United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
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In Reply Refer To:
08ESMF00-2012-TA-0571-1

AUG 13 2012

City of San Rafael
Community Development Department
1400 Fifth Avenue
San Rafael, California 94901

Subject: Comments on the Draft and Final Environmental Impact Report for the San Rafael Airport Recreational Facility Adjacent to the North Fork of Gallinas Creek in the City of San Rafael, Marin County, California

Dear City of San Rafael Community Development Department:

This letter responds to your request for comments on the Draft and Final Environmental Impact Report for the San Rafael Airport Recreational Facility (proposed project) adjacent to the North Fork of Gallinas Creek in the City of San Rafael, Marin County, California. The proposed project involves the construction of 71,300 square feet of indoor sports fields/courts along with a lighted outdoor soccer field for games and unlighted soccer warm-up area on a 9.1-acre portion of the San Rafael Airport property adjacent to the North Fork of Gallinas Creek. At issue are the potential effects of the proposed project on the endangered California clapper rail (*Rallus longirostris obsoletus*) and endangered salt marsh harvest mouse (*Reithrodontomys raviventris*) which are protected under the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act).

The proposed project would include the construction of a 14,400 square-foot viewing deck located above and between the soccer fields. Access to the proposed new recreational facility would be through an extension to the existing roadway currently serving the airport property. The roadway would terminate at a new 184-car paved parking lot that includes a circular drop-off zone at the end of the paved parking lot near the entry at the southeast corner of the building. Just past the end of the main paved parking lot, a gravel parking lot is proposed to be constructed to provide overflow parking facilities as well as access to the two outdoor soccer fields. As part of this project, the applicant has also proposed to install a new 25-foot wide steel truss bridge deck over the existing bridge that crosses the North Fork of the Gallinas Creek.

Both the California clapper rail and salt marsh harvest mouse are known to occur within suitable tidal marsh habitat along Gallinas Creek near the proposed project. Gallinas Creek contains one of the largest populations of California clapper rails within the San Pablo Bay Recovery Unit of

the Service's *Draft Recovery Plan for Tidal Marsh Ecosystems of Northern and Central California* (draft recovery plan) (Service 2010). Between six and eight California clapper rails were observed near the proposed project area along the North Fork of Gallinas Creek during surveys in 2010, and three were observed in 2011 (Liu *et al.* 2012). An additional 10-14 California clapper rails were observed during surveys along the middle reach of Gallinas Creek just downstream of the proposed project area in 2010 (Liu *et al.* 2012). The tidal/microtidal marshes of Gallinas Creek also contain one of the major population centers of the northern subspecies of the salt marsh harvest mouse within the draft recovery plan's San Pablo Bay Recovery Unit. The draft recovery plan also identifies the protection, management, and restoration of viable habitat areas including the Gallinas Creek marsh as a criterion for the downlisting of the salt marsh harvest mouse from endangered to threatened. The area immediately northeast and across the creek from the proposed project area is identified in the draft recovery plan as a high priority area for tidal marsh restoration.

The Service is concerned that the proposed project will result in significant direct and indirect effects to salt marsh harvest mice and California clapper rails due to the construction of a large sports complex with additional parking and nighttime outdoor sporting events adjacent to the tidal marsh of the North Fork of Gallinas Creek. Additional noise and lighting from the sports complex and parking lot may result in California clapper rails avoiding the marshes near the new sports complex and the loss of California clapper rail breeding activity or nest abandonment. For example, Albertson (1995) documented a California clapper rail abandoning its territory in Laumeister Marsh in south San Francisco Bay shortly after a repair crew worked on a nearby transmission tower. The rail did not establish a stable territory within the duration of the breeding season. As a result of this territorial abandonment, the opportunity for successful reproduction during the breeding season was eliminated. Similarly, the loss of four California clapper rail breeding territories along the Greenbrae boardwalk in the Corte Madera Ecological Preserve in Marin County in 1993 was attributed to an increase in domestic and feral dogs and cats along the boardwalk resulting from new residents moving into the nearby residential areas (J. Garcia, pers. comm.).

The installation of lighting for the parking lot and outdoor sporting events could result in disturbance of salt marsh harvest mice and California clapper rail activities by disrupting activity cycles and the internal circadian system (Rich and Longcore 2006). Disruption of the circadian clock from artificial night lighting can result in changes to foraging efficiency, risk of predation, and parental care, which could have adverse effects on the salt marsh harvest mouse and California clapper rail. These individuals would be out of sync with their neighbors living in a natural light-dark cycle, and could affect mating success (Rich and Longcore 2006). Artificial night lighting has been shown to affect nocturnal rodents. Several species of small rodents harvested an average of 21 percent less seed in response to a single fluorescent or gasoline camping lantern. Although small mammals can respond to bright moonlight by shifting foraging activities to darker conditions, this is not an option for animals subjected to artificially increased illumination throughout the night. Unless they leave the lighted area, they are either at greater risk of predation from foraging in the lighted area, or reduce their food consumption to avoid increased predation risk (Rich and Longcore 2006). Lights should be designed with wildlife species in mind using appropriate wavelength light sources that are shaded to direct lights away from the marshes.

The proposed project will result in an increase in the presence of people, traffic, and trash near the marshes of the North Fork of Gallinas Creek. Trash left near the marsh will attract predators (e.g., foxes, raccoons, rats, feral cats, corvids, and gulls) that may prey on salt marsh harvest mice and California clapper rails in the adjacent marsh.

The proposed project area currently floods every winter since it is below sea level and behind agricultural levees on historic baylands. The water is pumped from the airstrip, hangars, and buildings directly into the marsh without being treated. The introduction of additional traffic and paved surfaces within the project area will result in the pumping of additional untreated contaminated water containing petroleum hydrocarbons and other toxins into the marsh which will degrade the water quality of Gallinas Creek. The degradation of the water quality and introduction of petroleum hyrdrocarbons and other contaminants into the Gallinas Creek marshes may have direct toxic effects to salt marsh harvest mouse and California clapper rail or indirectly affect the California clapper rail due to a reduction in the invertebrate prey base.

Urban development and the installation of dikes for agriculture throughout the San Francisco Bay Area has resulted in a reduction of the range of the salt marsh harvest mouse and California clapper rail to less than 10 percent of their historic ranges. The amount of suitable tidal marsh habitat available for the salt marsh harvest mouse and California clapper rail is expected to decrease in the future with sea level rise. Development adjacent to the tidal marsh prevents the ability of the tidal marsh to migrate landward in the face of sea level rise and eliminates important marsh ecotone buffers and high tide refugia for the salt marsh harvest mouse and California clapper rail. Thus diked baylands, such as within the proposed project area, provide the few remaining opportunities within the San Francisco Bay Area for the restoration of tidal marsh and high tide refugia/marsh ecotone to allow for the landward migration of the marsh in the face of sea level rise.

The proposed project may result in an increase in the cover of invasive plant species including non-native perennial pepperweed in all areas temporarily disturbed and adjacent areas. Also, an increase in vehicles and pedestrians near the marsh may introduce additional invasive plant species into the upland refugia and tidal marsh habitat along Gallinas Creek. Perennial pepperweed provides poor upland refugia cover for the salt marsh harvest mouse and California clapper rail because it is leafless in the winter when the mouse and rail most require upland refugia cover during the frequent winter extreme high tides and storm events. Without suitable upland refugia cover, the salt marsh harvest mouse and California clapper rail are more susceptible to predation during extreme high tide events. Perennial pepperweed displaces higher quality upland refugia cover such as marsh gumplant and may also displace essential salt marsh plant species such as pickleweed. The construction of the additional parking and sports complex near the marsh may further degrade the upland refugia cover the salt marsh harvest mouse and California clapper rail depend on during extreme high tide events or may prevent the mouse and the rail from seeking upland refugia cover near the parking lot and sports complex; this would increase the risk of predation of salt marsh harvest mice and California clapper rails during extreme high tide events.

We recommend evaluating all direct and indirect effects of the proposed project on the salt marsh harvest mouse and California clapper rail and their habitats and include appropriate

measures that will avoid and minimize any adverse effects on these listed species. Please contact Joseph Terry, Senior Biologist, or Ryan Olah, Coast Bay/Forest Foothills Division Chief, at the letterhead address, electronic mail (Joseph_Terry@fws.gov; Ryan_Olah@fws.gov), or at telephone (916) 414-6600, if you have any questions regarding this response.

Sincerely,

E. Tattersall

Eric Tattersall
Deputy Assistant Field Supervisor

cc:
Tim Dodson, California Department of Fish and Game, Napa, California

Literature Cited

Albertson, J.D. 1995. Ecology of the California Clapper Rail in South San Francisco Bay. Unpublished Master's Thesis. San Francisco State University. San Francisco, California. 199 p.

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Personal Communications

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