



CARING FOR YOUR WATER TURTLE

Water turtles are mostly small to medium sized turtles that spend time both in freshwater and on land. They have streamlined flattened shells and webbed feet, and are good swimmers. They breathe air, but some can remain underwater for hours, and in the wild may hibernate underwater the entire winter. Males tend to be smaller and flatter than females as adults, with longer tails and sometimes very long nails on the front feet. The most common pet turtles are eastern U.S. species such as sliders and painted turtles, but Asian box turtles and other exotic species are also sold. Aquatic turtles are often fairly hardy, being adapted to temperature changes as they dive from a warm sunny basking spot into much cooler water. Most of the species from east of the Rocky mountains are now prohibited in Oregon due to their ability to survive in local rivers and ponds if released. Unwanted pet turtles native to the U.S. can sometimes be taken in by local rehabilitators and shipped them back to their native habitat, where they are released in protected areas. The only two native Oregon turtles, the Western Pond Turtle and Western Painted Turtle, are both water turtles. These 2 species are protected and cannot be legally kept as pets here. Water turtles often reach adult breeding size within 5-6 years after hatching and may live 30-40 years or more. They tend to be feisty, quick moving and energetic, and can be entertaining..

FOOD: Water turtles tend to be mostly carnivorous, but if healthy they may also consume some leafy green plant material. Many prefer to eat in the water, but some will accept food in a bowl on land. Good food items include earthworms (use nightcrawlers, not redworms or compost worms), land slugs (not water snails), silkworms, and live fish (small enough to be eaten whole). Aquatic turtle food pellets should always be part of the diet as they provide a reliable vitamin and mineral source. They can be used as 25% to 90% of the diet, and are sprinkled on the water surface. Pretty Pets is one of the more palatable brands; T Rex is similar. Some leafy greens may be offered on land or shredded onto the water; good examples are collards, kale, dandelions, mustard greens, and green leaf lettuce. Minimize meats, liver, mealworms, waxworms, and Goldfish as these are nutritionally poor. Dubia roaches & crickets may be used, but must first be fed a high calcium gut-loading food (T Rex Calcium Plus is the only effective brand) for 2-3 days to enrich them.

If you can't use a commercial turtle diet, then vitamins and minerals need to be provided in other ways, although achieving a good nutritional balance is more difficult. You can use a *single* powdered multivitamin-mineral supplement such as Reptocal or Reptivite; use a *tiny* pinch on the food once weekly, no more. Overdosing is easy with supplements, and some products are potentially toxic; it is safer to use a commercial diet which has a balanced supplement included.

Water should be kept clean at all times. Water turtles will drink while swimming, and also defecate in the water, so water quality is important (see Housing).

HOUSING: When you obtain a "wild pet" you must try to duplicate that pet's natural conditions. An aquarium is usually needed to provide good housing, although the turtle can exercise in the house daily (up to 30 minute intervals), and temperate climate species can live outdoors in a pond if protected from predators such as raccoons. The aquarium top should be mostly solid, not screen, to trap heat & humidity. A minimum size for a small turtle would be 3 ¾ to 4 square feet of floor space (equivalent to an 18x 30 inch

or 24x24 inch enclosure.) Aquarium height is less important as the turtle lives on the bottom. About ½ of the enclosure should be water and about ½ dry land, to encourage basking. Aquarium designs can be fancy with large landscaped swimming areas and water filters similar to a fish tank. A simpler method uses a large plastic or steel water container that covers ½ of the cage bottom. Then fill the dry land portion of the cage with rock or other material up to the rim of the water container. If a piece of wood or plexiglass is used to hold the bedding in place, then the water container can be easily lifted out and the water changed without disrupting the dry ½ of the tank. Without a filter system the water should be changed daily to keep it clean.

Be sure the turtle can easily climb out of the water onto the dry basking areas. Basking allows the turtle to dry its shell between baths, to warm its body, and to absorb UV light. Artificial turf makes good flooring for the dry area as it can be cleaned and reused, and it can't be eaten. Sand, small gravel, corn cob, wood chips, etc may be eaten and cause bowel blockages; if used they must be changed regularly when soiled. Daytime air temperature in the shade should be 72-85°F for temperate species, and 75-90° F for tropical species. Keep the temperature above 70°F even at night. Use a good mercury, digital, or dial-type thermometer to check temperature in various locations at the cage bottom; the best readings are in total shade away from any heat source (cover the thermometer with a solid cardboard or wood shield). Avoid paper strip thermometers or temp guns which do not read air temperature reliably. A reptile heat pad beneath the cage can be used; hot rocks should be covered (with turf or other rocks) to prevent burns from direct contact. Heat lamps on top of the cage should be at least 18 inches above the turtle to prevent burns. If a heat lamp is used at night it should produce minimal light; dim red or purple bulbs, or lightless ceramic-coated bulbs are available. Turtles are often shy, and the cage should be in a quiet area. They need hiding places on land to feel secure and bask, but avoid using dark caves or hiding boxes which block exposure to UV light. Instead provide objects such as plants or rocks to hide *behind*, or use paper to cover the cage glass in one corner, creating a private area which remains well lighted.

Visible lighting should be provided 12-14 hours daily, with the remainder being dark. You must provide white (visible) light and ultraviolet light in the 280-320 nm wavelengths (called UV-B). This mimics basking in the open sunlight. Our climate often provides little sun, and window glass or Plexiglas filters out most of the UV light, so you need to provide sunlight artificially. The best terrarium lighting is fluorescent full spectrum bulbs; incandescent "screw type" round bulbs are not adequate. Some good brands include Reptisun by Zoomed, Reptile D-Light, Reptasun by Flukers, Reptiglo, & Reptile Daylight by Energy Savers Unlimited (ESU). These bulbs won't burn the pet and need to be close to the turtle to be effective; in general the effective distance is less than the bulb length. For instance, a common 24 inch tube should be within 18 inches of the turtle. The bulb should run the entire cage length; tubes less than 24 inches long (including compact coils) are usually too weak to be effective. Avoid glass or plastic barriers between the bulb and the pet (these block UV). Change these bulbs every 6-8 months when in use, as they produce less UV light over time.

NOTE: a few incandescent "screw type" bulbs exist which *do* produce UV-B; these are mercury vapor lamps. They produce both UV and strong heat, so should be kept at least 18 inches from the turtle. Their effective lifespan is uncertain; change them yearly. These devices cost \$45-100 and when turned off must have a "cool down" period before they can be restarted. Incandescent bulbs which cost less and do not require a cool down period are simple light bulbs and do *not* produce adequate UV-B. Vapor bulbs are best suited for lighting very large/tall habitats.

Healthy turtles from temperate climates may be allowed to hibernate in the winter in an outdoor pond, or possibly in an unheated garage. Many species may hibernate underwater. The temperature needs to be below 55°F ideally, and day length should be short (winter hours), with no lights on past dusk. Healthy hibernation can be very difficult to achieve indoors, and it may be safer to keep a turtle active in the winter. Never hibernate a sick turtle.

COMMON DISEASES:

Respiratory Infections: Common among stressed turtles, especially new pets which were recently captured and shipped. Poor diet or environment also stress the turtle and allow infection. Symptoms: crusty or runny eyes, swollen eyes, runny nose (often with bubbles out the nostrils), and mucus in the mouth. They often will not eat, and if untreated may progress to pneumonia and die. Turtles with

pneumonia may gasp, wheeze, breathe with an open mouth, or float tilted to one side in the water.

Treatment: antibiotics, correct the environment, force feed if needed.

Vitamin A Deficiency: Rare these days. Mimics respiratory infection but not as severe, mostly eye swelling and discharge. Often the turtle is still eating. This condition only develops if the turtle has been on a Vitamin A deficient diet (or not eating at all) for *months*. Rarely seen in turtles on commercial foods.

Treatment: Vitamin A orally (not injectable; the injectable forms are easily overdosed and potentially toxic to turtles). Good sources: commercial turtle foods, some greens, papaya.

Middle Ear Infections: Causes a swelling on the side of the neck where the ear should be. Usually results from a respiratory infection. Treatment: Surgical drainage of the infection, antibiotics, correction of diet and environment.

Shell Rot: Infection of the shell (usually bacterial, occasionally fungal) which produces pitting, discoloration or softness of the shell. Usually caused by dirty water, low temperatures, and/ or too much time spent in the water. If untreated the lesions can deepen and spread, eventually causing death.

Treatment: Removal of the infected areas of shell, topical disinfectants applied daily, keep the shell dry (minimize bathing until healed) and give injected antibiotics in severe cases.

Intestinal Parasites: Turtles may carry a variety of worms and other parasites of the digestive tract.

Symptoms: Diarrhea, poor weight gain, lethargy; worms may be present without obvious symptoms.

Treatment: Bring a fecal sample and/ or worms (if seen) to a veterinarian for identification so the proper worm medication may be used.

Appetite Loss: Turtles easily lose appetite if their environment stresses them; cool temperatures, low UV levels, a cramped cage, lack of hiding places, and excess noise or disturbance may all cause a turtle to stop eating. Any illness such as an infection usually causes appetite loss as well. If your pet stops eating for more than a few days (except when hibernating) you should seek veterinary advice.

Calcium Deficiency: Turtles with too little UV light exposure or imbalanced diets (such as meats, mealworms, waxworms and crickets) may fail to grow normally, and their shells may become soft and deformed. The underside of the shell may appear normal but can be flexed when pushed on; a normal shell is rock hard. The top of the shell may curl upward at the edges or appear lumpy or domed, unlike the flat streamlined appearance of a normal water turtle. Treatment: correction of the diet and providing UV light, plus short term calcium supplementation to rebuild bone and shell strength. Shell deformity can be permanent, and it is best to prevent this condition through proper care at the start.

Salmonella: Water turtles commonly carry these bacteria in their intestines, and shed it in their feces. They can sometimes cause infection in humans, especially in children under the age of 5. Avoid contact between young children and the turtle (or its aquarium) and wash well after handling your pet. Most turtles with *Salmonella* show no illness but can be lifelong carriers. Only a fecal culture or ELISA test can detect which animals have this bacterium.