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Comments on the Preliminary Staff Assessments for the Morton Bay, Elmore North, and Black Rock Geothermal Projects

Additional submitted attachment is included below.



United States Department of the Interior

U.S. FISH AND WILDLIFE SERVICE

Ecological Services
Palm Springs Fish and Wildlife Office
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In Reply Refer to:
2023-0061597-CEQA-001-IP

September 4, 2024
Sent Electronically

Eric Veerkamp
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California Energy Commission
715 P Street
Sacramento, California 95814

Subject: Comments on the Preliminary Staff Assessments for the Morton Bay, Elmore North, and Black Rock Geothermal Projects, Applications for Certification (23-AFC-01, 23-AFC-02, and 23-AFC-03), Imperial County, California

Dear Eric Veerkamp:

The U.S. Fish and Wildlife Service (Service) has reviewed the Preliminary Staff Assessments (PSAs) for the Morton Bay, Elmore North, and Black Rock Geothermal Projects (Geothermal Projects). The PSAs contains California Energy Commission (CEC) staff's preliminary engineering, environmental, and public health and safety evaluation of the proposed Geothermal Projects.

We offer the following general comments on the PSAs and specific comments on the individual projects as they relate to potential impacts on public trust resources. The primary concern and mandate of the Service is the conservation, protection and enhancement of fish and wildlife resources and their habitats for the continuing benefit of the American people. The Service has legal responsibility for the welfare of migratory birds, anadromous fish, and threatened or endangered animals and plants listed under the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*). The comments provided herein are based on the information provided in the PSAs, our knowledge of sensitive and declining fish and wildlife resources, and our participation in regional renewable energy conservation planning efforts.

We preface our comments by recognizing the need for development of renewable energy and the challenge of balancing renewable energy development with conserving natural resources in the Salton Sea Basin. We are working with the agencies involved in this effort and offer our assistance to ensure the Geothermal Projects are evaluated consistent with the various State and Federal renewable energy and environmental goals and policies.

The Geothermal Projects are generally located in unincorporated Imperial County, southeast of the Salton Sea, within the Salton Sea Known Geothermal Resource Area. Each individual project

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would generate approximately 157 megawatts of geothermal power. The main components of the Geothermal Projects include a steam turbine generator system, geothermal fluid processing system, a single 14-cell cooling tower, wells (including production and injection wells), well pads, onsite substation, and a 230 kilovolt (kV) generator tie (gen-tie) line to an offsite switching station. Additional Geothermal Project components include pipelines, fluid and steam handling facilities, a solids' handling system, Class II surface impoundments (brine pond), service water ponds, stormwater retention basins, process fluid injection pumps, and power distribution centers. Temporary project features include construction worker camps, laydown/parking areas, and borrow pits.

We appreciate the early coordination with CEC staff to understand potential adverse effects to migratory birds and federally listed species and for incorporation of measures to avoid and minimize potential adverse impacts to those species as Conditions of Certification into the PSAs. The Service supports the analysis contained in the PSAs and inclusion of mitigation measures to help avoid and minimize adverse effects to biological resources. We offer the following comments and recommendations to further help avoid and minimize adverse impacts to migratory birds and the federally endangered Yuma Ridgway's (=clapper) rail [*Rallus obsoletus* (=longirostris) *yumanensis*] and desert pupfish (*Cyprinodon macularius*).

Migratory Birds

The Geothermal Project area is located adjacent to the Salton Sea within the Pacific Flyway. These areas provide permanent habitat and seasonal refuge to hundreds of species of resident and migratory birds and large populations of shorebirds, wading birds, waterfowl, raptors, upland gamebirds, neotropical migrants, and other passerines (Shuford *et al.* 2002, Patten *et al.* 2003). To date, limited published information exists on bird collisions at renewable energy facilities within the Salton Sea Basin due to a lack of systematic, statistically rigorous monitoring. However, utility-scale renewable energy projects that are currently under construction or in operation in other parts of the California desert are reporting avian mortalities and injuries resulting from collisions and other accidents with various project features, including solar panels or heliostats, evaporation ponds, fencing, electrical distribution lines onsite, and gen-tie lines to regional substations on the electrical grid (Conkling *et al.* 2023).

Based on preliminary avian mortality reports from existing renewable energy facilities, the Project's proximity to the Salton Sea and Pacific Flyway, and the number of permitted or proposed utility-scale solar and transmission projects in the area, there is the potential for cumulative effects on the abundance and distribution of the bird species occurring as resident, winter visitors, and/or migrants in and around the Salton Sea. We appreciate the CEC's inclusion of BIO-20, Avian Collision Deterrent Proposal and Monitoring Plan, to better understand the collision risk to birds from the Geothermal Projects. Based on our involvement on Technical Advisory Committees from other renewable energy project avian monitoring studies in the region, the gen-tie lines associated with these types of projects results in the highest avian collision fatalities (Corvus Ecological Consulting 2023). Therefore, we recommend BIO-20 be revised to also include recommendations provided in Reducing Avian Collisions with Power Lines: The State of the Art in 2012 (APLIC 2012). Incorporating this guidance would help reduce avian collisions with transmission lines. Specifically, we recommend incorporating

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guidance in Chapter 4 of Reducing Avian Collisions with Power Lines: The State of the Art in 2012 (APLIC 2012) that discusses transmission line diameter, orientation, placement, and configuration; structure type; and lighting to reduce the collision risk. The collision risk could also be reduced by installing portions of these lines underground, co-locating conductors on existing structures, and minimizing height differences between conductors. Therefore, we recommend assessing the potential to install these lines underground.

Lastly, the PSAs should include an accurate analysis of the impacts from cumulative habitat loss, including the proposed regional transmission lines that are necessary to bring the Imperial Irrigation District (IID) electric transmission system into compliance with transmission reliability standards after the interconnection of the three geothermal projects (see Cumulative Effects section below).

Yuma Ridgway's Rail

The Yuma Ridgway's rail is currently restricted to wetlands along the Salton Sea and lower Colorado River, and several small temporary marshes along the Gila River in Arizona from Phoenix west to the Colorado River (Service 2009, 2014). Along the Salton Sea, within the Geothermal Project area, availability of water that sustains Yuma Ridgway's rail habitat is highly influenced by the amount of water discharged into IID irrigation drains. Currently, most of these irrigation drains do not reach the Salton Sea and are draining onto the exposed Salton Sea playa, creating herbaceous wetland habitat occupied by Yuma Ridgway's rail (Service 2024). Based on telemetry research (Yost *et al.* 2023), within the Geothermal Project area, Yuma Ridgway's rails make short-distance dispersals from one habitat patch to adjacent or nearby habitat, and will spend time in IID drains, laterals, and agricultural fields (Katherine Sliwa 2024, pers. comm.) Also, radar studies conducted in the 1980s at the south end of the Salton Sea along the Alamo and New Rivers documented Yuma Ridgway's rails departing marsh habitats flying at relative low altitudes 50-100 meters (Robert McKernan 2018, pers. comm.). This dispersal behavior and low elevation flight patterns make all age classes of Yuma Ridgway's rails susceptible to collisions with many structures, including power lines, towers, and fences. We are aware of one Ridgway's rail fatality that occurred at a nearby solar project near Calipatria, Solar Gen 2, resulting from collision.

We appreciate the CEC's inclusion of mitigation measures to reduce these potential threats and offer the following recommendations to further avoid and minimize project-related Yuma Ridgway's rail fatalities. We recommend that BIO-13, Yuma Ridgway's Rail Survey, Management, and Monitoring, be revised to state that monitoring will be conducted by biological monitor(s) that possess a valid Section 10(a)(1)(A) permit to conduct Yuma Ridgway's rail protocol surveys if a take exemption (under section 7 of the Act) or a take permit (under section 10 of the Act) has not been issued for the Geothermal Projects. We also recommend that BIO-14, Yuma Ridgway Rail Species Noise Assessment and Abatement Plan, be revised to include language to avoid drilling activities for production and injection wells located adjacent to known breeding sites to outside of the Yuma Ridgway's rail breeding season, which is February 15 to September 30, to avoid adverse effects to breeding Yuma Ridgway's rail.

Based on information in the PSAs, approximately 1,266 acres of active agricultural fields would be used temporarily as construction worker camps, laydown/parking areas, and borrow pits. The

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temporary loss of these fields could result in less agricultural drain water being discharged into IID irrigation drains. As mentioned above, Yuma Ridgway's rail habitat persistence is highly influenced by the amount of water discharged into IID irrigation drains. Any activity that results in reductions in water levels in the herbaceous wetlands that support Yuma Ridgway's rail will likely adversely affect habitat suitability and rail occupancy in those wetlands. An analysis should be included in the PSAs to ensure the loss of irrigation drain water would not result in dewatering of the herbaceous wetlands downstream of the irrigation drains.

Desert Pupfish

Desert pupfish are known to occur within the Geothermal Project area in the irrigation drains (below the last drop structure) and herbaceous wetlands downstream of the irrigation drains that drain onto the Salton Sea playa. Therefore, desert pupfish habitat is also highly influenced by the amount of water discharged into IID irrigation drains. Desert pupfish also could be present in furrows; shallow water ponded in Salton Sea shoreline berms; and Salton Sea shallow shoreline areas near drainage outlets, depending on water quantity and salinity levels. Desert pupfish populations in these irrigation drains are identified as naturally occurring wild desert pupfish, or Tier 1, populations in the Desert Pupfish Recovery Plan (Service 1993) and conservation of these areas is essential to achieving desert pupfish recovery goals.

We appreciate the inclusion of BIO-9, Desert Pupfish Protection and Relocation Plan, to minimize adverse effects on desert pupfish, but we recommend complete avoidance of dewatering drains, laterals, and herbaceous wetlands to avoid adverse effects. As stated above, desert pupfish habitat is highly influenced by the amount of water discharged into IID irrigation drains. Therefore, we recommend an analysis be included in the PSAs to ensure the reduction to irrigation drain water would not result in dewatering at the end of IID's irrigation drains that are adjacent to project components, specifically those drains that are adjacent to agricultural fields that will be temporarily used as construction worker camps, laydown/parking areas, or borrow pits.

Cumulative Project Analysis

The Geothermal Project PSAs indicates that, cumulatively, the interconnection and operation of the three geothermal plants will cause the IID transmission system to violate reliability standards and mitigation measures are required to bring the system back into compliance with these standards. These mitigation measures include:

1. Construction of a new 70-mile 230 kV line from the future IID Sinclair Switching Station to IID's Coachella Valley Substation.
2. A new 20-mile 230 kV line from the Coachella Valley Substation to the Ramon Substation.
3. Expansion of the Coachella Valley Substation.

As discussed above, avian collisions with transmission lines are being reported from other renewable energy projects in the region. Therefore, construction, operations, and maintenance of

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all new transmission lines associated with the Geothermal Project, should be evaluated, including the installation of lines underground, as a cumulative impact and avoidance and minimization should be included in the Geothermal Project PSAs to reduce adverse effects on avian resources.

Project Specific Comments

Morton Bay Geothermal Project: Based on Figure 3-3 in the Morton Bay PSA (CEC 2024a), a well pad and wells will be constructed west of Garst Road, just north of the Alamo River and adjacent to Morton Bay. This location is adjacent to a documented Yuma Ridgway's rail breeding site (Katherine Sliwa 2024, pers. comm.). Therefore, to avoid adverse effects to breeding Yuma Ridgway's rails, we recommend the well pad and wells that are proposed to be constructed in this area be relocated to a location that would not adversely affect breeding Yuma Ridgway's rails.

Elmore North Geothermal Project: As mentioned above, habitat for both Yuma Ridgway's rail and desert pupfish is sustained by water discharged from agricultural fields into IID irrigation drains. Based on Figure 3-3 in the Elmore North PSA (CEC 2024b), there are several agricultural fields identified that will be used as construction worker camps, laydown/parking areas, or borrow pits. The loss of water to these fields could ultimately lead to less water being distributed into the adjacent irrigation drains, specifically the Red Hill Bay drains. This distribution of water aids in the creation of the wetland habitats across the playas within the project area footprint. Thus, a loss of water drainage would result in a loss to rare and declining wetland habitat used by Yuma Ridgway's rail and other wildlife. The Red Hill Bay drains, which occur between the proposed generating facility to the south and the production wells to the north, is also an important area for desert pupfish. A survey conducted in May 2023, yielded over 400 desert pupfish (CEC 2024b), mostly juveniles, in the main connector channel of the Red Hill Bay drains.

Desert pupfish occupied drains in the project area include irrigation drains along Hazard Road, McDonald Road, and Sinclair Road; parallel to Cox Road/Gentry Road between Garst Road and Rock Hill; and irrigation drains along Cox Road/Lindsey Road, Boyle Road, Severe Road, Crummer Road, and Lack Road (Jacobs 2023). Therefore, we recommend an analysis be included in the Elmore North PSA (CEC 2024b) that evaluates the loss of water into these irrigation drains, how that may affect water flow at the end of the drains and into the herbaceous wetlands downstream of those irrigation drains. Also based on figure 3-3 in the Elmore North PSA (CEC 2024b), there are a total of 21 wells located on 11 well pads (9 production wells on 5 well pads, 12 injection wells on 6 well pads). The production well pads and pipelines are within the Red Hill Bay playa exposure and Red Island Volcano areas which have been known to contain patches of wetland vegetation to the east of the project area, according to the Elmore North PSA (CEC 2024b). Additionally, Yuma Ridgway's rails have been recently documented using these wetland areas, and other uncharacteristic marsh areas, along Garst Road and the waterfowl ponds along Gentry Road, near proposed well pads and associated pipelines (Yost *et al.* 2023). Therefore, to avoid adverse effects to Yuma Ridgway's rail, we recommend the well pads that are proposed to be constructed in this area be considered for a different location that would not adversely affect Yuma Ridgway's rails inhabiting the areas.

Black Rock Geothermal Project: As mentioned above, habitat for both Yuma Ridgway's rail and desert pupfish is sustained by water discharged from agricultural fields into IID irrigation drains.

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Based on figure 3-3 in the Black Rock PSA (CEC 2024c), there are several agricultural fields identified that will be used as construction worker camps, laydown/parking areas, or borrow pits. Loss of applying water to these fields could result in less water being discharged into the adjacent irrigation drains, specifically the Vail 5 Drain and Pumice Drain. We recommend an analysis be included in the Black Rock PSA (CEC 2024c) that evaluates the loss of water into these drains and how that may affect water flow at the end of the drains and into the herbaceous wetlands downstream of those irrigation drains.

Endangered Species Act Consultation

The purpose of the Act is to provide a means to conserve the ecosystems upon which endangered and threatened species depend and provide a program for the conservation of such species. When a major construction action is likely to adversely affect a listed species and/or its designated critical habitat and a Federal regulatory nexus exists for the project, i.e., a Federal agency undertakes, funds, permits, or authorizes the action, the agency is required to submit a request for formal consultation under section 7 of the Act to obtain an exemption from the Act's take prohibitions. If no federal nexus exists, incidental take may be addressed by requiring the applicant apply for an incidental take permit through the development of a Habitat Conservation Plan (HCP) that satisfies the permit issuance criteria stipulated under section 10(a)(1)(B) of the Act. HCPs provide for partnerships with non-Federal parties to conserve the ecosystems upon which threatened and endangered species depend for survival and recovery and permit the take of listed species incidental to otherwise lawful activities. Our office is available to provide guidance and recommendations on how best to comply with the Act.

We appreciate the opportunity to provide comments on the PSAs. We have enclosed specific recommendations to assist in avoidance and minimization of impacts to public trust resources. Should you have any questions regarding these comments, please contact [Felicia Sirchia](mailto:felicia_sirchia@fws.gov)¹ or [Kent Kowalski](mailto:kent_kowalski@fws.gov)² of my staff.

Sincerely,

for Brian Croft
Assistant Field Supervisor

cc:

Magdalena Rodriguez, California Department of Fish and Wildlife

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PERSONAL COMMUNICATIONS

McKernan, R. 2018. Ornithologist, Oasis Bird Observatory and Director Emeritus San Bernardino County Museum. Email correspondence to Felicia Sirchia, USFWS, Palm Springs Fish and Wildlife Office, Palm Springs, California. Dated 10/09/2018. Subject: Yuma Ridgway's Rail flying altitudes.

Sliwa, K.M. 2024. Research Scientist, Idaho Cooperative Fish & Wildlife Research Unit, University of Idaho. Email correspondence to Felicia Sirchia, USFWS, Palm Springs Fish and Wildlife Office, Palm Springs, California. Dated 08/08/2024. Subject: 2023 Yuma Ridgway's Rail Selenium and Migration Report Questions.