

## Memorandum

To	Kristine Preston	Page	1
CC			
Subject	Summary of 2021 SDMMP Northern Harrier Surveys		
From	AECOM Staff		
Date	December 30, 2021		

Between April 25, 2021 and July 27, 2021 AECOM biologists conducted northern harrier visual surveys and habitat assessments at 27 survey areas in western San Diego County (see GIS data submitted under separate cover). Below is a summary of the results from those surveys.

- 26 of the 27 survey areas had potentially suitable nesting habitat for northern harriers
- 8 survey areas were occupied by northern harriers
- 3 survey areas had confirmed nests, 1 had a likely nest, and two had possible nests
  - Tijuana Estuary had 3 confirmed nests and a possible nest, Lake Hodges had 1 confirmed nest, and San Elijo Lagoon-East of I-5 had a confirmed nest
  - 3 nests were successful up to the fledgling/large nestling stage: 2 nests at Tijuana Estuary produced fledglings or large chicks, and the nest at San Elijo Lagoon-East of I-5 produced fledglings
- Northern harrier nests were located in the following vegetation: thick emergent vegetation in a marsh; lush tall grass in a floodplain; chaparral/coastal scrub; disturbed habitat dominated by dead mustard stalks

Relatively little is known about the habitat and resource requirements for northern harriers breeding in southern California. 2021 was an especially dry year, and it is possible that fewer northern harriers attempted to breed because the vegetation was too short or too sparse in traditional breeding areas, or because their prey base (e.g., small mammals) was reduced due to low food availability. Based on 2021 SDMMP survey findings and data collected by northern harrier biologists in Northern California, northern harriers appear to prefer to nest in vegetation that is a minimum of 60cm in height and may prefer vegetation that is closer to 100cm. Moreover, they may have minimum size requirements for suitable habitat patches. That is, they may avoid nesting in suitable patches smaller than (for example) 500m<sup>2</sup> due to elevated risk of nest predation. Similarly, harriers may avoid nesting in linear patches of suitable habitat for the same reason.

In areas that meet northern harrier breeding requirements from a nesting habitat perspective, it is likely that prey abundance (and especially small mammal abundance) is the most important factor limiting northern harrier breeding success. Future work could incorporate studies of small mammal populations in areas with suitable nesting habitat.