

**RESULTS OF THE 1998 SURVEY FOR GIANT GARTER SNAKES IN AND AROUND
THE GRASSLANDS AREA OF THE SAN JOAQUIN VALLEY**

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INTRODUCTION

In April 1998 the Dixon Field Station of the Western Ecological Research Center (U.S. Geological Survey) began a survey for giant garter snakes (*Thamnophis gigas*) in the San Joaquin Valley. The purpose of this survey was to determine if giant garter snakes were still extant in selected areas where they had previously been described, and, if so, to estimate their relative abundance and distribution. This work was done in cooperation with and on the lands of the Grasslands Water District, the California Department of Fish and Game, and the U.S. Fish and Wildlife Service.

MEHODS

From April 6 to August 19 we sampled wetland habitats for giant garter snakes using modified floating minnow traps placed at the edges of canals, channels, and vegetation. Selected locations were trapped (100 traps each) for two to three weeks during this time period (Figures 1-4). Traps were checked daily for captures and technicians also searched for snakes by walking the edges of these habitats. Captured snakes were weighed, measured, and marked with passively induced transponder (PIT) tags using protocols established by the Dixon Field Station. Locations of the traps and captured snakes were determined with global positioning system (GPS) recievers with an accuracy of 5 meters.

RESULTS

We captured seven female and four male giant garter snakes during our surveys for a total of eleven individuals. Eight additional captures were recaptures of some of these snakes. Males were smaller than females, in keeping with our results from the Sacramento Valley. Snout-vent length ranged from a 556 mm male to a 965 mm female and weights ranged from an 84 g male to a 790 g female (Table 1). These snakes had checkered scale patterns with light colors in comparison to the generally darker giant garter snakes we have captured in the Sacramento Valley.

Cover from aquatic vegetation was present at all capture loctions; terrestrial vegetation was also present at one location. Fourteen captures (including recaptures) were in natural channels or sloughs and four captures were in irrigation canals. Trapping was most successful in May with eleven captures; we caught five in June and three in August.

We found the majority of our giant garter snakes in the North Grasslands with seven caught in Los Banos Creek and three caught at the Volta State Wildlife Area (Figure 5). We caught one snake in the South Grasslands (Figure 6). Considering the areas searched and the time spent trapping, we caught relatively few giant garter snakes. Snake densities in areas where we found them seemed extremely low in comparison to our study areas in the Sacramento Valley. Unusually wet, cool weather during spring and extensive late flooding of the study areas may have interfered with our ability to find and trap snakes, and could account for these low number of giant garter snakes. Our observations may also reflect reality, and numbers of giant garter snakes are low in the sampled areas.

We were successful in verifying the presence of giant garter snakes at some locations in the Grasslands area of the San Joaquin Valley, but our negative results don't rule out their presence in other areas we searched. Additional surveys under more normal weather conditions will be required to properly assess the status and distribution of giant garter snake populations in this region of the San Joaquin Valley.

Table 1. Lengths and weights by sex of giant garter snakes captured during 1998.

Sex	Snout-vent length (mm)	Mass (g)
M	556	84
M	589	116
M	626	116
M	638	140
F	643	136
F	749	281
F	819	368
F	841	483
F	952	510
F	962	790
F	965	560

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Figure 3. Trap locations with dates trapped and total number (n) of traps, South Grasslands.

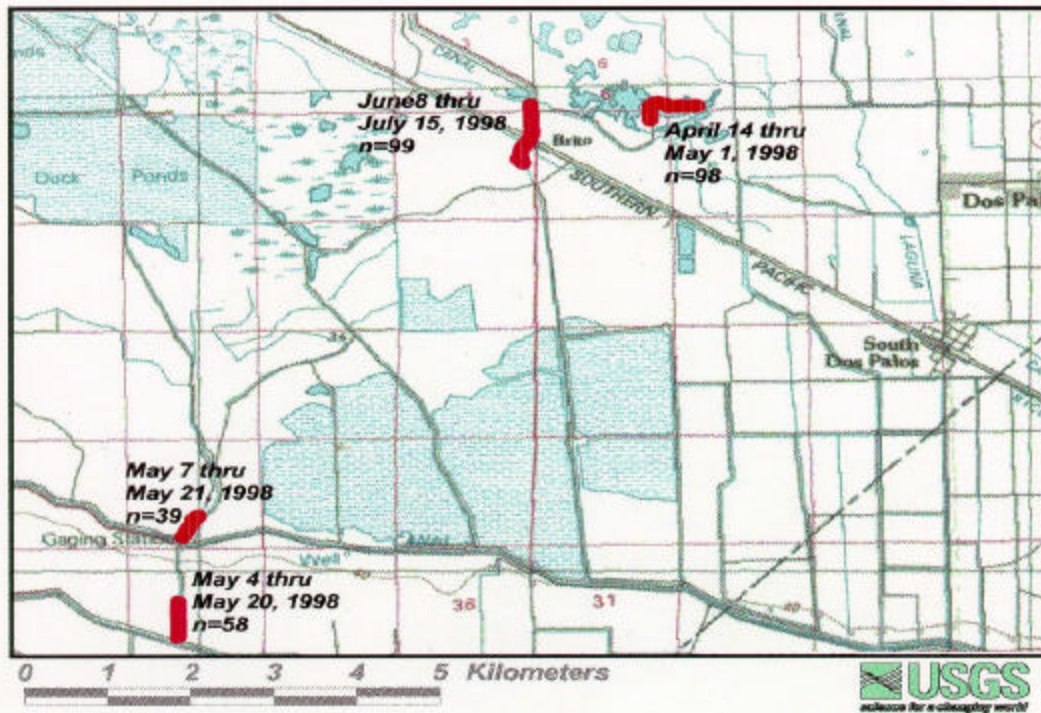


Figure 4. Trap locations with dates trapped and total number (n) of traps, Mendota.

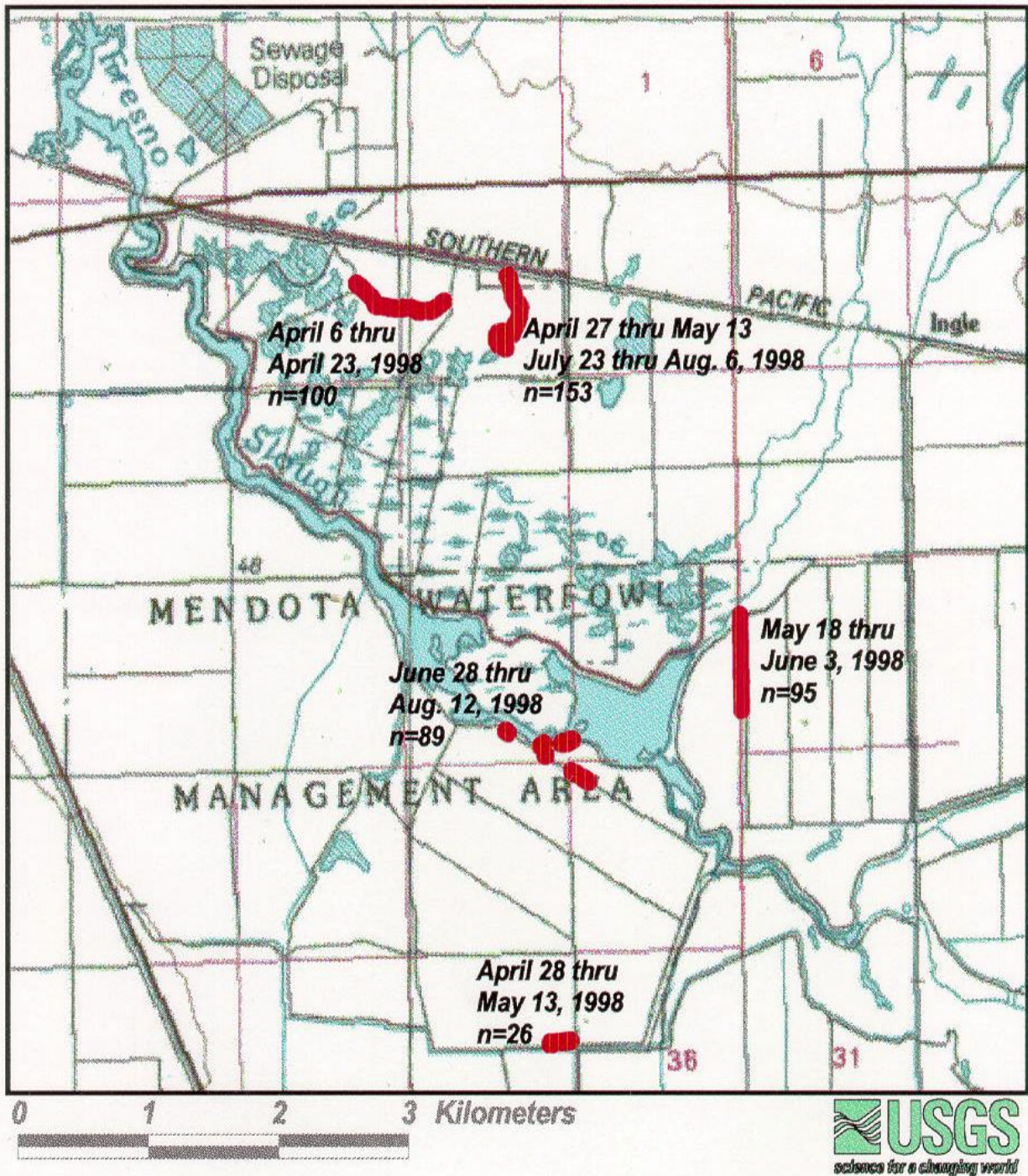


Figure 5. Capture locations, North Grasslands

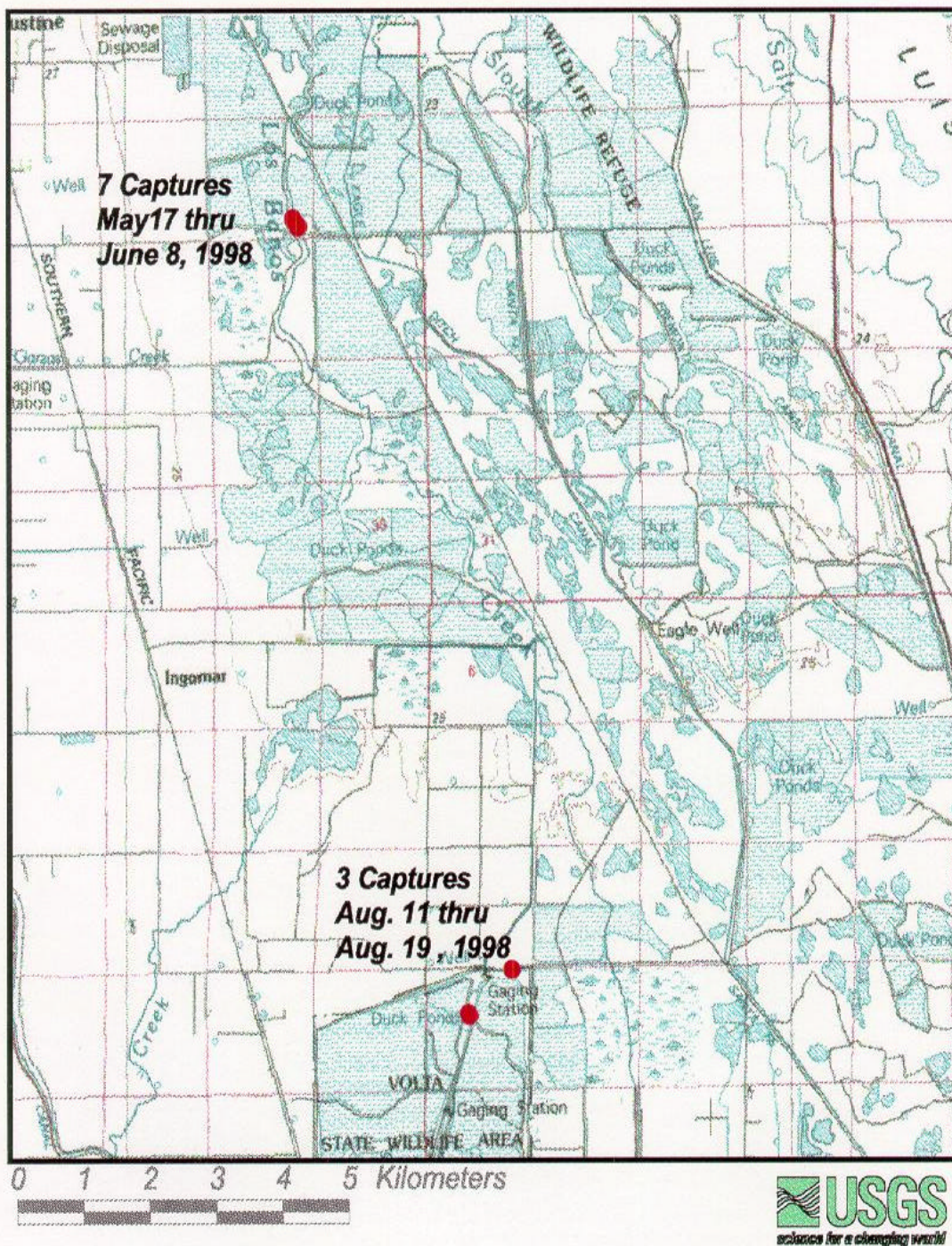


Figure 6. Capture location, South Grasslands.

