

SAFE CLEAN WATER PROGRAM SCIENTIFIC STUDY PROPOSAL QUESTIONNAIRE

1. Proposal identification information and summary of the project goals.

Title: Fecal source markers and pathogens in water along Ballona Creek and at two impaired beaches in Los Angeles

Proposing Organization: UCLA (Dr. Jennifer Jay)

Your summary of the Project Goals and Objectives:

One of the reviewers did not provide a summary. The other two reviewers are in agreement that the study's overall goal is to help the SCWP understand what types of fecal contamination are in the Ballona Creek watershed and how they impact humans who come into contact with coastal receiving waters. Specifically, the study's goals are to identify fecal contamination – including antibiotic-resistant bacteria – in waterways via source-tracking methods, then characterize antibiotic-resistant bacteria in surfers' nasal cavities and in the coastal ocean in an effort to link the bacteria to watershed contamination.

2. Are the objectives clearly stated? What portion of the objectives need more clarification?

The reviewers do not agree on how clear the study objectives are. One reviewer found the objectives to be clear. The other two reviewers were critical of different aspects of the study objectives. One reviewer noted that the study does not explain specifically how the proposing organization will determine how fecal contamination in the environment corresponds to a specific degree of human health risk among surfers. The other reviewer felt that most of the study objectives were clear, with the exception of one objective (Objective 3) that was vague.

3. How do the project goals directly support a nexus to increasing stormwater or urban runoff capture and/or reducing stormwater or urban runoff pollution?

The reviewers disagree on how effectively the project supports the SCWP's goals of reducing stormwater or urban runoff pollution. Two reviewers stated that the proposal does not explicitly state how the study supports the SCWP's broader management goals. The third reviewer was more complimentary, noting that the study was applicable to the SCWP in that it would improve management understanding of bacteria – including antibiotic-resistant bacteria – in runoff.

4. What is (are) the overarching technical approach element(s) of the proposed project as you understand them (not necessarily the same as the elements described in the proposal)?

The reviewers agree that the study's technical approach consists of measuring fecal contamination – including antibiotic-resistant bacteria – in Ballona Creek, the coastal ocean and surfer nasal cavities to improve understanding of the relationship between fecal pollution in Ballona Creek runoff and the human-health impacts in coastal waters. One reviewer commended the study's use of "proven microbiology methods" for conducting the analyses.

5. Has the proposal provided sufficient information to describe the technical approach for each element? If not, what information is missing?

The reviewers disagree about whether the proposal contains sufficient information to understand how all of the technical elements would be implemented. One reviewer believes the proposal is sufficient in this regard. The other two reviewers believe the information provided is insufficient. Specifically, they cite insufficient descriptions of how technical elements connect and relate to one another, a lack of clarity about how the study will guard against false-positives, a lack of specificity about how whole-genome sequencing analyses will be done, and a lack of clarity about how the proposed community meetings will tie into the study.

6. Is the technical approach sound? If not, what do you recommend should be done to improve the technical approach of the proposed project?

The reviewers were not in agreement about whether the approach is technically sound. One reviewer answered in the affirmative and commended the study for being “well-thought.” The other two reviewers described specific areas that they believe call into question the technical soundness of the proposal. One reviewer believes that the study goal to establish what portions of coastal fecal contamination are attributed to Ballona Creek runoff has “little promise” of being achieved due to “incredibly dense and complex data sets.” The other reviewer cited the proposal’s lack of specificity about key elements of the study design, including the specific culture, molecular and genomic tests that will be used.

7. How achievable are the study’s stated technical objectives, especially within the proposed timeframe and budget?

The reviewers disagreed about whether the proposing organization is likely to achieve all of the study’s objectives in the stated timeframe. Two reviewers expressed confidence that the study is achievable. The third reviewer expressed concerns that the number of samples to be sequenced and analyzed are likely not achievable within the stated timeframe.

8. What are the greatest technical risks that you foresee the proposing agency facing when implementing the project?

The reviewers agreed this project faces technical risks, but not which risk is the biggest. One reviewer said the biggest technical risk is that antibiotic-resistant bacteria will not be detected. The second reviewer said the biggest technical risk is the possibility of having “a whole bunch of data but no way to make sense of it.” The third reviewer cited concerns about collecting sufficient data during wet-weather events.

9. Are there clear linkages between the project’s technical objectives and the types of decisions that stormwater managers will make based on the project’s outcomes? Will the technical achievements provide stormwater managers useful linkages that extend beyond this study?

The reviewers disagreed about whether the project has linkages to management and whether the findings could be applicable beyond the project. Two reviewers expressed optimism about the managerial relevance of the study: One noted that the study could prompt the SCWP to evaluate new approaches for removing bacteria in runoff, while the other expressed a bit more caution, noting that the study’s applicability could be limited as a result of its singular

focus on one watershed. The third reviewer deemed the connections to management “very unclear.”

10. Please provide any additional technical perspectives you would like to share.

One reviewer had no additional perspectives to share. The other two reviewers offered opposing perspectives. The first reviewer called the study “important” in building knowledge about fecal contamination in runoff, while the second reviewer said multiple components of the study lacked a “true connection” to one another.

11. Please answer each of the following questions by selecting one of the following five answer choices: Excellent, Very good, Adequate, Inadequate or Not applicable because of insufficient information. Feel free to add an explanation to accompany your answer choice:

- a. How well do the proposal objectives address the SCWP’s goals of increasing stormwater or urban runoff capture and/or reducing stormwater or urban runoff pollution?

Two of the reviewers rated the proposal’s objectives as being “inadequate” at addressing SCWP goals. The third reviewer provided no response.

- b. How well do you think the technical approaches will achieve the study objectives and stated outcomes?

The reviewers disagreed in their rating of how well the study will achieve its objectives. Two reviewers provided an “adequate” rating, while the third reviewer provided an “inadequate” rating.

- c. Technical experience and qualifications of the study team?

The reviewers disagreed in their assessment of the qualifications of the study team. Two reviewers rated the study team as “very good” and “excellent,” respectively, while the third reviewer rated the study team as “inadequate.” The third reviewer explained that the team had not cited enough scientific papers to provide confidence in the team’s qualifications, and also called out two specific technical components (*spa* testing and whole genome sequencing) that “seem to be completely out of the wheelhouse” of the team to successfully implement.