

IDENTIFICATION: Fleshy-fruit gladecress, *Leavenworthia crassa*, is a member of the mustard family (Brassicaceae) that inhabits cedar glades at seven known sites in Alabama. It was [listed as an endangered species](#) on September 2, 2014. A winter annual with leaves that are mostly basal, forming a rosette, and entire to very deeply pinnately lobed or divided and up to about three inches in length. The plant usually grows from four to 12 inches tall. Flowers are typically about ½ inch in length and either yellow with orange or white with orange in color. Typically blooms in mid-March through mid-April. Both color variations may be seen in a single population. Dark brown, winged seeds are within a globe-shaped or slightly oblong fruit approximately ½ inch in diameter.

HABITAT: This species is associated with areas often referred to as “glades” or “cedar glades.” Much of the cedar glade habitat in north Alabama is in a degraded condition, and populations of fleshy-fruit gladecress, in many cases, persist in glade-like remnants exhibiting various degrees of disturbance including pastures, roadside rights-of-way, and cultivated or plowed fields. The limestone outcrops, gravel, and shallow soils present in cedar glades and glade-like remnants provide space for individual and population growth of fleshy-fruit gladecress by regulating the encroachment of herbaceous and woody vegetation that would exclude fleshy-fruit gladecress from plant communities found on deeper soils. Eastern red cedar is often present on the glade edges in deeper soils. Wide variations in soil moisture content are not uncommon in typical “glade” habitats. Soils are often extremely wet in late winter and extremely dry in summer.

One of the seven sites where this species occurs is formally protected as part of the Bankhead National Forest in Lawrence County. The majority of other sites are actively grazed, a practice that has, for the most part, maintained favorable growing conditions for the species.



Fleshy-fruit gladecress habitat at Bankhead National Forest



Fleshy-fruit gladecress at Bankhead National Forest

Designation of Critical Habitat: When a species is listed as Threatened or Endangered, the US Fish and Wildlife Service must designate critical habitat at the maximum extent prudent and determinable. The designation of critical habitat is based on the best scientific data after taking into consideration economic impact, national security impact, and any other relevant impact of specifying a particular area as critical habitat. Critical habitat is defined as:

- The specific areas within the geographic area occupied by the species, at the time it is listed in accordance with the Endangered Species Act, on which are found those physical or biological features:
 - o Essential to the conservation of the species.
 - o Which may require special management considerations or protection.
 - o Specific areas outside of the geographic range area occupied by the species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

The designation of critical habitat does not affect land ownership or designate a refuge, wilderness, reserve, preserve, or other conservation area. Such a designation does not allow the government or public to access private lands. Such designation does not require implementation of restoration, recovery, or enhancement measures by non-Federal landowners unless an action or activity has a federal nexus. The seven sites where fleshy-fruit gladeceess are found were [designated as critical habitat](#) on September 25, 2014. No significant impacts to private landowners are expected as a result of this ruling.

FORESTRY CONSIDERATIONS: Forest management activities in and around fleshy-fruit gladeceess habitat are probably limited due to species composition and hydrology. Removal of eastern red cedar from the glade edges, timber removal or other mechanical operations adjacent to the site or use as a loading deck are potential forest management activities in and around glade sites. Pre-harvest plans should include a strategy to be as environmentally friendly as possible to sites with fleshy-fruit gladeceess. Location of skid trails, loading decks, roads and other high use areas should be carefully planned to minimize negative impacts. Care should be taken to ensure that forest management activities don't alter the flow of water downslope to gladeceess habitat. Herbicide use should be carefully planned, follow label directions and avoid application prior to seed drop. Planting of trees adjacent to a glade could result in "shading" or additional leaf debris that alters the hydrology of the site. Management of non-native invasive species such as privet may be necessary to minimize competition.

DISTRIBUTION BY COUNTY: This plant is known to occur only at seven sites within a 13-mile radius area in Lawrence and Morgan counties.

Photo Credit: Allison Cochran, U. S. Forest Service, Bankhead National Forest



This information is provided by the Alabama Forestry Commission
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