

## Softshell Turtle Mortality Event – How you can help FWC with its investigation

**BACKGROUND:** The FWC is investigating a die-off of freshwater turtles, first reported in early 2018 from the St. Johns River (SJR) watershed near the Tosohatchee Wildlife Management Area. The mortality event is primarily affecting Florida softshell turtles, and as of June 20<sup>th</sup>, the cause of these mortalities remains unknown. Samples from necropsied turtles have thus far tested negative for a variety of toxins and a few specific viruses. Additional laboratory results are pending.

Most confirmed reports of sick and dead softshells have been received from Orange, Putnam, Seminole and St. Johns Counties. Although scattered reports have come from other counties, we have not yet obtained softshell turtles from these other areas to verify via necropsy and histology (microscopic evaluation of tissue structure) whether these reports are related to the primary event.

We are seeking assistance from biologists who understand the importance of accurate data collection in field research. Your participation will help us to better gauge the distribution and spread of this mortality event and whether it has expanded beyond the SJR. The data you collect will also help us to determine the event's duration in both specific bodies of water and at a broader landscape scale.

Please see the guidelines below for information on data collection, as well as how and when to collect sick or dead turtles if possible. We know that everyone's time is valuable, and we much appreciate any assistance that you can provide.

### Dead Softshell Turtle Sighting: How to collect and report data

If you see a dead softshell turtle, please record the information listed below to the best of your ability. Please **report your data via email** to Lisa Shender ([lisa.shender@myfwc.com](mailto:lisa.shender@myfwc.com)) and copy Catalina Brown ([Catalina.Brown@myfwc.com](mailto:Catalina.Brown@myfwc.com)).

- 1) **Date** of observation.
- 2) **Location.** An exact GPS location or street address is preferred. If this information is not available, please otherwise describe the location (e.g. name of water body, closest intersection, highway marker, etc.).
- 3) Describe **where** the turtle was found (e.g. floating in the middle of the water, along a shoreline, etc.).
- 4) Determine **carcass condition** as: a) Fresh and intact, b) Fresh but scavenged (parts and pieces missing), c) Intact but in a state of decay (strong odor, greenish-gray hue to skin on legs and head), or d) Old remains of turtle (shell or skeletal parts, little soft tissue remains).
- 5) **Approximate size** of turtle by visually estimating the length of the carapace (top of shell) as: a) small (<12" long), b) medium (between 12-18" long), or c) large (>18" long). *Tip:* the long-edge of a standard piece of paper (8.5" x 12") can be used to estimate shell length.
- 6) Take several **photos** from different angles if possible.
- 7) Please also note any other unusual findings (e.g. dead fish or birds, sheen on water or obvious algal growth).
- 8) **Carcass Collection:** If the carcass is **very fresh and is located outside of the St. Johns River watershed**, then after recording the above data, please call one of FWC's Wildlife Hotline numbers below, as we may be interested in collecting the carcass for diagnostic evaluation.
  - a. Fish Kill Hotline: 800-636-0511
  - b. Wildlife Health Hotline: 866-293-9282

## **Sick Softshell Turtle Sighting: How to recognize a sick turtle and who to call for advice**

Listed below are several **abnormal findings** that have been observed in sick softshells during this mortality event:

- **Lethargic and non-responsive behavior.** Turtles on the shoreline or in shallow water display little to no movement when approached. Head and neck are stretched out flat. Turtles may stay in a single location for >24 hours. *Note:* Nesting turtles may also be on shoreline, but will be obviously digging with their back legs to excavate a hole or laying eggs with their rear end pointed downwards into a hole.
- **Unbalanced swimming.** Turtles in the water have been seen swimming with a sideways tilt.
- **Skin discoloration.** Some turtles have had irregular areas of reddish-pink blotches or spots on their skin (e.g. head, neck, legs and feet).
- **Difficulty breathing.** A few turtles have displayed a gasping behavior, whereby they extend their head and neck upwards, gasp for air, and then quickly drop their necks back down.

If you have found a sick softshell turtle as described above, please call one of the FWC hotline numbers below to receive advice.

- a. Fish Kill Hotline: 800-636-0511
- b. Wildlife Health Hotline: 866-293-9282

If you do not immediately reach someone and if your call is not returned within 10 minutes, please:

- 1) Record appropriate data as listed under the dead softshell sighting above.
- 2) Take photos from several angles if possible.
- 3) In addition, without handling the turtle, please record: a) any obvious wounds or injuries, b) the appearance of the eyes (e.g. open and clear, closed, swollen lids, the presence of exudate, such as yellowish mucoid material, c) the presence or absence of reddish-pink skin
- 4) If you are properly equipped and feel comfortable and safe in doing so, please contain the turtle for collection by FWC wildlife health staff. Turtles should be contained as follows:
  - a. If available, **use gloves** when handling a sick turtle. Thoroughly wash hands as soon as possible after handling.
  - b. Pick up the turtle from the rear half of the body. Softshells have long necks and can reach sideways to bite. However, the very sick turtles that have been collected have been too ill to display any defensive aggression.
  - c. **Contain the turtle** so that the turtle can rest in a normal position. Do not place the turtle into a container that is too small. The head should not be pushed up against the container's side. A smaller-sized turtle could be contained in a cooler or plastic storage bin, whereas a large turtle could be contained in the bottom of a boat or the back of a truck.
  - d. Keep the turtle in a safe area away from potential predators. Provide partial to full shade cover.
  - e. If the turtle is placed in a container, fill the container with 1-2" of water in depth. To avoid drowning, make sure that the water is not so deep such that the turtle's nostrils would be submerged if the turtle were too weak to lift its head

Photo #1: Healthy softshell turtle (Photo courtesy: FWC Facebook)



Photo #2: Ventrums of sick, euthanized softshell showing reddish-pink discoloration of skin



Non-responsive, sick turtle. Note slight pink skin on side of neck.  
Photo courtesy: Tom O'Neil (FWC)

