Common Name: DOUGHERTY BURROWING CRAYFISH

Scientific Name: *Cambarus* (*Depressicambarus*) *doughertyensis* Cooper and Skelton

Other Commonly Used Names: none

Previously Used Scientific Names: none

Family: Cambaridae

Rarity Ranks: G1G2/S1

State Legal Status: Endangered

Federal Legal Status: none

Description: The body of the Dougherty burrowing crayfish is a brownish-orange and the claws are somewhat brighter orange. The areola is obliterated and the abdomen is obviously narrower than the cephalothorax. Claws of adults can be robust. This species reaches a maximum total body length of about 75 mm (3 inches).

Similar Species: No other burrowing species are known from the location where this crayfish is found.

Habitat: This species inhabits complex burrows in a wooded wetland.

Diet: Crayfishes are considered opportunistic omnivores that will consume virtually any live or dead organic matter that they find or can capture. Night video of burrowing crayfishes indicates they may also be active predators of invertebrates that venture close to their burrow openings.

Life History: Burrowing crayfishes inhabit a system of tunnels that may be very complex with several openings to the surface. Openings to the tunnels are often marked by piles of dirt or mud pellets (chimneys). Depending on the soil type and moisture content, these chimneys can reach heights of 15 cm (6 inches) or more. These crayfishes are typically confined to their burrows, but a male must leave its burrow to search for females during the reproductive season. As mentioned above, they may also forage near the opening of their burrow. Active burrows with fresh soil are seen from late spring to late fall, particularly after rain events. During the dry part of the summer, burrow openings may be plugged to help conserve moisture in the burrow. Reproduction probably occurs during the spring and fall, but males in reproductive condition may be found at any time during the year. It is very rare to find more than one adult crayfish in the same burrow. When a female crayfish releases her eggs, she attaches them to her swimmerets and is said to be "in berry." Upon hatching, the juvenile crayfish are attached to the mother by a thread. After the juveniles molt for the second time, they are free of the mother, but stay close and will hold on to her for some time. Multiple juveniles are occasionally found in a single burrow. Eventually they move off on their own. Crayfishes molt 6 or 7 times during their first year of life and most are probably able to reproduce by the end of that year. They molt once or twice a year for the remainder of their lives. Although it is difficult to study burrowing crayfishes, some researchers believe they may live as long as 10 years. Male Dougherty burrowing crayfish in reproductive condition have been collected in March, May, and July; no females with eggs have been found. On two occasions (February and March), multiple juveniles about 10-15 mm (about ½ inch) total length were found in the same burrow and probably represent young of the year.

Survey Recommendations: Burrowing crayfishes may be collected by direct excavation of their burrows, by trapping, and during night surveys. Excavating burrows is time consuming and can be very difficult. It also results in destruction of the animal's burrow. Traps made with PVC pipes or mist nets can be effective. Burrowing crayfishes are sometimes captured around the openings of their burrows on damp nights. Active burrows are found from about late-March to mid-November if the water table is within about 2 feet of the surface of the ground.

Range: The Dougherty burrowing crayfish is known only from the Albany Nursery (Lawrence Pearce) Wildlife Management Area in Dougherty County, in the Kiokee Creek system. Targeted surveys will almost certainly reveal its presence at additional locations in the lower Flint River system.

Threats: Small range size is the only current threat facing this species.

Georgia Conservation Status: This population is considered to be protected because it occurs on property owned and managed by the Department of Natural Resources.

Conservation and Management Recommendations: Protected species regulations protect the habitat of state listed animals on state owned lands. Accordingly, land management activities occurring on the Wildlife Management Area should be coordinated through the Nongame Conservation Section of the Department of Natural Resources. In addition, access to the only known site should be restricted. Additional surveys are needed to better define the range of this species and to identify additional populations for protection.

Selected References:

Cooper, J.E. and C.E. Skelton. 2003. New burrowing crayfish of the genus *Cambarus* Erichson, 1846 (Decapoda: Cambaridae) from the lower Flint River basin in the Dougherty Plain of Georgia, with notes on *C.* (*D.*) *harti* Hobbs, 1981. Proceedings of the Biological Society of Washington 116(3): 827-838.

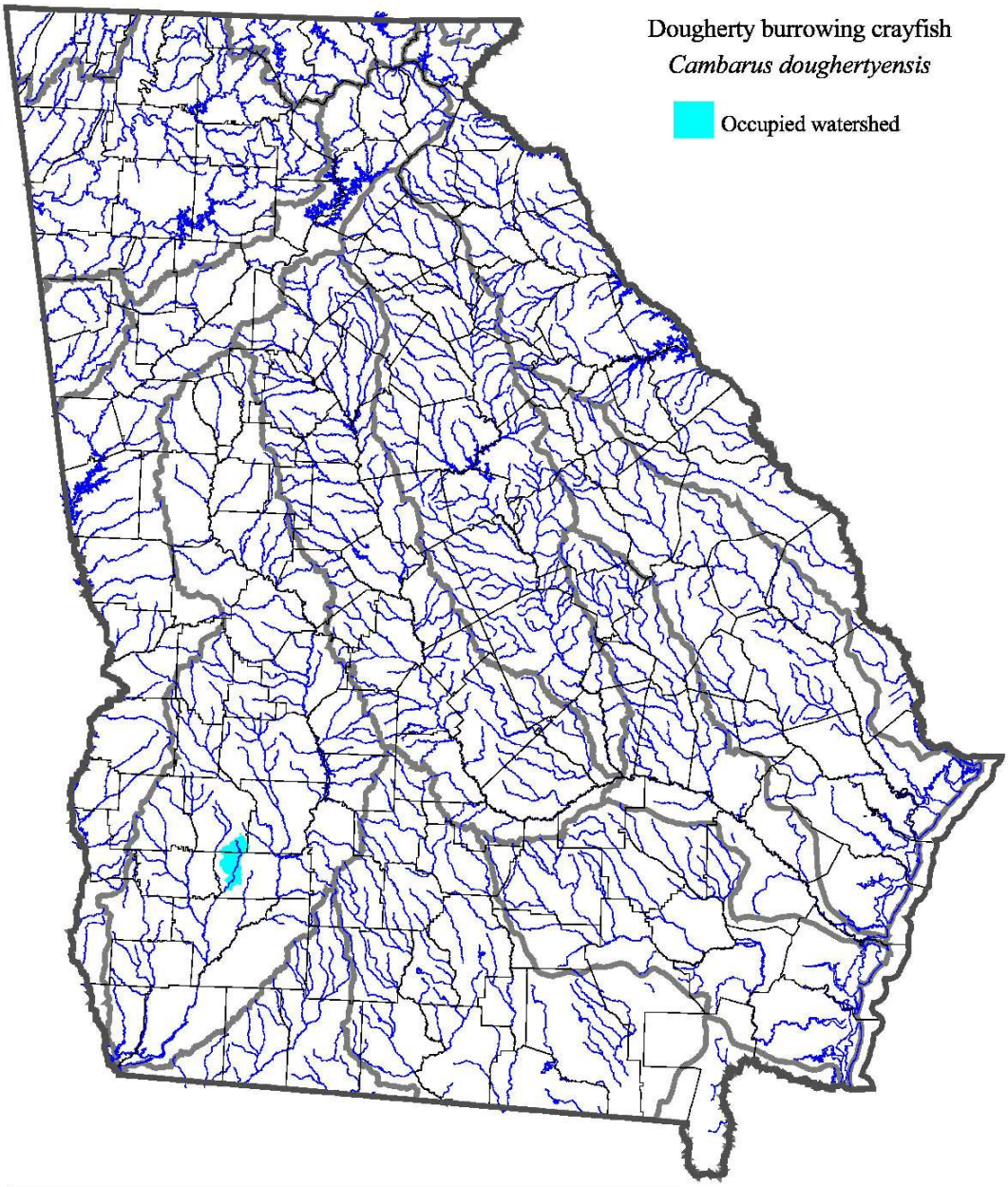
Hobbs, H. H., Jr. 1981. The crayfishes of Georgia. Smithsonian Contributions to Zoology 318:1-549.

Hobbs, H. H., Jr. 1989. An illustrated checklist of the American crayfishes (Decapoda: Astacidae, Cambaridae, and Parastacidae). Smithsonian Contributions to Zoology 480:1-236

Taylor, C. A., G. A. Schuster, J. E. Cooper, R. J. DiStefano, A. G. Eversole, P. Hamr, H. H. Hobbs III, H. W. Robison, C. E. Skelton, and R. F. Thoma. 2007. A reassessment of the conservation status of crayfishes of the United States and Canada after 10+ years of increased awareness. Fisheries 32(8): 372-389.

Author of Species Account: Christopher E. Skelton

Date Compiled or Updated: June 2008



Watersheds (Huc 10) with known occurrences. Streams, county lines, and major river basin boundaries are also shown. Map generated from GADNR (Nongame Conservation Section) data on December 18, 2008.