endpoints	\$20,000
3D Determine flow ecology relationships for marsh and estuary endpoints	\$155,000
<b>Activitiy 4 - Apply Environmental Flows and Evaluate Scenarios</b>	<b>\$772,000</b>
4A Update hydrologic modeling	
4B Analyze tolerances to flow modifications	\$262,650
4C Analyze wastewater reuse scenarios	
4D Evaluate stormwater management scenarios	\$72,100
4E Evaluate groundwater interaction scenarios	\$66,950
4F Evaluate habitat restoration effects	\$70,000
4G Evaluate flow alteration effects on tidal portion of LA River	\$267,800
4H Establish recommended flow criteria	\$32,500
<b>Activity 5 - Monitoring and Adaptive Mangement Plan</b>	<b>\$50,000</b>
<b>Activity 6 - Summary of results/reporting</b>	<b>\$25,000</b>

**TOTAL**

**\$1,163,600**

The project schedule is shown in Table 2 and assumes a start date of October 1, 2018. Delays in the start date would translate to a shift in the overall project schedule.

**Table 2:** Project schedule

Activity / Sub-Tasks	2018 Q4	2019 Q1	2019 Q2	2019 Q3	2019 Q4	2020 Q1	2020 Q2	2020 Q3	2020 Q4
<b>Activity 1 - Stakeholder coordination</b>									
<b>Activity 2 - Non-aquatic Life Use Assessment</b>									
2A Characterize non-aquatic life uses									
2B Determine flow use relationships									
<b>Activity 3 - Aquatic Life Beneficial Use Assessment</b>									
3A Asses hydrologic baseline condition									
3B Identify priority ecological endpoints									
3C Determine flow ecology relationships for stream endpoints									
3D Determine flow ecology relationships for marsh/estuary endpoints									
<b>Activitiy 4 - Apply Environmental Flows and Evaluate Scenarios</b>									
4A Update hydrologic modeling									
4B Analyze tolerances to flow modifications									
4C Analyze wastewater reuse scenarios									
4D Evaluate stormwater management scenarios									
4E Evaluate groundwater interaction scenarios									
4F Evaluate habitat restoration effects									
4G Evaluate flow alteration effects on tidal portion of LA River									
4H Establish recommended flow criteria									
<b>Activity 5 - Monitoring and Adaptive Mangement Plan</b>									
<b>Activity 6 - Summary of results/reporting</b>									

**Point of Contact:**

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April 29, 2019 – Item 10

RESOLUTION 2019-10

RESOLUTION OF THE SAN GABRIEL AND LOWER LOS ANGELES RIVERS AND MOUNTAINS CONSERVANCY (RMC) AUTHORIZING THE ESTABLISHMENT OF AN AGREEMENT WITH THE SANTA MONICA MOUNTAINS CONSERVANCY FOR THE IMPLEMENTATION OF THE LOS ANGELES RIVER ENVIRONMENTAL FLOWS STUDY SUPPLEMENTAL ANALYSIS

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 people of the State of California have enacted the Water Quality, Supply, and Infrastructure Improvement Act of 2014 (“Proposition 1”) and

WHEREAS, The State of California has authorized an expenditure of funds from Proposition 1, the Water Quality, Supply, and Infrastructure Improvement Act of 2014 to the San Gabriel and Lower Los Angeles Rivers and Mountains Conservancy for capital outlay and local assistance multi-benefit grants for ecosystem and watershed protection and restoration projects; 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 proposed project meets an objective of the California Water Action Plan for more reliable water supplies, restoration of important species and habitat, more resilient and sustainably managed water infrastructure; and

WHEREAS, The proposed project meets the goals of reducing greenhouse gas emissions consistent with AB 32; and

WHEREAS, The proposed project is consistent with the San Gabriel and Los Angeles River Watershed and Open Space Plan; and

WHEREAS, The proposed project protects land and water resources; and

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 Proposition 1 RMC Grant Program is consistent with the Water Quality, Supply, and Infrastructure Improvement Act of 2014 (“Proposition 1”), which provides funds for the RMC grant program.
- 3 FINDS the proposed project meets at least one of the purposes of Proposition 1.

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- 4 FINDS the proposed project meets at least one of the three objectives of the California Water Action Plan.
- 5 FINDS that the proposed action is consistent with the San Gabriel and Lower San Gabriel and Los Angeles River Watershed and Open Space Plan as adopted by the Rivers and Mountains Conservancy;
- 6 FINDS that the actions contemplated by this resolution are exempt from the environmental impact report requirements of the California Environmental Quality Act.
- 7 ADOPTS the staff report and recommendation dated April 29, 2019.
- 8 AUTHORIZES the Executive Officer to execute the agreement and to perform any and all acts necessary to carry out this resolution, without limiting the generality of the foregoing, such authority shall include those provisions that he shall determine in the exclusive exercise of his discretion are necessary to carry out the purposes of this resolution and to comply with the policies and mission of the Conservancy, and to otherwise carry out the provisions of state law and regulations.

~ End of Resolution ~

Passed and Adopted by the Board of the  
SAN GABRIEL AND LOWER LOS ANGELES RIVERS AND MOUNTAINS  
CONSERVANCY on April 29, 2019.

Motion \_\_\_\_\_ Second: \_\_\_\_\_

Ayes: \_\_\_\_\_ Nays: \_\_\_\_\_ Abstentions: \_\_\_\_\_

\_\_\_\_\_  
Frank Colonna, Chair

ATTEST: \_\_\_\_\_  
David Edsall, Jr.  
Deputy Attorney General