

This document provides an addendum to the 15 November 2021 *Nationwide Aerial Application of Fire Retardant on National Forest System Land, Biological Assessment for Fish and Wildlife Service Species* for the Atlantic pigtoe. This information should be inserted in Section 5.5.4.2 under the *Bivalves* heading.

Table 1. Summary of determinations for bivalve species and critical habitats

Scientific Name	Common Name	Status	Critical Habitat Determination	Species Determination
<i>Fusconaia masoni</i>	Atlantic pigtoe	T, CH	NLAA	NLAA

Atlantic pigtoe- *Fusconaia masoni*

Critical habitat for Atlantic pigtoe was designated 16 November 2021 (86 FR 64000). Critical habitat occurs on one mile of river within the George Washington and Jefferson National Forests, which do not use retardant, and downstream of the Uwharrie National Forest (National Forests in North Carolina), which have very low retardant application potential. The physical or biological features essential to the conservation of Atlantic pigtoe consist of the following components:

- Suitable substrates and connected instream habitats characterized by geomorphically stable stream channels and banks with habitats that support a diversity of freshwater mussel and native fish (such as stable riffle-run-pool habitats that provide flow refuges consisting of silt-free gravel and coarse sand substrates).
- Adequate flows, or a hydrologic flow regime, necessary to maintain benthic habitats where the species is found and to maintain connectivity of streams with the floodplain, allowing the exchange of nutrients and sediment for maintenance of the mussel’s and fish hosts’ habitat, food availability, spawning habitat for native fishes, and the ability for newly transformed juveniles to settle and become established in their habitats.
- Water and sediment quality (including, but not limited to, conductivity, hardness, turbidity, temperature, pH, ammonia, heavy metals, and chemical constituents) necessary to sustain natural physiological processes for normal behavior, growth, and viability of all life stages.
- The presence and abundance of fish hosts necessary for recruitment of the Atlantic pigtoe.

Atlantic pigtoe was listed as threatened on 16 November 2021 (86 FR 64000). This species is in critical danger of becoming extinct because of low population numbers and minimal viability with very high threats. It has a moderate sized geographic range across Georgia, South Carolina, North Carolina, and Virginia; however, it is now highly reduced in the number of known extant occurrences. This species is limited to the headwater areas of drainages in which it is still present. Forty to 50 extant occurrences have been recently confirmed. In North Carolina 13 to 14 populations are considered viable, with possibly two populations in Virginia considered viable. Threats to the species include non-point source siltation and eutrophication, impoundments and/or alteration of rivers, and pollution. This species is found on the George Washington and Jefferson, and Uwharrie National Forests.

This is considered to be a species of relatively fast waters with high quality riverine/large creek habitat. It is typically found in headwaters or rural watersheds. The preferred habitat of the Atlantic pigtoe is coarse sand and gravel at the downstream edge of riffles. It is less common in sand, cobble and mixtures of sand, silt and detritus. The Atlantic pigtoe requires fast flowing, well oxygenated streams and is restricted to fairly pristine habitats.

Because of the use of avoidance areas around all waterways and the expanded avoidance areas used by the National Forest in North Carolina, and the generally discountable effects (refer to the section on effects common to all bivalves), use of aerially delivered retardant **may affect, but is not likely to adversely affect Atlantic pigtoe or its designated critical habitat.**