

EMPLOYEE FIELD GUIDE

Guidelines for Maintenance and Construction in Environmentally Sensitive Areas

It is against the Department's Strategic Goals for our actions to threaten sensitive resources within our worksite. In order to fulfill our goals, every worker needs to adopt new approaches for construction and maintenance of facilities. These guidelines provide an environmentally sensitive approach which recognizes that often minor adjustments during planning, construction or maintenance activities can yield major benefits to the Department's goals.



Western Diamondback Rattlesnake, photo courtesy of Jeff Miller

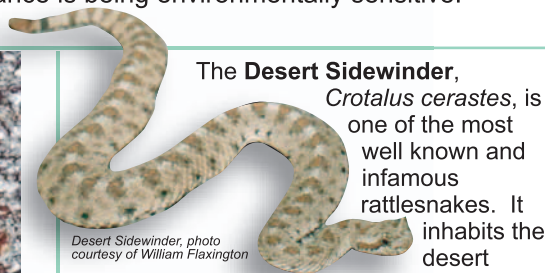
RATTLESNAKES OF SAN DIEGO & IMPERIAL COUNTIES

Rattlesnakes, like all snakes, are an important part of the ecosystem. Rattlesnakes eat a variety of small mammals, birds, reptiles, and amphibians and are preyed upon by hawks and owls. The gopher snake, a species harmless to humans, is often mistaken for a rattlesnake and killed. Therefore, giving all snakes a respectful distance is being environmentally sensitive.



Southern Pacific Rattlesnake, photo courtesy of William Flaxington

The **Southern Pacific Rattlesnake**, *Crotalus viridis helleri*, is the most common, inhabiting the area of scrub and chaparral from the coast to the desert foothills in San Diego County. In dense chaparral, it may climb to the tops of bushes to bask in the sun. The Southern Pacific Rattlesnake averages 30", but can reach approximately 4'. This snake is colored in shades of olive, brown, and gray. A light stripe runs from the outside corner of the mouth, and the tail has dark rings. Juveniles have a yellow tail and their patterning contrasts more than that in adults.



Desert Sidewinder, photo courtesy of William Flaxington

The **Desert Sidewinder**, *Crotalus cerastes*, is one of the most well known and infamous rattlesnakes. It inhabits the desert areas of San Diego and Imperial Counties. It likes sandy, open desert areas. It is usually active at night. By day, it occupies rodent burrows or is coiled at the base of a scrub. The "horns" found above the eyes appear to reduce glare. It is the smallest rattlesnake in our region, reaching 33".



Red Diamond Rattlesnake, courtesy of Gerald & Buff Corsi, California Academy of Sciences

The Western Diamondback Rattlesnake, *Crotalus atrox*, is our second largest rattlesnake and may attain a length of 83". It eats birds and rodents. This snake may be abundant in parts of its range. It is found locally in Imperial County, mainly in dry or semi-dry areas.



Southwestern Speckled Rattlesnake, photo courtesy of Jeff Miller

The **Southwestern Speckled Rattlesnake**, *Crotalus mitchellii pyrrhus*, is found in rocky areas from the foothills to the desert in San Diego County. This is an extremely variable snake, but it is basically a snake with a light gray or light sandy ground color and with overlying speckle arranged into a vague banding pattern; colors include black, orange, yellow and pink. In cool weather this species is active during the day and nocturnal in the summer. Speckled rattlers are alert and often quick to rattle when disturbed.

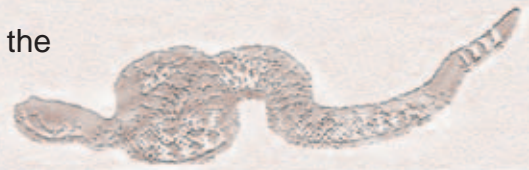
The **Red Diamond Rattlesnake**, *Crotalus ruber*, is a reddish brown snake with distinct diamond markings and black and white rings on the tail. This is the largest rattlesnake in San Diego County, occasionally reaching five feet in length. Red Diamond Rattlesnakes are less frequently encountered in populated areas. They are found in scrub areas, woodland and chaparral.

This rattlesnake is less likely to strike than other species, but individuals vary. Some may not even rattle when encountered, while others may be very nasty. On warm days in February and March, they bask in the sun on southern slopes and rock outcrops. In desert environments and in hot weather, they are most active at dusk and at night.

HOW TO PREVENT SNAKE BITES

Because snakes only bite humans in self-defense, do not put the snake in a position where it has to defend itself. If you hear a rattlesnake, stand still until you are sure of its location. Avoid running or jumping blindly. Snakes will usually retreat if given the chance. If you see a snake, back up and move away in another direction so you can walk around the snake without triggering a defensive reaction.

1. Snake bites are commonly on the lower leg or foot, so wear heavy socks and high boots with your trouser legs outside the boots.
2. Stay on maintained trails.
3. If you have to turn over a rock or log, use a stick instead of with your hands. Turn it towards you, keeping your hands on your side of the log, not reaching over it.
4. Look carefully before you step, jump, reach, sit, or lie down. Snakes seek shade during hot daylight hours. Don't put your hands on rocks or branches over your head, and don't put your hands or feet under anything. Occasionally, rattlesnakes are found swimming in streams and lakes during warm weather.
5. Don't step out of a car, over a log, or into tall grass or brush before checking for snakes.
6. Never disturb or kill a snake. Although most snakes will give a warning before they bite, if a snake is startled while shedding, mating, or having babies, it may "strike" immediately, biting without holding on.
7. Don't handle a dead rattlesnake. You can be bitten by the reflex action of the jaws.



TREATMENT OF SNAKE BITES

Begin treatment as soon as possible. Keep calm and avoid excessive exertion. Excitement and exercise aid the spread of venom. Determine whether the snake is venomous to avoid unneeded and possibly harmful treatment. Try to get a good look at the snake without risk to the victim or yourself, so you can describe it. If the snake is not seen and no rattle is heard, the appearance of the wound and the symptoms must govern treatment. Rows of small tooth marks or lacerations normally show in the bite of a non-venomous snake, and a good antiseptic may be adequate treatment.

If the snake is venomous, there usually will be one or two larger fang punctures and possibly smaller tooth marks. The fang punctures may bleed extensively because of anticoagulants in the venom. Besides the two puncture wounds, symptoms of a poisonous snake bite vary, depending on the kind of snake.

In many cases no venom at all, or very little, is injected into the victim.

Even if a person receives a large dose of venom, they will usually recover completely and without lasting effects if they can be taken to a medical facility within a few hours.

It is important to see a doctor as soon as possible.

Anti-venom serum is most effective when given within four hours of a poisonous snake. It is not believed to be effective if twelve hours have passed since the snake bite.

1. Place the victim in a comfortable position.
2. Do not allow the victim to move.
3. Do not clean the bite.
4. If the bite is on the arm or leg, you can make a constricting band with a scarf or bandana. Fold cloth to 1" wide and tie above bite. Not too tight. A finger should fit under the bandage.
5. Keep the bitten body part from moving. One way is with a splint.
6. Do not make any incision on or around the bite.
7. Do not raise the bitten limb above the heart.

8. Do not leave the victim alone.
9. Do not give the victim anything to eat or drink especially alcoholic beverages.

Symptoms of a rattlesnake bite may include:

- Immediate, severe burning pain
- Swelling of bitten limb
- Increased heart rate
- Tingling sensation of the body
- Bruising under the skin
- Sweating
- Thirst
- Headache
- Dizziness
- Nausea
- Paleness

Prepared by the Environmental branch of the California Department of Transportation, District 11.

Resources: "California Rattlesnakes", Division of Agricultural Sciences, University of California, May 1989 Leaflet 2996. "Rattlesnakes!", Charles Radcliffe, Zoonooz, July 1995. "San Diego Natural History Museum Field Guide", www.sdnhm.org. "American Pit Vipers", Kevin Ostanek, www.ncweb.com/users/gostenek. "Species of Special Concern", Jennings and Hayes. "Bites: Snakes", www.youhealth.com/ahl/152.html.