

CANDIDATE AND LISTING PRIORITY ASSIGNMENT FORM

SCIENTIFIC NAME: Fallicambarus gordonii

COMMON NAME: Camp Shelby burrowing crayfish

LEAD REGION: 4

INFORMATION CURRENT AS OF: November 10, 2000

STATUS/ACTION (Check all that apply):

New candidate

Continuing candidate

Non-petitioned

Petitioned - Date petition received: ____

90-day positive - FR date: ____

12-month warranted but precluded - FR date: ____

Is the petition requesting a reclassification of a listed species?

Listing priority change

Former LP: ____

New LP: ____

Candidate removal: Former LP: ____ (Check only one reason)

A - Taxon more abundant or widespread than previously believed or not subject to a degree of threats sufficient to warrant issuance of a proposed listing or continuance of candidate status.

F - Range is no longer a U.S. territory.

M - Taxon mistakenly included in past notice of review.

N - Taxon may not meet the Act's definition of "species."

X - Taxon believed to be extinct.

ANIMAL/PLANT GROUP AND FAMILY: Crustacean - Cambaridae

HISTORICAL STATES/TERRITORIES/COUNTRIES OF OCCURRENCE: Mississippi

CURRENT STATES/TERRITORIES/COUNTRIES OF OCCURRENCE: Mississippi

LEAD REGION CONTACT (Name, phone number): Lee Andrews, 404/679-7217

LEAD FIELD OFFICE CONTACT (Office, name, phone number): Jackson, Mississippi Field Office, Paul Hartfield, 601/321-1125.

BIOLOGICAL INFORMATION (Describe habitat, historic vs. current range, historic vs. current population estimates (# populations, #individuals/population), etc.):

The Camp Shelby burrowing crayfish (CSBC) is a small burrowing crayfish less than 30 millimeters (1.5 inches) in length that was described in 1987 from southeast Mississippi (Fitzpatrick 1987). It is distinguished from closely related species by a broader rostrum, characters of the chela, and characters of the male and female sexual organs. The species is found in association with flat woodland pitcher plant wetlands, locally referred to as pitcher plant bogs. Extensive crayfish surveys of pitcher plant wetlands in southern Mississippi and Alabama have documented the CSBC only from a small area in central Perry County, Mississippi (Fitzpatrick 1987, 1991).

The CSBC is a short-lived (2 to 3 years) burrowing crayfish that estivates during dry summer months, and is active during late fall, winter, and spring (Johnson and Figiel 1997). Reproductively active males (Form I) are found throughout this activity period. Females bearing eggs have only been collected during late fall and early winter. Egg numbers range from 7 to 25 per female. Juveniles are present during most of the year, but are more frequently collected in the late spring. Burrows consist of a shallow oval chamber with one to four openings. Concentrations of burrows are found only in pitcher plant bogs. Observations on the distribution of the species indicate that the CSBC is dependent on the maintenance of open-bog habitats for survival (Johnson and Figiel 1997).

CSBC are locally common in the small pitcher plant bogs where they occur. To date, 18 pitcher plant wetlands in central Perry County, Mississippi have been found supporting the species (J. Moore, The Nature Conservancy, in litt. 1999).

THREATS (Describe threats in terms of the five factors in section 4 of the ESA providing specific, substantive information. **If this is a removal of a species from candidate status or a change in listing priority, explain reasons for change**):

- A. The present or threatened destruction, modification, or curtailment of its habitat or range. The CSBC is believed to be naturally limited in range. It is found only on pitcher plant wetlands on U.S. Forest Service (USFS) lands leased by the U.S. Army National Guard's (NG) Camp Shelby for troop and tank training grounds. All pitcher plant wetlands combined comprise less than 500 acres of Camp Shelby's 135,000 acres, and the crayfish has been associated with only a few of these (M. Duran, Mississippi Department of Wildlife, Fisheries, and Parks, Hattiesburg, MS, in litt. 1999).

The CSBC is vulnerable to activities that would directly destroy its burrows, compact the soil, or alter the hydrology of its flat pine woodland wetland habitat. The primary activities occurring in areas surrounding CSBC habitat include silvicultural activities by the USFS and tank and troop maneuvers by the NG. Silvicultural activities that could harm the species include canopy removal and dessication, soil compaction and rutting from heavy equipment operation, and toxic runoff from pesticide and herbicide applications.

NG troop and tank maneuvers within crayfish habitat can kill or entomb animals, compact the soil, and/or affect hydrology through rutting.

- B. Overutilization for commercial, recreational, scientific, or educational purposes. CSBCs are not utilized for commercial or recreational purposes. Their cryptic habits protect them from overzealous scientific collection.
- C. Disease or predation. Diseases affecting the CSBC are unknown. Although a number of vertebrate predators are known to prey on crayfish, natural predation does not appear to be a threat.
- D. The inadequacy of existing regulatory mechanisms. The species is not currently considered under other environmental laws and regulations.
- E. Other natural or manmade factors affecting its continued existence. All Terrain Vehicle (ATV) use is high in the area where the CSBC occurs. ATV trails have been observed through pitcher plant bogs inhabited by CSBC. ATV use in these areas may result in direct mortality to CSBC.

BRIEF SUMMARY OF REASONS FOR REMOVAL OR LISTING PRIORITY CHANGE:

FOR RECYCLED PETITIONS:

- a. Is listing still warranted? ___
- b. To date, has publication of a proposal to list been precluded by other higher priority listing actions? ___
- c. Is a proposal to list the species as threatened or endangered in preparation? ___
- d. If the answer to c. above is no, provide an explanation of why the action is still precluded.

LAND OWNERSHIP (Estimate proportion Federal/state/local government/private, identify non-private owners): All known habitat for the species occurs on U.S. Forest Service lands leased by U.S. Army National Guard.

PRELISTING (Describe status of conservation agreements or other conservation activities): The Forest Service and National Guard are aware of the locations inhabited by the CSBC and its vulnerability to their activities. Surveys and life history studies have been conducted. The Mississippi Natural Heritage Program and The Nature Conservancy have been monitoring the species and its habitat in cooperation with the National Guard and Forest Service.

The Forest Service and National Guard have been cooperative in working with the State to avoid impacts. The National Guard has requested Mississippi Field Office assistance in developing and entering into a Candidate Conservation Agreement that will reduce or remove all known significant threats to the CSBC.

REFERENCES (Identify primary sources of information (e.g., status reports, petitions, journal publications, unpublished data from species experts) using formal citation format):

Fitzpatrick, J.P. 1987. Fallicambarus burrisi and F. gordonii, two new burrowing crayfishes associated with pitcher plant bogs in Mississippi and Alabama. Proceedings of the Biological Society of Washington 100:433-446.

Fitzpatrick, J.P. 1991. Status survey report Camp Shelby crayfish. Report to U.S. Army Corps of Engineers, Champaign, Illinois. Pp. 1-14.

Johnston, C.E. and C. Figiel. 1997. Microhabitat parameters and life-history characteristics of Fallicambarus gordonii Fitzpatrick, a crayfish associated with pitcher-plant bogs in southern Mississippi. Journal of Crustacean Biology 17(4):687-691.

LISTING PRIORITY (place * after number)

THREAT			
Magnitude	Immediacy	Taxonomy	Priority
High	Imminent	Monotypic genus	1
		Species	2
		Subspecies/population	3
	Non-imminent	Monotypic genus	4
		Species	5
		Subspecies/population	6
Moderate to Low	Imminent	Monotypic genus	7
		Species	8
		Subspecies/population	9
	Non-imminent	Monotypic genus	10
		Species	11*
		Subspecies/population	12

APPROVAL/CONCURRENCE: Lead Regions must obtain written concurrence from all other Regions within the range of the species before recommending changes to the candidate list, including listing priority changes; the Regional Director must approve all such recommendations. The Director must concur on all additions of species to the candidate list, annual retentions of candidates, removal of candidates, and listing priority changes.

Approve: _____
Regional Director, Fish and Wildlife Service Date _____

Concur: _____
Director, Fish and Wildlife Service Date _____

Do not concur: _____
Director, Fish and Wildlife Service Date _____

Director's Remarks: _____

Date of annual review: November 10, 2000

Conducted by: Paul Hartfield - Jackson, Mississippi FO

Changes from October 25, 1999 CNOR(check one) Yes X No ___

Approval: _____ Dated _____
Regional Director

Comments: _____

(rev. 6/00)