

Dear Potential Desert Tortoise Caregiver:

Thank you for your interest in adopting a desert tortoise (*Gopherus agassizii*). Historically, desert tortoises were removed from the wild for decades, and therefore the Arizona Game and Fish Department (AGFD) and its sanctioned desert tortoise adoption facilities always have a surplus of tortoises that need homes. However, we ask that you give considerable thought to being a tortoise caregiver before you apply. A captive tortoise can live up to 100 years, so be aware that a tortoise you adopt may outlive you. Please read the following information carefully and determine whether or not you are able to provide the burrow and yard enclosure a desert tortoise requires, as well as the necessary care and treatment. Desert tortoises are typically only adopted from April 1-September 30 because they hibernate during the cooler months. Often families use the winter months to prepare their backyard habitat, constructing the burrow and enclosure.

If you decide you would like to adopt a desert tortoise, please visit the AGFD Captive Desert Tortoise Care website at: <http://www.azgfd.gov/tortoise>, and review the checklist below to be sure you have fulfilled the requirements. Then, fill out the enclosed application and return it with the required photo documentation. In some cases, we may request that you give a tortoise adoption expert permission to visit your yard to take a closer look at your tortoise habitat. After you have been approved to adopt a tortoise, we will contact you to make arrangements to pick up your desert tortoise. Your tortoise may be permanently marked so if it becomes lost and then found it can be identified by various animal care agencies or veterinarians. A marked tortoise can be traced back to one of our adoption facilities and returned to you. You may be asked to contribute a small monetary donation when you adopt your desert tortoise to help with the costs of the adoption program.

Any of the state-sanctioned desert tortoise adoption facilities will accept desert tortoises that can no longer be cared for by adoptive families. Typically, this occurs when adoptive families leave the state or the owner passes away. Desert tortoises cannot be removed from Arizona, so if you are a desert tortoise custodian and are moving from Arizona, you must return the desert tortoise to one of the adoption facilities. **Remember that it is not only illegal to release a captive desert tortoise into the wild, doing so is also detrimental to wild tortoises because it can spread disease and disrupt uniquely adapted genetics in wild populations. It is also illegal and detrimental to desert tortoise populations to collect tortoises from the wild.** Desert tortoises cannot be adopted outside of their natural range. You may adopt a desert tortoise if you live in the Phoenix, Bullhead City, Kingman, Lake Havasu, Tucson, and Yuma areas. Desert tortoises cannot survive the severe winters that occur in the northeastern or southeastern regions of the state. Contact information for desert tortoise adoption facilities are listed below.

Phoenix: Phoenix Herpetological Society (602) 550-7029 or (602) 705-2240;
www.phoenixherp.com

Bullhead City / Kingman / Lake Havasu: AGFD Region III Office (928) 692-7700

Tucson: Arizona-Sonora Desert Museum (520) 883-3062;
www.desertmuseum.org/programs/tap.html

Yuma: AGFD Region IV Office (928) 342-0091

Caring For a Captive Desert Tortoise

As an adopter of a captive desert tortoise, you become a tortoise *custodian*, not owner. A captive desert tortoise is still wildlife, and thus remains the property of the State of Arizona. This distinction allows the state to maintain certain authorities required by state and federal regulations. A captive desert tortoise is not a typical pet, and does best when handled infrequently. Children especially must understand that the tortoise is an animal that should be watched, not picked up and held. However, desert tortoises can be fascinating animals to observe, and families can gain an appreciation of desert wildlife by caring for a tortoise and watching its natural behavior. Before adopting a desert tortoise, we strongly encourage you to learn as much as possible about desert tortoises and desert ecology. Below we have provided basic information about desert tortoise care and adoption; this document is not designed to be a definitive guide.

General

Responsibility for feeding, veterinary care, safety and general well being of the tortoise rests with the adoptive family. Children should not be solely responsible for the care of the tortoise.

Dogs can pose a deadly threat to your captive desert tortoise. If you have a dog, it must be fenced separately from the tortoise. There have been many cases where even well behaved dogs have mauled desert tortoises, resulting in severe injuries and expensive veterinarian bills. In some cases, the injuries were so severe that the tortoise had to be euthanized. Desert tortoises must be housed separately from other species of turtles or tortoises, as potentially fatal diseases and parasites can be spread among species.

The desert tortoise is a reptile, and so it can't regulate its body temperature like warm-blooded animals. Instead, the tortoise needs to spend much of its time in a thick-walled, insulating burrow for refuge from temperatures that are too hot and too cold. To keep cool in the summer, it remains in its burrow most of the day, but will come out briefly to feed in early morning and early evening. In the winter, your desert tortoise will hibernate and emerge only on the very warmest days. If your tortoise does not hibernate in the winter, this could be a sign that your tortoise is sick, and you should take it to a veterinarian for a health check-up.

As of January 2008, you can adopt one tortoise per household. This means that if you already have a desert tortoise, you will not be able to adopt another. A desert tortoise is a solitary animal and does not require a second tortoise to keep it company. If you already legally have more than one desert tortoise, please house them separately because eventually they will begin to fight. Fighting between tortoises creates a stressful environment for both tortoises. If you have a male and female pair, it is even more important to create two separate enclosures so they cannot breed. A female desert tortoise can store sperm for several years, meaning that mating once can result in several years of hatchlings. Although not unlawful to breed desert tortoises in captivity, we strongly discourage breeding captive tortoises because caring for too many young tortoises uses resources that would otherwise help with the state's desert tortoise conservation efforts. Each year there are approximately 300-400 desert tortoises available for adoption throughout the state, not including hundreds of unwanted hatchling tortoises, resulting in an excess of adoptable tortoises. Also, hatchlings require special diets and are difficult to care for in captivity. Remember, hatchlings from captivity must be either given away or turned over to a state-sanctioned adoption facility within 24 months of hatching. **Caution:** desert tortoise hatchlings

are often given away to friends who have not received the proper information on how to care for them. Those hatchlings frequently acquire chronic diseases, or die.

You can distinguish males from females only after they have reached more than 6" in length. The plastron, or bottom part of the shell, becomes concave in males, while it is flat in females.

Enclosure

Your captive desert tortoise requires a secure habitat consisting of an enclosure with at least one burrow. For security reasons, we typically require the enclosure to be in the backyard; however we will make exceptions if you live in a rural area and can show that the front yard habitat is secure. The total minimum area for an adult desert tortoise should be at least 18' x 18' (324 sq. ft.) and this area must include a grass section of at least 6' x 6'. Grasses, along with other native vegetation such as mallows, forbs, and vines are all an excellent diet staple for a desert tortoise. If you have a dog, the enclosure fence must be high enough to exclude the dog. Your pool, spa, or fish pond must also be fenced off separately. Desert tortoises cannot swim, so if they fall into deep water, they will drown.

The tortoise must always be able to get to shade, sun, water, and dry ground. Your entire backyard can serve as the enclosure if it is fenced, with at least a 12" footer, which prevents the tortoise from digging under the fence. If your backyard is not fenced, you can create an enclosure by first digging a 12" footer, which can be made of cement or cinder blocks (or you can trench down 12" and install a barrier of ¼" or ½" hardware cloth). Then construct an enclosure wall at least 18" high (if the wall is constructed of cinder blocks, you will need at least 3 layers of blocks above the surface of the ground). If the enclosure wall is constructed of hardware cloth or a similar material, you will need to create a lip along the top edge to ensure the tortoise cannot escape if it climbs the wall.

If your backyard fence is chain link, your tortoise can see out of the enclosure and might try to escape, which ultimately causes stress. Also, a tortoise can get its head or limbs stuck in chain link or wire fencing. To solve these problems, create a visual barrier that is at least 16" high against the bottom of the chain link. This barrier can be constructed of cinder blocks, opaque Plexiglas, or wood. Do not use metal, because it can reflect heat and potentially have sharp edges.

Fence gates must be self-closing so that they are not accidentally left open, and the tortoise cannot easily push them open. The gate must be at least 18" high, with no open space below through which the tortoise can escape.

Shade is an important component of your tortoise's backyard habitat so that it can take refuge from the sun when it is outside of its burrow. Shade can be achieved by establishing several medium to large plants within the enclosure. Alternatively, you can create shade in the enclosure by building a shade ramada with an awning.

Do not use dry fertilizer, snail bait, weed or pest sprays or systemic poisons in the enclosure. Many pest control chemicals can kill tortoises, so ask your pest control company to use natural or synthetic pyrethrum sprays, which are not harmful to tortoises.

Burrow

Because the burrow serves an important function in protecting the tortoise from extreme temperatures, it is critical that you build a burrow that insulates well. The burrow should have a layer of at least 8" of soil on the top, sides, and back for insulation. The bottom substrate of the burrow needs to be soil, not rocks or gravel, for proper insulation. Burrows with openings facing the south are good burrows for hibernation, because they warm up quickly. Burrows with openings towards the north warm up slowly, and are suitable for summer burrows. If you have only one burrow for your tortoise, build it in the shade of a shrub or tree. Below we provide general instructions on how to create a tortoise burrow. For complete instructions on how to build different kinds of burrows for your desert tortoise, and photographs of burrows, refer to the AGFD Captive Desert Tortoise Care website: www.azgfd.gov/tortoise. If you do not have access to the internet, you can request a paper copy of the burrow construction instructions through AGFD at (602) 942-3000 or by visiting the Kingman, Phoenix, Tucson, or Yuma Regional Offices, or the Arizona-Sonora Desert Museum (contact information above).

The burrow can be constructed out of a 5-gallon bucket or a large metal trash can cut in half and placed lengthwise so that it sits level on the ground. Rocks can be placed around the sides and back to prevent erosion. Add an 8" layer of soil on the top, sides, and back for stabilization and insulation. Cinder blocks can also be used to create a burrow. Arrange 6 cinder blocks into a "U" shape, and cover with a ¾" thick, 40" long x 32" wide piece of plywood or a piece of flat rock such as flagstone. Soil should then be piled 8" high on the top, sides, and back for insulation.

The burrow should be high and dry, meaning that it is located in a high area of your backyard, and away from any water source, including irrigation or areas where water collects after rains. It is critical that the tortoise burrow stay **completely dry** during irrigation or heavy rains and that the tortoise always has a dry place to bask. The location of the burrow should not be on any rocks or gravel. The burrow should be at least 8' away from the water and the entrance should be raised up on a mound that is high enough to prevent becoming inundated with water during flood irrigation (at least 2' above ground) and during monsoon rains (8" above ground). A damp den will cause your tortoise to become susceptible to various respiratory ailments that require costly veterinarian treatment. These ailments, if left untreated, will most likely result in the death of the tortoise.

If you live in the Bullhead City, Kingman, Lake Havasu, or Yuma areas, the burrow must be dug below ground to offer the best thermal protection against the extreme heat in these regions. However, the entrance should still be high enough to prevent flooding during heavy rain. You can create a below ground burrow by digging a hole that is 5-7' deep, the width of your tortoise, and at an angle of 15-20° below the horizontal ground level.

Diet

Make sure that water is available in the enclosure at all times. Keep the water dish in the same place so the tortoise knows where to find it. Your tortoise will get a lot of its water from its food, so you may not see it drink frequently. However, tortoises enjoy soaking occasionally, and so the water dish should be just a few inches deep, but wide enough for the tortoise to sit in.

The desert tortoise is a vegetarian, and needs to eat only plants. Do not feed your tortoise dog or cat food, monkey chow, or any food that contains more than 15% protein. These will cause liver

and kidney damage, as well as deformed shell growth. Provide a variety of foods to meet your tortoise's nutritional needs. In general, commercial produce is less nutritious than native plants because of higher water and lower fiber content. Ideally, you should allow your tortoise to browse on plants that you can establish in your backyard. For example, grass in your backyard can contribute a significant portion to your tortoise's healthy diet if you establish a patch large enough for your tortoise to browse when it is hungry (at least 6' x 6' in size). There are many native grasses and other plants that you can establish in your yard that are favored by desert tortoises in the wild (see below). You can purchase native plant seeds at the Arizona Native Plant Society website (http://aznps.org/html/az_plant_sources.html) or by inquiring at your local nurseries.

For a special treat, (once a month or so) you can give a tortoise a **small** piece of fruit such as 1 strawberry, a ¼ of peeled banana, or a ¼ slice of peeled cantaloupe. Tortoises also enjoy prickly pear cactus fruit, and can be fed one per day when in season. Fruits have too much sugar and water to be fed in large amounts; not more than 10% of its diet should consist of fruit. Also, do not feed tortoises frozen vegetables or sodium-rich foods including canned vegetables, dairy products, breads, and celery. Below is a list of acceptable foods, and those to avoid.

Captive Desert Tortoise Diet

Favored native plants (all of plant consumed unless otherwise noted)

Hoary abutilon (<i>Abutilon</i> spp.)	Evening primrose* (<i>Oenothera</i> spp.)
Arizona cottontop grass (<i>Digitaria</i> spp.)	Fern acacia (flowers) (<i>Acacia angustissima</i>)
Bamboo muhly grass (<i>Muhlenbergia dumosa</i>)	Globe mallows* (<i>Sphaeralcea</i> spp.)
Blue grama grass (<i>Bouteloua gracilis</i>)	Morning glory (Convolvulaceae)
Buckwheats (<i>Eriogonum</i> spp.)	Plantain* (<i>Plantago</i> spp.)
Cassia (<i>Senna</i> spp.)	Prickly pear (fruit and new pads) (<i>Opuntia</i>)
Curly mesquite grass (<i>Hilaria belangeri</i>)	Hibiscus (flowers and leaves) (<i>Hibiscus denudatus</i> and <i>H. coulteri</i>)
Deer grass (<i>Muhlenbergia rigens</i>)	Spurges* (<i>Euphorbia</i> spp.)
Desert four-o'clock (<i>Mirabelis spectabilis</i>)	Trailing four-o'clock (<i>Allionia incarnata</i>)
Desert honeysuckle (<i>Anisacanthus thurberi</i>)	Vine mesquite grass (<i>Panicum obtusum</i>)
Desert senna (<i>Cassia covesii</i>)	
Desert willow (flowers) (<i>Chilopsis linearis</i>)	

Acceptable produce

Barley	Cilantro	Parsley
Bean sprouts (mung)	Collard greens	String beans
Beet greens	Endive	Snow peas
Bok choy	Kale	Spinach
Carrot greens	Mustard greens	Turnip greens

Other healthy foods

Alfalfa (fresh or hay)	Clover*	Pumpkin leaves*
Bermuda grass (fresh or hay)	Dandelion greens	Rose petals*
Bluegrass lawn	Grape leaves and shoots	Watercress
Cantaloupe leaves	Mulberry leaves*	Zucchini/squash leaves

*** = good for young desert tortoises**

Avoid the following

All types of lettuce	Any protein-rich foods
Avocado	Canned and frozen vegetables
All fruit	Starchy vegetables (including corn)
Cabbage	Chinaberry berries
Celery	Plants in the <i>Nicotiana</i> (tobacco) genus
Cucumber	Mushrooms

Health

If you adopt a desert tortoise, you are responsible for caring for its health. There are several experienced reptile veterinarians throughout the state who can examine your tortoise and determine if it is sick. Common symptoms of illness in a desert tortoise include runny nose, swollen eyelids, wheezing, lethargy, weight loss, and loss of appetite. Failure to treat an ill tortoise could result in its unnecessary death. If you do not know of a reptile veterinarian, call any of the listed AGFD sanctioned adoption facilities (contact info above) for a referral in your area; or you can find veterinarians certified by the Association of Reptilian and Amphibian Veterinarians at: <http://www.arav.org/Members/AZ.htm>.

Rules pertaining to desert tortoises

Per Arizona Game and Fish Commission Rule R12-4-407 A.1, "An individual may possess, transport, or give away a desert tortoise (*Gopherus agassizii*) without a special license if that individual possessed it before April 28, 1989. An individual who possessed a desert tortoise before this date may propagate it, and hold offspring in captivity for 24 months from the date of hatching. The individual shall dispose of the offspring of desert tortoises before or at the end of the 24 months by giving them as a gift or as directed in writing by the Department. An individual who receives a desert tortoise that is given away under this Section is also exempt from the special license requirements. An individual shall not export a desert tortoise from this state unless authorized in writing by the Department."

Per Commission Order 43: Reptile Notes 3, "Possession limit is one desert tortoise per person."

For more information

Books

The Sonoran Desert Tortoise: Natural History, Biology, and Conservation by Thomas R. Van Devender. Published by University of Arizona Press, 2002.

Tortoises and Box Turtles: A Complete Owner's Manual by Hartmut Wilke and Gyorgy Jankovics. Published by Barron's Educational Series, 2000.

Web resources

Desert Tortoise Council: <http://www.deserttortoise.org/>

More information on care of captive desert tortoises: www.tortoisegroup.org

Contributors

Arizona Game and Fish Department

Arizona-Sonora Desert Museum, Tucson, AZ

James L. Jarchow, D.V.M., Tucson, AZ
Jim Shurtliff

Checklist

Please make sure you have fulfilled these requirements before applying to adopt a desert tortoise

- Have you familiarized yourself with desert tortoises and their proper care?
- Have you constructed a secure habitat for keeping a desert tortoise?

___ Do you have a fenced-in yard? If not, have you created an enclosure that will be large enough for a desert tortoise (18'x18' for an adult tortoise)?

___ Have you constructed a burrow that will insulate your tortoise from the heat and cold (covered with at least 8" of dirt on the top, sides, and back)?

___ Have you taken photos of the following elements of your enclosure?

- Enclosure (entire to show ground cover, and perimeter)
- Burrow
- Water dish
- Food source
- Shade (tree/shrub/constructed)
- Fence (to show construction material)
- Security measures (gates, locks)
- Any other important feature of the backyard habitat

___ Have you made your backyard safe from potential hazards to a desert tortoise, like a pool, toxic chemicals, or the family dog?

- Are you committed to caring for a desert tortoise for many years, possibly for the rest of your life?

___ Have you thought about what will happen if you move away from Arizona or can otherwise no longer care for it?

___ Have you considered that you are responsible for the health and well-being of the tortoise, even if it gets sick and requires veterinary treatment?

If you have answered yes to all of the above, proceed to the application!

APPLICATION FOR ADOPTING A DESERT TORTOISE

Please note that desert tortoises are only available for adoption April 1 – September 30

Name _____ Address _____ City _____
State _____ Zip _____

Home phone _____ Work phone _____ Cell _____
Email _____

Closest MAJOR cross streets to your home (e.g. Thomas & Central)

Have you ever cared for a desert tortoise? Yes _____ No _____
If yes, do you still have the tortoise in your possession? Yes _____ No _____
If not, what became of it? _____

Will the tortoise be used for educational purposes? Yes _____ No _____
If yes please explain _____

The Arizona Game and Fish Department and any state sanctioned adoption facility make a good faith effort to place only healthy desert tortoises. At the time of the adoption, it becomes the responsibility of the adoptee to provide for the needs of the animal.

I understand that I will be responsible for the safety and well being of the desert tortoise, including any necessary veterinary care. Further, I agree to comply with all State regulations relating to taking and handling of wildlife (including A.R.S. § 17-306 and Arizona Game and Fish Commission Rule R12-4-407).

Signature _____ Date _____

**WHEN YOUR ENCLOSURE AND BURROW ARE COMPLETED,
PLEASE ENCLOSE THE FOLLOWING INFORMATION ALONG WITH
THIS APPLICATION:**

Describe your yard and the enclosure (size, topography, plants, shade).

Include a diagram of your backyard (use box at right).

Describe your fencing (height, footing depth, construction materials).

Describe the burrow (construction materials, size).

Send six to seven (6-7) photographs (one each of the: backyard/enclosure, burrow, water dish, food source, shade source, fence material, and security measures – if enclosure is gated).



Return photos, information, and application to the nearest desert tortoise adoption facility:

Phoenix:

Phoenix Herpetological Society, PMB 401, 20710 N. Scottsdale Rd. Ste 107, Scottsdale, AZ 85255, (602) 550-7029 or (602) 705-2240

Bullhead City/Lake Havasu/Kingman:

Arizona Game and Fish Dept. Region III Office, 5325 N. Stockton Hill Rd., Kingman, AZ 86409, (928) 692-7700

Yuma:

Arizona Game and Fish Dept. Region IV Office, 9140 E. 28th St., Yuma, Arizona 85365, (928) 342-0091

Tucson:

Arizona-Sonora Desert Museum, Attn: TAP, 2021 North Kinney Road, Tucson, Arizona 85743, (520) 883-3062

You may be asked to contribute a small monetary donation to cover the costs of the adoption program.

For Official Use Only

Application Rec'd:	Tag No. (if applicable):	Tortoise Sex: M / F
Response Date:	Unique shell marks:	Yard check? Y / N
Application Approval Date:	Tortoise Origin:	Yard check results:
Adoption Date:		