Avocet Research Associates
environmental consultants

Memorandum

11 June 2001

To: Chris Vais, URS Corporation Americas.

From: Jules Evens, ARA, Principal

Re: **Rhodia-Martinez Peyton Slough project**: evaluation of Peyton slough tidal marshlands for use by California Clapper Rails (*Rallus longirostris obsoletus*), with notes on other species of concern.

1.0. Introduction

Avocet Research Associates, under subcontract with URS Corporation, conducted field surveys for California Clapper Rails during the 2001 breeding season to evaluate potential impacts on that species as a result of the proposed Rhodia Martinez Peyton Slough project in Contra Costa County, California. Terms and conditions of that contract are provided in the Subcontract for Services,Work Order #1 (dated Feb. 26, 2001, signed Mar. 5, 2001) and Attachment A, a memorandum from Jules Evens (ARA) to Laura Cholodenko (URS) dated Feb. 8, 2001 (Attached).

2.0. Scope and purpose

The purpose of our field effort was to determine the presence or absence of California Clapper Rail, a federally endangered species, during the 2001 breeding season in the tidal marsh habitat in the vicinity of the proposed dredging and channel rerouting project along Peyton Slough, Contra Costa County, California. To augment the 2001 field work, we compiled historic records from the Natural Diversity Data Base (CDF&G) and other available documents to determine the distribution and abundance of rails along the south shore of Suisun Bay from Bulls Head Point (Peyton Slough) eastward approximately 1.0 km. The results of the field work and historical data are used to evaluate the potential for impacts to Clapper Rails and other species of concern during the course of the proposed project.

Biological field work that focuses on the California Rlapper Rail is conducted under protocol set forth by the U.S. Fish and Wildlife Service (USFWS 2000). Based on this protocol and the constraints imposed by weather, tide, and contractual timing, we conducted four surveys for Clapper Rails between 01 March and 05 May 2000 within 1000' of the proposed project. After the initial protocol surveys, two additional day time field visits were made (one by foot, one by boat) to search for additional evidence of rail use.

3.0. Survey phenology and methods.

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Field visits were conducted on the following dates:
3/01/01 Site reconnaissance visit: 1300-1630 hrs (Laura Cholodenko, *URS;* Tony Koo, *Rhodia*; Jules Evens, *ARA*, and Mary Anne Flett, *ARA*).
3/22/01 Protocol survey: 1700-2000 hrs. Jules Evens & Mary Anne Flett
4/04/01 Protocol survey: 1730-1930 hrs. Jules Evens & Mary Anne Flett
5/04/01 Protocol survey: 1700-2000 hrs: MaryAnne Flett & David Wimpfeimer (ARA)
5/23/01 Non-protocol visit on foot from Avon access (Jules Evens)
6/09/01 Non-protocol visit by kayak from Avon access (Jules Evens)

Protocol surveys were conducted within the time period specified by USFWS (2000), except for the 04 May survey, which was outside the prescribed time period. This exception was justified because no clapper rails had been detected on the previous three visits and it seemed evident that no rail territories were present in the study area. Methods conformed to those set forth in Collins et al. (1994), as follows. Surveys were not conducted when tidal levels were greater than 4.5 feet NGVD or during full moon periods. Listening stations were distributed at 200 meter intervals throughout the marsh and slough system (Figure 1), however slough edges were avoided when possible to minimize impacts to potential rail territories. All surveys were initiated approximately 45 minutes prior to sunset and extended until approximately 45 minutes after sunset. No surveys were conducted when wind speeds exceeded 12 mph. Each observer is highly familiar with clapper and black rail vocalizations and each has extensive field experience.

Observers occupied each listening station for 10 minutes. Tapes of clapper rail vocalizations ('clatter calls') were broadcast after 10 minutes if the station had been silent (i.e. no detections). From each station, black rail vocalizations ("grr" calls for 1 minute followed by "kik-kik-grr" for 30 seconds — Evens *et al.* 1991) were broadcast at the end of the clapper rail survey and the observer remained at the station for an additional 5 minutes. Thus, each station was occupied by one observer for a total of 15 minutes; 10 minutes were devoted to clapper rail detection, 5 minutes devoted to black rail detection. (For more on census rationale for clapper rails, see Collins *et al.* 1994; for black rails, see Evens *et al.* 1991 and Spear *et al.* 1999).

Non-protocol surveys were conducted after the initial protocol surveys indicated that no clapper rails were utilizing the marshland associated with Peyton Slough as breeding habitat. These involved low-tide searches for tracks along the banks of Peyton Slough and the larger slough that drains the center of the marshland to the east, midway between Peyton Slough and Pacheco Creek (Figure 1). These watercourses were accessed by sea kayak from the pier located 1.5 km east of Peyton Slough.

4.0 Findings

4.1 Historic clapper rail distribution in Suisun Bay

According to Moffitt (1941), California Clapper Rail was "apparently unknown from Suisun Bay and the entire delta area above Carquinez Strait." Gill (1979) found that "the Clapper Rail is absent from Suisun Marsh . . ." More recent records (Collins *et al.* 1994), including those provided in the table below, indicate that Clapper Rails have been occurring in southern Suisun bay marshlands since the late 1970s and that a viable population may have established itself in the "Point Edith marshes" (Collins *et al.* 1994). Within this area, the marshlands between Pacheco Creek and Hastings Slough (USGS Vine Hill Quad) provide the most habituated clapper rail habitat. There is some suggestion that Suisun Bay populations may be present in some years and not in others (Albertson & Evens 2000). Coverage of these marshes has been sporadic, therefore our knowledge of occupancy by clapper rails is partial.

Table 1. Summary of clapper rail records from the south shore of Suisun Bay.

Date	Location	# rails	Source
27 Apr 1979	Martinez Yacht Harbor	1	Harvey 1980
26 May 1979	Martinez Yacht harbor	1	Laymon 1979
09 Sep 1985	Ryer I.	1-2	CNDDB
?? Jun 1986	w. of Middle Pt., Concord Naval Weapons Station	2	Lee et al. 1988
15 Aug 1986	Ryer I.	1	Evens & Henderson 1986
28 Mar-25 Apr '92	Avon Creek w. to Pt. Edith Wildlife Area	5-8	McHugh, pers. comm
15 Mar 1993	Point Edith Marsh	10-11	Grewell 1993
25 Apr 1993	Point Edith Marsh	1	M. Stern, pers. comm.
28 Apr 1993	Point Edith Marsh	13-16	Grewell 1993
Apr-Jun 1996	Concord Naval Weapons Station	'a few'	L. Spear, pers. comm
3 Mar 2000	Pacheco Creek x Waterfront Rd.	1-2	Evens 2000
5 Apr 2000	Pacheco Creek x Waterfront Rd.	2	Evens 2000

Pacheco Creek, the closest drainage known to have been recently occupied by clapper rails (Evens 2000), is approximately 1.5 mi. east of Peyton Slough. The intertidal area between Pacheco Creek and Concord Naval Weapons Station contains the largest extent of tidal marshland along the south shoreline of Suisun Bay and apparently has been used by clapper rails, at least intermittently, since the late 1970s. A substantial population apparently occupied the Point Edith marsh area in the 1990s and is assumed to be extant, still.

4.2 Results of field work

Rails were not detected on the first three passive protocol surveys conducted between March 1 and May 5, 2001, nor were clapper rails detected on the subsequent non-protocol surveys. Coverage of Peyton Creek proper was the most thorough and we are confident that no clapper rails were utilizing the creek bed or banks in the 2001 breeding season. The marshland within 1000 feet east of Peyton Slough also was apparently devoid of rails. Coverage of the eastern half of the marsh to the east was less thorough (though adequate), and to the best of our knowledge, no clapper rails were utilizing that central slough system. If rails do utilize this marsh area in the future, this central slough system provides the best habitat and is most likely to be utilized

Black rails were detected in the higher portions of the marsh to the east of Peyton Slough, at stations # 5, 8, 11, 19, 21, 23, 24, 25 (Figure 1.) The results from three surveys March 22-May 1 detected an average of 0.32 black rails per listening station and an estimated density of 0.76 rails per hectare. This value is considered a "moderate" density and conforms with previously described densities and detection rates for Suisun Bay marshes (Evens et al. 1991). The same marsh was surveyed for black rails in 1988 ("Pacheco Creek west") and nearly identical detection rates and densities were described (0.31 rails/station & 0.75 rail/ha—Evens et al. 1989).

5.0 Other wildlife species of interest

Northern river otter (*Lutra canadensis*): individuals, tracks, or sign noted on all surveys; otters are common in Peyton Slough and adjacent tidal marshes. Status: not included on list of 'special animals' (CDFG 2000).

Northern harrier (*Circus cyaneus*): status both male and female foraging over marsh; this species probably breeds in the higher emergent vegetation along the landward margin of the tidal marsh. CNDDB Status: California species of concern.

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White-tailed Kite (*Elanus caeruleus*); one-two foraging over higher tidal marsh east of Peyton Slough. CNDDB Status: 'Fully protected' (CDFG); "Migratory nongame bird of management concern" (USFWS).

California black rail (*Laterallus jamaicensis coturniculus*). Present in higher elevation marsh (above mean high water) throughout marshlands to east of Peyton Slough. Status: State "threatened," fully protected (CDFG).

Virginia rail (*Rallus limicola*): several heard from freshwater marsh SW of bridge, south of railroad tracks. Status: not included on list of 'special animals' (CDFG 2000).

Loggerhead Shrike (*Lanius ludovicianus*): one individual present March 3; probably breeds on upland boundary. Status: California species of concern.

Common Yellow throat (*Geothylypis trichas*): several heard singing from emergent tidal marsh habitat in brackish and salt marsh habitat on each census. Fairly common breeder locally. (The taxonomic status of the locally breeding race needs clarification; based on current knowledge it seems that Suisun Bay yellowthroats belong to *G.t. arizela* however may represent intergrades between *arizela* and *sinuosa*. Status: California species of concern.

6.0 Conclusions

No clapper rails were detected in the marshes and sloughs associated with Peyton Slough during the 2001 breeding season. The closest known recently occupied habitat is associated with Pecheco Creek, approximately 1.5 miles east of Peyton Slough. Black rails were detected in moderate densities in the higher emergent marshlands immediately east of Peyton Slough and are expected to be year-round residents in that habitat.

Several other wildlife species of interest were detected in the marsh habitat associated with Peyton Slough; three species of special concern (Northern Harrier, Loggerhead Shrike, Common Yellowthroat), one fully-protected raptor (White-tailed Kite), and one California "threatened" species (California Black Rail). Of those, the black rail habitat is most likely to be impacted by the proposed rerouting of Peyton Slough. Black rails were detected in moderate densities in the higher emergent marshlands immediately east of Peyton Slough and are expected to be resident in that habitat.

7.0 References

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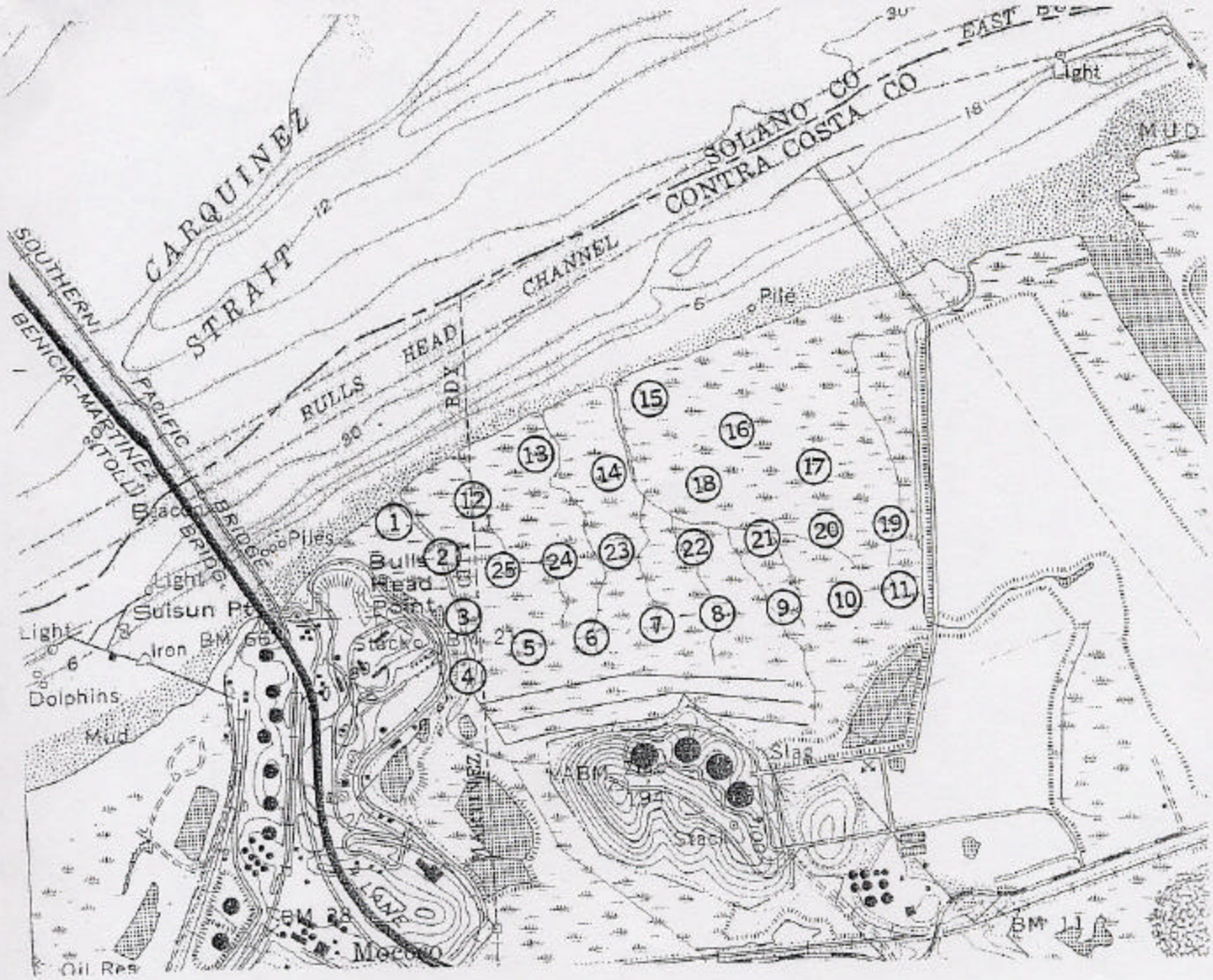

Figure 1.

Study Area: the tidal marshlands eastward of Bull's Head Point, Martinez, California. (Vine Hill, Calif. Quadrangle, USGS.)

Locations of rail survey stations are indicated with numbered circles, each approximately 200 meters apart.

(Scale 1:33600)