

Wandering Skipper Survey at Sweetwater Marsh NWR  
San Diego, California



3 September 2010

Observers: Keith Greer, Kim Roeland, and Brain Collins

## 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). 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 areas of the Sweetwater Marsh National Wildlife Refuge (Figure 1).

## Methods

The surveys were conducted on September 3, 2010. Four different areas of the marsh were surveyed as described below. Butterflies were detected using a Pollard walk (Pollard, 1977) with 2-3 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 conscientious about not counting the same individual twice; they noted the direction of flight of the individual and one observer tracked any individuals that moved in the same direction of the observers. The observers felt that no individuals were double counted.

### Northeast Marsh Survey

The first survey, in high marsh habitat west of Interstate 5 was conducted between 10:23 am and 11:17 am. The temperature was 23.8° C (74.8° F) with an average wind speed of 3.9 km/hr (2.4 mph). The cloud cover was 0%.

### Gunpowder Point Survey

The second survey, located on Gunpowder Point adjacent to San Diego Bay was conducted between 11:35 am and 12:27 pm. The temperature was 20.3° C (68.5° F) with an average wind speed of 15.7 km/hr (9.8 mph). The cloud cover was 0%. Brian Collins was not available for this survey.

#### Nature Center Road

The third survey, along the road leading to the nature center was conducted between 12:47 pm and 1:06 pm. The temperature was 21.7° C (71.0 ° F) with an average wind speed of 10.97 km/hr (6.8 mph). The cloud cover was 0%. Brain Collins was not available for this survey.

#### D-Street Fill

The fourth and final survey, occurred in an artificial fill area annual maintained to remove vegetation for least terns. The survey was between 1:25 pm and 2:06 pm. The temperature was 24.6° C (76.2 ° F) with an average wind speed of 12.4 km/hr (7.7 mph). The cloud cover was 0%.

#### Results

Individuals of wandering skipper were detected at each survey area, but the densities were lower than in previous surveys (e.g., Famosa Slough or San Elijo Lagoon) (Table 1). The habitat areas in the lagoon appear ideal with many locations of salt grass adjacent to large areas of *Frankenia* (see Figures 1 -5). With the exception of the D-Street Fill area the habitat looks as good as any other marsh found during past surveys in other lagoons. The lower densities may be due to the surveys occurring past the peak of the adult flight season which also corresponds with the lack of flower nectar sources. Alternatively the higher wind speed may have also affected the active flying and thus detection of adults. Both seem like reasonable hypotheses for the results at Sweetwater marsh and surveys earlier in the season on less windy days would be recommended.

Special comment must be made regarding the D-Street fill area. This location is groomed for open sand annual for least tern management. Salt grass was prolific (several acres) in these disturbed areas; however, little *Frankenia* was observed adjacent to the salt grass. What was observed was at least two wandering skippers occurring in a very large patch of *Mesembryanthemum spp* (Figure 5). It can not be confirmed that these individuals were nectaring or just resting. This is a plant that has not been mentioned as a nectaring source for wandering skippers, but the observers saw many species of other butterflies utilizing this area. Refuge manager, Brain Collins, netted an individual for pictures to support the identification of wandering skipper in this area (Figure 6). The D-Street Fill appears atypical of other wandering skipper areas and future work is recommended in this area.

This survey is not intended to be a comprehensive survey of the entire reserve, but can be added to surveys by others.

#### 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.

<b>Table 1. Wandering Skipper Locations, Sweetwater Marsh</b>				
Observers: Keith Greer, Kim Roeland and Brian Collins				
Observation Point	Date	Time	N (decimal degrees)	W (decimal degrees)
1	9/3/2010	10:33	38.46867	-117.1047
2	9/3/2010	10:44	38.46133	-117.1046
3	9/3/2010	10:59	38.45233	-117.1057
4	9/3/2010	11:02	38.4555	-117.106
5	9/3/2010	11:52	38.4115	-117.1145
6	9/3/2010	11:55	38.41033	-117.1147
7	9/3/2010	12:04	38.41083	-117.0114
8	9/3/2010	12:10	38.40883	-117.1138
9	9/3/2010	12:53	38.39083	-117.1091
10	9/3/2010	1:00	38.3915	-117.1087
11	9/3/2010	1:01	38.39183	-117.1086
12	9/3/2010	1:24	38.392	-117.1084
13	9/3/2010	1:46	38.43367	-117.114
14	9/3/2010	2:05	38.43867	-117.1122

<b>Table 2. Significant Salt Grass Patches, Sweetwater Marsh</b>				
Observers: Keith Greer, Kim Roeland and Brain Collins				
Observation Point	Date	Time	N (decimal degrees)	W (decimal degrees)
1	9/3/2010	1:26	32.64337	-117.114
2	9/3/2010	11:52	32.64112	-117.114
3	9/3/2010	12:06	32.64098	-117.114
4	9/3/2010	12:15	32.64068	-117.114
5	9/3/2010	12:49	32.64002	-117.111
6	9/3/2010	12:54	32.63908	-117.109
7	9/3/2010	11:00	32.64535	-117.106
8	9/3/2010	12:59	32.6392	-117.109
9	9/3/2010	12:59	32.63915	-117.109
10	9/3/2010	1:03	32.63922	-117.108
11	9/3/2010	10:20	32.64678	-117.105
12	9/3/2010	10:45	32.64617	-117.105
13	9/3/2010	10:25	32.64702	-117.105

**Figure 1. Sweetwater Marsh Wandering Skipper Survey**

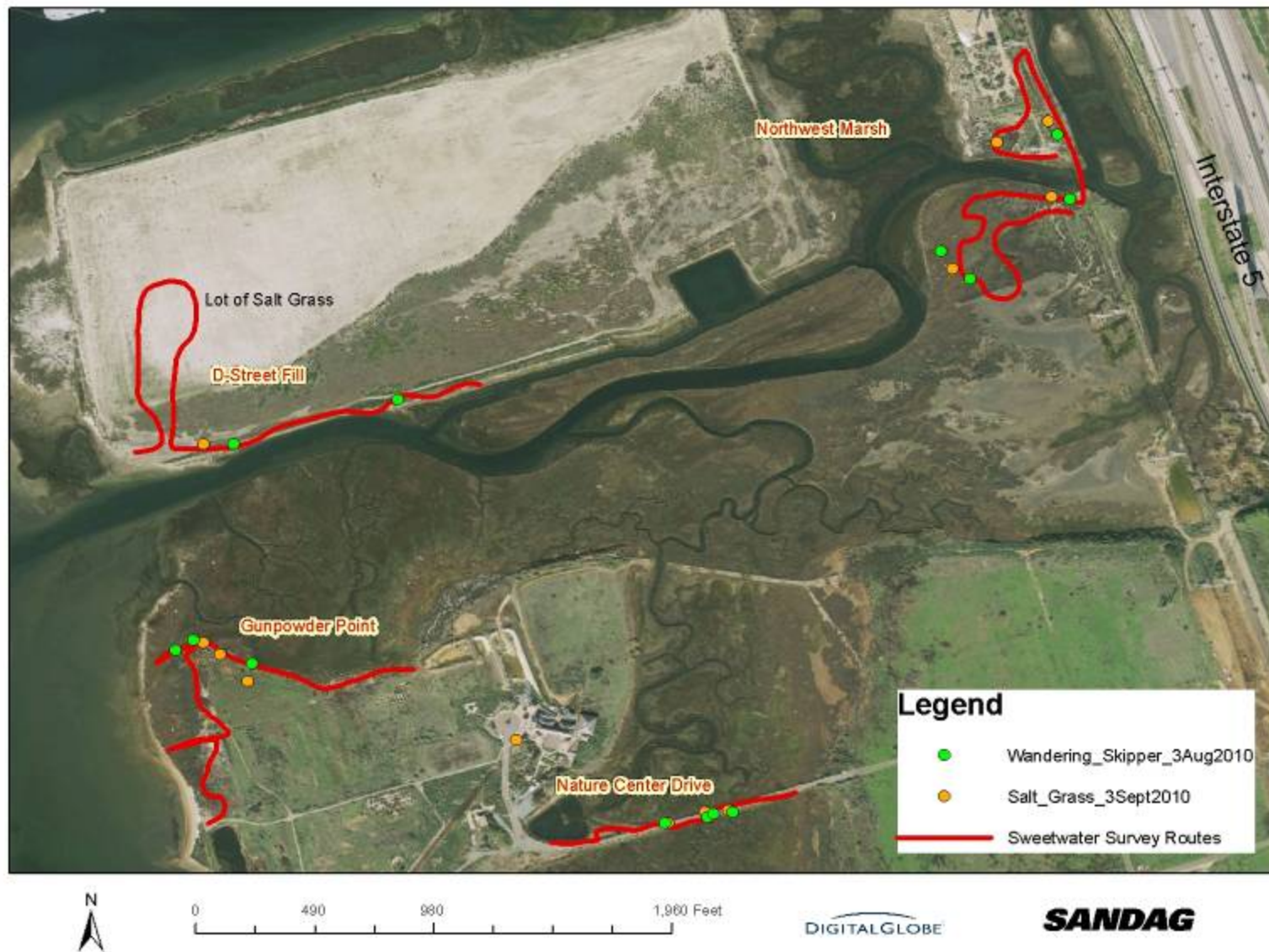






Figure 2. Wandering Skipper habitat at Gunpowder Point, Sweetwater National Wildlife Refuge



Figure 3. Typical plants in observed wandering skipper locations include large stands of salt grass adjacent to *Frankenia* in the upper marsh.



Figure 4: Brain Collins in typical wandering skipper habitat – northeastern area of Sweetwater Marsh.





Figure 5: Atypically habitat at D-Street Fill. Large areas of salt grass occur with little to no *Frankenia*. Wandering skippers were observed on the *Mesembryanthemum* spp, but nectaring could not be confirmed.



Figure 6: Wandering skipper netted by Brain Collins in the atypically habitat of the D-Street Fill. Netting was done to confirm species identification and photo documentation for this report. The individual was released after photographs were taken.