San Francisco Bay Conservation and Development Commission

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TO: Commissioners and Alternates

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SUBJECT: **Staff Report and Recommendation on a Contract with San Jose State University to Undertake an Exploratory Study of San Francisco Bay Sand Shoal Ecology**
(For Commission consideration on September 17, 2026)

Summary

BCDC proposing to undertake an exploratory ecological study of the sand shoals in Central San Francisco Bay to assist staff and the Commission in understanding fish and wildlife use of these unique features and the effectiveness of Van Veene samplers in this environment.

Staff propose to enter into a $46,232 contract with San Jose State University, and Moss Landing Marine Lab to undertake this study. Staff further recommends that the Commission authorize the Executive Director to administratively amend the contract as necessary, so long as the amount does not change or extend the contract duration by more than one year.

Staff Report

Background

San Francisco Bay sand shoal ecology is under studied, and thus the wildlife associated with this habitat is not well understood. To date, few studies have been directly undertaken to fully understand this complex environment. The sand shoals have varying bedforms and grain sizes – from flats, to riverine type ripples, to large sand waves that include crests, troughs, and slopes, and from fine to coarse grain sand to gravel. With the variety of bedforms and grain sizes a variety of wildlife likely use them for parts or all of their life cycle.

Sand mining affects these habitats by removing the sand which makes up the bedform, changing the grain size over time, changing the bed form shape, reducing the size or removing it all together, and deepening the area. The information presented to date about how sand mining affects wildlife includes two core sampled benthic studies, one that also used a “spy camera technique” and one benthic assessment. A core is a 4” diameter tube that is inserted into the sand and then removed. The core is then examined for grain size and the invertebrates living within it. The spy camera technique is a small box like sampler that generally photographs 20 centimeters (approximately 8 inches) into the substrate. These studies focused on the small invertebrate community that lives in the sand and have been useful, but more information is needed to better understand this environment and its ecology.

In researching potential impacts to sand mining activities, staff came across studies of fish associated specifically with sand shoals in the San Juan Islands and engaged in discussions with Dr. Gary Greene, professor of Marine Geology and director of the Center for Habitat Studies at San Jose State University, Moss Landing Marine Laboratory. Dr. Greene will support an exploratory ecological study of the Central San Francisco Bay sand shoals using a Van Veene grab technique that has been used successfully on the sand shoals in studies of the San Juan Islands in Washington. The Van Veene box is a larger sampling device that is designed to minimize disturbance of the sediment surface, can penetrate deeper into the sediment, and is regularly used to investigate of the benthic wildlife – both micro and macro fauna, and sediment types and processes. This small, initial study will assist staff in determining if it is an appropriate technique for further examination of sand shoal ecology and habitat, as well as provide a window into larger species that live in and on the sand beyond what could be identified with small core sampling techniques.

Scope of Work

The boat will transit from Moss Landing Marine Lab to Central San Francisco Bay where sampling will occur. Dr. Greene will prepare sample locations based on the most recent bathymetric surveys and sand bedforms. Samples will be taken, examined for grain size, fish and invertebrates, documented, and then returned to the Bay. A brief report on the findings will be prepared. Dr. Greene is volunteering his time for this study and will be reimbursed for travel expenses. Costs include vessel rentals, harbor slip fees, equipment rental, travel and lodging. The total cost is $46,232 for the work, and will take place in Fall 2026.

Contracting Mechanism

Because the Commission will be contracting with San Jose State University, we are using the California Model Agreement, which is similar to an interagency agreement but is more appropriate for a state-to-state university contracting. Our Financial Manager and Legal Department have analyzed this mechanism and have determined it is appropriate for use in this situation. In using the Model Agreement, time and resources are used efficiently.

Staff Recommendation

Staff recommends that the Commission authorize the Executive Director to enter into a Model Contract Agreement with San Jose State University to conduct an exploratory sand shoal ecological study of not more than $49,000. Staff further recommends that the Commission authorize the Executive Director to administratively amend the contract as necessary, so long as the amount does not change or extend the contract duration by more than one year.