

September 2, 2025

To: South Carolina Department of Natural Resources

From: Upstate Chapter, South Carolina Native Plant Society and Naturaland Trust

Re: Proposed 2025 State Wildlife Action Plan – Dwarf-flower Heartleaf

The Upstate Chapter of the South Carolina Native Plant Society and Naturaland Trust submit these comments on the proposed South Carolina State Wildlife Action Plan as it relates to one species, the dwarf-flower heartleaf (*Hexastylis naniflora*). The 2015 SWAP identified this species as a Highest Priority species; we ask that the Department likewise classify this species as one of Highest Conservation Concern in the new SWAP. The state of the species has grown more perilous over time and during the last decade.

We would like to begin by thanking the Department, its leadership, and its staff for the extensive and thoughtful work that has gone into this proposed SWAP. In many ways, the Department, its leadership, and its staff continue to perform stellar work and demonstrate deep commitment to our State's natural resources. Every day, we are thankful for the work that you and your predecessors have done and are doing.

We are seriously concerned about the future of this species in South Carolina. Since its status in South Carolina is at the center of the global survival for the species, South Carolina's approach to this plant is critical to its continued existence and possible vigorous persistence.

As you know, in our state the plant exists only in three counties: Greenville, Spartanburg, and Cherokee. These counties are in the area where we focus our conservation activities. The species also exists in parts of a few adjacent North Carolina counties (recent research indicates that its believed existence in North Carolina counties in the Catawba River basin was mistaken, see below). Even in those South Carolina counties, it has been found only in a narrow band below the mountains in the foothills and above the lower Piedmont and there only in limited areas of wet forests near streams and with the right soil, moisture, canopy, and other conditions. It spreads very slowly and in a limited range through seeds distributed by ants. Because of the plant's particular habitat requirements, it is generally believed that the plant has occupied all the existing suitable habitat.

The same factors that challenged the plant in 2015 exist today, but there are fewer plants and less habitat remaining today, the threats are greater, and the plants are in more peril than ever before. Here are factors that we would bring to the Department's attention:

Conservation Efforts in South Carolina since 2015 Have Been Largely Unsuccessful.

We are continuously on the lookout for an opportunity to acquire and conserve populations of

this plant and as much of its habitat as possible. We stand ready to take on this challenge. Yet, despite constant vigilance and education of the conservation community concerning this plant, to our knowledge there has been very little success in achieving real additional permanent protection of this plant and its habitat. Here are the events of which we are aware:

Naturaland Trust and the Society worked to prevent a proposed development in Travelers Rest next to the Blackwell Heritage Preserve; and, when that effort succeeded, Naturaland Trust worked with the Department for the acquisition of that property and its addition to the Blackwell Heritage Preserve. That effort was focused on protection of the bunched arrowhead on the property and below it, but some dwarf-flower heartleaf have been found on one edge of the property near the road. This success is the only one we are aware of, and it is certainly worth celebrating. But there are only a few plants on this property, and they require regular attention because of invasive species that plague that section of the property (specifically vinca). A few years ago, one of our volunteers removed most of it from around the plants, but that small population will require attention to ensure the invasives do not take a toll on the species there. Also, the plants are very near and among the stream/swamp after the waterway passes under the road, and these individuals are vulnerable to upstream land use changes (the upstream properties are in private hands and not protected) that could cause scouring and flooding downstream.

Thankfully, some years ago the Department established the Peters Creek Heritage Preserve, which is the only significant South Carolina state or private property with true conservation of the species. Naturaland Trust was able to acquire a small parcel that bisected part of that preserve and that was up for sale; but to our knowledge, that parcel does not contain any of the plants.

Upstate Forever has obtained a conservation easement on a property in Taylors which we believe contains a number of plants. However, the easement allows construction of a home on part of the property, the owner has been actively marketing it, and there is no effective way to ensure that a homeowner's use of the property would not adversely impact these plants. In addition, the property where the plants are located is left over from the development of a subdivision, downhill from and adjacent to the development; and the plants are impacted by stormwater runoff from the development, trash, dumping, and invasive species. Without extensive and expensive protective measures, restoration, and regular maintenance, these plants and their habitat are in peril. The current ownership of that property does not ensure the work necessary to restore it nor the maintenance necessary to sustain the plants.

Otherwise, we are unaware of any additional conservation of this species during the last decade. We welcome any opportunity to work with the Department or to undertake otherwise conservation of populations of the plant, but the opportunities have not arisen.

Regulatory Protections Have Been Weak and Have Been Undermined. There is no specific regulatory or legal protection for this species. Until recently, the plant had the protections that resulted from it being designated a threatened species by the U.S. Fish and

Wildlife Service under the Endangered Species Act. As the Department knows, over the objections of the Department, the Society, and the scientists most familiar with the plant, the Service recently delisted the species, thereby removing most of the protections of the Act from the species (there is a post-delisting monitoring period).

The threatened status of the species provided four principal benefits. First, when a development or other activity required a federal Clean Water Act permit, the developer was required to search for the plant and, ideally, make provisions for any plants found on site after consultation with the Service and the Department (by way of Section 401 state review). We are aware of two instances where that process yielded benefits for the species: the Raintree subdivision in Spartanburg County and the Boulder Creek Subdivision in Greenville County. The process may also have yielded some benefits in the instance of Lake Blalock, but we are not familiar with the regulatory details relating to the Lake.

It should be emphasized that this process had limited benefits. In the two subdivisions, small areas were set aside where the plants were found. In the instance of Boulder Creek, when the Society contacted the HOA which now owns the property that contains the plants, the HOA was unaware that the plants were there, and the plants did not benefit from all the protective terms that the permit contemplated. The conservation result is a small patch of plants, largely overlooked and isolated from the greater habitat and forest of which they were naturally a part.

In addition, this kind of regulatorily-required search is the most likely means by which populations of the plants could be discovered. That fact means that to the extent new populations have been discovered, they have been ecologically damaged by being isolated to a very small area in the midst of residential (or industrial) development and infrastructure, in a significantly deforested area.

The second benefit and perhaps the most important is that the Greenville County development rules provide special protections to species on the Endangered Species Act list. This protection is due to years of local advocacy for protection of the endangered bunched arrowhead, but those protections encompassed the dwarf-flower heartleaf, too. In one instance, we succeeded in stopping a development on Enoree Road in Travelers Rest that would have obliterated populations of the dwarf-flower heartleaf and its habitat because of these provisions. (Unfortunately, we were unable to acquire the property for conservation, although it remains undeveloped while in private ownership, at least for now.)

Third, the listed status of the species made conservation efforts on private property eligible for funding under the Partnership program of the U.S. Fish and Wildlife Service, although that program requires a 50% match. We have used that program for bunched arrowhead restoration efforts on Naturaland Trust property, and we could have conceivably used it for some future-conserved dwarf-flower heartleaf properties.

Fourth and finally, the listed status of the species gave it some prominence as a federally-protected species during any controversies over development of its habitat. That was true before the Greenville County Planning Commission, and it has helped in a recent controversy concerning a proposed Spartanburg County RV Park on Goldmine Creek in Campobello which would harm dwarf-flower heartleaf plants and their habitat.

However, all those protections have been wiped away by the Service's delisting decision. There will no longer be a requirement to search for the plant or to make provisions for it if there is need for a federal permit. The protections of the Greenville County ordinance no longer apply. The Service's Partnership program funding is no longer available. In the case of the proposed Spartanburg RV park, the developer's attorney has already brought the delisting to the attention of the Spartanburg Commission, which recently gave the development conditional approval, and to the court where the approval is being challenged – though we believe that the species still deserves the protections provided by the Spartanburg Ordinance because of its status under the 2015 SWAP and its importance in South Carolina and Spartanburg County.

In sum, in 2015 the species had some limited regulatory and legal protection due to its Endangered Species Act listing. That is now gone, and the ramifications extend beyond the elimination of limited federal protections to serious reduction of protections at the local level. The only protected status that the plant now has is the designation that the Department gives it under the SWAP. Even though the SWAP is not a regulatory document, it does have influence and weight when local development decisions and conservation funding choices are being made.

Accelerating Development and Other Pressures Threaten the Continued Survival of the Species. Since 2015, development pressures on this species have increased dramatically. Unfortunately, the habitat of this species is located in a band that faces some of the greatest development pressure in South Carolina: Travelers Rest, Taylors, Greer, Campobello, Inman, and parts of Cherokee County. It is hard to overstate the intensity of development activities in the area where this plant is found. Some examples are the subdivisions around the Swamp Rabbit Trail, the new Piedmont Natural Gas pipeline through Taylors and Travelers Rest, the industrial, commercial, and residential developments around Greer, and the explosive growth in Spartanburg County and the I-85 corridor.

It is important to emphasize that the legal protections that did exist did not address the great majority of development in these three counties. The federal consultation process only applied if a Clean Water Act permit was required. The Greenville County protections apply only to residential developments – not to construction or landscaping of a single home, not to industrial development, not to agriculture. The Spartanburg County provision applies only to proposed RV parks. Thus, for the past 10 years, any home, any agricultural activity (such as horse and cattle farms), any industrial development that did not require a federal permit, recreational trails and campgrounds, and even any residential developments in Spartanburg and Cherokee Counties proceeded ahead without regard to this plant and its habitat. It is certainly

true that we have lost many plants and their habitat in the last decade and do not know that it happened.

And the problem is not just development activities on the habitat of the plant. Many of these plants live right on the banks or very near the bank edge of streams and waterways. Increased runoff due to development and ever more intensive rainfall scour away plants and their habitat.

This situation will be only worse in the next 10 years. Unprotected populations of this plant will be wiped away without knowledge that they are there. Even if they are identified, there are few opportunities to argue for protecting populations of a delisted plant.

All that we have left are the plants that we know are currently protected, which we will discuss below. Building a house, cutting woods for landscaping, expanding a pipeline, building a subdivision, paving a road, mowing a backyard, expanding a horse pasture – all these constantly-growing activities in this narrow band of these three Upstate counties spell disaster for this plant and its unusual and rare habitat. Our only tool going forward is to acquire more populations of the plant and large enough areas to truly protect the plant's habitat, and maintain their habitat over time. Over the last decade, the conservation community has not had opportunities to make significant conservation progress for the species.

Unfortunately, development pressures are not the only threats. Climate change is a major challenge. We are having frequent periods of severe drought and repeated extreme rainfall events. The droughts alter the hydrology of the wet forests upon which this plant depends, and the extreme rainfall events (combined with increased development) cause more flooding and more scouring of streamside plants. These same pressures challenge the forests whose canopies are essential to the plants' survival.

Persistent and newly-emerging nonnative species also threaten these plants. Privet, vinca, and English ivy are old and existing challenges. But imagine the impact on a population of these plants if fig buttercup were established in its watershed (the Society has spent tens of thousands of dollars trying to control this invasive in the Reedy River watershed and prevent it from spreading elsewhere in the greater Broad River watershed).

In short, plants and their habitat have disappeared over the last 10 years, and we can expect that trend to continue with more force in the next 10 years.

Existing Protected and Other Populations Have Declined and Are At Further Risk.

There are some identified populations that have varying levels of protection, but their status is not secured. On behalf of the Society, the Southern Environmental Law Center obtained documents from the U.S. Fish and Wildlife Service, and those documents indicate disturbing declines in protected populations over various time periods. We will submit those documents in separate emails, due to the volume.

Overall, the U.S. Fish and Wildlife Service estimates that this species has declined by 10% to 30% throughout its range since it was listed as threatened in 1989. Those estimates include newly-discovered populations in North Carolina in the Catawba River basin which are now believed to be a different species.

The Service's documents contain some information regarding specific South Carolina populations. They contain information that indicates significant problems for the South Carolina populations over different time periods. At the least, the documents demonstrate that relying only upon the existing few somewhat protected populations is a perilous conservation strategy.

The best protected and most secure population is that protected by the Department at Peters Creek Heritage Preserve, thanks also to the work and dedication of Dr. Gil Newberry. Based on data collected in different ways, the Service estimated that the population had remained relatively stable over time, but surveys through the years have recorded significant reductions during some periods.

There is a second protected population at Cowpens National Battlefield. The Service documents indicate that from 2005 to 2016 that population declined by 70%, and the exact cause is not known. Unlike the Peters Creek Preserve, the Battlefield does not exist to protect these plants, and the special protection that the plant had as a threatened species on federal property has now been eliminated.

There is a remaining population around Lake Blalock in Spartanburg County. The Service put forward an estimate that the population had declined by about 65% as of 2016, and at one point had dropped by about 85%. Intrusions by neighbors had killed hundreds of plants. These declines are consistent with the observations reported by Dr. Newberry.

Otherwise, there is the small population on the addition to the Blackwell Heritage Preserve, which faces the challenges set out above.

The small plots protected under the Clean Water Act in two subdivisions (of which we are aware) have limited protections and are subject to the risks of being isolated plots of plants.

We are thankful for the Peters Creek Preserve, but it is a dangerous conservation strategy to depend upon one truly protected population for the continued persistence of the species in South Carolina. The declines recorded throughout the South Carolina populations in the Service documents are reasons for concern. Even if there are rebounds from time to time, it is of great concern that these protected South Carolina populations have experienced significant declines during periods when the species had the protections of the Endangered Species Act, which no longer exist.

Recent Research Indicates that the South Carolina Populations are Even More Important. This year's U.S. Fish and Wildlife delisting decision leaned heavily upon populations of the plant located in North Carolina. But recent research indicates that all the

populations discovered and located in the Catawba River basin are in fact another species. According to the research of scientists at Appalachian State, *Hexastylis naniflora* exists in South Carolina and some adjacent areas in North Carolina in the Broad River basin. The Service did not take that research into account in making its decision because, unfortunately, the researchers have not yet published that research. Nevertheless, this most recent science indicates that the South Carolina Broad River basin populations, are more important than ever for the continued existence of this plant globally.

Conclusion. The current status of this plant is that the conservation community is relying upon the Peters Creek Heritage Preserve and a very few other somewhat protected populations for the survival of this plant in South Carolina. There is one well-protected and persistent population and largely intact forest at the Peters Creek Heritage Preserve. There is a struggling population at the Cowpens National Battlefield, without the same level of protection, and the declining and unprotected or ineffectively protected population at Lake Blalock. Otherwise, there are a very few populations on small areas subject to risks. During the last decade, the conservation community has not succeeded in making a material improvement in the preservation of this species, while development and other pressures have undoubtedly removed plants and their habitat from the landscape.

Throughout its limited range in South Carolina during the next ten years, the intense pressure of development, land use alterations, climate change, and invasive species will take a severe toll on the limited populations of this plant and the habitat that remains. The next ten years will determine whether any meaningful new conservation will take place in South Carolina, the center of the plant's global habitat.

We ask that the 2025 SWAP identify this plant as a species of Highest Conservation Concern. For the next ten years, this species greatly needs and deserves that designation.

We are including letters and affidavits that have been submitted in various proceedings that set out the challenges facing this species. With separate emails, we will submit documents from the Service's files.

As always, we express our thanks to the Department for its consideration and for its work on behalf of South Carolina's natural heritage.