

Swainson's Hawk (*Buteo swainsoni*) Status Report, Year-End 2011

An overview of the status of the Swainson's hawk in the Natomas Basin, California

EXECUTIVE SUMMARY

The Swainson's hawk (*Buteo swainsoni*) is a state-listed threatened species in California and is a Covered Species under the Natomas Basin Habitat Conservation Plan and the Metro Airpark Habitat Conservation Plan. As part of the implementation of both HCPs, the Swainson's hawk nesting population is monitored annually throughout the entire Natomas Basin in order to assess the status of the population and the effectiveness of the HCPs. To date, monitoring has indicated a fairly stable nesting population with the number of active nesting territories ranging from 43 to 62 between 2001 and 2011. Reproductive effort has also remained relatively stable during this period ranging from 1.38 to 1.67 young per successful nest. In 2011, 62 nesting territories were confirmed active, representing the largest number of active territories since monitoring began. However, due largely to inclement spring weather and possibly disturbance from levee construction and other disturbances in the Basin, only 23 of these successfully produced young for a reproductive effort of 0.60 young per occupied nest.

INTRODUCTION

The Swainson's hawk is a medium-sized bird-of-prey found throughout much of the western United States during the spring and summer. The species is a long-winged soaring hawk adapted to open and generally flat grassland and shrubland landscapes. In California, its current distribution is limited primarily to the Central Valley and the high deserts of northeastern California and Owens Valley. With approximately 2,100 nesting pairs remaining in the state, nearly 90 percent of these are in the Central Valley, and over 10 percent are in Sacramento County.

In the Central Valley, Swainson's hawks have successfully adapted to and now rely primarily on agricultural landscapes. Nesting in tall native and non-native trees along rivers and streams, roadsides, tree rows, and in small groves, Swainson's hawks hunt mainly in irrigated croplands and pasturelands as well as in the remaining grassland habitats in the Central Valley. Their prey consists mostly of small rodents such as meadow voles and pocket gophers, but they will also take a variety of birds, reptiles, and insects.

Because the Swainson's hawk is a state-listed species that occurs in the Natomas Basin, it was included

as a Covered Species in the Natomas Basin Habitat Conservation Plan (NBHCP) and later in the Metro Airpark Habitat Conservation Plan (MAPHCP). The NBHCP "requires the retention and maintenance of sufficient nesting and foraging habitat to mitigate for the loss of habitat needed to maintain existing Swainson's hawk population levels throughout the Natomas Basin". In order to meet this requirement, the Natomas Basin Conservancy (NBC), the entity responsible for implementing the NBHCP, is required to acquire and manage preserve lands to provide high value Swainson's hawk nesting and foraging habitat. The NBC is also required to monitor the Swainson's hawk nesting population in the Natomas Basin each year. Data generated from monitoring allows the NBC to detect trends in the nesting population, determine whether trends may potentially trigger adaptive management to correct for undesirable results, and to evaluate the effectiveness of the NBHCP with respect to meeting the goals and objectives for Swainson's hawk.

RESULTS OF MONITORING

Annual monitoring of the Natomas Basin Swainson's hawk nesting population began in 1999, when only the interior of the basin was surveyed. However, in 2001 the perimeter drainages (e.g., Sacramento River, Natomas Cross Canal, Natomas East Main Drainage Canal) were included in the monitoring area. Table 1 shows the activity and reproductive data for this population since 1999. The data indicate a relatively stable population during this period with the number of active nesting territories ranging from 43

to 62 and the number of successful nests ranging from 23 to 51. Reproductive effort ranged from 0.6 to 1.57 fledged young per occupied nest and 1.30 to 1.67 fledged young per successful nest, not including 1999 and 2000 when the perimeter drainages were not included). While the numbers fluctuated each year during the monitoring period, there has been no detectable trend in the number of active territories, successful nests, or reproductive performance.

Table 1. Activity and Reproductive Data for Active Swainson's Hawk Territories in the Natomas Basin Habitat Conservation Plan Area, 1999–2011.

Year	Number Active Territories	Number Successful Nests	Number Failed Nests	Number Active but Not Nesting	Number Active with Unknown Outcome	Number Young Reared to Fledging	Number Young per Active Territory	Number Young per Occupied Nest ^b	Number Young per Successful Nest
1999 ^a	15	14	1	0	0	25	1.67	1.67	1.79
2000 ^a	18	10	4	4	0	20	1.11	1.43	2.00
2001	46	24	15	7	0	40	0.87	1.03	1.67
2002	43	24	11	7	1	38	0.90	1.09	1.58
2003	54	34	15	4	1	53	1.00	1.08	1.56
2004	59	39	12	4	4	54	0.98	1.05	1.38
2005	45	31	11	1	2	48	1.12	1.14	1.55
2006	45	32	9	4	0	48	1.07	1.17	1.50
2007	44	34	9	1	0	48	1.09	1.12	1.41
2008	51	42	8	1	0	64	1.25	1.28	1.52
2009	59	51	2	1	5	83	1.41	1.57	1.63
2010	52	42	4	3	3	70	1.35	1.52	1.67
2011	62	23	27	6	6	30	0.48	0.60	1.30

^a Years 1999 and 2000 do not include the Sacramento River territories.

^b Occupied nest = number of successful nests + number of failed nests.



In 2011, the number of active nesting territories increased from 52 in 2010 to a total of 62, representing the highest total recorded since monitoring began. However, in 2011 the region experienced several late winter and early spring storms that can affect nesting activity and reproductive effort. Inclement weather conditions combined with disturbances along the Sacramento River from construction of the new levee are thought to have contributed to the lowest number of successfully reproducing nests since monitoring began. Only 23 of the 62 active territories were confirmed to have successfully reproduced resulting in a total of only 30 fledged young, also the lowest reported since monitoring began (Table 1).

As in past years, the majority of nest sites occurred along the perimeter drainages, 28 of which were along the Sacramento River. The majority of nesting pairs were found along the western edge of the Natomas Basin with additional pairs occurring along the northern edge and in the southern portion of the basin. This is the area that continues to support suitable nesting habitat in association with suitable upland agricultural foraging habitat, such as hay, grain, and row crops. Most of the interior of the Natomas Basin consists of rice farming, which is generally considered unsuitable as Swainson's hawk foraging habitat. This, combined with a general lack of potential nesting trees in the interior of the basin, limits the availability of Swainson's hawk nesting and foraging habitat in this area.

Most of the land that has been converted to urbanization under the NBHCP was formerly suitable Swainson's hawk foraging habitat in the southern portion of the basin. However, many of the preserves that make up the Conservancy's preserve system occur along the western edge of the basin, within the area considered to have the highest value for nesting and foraging Swainson's hawks. Management of these lands by the Conservancy has successfully protected nesting habitat and enhanced the quality and availability of foraging habitat along

the western edge of the basin. To date these efforts have successfully met the requirements of the NBHCP with respect to partially offsetting the effects of habitat loss from urbanization and in maintaining Swainson's hawk population levels within the NBHCP area.

As a result, there have been and continue to be no recommendations for remedial actions or adaptive management with respect to Swainson's hawk management under the NBHCP.

BIOGRAPHY

Jim Estep is a wildlife biologist who has monitored populations and conducted research on the Swainson's hawk for over 25 years. He is a member of the NBHCP Technical Advisory Committee and a member of the NBC biological monitoring team. He has conducted the monitoring of the Swainson's hawk population in the Natomas Basin since 1999.