**Virginia Master Naturalist Program**

**Project Proposal Form**

*Project proposals should be completed by partner organizations or chapter members and submitted to the chapter’s Board of Directors for review. Projects will be evaluated for relevance to program mission and objectives. Projects and activities implemented without approval are not considered Master Naturalist activities, do not count towards required service hours, and do not carry the liability shield.*

**Project Name** *(For approval and recording purposes)*: Notes from Nature – Plants of Virginia

**Submitted By:** Jill Spear **Phone or Email Contact:** [**jillespear@gmail.com**](mailto:jillespear@gmail.com)

**916-320-8135**

**Project Purpose and Value** *(How will this project contribute to natural resource management, conservation, or education?)*:

This project will help the scientific and public community expand our knowledge about the diversity and distribution of the plants of Virginia. The new information uncovered by participants will be made widely and freely available to students, natural resource professionals and scientists through a research-quality database served online.

Purpose

The purpose of the project is to transcribe the label information from herbarium specimens collected in Virginia. Herbarium specimens are archivally prepared, pressed and dried plants (native and non-native) gathered and identified by taxonomic experts. Label information includes the species name, the precise location of its collection and its associated habitat, as well as when and by whom it was collected. Every species treatment in the Flora of Virginia and the vast majority of occurrence records on the Digital Atlas of the Virginia Flora are based on Virginia-collected herbarium specimens.

At least 653,037 unique specimens are housed in the 24 active Virginian herbaria, yet the vast majority remain hidden behind cabinet doors. Another 200,000 unique Virginian specimens are estimated to be housed in herbaria in other south-eastern states. Several Virginia herbaria maintain partial databases of their holdings, but until recently none served their database online nor provided high-resolution digital images of their specimens for virtual inspection.

In 2014, National Science Foundation funded a 4-year herbarium imaging campaign of the herbaria of the southeast US, which is now imaging ca. 500,000 Virginian herbarium specimens. A cornerstone of the success of this project is the participation of citizen scientists, who will examine the high-resolution images of these specimens, read their labels and transcribe the information into an interactive, user-friendly online program called NotesfromNature.org. These transcribed data and images are then routed to a research-quality database, [www.sernecportal.org](http://www.sernecportal.org), that is freely accessible to the public as well as the major biodiversity information aggregators.

Value

The transcriptions provided by volunteers will liberate detailed data about the plants of Virginia and will have far-reaching and long-term impacts. These data will create a research-quality database of all Virginian herbarium specimens, which will allow the Commonwealth to benefit from 21st century biodiversity informatics research. This emerging field aggregates specimen-based records about the distribution, phenology and ecology of plant species across large geographic regions to answer formerly intractable questions, such as determining extinction risks under various models of climate change. The ultimate use of these big data will be to more accurately manage the preservation of native plant species in the face of habitat destruction, invasive species and rapidly shifting climate.

The transcriptions provided by volunteers will also help more taxonomists query and examine Virginia plant specimens, which will improve our understanding of the flora. It is expected that a number of new taxonomic discoveries will be made as a consequence of this increased exposure, as previous research has found that 80% of new species are recognized and uncovered for the first time in herbarium collections rather than in the field.

**Project type** *(Is this project education/outreach, citizen science/monitoring, stewardship, or administrative?)*:

*Citizen science*

**Project Description** *(Describe what the project involves. What will participants actually do?)*:

Participants will transcribe label information from high-resolution images of herbarium specimens using an online interface called NotesfromNature.org. The herbarium specimens are from Virginia and include both native and non-native species. Within NotesfromNature.org, these specimens are located in the plant expedition category called, “Plants of Virginia”.

Specifically, the participant will use a web browser and navigate to <http://notesfromnature.org>. They will click on the link for “Plants” and then click on “Plants of Virginia”. NotesfromNature.org may cycle various expedition themes within the Plants of Virginia section, such as “Ant Plants of Virginia” or “Pollinator Plants of Virginia”. Once you are within the Plants of Virginia section, an image of an herbarium sheet will be displayed and the participant will need to transcribe the data from the label into the web form as specified within NotesfromNature.org. It is recommended to create a username and password for the site where the participant can track what they have done throughout the project.

There will be opportunities for local and in-person transcription events. These events will most likely be arranged by a local herbarium involved with the herbarium specimen imaging project. When these events occur, communications with event information will be disseminated on how master naturalists can participate.

**Project Location** *(Where will this project take place?)*:

At home or anywhere the participant has access to a computer with internet connectivity.

**Time Frame** *(What, if any, is the time frame for this project? Be as specific as possible –What time does the volunteer need to be there and how late are they expected to stay? If it is seasonal, what are the approximate dates or appropriate weather conditions? Is this an on-going project or does it have a fixed end date? About how many hours can a volunteer expect to put into this project?)*:

This an on-going project with no fixed end-date. It is available online 24 hrs/day, 7 days/week and wherever participants have access a computer with internet connectivity. Volunteers can work one hour or many (>100 hrs) depending on his/her needs and interest. Due to the large size of this project, we anticipate that the project will accommodate 1000’s of hours of volunteer participation for the foreseeable future.

**Partner Contact** *(If a partner is involved, who at that organization is the contact for this project?)*:

**Name: Andrea Weeks Organization: George Mason University**

**Phone number: 703-993-3488 Email: aweeks3@gmu.edu**

**Project Chair** *(Who from the chapter is the contact person and organizer for this project?)*: Jill Spear

**What, if any, prior experience or expertise is required or preferred?**

No experience or special ability is required. The participant must be able to read from a computer screen and enter data into the online form via a computer keyboard.

**What training will be provided and by whom?**

Training is provided in the form of a self-paced tutorial within the “Plants of Virginia” expedition on NotesfromNature.org. There is a monitored message board on which participants can post queries, if needed. Optional webinars or in-person events may be offered to provide additional support.

**Resources provided** *(What equipment or other resources will be provided for the volunteer(s)?)*:

No resources will need to be provided, except in cases where an in-person event is offered.

**Resources needed** *(What will the volunteer(s) or chapter need to provide and how will these resources be acquired?)*:

Chapters will not have to provide any resources. Each participant must have access to a computer with internet connectivity.

**Safety hazards and protocols** *(What hazards might the volunteers encounter and what safety protocols should be followed?)*:

-There are no immediate safety hazards while working on this project as it will take place in the participant’s own home. If in-person events are held, they will be indoors and no significant safety hazards exist.

**Are minors involved?** *(If yes, then all volunteers must be trained in working with youth and the Above Suspicion policy.)* **YES NO**

**How will the project be evaluated during implementation and after completion?**

The transcriptions that are created by each participant are evaluated and automatically checked for errors by a computer program within NotesfromNature.org. Verified transcriptions are then forwarded to the curator of the herbarium specimens and are incorporated into the online research database ([www.sernecportal.org)](http://www.sernecportal.org)). Thus, the progress of the project and its ultimate completion can be tracked at this site.

**How will the Virginia Master Naturalist program be recognized?**

The Virginia Master Naturalist program will be recognized on the website that describes each Plants of Virginia expedition. Specifically, the Virginia Master Naturalist Program will be added to the list of organization names under the “Project Participants” heading on the website.

**How will volunteers benefit from participation in the project?**

They will:

-view properly identified Virginian plant species and build their ability to recognize and identify them on sight in future fieldwork.

-read brief descriptions of natural habitats found in Virginia and their diagnostic plants species, and therefore increase their understanding of Virginian plant ecology.

-contribute to building a research database that will yield improved Virginian plant atlases and identification manuals that will be used by future Master Naturalists.

*For Chapter Board of Directors Only: Project approved? YES NO Date of approval:*