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

SONORA MUD TURTLE *Kinosternon sonoriense*
Family: KINOSTERNIDAE Order: TESTUDINES Class: REPTILIA
R002

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Updated by: CWHR Program Staff, March 2000

DISTRIBUTION, ABUNDANCE, AND SEASONALITY

The Sonora mud turtle may be extinct in California (Jennings 1983). Historically, in California, its elevational range extended from 43 m (140 ft) to 155 m (510 ft) (Jennings and Hayes 1994). Early records were along the lower Colorado River at Palo Verde and the Yuma Indian Reservation, Imperial County (VanDenburgh 1922). Dill (1944) observed this species in the lower Colorado River in 1942, however, no specimens were collected. The most recent positive record was in 1962 in a canal near the Laguna Dam on the Arizona side of the Colorado River (Funk 1974). Occurs in lacustrine and riverine habitats.

SPECIFIC HABITAT REQUIREMENTS

Feeding: Primarily carnivorous, although some aquatic plant material is taken. Feeds mainly on aquatic insects and larvae, and includes fish, frogs, carrion, small mollusks and crustaceans in the diet. Food animals are either benthic or associated with submergent vegetation. Plant material includes aquatic angiosperms and green algae. Opportunistic shifts in diet occur in response to shifts in prey availability. Turtles will shift to more omnivorous food habits in habitats where benthic invertebrates are less abundant. No difference between male and female feeding habits, nor shifts in diet with age. Forage by crawling slowly and methodically along bottom in shallow water in both dense vegetation and open water. Foraging turtles surface for air every 5 to 10 minutes and occasionally forage to shoreline (Hulse 1974).

Cover: No data.

Reproduction: Courtship and mating occur in the water (Hulse 1982). Probably nests on shore not far from water in sand, loamy soil, or dead vegetation. Other species of mud turtles dig shallow nests 8-13 cm (3-5 inches) deep in the open, under boards or logs, or in leaf litter. Sometimes nests are left uncovered (Ernst and Barbour 1972).

Water: Highly aquatic.

Pattern: Prefers still or slow moving water with a muddy bottom.

SPECIES LIFE HISTORY

Activity Patterns: Active all year, although it may not feed in colder months (December and January) (Hulse 1982). During cooler spring and fall months, turtles are diurnal feeders, however, if water temperature rises during summer months turtles become more nocturnal, except on cool, cloudy days (Hulse 1974).

Seasonal Movements/Migration: During low water, turtles may congregate in pools or make sporadic migrations.

Home Range: Turtles may be locally abundant in suitable habitat. Hulse (1982) estimated 750-825 turtles/ha (304-334/acre) in Arizona. Home ranges are probably small, 0.12 ha (0.3 acre) or less, as in other species of mud turtles (Mahmoud 1969).

Territory: No data.

Reproduction: In Arizona, Sonora mud turtles mate in March. Oviductal eggs are present from June to September with the greatest frequency in August. Nesting occurs in September. Clutch size varies from 2 to 9 eggs (Hulse 1982). Clutch size is correlated with carapace length and growth rates. Hulse (1976, 1982) found that populations of Sonora mud turtles that were more omnivorous (e.g., in habitats containing fewer benthic invertebrates) had lower growth rates, smaller size at maturity and smaller clutch sizes. The minimum size at maturity for males was 76 mm (3 in), at 5 years old, and for females was 93-96 mm (4 in), at approximately 8-9 years old. Delayed maturity occurs at higher, coolerelevations (Hulse 1982).

Niche: Predators on eggs possibly include snakes, opossums, weasels, skunks, raccoons, and domestic dogs. Fish, snakes, crows, and other turtles are possible predators on hatchlings (Ernst and Barbour 1972).

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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.