Instream Wood Turtle Survey Guidance

1) Survey Windows: Survey timeframes are dependent on weather (see "Weather Conditions"). In Virginia, typical surveys widows include the spring season from **Feb 15th - April 15th** and the fall season from **October 15th – December 15th**. Surveys conducted during the active season (April 16th to October 14th) are highly susceptible to false-negative results and therefore likely not to be accepted if suitable habitat conditions are present and/or historic records occur in the watershed.

2) Weather Conditions: Survey conditions should optimize detection. Surveys should be conducted on a day with air temperatures > 40 F; sunny, clear skies, and calm water. Surveys are most successful when performed during a warming trend, but not on the first day of such a trend.

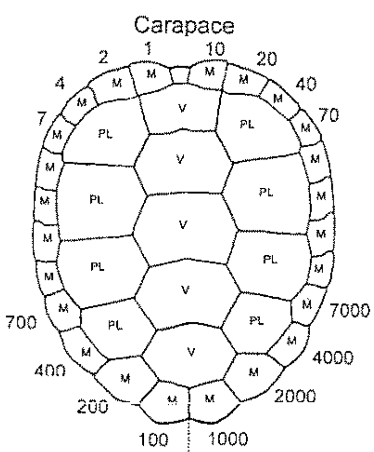
3) Survey Team: There should be at least two, preferably three, trained and permitted surveyors who have demonstrated their ability to find wood turtles in in-stream aquatic settings. The most experienced surveyor should be designated as lead observer and should be first in search wave.

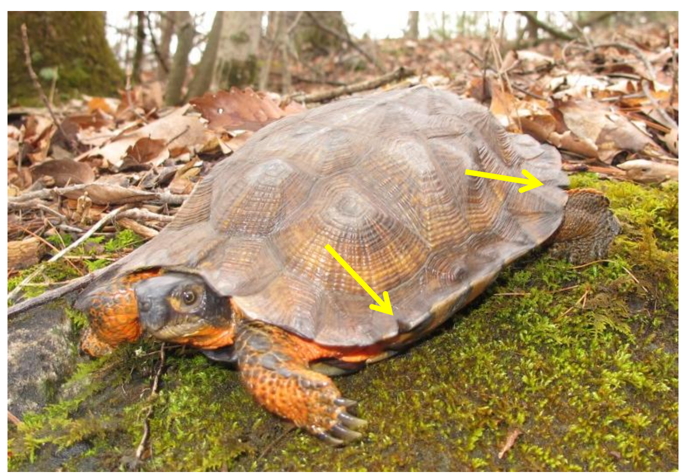
4) Survey Design: Survey reach should include 1 km of stream which should be surveyed for one hour, not including handling time. If the survey reach needs to be increased or decreased, the time spent surveying should be proportional to an hour/km. The survey should be repeated within that same survey reach at least twice more, for a total of three survey passes. Each survey pass should be at least one week apart, with all three surveys being completed within one of the two annual survey windows. Give particular attention to deep pools, overhanging root wads, and fallen trees.

5) Survey Protocol: Conduct a visual search by inspecting in-stream structures as the team moves up stream from the starting point, with care to avoid clouding/silting view of other searchers. Search for turtles in instream structures, on the stream bottom, and on banks. Record aspects of in-stream and riparian habitat that is known to be associated with wood turtle occupancy and abundance (e.g. sand, gravel. v clay bottom, embedded v. free substrate, debris packs and log jams, agriculture or development v. riparian buffer or forest).

6) Turtle processing and identification: Record sex, age estimate (annuli count), and body condition of turtle. Close-up photos of plastron and carapace for individual ID. Note if the turtle has been marked and record the number. Marks may be either V-shaped notches or drill holes.

7) Recommended field equipment: Polarized sunglasses, chest waders, view bucket and long-handled dip net.





Numbering system used in marking turtles in Virginia. **Unless authorized, turtles should never be marked.** The turtle above is marked on the 7 and 400 scute making this #407.

Hatchling wood turtle

Sub-adult wood turtle

Concave plastron of male (left) and flat plastron of female (right). Annuli (right photo) can be difficult to count in older turtles. This individual appears to be at least 12 years old. In younger turtles, the plastron can also be used to count annuli.

Deep pools are typical hibernation sites.

Hibernating wood turtle.