perennial habit; grayer, stellate pubescence of stems and leaves; and longer pedicels. Fernald (1946) treated A. shortii as a variety of A. perstellata, through it is now generally accepted that they represent two species (Kartesz and Kartesz 1980). In 1959, plants were discovered on steep limestone cliffs above the Stones River in Davidson County, Tennessee, by Dr. R.B. Channel. Rollins (1960) described these plants as Arabis perstellata var. ampla and distinguished them from the typical variety by their generally larger size, thinner and more entire leaves, and lesser pubescence. Rollins reported the chromosome number of the Tennessee plants as n=7. The chromosome number of the Kentucky plants has yet to be determined.

Arabis perstellata is typically found on wooded steep slopes with limestone outcrops. The outcrops tend to be moist but not wet; rarely, plants can be found on seepy outcrops. They also may be found in protected areas, such as around the bases of larger trees, or in areas where there is little competition, such as around areas regularly scoured by talus movement or erosion. The plants have a well-developed system of rootstocks that allow them to persist in these inhospitable sites. Sometimes plants display a weedy tendency, colonizing recent road cuts or animal paths through the woodlands. The plants survive in full shade or filtered light, but are not found in full sunlight (Jones 1991).

The distribution of *Arabis perstellata* var. *perstellata* shows a strong correlation with the Kentucky River and its tributaries (primarily Elkhorn Creek), with the majority of sites occurring in Franklin County. No sites have been found south of Frankfort along the Kentucky River, although appropriate habitat appears to be present.

Historically, *Arabis perstellata* var. *ampla* was also associated with calcareous bluff habitat of a specific river—the Stones River. The two extant populations are somewhat atypical compared to historic sites because they occur on rocky knobs about 15 miles from the Stones River (Jones 1991). The following is a description of the species' status within each State where it occurs.

Tennessee. The following information on Arabis perstellata var. ampla in Tennessee is primarily from Jones (1991). All known Arabis perstellata var. ampla populations in Tennessee are from the Cumberland River Subsection of the Central Basin Physiographic Region. Prior to the status survey conducted by Jones (1991), there were three records of large rock cress in Davidson County and two in Rutherford

County. All three of the sites in Davidson County have been extirpated, and one of the sites in Rutherford County could not be relocated. One additional population was discovered in Rutherford County during the status survey. Of the two remaining populations, one is small—about 25 plants—and covers about 0.06 acre. The other population contains several hundred plants scattered over about 2.2 acres. Both sites are on private land and are threatened from competition by weedy invaders.

Kentucky. The following information on Arabis perstellata var. perstellata in Kentucky is primarily from Jones (1991). All known Arabis perstellata var. perstellata populations in Kentucky are from the Eden Shale Belt Subsection of the Blue Grass Physiographic Region. Prior to the status survey conducted by Jones (1991), there were three counties in Kentucky with occurrence records for the small rock cress—1 in Henry County, 2 in Owen County, and 26 in Franklin County. One site in Owen County and seven sites in Franklin County have been extirpated. There was insufficient information to locate four other historic records (two in Franklin County and two from unknown counties). However, 8 new populations were discovered during the status survey, and the 27 known small rock cress sites in Kentucky are distributed as follows: 1 population from Henry County, 2 populations from Owen County, and 24 populations from Franklin County. Of these 27 populations, 10 have fewer than 100 individual plants and 12 have 20 or fewer.

The immediate threats to the 27 remaining populations include the following—(1) 8 are threatened by weedy competitors, (2) 4 by weedy competitors and trampling, (3) 2 by trampling, (4) 1 by logging, and (5) 2 by road work. One of the largest populations was severely impacted by roadwork while the species was proposed for listing. The remaining 10 populations do not appear to have any immediate threats but are vulnerable to the aforementioned threats as well as other habitat alterations and potential inbreeding problems as neighboring populations decline. All of the Kentucky populations are privately owned. Three receive limited protection through their inclusion in State designated natural areas.

Previous Federal Actions

Federal government actions on this species began with section 12 of the Act of 1973 (16 U.S.C. 1531 *et seq.*), which directed the Secretary of the

Smithsonian Institution to prepare a report on those plants considered endangered, threatened, or extinct. This report, designated as House Document No. 94-51, was presented to Congress on January 9, 1975. On July 1, 1975, the Service published a notice (40 FR 27823) that formally accepted the Smithsonian report as a petition within the context of section 4(c)(2) (now section 4(b)(3)) of the Act. By accepting this report as a petition, the Service also acknowledged its intention to review the status of those plant taxa named within the report. Arabis perstellata var. ampla and Arabis perstellata var. perstellata were included in the Smithsonian report and in the July 1, 1975, Notice of Review. On June 16, 1976, the Service published a proposed rule (41 FR 24523) to determine approximately 1,700 vascular plant taxa to be endangered species pursuant to section 4 of the Act; Arabis perstellata var. ampla and Arabis perstellata var. perstellata were included in that proposal.

The 1978 amendments to the Act required that all proposals over 2 years old be withdrawn. On December 10, 1979 (44 FR 70796), the Service published a notice withdrawing plants proposed on June 16, 1976. The revised notice of review for native plants published on December 15, 1980 (45 FR 82480), included Arabis perstellata var. ampla and Arabis perstellata var. perstellata as category 1 species. Category 1 species are those for which the Service has on file substantial information on biological vulnerability and threats to support the appropriateness of proposing to list the taxa as threatened or endangered. These subspecies were retained in their respective categories when the notice of review for native plants was revised in 1983 (48 FR 53640) and 1985 (50 FR 39526), but Arabis perstellata var. ampla was then thought to be extinct. In the 1990 notice of review (50 FR 6184), Arabis perstellata var. ampla was retained as a category 1 species but was no longer thought to be extinct (i.e., it was rediscovered), and Arabis perstellata var. perstellata was placed in category 2 because the Service believed that additional searches of potential habitat and further identification of threats were needed before a decision could be made as to whether a proposed rule should be prepared to add the species to the list. (Category 2 species are those for which the Service has information indicating that proposing to list them as endangered or threatened may be appropriate but for which substantial data on biological