

113 Bald Eagle *Haliaeetus leucocephalus*

Family: Accipitridae Order: Falconiformes Class: Aves

Management Status: Federal Endangered, California Endangered, California Fully Protected Date: March 4, 1982

DISTRIBUTION, ABUNDANCE, AND SEASONALITY

Permanent resident, and uncommon winter migrant, now restricted to breeding mostly in Butte, Lake, Lassen, Modoc, Plumas, Shasta, Siskiyou, and Trinity cos. About half of the wintering population is in the Klamath Basin. More common at lower elevations; not found in the high Sierra Nevada. Fairly common as a local winter migrant in a few favored inland waters in southern California. Largest numbers occur at Big Bear Lake, Cachuma Lake, Lake Mathews, Nacimiento Reservoir, San Antonio Reservoir, and along the Colorado River.

SPECIFIC HABITAT REQUIREMENTS

Feeding: Requires large bodies of water, or free-flowing rivers with abundant fish, and adjacent snags and other perches. Swoops from hunting perches, or during flight, to pluck fish from water. Will wade into shallow water to pursue fish. Pounces on, or chases, wading or ice-bound water birds. In flooded fields, occasionally pounces on displaced voles, or other small mammals. Groups may feed gregariously, especially on spawning fish. Scavenges dead fish, water birds, and mammals. Open, easily approached hunting perches and feeding areas used most frequently.

Cover: Perches high in large, stoutly limbed trees, snags or broken-topped trees, or on rocks near water. Roosts communally in winter in dense, sheltered, remote conifer stands. In Klamath National Forest, winter roosts are 16-19 km (10-12 mi) from feeding areas (Spencer 1976b).

Reproduction: Nests in large, old-growth, or dominant live tree with open branchwork, especially ponderosa pine. Nests most frequently in stands with less than 40% canopy, but usually some foliage shading the nest (Call 1978). Often chooses largest tree in a stand in which to build stick platform nest. Nest located 16-20 m (50-200 ft) above ground, usually below tree crown. Species of tree apparently not so important as height and size. Nest usually located near a permanent water source.

Water: In California, 87% of nest sites were within 1.6 km (1 mi) of water.

Pattern: Requires large, old-growth trees or snags in remote, mixed stands near water.

SPECIES LIFE HISTORY

Activity Patterns: Yearlong, diurnal activity. Winter feeding usually occurs immediately after dawn and in late afternoon.

Seasonal Movements/Migration: Individuals that breed in California may make only local winter movements in search of food. Winter migrants move from north to south.

Home Range: No data found.

Territory: Breeding territory in Alaska ($n = 14$), varied from 11-45 ha (28-112 ac), and averaged 23 ha (57 ac) (Hensel and Troyer 1964). Breeding territory defended from mating through fledging. Minimum distances between nests were 1 km (0.6 mi) in Alaska, and 17 km (10 mi) in Washington.

Reproduction: Breeds February through July; peak activity March to June. Clutch size usually 2; range 1-3. Incubation usually 34-36 days. Semialtricial young hatch asynchronously (Ehrlich *et al.* 1988). Monogamous, and breeds first at 4-5 yr.

Niche: Highly vulnerable to DDE-induced eggshell thinning. Competes with, and steals prey from osprey. Territories have been abandoned after disturbance from logging, recreational development, and other human activities near nests (Thelander 1973). Usually does not begin nesting if human disturbance is evident.

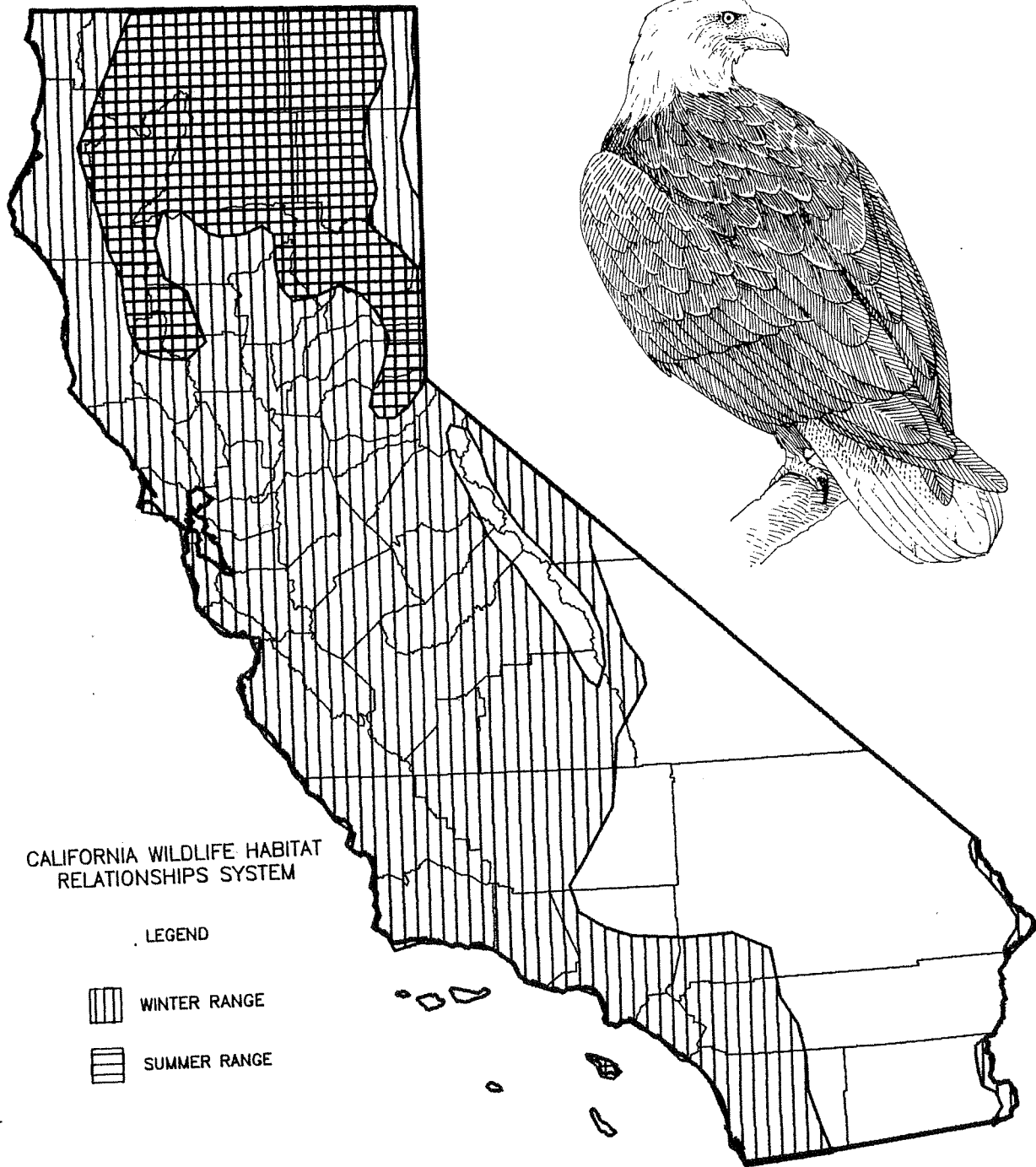
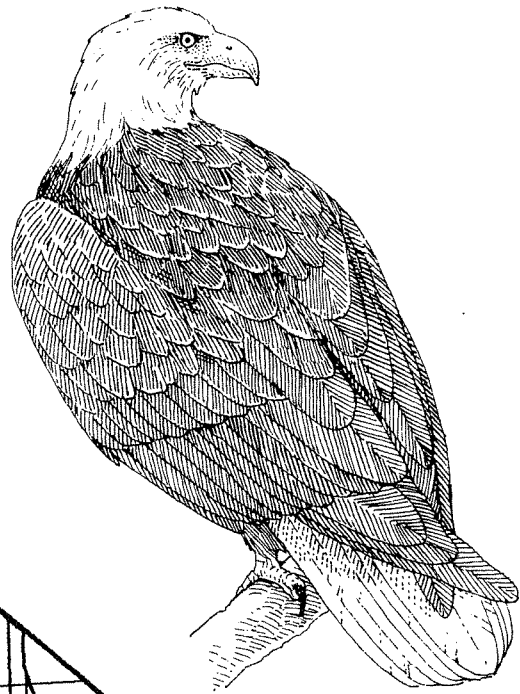
REFERENCES

Hensel and Troyer 1964, Brown and Amadon 1968, Snow 1973, Thelander 1973, Spencer 1976b, Call 1978, Steenhof 1978, Detrich 1979, Lehman 1979, Ehrlich *et al.* 1988.

BALD EAGLE



AUTHORSHIP

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CALIFORNIA WILDLIFE HABITAT
RELATIONSHIPS SYSTEM

LEGEND

-  WINTER RANGE
-  SUMMER RANGE

100 miles

06/87

B126 Golden Eagle *Aquila chrysaetos*

Family: Accipitridae **Order:** Falconiformes **Class:** Aves

Management Status: California Fully Protected, California Species of Special Concern

Date: March 4, 1982

DISTRIBUTION, ABUNDANCE, AND SEASONALITY

Uncommon permanent resident and migrant throughout California, except center of Central Valley. Perhaps more common in southern California than in north. Ranges from sea level up to 3833 m (0-11,500 ft) (Grinnell and Miller 1944). Habitat typically rolling foothills, mountain areas, sage-juniper flats, desert.

SPECIFIC HABITAT REQUIREMENTS

Feeding: Eats mostly lagomorphs and rodents; also takes other mammals, birds, reptiles, and some carrion. Diet most varied in nonbreeding season. Needs open terrain for hunting; grasslands, deserts, savannahs, and early successional stages of forest and shrub habitats. Soars 30-90 m (98-297 ft) above ground in search of prey, or makes low, quartering flights, often 7-8 m (23-26 ft) above ground. Occasionally searches from a perch and flies directly to prey (Carnie 1954). Sometimes pirates food from other predators. Hunting in pairs apparently common.

Cover: Secluded cliffs with overhanging ledges and large trees used for cover.

Reproduction: Nests on cliffs of all heights and in large trees in open areas. Alternative nest sites are maintained, and old nests are reused. Builds large platform nest, often 3 m (10 ft) across and 1 m (3 ft) high, of sticks, twigs, and greenery. Rugged, open habitats with canyons and escarpments used most frequently for nesting.

Water: No data found. Water needs probably met from prey.

Pattern: Uses rolling foothills and mountain terrain, wide arid plateaus deeply cut by streams and canyons, open mountain slopes, and cliffs and rock outcrops.

SPECIES LIFE HISTORY

Activity Patterns: Yearlong, diurnal activity.

Seasonal Movements/Migration: Mostly resident, but may move downslope for winter, or upslope after breeding season. Some migrate into California for winter.

Home Range: Home range probably same as territory. Size of home range related to prey density and availability, and openness of terrain.

Territory: Territory estimated to average 57 km² (22 mi²) in Idaho (Beecham and Kocher 1975), 171-192 km² (66-74 mi²) in Montana (McGahan 1968), 23 km² (9 mi²) in Utah (Smith and Murphy 1973), 93 km² (36 mi²) in southern California (Dixon 1937), and 124 km² (48 mi²) in northern California (Smith and Murphy 1973).

Reproduction: Breeds from late January through August; peak in March through July. Clutch size 1-3, usually 2. Eggs laid early February to mid-May. Incubation 43-45 days (Beebe 1974), and nestling period usually 65-70 days.

Niche: Occasionally preys on domestic calves and lambs. May compete with ferruginous hawks for small mammals, and with California condors for carrion. May desert nest in early incubation if disturbed by humans (Thelander 1974).

Comments: A California Species of Special Concern (Remsen 1978).

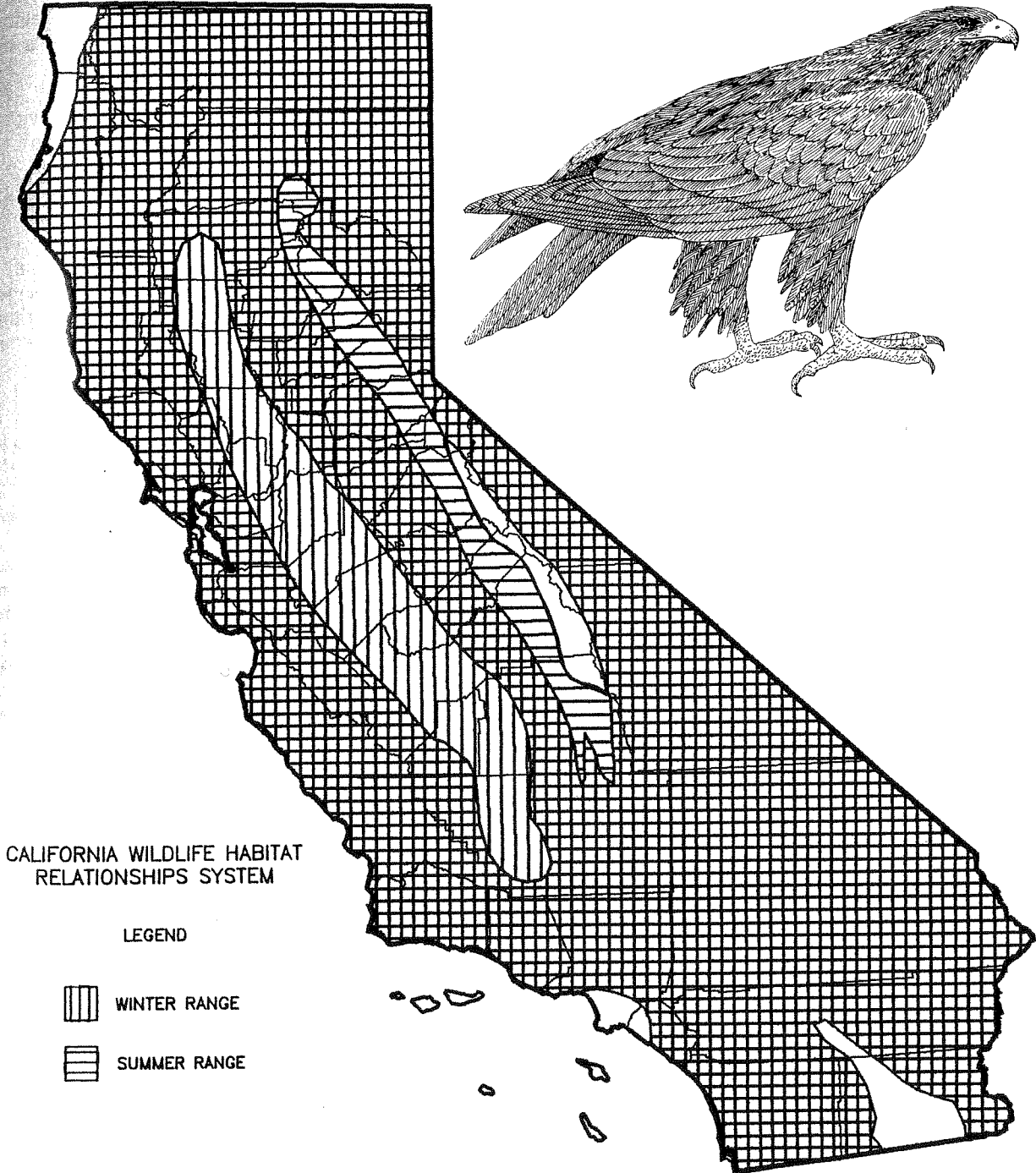
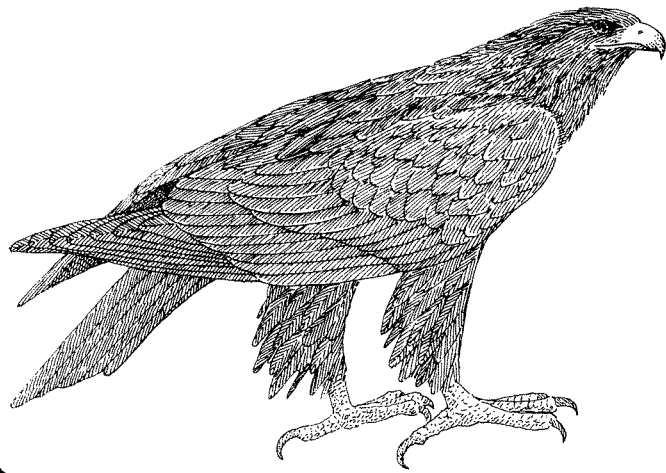
REFERENCES

Dixon 1937, Grinnell and Miller 1944, Carnie 1954, McGahan 1968, Smith and Murphy 1973, Beebe 1974, Thelander 1974, Beecham and Kochert 1975, Olendorff 1976, Remsen 1978.

GOLDEN EAGLE



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CALIFORNIA WILDLIFE HABITAT
RELATIONSHIPS SYSTEM

LEGEND

-  WINTER RANGE
-  SUMMER RANGE

100 miles

B119 Red-shouldered Hawk *Buteo lineatus*

Family: Accipitridae Order: Falconiformes Class: Aves Date: February 10, 1982

DISTRIBUTION, ABUNDANCE, AND SEASONALITY

Locally uncommon to common yearlong resident the length of the state along coast, and in Central Valley. Uncommon, even in suitable habitat in western Sierra Nevada foothills. Fairly common resident in woodlands west of southern desert region (Garrett and Dunn 1981). Frequents low-elevation riparian woodlands, up to 1500 m (5000 ft), especially where interspersed with swamps and emergent wetlands.

SPECIFIC HABITAT REQUIREMENTS

Feeding: Forages mostly along edges of wet meadows, swamps, and emergent wetlands. In western Sierra Nevada foothills, feeds in early successional stages of valley foothill hardwood and valley foothill hardwood-conifer habitats. Diet highly varied; eats small mammals, snakes, lizards, amphibians, small or young birds, and large insects. Searches for prey from perches on trees, snags, and posts. Pounces from a perch, or glides and searches, mainly below tree canopy.

Cover: Primarily uses tree foliage in riparian deciduous habitats for cover.

Reproduction: Nests in dense riparian habitats. Builds a nest of sticks about half way up in a tall tree. Nest height averages 15 m (50 ft) (range 6-24 m, 20-80 ft). Nest located next to main tree trunk, or on old nests of squirrels, hawks, or crows; lined with strips of bark, dry leaves, and sprigs of evergreens (Call 1978).

Water: Nests near permanent water. Has been reported bathing (Bent 1937).

Pattern: Typical habitat includes dense riparian areas, with adjacent edges, swamps, marshes, and wet meadows for hunting.

SPECIES LIFE HISTORY

Activity Patterns: Yearlong, diurnal activity.

Seasonal Movements/Migration: Mostly resident in California. Some northern populations migrate for winter.

Home Range: In Michigan, 42 breeding home ranges averaged 63 ha (156 ac), and varied from 7.7 to 155 ha (19-384 ac) (Craighead and Craighead 1956). In Maryland, home range averaged about 194 ha (480 ac) (Stewart 1949). In Michigan, 3 winter ranges averaged 339 ha (838 ac), and varied from 127-503 ha (313-1242 ac). One closely studied individual maintained a daily range of only 43 ha (160 ac), which included 5 frequented perches (Craighead and Craighead 1956).

Territory: Territory apparently same as home range. Displays territoriality against conspecifics, red-tailed hawks, and golden eagles (Brown and Amadon 1968).

Reproduction: Breeds February through July, with peak activity April and May. Clutch size 1-5 eggs, usually 3.

Niche: Old nests often used by long-eared owls. Population has declined in recent decades with loss of riparian habitats. Young may be preyed upon by great horned owls.

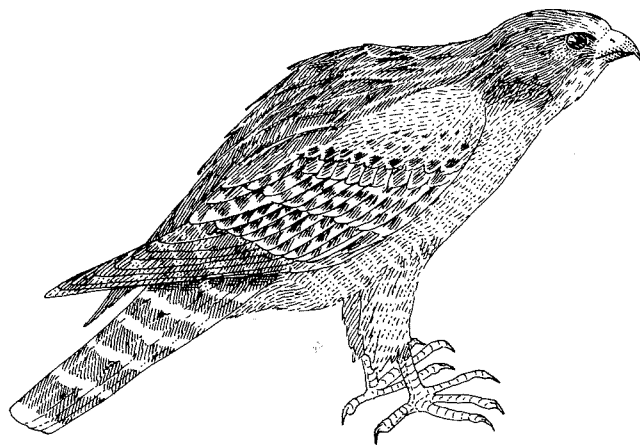
REFERENCES

Bent 1937, Grinnell and Miller 1944, Stewart 1949, Craighead and Craighead 1956, Brown and Amadon 1968, Wilbur 1973, Wiley 1975a, 1975b, Call 1978, Garrett and Dunn 1981.

RED-SHOULDERED HAWK



AUTHORSHIP

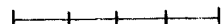
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CALIFORNIA WILDLIFE HABITAT RELATIONSHIPS SYSTEM

LEGEND

-  WINTER RANGE
-  SUMMER RANGE


100 miles

B123 Red-tailed Hawk *Buteo jamaicensis*

Family: Accipitridae Order: Falconiformes Class: Aves Date: March 4, 1982

DISTRIBUTION, ABUNDANCE, AND SEASONALITY

Common, permanent breeding and winter resident, and migrant. Breeds throughout California, and winters in all areas without heavy snow cover. Found in almost all habitats, from lowest to highest elevations.

SPECIFIC HABITAT REQUIREMENTS

Feeding: Eats small mammals up to hares in size, small birds, reptiles, amphibians, and some carrion (Orians and Kuhlman 1956). In winter, largely dependent upon mice, but also takes medium to fairly large birds on the ground. Catches small birds during migration. Searches by soaring; also perches and pounces, or pounces on prey from low, quartering flights, sometimes hovering on wind or air currents.

Cover: Feeds in grasslands and grass/ shrub stages of most habitats. Roosts in trees; sometimes in dense conifer stands.

Reproduction: Usually nests in large trees near openings, in older, mature forests, especially riparian deciduous habitats. Occasionally nests on cliffs or low ledges. Nests 9-21 m (30-70 ft) above ground in trees, higher on cliffs. Flexible in choice of nest site; occasionally uses human-made structures, shrubs, cacti. Sometimes nests in isolated trees, or in small groves in open habitat.

Water: Requirements probably met from food.

Pattern: Highly adaptable; uses grasslands, open brush habitats, and open stands of deciduous and conifer forests. Also frequents croplands, fields, and pastures.

SPECIES LIFE HISTORY

Activity Patterns: Yearlong, diurnal activity. Most active feeding occurs in early morning and late afternoon.

Seasonal Movements/Migration: Migrates down-slope in winter; in summer and fall, some individuals move to open areas at higher elevations.

Home Range: Home ranges vary from less than 1 to 10 km² (0.3 to 3.8 mi²), depending on location, topography, habitat, and prey availability.

Territory: In California, Fitch *et al.* (1946) calculated that territories varied from 0.3 to 0.8 km² (0.1 to 0.3 mi²). They found 0.8 breeding pairs/km² (2/mi²). Territory defended yearlong.

Reproduction: Courtship begins as early as January. Breeds March through July; peaking in May and June. Clutch of 2-5 eggs, usually 2-3, laid in March and April. Incubates 28-32 days. Semialtricial young fledge in 40-45 days.

Niche: Adaptable, common, and widespread. Scrub jays, and other avian and mammalian predators, take undefended eggs and nestlings (Brown and Amadon 1968). May compete for food with ferruginous, Swainson's, and rough-legged hawks. Great horned owls commonly use old nests, and occasionally golden eagles do. Nestlings may be killed by blood-sucking flies (Fitch *et al.* 1946). Golden eagles may prey on adult.

REFERENCES

Fitch *et al.* 1946, Craighead and Craighead 1956, Orians and Kuhlman 1956, Brown and Amadon 1968, Luttich *et al.* 1971, Gates 1972, Jackman and Scott 1975, Wiley 1975a, 1975b, Call 1978, Maser *et al.* 1981.

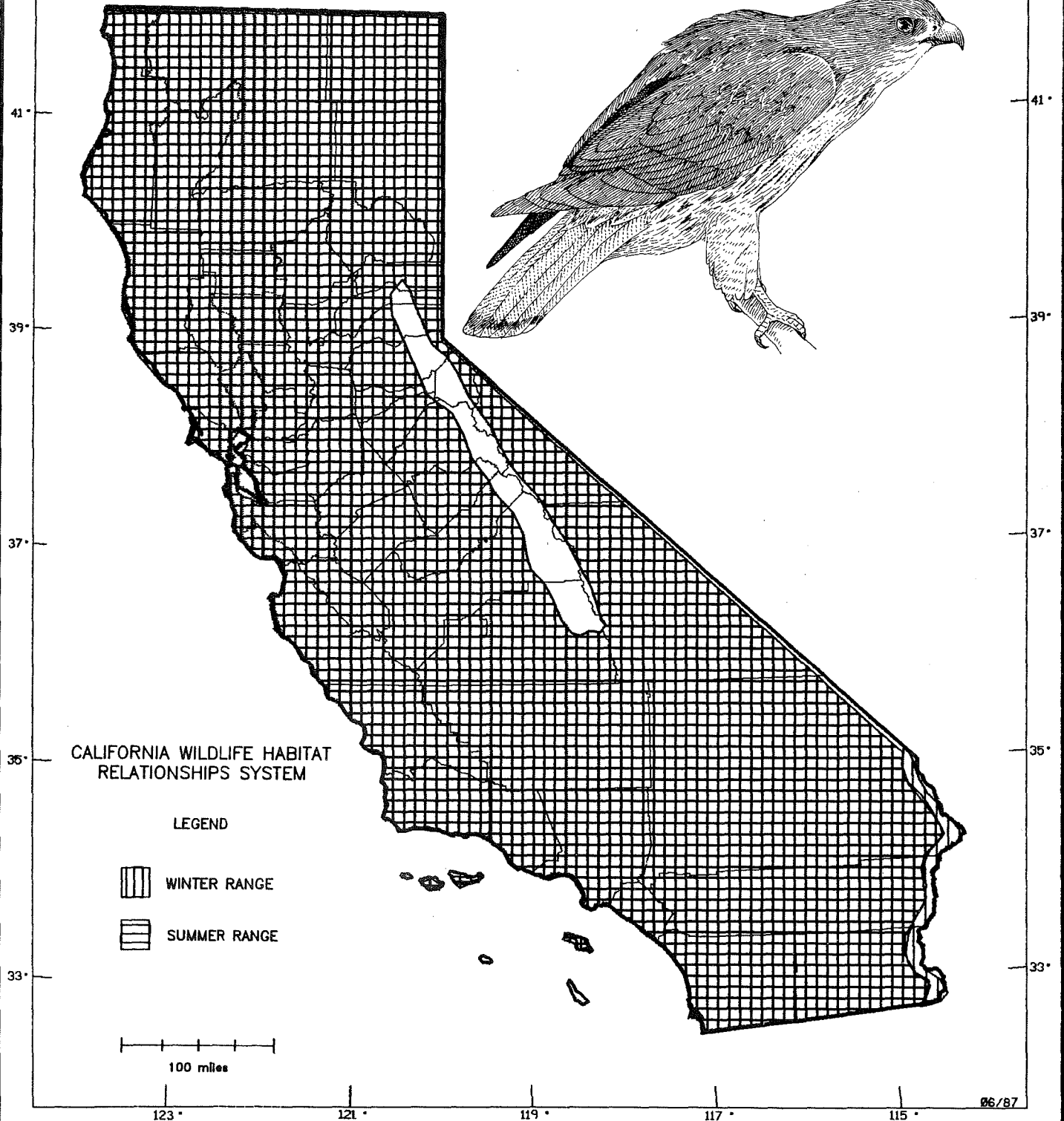
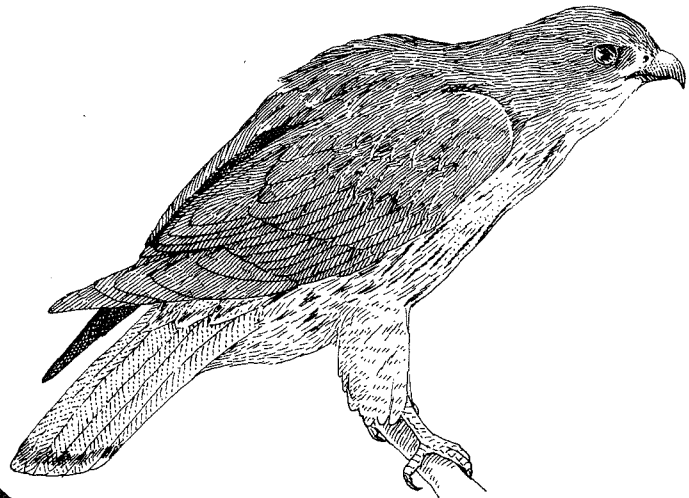
RED-TAILED HAWK

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B127 American Kestrel *Falco sparverius*

Family: Falconidae Order: Falconiformes Class: Avés Date: March 4, 1982

DISTRIBUTION, ABUNDANCE, AND SEASONALITY

Common resident throughout California, wintering in all habitats except high elevations. Also a winter migrant. Fairly common on Channel Islands. Occurs in most open habitats, in a variety of shrub and early successional forest habitats, in forest openings, and various ecotones.

SPECIFIC HABITAT REQUIREMENTS

Feeding: Takes small mammals, birds, insects, earthworms, reptiles, and amphibians. Perches and pounces, pounces from a hover, or catches flying insects. Rarely pursues prey on wing. Caches prey near nest in cracks in trees or rocks (Collopy 1973). Perch may be tree, snag, rock, utility pole or wire, fence post (Grinnell and Miller 1944). Forages in open habitats.

Cover: Seeks cover in a variety of cavities in trees, snags, rocky areas, banks, and buildings.

Reproduction: Nests in cavities in trees, snags, rock crevices, cliffs, banks, and buildings. Bent (1938) reported nests in cavities in sycamores, willows, and cottonwoods. Does not construct a stick nest. Often uses cavities excavated by northern flickers and Lewis' woodpeckers. In Oregon, Thomas (1979) estimated that the minimum dbh tree required by these 2 woodpeckers was 31 cm (12 in) and 38 cm (15 in), respectively.

Water: Drinks water in captivity (Roest 1957). Has a high tolerance to heat and aridity.

Pattern: Forages in open and partially open areas of most habitats. Needs cavities near foraging areas.

SPECIES LIFE HISTORY

Activity Patterns: Yearlong, diurnal activity.

Seasonal Movements/Migration: At higher elevations, moves downslope for winter and upslope for summer. Individuals from north migrate into California for winter (Grinnell and Miller 1944). Residents often maintain pair bond throughout the year.

Home Range: Prebreeding home range twice as large as breeding home range on the east side of the Sierra Nevada (Balgooyen 1976). At various other locations, winter home ranges varied from 154-452 ha (380-1117 ac) (Enderson 1960, Mills 1976).

Territory: Balgooyen (1976) reported that 32 territories averaged 109 ha (270 ac). In the Los Angeles area, Cade (1955) reported that defended territories averaged 10 ha (25 ac). In various locations, summer breeding territories varied from 78-399 ha (192-987 ac) (Enderson 1960, Mills 1976).

Reproduction: Breeds from early April to August, with peak activity May and June. Eggs laid mid-May to late June. Average clutch size 4-5, range 3-7. Incubation 28-31 days; young fledge after 29-31 days.

Niche: May be preyed upon by larger raptors. Balgooyen (1976) suggested that tree squirrels may destroy nests. May compete with other cavity nesters: woodpeckers, starlings, owls, bluebirds, nuthatches, chipmunks, squirrels. Female larger than male, allowing pair to partition food resources more effectively. Ectoparasites include lice, black flies (Roest 1957), calliphorid flies, and milichiid flies (Balgooyen 1976).

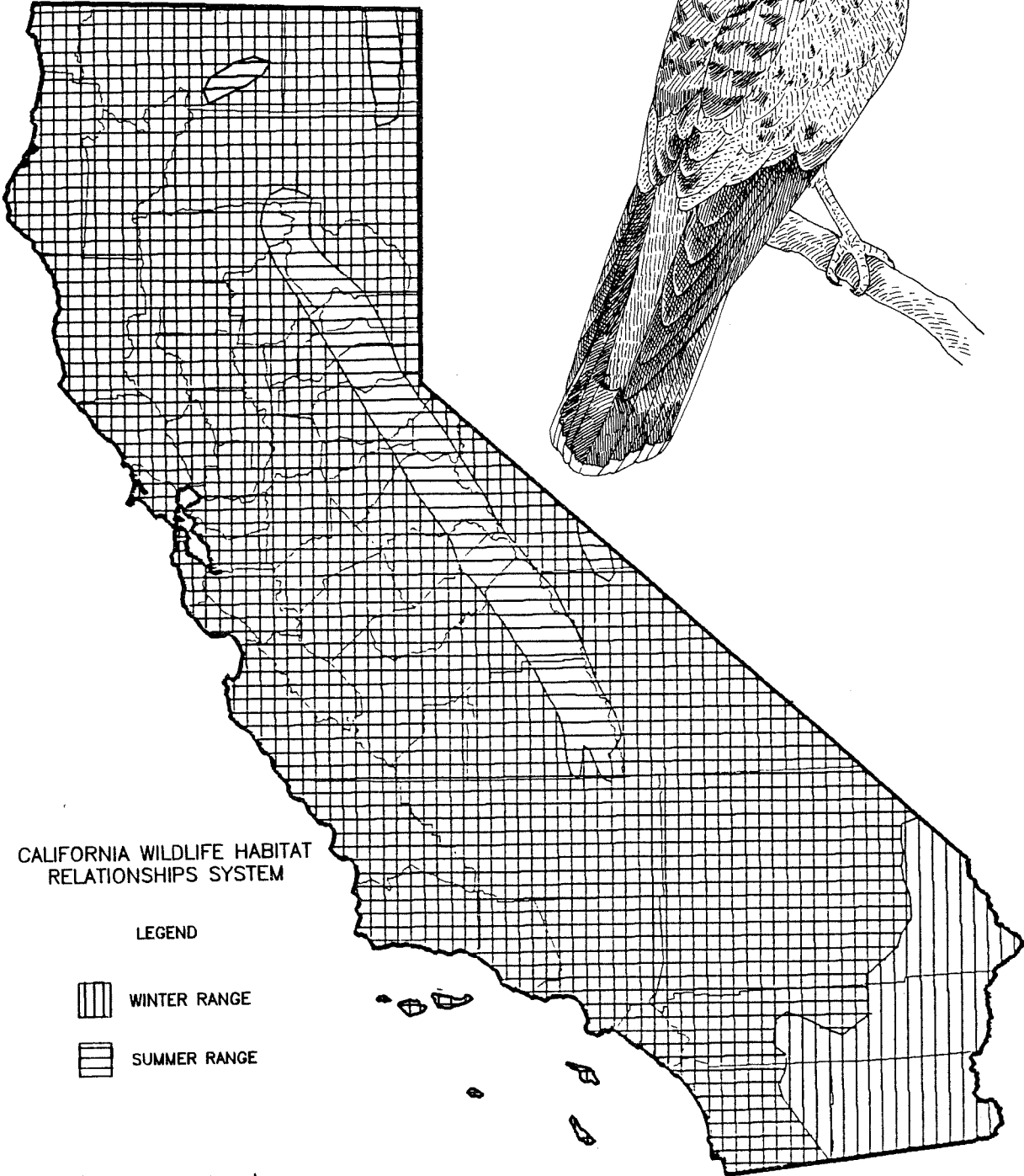
REFERENCES

Bent 1938, Grinnell and Miller 1944, Cade 1955, Roest 1957, Enderson 1960, Collopy 1973, Balgooyen 1976, Mills 1976, Thomas 1979.

AMERICAN KESTREL

AUTHORSHIP

Species Note Prepared By: C. Polite, G. Ahlborn
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CALIFORNIA WILDLIFE HABITAT
RELATIONSHIPS SYSTEM

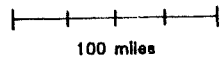
LEGEND



WINTER RANGE



SUMMER RANGE



100 miles

06/87

B265 Great Horned Owl *Bubo virginianus*

Family: Strigidae Order: Strigiformes Class: Aves Date: March 4, 1982

DISTRIBUTION, ABUNDANCE, AND SEASONALITY

A common, permanent resident throughout the state from sea level to 2100 m (0-7000 ft), occasionally to 3200 m (10,500 ft). Exploits a variety of forests with meadows and other openings, extending from valley foothill hardwood to mixed conifer habitats. Commonly feeds and breeds in riparian, conifer, chaparral, and desert habitats.

SPECIFIC HABITAT REQUIREMENTS

Feeding: Usually makes low, rapid flight from perch to capture prey on ground. Rabbits, rodents, and other small to medium-sized mammals usually make up 90% of the diet. Also eats birds (occasionally smaller or young raptors; Wiley 1975b), amphibians, reptiles, fish, and arthropods. Frequently forages in meadows and woodland or forest openings, or along edges.

Cover: Requires trees with dense foliage for roosting; often uses thickly wooded canyons.

Reproduction: Nests in abandoned hawk, crow, raven, or squirrel nest, in cave or crevice, on cliff ledge, occasionally in snag or tree cavity (Call 1978). Nests in trees usually 12-21 m (40-70 ft) above ground.

Water: Most water requirements probably met from prey (Bartholomew and Cade 1963). Will drink water in captivity.

Pattern: Frequents forested habitats; feeds especially in edges, openings, and meadows.

SPECIES LIFE HISTORY

Activity Patterns: Yearlong, nocturnal and crepuscular activity.

Seasonal Movements/Migration: Mostly not migratory, but will move upslope and downslope in response to weather conditions.

Home Range: In Wyoming, home range varied from 1.2 to 2.9 km² (0.4 to 1.1 mi²), with an average of 2.1 km² (0.8 mi²). In eastern Oregon, home range averaged 12.1 km² (4.7 mi²). In Michigan farmland, nesting density varied from 0.04 to 0.08 pair per km² (0.1 to 0.2 per mi²), and wintering density varied from 0.12 to 0.15 individuals per km² (0.3 to 0.4 per mi²) (Craighead and Craighead 1956).

Territory: Average territory was 65 ha (160 ac) in oak habitats in Kansas (Fitch 1958). Male defends territory throughout breeding season more aggressively than female.

Reproduction: Breeds from mid-January through June, peak usually March through May. Clutch size 1-6; average 3; often laid in February or March. Incubation 26-35 days, semialtricial young fledge in 35-56 days. Male may assist with nest activities. Craighead and Craighead (1956) reported fledging success (young fledged/eggs laid) of 27% and 50% in Michigan, and 89% in Wyoming.

Niche: Golden eagles and humans may be the only predators (Hoechlin 1976). Competitors for food include Cooper's hawks, American kestrels, and other large owls. Population numbers respond to prey abundance.

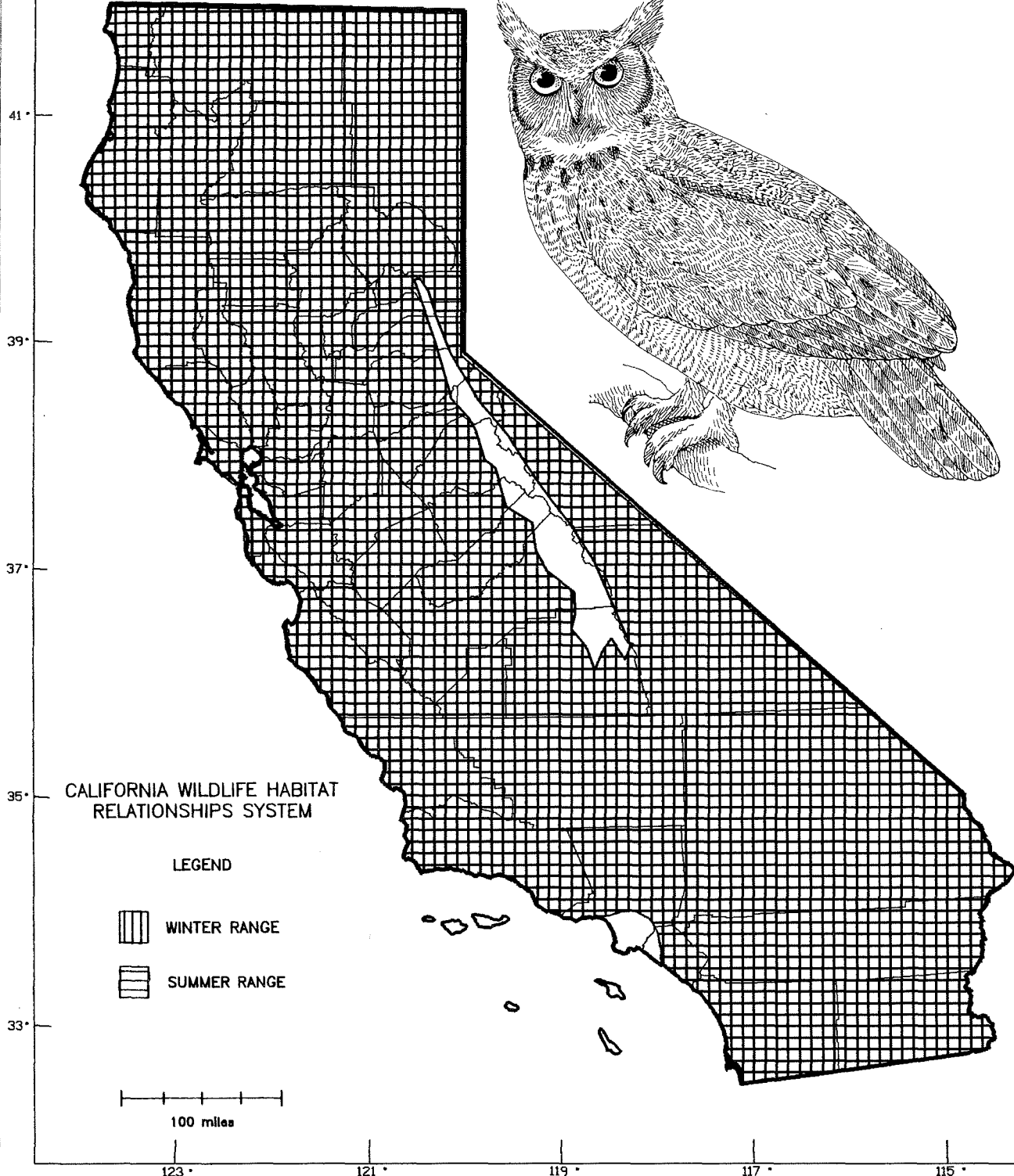
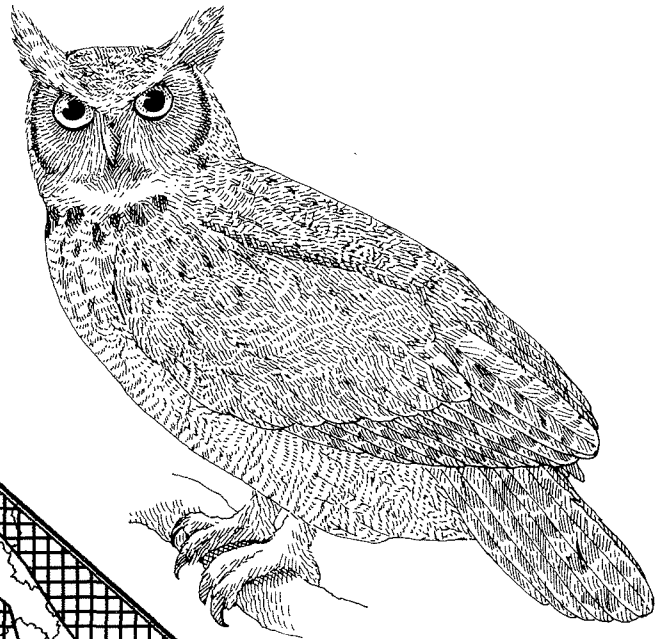
REFERENCES

Bent 1938, Skinner 1938b, Grinnell and Miller 1944, Fitch 1947, 1958, Craighead and Craighead 1956, Guiguet 1960, Bartholomew and Cade 1963, Karalus and Eckert 1974, Marti 1974, Wiley 1975b, Hoechlin 1976, Murray 1976, Call 1978, Harrison 1978, Ehrlich *et al.* 1988.

GREAT HORNED OWL

AUTHORSHIP

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07/87