

FRESHWATER MUSSELS OF THE CHATTAHOOCHEE AND FLINT RIVERS

James D. Williams¹ and Jayne Brim Box²

AUTHOR: ¹2National Fisheries Research Center, U.S. Fish and Wildlife Service, 7920 N.W. 71st Street, Gainesville, Florida 32606.
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Abstract. A 1991 and 1992 survey of the freshwater mussels of the Apalachicola, Chattahoochee and Flint (ACF) rivers showed that mussel populations throughout the ACF basin were greatly reduced in diversity and population levels. To protect this diminishing fauna, conservation efforts should focus on ecosystem protection rather than single species recovery.

sites in the channels and tributaries of the ACF rivers. Specimens were relaxed, preserved and identified, and the reproductive condition of live animals was evaluated where possible. Current distribution and abundance were determined for candidate species, as well as for other unionids in the ACF system.

INTRODUCTION

The southeastern United States has more freshwater mussel species than any other region of the world (Burch, 1973). In the last 40 years, however, there has been a precipitous decline in freshwater mussel populations throughout the southeastern region (Heard, 1970). Habitat degradation, the introduction of exotic bivalves (including the Asian clam and the zebra mussel), pollution, impoundments and other factors have contributed to this decline (Hart and Fuller, 1974).

The ACF rivers form one of the largest drainages in the eastern Gulf coastal plain. Historically these rivers were known for their rich unionid populations, with as many as 45 species reported from the basin (Burch, 1973; Van der Schalie, 1940). A comprehensive study of the mussels of these rivers and their tributaries has not been done (Heard, 1979; Clench and Turner, 1956). Six species of mussels, four of which are endemic to the ACF basin, are of particular concern and are candidates for federal listing as threatened or endangered species (Federal Register, 1991).

METHODS

Historical Data. In 1991 a two year study began to determine the status of the six candidate species. A thorough literature and natural history museum search was conducted to obtain and review published and unpublished reports of unionids in the ACF basin, and to evaluate the historic range and occupancy of the candidate species.

Field Studies. In the summers of 1991 and 1992, collections were made, using SCUBA divers, at over 300

RESULTS AND DISCUSSION

A manuscript describing the survey results is in preparation. Several of the six candidates will be proposed for listing as threatened species at the federal level, because of low population levels and restricted ranges. In addition, several other species will be designated as new candidates for listing. A variety of factors may have contributed to dwindling mussel populations, including irrigation practices, impoundments, channelization, siltation and contaminants.

CONCLUSIONS

Nearly all species of unionids appear to be extirpated from the main stem of the Chattahoochee River. Historically, this river was one of the most productive sites for collecting mussels in the entire eastern Gulf drainage. Mussel populations in the Flint River also are in decline. In order to protect this diminishing fauna, conservation efforts must be refocused to an ecosystem approach.

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