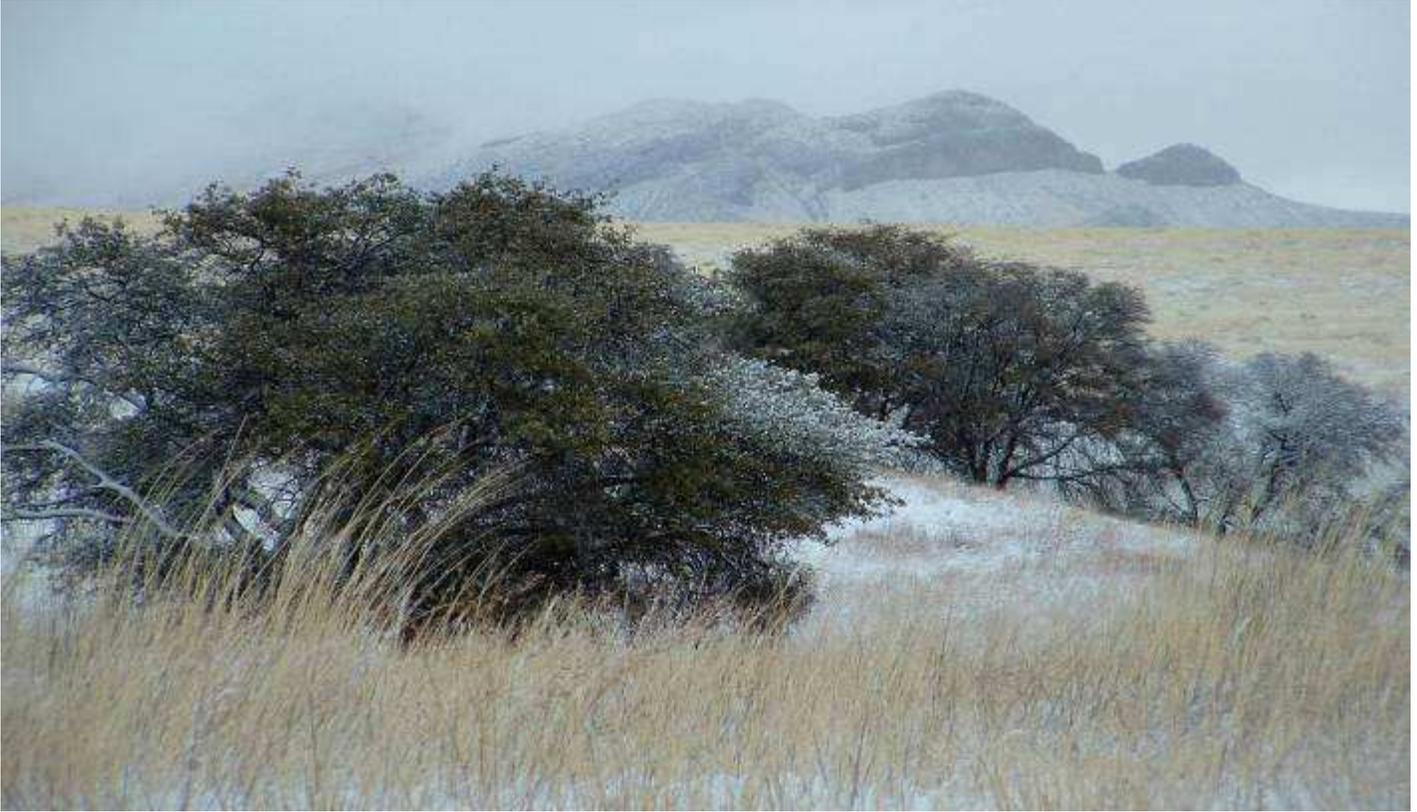




Rattlesnake Wintering Sites
Appleton-Whittell Research Ranch
Elgin, Arizona
Roger C. Cogan
Conservation Coordinator
Spring 2011



Audubon



Snakes are an integral element within all of the habitats where they are found. Snakes not only help maintain the fitness of their prey but they themselves are food for a wide variety of predators. They are a vital part of the landscape.

At the Research Ranch we are concerned with all living things and the natural systems that occur both at the preserve and the surrounding area.

Our continuing efforts to locate and to document sensitive areas within the Ranch are of special concern.

Winter is a test of survival skills for reptiles where temperatures may drop to freezing or below. If they cannot find a suitable location to wait out winter conditions while they are inactive they simply freeze and die.

Rattlesnakes, as well as a great many other snake species, are attracted to rocky areas. These rocky locations provide shelter, basking locations as well as attracting many of their prey species, especially lizards and rodents.

If these rocky areas meet certain requirements they are often used by rattlesnakes as well as other small creatures to safely ride out winter conditions to escape freezing.

Rattlesnake physiology does not allow them to burrow or force their way into many hiding locations.

The majority of other snake species that occur at the Research Ranch are better equipped to squeeze into smaller spaces. These species have more options available to them. They may use tree hollows, rodent or other small animal burrows, ant or termite nests or they may burrow into soft soils themselves as well as utilize rocky situations to survive winter conditions

A rattlesnake wintering site will usually face south or to the southwest, it is usually well exposed to be warmed by the winter sun. The cracks, holes or crevices in the rocks themselves are often narrow but are large enough to allow them to easily crawl into them. Most importantly they must go deep enough into the earth to avoid freezing temperatures.

This is not to say that these rocky ledges and crevices are the only places where rattlesnakes can survive a winter. Only that they are definitely preferred sites.

Four rattlesnake species are known to occur at the Research Ranch; the Western Diamondback (*Crotalus atrox*), Black-tailed (*Crotalus molossus*), Rock (*Crotalus lepidus*) and the Mohave rattlesnake (*Crotalus scutulatus*). Mohave rattlesnakes currently have not been seen at these locations and most likely ride out the winter in animal burrows underground in open grassland areas. Rock rattlesnakes are considered rare and their preferred wintering sites have not been yet identified.

During the months of February, March and April 2011, a survey for potential rattlesnake wintering sites was conducted. This search was conducted whenever time permitted or when weather conditions seemed most likely to bring snakes to the surface. Basically rocky areas with crevices or holes were sought out and examined. One winter site was already known to AWRR staff and indeed was still active.

All sites were located at the west-central boundary of the Research Ranch.

The following is a summary of those efforts.

Photographs

Title photo:

Rocky canyons, washes, ravines and rock outcroppings are typical locations for wintering sites.

Preface photo:

In southeastern Arizona even at lower elevations it can sometimes be blanketed in snow.

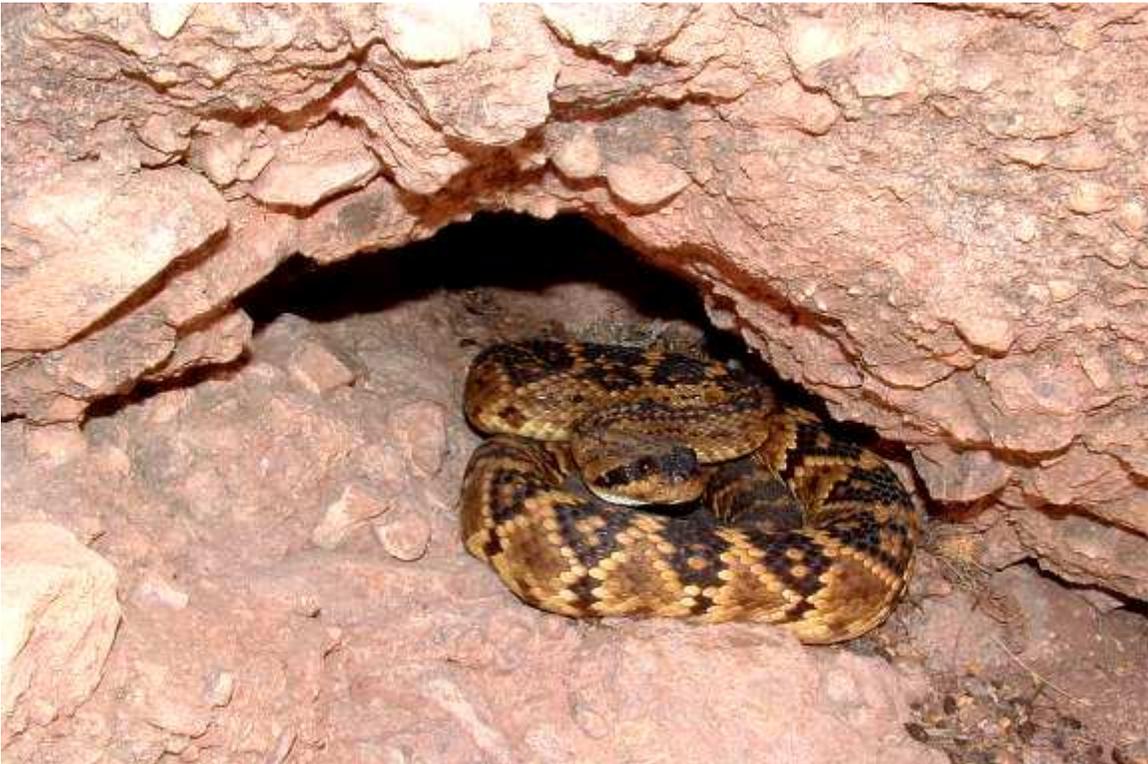
1. Sunny southern exposures are preferred but not always essential locations.
2. Black-tailed rattlesnake exposed at a rock crevice opening.
3. Another classic exposure for rattlesnakes.
4. This crevice is used by both diamondbacks and black-tails.
5. Black-tail sharing this crevice with the diamondback pictured in figure 6.
6. This diamondback not wanted its photo taken retreating deeper into the crevice.
7. Other snakes may also use rock crevices to escape winter freezes such as this Sonoran Whipsnake (*Masticophis bilineatus*).
8. Adult black-tail sighted on 3/26/11.
9. Another site used by both diamondbacks and black-tails.
10. A closer look at the site opening.
11. Small black-tailed rattlesnake with one coil exposed to sunlight.
12. Western Diamondback located basking approximately 30 feet from the den site.
13. A hill top location within a rock outcropping.
14. This crevice branched off in two directions both tunnels were used by snakes.
15. Usually deep within the crevices a safe photograph was not possible.
16. Site used by a black-tail rattlesnake.
17. A closer look.
18. This adult blacktail was sighted at this location on March 31, 2011
19. Another hilltop location used by a black-tail.
20. This site was located later in the spring.
21. Keeping an eye out.

All photographs by:
Roger C. Cogan
Conservation Coordinator
Appleton-Whittell Research Ranch
of the National Audubon Society





1. Sunny southern exposures are preferred but not always essential locations.



2. Two western diamondbacks were found at this site on 3/19. Black-tails such as this one pictured were found at this site on 3/19, 3/26, 4/24 and 4/25/11.



3. Another classic exposure for rattlesnakes.



4. Diamondbacks and black-tails were found at this site on 3/19, 3/26, 4/24 and 4/25/11.



5. Black-tail rattlesnake sharing this crevice with the diamondback pictured below on 3/19/11 at 2:25 p.m.



6. Western Diamondback not wanting its photo taken retreating deeper into the crevice.



7. Other snakes may also use these rock crevices to escape winter freezes such as this Sonoran Whipsnake (*Masticophis bilineatus*) on 3/26/11 at 2:28 p.m.



8. Adult black-tail sighted on 3/26/11 at 2:30 p.m.



9. Another site used by both diamondbacks and black-tails.



10. A closer look at the site opening.



11. Small black-tailed rattlesnake with one coil exposed to sunlight 3/26/11 at 1:25 p.m.



12. Western diamondback first located basking approximately 30 feet from the site on 3/26/11. On two return visits it was in the crevice with the small black-tailed rattlesnake pictured above.



13. A hill top location within a rock outcropping.



14. This crevice branched off in two directions both tunnels were used by snakes.



15. On 3/23/11 two adult diamondbacks were sighted at this location at 4:20 p.m. On 3/31/11 three adult were sighted at 1:15 p.m. They were usually deep within the crevice and a safe photograph was not possible.



16. Site used by a black-tail rattlesnake



17. A closer look.



18. This adult blacktail was sighted on March 31, 2011 1:15 p.m. and again on April 3rd 11:20 a.m.



19. Another hilltop location used by a black-tail.



20. This site was located later in the spring. A single blacktail adult was found deep in the crevice which I was unable to photograph. April 10, 2011 1:10 p.m.

It is now summer and we are waiting for the monsoons to arrive when snake activity will be at its peak. At this time we can confirm if other snake species use these retreats during their active season.

When fall weather returns we will again visit these areas and hopefully learn more about the number of individuals which may winter at these sites as well as discover new sites.



21. Keeping an eye out!