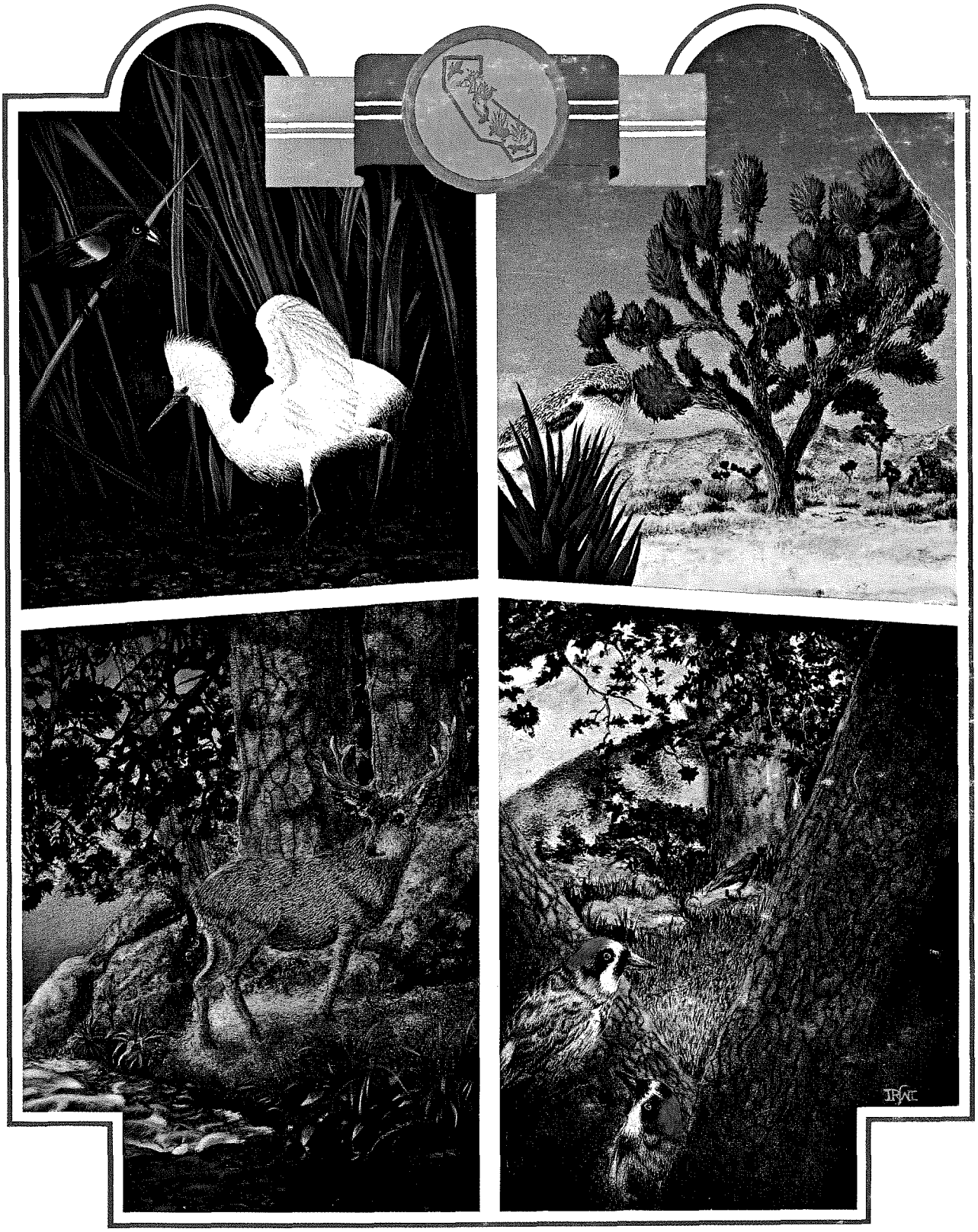


CALIFORNIA'S WILDLIFE

VOLUME II

BIRDS

Jennifer Haire

CALIFORNIA'S WILDLIFE

VOLUME II

BIRDS

Editors

David C. Zeiner
William F. Laudenslayer, Jr.
Kenneth E. Mayer
Marshall White

California Statewide Wildlife Habitat Relationships System

State of California
The Resources Agency
DEPARTMENT OF FISH AND GAME
Sacramento, California

November, 1990

B052 Great Egret *Casmerodius albus*

Family: Ardeidae **Order:** Ciconiiformes **Class:** Aves **Date:** September 22, 1983

DISTRIBUTION, ABUNDANCE, AND SEASONALITY

The great egret is a common yearlong resident throughout California, except for high mountains and deserts. Feeds and rests in fresh, and saline emergent wetlands, along the margins of estuaries, lakes, and slow-moving streams, on mudflats and salt ponds, and in irrigated croplands and pastures. Nests in large trees, and roosts in trees (Grinnell and Miller 1944, Cogswell 1977). In southern California, common all year, and breeds at Salton Sea and Colorado River. Fairly common in coastal lowlands September to April, rare in summer, and breeds in Riverside Co. (one small colony). Rare to uncommon in deserts, occurring mainly as a spring migrant (Garrett and Dunn 1981). In northern California, fairly common to common yearlong in coastal lowlands, inland valleys, and the Central Valley. Locally abundant March to July near the larger nesting colonies. Uncommon to fairly common March to August on the northeastern plateau, and nests locally (Cogswell 1977, McCaskie *et al.* 1979).

SPECIFIC HABITAT REQUIREMENTS

Feeding: Feeds in shallow water and along shores of estuaries, lakes, ditches, and slow-moving streams, in salt ponds and mudflats, and in irrigated croplands and pastures. Eats mainly fishes, amphibians, snakes, snails, crustaceans, insects, and small mammals (Palmer 1962). Stands motionless or stalks slowly, then rapidly strikes prey with bill (Kushlan 1976a).

Cover: Roosts communally in trees. Rests in day in same habitats as it feeds.

Reproduction: In California, nests in large trees (Grinnell and Miller 1944), usually near water, at a height of 6-12 m (20-40 ft), but ranging from 3-24 m (10-80 ft). Nests often are sheltered from prevailing winds (Yull 1972, Ives 1973), and may be as high as 30 m (100 ft) (Pratt 1972). Nest is built of sticks and stems of marsh plants. Nesting colony must be isolated from human activities, or parents may abandon nests (Ives 1972, 1973, Cogswell 1977).

Water: No additional data found.

Pattern: Requires groves of trees suitable for nesting and roosting, relatively isolated from human activities, near aquatic foraging areas. May forage up to 32 km (20 mi) from nest, but usually much closer (Custer and Osborn 1978).

SPECIES LIFE HISTORY

Activity Patterns: Yearlong, diurnal activity.

Seasonal Movements/Migration: Resident yearlong throughout most of its California range, but leaves the northeastern plateau September to February. From March to July, populations are concentrated near nesting colonies; after nesting, individuals disperse and wander widely.

Home Range: Breeding home range was 8-16 km (5-10 mi) radius around nest (Ives 1973, Yull 1972). Winter home range was the same, centered around roost (Yull 1972). In North Carolina, foraged up to 32 km (20 mi) from nest (Custer and Osborn 1978).

Territory: Breeding territory is limited to the immediate vicinity of nest, and is used for courtship and copulation as well as nesting. Separate feeding territory is defended against all smaller species of herons (Palmer 1962). Nests in Marin Co. were spaced just beyond reaching distance of sitting individuals (Pratt 1970). In Louisiana, unpaired individuals defended "large" territories, which gradually shrank to a mean of 4 m^2 (43 ft^2) after pairing (Wiese 1976). In California, defended 100-200 m (328-656 ft) of ditch as feeding territories (Schlorff 1978).

Reproduction: Nests mainly March to July; May to July on northeastern plateau (Cogswell 1977). A monogamous, colonial nester. Clutch size usually 3-5, range 2-6. Probably single-brooded, with incubation lasting 26 days (Maxwell and Kale 1977). Semi-altricial, downy young fed by both parents. Age at first flight probably 5-6 wk, but there is no information on ages at independence or first breeding (Palmer 1962).

Niche: Defends feeding territory against smaller herons, but may be driven away by great blue heron (Palmer 1962). In California, often nests in mixed colonies with great blue herons. Intrusions of humans into nesting colonies often cause parents to desert nests; many former nesting colonies have been abandoned (Cogswell 1977). High winds often destroy eggs, nests, and nestlings (Page 1971, Ives 1972). Eggshell thinning from pesticides may reduce breeding success (Ives 1972). Wetland drainage has markedly reduced available habitat.

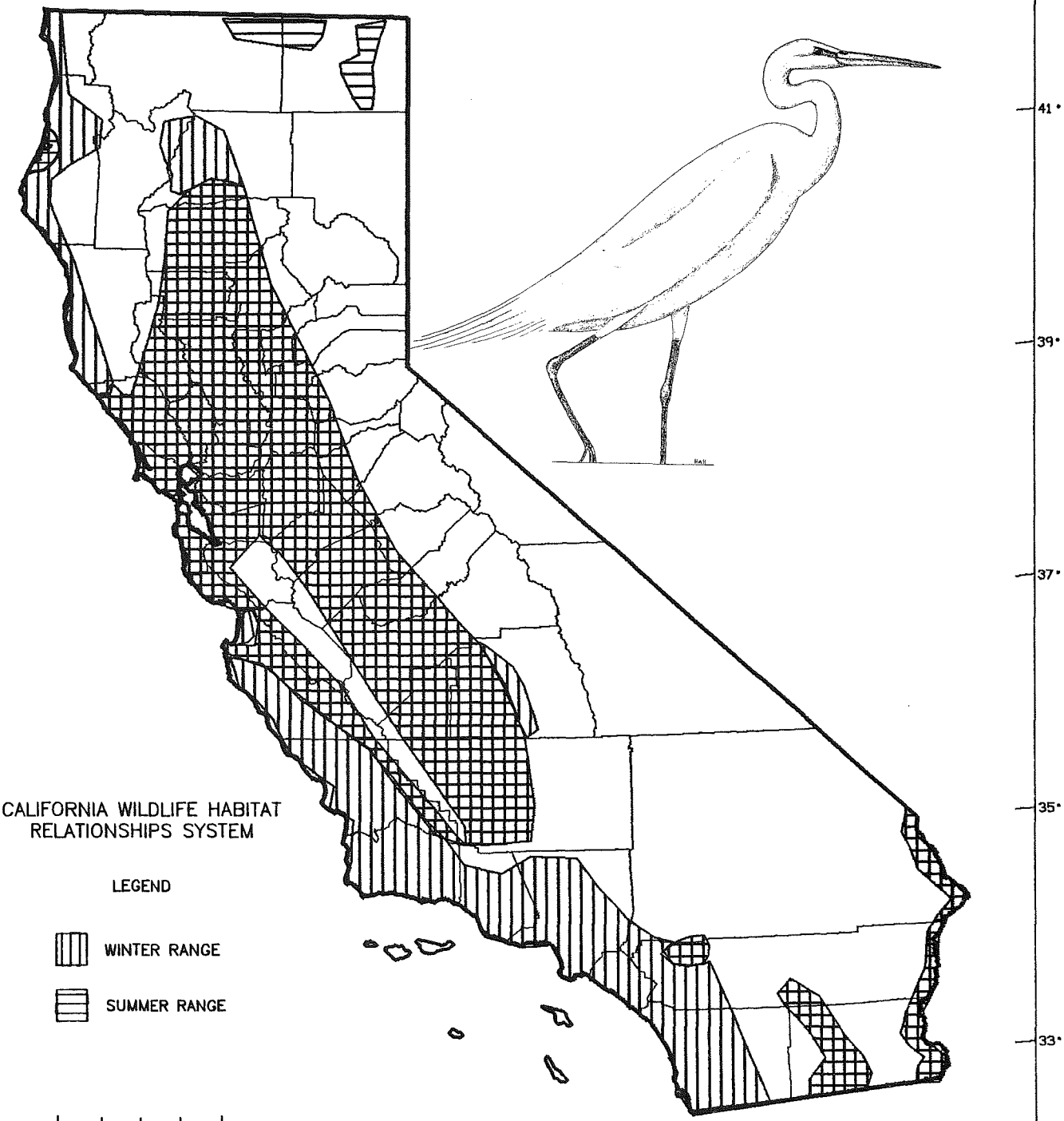
REFERENCES

Grinnell and Miller 1944, Palmer 1962, Pratt 1970, 1972, Page 1971, Ives 1972, 1973, Yull 1972, Kushlan 1976a, Wiese 1976, Cogswell 1977, Maxwell and Kale 1977, Custer and Osborn 1978, Schlorff 1978, McCaskie *et al.* 1979, Garrett and Dunn 1981.

GREAT EGRET

AUTHORSHIP

Species Note Prepared By: S. L. Granholm
Species Note Edited By: R. Duke
Species Note Reviewed By: D. G. Raveling, L. R. Mewaldt



B062 White-faced Ibis *Plegadis chihi*

Family: Threskiornithidae **Order:** Ciconiiformes **Class:** Aves **Date:** June 28, 1983
Management Status: California Species of Special Concern

DISTRIBUTION, ABUNDANCE, AND SEASONALITY

The white-faced ibis is an uncommon summer resident in sections of southern California, a rare visitor in the Central Valley, and is more widespread in migration. It prefers to feed in fresh emergent wetland, shallow lacustrine waters, and muddy ground of wet meadows and irrigated, or flooded, pastures and croplands. Nests in dense, fresh emergent wetland. Formerly more common, especially in the San Joaquin Valley, this species no longer breeds regularly anywhere in California (Remsen 1978). A few pairs bred in 1977 and 1978 at the Salton Sea, and in 1979 at Buena Vista Lagoon, San Diego Co. (Garrett and Dunn 1981). Has nested recently at Honey Lake (Airola 1980, McCaskie *et al.* 1979), in the Klamath Basin (Ryder 1967), and at a few isolated areas in Central Valley. At Salton Sea area, fairly common April to September, and uncommon through winter; uncommon transient elsewhere in southern California, and very local winter visitant along coast (Garrett and Dunn 1981). Rare in San Joaquin Valley, occurring mainly near Los Baños, August to April; and rare on northeastern plateau April to September (McCaskie *et al.* 1979).

SPECIFIC HABITAT REQUIREMENTS

Feeding: Eats earthworms, insects, crustaceans, amphibians, small fishes, and miscellaneous invertebrates. Probes deep in mud with long bill, and also feeds in shallow water or on water surface (Cogswell 1977).

Cover: No information, but probably roosts amidst dense, fresh emergent vegetation.

Reproduction: Extensive marshes are required for nesting (Garrett and Dunn 1981). Nest, made of dead tules or cattails, is built amidst tall marsh plants, sometimes on mounds of vegetation. According to Cogswell (1977), rarely nests in trees, but it is not clear whether tree nesting has been recorded in California. Grinnell and Miller (1944), Palmer (1962), and Harrison (1978) did not mention tree nesting by this species.

Water: No additional data found.

Pattern: Prefers to nest in dense marsh vegetation near foraging areas in shallow water or muddy fields.

SPECIES LIFE HISTORY

Activity Patterns: Yearlong, diurnal activity.

Seasonal Movements/Migration: Distant and local migrant; nonmigratory in some locations. Absent from northeastern plateau October to March. Winters mainly in San Joaquin Valley and Imperial Valley, but recorded widely as a transient. Population at Salton Sea is reduced sharply from October to March, suggesting a southward migration.

Home Range: No information found.

Territory: No information found. Average distance between nests was 2 m (7 ft) in nesting colonies studied by Burger and Miller (1977).

Reproduction: At Los Baños, eggs were present May to July. The 3-5 eggs are incubated for 21 days, mostly by the female, and the young are fed in or near the nest for about 5 wk (Cogswell 1977). No other information on breeding was located, but data on the closely related glossy ibis *(Plegadis falcinellus)*, formerly considered conspecific with this species, probably is similar (Palmer 1962, Harrison 1978).

Niche: Has declined in California and stopped breeding regularly, probably from destruction of extensive marshes required for nesting; a California Species of Special Concern (Remsen 1978). Elsewhere in range, pesticides have caused decline in numbers (Terres 1980).

REFERENCES

Grinnell and Miller 1944, Palmer 1962, Ryder 1967, Burger and Miller 1977, Cogswell 1977, Harrison 1978, Remsen 1978, McCaskie *et al.* 1979, Airola 1980, Terres 1980, Garrett and Dunn 1981.

WHITE-FACED IBIS

AUTHORSHIP

Species Note Prepared By: S. L. Granholm
Species Note Edited By: R. Duke
Species Note Reviewed By: D. G. Raveling, D. A. Airola

B080 Northern Pintail *Anas acuta*

Family: Anatidae **Order:** Anseriformes **Class:** Aves
Management Status: Harvest Species **Date:** June 30, 1983

DISTRIBUTION, ABUNDANCE, AND SEASONALITY

By far the most abundant wintering waterfowl species in California, usually making up about 50% of the total in midwinter (U.S. Fish and Wildlife Service 1978). Typically occurs in lacustrine and estuarine habitats, fresh and saline emergent wetlands, and wet croplands, pastures, grasslands, and meadows. Common to abundant August to March, fewer in July and April, in Central Valley, Salton Sea area, along Colorado River, and in shallow coastal bays and lagoons. Similar abundance patterns occur in northeastern California, with fewer individuals present from November-January, except in mild winters. Uncommon to common in winter in lowlands elsewhere in state; rare and irregular in mountains. Remains to breed in summer in small numbers, common only on northeastern plateau, and rare to uncommon, and local, elsewhere (Cogswell 1977, Gill 1977, U. S. Fish and Wildlife Service 1978, 1979, McCaskie *et al.* 1979, Garrett and Dunn 1981).

SPECIFIC HABITAT REQUIREMENTS

Feeding: Eats seeds of aquatic plants, wild grasses and forbs, and cultivated grains; insects, crustaceans, mollusks, and worms; and stems and leaves. Many reports are based on fall and winter and, therefore, underestimate the importance of invertebrates, particularly for ducklings and for females before egg-laying (Krapu 1974a, 1974b). In Alberta, ducklings fed mainly on surface invertebrates during the first week and gradually shifted to aquatic species, mainly feeding on the bottom in water less than 30 cm (12 in) deep (Sugden 1973). Prefers to forage in very shallow water, taking food from surface, subsurface, or bottom, often tipping up, and rarely diving. Also gleans foods in moist fields and often feeds in grainfields, moist or dry.

Cover: Prefers to rest on exposed muddy or sandy shores, and also on shallow water. During wing molt, July to August, hides in dense stands of emergent vegetation (Palmer 1976). When highly disturbed, coastal flocks sometimes take refuge on deeper water or even on open ocean, beyond the breakers (Cogswell 1977).

Reproduction: Nests on dry sites in open habitats, often where cover is low or sparse, and avoids timbered or extensive brushy areas. Nests may be screened by grasses, forbs, marsh plants, or small clumps of brush. Nests in farmlands more than other waterfowl, especially in stubble fields. Also tends to nest farther from water than other ducks, up to 1.6 km (1 mi), but usually within 90 m (300 ft) and averaging about 37 m (120 ft) (Bellrose 1976). Also nests in emergent wetland (Cogswell 1977), often on drier sites (Palmer 1976). In Alberta, some pairs nested on artificial islands (Giroux 1981). Young reared in shallow-water habitats.

Water: No additional data found.

Pattern: Requires a dry nest site, preferably fairly near a suitable shallow-water feeding area.

SPECIES LIFE HISTORY

Activity Patterns: Yearlong, circadian activity, but most often feeds early and late in day. Under hunting pressure, regularly feeds at night.

Seasonal Movements/Migration: Wintering population mostly migrates north to breeding grounds in northern continental U.S., Canada, and Alaska, departing mostly March to April, and returning July to August. Resident yearlong on northeastern plateau, and rarely elsewhere in California.

Home Range: Breeding home ranges of radio-tagged individuals in North Dakota were: 5 unpaired males, 234-1067 ha, ave. 579 (578-2637 ac, ave. 1431); 8 paired males, 498-1477 ha, ave. 896 (1230-3650 ac, ave. 2214); 15 paired females, 177-1387 ha, ave. 480 (437-3427 ac, ave. 1186); 7 pairs, during prenesting plus nesting, ave. 509 ha (1273 ac); 4 pairs, during nesting only, ave. 167 ha (418 ac) (Derrickson 1978). According to Dzubin (1955), breeding home ranges in Manitoba "may well extend over 5 mi" (8 km) in any direction from a central point. Evans and Black (1956) found that broods were quite mobile, making frequent overland trips between potholes.

Territory: Not known to be territorial. Drakes rarely even defend their mate from advances by other males (Palmer 1976). Males often chase, and attempt to mate with, females other than their mates, and this tends to disperse nesting females (Smith 1968).

Reproduction: In California, nests May to July (Cogswell 1977). Pair formation begins in winter, but continues in migration and on breeding grounds. Despite pair-bonds, there is much promiscuous mating. A solitary breeder, but may occur in high densities in good habitat. Clutch size usually 7-9, range 6-12; single-brooded (Harrison 1978). Incubation 21-25 days, usually 23. Precocial young, tended by female only, first fly and become independent at 6–8 wk. First breeds at 1 yr (Palmer 1976).

Niche: There is no evidence of competition with other ducks for nest-sites or other habitat requirements (Johnsgard 1975b). Often nests near gulls or terns. Because nests early and in open sites, may lose more nests than other ducks to avian predators such as crows, magpies, gulls (Bellrose 1976). Nests lost also to mammalian predators, especialy skunks, ground squirrels, and raccoons, but including coyotes, foxes, and badgers. Many nests in farmlands destroyed by farming operations, including burning. Many adults harvested by hunters; disease and lead poisoning also important mortality factors.

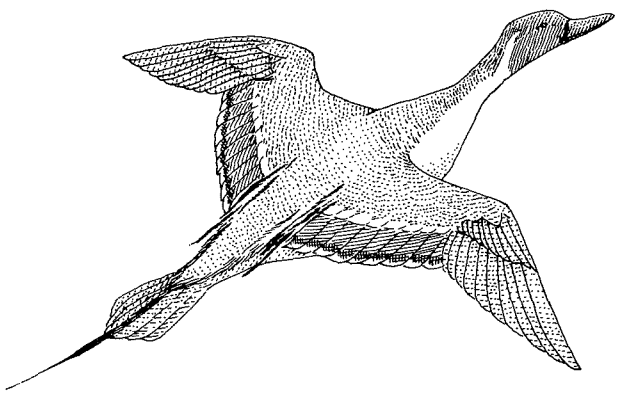
REFERENCES

Dzubin 1955, Evans and Black 1956, Smith 1968, Sugden 1973, Krapu 1974a, 1974b, Johnsgard 1975b, Bellrose 1976, Palmer 1976, Cogswell 1977, Gill 1977, Derrickson 1978, Harrison 1978, U. S. Fish and Wildlife Service 1978, 1979, McCaskie *et al.* 1979, Garrett and Dunn 1981, Giroux 1981.

NORTHERN PINTAIL

AUTHORSHIP

Species Note Prepared By: S. L. Granholm
Species Note Edited By: R. Duke
Species Note Reviewed By: D. G. Raveling, L. R. Mewaldt



B145 Virginia Rail *Rallus limicola*

Family: Rallidae **Order:** Gruiformes **Class:** Aves **Date:** April 23, 1984

DISTRIBUTION, ABUNDANCE, AND SEASONALITY

A fairly common resident in California. In summer, breeds in fresh emergent wetlands and wet meadows the length of the state. Concentrated in the Great Basin from Inyo Co. north to the Oregon border, the Central Valley, and the San Francisco Bay area. Also nests sparingly north near the coast to Mendocino and Humboldt cos., and in south coastal areas from San Luis Obispo Co. to the Mexican border, as well as in the Imperial and Colorado River valleys. In winter, migrates from the northeastern plateau to lowland portions of the range. Occurs in saline emergent wetlands in the nonbreeding season, but apparently not while breeding (McCaskie *et al.* 1979, Garrett and Dunn 1981). Destruction of marshes has reduced numbers in coastal southern California (Garrett and Dunn 1981), and elsewhere (Grinnell and Miller 1944). Vagrant individuals observed on South Farallon Island in September, 1968, and 1971 (DeSante and Ainley 1980), and there are 5 fall/winter records from the Channel Islands (Garrett and Dunn 1981).

SPECIFIC HABITAT REQUIREMENTS

Feeding: Feeds in tall, emergent vegetation by probing in mud and wading in shallow water. Searches the ground and plant stems for adult insects and larvae, slugs, snails, crustaceans, and worms (Terres 1980). In autumn, eats seeds of marsh plants (Cogswell 1977). Occasionally forages under, or well into, riparian shrubs, along marsh borders, or even swims into open water to snatch small fish. Rarely, feeds in dry, weedy fields. In Iowa marshes, 62% of the food was insects (Horak 1970).

Cover: Requires emergent vegetation at least 0.6 m (2 ft) tall for escape cover.

Reproduction: Breeds in cattails, bulrushes, and other emergent vegetation in freshwater marshes. Areas may be quite small, but must have some open water and tall, emergent vegetation to support a nesting pair (Grinnell and Miller 1944). Nests on the ground, hidden by vegetation, suspended between stems above water, or perched on grass tussocks (Harrison 1978).

Water: No additional data found.

Pattern: Occurs at all seasons in freshwater habitats with tall, emergent vegetation. In winter, also frequents saline emergent wetlands where it can be observed best during high tides (Cogswell 1977).

SPECIES LIFE HISTORY

Activity Patterns: Active yearlong. Activity difficult to observe because of secretive behavior and dense cover. As with most rails, it is most easily detected by its distinctive calls, which are given day and night (Terres 1980).

Seasonal Movements/Migration: Permanent resident in lowland, freshwater habitats, but Great Basin breeding population migrates south or west for the winter. Most winter visitors to coastal California leave these areas in summer. Primarily migrates at night by flying low over water or level ground (Bent 1926), but probably higher above rougher terrain.

Home Range: In Michigan, Berger (1951) found 5 nests of this species and 4 nests of the sora, all active simultaneously in a 0.2 ha (0.5 ac) marsh bordering a wooded swamp. Two of the Virginia rail nests were 11 m (33 ft) apart.

Territory: Both Walkinshaw (1937) and Kaufman (1971) reported territorial behavior, but did not give extent of defended space. Sketch maps by Glahn (1974) of 18 territories in Colorado suggested sizes ranging from 520-3080 m^2 (5600-33,150 ft^2), with a mean of about 1370 m^2 (14,750 ft^2).

Reproduction: Typically breeds April to June, but young have been noted as late as August (Cogswell 1977). Clutch size 5-12 eggs, and may be double-brooded occasionally. Incubation 14-16 days (Mousley 1937), but up to 19 days (Cogswell 1977), and both sexes incubate. Precocial young fed by parents even after fledging (Harrison 1978).

Niche: Heavy grazing of wetlands and wet meadows can be very detrimental.

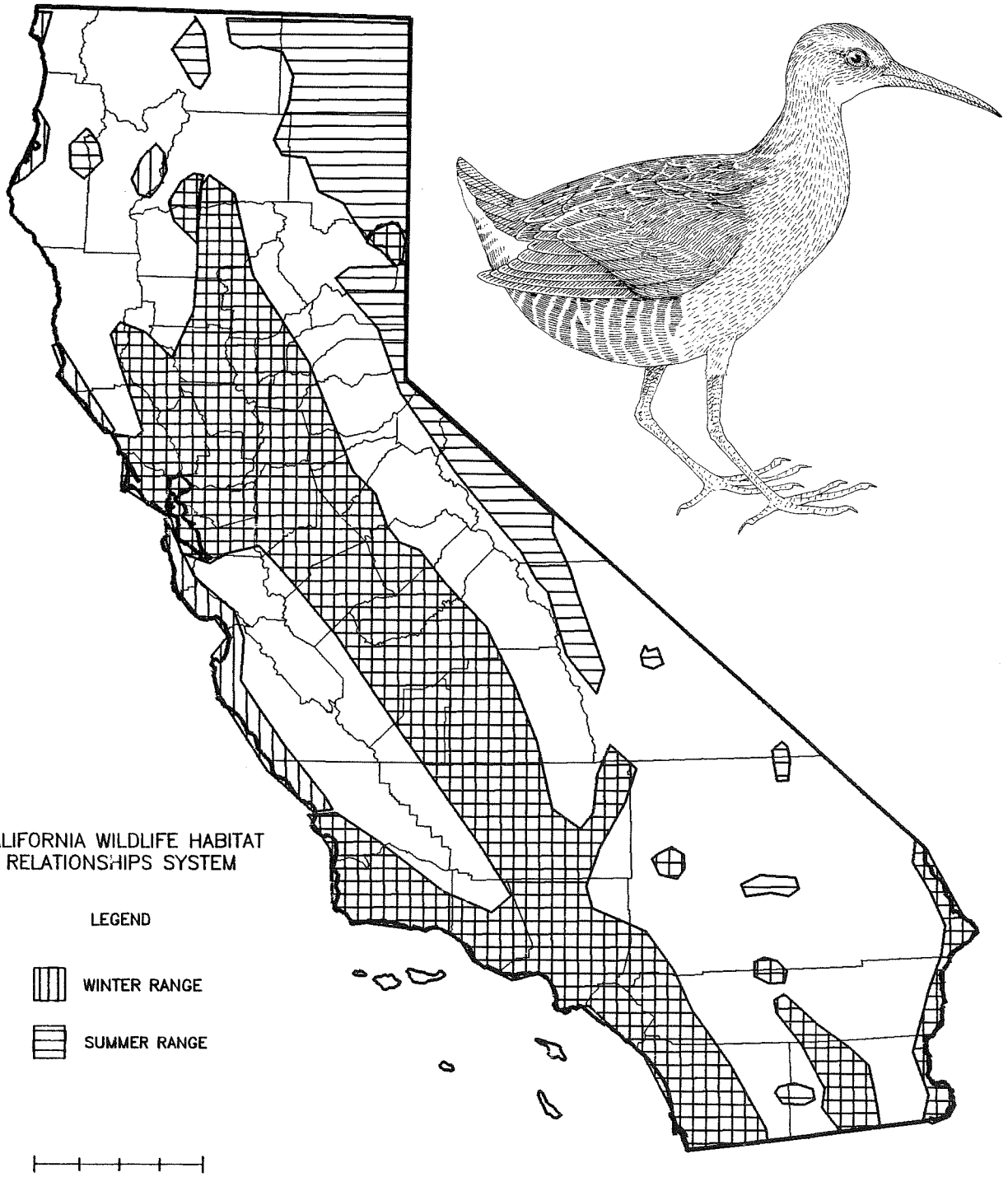
REFERENCES

Bent 1926, Mousley 1937, Walkinshaw 1937, Grinnell and Miller 1944, Berger 1951, Pospichal and Marshall 1954, Horak 1970, Kaufman 1971, Greenberg and Schilt 1973, Glahn 1974, Ripley 1977, Cogswell 1977, Harrison 1978, McCaskie *et al.* 1979, DeSante and Ainley 1980, Terres 1980, Garrett and Dunn 1981.

VIRGINIA RAIL

AUTHORSHIP

Species Note Prepared By: E. C. Beedy
Species Note Edited By: S. L. Granholm, R. Duke
Species Note Reviewed By: H. L. Cogswell



B158 Killdeer *Charadrius vociferus*

Family: Charadriidae **Order:** Charadriiformes **Class:** Aves **Date:** April 23, 1984

DISTRIBUTION, ABUNDANCE, AND SEASONALITY

A widespread, year-round resident of California; locally fairly common in summer and very common in winter (Cogswell 1977). Breeds and winters on the shores of lacustrine, riverine, and, less commonly, estuarine habitats, and on nearby alkali scrub, herbaceous, and cropland habitats with low or sparse vegetation. Also occurs in such habitats away from water, or near springs or seeps. Moves downslope in winter from montane regions; rarely nests above 2400 m (8000 ft) (Gaines 1977b).

SPECIFIC HABITAT REQUIREMENTS

Feeding: Forages in typical plover manner of quickly running forward, stopping, and suddenly seizing prey from the surface. Gleans, and probes shallowly. Forages in open fields, muddy shores, and on lawns. Commonly feeds at night and in daylight. Takes a wide variety of invertebrates, especially insects. Beetles and grasshoppers are prominent in the diet. Takes large numbers of grasshoppers during outbreaks (Bent 1929). Also takes flies, mosquitos, weevils, crustaceans, worms, mollusks, and some seeds (Bent 1929).

Cover: Relies on camouflage for protection, and takes flight if predators approach too closely.

Reproduction: Uses natural and human-made habitats with low or sparse vegetation for nesting. These include pastures, gravel river banks, sparsely-vegetated salt flats, salt pond dikes, gravel pits, roadsides, plowed fields, golf courses, airports, suburban lawns, and sometimes flat, gravelled rooftops (Johnsgard 1981). Nest may be some distance from water. During pair formation, male digs a number of scrapes in the ground. The nest is merely a shallow depression, often lined with small pebbles or other nearby objects.

Water: Probably drinks fresh water.

Pattern: Open habitats with low or sparse vegetation, often close to water, are used year-round.

SPECIES LIFE HISTORY

Activity Patterns: Yearlong, circadian activity.

Seasonal Movements/Migration: Some individuals migrate 30–60 km (50–100 mi), or possibly much farther, but most are year-round residents. Moves out of southeastern deserts before nesting season, and out of high mountains after breeding season (Cogswell 1977). Numbers increase on coastal estuaries in non-breeding season from an influx of individuals from nearby upland habitats (Page *et al.* 1979).

Home Range: Mace (1978) calculated breeding density (by 2 methods) of 30–33 pr/100 ha (247 ac) on open parts (99 ha; 245 ac) of a university campus and fairgrounds in Minnesota; but only 14 pr/100 ha (247 ac) on fields with growing crops (14 ha; 35 ac). Nickell (1943) reported 3 pr with nests 110–210 m (360–690 ft) apart in Michigan. May travel to feeding locations up to 1.5 km (0.9 mi) from nest. In nonbreeding season, semigregarious and may form loose flocks of as many as 50 (Cogswell 1977).

Territory: In Manitoba, nesters chased off conspecifics when they came within 100 m (330 ft) of nest (Phillips 1972). Both sexes vigorously defend nest territory. Stoner *et al.* (1963) reported 7 territories in a 14 ha (35 ac) plot of marsh and grassland at Southampton Bay, near Benicia. Gaines (1974a) reported a breeding density of 25 territories/km² on an 8.2 ha (20 ac) gravel bar in the Sacramento River near Glenn. At Santa Cruz, Greenberg and Schilt (1973) found 4 territories within an 8.5 ha (21 ac) plot that was mostly marsh and willows, but included 1.2 ha (3 ac) of recently dredged pond.

Reproduction: Nesting season late February into August (Cogswell 1977). A monogamous, solitary nester. Mean clutch size 4 eggs, and both parents incubate (Cogswell 1977). Incubation about 25 days. Chicks precocial, and follow parents to feeding areas within several hr of hatching. Fledgling period about 30 days (Johnsgard 1981). Two broods may be raised in 1 season (Palmer 1967). Probably begins breeding at 1 yr.

Niche: Adults probably taken by large predatory birds; eggs and young by various ground predators. Preferred habitats and foraging methods indicate competition for food with robins, pipits, blackbirds, and other passeriforms; but little overlap with any other shorebird.

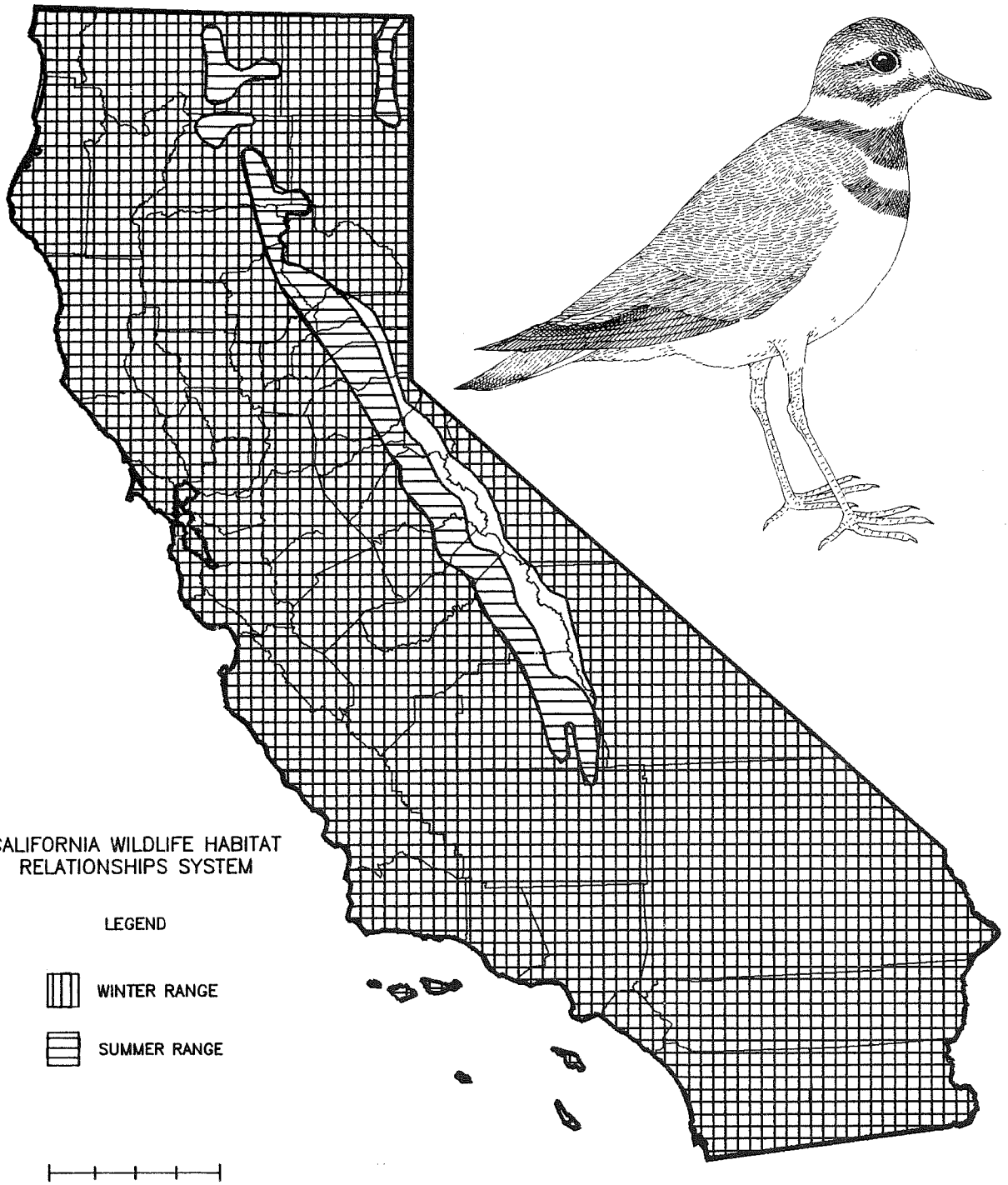
REFERENCES

Bent 1929, Nickell 1943, Stoner *et al.* 1963, Palmer 1967, Phillips 1972, Greenberg and Schilt 1973, Gaines 1974a, 1977b, Cogswell 1977, Mace 1978, Page *et al.* 1979, Johnsgard 1981.

KILLDEER

AUTHORSHIP

Species Note Prepared By: C. Swarth
Species Note Edited By: S. L. Granholm, R. Duke
Species Note Reviewed By: H. L. Cogswell



B163 Black-necked Stilt *Himantopus mexicanus*

Family: Recurvirostridae **Order:** Charadriiformes **Class:** Aves **Date:** February 11, 1985

DISTRIBUTION, ABUNDANCE, AND SEASONALITY

A fairly common, yearlong resident, patchily distributed in the Central Valley and along the coast of California from San Francisco Bay south. It is found in estuarine, salt pond, lacustrine, and saline emergent wetland habitats, and locally in fresh emergent wetland and seasonally ponded wetlands. Winters regularly in the San Joaquin Valley, where it is locally common (McCaskie *et al.* 1979). Common to locally abundant in the same habitats April through September in southern California. Occurs year-round at the Salton Sea. Commonly breeds along lake shores in northeastern California and along the Colorado River (Garrett and Dunn 1981). Use of salt evaporation ponds has increased significantly since 1960; this now seems to be the primary wintering habitat (Cogswell 1979).

SPECIFIC HABITAT REQUIREMENTS

Feeding: Forages in shallow water for insects, crustaceans, mollusks, other aquatic invertebrates, and some small fish. Prefers the shallows of lakeshores, flooded alkali flats, salt ponds, coastal estuaries, and flooded fields (Garrett and Dunn 1981). Gleans and probes for invertebrates from mud and shallow waters.

Cover: Rests and roosts on salt pond levees, dikes, alkali flats, islands in shallow water, and lake shores.

Reproduction: Requires open areas of friable soil, mudflats, levees, and dry lakeshores for nesting. These areas generally are located less than 1 km (0.6 mi) from a feeding area (Hamilton 1975). The nest is a shallow scrape in the ground, often lined with wetland plants, feathers of other birds, or cobble. Nest located on levees, islands, shorelines of lakes, and over water in heavy grass.

Water: No additional data found.

Pattern: No additional data found.

SPECIES LIFE HISTORY

Activity Patterns: Yearlong, diurnal activity.

Seasonal Movements/Migration: A yearlong resident along the central and southern California coast, the San Joaquin Valley, and at the Salton Sea. Populations using Sierra Nevada and northeastern plateau lakes for breeding, migrate to lowland and coastal area in August and September.

Home Range: No data found.

Territory: Defends an "extensive" area around groups of nests. Several pairs may join in defense (Hamilton 1975). In his study of California populations, Hamilton (1975) found nests averaged 22 m (68 ft) apart, with a range of 2-42 m (6-130 ft).

Reproduction: Breeds from late April through August, with a peak in June (Bent 1927). Semicolonial; usually nests in loose groups near feeding areas (Hamilton 1975). Clutch size averages 4; range 3-5. Both adults incubate eggs, for 23-25 days. Young precocial (Harrison 1978); brooded on the nest site for up to 2 days after hatching, although capable of rapid movement, and can swim within 2 hr after hatching (Hamilton 1975).

Niche: Often nests very close to water; consequently, greatly affected by fluctuations in water levels of lakes or ponds. Many nests have been observed abandoned or submerged in salt ponds in the San Francisco Bay area as water levels are adjusted during salt production (Rigney and Rigney 1981).

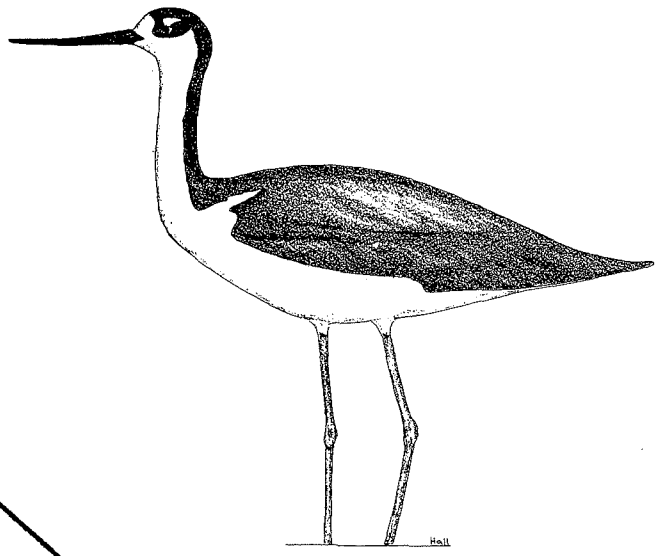
REFERENCES

Bent 1927, Hamilton 1975, Cogswell 1977, Harrison 1978, McCaskie *et al.* 1979, Garrett and Dunn 1981, Rigney and Rigney 1981.

BLACK-NECKED STILT

AUTHORSHIP

Species Note Prepared By: M. Rigney
Species Note Edited By: R. Duke
Species Note Reviewed By: L. R. Mewaldt



CALIFORNIA WILDLIFE HABITAT RELATIONSHIPS SYSTEM

LEGEND

WINTER RANGE

SUMMER RANGE

100 miles

123° 121° 119° 117° 115°

43° 41° 39° 37° 35° 33°

04/87

B164 American Avocet *Recurvirostra americana*

Family: Recurvirostridae **Order:** Charadriiformes **Class:** Aves **Date:** March 26, 1984

DISTRIBUTION, ABUNDANCE, AND SEASONALITY

A common to abundant winter visitor to salt ponds, fresh and saline emergent wetlands, and mudflat habitats throughout the Central Valley and the central and southern coastal areas. Breeds from March to mid-July, and is relatively common during this period in northeast California, the Central Valley, and coastal estuaries (Cogswell 1977). Common most of the year at the Salton Sea, but only a few pairs have been known to nest (Garrett and Dunn 1981).

SPECIFIC HABITAT REQUIREMENTS

Feeding: Forages on mudflats, salt or alkali flats, in shallow ponded areas with silt bottoms, and in salt ponds (Hamilton 1975, Cogswell 1977). Feeds by probing in mud, sweeping bill through water or soupy mud, or by swimming and tipping-up like ducks. Preferred foods include aquatic insects, crustaceans, snails, worms, and occasionally seeds of aquatic plants (Cogswell 1977).

Cover: May flock together during storms on the leeward side of levees and dikes for cover (Rigney and Rigney 1981).

Reproduction: Primary nesting habitats are relatively barren islands in salt ponds or alkali lakes, levees, dikes, or untravelled road beds, near feeding areas. Also may nest on salt flats or in wet meadows (Bent 1927, Gibson 1971, Cogswell 1977). Nest is a simple scrape 0.5 to 3 cm (0.2 to 1.2 in) deep on the top of a levee, or on an island or salt flat. Nest usually lined with vegetation or small pebbles.

Water: No additional data found.

Pattern: For breeding, depends upon relatively undisturbed levees and islands within or near feeding areas, on estuarine salt ponds, or other estuarine or inland shallow-water impoundments or lakes.

SPECIES LIFE HISTORY

Activity Patterns: Yearlong, diurnal activity, except migration apparently is nocturnal (Gibson 1971).

Seasonal Movements/Migration: A portion of the central coast wintering population is migratory, moving inland to the Central Valley, northeastern California, and eastern Sierra Nevada in mid-March to breed. A somewhat smaller population (600-800 pairs) is resident in the San Francisco Bay area (Gill 1973, Rigney and Rigney 1981).

Home Range: No additional data found.

Territory: Gibson (1971) identified 3 types of territories during different periods in the nesting cycle. Prior to egg laying, territory was centered around feeding area. During incubation, both the nest and a secondary feeding area 50-130 m (162-422 ft) in diameter were defended. Once the eggs hatched, adults defended an area 20-100 m (65-325 ft) in diameter centered around chicks.

Reproduction: Peak egg-laying is April, and hatching occurs from early to mid-June. Three or 4 eggs laid; average 3.7 per nest (Gibson 1971). Single-brooded; both parents incubate the eggs for 22-24 days (Harrison 1978). Precocial young are mobile within 3-4 hr after hatching. Defended by both adults, and family remains intact for about 25 days (Harrison 1978).

Niche: Nests are subject to flooding if water levels in salt ponds are raised.

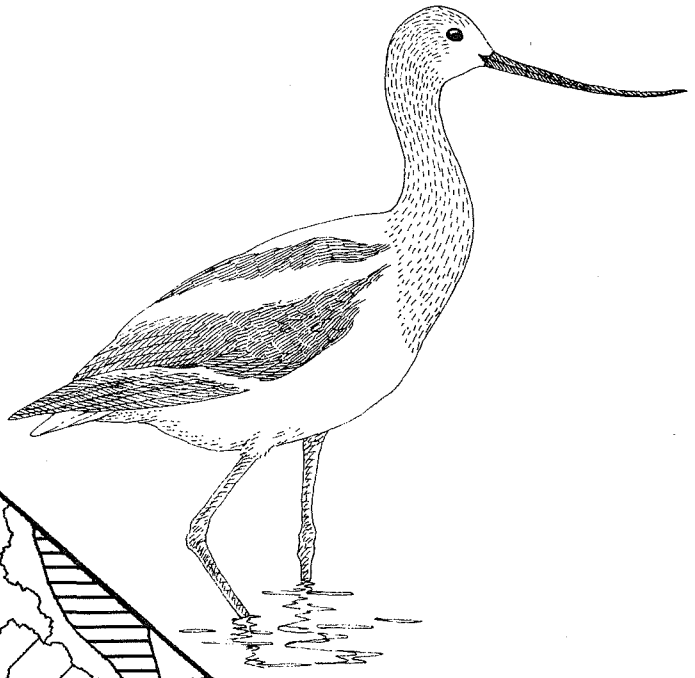
REFERENCES

Bent 1927, Gibson 1971, Gill 1973, Hamilton 1975, Cogswell 1977, Harrison 1978, Garrett and Dunn 1981, Rigney and Rigney 1981, Ehrlich *et al.* 1988.

AMERICAN AVOCET

AUTHORSHIP

Species Note Prepared By: M. Rigney
Species Note Edited By: E. C. Beedy, R. Duke
Species Note Reviewed By: L. R. Mewaldt



B165 Greater Yellowlegs *Tringa melanoleuca*

Family: Scolopacidae **Order:** Charadriiformes **Class:** Aves **Date:** March 26, 1984

DISTRIBUTION, ABUNDANCE, AND SEASONALITY

A fairly common to abundant spring and fall migrant, and uncommon to fairly common winter visitant, along coastal California, in the Central Valley, and at the Salton Sea (McCaskie *et al.* 1979, Garrett and Dunn 1981). Uncommon to fairly common as a migrant in northern California mountains and Great Basin regions, but casual or absent there in winter (McCaskie *et al.* 1979). Occurs rarely throughout coastal and inland California in the summer. Occupies a variety of shallow lacustrine and estuarine habitats. Typical foraging habitats include shallow emergent wetlands, wet meadows, borders of small pools, flooded fields, stream channels, drainage ditches, and intertidal mudflats (Garrett and Dunn 1981).

SPECIFIC HABITAT REQUIREMENTS

Feeding: Often forages in shallow water and takes prey by snatching at, or just below, the surface. At times, wades in water up to the belly, and may capture prey by skimming the surface. Probing into the substrate is a less common feeding method. Quick and graceful in all feeding activities. Typical prey include various aquatic insects (dytiscid and hydrophilid beetles and water boatmen), small fish, crustaceans, worms and a variety of terrestrial insects (Bent 1927, Johnsgard 1981). Gobies may be important fish prey in some areas of coastal California (Reeder 1951).

Cover: In estaurine habitats, needs undisturbed areas above high tide waters for roosting during the high tide period.

Reproduction: Breeds in Alaska and Canada, primarily in muskeg forest, but also in subalpine scrub and subarctic tundra. Typical nesting habitat is in burned-over or grass-covered clearings that are close to ponds or wetlands, and that are surrounded by stands of low poplar, birch, or spruce trees. The nest is a shallow, sparsely-lined depression in moss or dry peat. Nest often placed on a low hummock or ridge beside a branch, or under a dwarf birch (Harrison 1978, Johnsgard 1981).

Water: No additional data found.

Pattern: Muskeg forests and subarctic tundra in northern Canada and southern Alaska are used during the breeding season, and several freshwater and estuarine wetland habitats are used during the nonbreeding season.

SPECIES LIFE HISTORY

Activity Patterns: Yearlong, diurnal activity.

Seasonal Movements/Migration: Most numerous in California as a spring and fall migrant, but also occurs as a winter visitant and a rare summer nonbreeder. Fall migrants arrive in early July and the major fall passage occurs from late July to early October. As with many shorebirds, adults arrive well before the first juveniles (about 1 mo) (Bent 1927, Page *et al.* 1979). The main spring passage through California is from mid-March to mid-May (McCaskie *et al.* 1979, Garrett and Dunn 1981).

Home Range: No more than a dozen pairs nested in one area covering several square miles (Bannerman 1961).

Territory: Little is known of the territorial behavior on breeding grounds. Defends feeding territory on wintering grounds in coastal Argentina (Myers and Myers 1979).

Reproduction: Breeding season begins in May; nests with full clutches are found starting in late May and early June. Little information is available on the reproductive biology of this species. Average clutch size is 4 eggs. Incubation apparently by the female alone, but incubation period not known. Only 1 brood is produced in a season (Palmer 1967, Harrison 1978). Precocial young leave the nest within hours of hatching and are attended by both parents.

Niche: May form small, vocal flocks in winter.

REFERENCES

Bent 1927, Reeder 1951, Bannerman 1961, Palmer 1967, Cogswell 1977, Harrison 1978, McCaskie *et al.* 1979, Myers and Myers 1979, Page *et al.* 1979, Garrett and Dunn 1981, Johnsgard 1981.

GREATER YELLOWLEGS

AUTHORSHIP

Species Note Prepared By: C. Swarth
Species Note Edited By: S. L. Granholm, R. Duke
Species Note Reviewed By: L. R. Mewaldt