

CALIFORNIA DEPARTMENT OF FISH AND GAME
SPECIAL WILDLIFE INVESTIGATIONS

CALIFORNIA CLAPPER RAIL SURVEY - 1973

Gordon Gould

PURPOSE:

The purpose of this survey was to help define the range of the threatened California clapper rail (Rallus longirostris obsoletus). The survey was conducted from April 16 to May 10, 1973 in the north part of San Francisco Bay and along the central California coast in marshes from Bodega Bay to Watsonville Slough. Additional data was gathered from R. Gill of California Department of Fish and Game who studied the habitat and distribution of the California clapper rail in south San Francisco Bay in 1971 and 1972.

METHODS:

The preferred habitat type of the California clapper rail appears to be tidal salt water marshes, intersected by numerous small tidal channels, and vegetated predominantly by picklewood (Salicornia ambigua) and cord grass (Spartina foliosa). In addition, the ribbed horse mussel (Modiolus demissus) was common in areas inhabited by the clapper rail. This habitat type was surveyed in each of the study areas (Table 1).

The survey was performed by a variety of methods. The most common method employed used tape recorded clapper rail calls to elicit responses. Ten to 15 second series of chorus clatter calls were played at least twice per stop with a 20 to 40 second break between call series. Distance between stops varied from 50 to 200 yards while walking the marshes. Distance between stops while using a boat varied and was dependent on the investigator's analysis of the habitat suitability for clapper rails. Only suitable habitat was surveyed by boat. In areas surveyed by walking, a dog was used to help flush birds within 25 yards of the investigator. No effort was made to flush birds giving a response.

An effort was made to conduct as much of the survey from dawn to 10 a.m. as possible to coincide with the greater vocal activity of the rails early in the morning. Six instances of unelicited calls were observed. Also tracks were observed in the small tidal meanders in most areas where clapper rails were found.

RESULTS:

North Coast -

No evidence of clapper rails were observed in the survey areas along the coast (Figure 1). The salt water marshes at Bodega Bay and Tomales Bay seemed to contain the proper vegetation type. Few small tidal meanders were present at Bodega Bay, though they were more numerous in both study areas at Tomales Bay. No ribbed mussels (Modiolus demissus) or similar molluscs were found in either bay.

Estero Americano did not contain any areas of typical clapper rail habitat (Table 1), nor was any evidence of these rails observed. Because of the similarity of Estero Americano to Estero San Antonio, no survey was conducted in the latter.

Bob Stewart of Point Reyes Bird Observatory has reported that clapper rails have been observed from Bolinas Lagoon in the past. In the last four years no clapper rails have been seen by Point Reyes Bird Observatory personnel conducting studies in the lagoon.

South Coast -

No evidence of clapper rails were observed at either survey site along the south coast. Pescadero Creek is closed to the sea for most of the year by a sand bar at its mouth. Because of this and the dikes along Pescadero and Butano Creeks, there are no tidal fluctuations in the marsh. The marsh is fresh-water and the vegetation is not typical of suitable California clapper rail habitat.

Watsonville Slough has been modified recently by a housing development immediately adjacent to the slough. The vegetation is suitable for clapper rails but polluted with debris.

North Bay -

California clapper rails were found extensively through the north San Francisco Bay area (Table 2 and Figure 2). Cases of observations of single birds were not noted. Multiple observations were made in Corte Madera Marsh, near the mouth of Gallinas Creek, in Petaluma Marsh and at the mouth of San Pablo Creek in 1973; in Napa Marsh, the mouth of San Pablo Creek, and just north of the toll plaza of the San Francisco-Oakland Bay Bridge in 1972; and on Tubbs Island in 1971.

Nests were found on Tubbs Island in 1971 and in the marsh north of the toll plaza of the San Francisco-Oakland Bay Bridge in 1972.

Three other areas were checked in the north bay. No evidence of clapper rails were found along Novato Creek, south of State Highway 37, and Sonoma Creek, just north of State Highway 37. The vegetation along these channelized creeks was typical of areas used by clapper rails. No rails were found in an area of very poor habitat between State Highway 37 and the bay, about 3 3/4 miles west of the Napa River bridge. Also, no clapper rails were observed in the south section of the marsh at the mouth of San Pablo Creek. All tidal waterways were covered by an oil scum, apparently causing the area to be uninhabitable to clapper rails.

The Suisun Marsh area was checked by boat from Suisun City to Benecia following Suisun Slough in April 1972. No clapper rails were observed. The vegetation is not typical Salicornia-Spartina but more of a fresh water type containing cattails and bull rushes.

TABLE 1

MARSH HABITAT SUITABILITY FOR CALIFORNIA CLAPPER RAILS

Survey Area	Habitat Requirements			
	<u>Salicornia</u>	<u>Spartina</u>	Small Tidal Channels	Ribbed Horse Mussel
Bodega Bay	X ^a	/ ^b		
Esteros Americano & San Antonio				
Tomaes Bay	X	/	/	
Pescadero Marsh	/			
Watsonville Slough	X	/		
Corte Madera Marsh	X	X	X	X
Gallinas Creek-north of mouth	X	X	X	X
-south of mouth	X	/	X	X
Novato Creek	X	/		
Petaluma Creek	X	X	X	X
Petaluma Marsh	X	X	X	X
Tubbs Island	X	/	X	X
Sonoma Creek	X	X	/	Not Determined
Napa Marsh-in marsh	X		/	X
-next to bay	X			
Suisun Marsh				
San Pablo Creek-mouth	X	/	/	
-south of mouth	X		X	
Emeryville Crescent	X	X	/	X

^a X Denotes presence

^b / Denotes present but not abundant

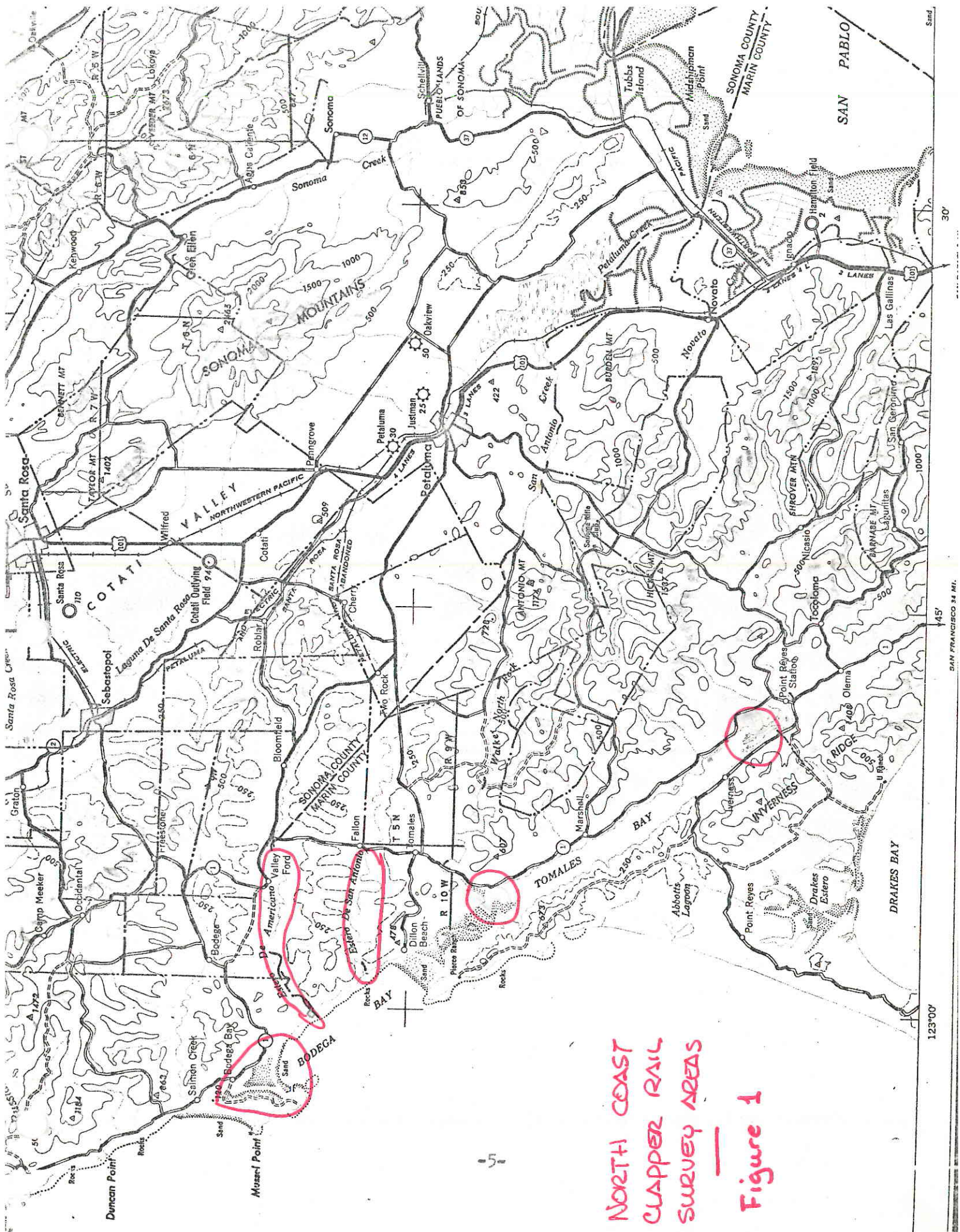
TABLE 2

NUMBERS OF CALIFORNIA CLAPPER RAILS LOCATED IN SURVEY AREAS

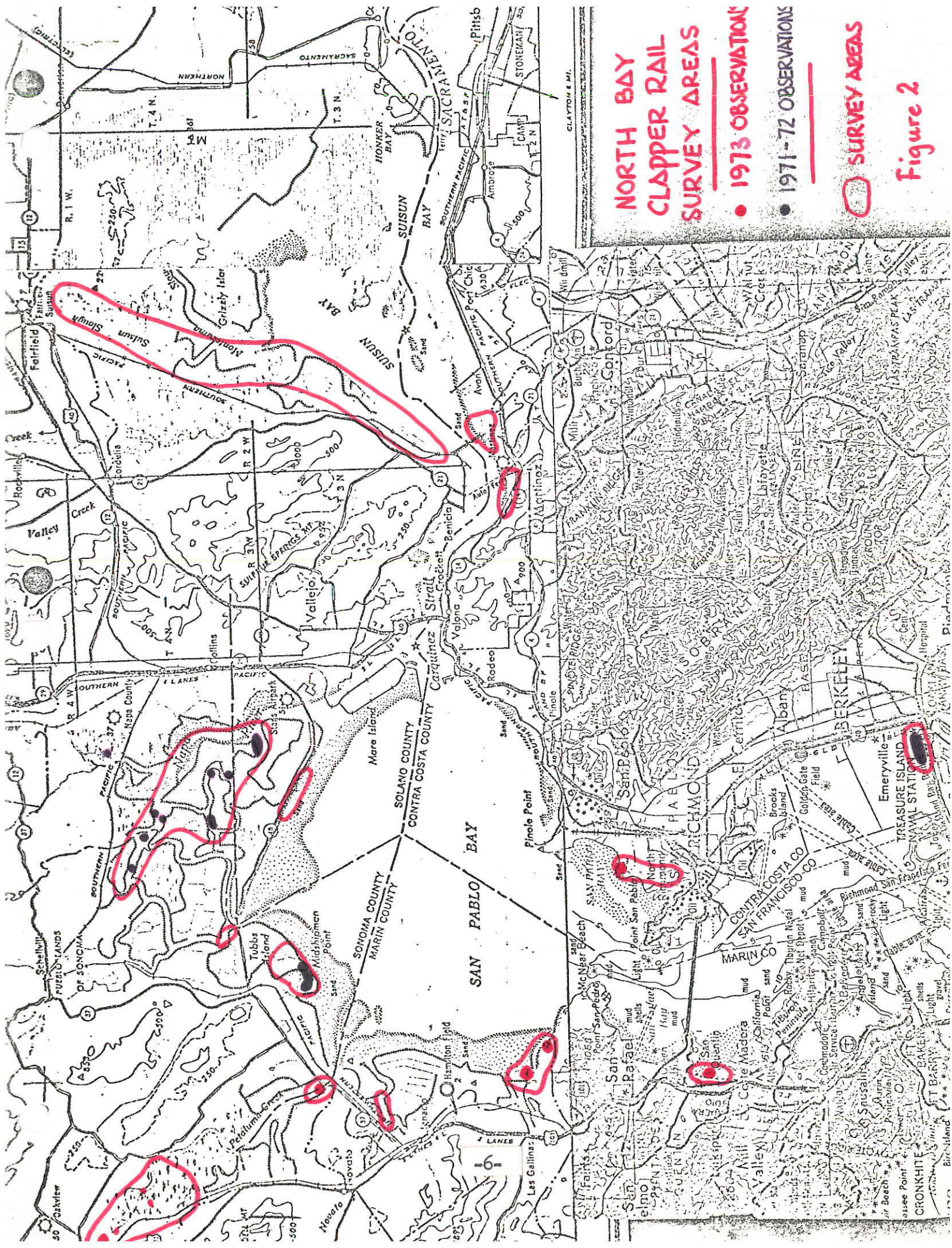
Survey Area	Date Surveyed	Total No. Bird Monitored	Method of Observation					Tracks Observed
			Sighted	Heard Call	Call Response	Flushed By Observer	By Dog	
Bodega Bay	4-16-73	0						
Estero Americano	4-27-73	0						
Tomaes Bay	4-27-73	0						
Pescadero Marsh	5-7-73	0						
Watsonville Slough	5-7-73	0						
Corte Madera Marsh	4-24-73	4		4				Yes
Gallinas Creek-north of mouth	5-2-73	3	2		1		2	Yes
-south of mouth	5-2-73	6	1		3		1	4
Novato Creek	5-10-73	0						
Petaluma Creek	5-1-73	3	2		1	1	1	
Petaluma Marsh ^a	5-1-73	7			7		b	Yes
Tubbs Island	6-28-71	11				11	b	
Sonoma Creek	5-10-73	0						
Napa Marsh-in marsh ^a	4-24-72	12	3		12		b	
-next to bay	4-24-73	0					b	
Suisun Marsh ^a	6-12-72	0						
San Pablo Creek-mouth	5-8-73	5		2	4			
-south of mouth	5-8-73	0						
Emeryville Crescent	5-18-72	3				3	b	
TOTALS		54	8	6	28	15	4	4

^a Survey conducted by boat

^b Dog not used in these surveys



NORTH COAST
CLAPPER RAIL
SURVEY AREAS
—
Figure 1



NORTH BAY CLAPPER RAIL SURVEY AREAS

- 1973 OBSERVATIONS
- 1971-72 OBSERVATIONS

○ SURVEY AREAS

Figure 2

California Department of Fish and Game
Special Wildlife Investigations

RAIL SURVEY

Instructions for California Clapper Rail Survey

- A. You should have a tape with recorded clapper rail calls and recorder, and a Rail Survey data sheet. You should also be familiar with the three basic calls---clatter, kek, kek-burr.
- B. Salt marsh vegetated by pickleweed (Salicornia ambigua) and cord grass (Spartina foliosa) is the main habitat type used by California clapper rails. Areas close to main tidal channels with a proliferation of small tidal meanders is highly preferred. The ribbed horse mussel (Modiolus demissus) is usually found in areas inhabited by the clapper rail.
- C. Survey should be conducted:
 1. During April
 2. From 30 minutes before sunrise to 4 to 5 hours after sunrise.
 3. Or from 2 hours before sunset to 15 minutes after sunset.
 4. At high tide. (Check tide books). A good high tide is +4.5' at the gate. The higher the tide, the more the rails respond to calls and the easier they are to flush.
- D. In performing survey:
 1. A boat or walking may be used for travel through the study area.
 2. Stop approximately every 100 yards and play at least 3 series of rail calls. Play calls for 15-20 seconds, allowing no less than 15 nor more than 45 seconds between each call series.
 3. Other methods may be employed to increase chance of seeing or flushing birds.
 - a. If there is a low tide, frequently clapper rail tracks can be found in the mud bottoms of tidal meanders. The track is three-toed, the middle toe being about 2 inches long and unlobed. No other bird with a similar sized track would be found in the bottom of small tidal channels under heavy vegetative cover. Tracks generally will not last longer than two tidal cycles.
 - b. A light line may be dragged between two observers to flush birds between them. This method can be used to calculate rail densities. It should only be used at high tide when rails cannot escape into tidal meanders.

- c. A dog may be used but should not be allowed to work more than 25 yards from the observer. At greater distances the dog may produce a negative effect on the response of rails to the recorded calls.

E. In completing the Rail Survey data sheet:

1. The top section of the form should be self-explanatory. The wind speed and sky condition should follow the Beaufort scale. The approximate tide height should be indicated and direction of tidal flow noted.
2. Describe survey route and the manner of use of the methods listed. Include map of survey route if possible.
3. Check all methods used. Mark with an "x" the major method employed. This normally will be #3 - calling with recorder.
4. List number of method used for which the following number of observations were made in the "Obs. Method" column.
5. Tally each observation by method of observation and record the total number, i.e., 3 clapper rails were observed by walking through the marsh; 5 rails were located by calling with a recorder; it was estimated that 2 of the 3 individuals seen also responded to the recorded calls so that the total number of individuals tallied was 6.

CALIFORNIA DEPARTMENT OF FISH AND GAME
SPECIAL WILDLIFE INVESTIGATIONS
1416 Ninth Street
Sacramento, California 95814

SAMPLE

RAIL SURVEY

AREA Gallinas Creek SITE mouth of creek

DATE 05 02 73
Month

TIME Start Finish Total
0630 1020 0350

WIND SPEED SKY
1
2 → 0

OBSERVER Gould Gordon I
Last Name First Initial

TIDE -1.1
Low → High

MAILING ADDRESS 1416 Ninth St.
Sacramento, Ca. 95814

Survey Description:

Section surveyed --- North end of large marsh
just north of mouth, north to 1st slough. Also
area along north bank of creek, including small
marsh. SEE ATTACHED MAP

Survey method --- Much time was spent
following small tidal channels. Recorded calls
were used twice every 100-150 yards.

1. Track observation ☒
2. Heard call ☐
3. Calling with recorder ☒
4. Flood tide observation ☐
5. Rope drag ☐
6. Walking ☐
- a. With dog ☒

SPECIES OBSERVED:

Species	Obs. Method	No. of birds
Black Rail		
Clapper Rail	3-6a	3-5 (6)
Sora		
Virginia Rail		

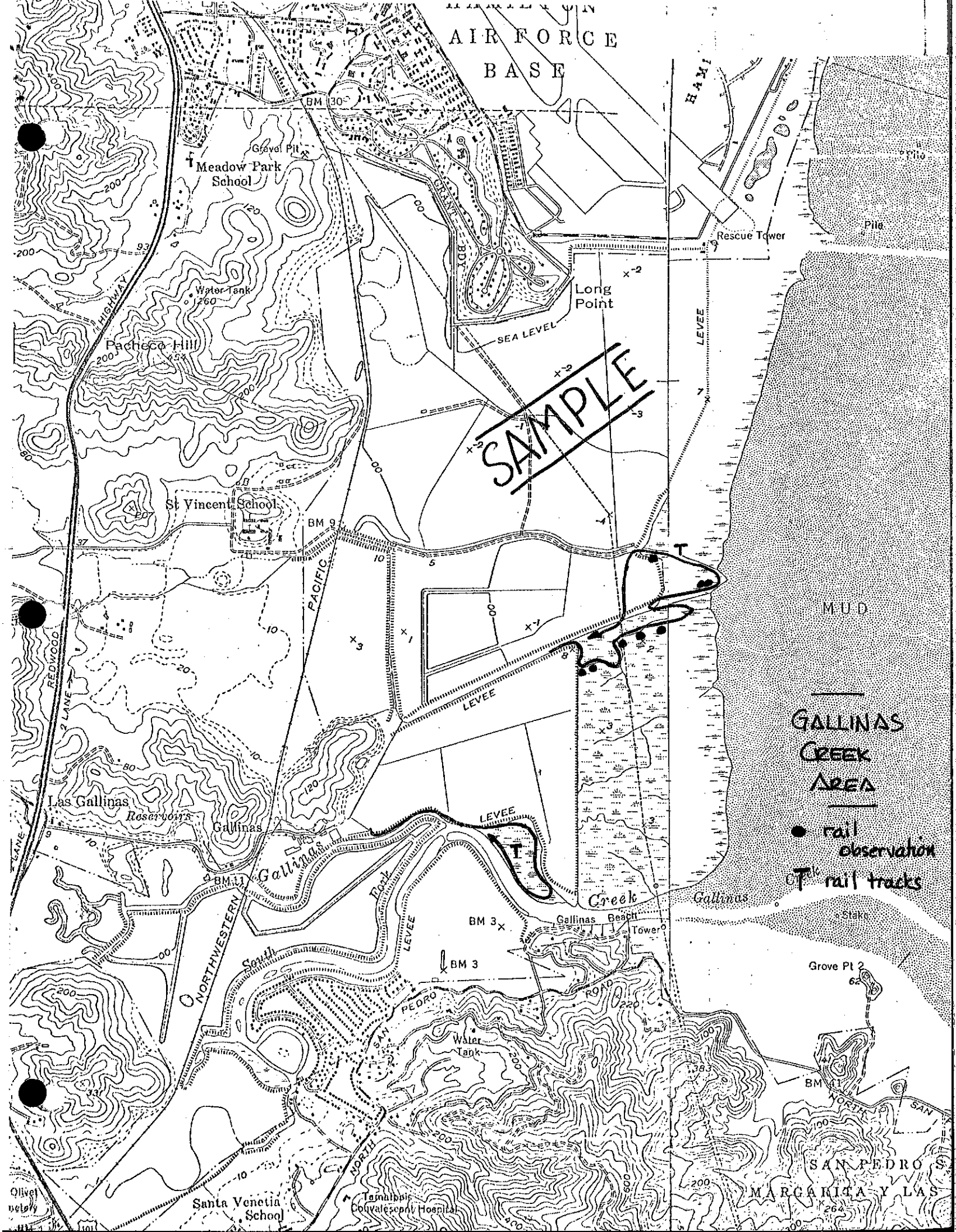
OTHER WILDLIFE:

<u>Common Egret</u>	<u>Long-billed Marsh Wren</u>
<u>Marsh Hawk</u>	<u>Forrester's Tern</u>
<u>Mallard</u>	

COMMENTS:

Tracks were also observed in small marsh on north side of creek, and
north of sewage outflow slough.

AIR FORCE
BASE



GALLINAS
CREEK
AREA

- rail observation
- TT rail tracks