

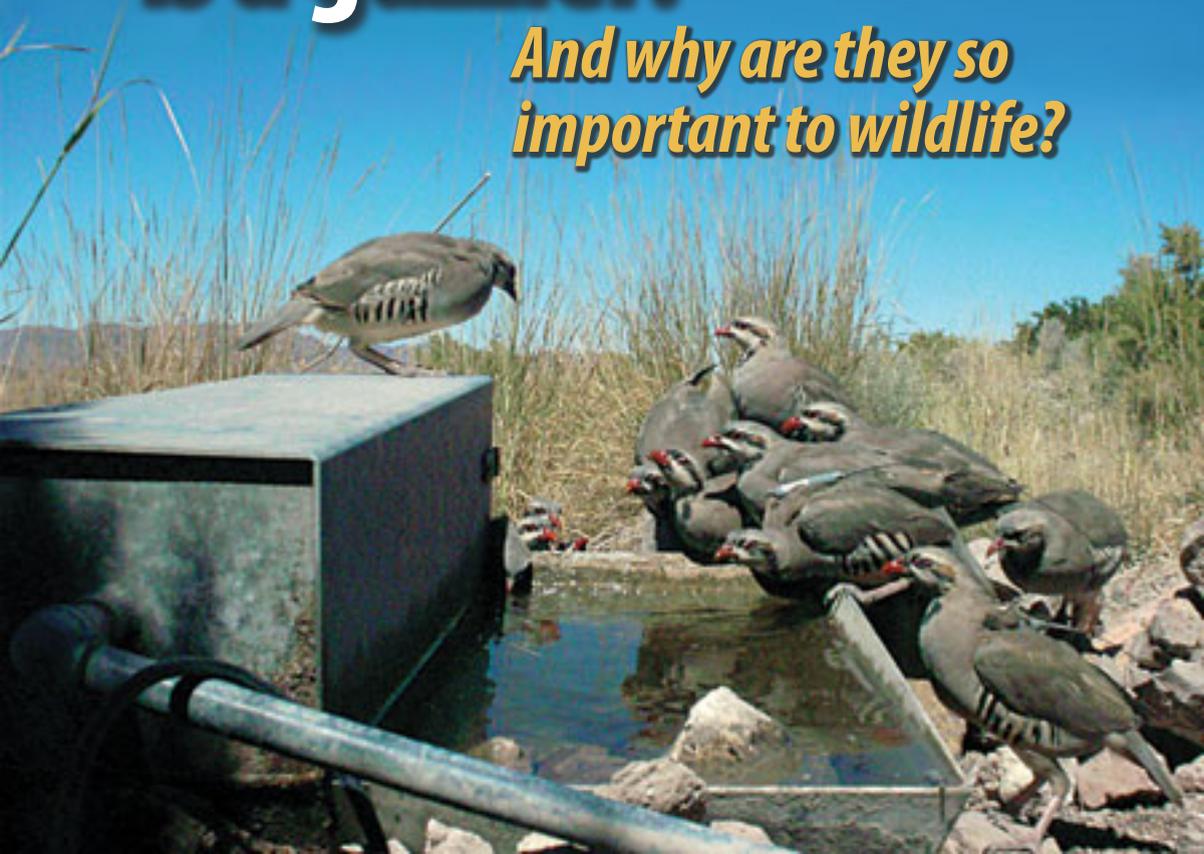
wildlife

R E V I E W

UTAH DIVISION OF WILDLIFE RESOURCES

What the heck is a guzzler?

*And why are they so
important to wildlife?*



What the heck is a **GUZZLER?**

by Dean Mitchell

Upland Game Coordinator

and Randy Larsen and Danny Raymer

*Utah State University and Brigham Young University
Graduate Students*

You may have heard the term wildlife guzzler and wondered, “What the heck is a guzzler?”

The short answer is an important one to wildlife: guzzlers are devices that provide wildlife with something they can’t live without — water.

Providing water for wildlife

Rain and snowfall varies widely across the United States, from a low of 2.3 inches per year in California’s

Death Valley to a high of 460 inches on Hawaii's Mount Waialeale. Nevada is the driest state in the country, receiving only 9.5 inches of annual precipitation, while Hawaii, at 70.3 inches, is the wettest.

Utah is the second driest state in the country, receiving only 11.86 inches of average precipitation annually. As you can imagine, it can be challenging to provide water to wildlife in the second driest state in the country. For more than 60 years, the Division of Wildlife Resources has met



Randy Larsen

that challenge by constructing and maintaining devices known as gallinaceous guzzlers, wildlife drinkers or just plain guzzlers.

How does a guzzler work?

Guzzlers are contraptions that catch and store water from snow and rain. Guzzlers are built in areas where a lack of water is the major reason wildlife populations are not able to establish themselves and grow. The water stored in guzzlers is available to wildlife throughout the year, but it's especially important to them during the hot months of July, August and September.

Each guzzler has an apron. This apron is usually made of corrugated tin or sheet metal roofing. Snow and rain fall onto the apron, and then the water runs down the apron into a rain gutter, then into a downspout and finally into a storage tank. Guzzler storage tanks vary in size. Some are 350-gallon tanks that small animals, such as birds and rabbits, can walk into. Others are huge 10,000-gallon storage tanks that are buried underground and support herds of big game animals. Some specialized

guzzlers, constructed in southern Utah for desert bighorn sheep, use the desert's slickrock as a collection apron.

Guzzlers that have underground storage tanks typically have an outlet pipe that the water flows through to reach a drinking trough. The trough usually has a valve, similar to the valve in a toilet tank, which regulates the amount of water in the trough. As animals drink the water, the valve opens and allows more water to flow from the storage tank into the trough.

Guzzlers in Utah are constructed from all kinds of materials. Some small animal guzzlers are built using old earthmover tires. The guzzler is built by sealing the tire on one side, which allows water to be stored in it. Some big game guzzlers are made of butyl rubber. Biologists take the rubber and line a pond-like depression in the ground with it. Water is then stored in the depression and piped to a drinking trough.

Some guzzler tanks are constructed using expended rocket motor casings. Surplus military vehicle transmission boxes are even used to construct guzzler drinking troughs.

Some apron frames are constructed of wood, but many of the newer guzzler frames are constructed of steel. The old wooden-framed guzzlers were often destroyed with the first wildland fire, but steel-framed guzzlers won't burn.

Biologists have tried to place guzzlers in areas where they'll benefit as many wildlife species as possible. In Utah's west desert, for example, guzzlers are placed in areas that will entice chukar partridge to come down out of the foothills to use them, while pronghorn can merely wander in from the valley bottoms for a drink. Doves and rabbits seem to gravitate to water wherever it's found.

Two research studies are underway in Utah to learn more about how guzzlers affect wildlife. Biologists want to know more about which wildlife species use guzzlers, what characteristics of guzzler placement entice more wildlife to use them and whether there's a difference in wildlife recruitment and survival in areas where guzzlers have been installed.

Wild turkey research

Danny Raymer, a Brigham Young University PhD candidate, is studying whether wild Rio Grande turkeys can survive in Utah's dry pinyon-juniper (PJ) forests simply by adding guzzlers to these areas. There is somewhere between 40 to 60 million acres of PJ woodlands in the West. Rio Grande turkeys might do well in these habitats because they have abundant food resources, including pine nuts. Utah alone has 9.1 million acres of PJ habitat. This PJ habitat makes up 58 percent of Utah's forest cover. These arid PJ forests generally lack the water that many wildlife species, including wild turkeys, need to expand their range. So far, Raymer's study indicates that Rio Grande turkeys released in PJ areas that do not have manmade water sources have a lower adult survival rate than turkeys released in areas that do have guzzlers.

Chukar research

Randy Larsen, a Utah State University PhD candidate, is evaluating how guzzlers affect chukar partridge, an important upland game bird in Utah. Many species

use guzzlers, but growing populations of wildlife by developing water sources is more complicated than it might seem.

Chukars are a good example. Biologists originally thought they could place guzzlers anywhere in chukar habitat and the chukars would find and utilize them. Unfortunately, Larsen has found that many guzzlers installed to benefit chukars are not used at all. Of 36 small game guzzlers in three areas of western Utah evaluated during the summer of 2004, only 18 (50 percent) were used by chukars. Chukars seem to have very specific security cover requirements in the areas immediately around a guzzler or spring. Water sources that lack appropriate shrub cover are underutilized by chukars, and in many cases, they're not used at all.

Doves, on the other hand, made use of all of the 36 guzzlers evaluated during summer 2004. Doves do not have specific requirements for shrub cover immediately around a water source. Clearly, species-specific requirements for cover need to be identified and considered before guzzlers are installed.



Chukars generally use guzzlers during the summer and early fall, when the temperature is the hottest and the moisture in the plants is the lowest. However, recent discoveries indicate that in some areas of Utah, chukars are able to obtain moisture from succulent plant sources, such as wild onion bulbs that retain moisture year round. This behavior frees chukars in some parts of Utah from the need to drink water and forces wildlife managers to

carefully consider areas where guzzlers should be built in the future.

Other questions of interest include the home range of chukars and their daily movements, particularly the movements of females with young-of-the-year chicks. The answers to these questions are important in helping biologists determine how far they should space guzzlers apart. Should guzzlers be spaced five, three, one, or less than one mile apart to help chukars the most? How far should they be spaced for antelope and mule deer?

Ideally, guzzlers should be placed in areas where chukars raise their chicks so the chicks will have easier access to the water. Surprisingly, information that adequately identifies appropriate brood habitat for chukars is lacking. This question is especially important to chukars because they're persistent nesters. They'll often hatch chicks as late as August, when the average daily temperatures are among the highest of the year.

Now you know

Because they're so important to wildlife during critical

times of the year, the specific location of guzzlers is protected under Utah law. However, a map is available at www.wildlife.utah.gov/pdf/guzzlermap.pdf that shows general guzzler distribution and densities throughout Utah.

Hundreds of guzzlers have been constructed across Utah. After reading this article, the next time you're afield and come upon an odd-looking contrivance full of water, you'll know what the heck a guzzler is! 🦌

