

Map Turtle Care-sheet

By Kevin Norred



Skill Level – Beginner to Intermediate for most species

Graptemys barbouri, Barbour's Map Turtle

Graptemys ernsti, Escambia Map Turtle

Graptemys geographica, Common(Nothern) Map Turtle

Graptemys kohnii, Mississippi Map Turtle

Graptemys oculifera, Ringed Map Turtle

Graptemys pseudogeographica, False Map Turtle

Graptemys versa, Texas Map Turtle

Graptemys nigrinoda delticola, Delta Map Turtle

Graptemys caglei, Cagle's Map Turtle

Graptemys flavimaculata, Yellow-blotched Map Turtle

Graptemys gibbonsi, Pascagoula Map Turtle

Graptemys nigrinoda nigrinoda, Black-knobbed Map Turtle

Graptemys ouachitensis ouachitensis, Ouachita Map Turtle

Graptemys pulchra, Alabama Map Turtle

Graptemys ouachitensis sabinensis, Sabine Map Turtle

Graptemys pealensis, Pearl River Map Turtle

INTRODUCTION

Welcome to the world of the Map Turtle, also known as "Saw-backs". Native to North America, Map Turtles are secretive and rare in their natural freshwater habitats due to over collecting and man-made destruction of their natural habitat that have cut off wild populations or even forced many to go critically endangered. Map Turtles are alert sun-bathers and active swimmers. Most species are very beautiful with intricate patterns and colors. Sexual dimorphism is extreme in Map turtles with females reaching much larger adult sizes than males. Many Map turtles are now on CITES (Convention on International Trade in Endangered Species) protection and federally protected against harvesting in the wild. Some States have set up captive restrictions as well. Due to their unique locations and small groupings of sub-species, it is important to consider them for special breeding programs or they may be extinct in the future. The most popular species currently available are the Mississippi Maps and Ouachita Maps. These are the most readily available in the Pet-trade. False and Cagles are soon becoming more popular as well. As more and more private breeding collections start breeding other subspecies, we will see more available.

Map turtles are very hardy making them one of the best beginner or novice turtles to keep in captivity. One of the bonuses to Map Turtles is they do not reach the sizes of most River Cooter's and Sliders do. Map turtles tend to be less social than the River Cooter's and Sliders, but once they gain your trust, they make for great pets.

NATURAL DISTRIBUTION

There are sixteen subspecies of Map turtles spread throughout the United States, mostly in the southeastern river systems. Many of the Map Turtle subspecies share bodies of water along the river systems creating hybrids naturally so you will notice some variances in certain locals. It sometimes takes experts to help identify species, but sometimes there is just no way of telling.

The main grouping of Map Turtles is as follows:

The False Map Turtle (*Gratemys pseudogeographica*) is found from southern Minnesota, Wisconsin, and southeast to Louisiana and Texas. They do not have the broad, muscular heads seen in many map turtle species due to their diet which consists almost entirely of insects and insect larvae instead of crustaceans and mollusks seen in other map turtles. Female False Map Turtles reach 9 inches and males reach 5 inches.

Cagle's Map Turtle (*Gratemys caglei*) from the Guadalupe and San Antonio Rivers in South central Texas, is an ornately patterned species that reproduces well in captivity. As with many map turtle species, there is extreme sexual dimorphism in Cagle's Map Turtles. Adult females typically reach 10-12 inches as adults and males mature at 4 inches and rarely reach more than 5 inches.

Black-knobbed Map Turtles (*G. nigrinoda*) are found in the Tombigbee and Black Warrior River systems in Alabama and Mississippi. Black knobbed Map Turtles are not as common in captivity. As with many map turtle species, there is extreme sexual dimorphism in Black-knobbed Map Turtles. Adult females typically reach 10-12 inches as adults and males mature at 4 inches and rarely reach more than 5 inches.

Yellow Blotched Map Turtle (*G. flavimaculata*) are found in the Pascagoula River system in Mississippi. Mature males are considerably smaller (3-4 inches) than mature females (6-7 inches). Also, males have elongated claws which they use in courtship displays. Yellow Blotched are one of the rarest species and one of the most colorful of the Map Species.

Ringed Map Turtle (*G. oculifera*) is found in the Pearl River in Mississippi and Louisiana. Adult females reach 8 inches and males become sexually active at 4 inches. They feed on a variety of insects and insect larvae .

Alabama Map Turtles (*G. pulchra*) are found from the Yellow River in Alabama and Florida to the Pearl River in Mississippi and Louisiana.

Texas Map Turtles (*G. texana*) from the Colorado River in Central Texas, are beautifully marked with radiating lines. Females grow much larger than males. This species does well in captivity and has proven to be relatively easy to breed.

DESCRIPTION AND SIZE

Carapace (Top of the Shell) - One of distinguishing features of map turtles is the ridge of black tipped knobs running along the spine, and the jagged rear carapace edge. The shell is typically olive to brown with an intricate pattern of yellow to orange semi-circles on the carapace scutes (reminiscent of a road map); these patterns often fade with age & may be obscured by algae overgrowth. Mississippi maps have moderately prominent black-tipped knobbing (less than Black-Knobbed maps, more than Common maps). Map turtles get their name from the lines and markings on their carapace, which resemble the contour lines of a map. Sex can be determined by examining the tail. The tail of the female is considerably smaller than that of the male. The male has a much thicker-based and longer tail than the small petite tail of the female. Males also have slightly longer nails on the forelegs (similar to painted males, but not the extent of male Sliders & River Cooters).

Plastron (Bottom of the Shell) - The plastron is tan to yellowish with brown lines resembling wood grain at the edges of the scutes. These fade with age and become less distinct. The plastron may have some dark patterning. With proper care, you should not see any red blotches in the scutes.

Head - The head of the Map Turtle has the main identifying feature. On the side of the head there will be a curved line (a 'reverse crescent') that curves down behind & sweeps under the eye on some and distinguishing marking such as spots and stripes on others. These are how most subspecies are identified.

Size - Females are considerably larger than males. Generally males are average plastron length of 3 ½" to 5" and the females are anywhere from 6" to 10" SCL. There are occasions when they can be slightly bigger pending genetics and bloodlines. Males have a leaner look more like juveniles, but females have a bulkier build.

DIET

Map turtles are omnivores (plant & animal). In captivity, the majority of their captive diet consists of commercial floating aquatic turtle food and a variety of aquatic plants. As hatchling or young Map Turtles, they tend to eat more plant matter than adults, but make sure you offer a small variety of food to make sure they receive all the nutrition they can. Hatchlings love duckweed, hyacinths and many other aquatic plants. Adults do eat all types of diets, but they tend to eat more crayfish, snails, insects (Crickets) and worms than juveniles. In captivity, I recommend feeding commercial pellets, Freeze-dried Krill and Shrimp and offer a couple times a week vegetables. Supplement Crickets, Small Meal worms and Trout Chow. All these items can be purchased from any commercial pet store. For stubborn feeders such as hatchlings, many use bloodworms, but it is nutritionally insufficient. Finally chopped small earthworms, live guppies or goldfish are good choices. I always keep pending size of the turtles live food such as guppies and goldfish at all times in their habitats. This keeps them active chasing for food. Be

careful not to over feed your Map Turtle. An overweight turtle will struggle in the water and can cause other health issues as well. I recommend only feeding 2 to 3 times a week for adult turtles and every day or every other day for the rapidly growing hatchlings. Only feed what they can eat in 5 minutes. You can feed smaller portions daily if desired.

Additional calcium supplementation is essential. Powdered calcium can be sprinkled on all foods, but doesn't stay on the food in the water. It is recommended to gut-load Crickets and worms to get receive the maximum amount of calcium supplement and nutrition. It is suggested that you use calcium supplemented with vitamin D3 if the animal is being maintained indoors and calcium without D3 if it is outdoors. Provision of a cuttlefish bone, which can be gnawed if desired, is also recommended. Do not allow the cuttlebone to soak in the water, have it placed on a dry area of the tank or habitat. Many snails and crustaceans have calcium in their shells so these are good sources of natural calcium. Do not feed wild caught snails or crustaceans as they can carry parasites or worms harmful to your turtles. Special diets can be used on ADULTS only to help control parasites and worms if needed. Do not attempt these diets on juveniles.

Many times people will have a feeding tank or storage tank to feed to keep the main habitat water clean. With Map turtles, it is sometimes difficult with new acquired turtles to do this for several weeks because they tend to be shy until they gain your trust. In the first couple weeks, keep them in an isolated tank so they can be monitored to make sure they are eating.

ENVIRONMENT & ENCLOSURE

Though similar in appearance to Sliders and Painted turtles, Map turtles have some unique and specific needs. Map turtles are generally found in clear, fast-flowing rivers and so require plenty of filtration and oxygenated water in their captive enclosures. A 20-gallon long aquarium will still work well for two or three babies, but a keeper should be sure to keep the water clean. We use an outside filter on the back and we add a small air-stone at one end to add some extra oxygen and a bit of turbulence to the water. They seem to love it! These turtles are baskers, so be sure to add some driftwood and other places for them to rest and get some heat and UVB. If you would like to create some currents in your pond or tank, commercial Power-head filters are available, but should not be used on small hatchlings or turtles under 6 months old.

As Map Turtles grow, watch for aggression. Larger specimens, especially females are often aggressive to the subordinate males and to any smaller turtles housed with them. Therefore, it is important to add plenty of decorations and an extra basking spot or two to their environment and to avoid crowding. Never house various sized turtles in the same habitat until they are about a year old. Small Hatchlings are always competing for food and may bite and injure others, so keep populations to a minimal and sizes similar so they are not competing against one another. As the turtles are growing and you notice some are growing faster than others, separate them during feeding time allowing the smaller turtles a chance to eat more.

Map turtles thrive in outdoor ponds. They love to sit in the sun rays and soak up all the D3 they can get. One large basking spot should be available as long as it allows all the turtles to bask at one time or more should be offered in various locations within the pond or side of the pond. Northern species will hibernate when temperatures are low, and care must be taken to formulate a plan for a moderately cool hibernation area. Most southern species will need to be brought inside during the coldest parts of winter (below 45° to 50° F) or a efficient way of keeping the pond warm is needed. They should, however, be kept slightly cooler by 10 degrees during this time in an effort to inspire courtship and breeding behavior once they are returned to a warm outdoor enclosure in the spring.

For outdoor enclosures, we suggest that you do not crowd your map turtles. The addition of lots of aquatic plants, especially floating varieties (water lettuce, water hyacinth, and duckweed) helps keep the outdoor map turtle pond healthy and keeps the oxygen level high. This allows them also to hide from aggressive males and females. You can house other Aquatic turtles with maps, but it is best to not mix species if possible. If you do mix species such as River Cooter's and Sliders, make sure you have plenty of room for them to seek refuge if needed

HOUSING MAP TURTLES INDOORS - The most useful form of indoor accommodation for Map Turtles consists of an aquarium with one end built up with rocks to provide a dry basking spot. A reasonable size aquarium for a male Map Turtle is a 20 gallon: 30 inches by 12 inches, (75 cm by 30 cm). Females can be started in 20 gallons, but as the turtle grows the size of the habitat should be increased to allow plenty of space for them to swim and exercise. All Map turtles are excellent swimmers so water depth is not as critical a factor as they get older. A depth of 10 inches up to 30 inches (25 cm to 75 cm) would be fine for turtles between 4 inches (10 cm) and adult size which can reach 8 inches (20 cm). A single adult male would do fine in a 20 gallon enclosure, but a 10 inch female will need at least a 75-125 gallon enclosure to insure adequate space. A basking area can be made of driftwood, smooth or flat rocks, or anything else non-abrasive, non-toxic, and capable of supporting the weight of the turtle or turtles. The basking area should be large enough for the turtle to get the entire body out of the water and dry. This is very important as shell conditions are one of the biggest concerns due to poor setups.

Water quality is very important. Many problems with aquatic turtles can be averted if one spends a little time and money designing and purchasing an adequate filtration system for your turtles. For adult Map turtles we advise canister filters as they are easily cleaned and provide for excellent water quality. Remember, moving water with plenty of Oxygen is important to the health of your Map Turtle.

In one corner of the habitat a high wattage backing clamp light should be positioned over a dry basking area to provide artificial basking facilities. This should be positioned to provide a basking spot of 90 degrees F or so (32 degrees C) in that section of the habitat. Make sure the light fixture has a ceramic fixture as the heat the bulbs put off can melt the plastic ones. Also, refer to the limitations on wattage for the fixture. The habitat should also be equipped with a full spectrum fluorescent light to provide for UVB unless your turtles are outside. Nothing beats natural sun-light . A UVB source is necessary for Vitamin D3 syntheses (needed in calcium metabolism). If preferred to this lighting arrangement, a Mercury vapor bulb may be used that fulfills all requirements. The cost associated with MV bulbs can become costly. Live or plastic aquatic plants are suggested to provide a sense of security and hiding places. A submersible heater to ensure water temperatures don't drop far is recommended, preferably with a heater guard to reduce burn risk or breakage. Some commercial heaters have guards and set thermostats at 78 degrees. Substrate isn't critical but a complex landscape to explore could include river rock (but take care the turtle isn't apt to strike hard objects diving off the basking platform). Most turtle tanks do have some sort of small river rock at the bottom, but it is important to stir the rocks throughout the tank at least once a week so it can be filtered.

Another important factor of indoor setups is to put all the lights that are not used as heat sources on a timer to allow for day/night transitions. For this reason, ceramic heating elements are used as no light is put off. Black lights or Red lights are not desired as this may have an effect on the turtles eyes.

Air Temperature: Low to mid 80's (Adults)

Basking Temperature: High 80's to Mid 90's (the basking platform should be large enough to allow a range of temperatures. Turtles will move around the basking area to cooler temperatures or closer to higher temperatures).

Water Temperature: low to mid 70's (Adults). If the water in the summertime gets hotter, they will go deeper into the water where it is cooler or move into shaded areas of the pond if housed outdoors.

OUTDOOR HOUSING - Predator proof outdoor habitats offer many advantages over indoor accommodations and should seriously be considered as an option during warm weather. A child's wading pool sunk into the ground in a secure enclosure makes for a serviceable outdoor habitat. Larger ponds with advanced filtration can be used to provide a spectacular outdoor home for your Map turtle. Many people use specialty tubs such as Waterland Tubs that contain the turtles but offer both land and water. If placing a pond outside, offer areas for them to climb out of the water and to venture on land to seek out sun, but also offering shade when extreme heat occurs. Some will use Feeding tubs used for cattle that can be found at a local feed and supply store.

HATCHLING SPECIAL CARE – Very Important

When turtles have just been born, they still have their egg tooth in their mouths and the yolk sac hanging out of their bellies. The egg tooth is what enabled them to open the egg-shell and it will fall out on its own. The yolk sac attached to their belly is what fed them while they were incubating. DO NOT try to remove this sac, trying to remove it can kill the baby turtle. It is better to wait till it is absorbed on its own. Once it is absorbed, you will notice a split in the plastron. This will heal by itself too so you don't need to treat it. Most breeders will not sell the turtles until the yolk sack is fully dissolved.

Baby turtles have very soft shells, so avoid handling as much as possible, as shell damage can result from excessive handling. When you need to handle a young turtle do not pick them up by the edges it is better to use a finger and thumb to gently hold the turtle by the center point of the top shell and the bottom shell then let the turtle sit on the palm of your hand and support with your other hand to prevent it from falling.

Baby turtles prefer the PH to be neutral to alkaline as it helps prevent soft shell and fungus infections as they stress easily we like the PH to be between 7.0-7.8. Baby turtles are very sensitive to changes such as dirty water. It is best to keep babies separate from larger turtles to prevent any trouble such as drowning, scratching of the eyes and much more.

Baby turtles like the water to be heated to a temperature of 80 degrees. It is important not to let the water temperature to drop below 70-75 degrees or go higher than 85. By altering the temps, you risk overheating if too high or if too low, they become inactive and do not eat. Basking areas for Hatchling-Juvenile Map turtles should have a basking area of mid 90's to 100's. Allow plenty of space for them to adjust to the basking area to regulate the temperatures.

Hatchlings are more difficult to provide good filtration for because of the depth of the water, for these a submersible foam filter or power filter and frequent water changes is the rule. It is very important to make sure the turtle cannot get stuck to the intake port of the filtration as it can drown if the current is too strong. By placing a course sponge around it, this will eliminate any chances. The depth of water should be very shallow for hatchlings. You may start at only one inch deep (2.5 cm) for the first week while the hatchling are inactive, absorbing the yolk. I kept the water under 2 inches (5 cm) for the first week or so without any filtration before adding the filter which requires a depth of at least 2.5 inches (7 cm) to work. By four months the water was about 3 inches (8 cm) deep or maybe a little bit more. Increase the water depth as the

turtle grows. It is very important to make sure you have floating plants and areas for them to easily climb up out of the water. Turtles can drown! If a hatchling is put in 2 inches of water with no way to get in more shallow water (rock, fake plants, ramp, dry land, whatever), in order to breathe, he would have to tread water. A turtle can only tread for so long. So, it is better to have the water too shallow than too deep. Be sure to put in things to make at least one area shallow enough for the turtle to rest and breathe at the same time with no effort. As long as there are areas like that and a way to get out of the water, it is fine to have deeper areas once the turtle is active (at about 1-2 weeks old, before that, they do not move much).

Once they are about 6 months old, most aquatic turtles can take any water depths up a few feet deep as long as there are shallow areas and places to get out of the water easily, and they are used to such depths. For that reason, if the hatchling is going into the wild or a pond, gradually increase the depth over time to prepare him/her. Also when feeding a colony of turtles including juveniles, make sure they are not being overtaken by the adults for food. It may be necessary to remove the smaller turtles from the pond to feed or vice versa. Having several feeding points within a pond or aquarium helps.

EXAMPLES OF SUPPLIES NEEDED FOR HATCHLING TURTLES (MINIMAL SUPPLIES) for 2-5 Hatchlings

- 20 gallon Aquarium or Larger (Turtle Tanks are best as they have a cutout on one side of the Aquarium to allow for a small filter to be lowered allowing for at least 2.5 inches of water. In the beginning weeks of hatchlings, filters should not be used) When setting the tank on a surface, make sure it can support the weight of the gallons of water. One gallon is 8.5 lbs. If you add gravel, add that to the overall weight. Commercial stands are available or stands can be easily made.
- Fluorescent Lighting Fixture – Most tank kits have these, but if not, buy one without the Aquarium bulb. Special UVB bulbs are needed
- UVB Bulb – Zoo Med Reptisun 10.0 Tube Fluorescent Bulb – These should be changed yearly
- Screen Top – Do not use Glass Aquarium tops as it is important to have plenty of air flow throughout the tank and also it is difficult to use a heat lamp and fluorescent light fixture on glass.
- Clamp Lights – Zoo Med makes several sizes of heat fixtures. Make sure any light fixture you use is rated for hi wattage bulbs and has a ceramic fixture. Plastic fixtures can cause fires if they get to hot.
- Pending temperatures in the house or garage, for a 20 gallon tank, a 60-75 watt bulb or heat element can be used. Make sure you have a thermometer to measure the temps. If too hot, lower wattage should be used, if too cold, higher wattage should be used. I prefer Ceramic fixtures so at night, you can turn out all lights with still having heat to the basking area.
- 200 Watt Aquarium Heater or a Turtle Heater that keeps the temps at 78 to 80 degrees
- Thermometer
- Filtration System – With hatchlings and small tanks, Top Fin (Petsmart) or Aqua Clear offer cheap inexpensive side filters. If you transfer the turtles as they grow to larger tanks, Canister filters or pond filters are perfect.
- Mazuri or Reptomin Pellets. Make sure you have the appropriate size of pellets based on the turtles mouth. Turtles generally swallow whole.
- River Pebbles and Decorations – Get stuff that is sufficient in allowing the turtles to exit the water or hang onto while basking on top of the water. You may check Home Depot, Lowes or Orchard Supply Hardware for Small River Rock to save money. You can purchase floating devices that section cup to the sides of the tank also
- Python System – This is a system I use on all my tanks and tubs for cleaning water. Most pet stores have these. They hook up to your faucet or garden hose and you can siphon the water out of the tank or add water into the tank with little effort. They are initially costly but well worth the money in the long run.

Recommended Websites for further reading:

www.Austinsturtlepage.com

www.Graptemys.com or net

www.turtletimes.com