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Florida Fish and Wildlife Conservation Commission

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resources for their long-term
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MyFWC.com

Dear wildlife rehabber,

Enclosed is an information packet highlighting resources available to you about proper rehabilitation release procedures and preventing the spread of Upper Respiratory Tract Disease (URTD) in gopher tortoises. Reducing the spread of tortoise diseases is part of FWC's overall goal for the Gopher Tortoise Management Plan – to restore and maintain secure, viable populations of gopher tortoises throughout Florida.

URTD is a contagious disease caused by two bacteria, *Mycoplasma agassizii* and *Mycoplasma testudineum*, which affect the upper respiratory tract and lungs. It is spread through contact between infected tortoises and can alter feeding, burrowing, and basking behavior, which may lead to tortoise mortality. Because it has no cure, the best way to minimize the risk of URTD is to refrain from practices that contribute to its spread. Before admission and release, each tortoise should be evaluated for symptoms of URTD. Please see the included URTD fact sheet for info on how to prevent the spread of this disease.

Rehabbed gopher tortoises should be released into suitable habitat within a mile radius of where they were found, and as close as possible to the location from which they originated. Releasing tortoises into existing gopher tortoise populations, other than their population of origin, can expose otherwise healthy populations of tortoises to diseases and infections such as URTD. If the origin of a gopher tortoise is unknown, the tortoise should be placed with a FWC-permitted waif gopher tortoise recipient site. Refer to the included release guidelines for more information.

After you have read through the information packet, please **complete the enclosed questionnaire** and return it to FWC by emailing Alex.Kalfin@MyFWC.com. We would like to learn more about your wildlife rehabilitation team in order to better serve our customers, in the case of tortoise injury.

We hope these resources assist you in helping to prevent the spread of URTD through the proper release of gopher tortoises. For more information on gopher tortoises, visit MyFWC.com/GopherTortoise. To report a sick or injured gopher tortoise, you may use the website or download FWC's Florida Gopher Tortoise Smartphone App by going to <http://myfwc.com/wildlifehabitats/managed/gopher-tortoise/app/>. If you have any questions about waif recipient sites and releasing rehabbed tortoises, contact FWC's Waif Gopher Tortoise Coordinator, Alex Kalfin, at Alex.Kalfin@MyFWC.com or (850)-921-1030.

Sincerely,

Alyssa Schubert
Gopher Tortoise Conservation Program

Get The Facts About Gopher Tortoises: Upper Respiratory Tract Disease



Upper Respiratory Tract Disease (URTD) is a contagious disease affecting gopher tortoises, as well as other tortoise and turtle species. The infection is caused by the bacteria *Mycoplasma agassizii* and *Mycoplasma testudineum*, which damage tissue in the upper respiratory tract and lungs of tortoises.

How are gopher tortoises affected by Upper Respiratory Tract Disease?

Mycoplasma infection can alter tortoise behavior related to feeding, burrowing and basking. Infected tortoises may refrain from eating, act lethargic or bask during odd hours. As a result, tortoises with the disease can be malnourished, dehydrated and vulnerable to other illnesses or mortality.

A gopher tortoise infected with URTD may display the following signs:

- Runny nose
- Watery eyes
- Swollen or sealed eyelids
- Slight reddening in the inner corner of the eye
- Wheezing or raspy breathing

Although many exhibit these signs when infected, tortoises with URTD may also be asymptomatic, showing no signs of the disease.



Jessica McGuire

How can I help prevent spreading this gopher tortoise disease?

URTD is spread through direct contact between tortoises.

People may also unintentionally add to the spread of URTD by moving tortoises.

A common example is when a person finds a gopher tortoise alongside a roadway

or in their yard and moves the tortoise to a different area such as a nearby park or forest. The relocated gopher tortoise may be infected with *Mycoplasma*, potentially spreading URTD to an otherwise healthy population in the new area. Relocations of gopher tortoises require an FWC permit, including a health examination of each tortoise before relocation. Captive tortoises, in particular, should not be released back into the wild. The relocation of tortoises with clinical signs of URTD is prohibited.



What should I do if I find a tortoise that appears ill?

There is no cure for URTD, however, the symptoms can be treated by a licensed wildlife rehabilitator. If you encounter a gopher tortoise, the best thing to do is let it be. If a tortoise appears ill or injured, contact a licensed wildlife rehabber for assistance. Relocating gopher tortoises without a permit is illegal and potentially detrimental to healthy populations. For more information on gopher tortoises, conservation efforts, or finding a licensed wildlife rehabber near you, contact the Florida Fish and Wildlife Conservation Commission's Gopher Tortoise Program at **(850) 921-1030** or visit **MyFWC.com/GopherTortoise**.



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Get The Facts About Gopher Tortoises:

Waif Gopher Tortoises



Waif gopher tortoises

A waif gopher tortoise is a gopher tortoise that has been removed from the wild but is not associated with a Florida Fish and Wildlife Conservation Commission (FWC) permitted relocation effort. These tortoises are generally from unknown sites and therefore cannot be returned to their original location. Whenever possible, waif tortoises should be returned to wild habitats, unless health issues prevent it. Waif gopher tortoises are classified as releasable or nonreleasable.

Releasable waif gopher tortoises

To be considered releasable, waif tortoises should not:

- Show visible signs of illness;
- Need medical care;
- Have been in captivity for more than 6 months;
- Require human intervention for survival;
- Have been exposed to diseased tortoises.

Releasable waif tortoises can be accommodated in wild, natural areas that are permitted as waif recipient sites by the FWC Protected Species Permit Coordinator. Suitable habitat includes areas with sandy, well-drained soils; minimal tree

canopy; and sufficient foraging areas with low-growing, herbaceous plants. Waif recipient sites can generally receive up to two tortoises per acre.

Nonreleasable waif gopher tortoises

These tortoises must permanently remain in captivity and may have one or more of the following conditions:

- Exhibit signs of illness;
- Require ongoing medical care;
- Are sufficiently disabled to prevent successful burrowing or foraging;
- Have been in captivity for more than 6 months;
- Have been exposed to diseased tortoises;
- Require human intervention for survival.

Possession of a nonreleasable waif tortoise requires an FWC permit. These tortoises must be placed with an educator or a wildlife facility that can properly care for the animal for the rest of its life. Examples include schools or zoos that use waif tortoises for educational purposes.

Waif recipient sites

Both public and private landowners can help ensure the survival of these animals by offering their lands as recipient sites for waif gopher tortoises. Anyone interested in having property designated as a waif gopher tortoise recipient site must obtain a no-cost permit from FWC. Waif recipient sites do not receive the same incentives that long-term, protected recipient sites receive; however, waif sites face less-rigid requirements. A waif recipient site permit is valid for five years, and a lifetime permit is also available.

For more information on releasable or nonreleasable gopher tortoises contact the FWC Protected Species Permit Coordinator at (850) 921-1018 or visit MyFWC.com/GopherTortoise.



Florida Fish and Wildlife
Conservation Commission
MyFWC.com



Captive Gopher Tortoise Care

The environment of a captive gopher tortoise is the most important factor affecting its health. Air and ground temperatures, exposure to sun and shade, shelters for security, and a clean enclosure must be considered. Indoor enclosures may be best for hatchlings and small individuals, whereas outdoor enclosures serve the needs of medium to adult-sized tortoises.

Indoor Enclosures: Aquaria, terrariums, and other suitable containers should be easily cleanable. The floor of the enclosure should be at least 10 times the size of the tortoise. Recommended substrates include hay or a sand and organic topsoil mixture. Avoid the primary use of sand (which can cause intestinal impaction if eaten), cat litter products, or pine and cedar shavings, which can be harmful to reptiles.

Household temperatures of 70-80 degrees Fahrenheit are adequate. During the day, a low wattage light bulb placed at one end of the enclosure can provide additional heat and should not exceed 95 degrees Fahrenheit. This helps facilitate body temperature regulation and encourages feeding.

A broad spectrum ultraviolet light is also needed to assure proper bone and shell growth. Provide access to natural sunlight or artificial lights which are designed to emit ultraviolet rays. Never set the enclosure in full sunlight because tortoises can overheat rapidly. Always provide the tortoise with some shade. Ultraviolet light should be offered three times a week during daylight hours.

Clean, non-chlorinated water should always be available. A shallow container or pan which the tortoise can enter and exit easily is best. Also, provide a small hide box for security and sleeping. For examples of indoor enclosures, also visit <http://www.tortoisetrust.org/articles/hatchouse.htm> (Tortoise Trust website).

Outdoor Enclosures: Enclosures are best constructed on sandy, well-drained soils to promote a dry environment. They may be constructed of wood, galvanized sheet metal (flashing) or welded wire fencing. Odd-shaped or rounded enclosures are recommended to prevent the tortoise from climbing. If corners are present in an enclosure, a cross piece placed over the corner will prevent the tortoise from climbing. Walls should be at least 2 feet high and buried 6 inches into the ground. Enclosure size should be based on tortoise size (juvenile tortoises are < 5 inches long):

	<u>1-2 Tortoises</u>	<u>3-5 Tortoises</u>
Juveniles	8 X 8 feet	10 X 10 feet
Subadults/Adults	14 X 14 feet	18 X 18 feet



Flooding by rainwater can be avoided in wooden enclosures by slightly parting horizontally-positioned boards at ground level. Holes may be drilled in flashing. Avoid exposed concrete in pen construction because it can result in shell abrasions and injury. Outdoor enclosures should also provide shade and a clean, shallow water source. **Remember; the larger the enclosure, the better.**

Burrows: In the wild, burrows offer escape from heat, cold, droughts, fires, and predators. In captivity they are important for temperature regulation and security. In outdoor enclosures, you can assist the tortoise by digging a starter burrow. It should be dug at a 45-degree angle and be slightly wider than the length of the tortoise to allow enough space for the tortoise to turn around in. Only one tortoise will usually occupy a burrow; therefore, one burrow should be provided for each captive tortoise. Avoid walking near the mouth of the burrow because these openings can collapse.

Diet: Outdoor enclosures should contain broad-leafed native grasses and other low-growing plants for grazing, including legumes (bean family plants) if possible. Enclosures can also be seeded with Bahia grass, rye, and clover. Mowing the enclosure will stimulate new plant growth which is more nutritious and is preferred by the tortoise. Other cultivated and wild plants that can serve as forage include mulberry leaves, hibiscus leaves, wild grape leaves, dandelion, and prickly pear cactus pads/fruits.

In addition to providing natural forage (which should be cut and offered to tortoises kept indoors), a prepared diet should be given at least three times a week. All items in the diet should be cut up, mixed, and offered on a flat dish or tray. A standard diet comprised of a variety of vegetables may include carrots, squash, beets, sprouts, kale, endive, mixed baby greens (without the spinach) and romaine or red leaf lettuce. Avoid iceberg lettuce which is nutritionally poor and does not provide a good source of fiber. Calcium powder can be added to the food once a week. Cuttlebone can be placed in the tortoises' enclosure for additional calcium supplementation. Avoid commercial tortoise diets and dog kibble which contain high amounts of protein. Fruit should be given infrequently and as a treat (for instance, blueberries in small quantities). The main goal in the tortoises' diet is to provide a high fiber, low sugar and low protein, calcium rich diet. **Variety** is the key to a well-balanced diet.

Some tortoises can be shy and therefore are initially reluctant to feed in captivity. During this period of acclimation avoid handling, provide proper temperatures and hiding areas, and offer diets which include aromatic and colorful food items.

Winter Accommodations: Gopher tortoises become inactive during cold periods and remain in their burrows. They may emerge during warm spells to bask. Tortoises that have dug burrows in outdoor pens should do well during winter months. Heat must be



provided to tortoises without burrows because temperatures below 50-55 degrees Fahrenheit can result in metabolic and respiratory illness. A small shelter can be constructed with heat strips underlying a 1/4 inch plywood floor and fitted with leaves and straw. Other methods and designs may be employed but always test the temperature first. Tortoises may also be brought indoors during cold weather.

Behavior: Tortoises are highly social animals and react to the presence of other tortoises. Social hierarchies or pecking orders may develop which result in dominant and subordinate individuals. If this social stress interferes with normal behavior and feeding, separation may be required.

Evaluating Health: Some signs of health problems include inactivity, lethargic behavior, labored breathing, discharge from the eyes, nose or mouth, abnormally thin limbs, sunken eyes and abnormal feces. A veterinarian should be consulted when these clinical signs first occur.

Authorizations: You may contact the FWC Protected Species Permitting office at (850) 921-5990 or by email at wildlifepermits@myfwc.com to discuss authorizations required for possessing, transferring, or acquiring tortoises for captive maintenance.



For additional information and reference on Gopher Tortoises, please refer to the following books and websites:

Books on Gopher Tortoises:

The Gopher Tortoise: A Life History by Patricia S. Ashton and Ray E. Ashton, 2004

The Natural History and Management of the Gopher Tortoise Gopherus Polyphemus (Daudin) by Patricia S. Ashton and Ray E. Ashton, 2008

At Home with the Gopher Tortoise: The Story of a Keystone Species by Madeline Dunphy, 2010
(Recommended for younger readers)

General Information:

<http://www.myfwc.com/gophertortoise> (Florida Fish and Wildlife Conservation Commission)

<http://www.tortoise.org/archives/gopher.html> (California Turtle and Tortoise Club)

<http://www.gophertortoiseCouncil.org/> (The Gopher Tortoise Council)

<http://people.wcsu.edu/pinout/herpetology/gpolyphemus/index.html> (Western Connecticut State University)

General Care:

<http://www.chelonia.org/Articles/Gpolyphemuscare.htm> (World Chelonian Trust)

Diet:

<http://www.tortoisetrust.org/articles/webdiet.htm> (The Tortoise Trust)

<http://www.tortoisetrust.org/articles/vitamins.html> (vitamin and calcium information from the Tortoise Trust)

Enclosures:

http://67.225.157.182/~amanda/gallery/main.php?g2_itemId=80 (outdoor enclosures from Turtle Rescue USA)

Release Guidelines for Rehabilitated Gopher Tortoises

Florida Fish and Wildlife Conservation Commission

The Florida Fish and Wildlife Conservation Commission (FWC) strives to keep gopher tortoises wild and to prevent displaced tortoises from being randomly released into areas where they may disrupt resident tortoise populations or transmit diseases. To be deemed “releasable,” tortoises should meet all of the following requirements:

- show no visible signs of illness
- need no medical care (tortoises may have received previous medical attention)
- not require human intervention for continued survival
- not have been exposed to diseased tortoises while in captivity

Current wildlife rehabilitators must comply with regulations and permit conditions when rehabilitating native wildlife. The following guidelines are intended to assist wildlife rehabilitators when evaluating whether a gopher tortoise should be released into the wild, with special considerations for the release.

Guidelines for release

Any gopher tortoise brought to a rehabilitation facility with no injuries or signs of illness should be released immediately, as long as adequate location data are known. Release of a gopher tortoise onto public or private land requires the consent of the landowner.

To reduce the risk of cold-related stress or mortality during colder months, gopher tortoises should only be released when the low temperature at the site is forecasted by the National Weather Service (www.nws.noaa.gov) to be above 50° Fahrenheit for three consecutive days after release (including the day of release).

Juveniles (<5 in. or 130 mm shell length)

Location data are not as critical for juveniles, due to the minimal risk of disease spread. Juvenile tortoises should be released in suitable gopher tortoise habitat with well-drained sandy soil, herbaceous groundcover, and an open canopy. Additionally, juveniles should be released into a burrow for protection (*i.e.*, an established gopher tortoise burrow or a man-made starter burrow). Juveniles need the protection of a burrow because they are vulnerable to predation. A gardening trowel is a useful tool for digging starter burrows.

Subadults and adults

Identifying the original capture location of the tortoise is necessary for releasing rehabilitated tortoises. Releasing a tortoise into a new environment may put the tortoise in harm’s way as it attempts to make its way back to its original location. Additionally, the risk of spreading upper respiratory tract disease (URTD) or other diseases increases as a tortoise matures. Returning the gopher tortoise to its original location reduces the risk for disease transmission. To minimize these risks, a rehabilitated tortoise should be released to the exact location where it was captured,

or if the exact location is not accessible, then within one mile of the original capture location. If the tortoise was found on a roadway, be sure to release the tortoise where there is suitable habitat nearby and where the tortoise is not in immediate danger. It is best for all gopher tortoises to be released as close to their original location as possible; therefore, it is extremely important to obtain location data when the tortoise is admitted for treatment.

Guidelines for determining if a gopher tortoise is non-releasable

Severe injuries

There are circumstances where a gopher tortoise may recover from an injury, but remain unsuitable for release. A gopher tortoise should not be released if it has suffered any injury that would prevent it from digging a burrow or foraging for food, or that has made it extremely susceptible to predation. Injuries of this type include missing a front or back limb, trauma or disease to both eyes, or severe clinical signs of URTD. Releasing a tortoise with URTD without exact location data may introduce the disease to healthy tortoise populations.

Missing location data

Obtaining location data for the tortoise is the key to providing the gopher tortoise with the best chance of being reintroduced into the wild. With the exception of juveniles, gopher tortoises that do not have at least an approximate point of origin generally cannot be released into a wild population, even if they fully recover from the injury. If location data are not available, the rehabilitator should contact FWC to determine if the tortoise should be deemed non-releasable and must be permanently placed in captivity at a permitted facility.

Euthanasia

A gopher tortoise should be euthanized if it cannot eat or drink on its own and has become emaciated, if it has suffered catastrophic bodily injury, or if its quality of life has been drastically impacted. When euthanasia is necessary, it must be humane. When contemplating whether or not a gopher tortoise is suffering and therefore should be humanely euthanized, a veterinarian and FWC should be consulted. See [Florida Administrative Code](#) (F.A.C.) 68A-9.006 (5).

Time spent in captivity

Standards for Wildlife Rehabilitation [F.A.C. 68A-9.006 (5)] require that wildlife possessed for rehabilitation purposes spend no longer than 180 days in captivity. If an injury requires longer than three months recovery time, please contact FWC at (850)921-1030 for guidance prior to release. Tortoises held longer than 180 days may still be eligible for release depending on the severity of the injury and the tortoise's ability to dig a burrow and actively forage.

Safe roads

for people and gopher tortoises



© Rebecca R. Jackrel

Why is it important to conserve the gopher tortoise?

- The gopher tortoise is classified as a threatened species in Florida. It is also a keystone species, and therefore its survival is essential for hundreds of other animals' survival. For this reason, the tortoise and its burrow are protected under state law.
- The cold-blooded gopher tortoise often spends time near roads, where it can easily soak up the sun's warmth and forage for food. This makes it vulnerable to injuries or mortality caused by vehicles.

You can help decrease road mortality by:

Observing speed limits and wildlife crossing signs

- Gopher tortoise activity is highest in mid-morning and mid-afternoon.
- Scan the road and shoulder ahead. Gopher tortoises are slow moving; allow time for them to cross the road. If you would like to make your neighborhood a more tortoise-friendly community, crossing signs can be ordered from: wildcotton.com.





Photo by Renee Rau

Leaving the gopher tortoise in the same area it was found

- Do not take the tortoise with you or move it to a different area.
- You can move the gopher tortoise across the road in the same direction in which it was headed. **Do not put your life in danger to move the tortoise.**
- Do not put the tortoise in water. The gopher tortoise is a terrestrial turtle which means it lives on land.

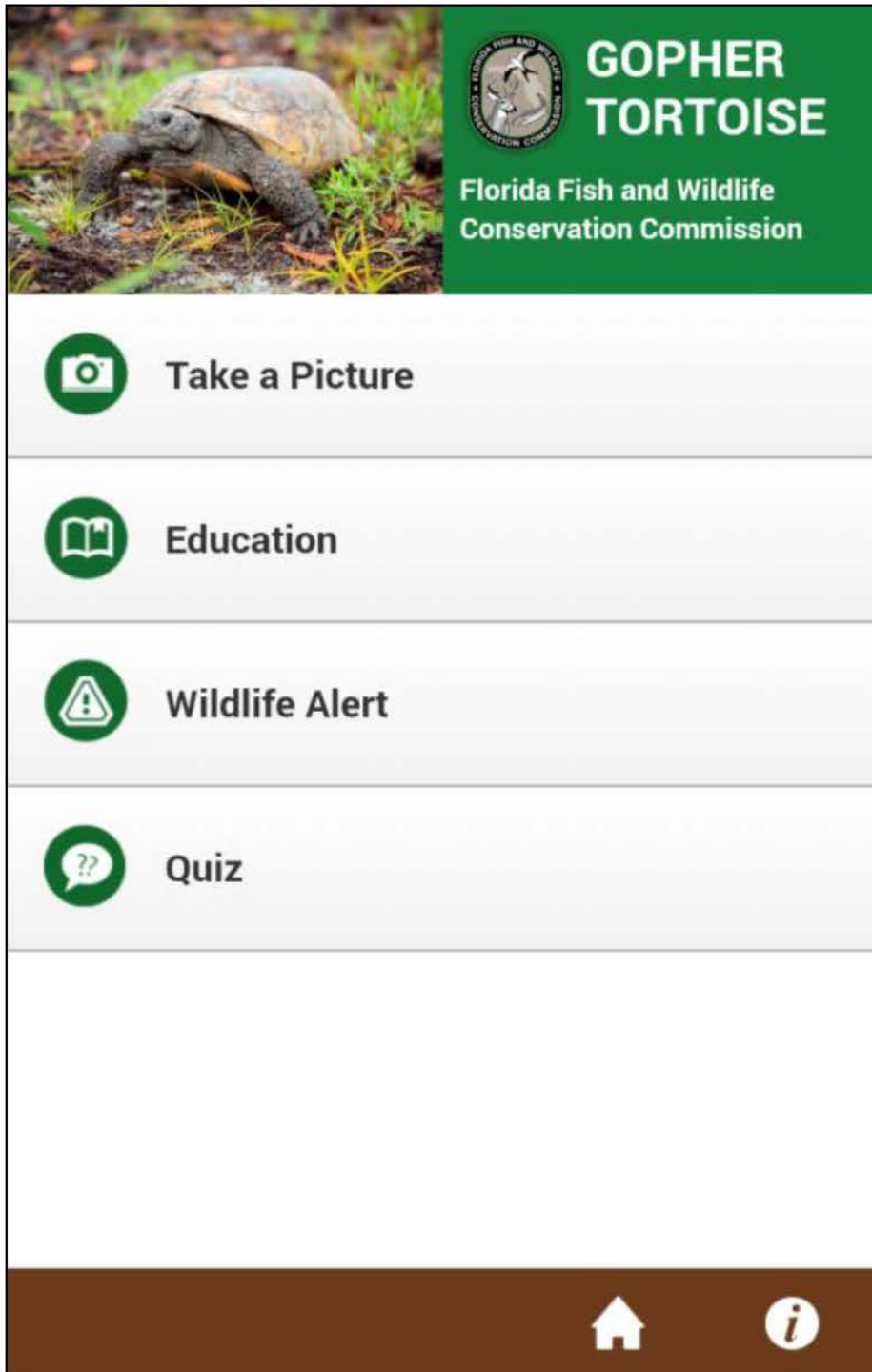
Once a gopher tortoise has been removed from the wild and its place of origin is unknown, it is referred to as a waif tortoise. Waif tortoises cannot be returned to the wild and must be kept in captivity for the rest of their lives. It is important to work together to decrease the number of waif tortoises and keep gopher tortoises wild.

What you can do if you see an injured or dead gopher tortoise

- On weekdays from 8 a.m. – 5 p.m., call 850-921-1030. After hours and on weekends, call the Florida Fish and Wildlife Conservation Commission's Wildlife Alert hotline at 888-404-3922 (FWCC), dial #FWC or *FWC on your cell phone or text Tip@MyFWC.com.
- If you cannot remain at the site, be prepared to give a detailed location. Your information could help save the tortoise.

**For more information visit:
MyFWC.com/GopherTortoise**





Become a citizen scientist, download the “Florida Gopher Tortoise” app.

Available on



or

[MyFWC.com/GopherTortoise](https://www.myfwc.com/GopherTortoise)