

## **Freshwater Turtles**

Melissa Magnuson D.V.M

Freshwater turtles can be a joy to own! You may remember the small plastic turtle "pools" with a tiny island in the middle sold in the 1960's and 1970's. These setups were far too small and undoubtedly contributed to the death of many hatchlings. Turtles require large tanks with powerful filtration, heat lamps, ultraviolet lamps, one or more water heaters and a basking spot. This setup is an investment in the health of your pet. Although it may seem expensive, a healthy habitat is necessary to maintain these turtles in captivity.

### **Habitat**

Freshwater turtles can grow up to 15 inches in diameter and need at least a 75 gallon tank. The more turtles you have, the larger the tank you will need. If you have more than 2 turtles, you should consider a 100 gallon tank. The tank should be filled approximately 1/3 with water. Provide one or more logs, rocks, turtle "docks" or other source of dry land for your turtle to climb upon in order to dry out. A turtle that cannot dry out completely is susceptible to shell rot.

### **Water Filtration**

Be sure to purchase a powerful filter. Turtles produce great quantities of waste products which must be filtered from the water efficiently. The only way to achieve this is to use a filter designed for a tank larger than the one you have. For example, if you have a 100 gallon tank, purchase a filter made for a 200 gallon aquarium (even if your 100 gallon tank only has 33 gallons of water in it).

You need a canister-type filter such as those made by Eheim, Fluval or Rena Filstar. Under gravel filters designed for fish tanks are not appropriate. The more powerful canister filters are designed to accept several filter modules, allowing you to combine different filtration methods in one filter. The primary method of filtration should be "biological". This method uses a substrate in the filter module that harbors a colony of bacteria. The bacteria breakdown the waste products of your turtles naturally, transforming them into less harmful substances.

Be sure to maintain change the media in your filter on a regular basis. Even with one of these powerful filters you will need to do weekly water changes to keep the tank clean.

### **Temperature**

Turtles are reptiles. Reptiles cannot maintain their internal body temperature by shivering or sweating the way we do. The only recourse they have for cooling or warming themselves is to move to a cooler or warmer spot in their environment. To

recreate the natural temperature gradient your turtle species is adapted to, you will need to purchase a heat lamp and a water heater for your turtle's habitat.

You will need one or more submersible water heaters in your tank to maintain the temperature between 75 and 85 degrees Fahrenheit. Purchase a plastic guard for your heater so that your turtles' shells do not break the heater's glass housing. It is a good idea to have an extra water heater on hand in case the one in the tank breaks or stops working. Cold water will predispose your turtle to sickness.

Create an air temperature gradient in your turtle's habitat. Place a heating lamp over one of your turtle's basking spots and measure the temperature at "turtle height" under the lamp. The warmest spot should be approximately 90 degrees Fahrenheit. There should be another basking spot at the opposite end of the tank without a heating lamp. This will provide your turtle with several locations in her habitat that are at different temperatures, allowing the turtle to regulate its temperature easily by moving from one spot to another.

Monitor the temperature in your turtles' habitat with several thermometers and be sure to check them at least once a day. You will want a thermometer in the water, one at "turtle height" by the heated basking spot and one by the basking spot without heat.

### **Nutrition**

Young freshwater turtles are more carnivorous than adults. They need a higher percentage of meat protein (reptile sticks, feeder fish, worms etc.) in their diet. As they mature, they will choose to eat more vegetables and less meat. Feed hatchling and juvenile turtles every day. Feed adults every two or three days.

#### Reptile sticks

These are available at the local pet stores. There are several brands/manufacturers (ex. Mazuri, Zoo Med, Wardley, Tetra). No one brand is best at this point. Until we know more about nutritional requirements, we recommend buying small amounts of two or three brands and mixing them. This will help balance the nutrients, vitamins and minerals and prevent your turtle from becoming dependent on one brand of food.

#### Greens

Provide fresh greens daily. Romaine is an excellent choice. Others to try include: red leaf lettuce, green leaf lettuce, butter lettuce, mustard greens, water cress, escarole, collards, kale, dandelion greens and Swiss chard. It is important to vary the greens you give each day. Do not feed one type exclusively. You may also offer small amounts of chopped or shredded vegetables such as shredded carrots, squash or sweet potato or finely chopped green beans, bell peppers, cucumber, cauliflower or broccoli. Again, it is important to vary what you offer.

#### Live prey

Feeder fish are a great way to provide balance to your turtle's diet. Live prey have several advantages. Food doesn't get any fresher than live prey! The fish will survive well in the tank/enclosure until your turtles are ready for a snack. Live prey is also balanced in nutrients, particularly calcium. Be sure the fish you offer are an appropriate size for your turtles.

Some turtles enjoy earthworms. Be sure to purchase these at a pet supply store rather than pull them from your backyard.

### **Lighting**

Try to provide lighting that mimics the light cycle in your turtle's natural environment. Most often, 10-12 hours of light per day is optimal. Never leave a white light on for 24 hours. Plugging your light into a timer is the best way to ensure regular light cycles.

All turtles need ultraviolet light (UVA and UVB) in order to synthesize the vitamin D they need. Be sure your bulb produces UVB in addition to UVA. Many bulbs only produce UVA which is inadequate. Without enough UVB light, a turtle will lose bone density, predisposing her/him to fractures. This condition is called metabolic bone disease (MBD) and has several causes.

Most UV bulbs stop producing ultraviolet light long before they burn out. UV light is invisible! Most bulbs stop emitting UV light after 6 months of use. Replace your ultraviolet bulbs at least every 6 months!

### **Hibernation**

In the wild turtles hibernate during the winter months. No in-depth studies have been done to determine if this is necessary in captivity. Many veterinarians believe that it is necessary. Please ask the doctor for more information about hibernating your pet turtle.

### **Salmonella**

Any reptile may be carrying salmonella, even animals that are perfectly healthy. Many reptiles are persistently infected. This means that they harbor the bacteria in their bodies and at times of stress begin to shed the bacteria into their environment. The most common sources of stress are inappropriate habitats and poor diet. If you follow the guidelines in this handout, you will be doing everything you can to keep your turtles healthy and stress-free. The healthier your turtles are, the less the risk that they will shed salmonella.

It is safest, however, to assume that your reptile is always shedding salmonella. Be sure to wash your hands after handling your turtle. It is especially important to supervise any small children. Prevent access to the tank when you are unable to watch them. Children and immunosuppressed individuals are at most risk of serious illness. Instruct older

children of the importance of hand washing after touching a turtle or its habitat (ex. water, basking spot, or anything inside the tank).

### **Common Health Problems**

Observe your turtles' appearance and behavior closely to learn what is normal for them. Unusual behavior or change in normal habits can be a sign of disease. Watch for non-specific signs of disease such as reluctance to eat, listlessness, weight loss or abnormal/runny stool. If you notice any of the above, please call us.

#### Metabolic bone disease (MBD)

This condition has more than one cause. Turtles that do not get enough UVB light or have little calcium in their diet are predisposed. When MBD is advanced, the turtle's bones break easily and the result can be many painful fractures. Be sure to supplement your turtle's diet with a vitamin and mineral supplement containing calcium. Also, provide UV light (both UVA and UVB) at least 8 to 12 hours daily and change your UV bulb at least every 6 months even if it still appears to work!

#### **Shell rot**

A turtle's shell is primarily composed of bone. Turtles wear most of their skeleton on the outside! Shell rot occurs when the bone becomes infected and can be a very serious problem. Freshwater turtles need to haul themselves out of the water occasionally and completely dry off to prevent shell rot. If you ever notice a portion of your turtle's shell becoming soft, call us right away for an appointment.

#### **Hypovitaminosis A**

Your turtle will not have this problem if you supplement her/his diet with a multivitamin and mineral powder. There are many available at your local pet store. Sprinkle your turtle's food once or twice a week. Feed plenty of romaine lettuce. This leafy green is high in vitamin A. If your turtle's eyes appear swollen, She/he may need a vitamin A injection. Please call us if you notice swollen or shut eyes in your turtle.

#### **Respiratory infections**

Unfortunately respiratory infections, including pneumonia, are common in turtles. Watch for these signs: bubbly nose, tilted body while swimming or floating, open-mouth breathing or bubbly mucus at mouth edges. Call us right away if you notice any of the above. The sooner we can diagnose and treat a respiratory infection, the better our chances of success.

#### **Preventative Healthcare**

We recommend a yearly checkup for your turtle. Signs of disease can be subtle and if we can catch a problem sooner rather than later, we will have a better chance of successful

treatment. At your pet's annual exam, we will check her eyes, ears, nose, beak, mouth, shell, limbs, cloacae and general body condition including weight and shell appearance. We will also discuss with you any new information we have regarding turtle care. Each year there are advancements in the preventive health of these "exotic" animals!

#### For More Information

We recommend the following book for additional information. Note that the care for other freshwater turtle species such as painted turtles, map turtles, soft-shell turtles, mud and musk turtles, Reeve's turtles and African sidenecked turtles is very similar to the red-eared sliders:

Red-Eared Sliders by Philippe de Vosjoli

2001 Advanced Vivarium Systems, Inc.