

logging has occurred over nearly all of the conifer forests of the Sierra Nevada in the past 100 years, and especially the past 50 years, spotted owls continue to be widely distributed throughout most of the conifer zone. Indeed, spotted owls may be more abundant in some areas of the Sierra Nevada today than they were 100 years ago, “(due to presumed effects of 19th century sheep grazing on spotted owl prey species.) They also stated that “Spotted owl distribution in the Sierra Nevada is characterized by its continuity and relatively uniform density.”

The elevation of known nest sites of California spotted owls ranges from about 305 to 2,348 m (1,000 to 7,700 ft), with approximately 86 percent of sites occurring between 915 and 2,135 m (3,000 and 7,000 ft) (USFS 2001a). In conifer forests mean elevation of nest sites was 1,160 m (5,300 ft) in the northern Sierra Nevada and 1,830 m (6,000 ft) in southern California (Gutiérrez *et al.* 1992).

The California Department of Fish and Game (CDFG) has maintained a database of the number and location of California spotted owl territories located from the early 1970s to the present. We have combined that database with similar data collected by Sierra Pacific Industries, the major private timberland owner in the Sierra Nevada. The following discussion of locations and land ownership is based on that combined database and includes all records available to us. It is important to note that not all territories are occupied during any given year. The data presented are useful to illustrate the range of the species and jurisdictions under which it occurs, but should not be viewed as a population estimate because the current status of many territories is unknown due to lack of recent surveys; not all territories are occupied in a given year; and, in addition to territorial owls that comprise most of the sites in the database, nonterritorial, “floater” owls may be present but uncounted.

California spotted owl territories have been located on Forest Service (USFS), National Park Service (NPS), Bureau of Land Management (BLM), California Department of Parks and Recreation (State parks), California Department of Forestry and Fire Protection (CDF), California State Lands Commission (CSLC), Native American and private lands, and in Mexico.

*Sierra Nevada.* In the Sierra Nevada the California spotted owl is mostly continuously and uniformly distributed, with several breaks in distribution where habitat appears limited due to natural or human-caused factors (Beck

and Gould 1992). These Areas of Concern are further discussed in a later section.

In Sierra Nevada national forests, 99 percent of owl sites occur on the Lassen, Plumas, Tahoe, Eldorado, Stanislaus, Sierra, and Sequoia National Forests. The number of territories per national forest are as follows: Modoc 3, Lassen 138, Toiyabe 2, Inyo 5, Tahoe 173, Lake Tahoe Basin Management Unit 14, Plumas 254, El Dorado 202, Stanislaus 234, Sierra 226, and Sequoia 148. This results in a sub-total for Forest Service Sierran lands of 1,399 sites. The number of territories per national park are as follows: Lassen 6, Kings Canyon 19, Sequoia 50, and Yosemite 54. Fourteen territories are on BLM land in the Sierra Nevada. Three territories are on State parks, 1 is on CDF land, and 4 are on CSLC land. One territory is on Native American land and 314 are on private lands. Thus, the total number of California spotted owl sites known in the Sierra Nevada is 1,865 (Service 2002).

Because the subspecies has large home ranges, a given home range may occur across different ownerships. For instance, the Forest Service reported that over 15 percent of 135 Forest Service sites analyzed had greater than 15 percent of their theoretical home range on private lands (USFS 2001).

*Coast Ranges and Southern California.* In southern California, the owl occupies “islands” of high elevation forests isolated by lowlands covered by chaparral, desert scrub, and increasingly (Noon and McKelvey 1992), human development (LaHaye *et al.* 1994). California spotted owls have been found on 440 territories or sites in southern California in 15 populations comprised of 3 to 270 individuals, and separated from each other by 10 to 72 km (6 to 45 mi) (Verner *et al.* 1992a, Gutiérrez 1994). Seventy-five percent of known territories are on Federal lands and twenty-five percent are on nonFederal lands. The Angeles National Forest has 64 territories, Cleveland National Forest has 18 territories, Los Padres National Forest has 109 territories, and San Bernardino National Forest has 138 territories; two territories are on BLM land; eight territories are on State parks; six are on Native American lands, 95 are on private lands, and one is in Mexico.

Within the California coastal and inland mountain ranges where California spotted owls occur (San Bernardo, San Gabriel, San Jacinto, Castaic, Santa Ana, and Santa Lucia mountains and San Diego/Peninsular, and Los Padres Ranges ) an area of just over 2,428,068 hectares (ha) (6,000,000

acres (ac)) was assessed for all habitats by the Forest Service (Stephenson and Calcarone 1999). Landownership in the assessment area is National Forest (57 percent), private (33 percent), BLM (4 percent), Indian (3 percent), State (2 percent), military (1 percent) and local (1 percent). Not all of the analysis area is suitable spotted owl habitat (mixed conifer hardwood), thus the portion of the total owl population or sites known on Federal lands as determined in Verner *et al.* 1992a and Gutiérrez 1994, is higher (75 percent) than their relative ownership in the assessment area (62 percent).

The range of California spotted owls in southern California is disjunct from that in the Sierra Nevada range as a result of natural topographic and manmade factors (Stephenson and Calcarone 1999). Within this southern range, habitat and spotted owls are distributed discontinuously across the landscape reflecting natural vegetation breaks, topographic conditions, and human induced habitat disturbance and fragmentation (Noon and McKelvey 1992). The spotted owls in the southern portion of the range may function as a meta population, with separate subpopulations connected by infrequent but persistent interchange of individual owls (Noon and McKelvey 1992; LaHaye *et al.* 1994).

#### *Habitat*

The habitat used by California spotted owls today is comprised of forests that have been shaped by numerous interacting human impacts, including timber harvest, livestock grazing, urbanization, and, because of fire suppression, changes in the character of wildfires. Prior to the occupation of California by Anglo-Americans in the mid-1900s, habitat was probably fairly stable on a large geographic scale, although there were almost certainly localized variations caused by fire and other causes of forest mortality. In recent decades, timber harvest and ingrowth related to fire suppression have created widespread forest conditions believed to be considerably different than that of pre-historic times (McKelvey and Weatherspoon 1992, McKelvey and Johnston 1992). In the following section, the current understanding of use of today's forests by California spotted owls will be portrayed, along with some discussion of the factors that created these conditions. The anticipated trends in habitat will be discussed in the Threats section below.

The suppression of wildfire during the 20th century has been one of the most important factors in creating the forest conditions that provide habitat for