

Wandering Skipper Survey at the Los Peñasquitos Lagoon, San  
Diego, California



19 August 2010

Observers: Keith Greer and Kim Roeland

## Introduction

The wandering skipper (*Panoquina errans*) is a small butterfly of the family HesperIIDae. It is identifiable by its rich dark brown color and cream-colored spots on the dorsal forewing. The wandering skipper is found only along the coast in southern California, Baja California and northwestern mainland Mexico. Populations have been recorded from Huntington Beach, Upper Newport Bay, and Capistrano Beach (Orsak, 1977). In San Diego, the wandering skipper has been documented in the Tijuana Estuary, San Dieguito Lagoon, and Agua Hedionda lagoon (SanGIS, 2010), but it appears that no extensive survey data have been published.

The wandering skipper is on the IUCN Red List of Threatened Species (World Conservation Monitoring Centre, 1996) and is under consideration for possible listing on the endangered species list as a threatened species because of the reduction of salt marsh habitat.

The larval host plant for this species, salt grass (*Distichlis spicata*), is found in transitional habitats along the edge of the high marsh. Nectar sources include *Heliotropium* spp., *Haplopappus* spp., and *Frankenia salina* (Orsak 1977). *Frankenia* can be found in the high marsh zone between uplands and pickleweed saltmarsh habitat. Potential habitat for the wandering skipper was considered to be areas containing the larval host plant in close proximity to nectar plants.

Surveys were completed to determine presence of the wandering skipper in potential habitat areas within the Los Peñasquitos Lagoon, San Diego, California, in the east end of the lagoon east of the railroad line (east end survey), and in salt marsh habitat east of Torrey Pines State Beach North Parking Lot south of the beach entrance (west end survey) .

## Methods

The surveys were conducted on August 19, 2010. The first survey - east end survey - was conducted between 10:12 a.m. and 12:49 p.m. in high marsh habitat. Surveyors started near Interstate 5 at the Carmel Valley Road Bridge and walked west looping around the middle of the marsh and finishing near the City of San Diego's Pump Station 65 (Figure 1). The second survey, 1:50 p.m. to 3:01 p.m., passed through salt marsh habitat located near the railroad right-of-way at the Torrey Pines State Beach North Parking Lot (Figure 2).

Butterflies were detected using a Pollard walk (Pollard, 1977) with two observers moving along a line through potential habitat. Binoculars were used to aid visual identification. A handheld GPS unit (Garmin GPSMAP 60, WAAS enabled) was used to record the location of each individual detected; photos were taken when possible to confirm identification. Significant salt grass patches (typically > 5 m<sup>2</sup>) were also recorded using the handheld GPS device. The observers were conscience about not counting the same individual twice, by noting the direction of flight of the individual and having one observer track any individuals that moved in the same direction of the observers. The observers felt that no individuals were double counted.

Temperature and wind speed remained fairly constant for both surveys (75.2°F to 81.7°F and 2.36 – 3.6 mi/hr). Both wind and temperature were ideal for the identification of the wandering skipper.

## Results

Thirty-nine individuals of wandering skipper were detected at the Los Peñasquitos Lagoon in the areas surveyed (Table 1). Though salt grass was often found mixed with nectar plants

and other transitional plants, seven significant salt grass patches were counted and recorded (Table 2 and Figures 1-2).

#### East End Survey

No wandering skippers were found in the east end survey area. In the southeastern portion of the lagoon, there were many patches of *Frankenia*, but there was not much salt grass in close proximity. Also, it was observed that *Frankenia* was past its peak blooming throughout much of the lagoon and heavily parasitized by salt marsh dodder (*Cuscuta salina*) (Figure 3). The *Frankenia* in the east end was also heavily invaded by non-native grasses (*Lolium multiflorum* and *Polypogon* spp.) (Figure 4). One large patch of salt grass co-occurring with *Frankenia* was surveyed north of Pump Station 65; however, no skippers were observed after an exhaustive effort.

#### West End Survey

Conversely, the survey in the west end yielded 39 individuals. This habitat contains large salt grass patches adjacent to and sometimes intermixed with the *Frankenia*. As in the east end, the *Frankenia* was past its peak bloom, but some flowering still existed (Figure 5). The wandering skippers were observed mainly on *Frankenia*, though some observations were made on salt grass, *Heliotropium* spp., *Juncus acutus*, and *Salicornia virginica* (= *Sarcocornia pacifica*). Observations on the latter two may have been just opportunistic resting compared to nectaring.

The results indicate that in the right areas, the wandering skipper is abundant in Los Peñasquitos Lagoon. Anecdotal observation leads to the conclusion that salt grass and *Frankenia* in close proximity are key constitute elements of the wandering skipper habitat. Vegetative line transects to determine the composition of the species present would be instrumental to determine the species habitat preference.

This survey is not intended to be a comprehensive survey of the entire lagoon, but can be added to surveys by others. Additional habitat appears to be present to the south of the beach entrance area, but signage indicates that the area is restricted.

#### References

Orsak, L.J. 1977. The Butterflies of Orange County. Center for Pathobiology Miscellaneous Publication #3. University of California Press, New York. 349 pp.

Pollard, E. 1977. A method for assessing changes in the abundance of butterflies. *Biological Conservation.*, 12:115-134.

SanGIS Digital sources: Natural Diversity Database and Sensitive Sighting Database. 2010.

World Conservation Monitoring Centre 1996. *Panoquina errans*. 2006 IUCN Red List of Threatened Species. Downloaded on 13 Aug 2010.

**Table 1. Wandering Skipper Locations, Los  
Penasquitos Lagoon**

Observers: Keith Greer and Kim Roeland

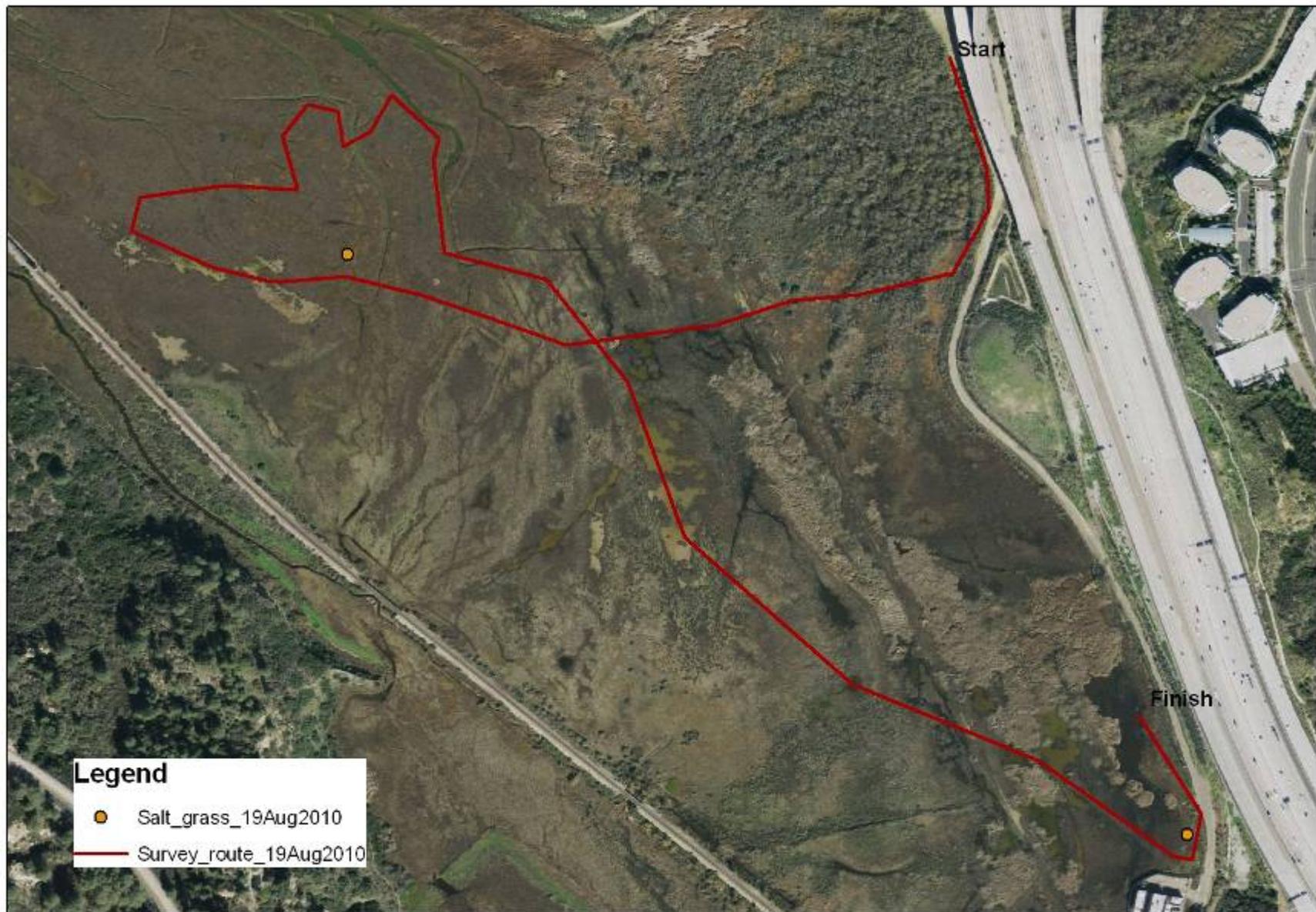
Observation Point	Date	Time	N (degrees)	W (degrees)
1	8/17/2010	1:56	32.9363	-117.2581
2	8/17/2010	2:06	32.9366	-117.2585
3	8/17/2010	2:08	32.9366	-117.2585
4	8/17/2010	2:11	32.9367	-117.2587
5	8/17/2010	2:14	32.9367	-117.2588
6	8/17/2010	2:17	32.9367	-117.2590
7	8/17/2010	2:18	32.9366	-117.2590
8	8/17/2010	2:19	32.9366	-117.2591
9	8/17/2010	2:20	32.9367	-117.2591
10	8/17/2010	2:21	32.9368	-117.2591
11	8/17/2010	2:24	32.9369	-117.2590
12	8/17/2010	2:25	32.9369	-117.2590
13	8/17/2010	2:26	32.9370	-117.2590
14	8/17/2010	2:28	32.9370	-117.2591
15	8/17/2010	2:29	32.9371	-117.2591
16	8/17/2010	2:35	32.9373	-117.2594
17	8/17/2010	2:36	32.9373	-117.2596
18	8/17/2010	2:37	32.9372	-117.2596
19	8/17/2010	2:38	32.9371	-117.2595
20	8/17/2010	2:39	32.9371	-117.2595
21	8/17/2010	2:42	32.9374	-117.2597
22	8/17/2010	2:43	32.9374	-117.2597
23	8/17/2010	2:43	32.9375	-117.2597
24	8/17/2010	2:44	32.9375	-117.2596
25	8/17/2010	2:45	32.9375	-117.2597
26	8/17/2010	2:45	32.9375	-117.2597
27	8/17/2010	2:46	32.9376	-117.2597
28	8/17/2010	2:47	32.9376	-117.2598
29	8/17/2010	2:47	32.9375	-117.2598
30	8/17/2010	2:48	32.9376	-117.2598
31	8/17/2010	2:49	32.9376	-117.2599
32	8/17/2010	2:49	32.9375	-117.2599
33	8/17/2010	2:51	32.9375	-117.2599
34	8/17/2010	2:51	32.9375	-117.2599
35	8/17/2010	2:51	32.9375	-117.2599
36	8/17/2010	2:53	32.9375	-117.2600
37	8/17/2010	3:00	32.9362	-117.2580
38	8/17/2010	3:00	32.9363	-117.2580
39	8/17/2010	3:00	32.9363	-117.2580

**Table 2. Significant Salt Grass Patches, Los Penasquitos Lagoon**

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Observation Point	Date	Time	N (degrees)	W (degrees)
1	8/19/2010	11:20	32.9279	-117.2477
2	8/19/2010	12:28	32.9220	-117.2392
3	8/19/2010	1:53	32.9310	-117.2416
4	8/19/2010	2:07	32.9366	-117.2586
5	8/19/2010	2:18	32.9366	-117.2590
6	8/19/2010	2:34	32.9374	-117.2594
7	8/19/2010	2:42	32.9369	-117.2590

# Figure 1. Los Penasquitos Lagoon Wandering Skipper Survey East

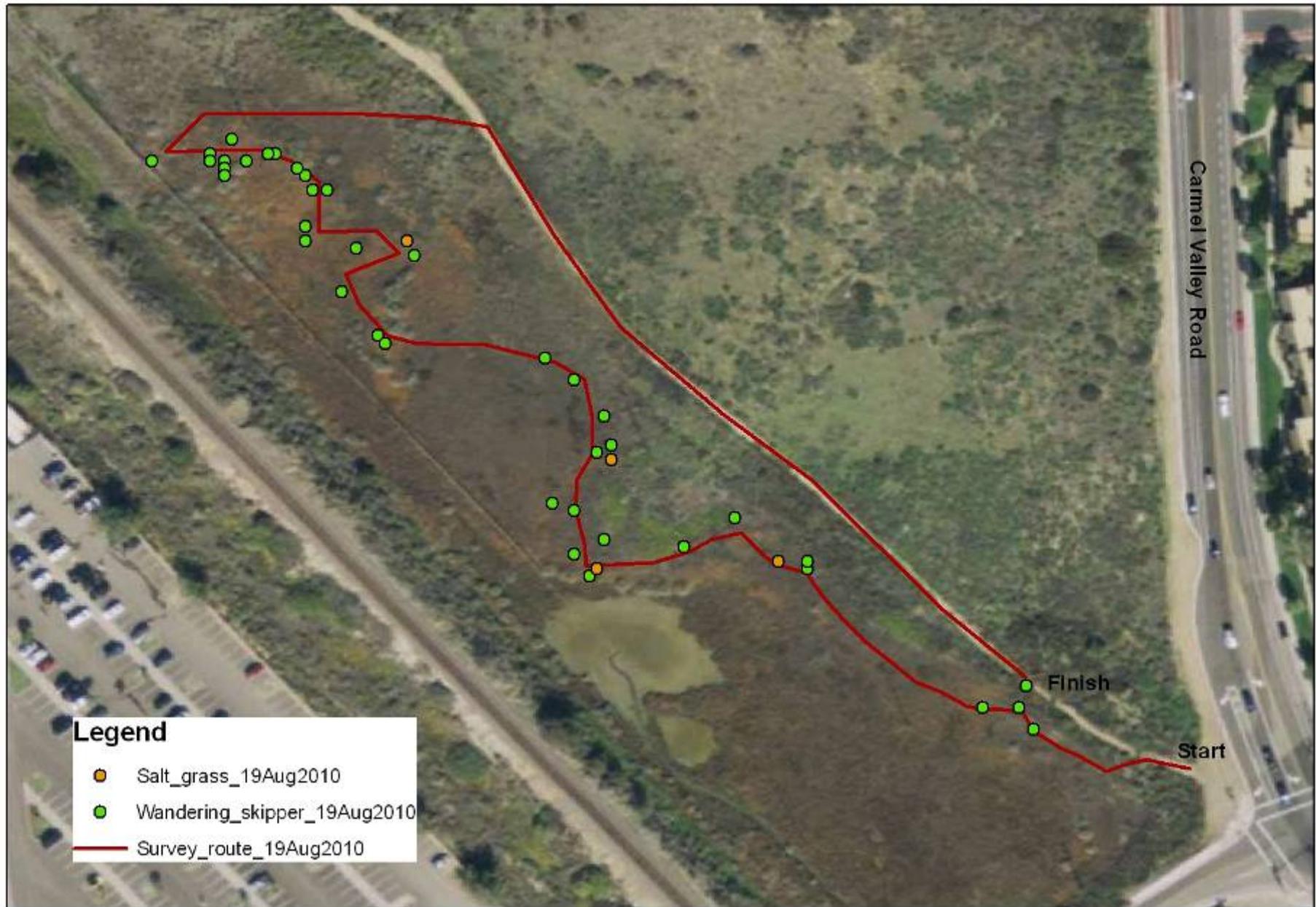


0 440 880 1,760 Feet

DIGITALGLOBE



# Figure 2. Los Penasquitos Lagoon Wandering Skipper Survey West



**Legend**

- Salt\_grass\_19Aug2010
- Wandering\_skipper\_19Aug2010
- Survey\_route\_19Aug2010

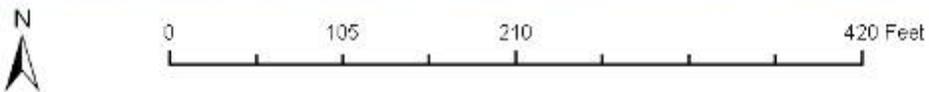




Figure 3. *Frankenia* past peak bloom and heavily parasitized by salt marsh dodder (*Cuscuta salina*), East End Survey, Los Peñasquitos Lagoon



Figure 4. *Frankenia* heavily invaded by non-native grasses (*Lolium multiflorum* and *Polypogon* spp), East End Survey, Los Peñasquitos Lagoon



Figure 5. Keith Greer recording wandering skipper observation on GPS, West End Survey, Los Peñasquitos Lagoon