United States Department of the Interior

FISH AND WILDLIFE SERVICE
San Francisco Bay-Delta Fish and Wildlife Office
650 Capitol Mall, Suite 8-300
Sacramento, California 95814

In reply refer to:
08FBDT00-2017-I-0170

Mr. Rick Bottoms, Ph.D.
Regulatory Division Chief
San Francisco District
U.S. Army Corps of Engineers
1455 Market Street
San Francisco, California 94103-1398

DEC 28 2017

Subject: Informal Consultation on the Bel Marin Keys Wetland Restoration Phase 1 Project, City of Novato, Marin County, California (U.S. Army Corps of Engineers File Number: 2016-00107N)

Dear Dr. Bottoms:

This letter is in response to the U.S. Army Corps of Engineers (Corps) March 14, 2017, request to initiate informal consultation with the U.S. Fish and Wildlife Service (Service) for the California State Coastal Conservancy's (Applicant) Bel Marin Keys Wetland Restoration Phase 1 Project (Project) near the City of Novato in Marin County, California. Your request was received by the Service on March 17, 2017. At issue are the proposed Project's effects on the federally endangered salt marsh harvest mouse (*Reithrodontomys raviventris*), the threatened western snowy plover (*Charadrius alexandrinus nivosus*), and the endangered California clapper rail (*Rallus longirostris obsoletus*). Regarding taxonomic assignment and nomenclature for the California clapper rail, until a time when the Service officially adopts recent changes made by the American Ornithologists' Union (from California clapper rail [*Rallus longirostris obsoletus*] to Ridgway's Rail [*Rallus obsoletus*]), the Service maintains the use of California clapper rail (*Rallus longirostris obsoletus*) in this current correspondence. The change in the common name and taxonomy of the California clapper rail, however, does not change the listing status of the species. This response is provided under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act), and in accordance with the implementing regulations pertaining to interagency cooperation (50 CFR § 402).

In reviewing the Project, the Service has relied upon: (1) the Corps' March 17, 2017, letter requesting informal consultation; (2) the Applicant's October 2016, *Bel Marin Keys Wetland Restoration Project Phase 1 Biological Assessment*, prepared by Environmental Science Associates (ESA); (3) subsequent April 2017 amendment to the Biological Assessment (BA); (4) the Applicant's August 2017, *Bel Marin Keys Wetland Restoration Project Phase 1 Seasonal Wetland Preliminary Design Report*; (5) the Applicant's August 2017, *Bel Marin Keys Wetland Restoration Project Phase 1 Addendum to the Supplemental Environmental Impact Report*

Environmental Impact Statement for the Bel Marin Keys Unit V Expansion of Hamilton Wetland Restoration Project, prepared by ESA; (6) the September 28, 2017 site visit with the Service and ESA; and (7) electronic mail (email) correspondence between the Service, Corps, and Applicant from May 8, 2017 to November 13, 2017; and (8) other information available to the Service.

The Applicant is seeking regulatory approval to construct a new levee in Bel Marin Keys to tie in to existing levees along Novato Creek, as well as a Corps levee constructed as part of the Hamilton Wetlands Restoration Project. This action represents the first of a multi-phase tidal restoration effort at the Bel Marin Keys Unit V (BMKV) site. The BMKV site itself is a functional expansion of the adjacent Hamilton Wetlands Restoration Project (HWRP) and proposes similar methods led by the Applicant to restore hydrological regime and habitat function of the marsh by addressing long-term subsidence and vegetation composition. The goal of this long-term restoration effort is to restore 906 acres of current agricultural lands to tidal marsh. The proposed Project activities for which we are consulting under Phase 1 specifically entail: (1) the construction of a New Bayfront Levee landward of the existing levee; (2) excavation of borrow areas to source fill; (3) the creation of a 25-acre seasonal wetland complex and alkali meadow habitat; (4) the replacement of a sanitary treatment pipeline; (5) installation of new water control structures; and (6) the construction of new access roads. The proposed timeline for these activities encompasses work performed through the end of calendar year 2019.

The New Bayfront Levee will extend approximately 11,800 linear feet in a north-south alignment from the existing levee along Novato Creek to the north, to the existing levees separating the BMKV from the HWRP to the south. The new levee alignment would be approximately 5,000 feet landward (west) of the existing Bayfront levee and will encompass 95 acres within the BMKV property. Although not intended to provide flood protection immediately upon its construction completion, the levee has been designed to meet flood protection standards governed by the Corps and the Federal Emergency Management Agency (FEMA), with a minimum crest elevation of +12 feet North American Vertical Datum (NAVD). The levee crest will be equipped with an 18-foot-wide access road for maintenance vehicles.

Material for the New Bayfront Levee will be sourced from bayward borrows areas within the Project site. An estimated 1.8 million cubic yards (1.4 million cubic yards compacted) of fill will be excavated to a depth of two to three feet, from approximately 434 acres of existing farmland that is currently divided into eight farm tracts. Some of these tracts are separated by drainage ditches. Borrow areas will be accessed by constructing eight to 16 ditch crossings with subsequent installation of culverts. Dewatering is not expected to be necessary due to the time of the year in which the bulk of construction occurs. However, if needed, a portable water pump may be employed to remove water. Culverts will range from 30 inches to 48 inches in diameter by 50 feet to 200 feet in length. Most of these will remain in place to facilitate continued agricultural operations, prior to the commencement of future project phases. With the exception of the levee construction necessitating some canals be filled in the processes, the configuration of tracts and ditches would not change substantially as a result of construction and land management practices would continue in a manner similar to pre-Project conditions.

Restoration activities for this phase will focus on the creation of 16 acres of depressional, seasonal wetlands that geographically span 36 acres, along with the enhancements of alkali meadow wetlands. A total of 60,000 cubic yards will be excavated. Shallow wetland creation areas will occur along the northern portion of the site, between the proposed New Bayfront Levee and to the east of the existing BMKV South Lagoon Levee. Each of the depressions will be approximately 0.5-acre to 1-acre in size with a maximum depth of one to two feet below ground surface in the northern reach of the complex, and two to four feet below ground surface in the southern portion. These are expected to be fed by groundwater and surface runoff from precipitation, and may vary between freshwater to saline conditions depending on existing soil salinity, rainfall, and water depth (which can be managed via hand-operated weirs).

The seasonal ponds are designed to pool water only in the winter for most years and will be vegetated with saltgrass in high-salinity soil, or field sedge and common spikerush in low-salinity soil. Dwarf spikerush may be used if a local seed source can be obtained. Creeping wildrye may also be used to vegetate the transition areas around the seasonal ponds. For more information regarding the assemblage of plant species expected to be used in restoration activities, please see the Applicant's August 2017, *Bel Marin Keys Wetland Restoration Project Phase 1 Seasonal Wetland Preliminary Design Report*, prepared by ESA.

The alkali meadow wetlands will cover approximately 9 acres and will be located in proximity to existing wetlands that occur within shallow borrow pits immediately to the west of the BMKV South Lagoon Levee. These were created from past levee maintenance activities at the site. Grading and planting efforts for the alkali meadow will result in gentler, more natural slopes and less linear edges along the three existing ponds to increase the extent of the wetland and transitional habitat. Targeted vegetation may include creeping wildrye, field sedge, salt grass, fat-hen, alkali heath, pickleweed, and jaumea to comprise the meadow communities. Planting and seeding activities will be implemented to enhance and expand habitat within the existing saline wetland open waters. An approximately 434-acre area of existing farmland east of the New Bayfront Levee alignment would be excavated to generate borrow material.

Within Phase 1, a pipeline alignment runs parallel to the north side of the levees located on the southern border of the property, and extends east to a submerged outfall I San Pablo Bay. Novato Sanitary District (NSD) discharges secondary-treated effluent to San Pablo Bay or to spray fields to the north of the site via a 54-inch diameter reinforced concrete pipe operating under pressure. The New Bayfront Levee will tie in to the north facing slope of the existing levee and pass over the existing NSD pipe. To accommodate the new tie-in, the Applicant will abandon 700 feet of the existing outfall pipe within the levee footprint, and install a new 63-inch High Density Polyethylene (HDPE) bypass pipe to convey effluent up and over the New Bayfront Levee. However, it will maintain the preexisting alignment.

The new HDPE bypass pipe will connect to the existing NSD pipeline via collar and/or coupling at both ends, and will pass over the levee crest. The bypass pipe will be equipped with passive air releases and an anti-vacuum mechanism connected to a concrete junction box at the high point of the levee top tie-in. A lateral service connection (i.e., secondary diversion pipe) will be installed in the NSD pipeline on the landward side of the levee tie-in to provide water for moisture

conditioning of the levee fill, dust control during construction, and may also be used as a source of irrigation water for future plant establishment.

Constructing the New Bayfront Levee will bisect several existing agricultural ditches and obstruct flow of surface runoff from the landside of the proposed alignment. To facilitate post-construction drainage, two new drainage ditches will be constructed (one on each side of the New Bayfront Levee). North of the existing pump station, runoff from the New Bayfront Levee will drain to the newly created seasonal wetlands west of the levee. A new electrical pump station will be installed in the existing collector channel at the west side of the new levee to convey runoff over the levee top and into the existing collector channel on the east (bay) side. A new overhead power pole and transformers will be installed at the south side of the existing access road to connect power to the new pump station. The pipe outfall in the drainage channel will have an apron of rock on the channel bottom and slopes to prevent scour.

To provide continued access to two power transmission towers owned and operated by Pacific Gas & Electric Company (PG&E), a permanent access road will be constructed within PG&E's easement on the northern end of the Project site. The access road will be 1,500 feet long and approximately 20-40 feet wide with an aggregate base. A culvert 30 feet long and 18 inches in diameter may be installed under the access road adjacent to the landside (west) levee toe to divert storm water into the newly created seasonal wetland complex.

Phase 1 construction for the Project will span two years and progress from south to north beginning in spring 2018 with an expected completion by December 2019. The levee construction will span two years, with approximately half of the final levee height reach each year for a total initial elevation of +15 feet NAVD. To minimize potential for disturbance to species that will be attracted to the seasonal wetlands upon the completion of construction, the seasonal wetlands and associated access roads will be constructed in the second year. Subsequent levee height adjustments will be needed over the next two decades to address settlement of the crest (expected to settle 25 to 40 percent of its original fill height over the course of a century) and will be addressed in subsequent consultations, if necessary.

Temporary construction staffing for this phase will consist of approximately 20 to 60 personnel at a time. Types of heavy equipment anticipated includes: flatbed trucks; tractors with two-towed scrapers; tractors with self-propelled scrapers, discers, bulldozers, scrapers, graders, and a water pull. Equipment access and excavated material transport will occur along existing roads. A staging area measuring approximately seven acres will be established at the southern portion of the Project site to house materials, equipment, a fueling station, and a temporary office. Large equipment used for earthwork will likely be parked within the active borrow area or other disturbed areas of the site, such as access roads, until excavation work is complete. Staging and borrow areas will be restored to their pre-construction conditions to the extent feasible. A stormwater pollution prevention plan, safety plan, five-year monitoring and adaptive management program will be developed and implemented by the Applicant to measure the habitat establishment rate, quantity, and quality of several enhancement and creation areas.

Conservation Measures

The Applicant and their contractors will implement the following conservation measures to minimize adverse effects to all potential special-status species in the area, including western snowy plover:

1. Field and construction personnel involved with the Project will attend environmental resources training program developed by a Service-approved biologist. Material covered will include environmental rules and regulations applicable to the specific Project and requirements for avoiding sensitive resource areas.

2. If new personnel area added to the Project, the contractor will ensure new personnel receive the mandatory training before starting work. A representative will be appointed during the employee education program to be the point of contact for communicating with regulatory agencies for reporting or incidents.

3. Any special-status species observations during surveys will be reported to the appropriate agencies and added to the California Natural Diversity Database (CNDDB).

Salt Marsh Harvest Mouse

The Applicant and their contractors will implement the following conservation measures to minimize adverse effects to the salt marsh harvest mouse:

1. A Service-approved biologist will be onsite during all ground-disturbing activities within suitable wetland habitat and will be responsible for informing the construction crews of the need to halt work if sensitive species observations are made, documenting compliance with the conservation measures, and contacting the Service within one day if any work stoppage results from species observation at the work site.

2. Vegetation within salt marsh harvest mouse habitat will be removed to bare ground using hand tools and/or another method approved by the Service and California Department of Fish and Wildlife.

3. Exclusion fencing will be installed around project work areas and immediately following vegetation removal. Fencing will consist of a material that does not allow salt marsh harvest mouse to pass through or over, and the bottom will be buried to a depth of at least six inches. Any supports for the exclusion fence (e.g., t-posts) will be installed on the interior of the Project area.

4. Prior to the start of any daily ground disturbance activities, the Service-approved biologist will inspect the exclusion fence boundary and insure it has not been compromised. If any salt marsh harvest mice are discovered, construction activities will stop in the area, the Service will be contacted, and the individual mice will be monitored until they leave of their own volition.

5. All equipment will be staged on existing roadways, away from suitable wetland habitats, when not in use. No project activities will occur within 50 feet of suitable habitat during extreme high tide events or when adjacent tidal marsh is flooded unless salt marsh harvest mouse exclusion fencing has been installed around the work area and the fence is not compromised by the flooding nor precluding the only refuge for the species.

California Clapper Rail

The Applicant and their contractors will implement the following conservation measures to minimize adverse effects to the California clapper rail:

1. Project activities occurring within 700 feet of tidal marsh areas containing suitable habitat for California clapper rails, will be avoided during the breeding season (February 1 through August 31).

Recent data (i.e., survey results from Olofson Environmental, Inc.'s November 28, 2016, *California Ridgeway's Rail Surveys for the San Francisco Estuary Invasive Spartina Project 2016*, Point Blue Conservation Science's October 11, 2016 *California Ridgway's Rail* [Rallus obsoletus obsoletus] *2016 Annual Report to U.S. Fish & Wildlife Service*, and recent CNDDB queries) in conjunction with results from past consultations for similar restoration efforts at the HWRP site (Service file number 08ESMF00-2014-F-0281) have identified salt marsh harvest mouse, California clapper rail, and western snowy plover presence in sites that surround the BMKV. These areas of suitable habitat border the action area primarily to the north and south, but no species observations have specifically occurred within the immediate project footprint. While there are some sparse patches of wetland habitat which contains pickleweed along the levee and agricultural drainage channels, these provide limited nesting, foraging, or sheltering habitat for salt marsh harvest mouse due to isolation from quality habitat areas, the presence of predators, and ongoing agricultural and lagoon management actions occurring at the interior of the site. The areas interior of the levees at the BMKV site have steep-sloped, non-tidal ditches and borrow which similarly lack the dense continuous cover to support California clapper rail nesting or sheltering habitat that exists along the perimeter of the project footprint. The Project footprint also does not contain sandy or gravel soils suitable for breeding sites or supporting invertebrate prey for the western snowy plover.

The Service concurs with the Corps' determination that the Project may affect, but is not likely to adversely affect the salt marsh harvest mouse, the California clapper rail, or the western snowy plover. This concurrence is based on: (1) the lack of suitable habitat currently available at the site; (2) the low likelihood for foraging individuals to be present in the area prior to the completions of Phase 1 construction; and (3) the implementation of the proposed conservation measures. Any disturbances from the Project activities are expected to have a temporary, discountable, or insignificant impact to the nesting and foraging value of local habitat to the species. Additionally, the goal of the long-term Project is to execute tidal restoration efforts which will support higher quality long-term habitat for these species than is currently available at the site.

Unless new information reveals effects of the proposed action may affect listed species to an extent not considered or a new species or critical habitat is designated that may be affected by the proposed action, no further action pursuant to the Act is necessary. Any actions or proposed actions that are modified in a manner that causes an effect to listed species or critical habitat that was not considered in this consultation will require reinitiation.

This concludes consultation for the Bel Marin Keys Wetland Restoration Phase 1 Project. Please address any question or concern regarding this response by contacting Elden Holldorf, Fish and Wildlife Biologist by telephone at 916-930-5614 or via email at Elden_Holldorf@fws.gov or Kim Squires, Section 7 Division Chief, via email at Kim_Squires@fws.gov. Please refer to Service File Number: 08FBDT00-2017-I-0170 in any future correspondence regarding this project.

Sincerely,

Jana Affonso
Assistant Field Supervisor

cc: Ms. Roberta Morganstern, U.S. Army Corps of Engineers, San Francisco, California
Mr. Jeff Melby, State Coastal Conservancy, Oakland, California
Ms. Stephanie Bishop, Environmental Science Associates, Petaluma, California
Ms. Christina Toms, San Francisco Bay Regional Water Quality Control Board, Oakland, California