Recommendation for the Designation of
Swamp-pink
Helonias bullata L.
as a Virginia Species of Greatest Conservation Need

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The Virginia Department of Wildlife Resources, with support from the Virginia Department of Conservation and Recreation-Division of Natural Heritage, recommends the addition of Swamp-pink (*Helonias bullata* L.) to Virginia's list of Species of Greatest Conservation Need as a tier 1-A* species (Appendix 1).

Justification

Species Summary
Helonias bullata (Swamp-pink; G3/S2S3, Fed LT/State LE) (Appendix 2) was listed as Federally Threatened by the U.S. Fish and Wildlife Service in September 1988 due to filling and draining of wetlands, development, modification of hydrologic cycles, and collecting (USFWS 1988b, Natureserve 2023). *Helonias bullata* is ranked G3 (vulnerable) by NatureServe and the Natural Heritage Network, meaning that it is at a moderate risk of extinction on a global scale (NatureServe, 2023). *Helonias* is evolutionarily unique and is treated as a monotypic genus within the broad Lily family (Liliaceae); some researchers go further, placing in its own monotypic family, the Heloniadaceae (Weakley 2022). This species is restricted to freshwater wetlands influenced by groundwater but with a low incidence of deep flooding. Populations occur in coastal states from New Jersey to Georgia, and formerly, New York. Within this range, however, the species is concentrated in certain counties and absent from large intervening areas (BONAP 2015). Alteration of hydrology is the primary threat to the species' continued existence, whether by direct wetland impacts or due to adjacent land uses that alter hydrologic regimes (USFWS 1988a).

Trends
There are 31 extant populations of *Helonias bullata* in Virginia and 4 additional populations of historical occurrence only. Of the existing occurrences, 6 are non-viable or have inadequate data for proper ranking (VA DCR, 2023). About 225 populations exist, over half of them in New

Jersey (Natureserve 2023). The populations in New York and many of those in New Jersey have been destroyed. Significant habitat loss throughout the species' range implies the loss of many populations prior to their documentation. The overall number of populations has decreased substantially since federal listing and significant decreases in plant numbers and habitat quality within populations have also been documented. *Helonias bullata* has poor ability to produce and disperse seed making it less likely to establish new plants and therefore more prone to population impacts (USFWS 2007). In Virginia, clear declines in plant numbers or vigor per population are not apparent from monitoring data. The majority of known populations occur on lands managed by federal or state governments, meaning the future of existing *Helonias* populations is potentially more secure. Impacts resulting from past wetland damage on private lands is impossible to know. About 1 in 5 Virginia populations were discovered after 2000 and it is likely that additional field work will uncover more (VA DCR 2023).

Conservation Action

Conservation actions recommended for *Helonias bullata* include preventing habitat impacts. This includes indirect elimination of colonies by changes in hydrology. Harvesting of timber within or immediately adjacent to populations can negatively impact habitat quality so adequate buffers around headwater streams should be observed. Few management actions can be taken on behalf of the species, making protection of habitat critical.

Summary

Helonias bullata (Swamp-pink) is proposed for inclusion in the Virginia State Wildlife Action Plan as a tier 1-A species due to its threatened habitat and susceptibility to changes in regional and local hydrology, and declines in water quality.

This species occurs in the Roanoke Valley-Alleghany and George Washington Regional Commissions and the Thomas Jefferson and Richmond Regional Planning District Commissions.

References

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*Rank Tier 1-A based on the species' State Endangered Status; as far as the A rank, on the ground conservation strategies (land protection) have been identified and some implemented. Does land protection count? Seems like that would make most species an "A" by default