WATER TURTLE CARE SHEET - PONDS

Provided by
The San Diego Turtle and Tortoise Society
P.O. Box 712514
Santee, CA 92072-2514
(619) 593-2123
Get additional information at: www.sdturtle.org

With contributions from
Kim Thomas, Larry Bottroff, Vern Kirchman, Darlynn Lafler, Susan Murphy,
Steve Gilmore, Carol Wallace and Grace Rickard

GENERAL

There are many varieties of water turtles. They are cold-blooded reptiles and require a great deal of care and attention to keep them healthy. The care of water turtles is complex. Before you obtain your pet turtle, you should acquaint yourself with its requirements and have its living quarters prepared. This care sheet has been prepared to assist you in providing proper care and maintenance of your turtle. This care sheet is focused on keeping your water turtle(s) in a pond. Keeping adult water turtles in aquariums is challenging and the society gets letters from people who fail at that daily. But we also provide another care sheet for those that are forced to keep their water turtle(s) in an aquarium. Check our website.

TEMPERATURE

Turtles become sluggish as temperatures drop and they stop eating. The correct temperature for your specific type of turtle will be determined by when it east well but is not overactive. This is usually between 70 degrees F and 80 degrees F. Many species do very well at room temperature, but those from warmer climates require a heat source; one to fit your particular needs should be found. Large tanks and outdoor ponds require specially made apparatuses. Take care to ensure that air and water temperature are close to the same.

HOUSING

The kind of housing depends on the type, number and size of turtles you have. For two or three hatchlings, a medium-size aquarium will do for a short time. For larger turtles, at least a 50-gallon tank or a pond is needed. Glass aquariums, hard plastic kiddy pools, plastic stock watering troughs, or smooth cement ponds are recommended. Do not use metal containers, because they may harm your turtle. Water filters, covers and plants may be added. Bottom covering looks nice but makes cleaning a chore. If a bottom covering is used, make sure it is non-toxic, non-abrasive and cannot be swallowed by your turtle. Water depth is not critical, but it must be at least twice as deep as the turtle is high. Rain water is best, but tap water can be used if you let it sit for 8 hours or overnight to allow the chlorine to dissipate. Try to place the turtle in water of the same temperature it was removed from. A place where the turtle can easily get out of the water to dry off and be in sunlight MUST be provided. We recommend constructing a land area for basking.

LIGHT

Sunlight is necessary for good health. If possible, turtles should be able to get at least two to four hours of direct sunlight on a basking surface each day. Light through windows and household bulbs are not beneficial because the ultraviolet rays are lost. We recommend the use of Vita-Lite bulbs which are very beneficial for the turtles. They should be on for eight to 12 hours each day.

BUILDING A POND

Select an outside area which gets both sun and shade throughout the day. The shape and design of the pond is optional. The depth can range from six inches in the shallow part to 24 inches in the deep end, where you may want to place a drain and filter. The deeper the pond, longer the water will retain heat during the cool winter months.

Draw the shape of the pond in the dirt prior to excavation. Then remove the soil. It is best to taper the sides of the pond to allow easy access for the turtles. In the deep end of the pond place a drain that extends into a lower section of your yard. PVC pipe, two inches in diameter, works very well and is easily available at hardware stores. On the other end of the drain place a threaded cap. This will allow you to drain the pond easily when cleaning is needed. Next, lay wire mesh in the bottom of the excavated area. This will provide strength to the concrete. You can buy ready-mix concrete or mix your own with cement and sand. Pour the cement in sections over the wire to conform to your pond design. Fill around and below the drain. The concrete should be between 5 and 6 inches thick depending upon the size of the pond. Once the cement is poured, seal it with a mixture of pure cement and water. This will make the pond surface smooth and reduce abrasions on the shell surface of your turtles. After the cement has hardened, fill the pond with water to draw out the excess lime.

POND ENCLOSURES

The enclosure is important in order to keep your turtles safe from predators and to provide an area from which they cannot escape. A smooth material, such as Alsynite or aluminum siding, works well because the turtles cannot climb over. Alsynite comes in a variety of attractive colors. Materials such as wire, wood or rock are attractive, but not always escape proof.

The fence materials can be cut in sections or purchased in rolls. If you have large adult turtles, a fence height from 12 to 16 inches above the ground is recommended. The fence material can be bolted to 24-inch wooden stakes driven in to the soil on the outside of the fence every one or two feet. Inside the enclosure provide sand and dirt for nesting areas for adult gravid female turtles. Logs and ornamental rocks can be added for basking areas.

POND FILTERS

The cleaner you keep the pond, the healthier your turtles will be. It is easy to build your own filter. It can be placed in the deep end of the pond to filter and circulate the pool water.

Materials: The following items are needed — wire mesh; rocks; filter floss material for sale at any pet store; a submersible pump, available at pet stores and nurseries (they vary in size from 170 to 430 gallons per hour); and a plastic or metal container of any shape. Its size depends on the size of the pond and the number of turtles you have in it. The larger the pond size, or number of turtles, the larger the container must be to perform efficiently. Some filters 24 inches by 30 inches perform very well in a pond that is 30 feet long by 5 feet wide, with the deep end being 24 inches. The same filter has been known to work well in 200 to 600 gallon ponds.

Note: UV light in the filter line helps kill harmful bacteria.

Assembly: Place the container in a flat area in the deep end of the pond with the top above the water line. Place rocks in the bottom of the container to weigh it down. Place the pump in the bottom of the container. Drill an opening for the outlet of the pump in the bottom of the container. Form the wire mesh over the rocks and pump inside the container. Fill the area between the wire mesh and the container with filter floss material. Next place filter floss over the entire wire mesh to form the filter area. Place a second layer of wire mesh over the floss in order to compact the filter. Place a heavy object, such as a rock, on top of the wire mesh to hold it in place.

Some koi pond filters work quite well also.

Near the top of the container, at the water line, cut an opening to allow the intake of water from the pond into the filter. With pump running, the pond can be filtered & water circulated simultaneously. The filter material can be washed out when necessary with a garden hose. This material lasts well and can be used time and time again.

For easy accessibility, it may be possible to run an electrical conduit from your house to an electrical box inside the turtle enclosure. This is extremely handy for servicing circulating pumps, electric lights and heaters.

KEEPING TURTLES OUTSIDE DURING THE WINTER

In the San Diego area it is not wise to attempt hibernating turtles. It is not cold enough for them to achieve total hibernation, but is cold enough to keep them from eating. Under these conditions they can become seriously ill.

With the drop of air temperature during the fall and winter months in Southern California, turtles are exposed to considerably colder conditions. These conditions cause a lot of stress to your turtles and potential disease problems, such as pneumonia. This exposure is more critical in the inland valleys, where freezing temperatures are common. In order to provide adequate housing, it is necessary to heat the pond to protect the turtles against rapid temperature drops and bad weather conditions.

Keep track of the weight of your turtles during the winter months. If your turtle feels light, he has probably stopped feeding. You'll need to bring him inside and raise the temperature to encourage eating.

In small ponds it may be feasible to use a small commercial heater (100to 200 watts) to heat the water. However, in ponds in excess of 100 gallons, this is impractical because the overnight heat loss is too great. Large commercial heaters are not available, and if they were they would be very expensive to use.

A more practical and less expensive way of heating your pond area and the water, and also to keep the rain out, is by using clear plastic to produce a "greenhouse effect". This is accomplished by making a reinforced lattice around your pond enclosure to support the plastic. This lattice can be constructed with half-inch PVC pipe. An industrial six-millimeter thickness for the clear plastic is recommended because it is durable and will last one to two years. The plastic sheet can be anchored with blocks or rocks. During the nights the pond should be entirely covered; but during the day, only partially covered. This method insulates well against the cold temperatures during the night, while allowing moderate heating during the day.

SPECIAL CASES

(A) Different species can usually live together comfortably, but it is often best to separate aggressive turtles, and/or ones with great differences in size and/or ones requiring different temperatures.

(B) Diamondback terrapins normally live in brackish water, so NO other turtles should be in with this species.

(C) Some oriental species require a specialized diet, such as the Malaysian Snail Eater which eats only (you guessed it!) snails.

(D) Matamata turtles are poor swimmers.

FEEDING

Water turtles must eat in the water.

For most turtles a diet of ¾ meat and ¼ vegetable is correct. Foods to try are chopped or whole fish, dried beef, liver, heart, kidney, earthworms, insects, shrimp and Purina Trout Chow. Purina Trout Chow, available from feed stores, is highly recommended. Greens include aquarium greens, endive, romaine lettuce, spinach, mustard greens, broccoli leaves and Chinese cabbage. Commercially sold, Tetra ReptoMin works well in the water turtle diet. Also, Wardley's Reptile T.E.N. Floating Food Sticks offer a good balanced diet.

All foods should be cut or chopped to a size that can be swallowed easily. All turtles require calcium and phosphorus for proper shell growth. This can be added to the food or left in the tank by means of a calcium block or cuttlebone. Vitamins MUST be added if the diet is not varied. Natural vitamins, available at health food stores, or children's chewable vitamins, broken up and put in the food, will help maintain good health. Especially important is Vitamin A because turtles store only small amounts.

HIBERNATION

This is a natural phenomenon occurring in turtles that live where the temperature gets very cold. In our Southern California area it is best to keep captive turtles warm and feeding all year round in order to bypass hibernation.

SEXING AND BREEDING

It is very difficult to determine the sex of young turtles, but in adults it is often quite simple. Males usually have long, tapered tails, which are thick at the base, and in some species, the front nails are very long. The male is usually smaller than the female and the cloacal opening is beyond the margin of the carapace. The female has a short stubby tail, short nails and her cloacal opening is close to the base of the tail.

Turtles will mate in captivity but their requirements are often beyond the facilities of most keepers. The mating takes place in the water. The habits of your particular species should be checked and suitable enclosure provided.

EGG LAYING

Usually in spring or early summer, the female will begin pacing, looking for the right spot to lay her eggs. When ready, she will dig a hole with her back legs, deposit her eggs into the hole and cover them up. Do not disturb her while she is engaged in these maternal duties. If you have a fully-grown female turtle, you MUST have a land area for the eggs to be buried in. Eggs laid in the water die if they are not removed immediately. When she has returned to the water, and if the eggs are hard, mark an "X" and the date on the top of each egg as it sits in the ground, with a soft lead pencil and be CERTAIN that the eggs always remain with the "X" up, even when transporting them. If an egg should roll over, even once for a short duration, it probably will not hatch, so BE CAREFUL!

Should you want to incubate the eggs, please refer to our care sheet titled: "*Incubation and Care of Hatchlings".*

AILMENTS

A turtle kept under proper conditions will seldom get sick. A healthy turtle should feel heavy for its size, have bright clear eyes and eat well. Before introducing a new turtle into a community tank, it should be kept in an antibiotic solution for five days. A water-soluble drug such as Oxytetracycline Hydrochloride (250 mg) dissolved in warm water will treat a ten-gallon tank. The solution must be changed every 12 hours. If a sick turtle is found in your tank or pond, it must be isolated, its temperature raised to 80 degrees – 85 degrees F and treatment started. Ailments in water turtles are often difficult to detect. One important thing to observe is the behavior of your turtles. Look for unusual conduct, such as lack of appetite, poor equilibrium in the water or continued basking after lights in the aquarium are turned off, or if outside, basking after dark.

Respiratory Infection:

If you can recognize a respiratory infection before it becomes pneumonia you may be able to treat it without using antibiotic injections. The symptoms are swollen eyes with lids shut, off feed, white mucus dripping from eyes and/or nose, listlessness, open mouth breathing and/or heavy breathing noises. Parotid abscesses are also associated with respiratory infections although they may have other causes as well.

Environmental Causes: Removing a turtle from its high humidity natural climate to live in an arid climate such as Southern California.

- Drastic nightly temperature drops unlike what the turtle experiences in its natural habitat.
- Lack of variety and nutrients in its diet.
- Unclean living conditions.
- Habitat too small.
- Lack of heat source.
- Lack of sunlight and fresh air.
- Stress, such as moving the turtle from one yard to another.

Prevention is the best medicine; however help may be possible if you act quickly. Materials needed:

a. Plastic sweater box with lid.
b. Heating pad.
c. Aquarium thermometer.

Place the heating pad in a secluded area where it will be undisturbed and set it on the medium setting. Place the sweater box on the heating pad and place about one inch of water in the sweater box. Heat the water to a temperature of 95 degrees F. Place the lid on the sweater box so that it is left open about one inch and ensure the temperature remains constant at 95 degrees F. If it gets too warm, slide the sweater box off the heating pad a little until the desired temperature is achieved. Watch it closely. Place the turtle in the water in the sweater box. Ensure that the water level is comfortable for the turtle. It should only have to lift its head slightly to breathe. DO NOT make the turtle swim. Change the water twice each day. Due to bacterial build-up, it is very important to keep the water clean.

The purpose is the creation of a high humidity environment, which will help to re-hydrate the turtle and also help it to breathe and cleanse orifices. The raised temperature will speed up the turtles' metabolism helping it to eliminate toxins and encourage its appetite. Watch it very closely. Within three days the turtle should show improvement. Offer its favorite food (mealworms are usually most tempting). Trout Chow and fish may be tried.

If after three days, there is no improvement in the turtles' health, seek immediate assistance from a veterinarian knowledgeable in treating turtles.

After environmental causes are eliminated slowly re-adjust it to its new habitat for a few hours each day. Return it to the sweater box for the remainder of the time. Do not return the turtle to the environment that caused the illness. Studies have shown that raising the temperature of most reptiles for long periods is the best hospital environment. Some studies are also addressing the PH level of the turtles' water for the prevention or cure of many ailments including parasite infestation. Turtles from forest habitats may require slightly acidic water. Others from drier areas may require more alkaline water. Don't forget to refer to a geography book to make the best possible habitat for the turtle.

Soft shell: This ailment in hatchlings is probably the result of a calcium and vitamin deficiency, poor diet and/or lack of ultraviolet light. It can be treated by the addition of calcium and phosphorus in a five-to-one ratio, and vitamin D added to the diet, plus natural sunlight or a Vita-Lite installed over the tank's land area.

Swollen Eyes: Usual causes are unclean water conditions, vitamin deficiencies or lack of ultraviolet light. Treat by applying an eye ointment such as Terramycin, to the eyes. Place on the outside eyelid and it will soak into the eyes. Supplement the diet with vitamins, especially vitamin A. This can be done orally if necessary by using a probe to open the turtle's mouth and placing a drop or two of Avitron into the mouth each day. The turtle may have to be force fed by this method if it is unwilling to feed on its own. Also use sunlight or a Vita-Lite and keep the tank clean.

Fungus: This appears as white or gray-white patches on the skin caused by inadequate basking areas, inadequate sunlight or by keeping brackish water turtles in fresh water. It is treated with salt or an iodine-based antiseptic such as Povidol. The infected area should be painted with the antiseptic and allowed to dry before placing the turtle back into the water. Treat at least twice a day. Also effective are some pet store Ich solutions with malachite green.

Shell Rot: This appears as sores or gray spots on the shell and is a form of fungus infection caused by inadequate basking areas, insufficient sunlight and/or abrasive objects that come in contact with the turtle. Treatment consists of cleaning the shell of fungal growth and applying an iodine-based antiseptic twice each day, allowing treated areas to dry before placing the turtle back into the water. Provide ultraviolet and adequate basking areas.

Pneumonia: This can be caused by a chill, difference in air/water temperature, or another turtle. It is characterized by sluggishness, closed eyes, sneezing, bubbling nose and mouth, continual basking and/or gasping for air. Keep turtle at 80 degrees – 85 degrees F. Injections of strong antibiotics are required. Since this disease is highly contagious to other turtles, the tank must be disinfected.

Salmonellosis: This is an intestinal ailment caused by Salmonella organisms. It can be transmitted from turtles to humans via contaminated hands or food. Water turtles can be carriers of this organism without showing any signs of being ill. They will excrete it into their aquarium leading to the contamination of their water and of their keepers. It is VERY IMPORTANT to thoroughly WASH your hands with soap and water each time after handling these animals or their aquarium water, especially when an animal is ill. Diagnosis and treatment is done by a veterinarian and recovery is anticipated in 7 to 10 days. Once Salmonella has been diagnosed in a water turtle, proper care should be taken to completely disinfect the area where the animal has been.

Parasites: External parasites such as leeches may be pulled off and the wound treated with an antibiotic. Internal parasites can be detected by a fecal examination performed by a laboratory. Treatment is then prescribed by a veterinarian.

Off Feed: This condition is often caused by a drop in temperature, sickness or parasites. Raise the water temperature to 80 – 85 degrees F and try a variety of foods. Vitamin shots may be helpful and if the turtle becomes too thin, force feeding may be necessary. Consult a knowledgeable veterinarian before giving any new drugs, as many are harmful to turtles. Ivermectin is TOXIC in turtles and must NEVER be used.

Bot Fly Cysts: This infestation is common in turtles. It usually develops as a swelling in the parotid area on the head, or on the limbs. Once the cyst is apparent, it should be lanced, or removed and the wound disinfected. Povidol solution or Terramycin ointment is effective.

SAN DIEGO TURTLE AND TORTTOISE SOCIETY

The Society has hundreds of active members that can support your turtle care. We have Care Consultants who specialize in water turtles and they can be reached via sending an email to the Society at the following address:

info@sdturtle.org

Clearly state your habitat and question and expect a reply within 3 days.

For more information, go to www.sdturtle.org