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This handout is intended to provide only very general guidelines. Aquatic and semi-aquatic turtles are a diverse group, and each species has specific husbandry requirements that should be met. Consult with your veterinarian about species-specific requirements to ensure adequate health.

General Information

There are several species of aquatic turtles common in captivity. Semi-aquatic turtles divide their time between land and water. Popular semi-aquatic turtles kept in the US include sliders, painted turtles, pond turtles, mud turtles, musk turtles, and map turtles. Aquatic turtles, like softshell turtles and mata-matas, prefer to spend most of their time in the water. When scared, these turtles can completely withdraw their body into their shell. The shell is a LIVING tissue and should never be pierced, cut or painted. Red-eared sliders and most other (semi-)aquatic species usually grow to 8-12 inches in length and can present challenges as household pets due to their size and water quality requirements. Many species are invasive and if released into the wild, will compete with native species for food and resources. Because of this, pet turtles should never be released in local ponds if unwanted.

Lifespan

Different species have different life expectancies. However, with adequate care most aquatic turtles can live up to 20-30 years!

Sexing

Immature turtles can be very difficult, if not impossible to sex. Once mature (around 3-8 years of age) male red-ear sliders typically develop long toenails on their front feet which are used to court females during breeding season. Males also have a longer more pointed tail compared to the stubby tail of the female.

Behavior and Handling

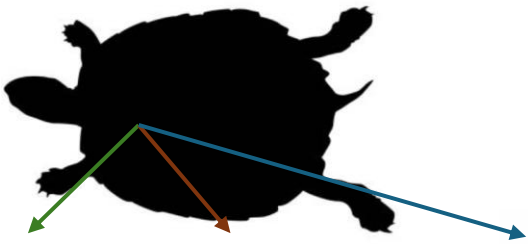
Give your new pet at least a few days to acclimate to its new environment before attempting to handle it. Turtles should be supported with both hands from underneath – including its legs- when being handled or held. Be careful not to drop your turtle or allow it to fall off raised surfaces as even a short fall could cause serious injury. Hands should be washed after every encounter, as ALL reptiles, even perfectly healthy ones, can carry **salmonella**.

Diet

Many semi-aquatic turtles, like sliders and pond turtles, are omnivores that eat both animal protein and vegetables. Many sliders and pond turtles will require more plant material as they age while juveniles will require more protein. Adults should be fed 2-4x weekly, and juveniles and hatchlings should be fed daily. Aquatic turtles eat as they are swimming and most often will not eat food that is not in the water. Pellets and vegetables should be dropped directly onto the water surface. Because of the way they eat, it can be challenging to keep the tank clean and free of food particles and debris. As a result, some owners feed their aquatic turtles in a separate tank where the water can be discarded after each meal.

A **calcium supplement** should be given 2-3 times weekly and can be sprinkled onto vegetables or pellets. If you are using a UVB source, this calcium should NOT contain Vitamin D3 as this can interfere with the calcium and phosphorus balance.

Multivitamins may be supplemented weekly but are not necessary in a diet full of vitamin-rich vegetables.



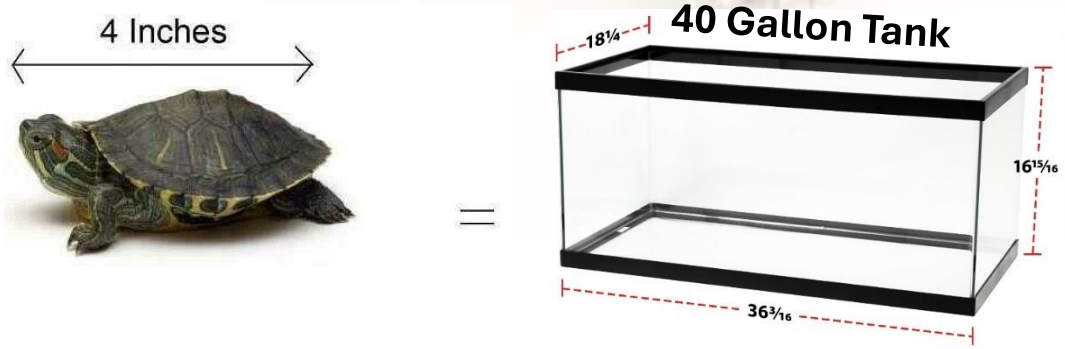
Vegetables (>50%)	Commercial Diet (<25%)	Animal Protein (<25%)
Dark leafy greens are an important source of calcium, vitamins, and fiber. Examples include kale, romaine, Swiss chard, watercress, endive, bok choy, escarole, spinach, duckweed, collard greens, mustard greens, dandelion greens, beet greens. **Yellow or dark orange vegetables** (ie carrots, squash, sweet potato) are an excellent source of vitamin A and should be mixed in with greens. Broccoli or green beans may also be offered. **Fruits** like apples, melons, grapes, oranges, bananas, or berries may be offered occasionally as treats.	Many adequate **commercial diets** are formulated for freshwater turtles. Examples include Aquatic Turtle Formula, Fluker Farms, Mazuri, Reptamin sticks.	**Small fish** (goldfish, guppies, bait minnows, smelt), small frogs, or snails may be offered. You may wish to keep them in a separate feeding enclosure to prevent overeating and for ease of cleaning. **Insects** (mealworms, waxworms, earthworms) or small pinky mice may be offered as an occasional treat.

Housing

Provide your semi-aquatic turtle with a large pool of warm water and a warm, dry area for the turtle to crawl out and keep dry. Refer to the checklist below for an itemized list of what you will need to house your turtle:

☐ Leak-proof enclosure

Glass aquariums are most common, but plastic containers and stock watering tanks can also be used. Cage size will vary with the turtle size and the number kept. At minimum, a good rule of thumb is 10 gallons per every 1 inch of shell. Always strive to select the largest enclosure possible as turtles need ample space for exercise, an appropriate temperature gradient, and of course growth. Water depth should be at least 1.5 to 2 times total turtle total length. That way if the turtle is overturned, it will be able to right itself and avoid drowning.



☐ Submersible aquarium heater

Specific requirements will vary, but most species do well at water temperatures between 72-82°F (22.2-27.8°C). Provide barriers around heaters to prevent contact burns.

☐ Heat lamp

Bulb wattage will vary with enclosure size, but 50 to 150-watt incandescent light bulbs, 250- watt infrared bulb, or porcelain heating elements can all be used. Arrange the bulb over the basking area.

The following POTZ (Preferred Optimum Temperature Zone)'s are very important for semi-aquatic turtles:

- Basking area: **85-90°F**
- Water: 72-82°F is adequate for most species, though **82-85°F** recommended for sliders
- Night time temperatures should drop by no more than 5-10°F
- Ambient air temperature of the room should be above 75°F

☐ Ultraviolet light source

Exposure to direct sunlight or a full-spectrum ultraviolet light is necessary for normal absorption of dietary calcium. The artificial UV light should be placed 18-24 inches above the animals head. Lastly, be sure to change out these UVB bulbs every 6-9 months as the amount of UV emitted degrades over time.

☐ Thermometers

Monitor all temperatures with the use of thermometers. Place one thermometer at the "cool" end of the pool and another beneath the basking spot. Infrared laser thermometers can also be used to more precisely measure all areas of the enclosure.

☐ Dry dock

Semi-aquatic turtles need a place to dry off and bask. Place lamps above dry land to provide the turtle with heat and ultraviolet light exposure. Build an area on one side of the tank that projects out of the water using flat, smooth rocks or non-toxic wood resting on submerged bricks or cinder blocks. Floating pieces of cork, driftwood, or plastic platforms can also be used, however it is important to ensure that the material is secure enough that it won't topple over and trap the turtle underneath the water. The area should be large enough that ALL turtles in the enclosure can completely emerge. Make sure there are no sharp corners that can cut your turtle.

☐ Screen top

Prevent your turtle from escaping by providing a screen top as well as several inches of air space between the water's surface and the top of the tank.

☐ Substrate

Substrate is optional for semi-aquatic turtles- It is not necessary to line the bottom of the pool, in fact, it may make cleaning a bit more difficult, however some owners find substrate more visually appealing. Select large stones or gravel- your turtle may eat smaller stones. Substrate *is* recommended for aquatic turtles, to minimize the risk of pressure sores on the bottoms of their feet.

☐ Clean water

This is crucial for the good health of your turtle. Even if the water appears to be clean, there can still be a lot of nitrogenous waste from feces in the water. Frequent full water changes are required to ensure clean water. The smaller the volume of water, the more frequent the water changes. For example, a 10-gallon aquarium should be changed 2-3 times per week. A 50-gallon aquarium may only need to be changed once weekly. In addition, the more turtles within the enclosure, the more frequent the water changes should be. When performing a full water change, be sure to scrub and rinse the cage well to remove residual bacterial growth from all sides.

Check water quality at least twice monthly to make sure toxin levels are in safe ranges (**pH should be 7-8, Ammonia <0.25ppm, Nitrate <30ppm**). Buildup of these toxins can lead to skin, eye, shell, and respiratory infections. The API Freshwater Master Test Kit is excellent for testing water quality parameters. To ensure good water quality, change at least 25% of the water on a weekly basis. Additionally, water should still be treated for chlorine/chloramines before adding it to the tank.

Abrupt changes in water temperature can be fatal so make sure the water temperature after cleaning is similar to what it was prior to cleaning.

☐ Optional: Submersible pump
Portable, electric submersible pumps can quickly drain larger volumes of water quickly, making the cleaning process easier.

☐ Optional: Water filter
Water filters can decrease the number of water changes but do not eliminate the need for them completely. Most aquarium supply stores sell filters designed for fish, however turtles produce a large amount of waste, so be sure to select a filter designed for larger fish or high stocking densities.

Common Medical Conditions

Anorexia (not eating for a prolonged period of time)

- Anorexia is NOT specific to any one disease process, and it can be a symptom of many different diseases. Some common causes of anorexia in aquatic and semi-aquatic turtles include intestinal parasites, impactions, reproductive or development diseases, and inadequate setup/husbandry among others.
- Overgrowth or trauma to the beak can also cause difficulty eating.
- Bacterial Infections ("shell rot", "mouth rot", abscesses)
- If the temperature is not appropriate, reptile metabolic processes are negatively impacted, which can lead to a delayed or impaired response to infection or disease.
- Please notify your veterinarian if you notice any discolored spots, swelling, bleeding, or discharge.

Vitamin A deficiency

- This is a common condition that occurs in many captive reptiles and may lead to secondary infection in your turtle. Abscesses/pus may develop in the turtle's ears and cause visible swelling. Please notify your veterinarian if you notice any swelling of the eyes, ears, or head.

Metabolic Bone Disease

- Insufficient calcium supplementation causes a deficiency in calcium in many reptile species. When calcium is insufficient, some animals mobilize calcium from bone. This causes the bone to become brittle and prone to fractures.
- Neonatal and juvenile reptiles, as well as reproductively active females have a higher demand for calcium and are more vulnerable to this condition.

Trauma

- Trauma, or getting stuck/scratched on sharp areas in the enclosure may lead to serious bleeding or infection.
- Turtles can also be injured through handling, falling from heights, or being stepped on. Remember, the shell is part of the skeleton, so a shell fracture is just as serious or more so than a broken bone.

Reproductive Disease

- Egg binding/dystocia – eggs become too large or misshapen and are unable to be delivered
- Coelomitis - a ruptured egg releases yolk into the body cavity resulting in a severe bacterial infection
- Follicular stasis - egg development stops, and inactive follicles take up space in the body cavity

Prolapse

- This is the everting of the cloacal, GI, or reproductive structures through the cloacal opening.
- Some of the many causes of prolapse include GI parasites, reproductive disease (dystocia), and tumors.

- If noticed, we recommend applying a dilute sugar solution to help reduce swelling and contacting your veterinarian right away as if left untreated, the prolapsed tissue can die which can lead to a serious life-threatening infection.

Obesity

- This happens when they are fed a diet too high in fat, or they are not provided with sufficient space for exercise.
- Obesity can lead to diseases of the heart, liver and joints.
- Treatment consists of increasing exercise and change in diet.

Emergency / Critical Care

- Reptiles often hide illness until it may be too late.
- Increased respiratory effort, active bleeding that cannot be stopped, or fractures (including to the shell), or cloacal prolapses should be considered an emergency and require veterinary care.
- If you are unsure whether this may be an emergency, we recommend contacting your veterinarian to get the best recommendations on when to have your pet examined.

References

Animal Hospital in Centennial, CO. Aurora Animal Hospital. (n.d.). https://www.auroraanimalhospital.com/

Divers, S. J., & Stahl, S. J. (2019). *Mader's reptile and Amphibian Medicine and Surgery*. Elsevier.

For Exotic Animal Veterinary Medicine Professionals. LafeberVet. (2025, April 25). https://lafeber.com/vet/

Bartlett PB, Griswold B, Bartlett RD. Reptiles, Amphibians, and Invertebrates: An Identification and Care Guide, 2nd ed. Hauppage, NY: Barron's Educational Series; 2010.

Boyer TH, Boyer DM. Turtles, tortoises, and terrapins. In: Mader DR (ed). Reptile Medicine and Surgery, 2nd ed. St. Louis; Saunders Elsevier; 2006. Pp. 696-704.

Boyer TH. Aquatic turtle care. ARAV 2(2):13-18, 1992.

Keat S. Client education: Husbandry, Red Eared Sliders. Veterinary Clinical Advisor: Birds and Exotic Pets website. Available at http://www.clinvetadvisorexotics.com/client_education/husbandry_red-eared_slider_reptile.php. Accessed on July 15, 2013.

Kirchgessner M, Mitchell MA. Chelonians. In: MA Mitchell, TN Tully (eds). Manual of Exotic Pet Practice. St. Louis: Saunders Elsevier; 2009. Pp. 214-218.

Maas A. Red-eared slider turtle care sheet. The Center for Bird & Exotic Animal Medicine website. Available at http://theexoticvet.com/care-sheets/red-eared-slider-turtle-care-sheet/. Accessed on July 15, 2013.