

### Red-shouldered Hawk *Buteo lineatus*

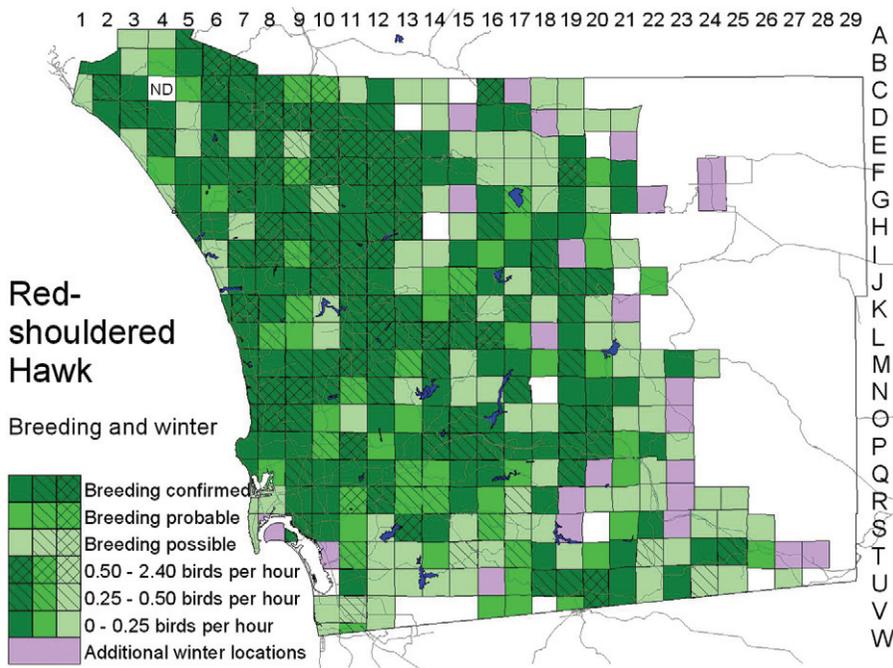
Once an uncommon resident of lowland riparian woodland, the Red-shouldered Hawk has more than compensated for the loss of much of its primitive habitat. Over the 20<sup>th</sup> century it spread into oak woodland at all elevations. It began nesting in eucalyptus trees as soon as they were introduced and adopted rural ranches as a new habitat. Through the last quarter of the century it became more and more of an urban bird, adding palms to its repertoire of nest sites.

**Breeding distribution:** The Red-shouldered Hawk is widespread over San Diego County's coastal slope, lacking only from areas like Otay Mountain devoid of tall trees. The inland valleys of northern San Diego County are home to the most concentrated population; the patchwork of riparian woodland, scattered rural residences, orchards, and eucalyptus groves that typifies this area makes ideal Red-shouldered Hawk habitat. Bloom et al. (1993) found that on average 39% of the home ranges of 17 Red-shouldered Hawks in Camp Pendleton and Orange County consisted of oak or riparian woodland.



Photo by Anthony Mercieca

But up to 25% of the home ranges consisted of water, asphalt, or buildings. Bloom et al. found the average home range of seven paired males to be 1.21 to 1.70 km<sup>2</sup>, according to the method of calculation. In parts of



frequently reuse their nests in successive years and take over old nests of other hawks. We noted two instances of the Red-shouldered Hawk adopting old raven nests, including one on the bridge of old Highway 395 over Los Peñasquitos Creek, adjacent to the heavily trafficked Interstate 15 bridge (N10), using it in both 2000 and 2001 (K. J. Winter).

Our observations from 1997 to 2001 implied Red-shouldered Hawks laying eggs from early March to late April, an interval similar to that of egg sets collected 1890–1952, 28 February–13 May. Sharp (1906b) reported a nest with two small chicks near Escondido 4 July 1906. Dixon (1928) reported the hawk to begin nesting earlier after wet

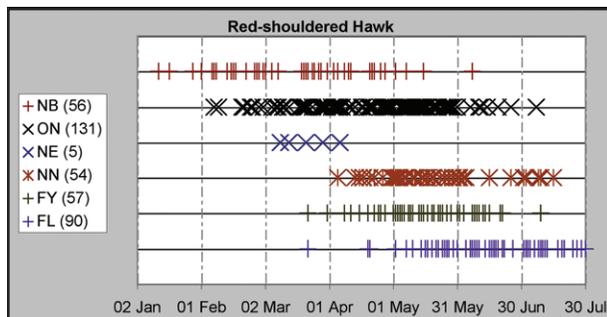
northwestern San Diego County the territories of this size may be packed together with no breaks. Our daily counts per atlas square in this region ranged up to 20 in northwest Escondido (I10) 16 May 1998 (E. C. Hall). Five pairs nest within the town of Ramona (Wildlife Research Institute 2004). In 1998 two pairs nested within 40 acres at Fallbrook (D8; E. Ashton).

In other parts of the county the hawk's population is sparser, though the species is still fairly common in many places. We recorded it repeatedly up to about 5000 feet elevation, finding it regularly in the wetter Palomar and Cuyamaca mountains but rarely in the drier Hot Springs and Laguna mountains. The hawk's preference for moister habitats reflects its diet, dominated by reptiles and amphibians found in these habitats (J. L. Lincer).

The eastern edge of the Red-shouldered Hawk's range corresponds closely with the eastern edge of oak woodland, but a few birds extend down San Felipe Creek to Scissors Crossing (J22; repeated sightings, including a probable nest and recently fledged juvenile on 14 and 20 May 1998, E. C. Hall; two juveniles 2 July 2002, J. R. Barth). Also, since at least 1993, a pair has nested in the cottonwoods planted at Butterfield Ranch (M23; Massey 1998). The nest was still occupied 21 March 2001 (P. K. Nelson). A juvenile in nearby Vallecito Valley (M24) 27 April 2001 (P. K. Nelson) most likely originated from this pair.

**Nesting:** The Red-shouldered Hawk builds a stick nest high in trees; sycamores and coast live oaks were the typical primitive sites. Soon after eucalyptus trees were introduced, Sharp (1906b) reported the hawk adopting them, and atlas observers described nests in eucalyptus as often as in all other sites combined. Another common novel site is the fan palm, reported eight times. In palms the nest is placed either in the middle of the crown or straddled across leaf bases under the crown. Red-shouldered Hawks

winters, as do many San Diego County birds.



**Migration:** The Red-shouldered Hawk is largely nonmigratory in California, but a few individuals move into the Anza–Borrego Desert, beginning in July: one at Middle Willows, Coyote Creek (C22) 5 July 1997, one (the same?) at Lower Willows (D23) the next day (ABDSP database), one injured juvenile at the Roadrunner Club, Borrego Springs (F24) 9 July 1996 (P. D. Jorgensen), and one juvenile at Tamarisk Grove Campground (I24) 9–10 July 1996 (R. Thériault). Most desert records are October–December, but there are two as late as April at orchards and nurseries in the Borrego Valley (F25), which the species could colonize: two on 8 April 2001, one on 28 April 1999 (P. D. Ache).

**Winter:** The Red-shouldered Hawk's pattern of abundance in winter is the same as during the breeding season; established pairs remain in their territories year round. Escondido Christmas bird counts have recorded up to 90, on 4 January 1997. The species is rare but fairly regular in winter in the developed areas of the Borrego Valley. It has been recorded on 14 of 19 Anza–Borrego Christmas bird counts 1984–2002, with a maximum of three but usually just one.

**Conservation:** Both Sharp (1906b) and Dixon (1928) considered the Red-shouldered Hawk “fairly common” in the inland valleys of northern San Diego County. Dixon reported 23 nesting locations within a radius of 30 miles of Escondido, an area encompassing most of the hawk’s range within the county, and considered the Red-shouldered the most restricted in habitat of the area’s raptors. Sharp, however, had already commented on its “great fondness” for eucalyptus groves, and the proliferation of these more than compensated for the loss of much of the hawk’s original habitat of riparian woodland. The 23 nesting locations reported by Dixon might be equaled within a radius of 5 miles of Escondido today.

Both Sharp and Dixon were explicit on the species’ upper limit in elevation, Sharp putting it at 1350 feet, Dixon at 1200 feet. Sharp’s nest at Ramona was at the highest elevation recorded by any egg collector 1890–1952. By the 1970s, however, the birds had spread to higher elevations, taking advantage of oak woodland as freely as riparian (Unitt 1984). From 1999 to 2002 four pairs maintained territories in about one square mile between Highway 78 and Deer Lake Park Road, near Julian (K20), at elevation 4000–4400 feet (D. Bittner).

Sams and Stott (1959) reported the Red-shouldered Hawk as “less common than formerly,” but the species’ adaptation to urban life had already begun by then, as they wrote that it “also nests in eucalyptus trees in Balboa Park.” In the core range of the Red-shouldered Hawk there does not seem to have been any change in the species’ numbers through the final quarter of the 20<sup>th</sup> century, but in metropolitan San Diego those numbers increased greatly. From 1954 to 1973 the San Diego Christmas bird count averaged 3.1 Red-shouldered Hawks; from 1997 to 2002 it averaged 25.7. When expressed on the basis of birds per party-hour the factor of increase was 6.8. In spite of occasional collisions with windows and a susceptibility to eye injuries from the sharp-tipped seeds of exotic grasses (McCrary and Bloom 1984), the Red-shouldered Hawk has become one of San Diego County’s most successful urban adapters.

**Taxonomy:** The California subspecies of the Red-shouldered Hawk, the Red-bellied Hawk, *B. l. elegans* Cassin, 1856, differs grossly from the subspecies of the eastern United States. Among other differences, its breast is solid rufous, and the more posterior underparts, including the thighs and undertail coverts, are heavily barred with deep rufous.