California Wildlife Habitat Relationships System
California Department of Fish and Wildlife
California Interagency Wildlife Task Group

MALLARD *Anas platyrhynchos*
Family: ANATIDAE Order: ANSERIFORMES Class: AVES
B079

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DISTRIBUTION, ABUNDANCE, AND SEASONALITY

California's most abundant breeding duck, and much more numerous in winter (Kozlik 1974). Found throughout the state in fresh emergent wetlands, estuarine, lacustrine, and riverine habitats, ponds, pastures, croplands, and urban parks; and less commonly on saline emergent wetlands and mudflats. Most numerous in Central Valley, but also common in lowlands throughout the state (Cogswell 1977). Has nested up to 3000 m (9900 ft) (Morton and Morton 1973), but generally less common in high mountains. In winter, leaves high elevations; most individuals also leave Great Basin.

SPECIFIC HABITAT REQUIREMENTS

Feeding: About 90% of diet is plant material (Bent 1923, Martin et al. 1961); mostly grains, seeds and leaves of aquatic plants, grasses, and other green vegetation. Remaining diet mostly aquatic insects (Martin et al. 1961), but includes snails, small crustaceans, earthworms, tadpoles, and small fish. Animal foods especially important during breeding season. Hatchlings feed mostly on insects, but shift to seeds by 6 wk (Chura 1961). Tips up for food in shallow water, skims and filters food from water and bottom, gleans insects and seeds in fields and along shores, probes in mud and shallow water, and sometimes grazes; rarely dives.

Cover: Often uses dense emergent wetland vegetation, especially during late summer (drakes) and early fall (hens), when molting flight feathers (Bent 1923, Madson 1960), but prefers heavier cover throughout year compared to most ducks. Can escape many predators by outflying or outswimming them, or by diving under water for short periods (Madson 1960). Will winter wherever food and open water are available (Johnsgard 1975b).

Reproduction: Typically nests on fairly dry sites in tall, dense herbaceous vegetation or low shrubbery. Occasionally nests over water or in willow clumps, stumps, buildings, haystacks, bridges or in dense woods. Readily uses artificial islands (Giroux 1981) and nest platforms such as baskets (Bishop and Barratt 1970). Covered baskets help reduce predation (Doty 1979).

Water: Ducklings drink salty water and exhibit limited salinity tolerance, with moderate mortality at 1.0% NaCI, and 100% mortality at 1.5% NaCI (McFarland 1972).

Pattern: While breeding, needs shallow-water feeding areas with nest site nearby. Usually nests within 100 m (330 ft) of water, rarely up to 8 km (5 mi) (Bellrose 1976).

SPECIES LIFE HISTORY

Activity Patterns: Yearlong, primarily diurnal activity. Migrates both day and night, and often feeds at night.

Seasonal Movements/Migration: Residents in lowlands augmented in winter, chiefly October to March, by local migrants from higher mountains, and distant migrants from north (Grinnell and Miller 1944, Cogswell 1977).

Home Range: Size and shape depend on distance of upland nesting habitat from aquatic feeding habitat. Also the greater the population density, the farther nest will be from water (Dzubin and Gollop 1972, Bellrose 1976). Breeding home ranges were 283 ha (700 ac) in Manitoba (Dzubin 1955). Averaged 210 ha (519 ac) for females, and 240 ha (593 ac) for males in Minnesota forests, varying from 66 ha (163 ac) for a female to 760 ha (1878 ac) for a pair (Gilmer et al. 1975). Six radio-tagged hens in North Dakota had breeding home ranges of 307-719 ha (767-1797 ac), averaging 468 ha (1170 ac) (Dwyer et al. 1979). Females with broods move up to 3-8 km (2-5 mi) from nests (Dzubin and Gollop 1972). In winter, may fly 48-64 km (30-40 mi) from winter resting sites to forage (Bellrose 1976, Palmer 1976).

Territory: Male defends mate rather than a specific site, but effect of pursuit flights is to space out breeding population (Humburg et al. 1978). In high-density nesting populations on islands, distance between nests averaged 7 m (24 ft) in Scotland (Boyd and Campbell 1967), and 10 m (34 ft) in South Dakota, with a range of 2-45 m (7-150 ft) (Drewien and Fredrickson 1970).

Reproduction: Pair bond established as early as August, with nesting primarily from March to July. Monogamous, and nests singly or in vicinity of other pairs. Usually 6-12 eggs per clutch, average 9, range 1-18. Rarely 2 broods per season (Bjarwall 1969, Doty 1975). Incubation 23-29 days, usually 26, and precocial young cared for by hen only. Young fly 40-60 days after hatching (Bellrose 1976). Dzubin and Gollop (1972) reported nest destruction of 22-73%, but renesting may be as high as 77% (Humburg 1978). Most breed late in first year.

Niche: Probably greatest source of mortality is shooting by hunters; waterfowl diseases and poisoning from lead shot also important locally. Nest failures frequent, and in California result mostly from predation on eggs by mammals, especially striped skunks, Norway rats, coyotes, raccoons, and Virginia opossums (Bellrose 1976). Other causes of nest failure are plowing, mowing, burning, and flooding of nest sites, and egg predation by gulls, crows, magpies.

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Life history accounts for species in the California Wildlife Habitat Relationships (CWHR) System were originally published in: Zeiner, D.C., W.F.Laudenslayer, Jr., K.E. Mayer, and M. White, eds. 1988-1990. California's Wildlife. Vol. I-III. California Depart. of Fish and Game, Sacramento, California. Updates are noted in accounts that have been added or edited since original publication.