

# Species Fact Sheets

**Order:** Cuculiformes  
**Scientific Name:** *Geococcyx californianus*

**Family:** Cuculidae  
**Common Name:** greater roadrunner

**AZA Management:**  Green  Yellow  Red  None

**Photo (Male):** sexually monomorphic in plumage; female slightly smaller than male. Males have white skin in the unfeathered area behind the eye whereas in females, the color is pale blue. Photo by Alfred Viola



Photo by © Cameron Rognan, UT, St. George, December 2004



## NATURAL HISTORY:

**Geographic Range:** Europe  Asia  North America  Neotropical   
 Africa  Australia  Other [Click here to enter text.](#)

**Habitat:** Forest  Desert  Grassland  Coastal   
 Riverine  Montane  Other [Click here to enter text.](#)

**Circadian Cycle:** Diurnal  Crepuscular  Nocturnal  Other [Click here to enter text.](#)

To 70° F  To 60° F  To 50° F  To 40° F

**Cold Tolerance:** To 30° F  To 20° F  Other

Zoos in zones where temperatures fall below 4.5°C (40°F) should have winter holding facilities available for housing birds during inclement weather. Birds should be locked in heated shelters when temperatures are below 40°F as well as during periods of snow

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and freezing rain. Feathers will be fluffed and body movement limited when birds are cold.

To 30° F        To 50° F        To 70° F        To 90° F   

**Heat Tolerance:**

To 110° F        Other

Generalized reduction in activity at midday reduces demands for heat dissipation and water expenditure for evaporative heat loss. Activity reduced by half during midday hours, when adults frequently rest in shade. Despite their adaptations to high temperatures, birds should still be provided with areas of shade both on the ground and above preferred perches. Supplemental cooling for birds housed outdoors may be necessary if temperatures routinely reach over 37°C (100°F). Cooling can consist of an evaporative cooler that blows through the exhibit's holding area and a thorough soaking of the ground with water twice a day. These actions can be taken when the daytime temperatures are above 100°F. Greater roadrunners exhibiting heat stress will pant, and the ability to retreat to cooler areas of the pen is critical. Greater roadrunners do not thrive in climates that are consistently wet, rainy, and damp

**Diet:**

Frugivore        Carnivore        Piscivore        Insectivore      
 Nectivore        Omnivore        Folivore        Other (Add Below)   

**Captive Dietary Needs:**

Most zoos feed a combination of meat eating bird diet, small mice, insects, fruit and some sort of avian pellet [e.g. gamebird, insectivore diet, dogfood]. Their natural prey consists of insects, small vertebrates [reptile, avian and mammalian], prickly pear and carrion.

**Life Expectancy in the Wild:**

Males:

There is little data for wild birds, but roadrunners are probably long-lived

Females:

There is little data for wild birds, but roadrunners are probably long-lived

**Life Expectancy in Captivity:**

Males:

16 years

Females:

16 years

**BREEDING INFORMATION:**

**Age at Sexual Maturity:**

Males:

6-7 months

Females:

6-7 months

**Courtship Displays:**

Pair formation: During pair formation, males and females forage together, exchanging acoustic signals. Preliminary courtship displays include vigorous ground chases, often lasting several hours, with both birds stopping frequently to rest and running interspersed with low gliding flights. In "Stick-Offer Display", either sex approaches is

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mate carrying a stick in bill, drops it in front of its mate or transfers it to its mate's bill. This display may stimulate and synchronize nest-building efforts in the pair. Precopulatory displays precede copulation by several minutes. The male performs the "Prance Display", in which he runs from his mate with lifted wings and tail, then lowers his wings and brings them close to body. The display contains 4-5 wing-raising cycles (lasting about 2.5 min total). The closed tail is held over body in early cycles and gradually lowered in later cycles. The postorbital apteria are maximally exposed, crest erected, and contour feathers sleeked. The "Tail-Wag Display" by the male consists of horizontal wagging of the tail while the head is intermittently bowed and slowly lifted. The male faces the female during display with fully exposed postorbital apteria and erect crest. The "Whirr" call is given. The male usually holds food or plant material in his bill to present to the female. During the male's "Tail-Wag Display", the female flicks her tail rapidly in a vertical plane; crest fully erect and postorbital apteria exposed. This is usually followed by mounting.

### **Nest Site**

#### **Description:**

Females do almost all of the nest construction. The male brings nest material to site. Nest-building may continue through most of the incubation period. Nests are shallow but are compact platforms constructed of thorny sticks loosely laid together, with a lining of finer material such as leaves, grass, or feathers. Larger sticks, grading to smaller ones are placed toward center of nest. The outside diameter measures about 30 cm (12 in.), but may exceed 45 cm (18 in.). The outside depth is 15–20 cm (6–7.8 in.) Some nests are situated so that bands of shade cross them during hottest part of day as a cooling aid for nestlings.

### **Clutch Size, Egg**

#### **Description:**

3–6 white eggs laid every second day

### **Incubation Period:**

Incubation is carried out by both sexes and lasts 17-20 days. Incubation is continuous and begins after first egg is laid. Only the male incubates at night. Although the body temperature of females and non-breeding males drops at night, the body temperature of incubating males remains constant. Incubating males expend about 36% more energy than a non-incubating female. Breeding males have conspicuous fat deposits and are significantly heavier than nonbreeding males or post-laying females.

### **Fledgling**

#### **Period:**

Young leave nest between 14–25 days.

### **Parental Care:**

The male broods the chicks throughout night and is relieved by the female at dawn. During the first few days following hatch, at least one parent attends the nest, brooding or shading the young. After the youngest nestling is about 4 days old,

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however, parents are frequently absent from nest but resume brooding about 2 hours before sunset. Both parents bring food to nest. Newly hatched young are generally are fed insects. Older chicks are often fed reptiles. Food demands peak as chicks approach 7 days of age. During this period, parents spend most of day foraging separately to feed young. The most active foraging occurs between 0700 and 1300 h, corresponding to period of greatest reptile activity.

**Chick Development:** Roadrunner chicks are altricial, but strong and active upon hatching. Their eyes are closed but open at day 4. Weight at hatching averages 14g. Young leave nest between 14–25 days. By age 24 days, young can fly and perch at this age. Overall, they resemble adults but are smaller, with dark eyes, and ~75% growth in tail. At age 60 days the size and appearance is almost indistinguishable from those of adult.

### CAPTIVE HABITAT INFORMATION:

**Social Structure in the Wild:** Greater roadrunners are monogamous, maintain a long-term pair bond, and mutually defend a large territory. Each spring and summer, they renew their pair bond through a series of elaborate courtship displays in which the male bows and prances, wags his tail, and offers nesting material and food items to his attending mate.

**Social Structure in Captivity:** More than one pair of greater roadrunners cannot be exhibited in the same enclosure as they are extremely territorial. Pairs should be kept out of visual and auditory range of each other as males will call across territory boundaries. Pairs are sociable by nature, and compatible pairs will usually rest near each other and feed from the same pan. Despite the compatibility of pairs, multiple perches should be available to allow birds to roost apart if they choose. Birds that prove incompatible should be housed separately until each bird can be re-sexed.

**Minimum Group Size:**  
1.1

**Maximum Group Size:**

1.1 with chicks. Remove chicks no later than 4 months of age to allow the parents adequate time to re-nest. Adults will chase and attack immature birds.

**Compatible in Mixed Species Exhibits:**

Yes

**Comments:**

Greater roadrunners can be exhibited with a wide variety of bird species. However, roadrunners are hunters, and small fledglings or young of any taxa will be consumed if the opportunity presents itself.

**Optimal Habitat Size:** The size of roadrunner pens varies widely. With large pens, dimensions are not critical. Outdoor enclosures that are small in scale should be longer than they are wide. A good recommended size is 20 x 15 x 20 for a pair of birds. Smaller exhibits should provide ample areas for birds to hide. The recommended oblong dimensions provide some exercise space, and allow the birds to distance themselves from keepers during enclosure cleaning. These size recommendations are highly dependent on the compatibility of conspecifics. Larger dimensions or separate shelters may be required

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for birds that have a lower degree of social compatibility. Opportunities for locomotion and exercise (i.e., walking, running and short flights) should be provided to the birds within their exhibits.

**Management Challenges:** The species seems prone to leg fractures. Research is underway to determine this propensity. Chicks should be parent reared whenever possible as parental skills are better.

### ADDITIONAL COMMENTS:

Priorities for Research of Wild Birds:

- Juvenile dispersal and recruitment
- Habitat use and ecology of northern and eastern populations
- Banding programs should be increased to determine fecundity and life expectancy
- The impact of human disturbance [urban development, pesticide use, illegal hunting] on declining local populations
- All aspects of greater roadrunner life history require study in Mexico

### REFERENCES:

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